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SEVERN TRENT STL

STL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921

Tel: 865 291 3000 Fax: 865 584 4315
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. 142541

Focus/US Filter Westates 8290

Lot #: H6D030236

William Anderson

STL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921-5947

SEVERN TRENT LABORATORIES, INC.

Kevin S. Woodcock
Project Manager

May 9, 2006

ANALYTICAL METHODS SUMMARY

H6D030236

PARAMETER	ANALYTICAL METHOD
0023A Airtrains 8290	SW846 0023A/8290

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

H6D030236

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
H2H1D	001	G-2937/2938-R1-M23A FRONT HALF COMPOSITE TRAIN D	03/28/06	
H2H1F	002	G-2939/2940-R1-M23A BACK HALF COMPOSITE TRAIN D	03/28/06	
H2H1G	003	G-3049/3050-R2-M23A FRONT HALF COMPOSITE TRAIN D	03/29/06	
H2H1J	004	G-3051/3052-R2-M23A BACK HALF COMPOSITE TRAIN D	03/29/06	
H2H1K	005	G-3128/3129-R3-M23A FRONT HALF COMPOSITE TRAIN D	03/30/06	
H2H1L	006	G-3130/3131-R3-M23A BACK HALF COMPOSITE TRAIN D	03/30/06	
H2H1N	007	G-3132/3133-R3-M23A FRONT HALF COMPOSITE BLANK TRAIN D	03/30/06	
H2H1P	008	G-3134/3135-R3-M23A BACK HALF COMPOSITE BLANK TRAIN D	03/30/06	
H2H1Q	009	G-3136-R3-M23A TRAIN D XAD-2 RESIN TUBE TB/RB	03/30/06	
H2H1W	010	A-5379 MEDIA CHECK XAD	03/28/06	
H2H1X	011	A-5381 MEDIA CHECK FILTER	03/28/06	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H6D030236

The results reported herein are applicable to the samples submitted for analysis only.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

The sample ID on the chain of custody documentation is G-3136-R3-M23A $MeCl_2$ RB/TB, the sample ID should be G-3136-R3-M23A XAD-2 Resin Tube.

Custody seals were not present upon sample receipt at STL Knoxville; however, samples were hand delivered.

The "Relinquished by" field on the chain of custody documentation did not contain a signature.

Quality Control

Unless otherwise noted, all holding times and QC criteria were met, and the test results shown in this report meet all applicable NELAC requirements.

QC Batch 6107079

All QC criteria were met.

Comment:

All positive 2378-TCDF results at or above the minimum level were confirmed on a DB-225 column.

STL Knoxville maintains the following certifications, approvals and accreditations: Arkansas DEQ Cert. #05-043-0, California DHS ELAP Cert. #2423, Colorado DPHE, Connecticut DPH Cert. #PH-0223, Florida DOH Cert. #E87177, Georgia DNR Cert. #906 (SDWA, expires 6/24/05), Hawaii DOH, Illinois EPA Cert. #000687, Indiana DOH Cert. #C-TN-02, Iowa DNR Cert. #375, Kansas DHE Cert. #E-10349, Kentucky DEP Lab ID #90101, Louisiana DEQ Cert. #03079, Louisiana DOHH Cert. #LA030024, Maryland DHMH Cert. #277, Massachusetts DEP Cert. #M-TN009, Michigan DEQ Lab ID #9933, New Jersey DEP Cert. #TN001, New York DOH Lab #10781, North Carolina DPH Lab ID #21705, North Carolina DEHNR Cert. #64, Ohio EPA VAP Cert. #CL0059, Oklahoma DEQ ID #9415, Pennsylvania DEP Cert. #68-00576, South Carolina DHEC Lab ID #84001001, Tennessee DOH Lab ID #02014, Utah DOH Cert. # QUAN3, Virginia DGS Lab ID #00165, Washington DOE Lab #C120, West Virginia DEP Cert. #345, Wisconsin DNR Lab ID #998044300, US Army Corps of Engineers, Naval Facilities Engineering Service Center and USDA Soil Permit #S-46424. This list of approvals is subject to change and does not imply that laboratory certification is available for all parameters reported in this environmental sample data report.

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QC Batch 6107092

All QC criteria were met.

The following flags are used to qualify results for chlorinated dioxin and furan results:

J – The reported result is an estimate. The amount reported is below the Minimum Level (ML). The qualitative definition of the ML is "the lowest level at which the analytical system must give a reliable signal and an acceptable calibration point". The ML was introduced in EPA Methods 1624 and 1625 in 1980 and was promulgated in these methods in 1984 at 40 CFR Part 136, Appendix A. For the purposes of this report the ML is qualitatively defined as described above, and quantitatively defined as follows: **Minimum Level:** The concentration or mass of analyte in the sample that corresponds to the lowest calibration level in the initial calibration. It represents a concentration (in the sample extract) equivalent to that of the lowest calibration standard, after corrections for method-specified sample weights, volumes and cleanup procedures has been employed.

Example: The lowest calibration level for TCDD in the initial calibration is 0.5 pg/uL. A mass of 10 pg of 2,3,7,8-TCDD in the sample would result in a concentration of 0.5 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the lowest calibration standard, the 10 pg mass in the sample components is the ML. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The ML for 2,3,7,8-TCDD becomes 100 pg rather than the default of 10 pg.

E – The reported result is an estimate. The amount reported is above the UCL described below.
The E qualifier is applied on the basis of the **Upper Calibration Level (UCL)**. The quantitative definition of the UCL is listed below:
Upper Calibration Level: The concentration or mass of analyte in the sample that corresponds to the highest calibration level in the initial calibration. It is

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equivalent to the concentration of the highest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Example:
The maximum calibration level for TCDD in the initial calibration is 200 pg/uL. A mass of 4000 pg of 2,3,7,8-TCDD in the sampling components would result in a concentration of 200 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the highest calibration standard, the 4000 pg mass in the sample components is the UCL. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example:
A 1/10 dilution is performed on the sample extract described above. The UCL for 2,3,7,8-TCDD becomes 40,000 pg rather than the default of 4000 pg. In this examples all positive 2,3,7,8-TCDD results above 40,000 pg are flagged with an E.

B – The analyte is present in the associated method blank at a reportable level. For this analysis, there is no method specified reporting level, other than the qualitative criterion that peaks must exhibit a signal-to-noise ratio of 2.5-to-1. Therefore, the presence of any amount of the analyte present in the blank will result a B qualifier on all associated samples.
If the blank has analytes present above the ML (described above) the need for corrective action beyond qualifying the associated data is evaluated. The determination is made whether the amount in the blank is less than 5% of the lowest amount in associated client samples or regulatory limit. If this is the case, sample processing may continue with the qualification of the data. If the amount in the blank is greater than 5% of the lowest amount in associated client samples or regulatory limit, corrective action must be taken.
The corrective actions may include extracting a second aliquot of sample if available, or notifying the client to assess the impact on the project objectives.
Note: Some laboratories do not report contamination in the blank unless it is above their lower calibration limit, or an established percentage of the level in the

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samples, or an established percentage of the regulatory limit. Likewise, some laboratories set a reporting limit at one half the lower calibration limit.

Q – Estimated maximum possible concentration. This qualifier is used when the result is generated from chromatographic data that does not meet all the qualitative criteria for a positive identification given in the method. The criteria include the following areas:

- Ion abundance ratios must be within specified limits (+/-15% of theoretical ion abundance ratio.)
- Retention time criteria (relative to the method-specified isotope labeled retention time standard).
- Co-maximization criterion. The two quantitation ion peaks must reach their maxima within 2 seconds of each other.
- Polychlorinated dibenzofuran purity. No peak can be identified as a polychlorinated dibenzofuran if a polychlorinated diphenyl ether peak maximizes within +/- 2 seconds of the furan candidate.

S – Ion suppression evident. The trace indicating the signal from the lock mass of the calibration compound shows a deflection at the retention time of the analyte. This may indicate a temporary suppression of the instrument sensitivity, due to a matrix-borne interference.

C – Coeluting Isomer. The isomer is known to coelute with another member of its homologue group, or the peak shape is shouldered, indicating the likelihood of a coeluting isomer

X – Other. See explanation in narrative.

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Sample Data Summary

STL Knoxville - ACS

Sample ID: G-2937/2938-R1-M23A FRONT HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 001	**Work Order #....:**	H2H1D1AA	**Matrix....:**	AIR
Date Sampled....:	03/28/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107079				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Bruce F. Wagner				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	2.5	pg/sampl
Total TCDD	**4.0**	**Q J**	**10**	**2.5**	**pg/sampl**
1,2,3,7,8-PeCDD	ND		50	1.5	pg/sampl
Total PeCDD	**8.2**	**Q J**	**50**	**1.5**	**pg/sampl**
1,2,3,4,7,8-HxCDD	ND		50	1.2	pg/sampl
1,2,3,6,7,8-HxCDD	ND		50	1.2	pg/sampl
1,2,3,7,8,9-HxCDD	ND		50	1.1	pg/sampl
Total HxCDD	**6.3**	**Q J**	**50**	**1.2**	**pg/sampl**
1,2,3,4,6,7,8-HpCDD	**6.7**	**J**	**50**	**2.2**	**pg/sampl**
Total HpCDD	**11**	**J**	**50**	**2.2**	**pg/sampl**
OCDD	**22**	**Q B J**	**100**	**2.0**	**pg/sampl**
2,3,7,8-TCDF	**2.4**	**Q J**	**10**	**2.2**	**pg/sampl**
Total TCDF	**15**	**Q J**	**10**	**2.2**	**pg/sampl**
1,2,3,7,8-PeCDF	**3.3**	**Q J**	**50**	**1.2**	**pg/sampl**
2,3,4,7,8-PeCDF	**2.9**	**Q J**	**50**	**1.1**	**pg/sampl**
Total PeCDF	**29**	**J Q**	**50**	**1.2**	**pg/sampl**
1,2,3,4,7,8-HxCDF	**5.7**	**Q J**	**50**	**1.1**	**pg/sampl**
1,2,3,6,7,8-HxCDF	**3.7**	**Q J**	**50**	**1.0**	**pg/sampl**
2,3,4,6,7,8-HxCDF	**2.7**	**B J**	**50**	**1.1**	**pg/sampl**
1,2,3,7,8,9-HxCDF	ND		50	1.2	pg/sampl
Total HxCDF	**21**	**Q J B**	**50**	**1.1**	**pg/sampl**
1,2,3,4,6,7,8-HpCDF	**8.0**	**Q B J**	**50**	**1.9**	**pg/sampl**
1,2,3,4,7,8,9-HpCDF	ND		50	2.3	pg/sampl
Total HpCDF	**8.0**	**Q B J**	**50**	**2.1**	**pg/sampl**
OCDF	**8.5**	**Q B J**	**100**	**2.5**	**pg/sampl**

STL Knoxville - ACS

Sample ID: G-2937/2938-R1-M23A FRONT HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 001	**Work Order #....:**	H2H1D1AA	**Matrix....:**	AIR
Date Sampled....:	03/28/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107079				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Bruce F. Wagner				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	103	40 - 135
13C-1,2,3,7,8-PeCDD	120	40 - 135
13C-1,2,3,6,7,8-HxCDD	103	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	112	40 - 135
13C-OCDD	107	40 - 135
13C-2,3,7,8-TCDF	100	40 - 135
13C-1,2,3,7,8-PeCDF	120	40 - 135
13C-1,2,3,6,7,8-HxCDF	104	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	101	40 - 135

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	88	70 - 130
13C-1,2,3,4,7,8-HxCDD	101	70 - 130
13C-2,3,4,7,8-PeCDF	90	70 - 130
13C-1,2,3,4,7,8-HxCDF	85	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	90	70 - 130

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

STL Knoxville - ACS

Sample ID: G-2939/2940-R1-M23A BACK HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 002	**Work Order #....:**	H2H1F1AA	**Matrix....:**	AIR
Date Sampled....:	03/28/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/05/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	19	Q	10	3.6	pg/sampl
Total TCDD	1700	Q	10	3.6	pg/sampl
1,2,3,7,8-PeCDD	33	J	50	1.3	pg/sampl
Total PeCDD	580	Q	50	1.3	pg/sampl
1,2,3,4,7,8-HxCDD	11	J	50	1.0	pg/sampl
1,2,3,6,7,8-HxCDD	9.6	J	50	1.0	pg/sampl
1,2,3,7,8,9-HxCDD	16	J	50	0.96	pg/sampl
Total HxCDD	160	Q	50	1.0	pg/sampl
1,2,3,4,6,7,8-HpCDD	24	B J	50	1.0	pg/sampl
Total HpCDD	44	J B	50	1.0	pg/sampl
OCDD	27	B J	100	1.2	pg/sampl
Total TCDF	6000	Q	10	5.5	pg/sampl
1,2,3,7,8-PeCDF	170	Q	50	1.6	pg/sampl
2,3,4,7,8-PeCDF	190		50	1.5	pg/sampl
Total PeCDF	2600	Q	50	1.6	pg/sampl
1,2,3,4,7,8-HxCDF	200	Q	50	1.1	pg/sampl
1,2,3,6,7,8-HxCDF	100		50	1.0	pg/sampl
2,3,4,6,7,8-HxCDF	47	B J	50	1.1	pg/sampl
1,2,3,7,8,9-HxCDF	5.5	B J	50	1.2	pg/sampl
Total HxCDF	830	Q B	50	1.1	pg/sampl
1,2,3,4,6,7,8-HpCDF	150	B	50	1.1	pg/sampl
1,2,3,4,7,8,9-HpCDF	10	Q J	50	1.3	pg/sampl
Total HpCDF	200	B Q	50	1.2	pg/sampl
OCDF	14	B J	100	1.3	pg/sampl

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	92	40 - 135
13C-1,2,3,7,8-PeCDD	98	40 - 135
13C-1,2,3,6,7,8-HxCDD	92	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	102	40 - 135
13C-OCDD	95	40 - 135
13C-2,3,7,8-TCDF	89	40 - 135
13C-1,2,3,7,8-PeCDF	96	40 - 135
13C-1,2,3,6,7,8-HxCDF	98	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	90	40 - 135

STL Knoxville - ACS

Sample ID: G-2939/2940-R1-M23A BACK HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 002	**Work Order #....:**	H2H1F1AA	**Matrix....:**	AIR
Date Sampled....:	03/28/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/05/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	83	70 - 130
13C-1,2,3,4,7,8-HxCDD	97	70 - 130
13C-2,3,4,7,8-PeCDF	91	70 - 130
13C-1,2,3,4,7,8-HxCDF	80	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	82	70 - 130

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

STL Knoxville - ACS

Sample ID: G-2939/2940-R1-M23A BACK HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 002	**Work Order #....:**	H2H1F1AC	**Matrix....:**	AIR
Date Sampled....:	03/28/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/08/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M3C	**Method:**	SW846 0023A/8290
Analyst ID....:	Vanhseng (MO) Khounlavong				

Confirmation Run

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDF	**230**	**Q**	**10**	**4.1**	**pg/sampl**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDF	97	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

Q Estimated maximum possible concentration (EMPC).

STL Knoxville - ACS

Sample ID: G-3049/3050-R2-M23A FRONT HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 003	**Work Order #....:**	H2H1G1AA	**Matrix....:**	AIR
Date Sampled....:	03/29/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107079				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Bruce F. Wagner				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	2.1	pg/sampl
Total TCDD	ND		10	2.1	pg/sampl
1,2,3,7,8-PeCDD	ND		50	1.1	pg/sampl
Total PeCDD	**1.3**	**Q J**	**50**	**1.1**	**pg/sampl**
1,2,3,4,7,8-HxCDD	ND		50	1.1	pg/sampl
1,2,3,6,7,8-HxCDD	ND		50	1.1	pg/sampl
1,2,3,7,8,9-HxCDD	ND		50	1.0	pg/sampl
Total HxCDD	ND		50	1.1	pg/sampl
1,2,3,4,6,7,8-HpCDD	ND		50	1.2	pg/sampl
Total HpCDD	**2.2**	**Q J**	**50**	**1.2**	**pg/sampl**
OCDD	**17**	**B J**	**100**	**1.5**	**pg/sampl**
2,3,7,8-TCDF	ND		10	1.7	pg/sampl
Total TCDF	ND		10	1.7	pg/sampl
1,2,3,7,8-PeCDF	ND		50	0.86	pg/sampl
2,3,4,7,8-PeCDF	ND		50	0.81	pg/sampl
Total PeCDF	**0.80**	**Q J**	**50**	**0.83**	**pg/sampl**
1,2,3,4,7,8-HxCDF	**2.1**	**Q J**	**50**	**0.76**	**pg/sampl**
1,2,3,6,7,8-HxCDF	**1.6**	**Q J**	**50**	**0.70**	**pg/sampl**
2,3,4,6,7,8-HxCDF	ND		50	0.79	pg/sampl
1,2,3,7,8,9-HxCDF	ND		50	0.85	pg/sampl
Total HxCDF	**5.3**	**J Q**	**50**	**0.77**	**pg/sampl**
1,2,3,4,6,7,8-HpCDF	**3.7**	**Q B J**	**50**	**1.1**	**pg/sampl**
1,2,3,4,7,8,9-HpCDF	ND		50	1.3	pg/sampl
Total HpCDF	**3.7**	**Q B J**	**50**	**1.2**	**pg/sampl**
OCDF	**4.5**	**Q B J**	**100**	**1.4**	**pg/sampl**

STL Knoxville - ACS

Sample ID: G-3049/3050-R2-M23A FRONT HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 003	**Work Order #....:**	H2H1G1AA	**Matrix....:**	AIR
Date Sampled....:	03/29/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107079				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Bruce F. Wagner				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	103	40 - 135
13C-1,2,3,7,8-PeCDD	122	40 - 135
13C-1,2,3,6,7,8-HxCDD	101	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	110	40 - 135
13C-OCDD	96	40 - 135
13C-2,3,7,8-TCDF	96	40 - 135
13C-1,2,3,7,8-PeCDF	116	40 - 135
13C-1,2,3,6,7,8-HxCDF	101	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	99	40 - 135

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	86	70 - 130
13C-1,2,3,4,7,8-HxCDD	102	70 - 130
13C-2,3,4,7,8-PeCDF	92	70 - 130
13C-1,2,3,4,7,8-HxCDF	86	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	91	70 - 130

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

STL Knoxville - ACS

Sample ID: G-3051/3052-R2-M23A BACK HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 004	**Work Order #....:**	H2H1J1AA	**Matrix....:**	AIR
Date Sampled....:	03/29/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/05/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	9.2	Q J	10	2.8	pg/sampl
Total TCDD	500	Q	10	2.8	pg/sampl
1,2,3,7,8-PeCDD	18	J	50	1.4	pg/sampl
Total PeCDD	250	Q	50	1.4	pg/sampl
1,2,3,4,7,8-HxCDD	8.2	J	50	1.1	pg/sampl
1,2,3,6,7,8-HxCDD	8.5	J	50	1.1	pg/sampl
1,2,3,7,8,9-HxCDD	13	J	50	1.0	pg/sampl
Total HxCDD	120	Q J	50	1.1	pg/sampl
1,2,3,4,6,7,8-HpCDD	23	B J	50	1.1	pg/sampl
Total HpCDD	42	J B	50	1.1	pg/sampl
OCDD	24	B J	100	1.1	pg/sampl
Total TCDF	3100	Q	10	3.9	pg/sampl
1,2,3,7,8-PeCDF	140		50	1.5	pg/sampl
2,3,4,7,8-PeCDF	150		50	1.4	pg/sampl
Total PeCDF	2000	Q	50	1.5	pg/sampl
1,2,3,4,7,8-HxCDF	190		50	0.97	pg/sampl
1,2,3,6,7,8-HxCDF	98		50	0.90	pg/sampl
2,3,4,6,7,8-HxCDF	47	B J	50	1.0	pg/sampl
1,2,3,7,8,9-HxCDF	6.0	Q B J	50	1.1	pg/sampl
Total HxCDF	830	B Q	50	0.99	pg/sampl
1,2,3,4,6,7,8-HpCDF	160	B	50	1.2	pg/sampl
1,2,3,4,7,8,9-HpCDF	18	J	50	1.4	pg/sampl
Total HpCDF	230	B	50	1.3	pg/sampl
OCDF	23	B J	100	1.3	pg/sampl

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	95	40 - 135
13C-1,2,3,7,8-PeCDD	105	40 - 135
13C-1,2,3,6,7,8-HxCDD	95	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	108	40 - 135
13C-OCDD	97	40 - 135
13C-2,3,7,8-TCDF	91	40 - 135
13C-1,2,3,7,8-PeCDF	101	40 - 135
13C-1,2,3,6,7,8-HxCDF	97	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	91	40 - 135

STL Knoxville - ACS

Sample ID: G-3051/3052-R2-M23A BACK HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 004	**Work Order #....:**	H2H1J1AA	**Matrix....:**	AIR
Date Sampled....:	03/29/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/05/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	84	70 - 130
13C-1,2,3,4,7,8-HxCDD	97	70 - 130
13C-2,3,4,7,8-PeCDF	92	70 - 130
13C-1,2,3,4,7,8-HxCDF	81	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	85	70 - 130

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

STL Knoxville - ACS

Sample ID: G-3051/3052-R2-M23A BACK HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 004	**Work Order #....:**	H2H1J1AC	**Matrix....:**	AIR
Date Sampled....:	03/29/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/08/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M3C	**Method:**	SW846 0023A/8290
Analyst ID....:	Vanhseng (MO) Khounlavong				

Confirmation Run

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDF	130	Q	10	3.5	pg/sampl

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDF	97	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

Q Estimated maximum possible concentration (EMPC).

STL Knoxville - ACS

Sample ID: G-3128/3129-R3-M23A FRONT HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 005	**Work Order #....:**	H2H1K1AA	**Matrix....:**	AIR
Date Sampled....:	03/30/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107079				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Bruce F. Wagner				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	2.9	pg/sampl
Total TCDD	ND		10	2.9	pg/sampl
1,2,3,7,8-PeCDD	ND		50	1.5	pg/sampl
Total PeCDD	ND		50	1.5	pg/sampl
1,2,3,4,7,8-HxCDD	ND		50	1.3	pg/sampl
1,2,3,6,7,8-HxCDD	ND		50	1.3	pg/sampl
1,2,3,7,8,9-HxCDD	ND		50	1.2	pg/sampl
Total HxCDD	ND		50	1.3	pg/sampl
1,2,3,4,6,7,8-HpCDD	**2.2**	**J**	**50**	**1.4**	**pg/sampl**
Total HpCDD	**2.2**	**J**	**50**	**1.4**	**pg/sampl**
OCDD	**18**	**B J**	**100**	**1.7**	**pg/sampl**
2,3,7,8-TCDF	ND		10	2.3	pg/sampl
Total TCDF	ND		10	2.3	pg/sampl
1,2,3,7,8-PeCDF	ND		50	1.2	pg/sampl
2,3,4,7,8-PeCDF	ND		50	1.1	pg/sampl
Total PeCDF	**2.0**	**Q J**	**50**	**1.2**	**pg/sampl**
1,2,3,4,7,8-HxCDF	ND		50	0.92	pg/sampl
1,2,3,6,7,8-HxCDF	ND		50	0.85	pg/sampl
2,3,4,6,7,8-HxCDF	ND		50	0.96	pg/sampl
1,2,3,7,8,9-HxCDF	ND		50	1.0	pg/sampl
Total HxCDF	ND		50	0.93	pg/sampl
1,2,3,4,6,7,8-HpCDF	**3.5**	**Q B J**	**50**	**1.4**	**pg/sampl**
1,2,3,4,7,8,9-HpCDF	ND		50	1.6	pg/sampl
Total HpCDF	**3.5**	**Q B J**	**50**	**1.5**	**pg/sampl**
OCDF	**3.4**	**Q B J**	**100**	**1.3**	**pg/sampl**

STL Knoxville - ACS

Sample ID: G-3128/3129-R3-M23A FRONT HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 005	**Work Order #....:**	H2H1K1AA	**Matrix....:**	AIR
Date Sampled....:	03/30/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107079				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Bruce F. Wagner				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	103	40 - 135
13C-1,2,3,7,8-PeCDD	110	40 - 135
13C-1,2,3,6,7,8-HxCDD	118	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	135	40 - 135
13C-OCDD	122	40 - 135
13C-2,3,7,8-TCDF	98	40 - 135
13C-1,2,3,7,8-PeCDF	107	40 - 135
13C-1,2,3,6,7,8-HxCDF	117	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	116	40 - 135

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	86	70 - 130
13C-1,2,3,4,7,8-HxCDD	103	70 - 130
13C-2,3,4,7,8-PeCDF	91	70 - 130
13C-1,2,3,4,7,8-HxCDF	86	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	92	70 - 130

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

STL Knoxville - ACS

Sample ID: G-3130/3131-R3-M23A BACK HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 006	**Work Order #....:**	H2H1L1AA	**Matrix....:**	AIR
Date Sampled....:	03/30/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/05/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Bruce F. Wagner				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	12	Q	10	2.7	pg/sampl
Total TCDD	410	Q	10	2.7	pg/sampl
1,2,3,7,8-PeCDD	22	J	50	1.3	pg/sampl
Total PeCDD	250	Q	50	1.3	pg/sampl
1,2,3,4,7,8-HxCDD	7.3	Q J	50	1.0	pg/sampl
1,2,3,6,7,8-HxCDD	9.7	Q J	50	1.0	pg/sampl
1,2,3,7,8,9-HxCDD	16	J	50	0.95	pg/sampl
Total HxCDD	130	Q J	50	1.0	pg/sampl
1,2,3,4,6,7,8-HpCDD	26	B J	50	1.4	pg/sampl
Total HpCDD	50	J B	50	1.4	pg/sampl
OCDD	26	B J	100	0.91	pg/sampl
Total TCDF	4000	Q	10	4.4	pg/sampl
1,2,3,7,8-PeCDF	190		50	1.5	pg/sampl
2,3,4,7,8-PeCDF	180		50	1.4	pg/sampl
Total PeCDF	2600		50	1.5	pg/sampl
1,2,3,4,7,8-HxCDF	230		50	0.97	pg/sampl
1,2,3,6,7,8-HxCDF	130		50	0.90	pg/sampl
2,3,4,6,7,8-HxCDF	56	B	50	1.0	pg/sampl
1,2,3,7,8,9-HxCDF	8.4	B J	50	1.1	pg/sampl
Total HxCDF	1100	B	50	0.99	pg/sampl
1,2,3,4,6,7,8-HpCDF	190	B	50	1.1	pg/sampl
1,2,3,4,7,8,9-HpCDF	21	J	50	1.3	pg/sampl
Total HpCDF	280	B	50	1.2	pg/sampl
OCDF	22	B J	100	1.1	pg/sampl

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	90	40 - 135
13C-1,2,3,7,8-PeCDD	102	40 - 135
13C-1,2,3,6,7,8-HxCDD	91	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	97	40 - 135
13C-OCDD	91	40 - 135
13C-2,3,7,8-TCDF	86	40 - 135
13C-1,2,3,7,8-PeCDF	98	40 - 135
13C-1,2,3,6,7,8-HxCDF	94	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	86	40 - 135

STL Knoxville - ACS

Sample ID: G-3130/3131-R3-M23A BACK HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 006	**Work Order #....:**	H2H1L1AA	**Matrix....:**	AIR
Date Sampled....:	03/30/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/05/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Bruce F. Wagner				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	87	70 - 130
13C-1,2,3,4,7,8-HxCDD	101	70 - 130
13C-2,3,4,7,8-PeCDF	96	70 - 130
13C-1,2,3,4,7,8-HxCDF	82	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	84	70 - 130

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

STL Knoxville - ACS

Sample ID: G-3130/3131-R3-M23A BACK HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 006	**Work Order #....:**	H2H1L1AC	**Matrix....:**	AIR
Date Sampled....:	03/30/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/08/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M3C	**Method:**	SW846 0023A/8290
Analyst ID....:	Vanhseng (MO) Khounlavong				

Confirmation Run

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDF	**160**	**Q**	**10**	**4.0**	**pg/sampl**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDF	94	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

Q Estimated maximum possible concentration (EMPC).

STL Knoxville - ACS

Sample ID: G-3132/3133-R3-M23A FRONT HALF COMPOSITE BLANK TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 007	**Work Order #....:**	H2H1N1AA	**Matrix....:**	AIR
Date Sampled....:	03/30/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107079				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	2.0	pg/sampl
Total TCDD	ND		10	2.0	pg/sampl
1,2,3,7,8-PeCDD	ND		50	0.91	pg/sampl
Total PeCDD	ND		50	0.91	pg/sampl
1,2,3,4,7,8-HxCDD	ND		50	1.1	pg/sampl
1,2,3,6,7,8-HxCDD	ND		50	1.1	pg/sampl
1,2,3,7,8,9-HxCDD	ND		50	1.0	pg/sampl
Total HxCDD	ND		50	1.1	pg/sampl
1,2,3,4,6,7,8-HpCDD	ND		50	1.4	pg/sampl
Total HpCDD	ND		50	1.4	pg/sampl
OCDD	**20**	**B J**	**100**	**1.6**	**pg/sampl**
2,3,7,8-TCDF	ND		10	1.4	pg/sampl
Total TCDF	ND		10	1.4	pg/sampl
1,2,3,7,8-PeCDF	ND		50	0.68	pg/sampl
2,3,4,7,8-PeCDF	ND		50	0.63	pg/sampl
Total PeCDF	ND		50	0.65	pg/sampl
1,2,3,4,7,8-HxCDF	ND		50	0.55	pg/sampl
1,2,3,6,7,8-HxCDF	ND		50	0.51	pg/sampl
2,3,4,6,7,8-HxCDF	ND		50	0.58	pg/sampl
1,2,3,7,8,9-HxCDF	ND		50	0.62	pg/sampl
Total HxCDF	ND		50	0.56	pg/sampl
1,2,3,4,6,7,8-HpCDF	ND		50	1.1	pg/sampl
1,2,3,4,7,8,9-HpCDF	ND		50	1.3	pg/sampl
Total HpCDF	ND		50	1.2	pg/sampl
OCDF	**2.4**	**Q B J**	**100**	**1.7**	**pg/sampl**

STL Knoxville - ACS

Sample ID: G-3132/3133-R3-M23A FRONT HALF COMPOSITE BLANK TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 007	**Work Order #....:**	H2H1N1AA	**Matrix....:**	AIR
Date Sampled....:	03/30/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107079				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	94	40 - 135
13C-1,2,3,7,8-PeCDD	113	40 - 135
13C-1,2,3,6,7,8-HxCDD	109	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	113	40 - 135
13C-OCDD	88	40 - 135
13C-2,3,7,8-TCDF	95	40 - 135
13C-1,2,3,7,8-PeCDF	107	40 - 135
13C-1,2,3,6,7,8-HxCDF	134	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	97	40 - 135

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	85	70 - 130
13C-1,2,3,4,7,8-HxCDD	97	70 - 130
13C-2,3,4,7,8-PeCDF	89	70 - 130
13C-1,2,3,4,7,8-HxCDF	80	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	75	70 - 130

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

STL Knoxville - ACS

Sample ID: G-3134/3135-R3-M23A BACK HALF COMPOSITE BLANK TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 008	**Work Order #....:**	H2H1P1AA	**Matrix....:**	AIR
Date Sampled....:	03/30/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/05/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	1.9	pg/sampl
Total TCDD	ND		10	1.9	pg/sampl
1,2,3,7,8-PeCDD	ND		50	0.78	pg/sampl
Total PeCDD	ND		50	0.78	pg/sampl
1,2,3,4,7,8-HxCDD	ND		50	0.65	pg/sampl
1,2,3,6,7,8-HxCDD	ND		50	0.64	pg/sampl
1,2,3,7,8,9-HxCDD	ND		50	0.59	pg/sampl
Total HxCDD	ND		50	0.63	pg/sampl
1,2,3,4,6,7,8-HpCDD	ND		50	0.76	pg/sampl
Total HpCDD	ND		50	0.76	pg/sampl
OCDD	**7.0**	**B J**	**100**	**0.68**	**pg/sampl**
2,3,7,8-TCDF	ND		10	1.4	pg/sampl
Total TCDF	ND		10	1.4	pg/sampl
1,2,3,7,8-PeCDF	ND		50	0.67	pg/sampl
2,3,4,7,8-PeCDF	ND		50	0.63	pg/sampl
Total PeCDF	ND		50	0.65	pg/sampl
1,2,3,4,7,8-HxCDF	ND		50	0.48	pg/sampl
1,2,3,6,7,8-HxCDF	ND		50	0.44	pg/sampl
2,3,4,6,7,8-HxCDF	ND		50	0.50	pg/sampl
1,2,3,7,8,9-HxCDF	ND		50	0.53	pg/sampl
Total HxCDF	ND		50	0.49	pg/sampl
1,2,3,4,6,7,8-HpCDF	ND		50	0.53	pg/sampl
1,2,3,4,7,8,9-HpCDF	ND		50	0.62	pg/sampl
Total HpCDF	ND		50	0.57	pg/sampl
OCDF	ND		100	0.92	pg/sampl

STL Knoxville - ACS

Sample ID: G-3134/3135-R3-M23A BACK HALF COMPOSITE BLANK TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 008	**Work Order #....:**	H2H1P1AA	**Matrix....:**	AIR
Date Sampled....:	03/30/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/05/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	90	40 - 135
13C-1,2,3,7,8-PeCDD	101	40 - 135
13C-1,2,3,6,7,8-HxCDD	88	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	102	40 - 135
13C-OCDD	97	40 - 135
13C-2,3,7,8-TCDF	85	40 - 135
13C-1,2,3,7,8-PeCDF	97	40 - 135
13C-1,2,3,6,7,8-HxCDF	91	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	87	40 - 135

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	83	70 - 130
13C-1,2,3,4,7,8-HxCDD	97	70 - 130
13C-2,3,4,7,8-PeCDF	93	70 - 130
13C-1,2,3,4,7,8-HxCDF	81	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	82	70 - 130

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

STL Knoxville - ACS

Sample ID: G-3136-R3-M23A TRAIN D XAD-2 RESIN TUBE TB/RB

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 009	**Work Order #....:**	H2H1Q1AA	**Matrix....:**	AIR
Date Sampled....:	03/30/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/05/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	2.2	pg/sampl
Total TCDD	ND		10	2.2	pg/sampl
1,2,3,7,8-PeCDD	ND		50	1.0	pg/sampl
Total PeCDD	ND		50	1.0	pg/sampl
1,2,3,4,7,8-HxCDD	ND		50	0.98	pg/sampl
1,2,3,6,7,8-HxCDD	ND		50	0.97	pg/sampl
1,2,3,7,8,9-HxCDD	ND		50	0.89	pg/sampl
Total HxCDD	**1.4**	**J**	**50**	**0.95**	**pg/sampl**
1,2,3,4,6,7,8-HpCDD	ND		50	0.98	pg/sampl
Total HpCDD	ND		50	0.98	pg/sampl
OCDD	**6.5**	**B J**	**100**	**1.0**	**pg/sampl**
2,3,7,8-TCDF	ND		10	1.9	pg/sampl
Total TCDF	ND		10	1.9	pg/sampl
1,2,3,7,8-PeCDF	ND		50	0.79	pg/sampl
2,3,4,7,8-PeCDF	ND		50	0.74	pg/sampl
Total PeCDF	ND		50	0.77	pg/sampl
1,2,3,4,7,8-HxCDF	ND		50	0.54	pg/sampl
1,2,3,6,7,8-HxCDF	ND		50	0.50	pg/sampl
2,3,4,6,7,8-HxCDF	ND		50	0.57	pg/sampl
1,2,3,7,8,9-HxCDF	ND		50	0.61	pg/sampl
Total HxCDF	ND		50	0.55	pg/sampl
1,2,3,4,6,7,8-HpCDF	ND		50	0.80	pg/sampl
1,2,3,4,7,8,9-HpCDF	ND		50	0.94	pg/sampl
Total HpCDF	ND		50	0.86	pg/sampl
OCDF	ND		100	1.2	pg/sampl

STL Knoxville - ACS

Sample ID: G-3136-R3-M23A TRAIN D XAD-2 RESIN TUBE TB/RB

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 009	**Work Order #....:**	H2H1Q1AA	**Matrix....:**	AIR
Date Sampled....:	03/30/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/05/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	95	40 - 135
13C-1,2,3,7,8-PeCDD	109	40 - 135
13C-1,2,3,6,7,8-HxCDD	92	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	109	40 - 135
13C-OCDD	112	40 - 135
13C-2,3,7,8-TCDF	86	40 - 135
13C-1,2,3,7,8-PeCDF	100	40 - 135
13C-1,2,3,6,7,8-HxCDF	95	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	94	40 - 135

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	83	70 - 130
13C-1,2,3,4,7,8-HxCDD	100	70 - 130
13C-2,3,4,7,8-PeCDF	94	70 - 130
13C-1,2,3,4,7,8-HxCDF	80	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	87	70 - 130

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

STL Knoxville - ACS

Sample ID: A-5379 MEDIA CHECK XAD

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 010	**Work Order #....:**	H2H1W1AA	**Matrix....:**	AIR
Date Sampled....:	03/28/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Bruce F. Wagner				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	2.3	pg/sampl
Total TCDD	ND		10	2.3	pg/sampl
1,2,3,7,8-PeCDD	ND		50	1.0	pg/sampl
Total PeCDD	ND		50	1.0	pg/sampl
1,2,3,4,7,8-HxCDD	ND		50	1.1	pg/sampl
1,2,3,6,7,8-HxCDD	ND		50	1.1	pg/sampl
1,2,3,7,8,9-HxCDD	ND		50	1.0	pg/sampl
Total HxCDD	ND		50	1.1	pg/sampl
1,2,3,4,6,7,8-HpCDD	ND		50	1.2	pg/sampl
Total HpCDD	ND		50	1.2	pg/sampl
OCDD	**13**	**B J**	**100**	**1.3**	**pg/sampl**
2,3,7,8-TCDF	ND		10	1.8	pg/sampl
Total TCDF	ND		10	1.8	pg/sampl
1,2,3,7,8-PeCDF	ND		50	0.77	pg/sampl
2,3,4,7,8-PeCDF	ND		50	0.72	pg/sampl
Total PeCDF	ND		50	0.75	pg/sampl
1,2,3,4,7,8-HxCDF	ND		50	0.74	pg/sampl
1,2,3,6,7,8-HxCDF	ND		50	0.69	pg/sampl
2,3,4,6,7,8-HxCDF	ND		50	0.77	pg/sampl
1,2,3,7,8,9-HxCDF	ND		50	0.83	pg/sampl
Total HxCDF	ND		50	0.75	pg/sampl
1,2,3,4,6,7,8-HpCDF	ND		50	0.79	pg/sampl
1,2,3,4,7,8,9-HpCDF	ND		50	0.93	pg/sampl
Total HpCDF	ND		50	0.86	pg/sampl
OCDF	**2.5**	**Q B J**	**100**	**1.4**	**pg/sampl**

STL Knoxville - ACS

Sample ID: A-5379 MEDIA CHECK XAD

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 010	**Work Order #....:**	H2H1W1AA	**Matrix....:**	AIR
Date Sampled....:	03/28/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Bruce F. Wagner				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	85	40 - 135
13C-1,2,3,7,8-PeCDD	95	40 - 135
13C-1,2,3,6,7,8-HxCDD	82	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	92	40 - 135
13C-OCDD	81	40 - 135
13C-2,3,7,8-TCDF	83	40 - 135
13C-1,2,3,7,8-PeCDF	91	40 - 135
13C-1,2,3,6,7,8-HxCDF	75	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	79	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

STL Knoxville - ACS

Sample ID: A-5381 MEDIA CHECK FILTER

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 011	**Work Order #....:**	H2H1X1AA	**Matrix....:**	AIR
Date Sampled....:	03/28/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107079				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	2.0	pg/sampl
Total TCDD	ND		10	2.0	pg/sampl
1,2,3,7,8-PeCDD	ND		50	1.1	pg/sampl
Total PeCDD	ND		50	1.1	pg/sampl
1,2,3,4,7,8-HxCDD	ND		50	0.78	pg/sampl
1,2,3,6,7,8-HxCDD	ND		50	0.78	pg/sampl
1,2,3,7,8,9-HxCDD	ND		50	0.71	pg/sampl
Total HxCDD	ND		50	0.76	pg/sampl
1,2,3,4,6,7,8-HpCDD	ND		50	1.1	pg/sampl
Total HpCDD	ND		50	1.1	pg/sampl
OCDD	**16**	**B J**	**100**	**1.2**	**pg/sampl**
2,3,7,8-TCDF	ND		10	1.6	pg/sampl
Total TCDF	ND		10	1.6	pg/sampl
1,2,3,7,8-PeCDF	ND		50	0.80	pg/sampl
2,3,4,7,8-PeCDF	ND		50	0.75	pg/sampl
Total PeCDF	ND		50	0.78	pg/sampl
1,2,3,4,7,8-HxCDF	ND		50	0.60	pg/sampl
1,2,3,6,7,8-HxCDF	ND		50	0.56	pg/sampl
2,3,4,6,7,8-HxCDF	ND		50	0.63	pg/sampl
1,2,3,7,8,9-HxCDF	ND		50	0.67	pg/sampl
Total HxCDF	ND		50	0.61	pg/sampl
1,2,3,4,6,7,8-HpCDF	ND		50	0.76	pg/sampl
1,2,3,4,7,8,9-HpCDF	ND		50	0.89	pg/sampl
Total HpCDF	ND		50	0.82	pg/sampl
OCDF	**2.8**	**Q B J**	**100**	**1.4**	**pg/sampl**

STL Knoxville - ACS

Sample ID: A-5381 MEDIA CHECK FILTER

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 011	**Work Order #....:**	H2H1X1AA	**Matrix....:**	AIR
Date Sampled....:	03/28/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107079				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	101	40 - 135
13C-1,2,3,7,8-PeCDD	119	40 - 135
13C-1,2,3,6,7,8-HxCDD	96	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	108	40 - 135
13C-OCDD	94	40 - 135
13C-2,3,7,8-TCDF	96	40 - 135
13C-1,2,3,7,8-PeCDF	104	40 - 135
13C-1,2,3,6,7,8-HxCDF	84	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	94	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....: H6D170000 - 079B **Work Order #....:** H3EDD1AA **Matrix....:** AIR
Dilution Factor: 1
Prep Date....: 04/17/06 **Analysis Date....:** 05/04/06
Prep Batch # ....: 6107079
Initial Wgt/Vol : 1 Sample **Instrument ID....:** M2A **Method:** SW846 0023A/8290
Analyst ID....: Patricia(Trish) M. Parsly

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	1.5	pg/sampl
Total TCDD	ND		10	1.5	pg/sampl
1,2,3,7,8-PeCDD	ND		50	0.67	pg/sampl
Total PeCDD	ND		50	0.67	pg/sampl
1,2,3,4,7,8-HxCDD	ND		50	0.72	pg/sampl
1,2,3,6,7,8-HxCDD	ND		50	0.71	pg/sampl
1,2,3,7,8,9-HxCDD	**0.80**	**Q J**	**50**	**0.65**	**pg/sampl**
Total HxCDD	**0.80**	**Q J**	**50**	**0.69**	**pg/sampl**
1,2,3,4,6,7,8-HpCDD	ND		50	0.75	pg/sampl
Total HpCDD	ND		50	0.75	pg/sampl
OCDD	**17**	**J**	**100**	**0.70**	**pg/sampl**
2,3,7,8-TCDF	ND		10	1.1	pg/sampl
Total TCDF	ND		10	1.1	pg/sampl
1,2,3,7,8-PeCDF	ND		50	0.50	pg/sampl
2,3,4,7,8-PeCDF	ND		50	0.47	pg/sampl
Total PeCDF	ND		50	0.49	pg/sampl
1,2,3,4,7,8-HxCDF	ND		50	0.46	pg/sampl
1,2,3,6,7,8-HxCDF	ND		50	0.43	pg/sampl
2,3,4,6,7,8-HxCDF	**1.0**	**Q J**	**50**	**0.48**	**pg/sampl**
1,2,3,7,8,9-HxCDF	ND		50	0.51	pg/sampl
Total HxCDF	**1.0**	**Q J**	**50**	**0.47**	**pg/sampl**
1,2,3,4,6,7,8-HpCDF	**1.2**	**Q J**	**50**	**0.61**	**pg/sampl**
1,2,3,4,7,8,9-HpCDF	**1.1**	**J**	**50**	**0.71**	**pg/sampl**
Total HpCDF	**2.3**	**Q J**	**50**	**0.65**	**pg/sampl**
OCDF	**4.5**	**J**	**100**	**0.81**	**pg/sampl**

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H6D170000 - 079B	**Work Order #....:**	H3EDD1AA	**Matrix....:**	AIR
Dilution Factor:	1				
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107079				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	101	40 - 135
13C-1,2,3,7,8-PeCDD	120	40 - 135
13C-1,2,3,6,7,8-HxCDD	99	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	113	40 - 135
13C-OCDD	103	40 - 135
13C-2,3,7,8-TCDF	102	40 - 135
13C-1,2,3,7,8-PeCDF	112	40 - 135
13C-1,2,3,6,7,8-HxCDF	91	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	99	40 - 135

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H6D030236	**Work Order # ...:**	H3EDD1AC-LCS H3EDD1AD-LCSD	**Matrix .....:**	AIR
LCS Lot-Sample# :	H6D170000 - 079				
Prep Date .....:	04/17/06	**Analysis Date ..:**	05/04/06		
Prep Batch # ...:	6107079				
Dilution Factor :	1				
Analyst ID.....:	Patricia(Trish) M. Parsl	**Instrument ID..:**	M2A	**Method.....:**	SW846 0023A/8290
Initial Wgt/Vol:	1 Sample				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS	RPD	RPD LIMITS
2,3,7,8-TCDD	**200**	**200**	**pg/sampl**	**100**		**(70 - 130)**		
	200	**200**	**pg/sampl**	**100**		**(70 - 130)**	**0.0**	**(0 - 50)**
1,2,3,7,8-PeCDD	**1000**	**973**	**pg/sampl**	**97**		**(70 - 130)**		
	1000	**977**	**pg/sampl**	**98**		**(70 - 130)**	**0.41**	**(0 - 50)**
1,2,3,4,7,8-HxCDD	**1000**	**952**	**pg/sampl**	**95**		**(70 - 130)**		
	1000	**979**	**pg/sampl**	**98**		**(70 - 130)**	**2.8**	**(0 - 50)**
1,2,3,6,7,8-HxCDD	**1000**	**962**	**pg/sampl**	**96**		**(70 - 130)**		
	1000	**987**	**pg/sampl**	**99**		**(70 - 130)**	**2.6**	**(0 - 50)**
1,2,3,7,8,9-HxCDD	**1000**	**993**	**pg/sampl**	**99**	**B**	**(70 - 130)**		
	1000	**1010**	**pg/sampl**	**101**	**B**	**(70 - 130)**	**1.4**	**(0 - 50)**
1,2,3,4,6,7,8-HpCDD	**1000**	**894**	**pg/sampl**	**89**		**(70 - 130)**		
	1000	**908**	**pg/sampl**	**91**		**(70 - 130)**	**1.6**	**(0 - 50)**
OCDD	**2000**	**1860**	**pg/sampl**	**93**	**B**	**(70 - 130)**		
	2000	**2000**	**pg/sampl**	**100**	**B**	**(70 - 130)**	**7.0**	**(0 - 50)**
2,3,7,8-TCDF	**200**	**181**	**pg/sampl**	**90**		**(70 - 130)**		
	200	**188**	**pg/sampl**	**94**		**(70 - 130)**	**3.9**	**(0 - 50)**
1,2,3,7,8-PeCDF	**1000**	**979**	**pg/sampl**	**98**		**(70 - 130)**		
	1000	**1010**	**pg/sampl**	**101**		**(70 - 130)**	**3.1**	**(0 - 50)**
2,3,4,7,8-PeCDF	**1000**	**1010**	**pg/sampl**	**101**		**(70 - 130)**		
	1000	**964**	**pg/sampl**	**96**		**(70 - 130)**	**4.2**	**(0 - 50)**
1,2,3,4,7,8-HxCDF	**1000**	**1010**	**pg/sampl**	**101**		**(70 - 130)**		
	1000	**1020**	**pg/sampl**	**102**		**(70 - 130)**	**0.80**	**(0 - 50)**
1,2,3,6,7,8-HxCDF	**1000**	**1010**	**pg/sampl**	**101**		**(70 - 130)**		
	1000	**1060**	**pg/sampl**	**106**		**(70 - 130)**	**4.3**	**(0 - 50)**
2,3,4,6,7,8-HxCDF	**1000**	**1060**	**pg/sampl**	**106**	**B**	**(70 - 130)**		
	1000	**1030**	**pg/sampl**	**103**	**B**	**(70 - 130)**	**2.5**	**(0 - 50)**
1,2,3,7,8,9-HxCDF	**1000**	**984**	**pg/sampl**	**98**		**(70 - 130)**		
	1000	**993**	**pg/sampl**	**99**		**(70 - 130)**	**0.90**	**(0 - 50)**
1,2,3,4,6,7,8-HpCDF	**1000**	**984**	**pg/sampl**	**98**	**B**	**(70 - 130)**		
	1000	**1040**	**pg/sampl**	**104**	**B**	**(70 - 130)**	**5.8**	**(0 - 50)**
1,2,3,4,7,8,9-HpCDF	**1000**	**909**	**pg/sampl**	**91**	**B**	**(70 - 130)**		
	1000	**928**	**pg/sampl**	**93**	**B**	**(70 - 130)**	**2.0**	**(0 - 50)**
OCDF	**2000**	**1670**	**pg/sampl**	**84**	**B**	**(70 - 130)**		
	2000	**1850**	**pg/sampl**	**93**	**B**	**(70 - 130)**	**10**	**(0 - 50)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	78	(40 - 135)
	106	(40 - 135)
13C-1,2,3,7,8-PeCDD	104	(40 - 135)
	127	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	92	(40 - 135)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...: H6D030236 **Work Order # ...:** H3EDD1AC-LCS **Matrix .....:** AIR
LCS Lot-Sample# : H6D170000 - 079 H3EDD1AD-LCSD

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
	101	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	105	(40 - 135)
	111	(40 - 135)
13C-OCDD	91	(40 - 135)
	104	(40 - 135)
13C-2,3,7,8-TCDF	78	(40 - 135)
	107	(40 - 135)
13C-1,2,3,7,8-PeCDF	99	(40 - 135)
	120	(40 - 135)
13C-1,2,3,6,7,8-HxCDF	83	(40 - 135)
	94	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	91	(40 - 135)
	102	(40 - 135)

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....: H6D170000 - 092B **Work Order #....:** H3ED81AA **Matrix....:** AIR
Dilution Factor: 1
Prep Date....: 04/17/06 **Analysis Date....:** 05/04/06
Prep Batch # ....: 6107092
Initial Wgt/Vol : 1 Sample **Instrument ID....:** M2A **Method:** SW846 0023A/8290
Analyst ID....: Bruce F. Wagner

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	2.3	pg/sampl
Total TCDD	ND		10	2.3	pg/sampl
1,2,3,7,8-PeCDD	ND		50	1.0	pg/sampl
Total PeCDD	ND		50	1.0	pg/sampl
1,2,3,4,7,8-HxCDD	ND		50	1.0	pg/sampl
1,2,3,6,7,8-HxCDD	ND		50	1.0	pg/sampl
1,2,3,7,8,9-HxCDD	ND		50	0.92	pg/sampl
Total HxCDD	ND		50	0.98	pg/sampl
1,2,3,4,6,7,8-HpCDD	**2.1**	**J**	**50**	**1.1**	**pg/sampl**
Total HpCDD	**2.1**	**J**	**50**	**1.1**	**pg/sampl**
OCDD	**15**	**J**	**100**	**1.3**	**pg/sampl**
2,3,7,8-TCDF	ND		10	1.7	pg/sampl
Total TCDF	ND		10	1.7	pg/sampl
1,2,3,7,8-PeCDF	ND		50	0.77	pg/sampl
2,3,4,7,8-PeCDF	ND		50	0.72	pg/sampl
Total PeCDF	ND		50	0.75	pg/sampl
1,2,3,4,7,8-HxCDF	ND		50	0.72	pg/sampl
1,2,3,6,7,8-HxCDF	ND		50	0.67	pg/sampl
2,3,4,6,7,8-HxCDF	**1.2**	**J**	**50**	**0.75**	**pg/sampl**
1,2,3,7,8,9-HxCDF	**1.1**	**J**	**50**	**0.81**	**pg/sampl**
Total HxCDF	**2.3**	**J**	**50**	**0.73**	**pg/sampl**
1,2,3,4,6,7,8-HpCDF	**1.3**	**Q J**	**50**	**0.72**	**pg/sampl**
1,2,3,4,7,8,9-HpCDF	ND		50	0.84	pg/sampl
Total HpCDF	**1.3**	**Q J**	**50**	**0.77**	**pg/sampl**
OCDF	**5.3**	**J**	**100**	**1.3**	**pg/sampl**

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....: H6D170000 - 092B **Work Order #....:** H3ED81AA **Matrix....:** AIR
Dilution Factor: 1
Prep Date....: 04/17/06 **Analysis Date....:** 05/04/06
Prep Batch # ....: 6107092
Initial Wgt/Vol : 1 Sample **Instrument ID....:** M2A **Method:** SW846 0023A/8290
Analyst ID....: Bruce F. Wagner

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	87	40 - 135
13C-1,2,3,7,8-PeCDD	99	40 - 135
13C-1,2,3,6,7,8-HxCDD	86	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	92	40 - 135
13C-OCDD	85	40 - 135
13C-2,3,7,8-TCDF	85	40 - 135
13C-1,2,3,7,8-PeCDF	95	40 - 135
13C-1,2,3,6,7,8-HxCDF	78	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	82	40 - 135

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H6D030236	**Work Order # ...:**	H3ED81AC-LCS H3ED81AD-LCSD	**Matrix .....:**	AIR
LCS Lot-Sample# :	H6D170000 - 092				
Prep Date .....:	04/17/06	**Analysis Date ..:**	05/04/06		
Prep Batch # ...:	6107092				
Dilution Factor :	1				
Analyst ID.....:	Bruce F. Wagner	**Instrument ID..:**	M2A	**Method.....:**	SW846 0023A/8290
Initial Wgt/Vol:	1 Sample				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS	RPD	RPD LIMITS
2,3,7,8-TCDD	**200**	**192**	**pg/sampl**	**96**		**(70 - 130)**		
	200	**200**	**pg/sampl**	**100**		**(70 - 130)**	**4.4**	**(0 - 50)**
1,2,3,7,8-PeCDD	**1000**	**957**	**pg/sampl**	**96**		**(70 - 130)**		
	1000	**1000**	**pg/sampl**	**100**		**(70 - 130)**	**4.7**	**(0 - 50)**
1,2,3,4,7,8-HxCDD	**1000**	**982**	**pg/sampl**	**98**		**(70 - 130)**		
	1000	**990**	**pg/sampl**	**99**		**(70 - 130)**	**0.77**	**(0 - 50)**
1,2,3,6,7,8-HxCDD	**1000**	**1010**	**pg/sampl**	**101**		**(70 - 130)**		
	1000	**1000**	**pg/sampl**	**100**		**(70 - 130)**	**0.98**	**(0 - 50)**
1,2,3,7,8,9-HxCDD	**1000**	**1020**	**pg/sampl**	**102**		**(70 - 130)**		
	1000	**1010**	**pg/sampl**	**101**		**(70 - 130)**	**1.4**	**(0 - 50)**
1,2,3,4,6,7,8-HpCDD	**1000**	**945**	**pg/sampl**	**95**	**B**	**(70 - 130)**		
	1000	**939**	**pg/sampl**	**94**	**B**	**(70 - 130)**	**0.70**	**(0 - 50)**
OCDD	**2000**	**1920**	**pg/sampl**	**96**	**B**	**(70 - 130)**		
	2000	**1950**	**pg/sampl**	**98**	**B**	**(70 - 130)**	**1.7**	**(0 - 50)**
2,3,7,8-TCDF	**200**	**180**	**pg/sampl**	**90**		**(70 - 130)**		
	200	**191**	**pg/sampl**	**95**		**(70 - 130)**	**5.9**	**(0 - 50)**
1,2,3,7,8-PeCDF	**1000**	**1040**	**pg/sampl**	**104**		**(70 - 130)**		
	1000	**1030**	**pg/sampl**	**103**		**(70 - 130)**	**0.94**	**(0 - 50)**
2,3,4,7,8-PeCDF	**1000**	**1040**	**pg/sampl**	**104**		**(70 - 130)**		
	1000	**1040**	**pg/sampl**	**104**		**(70 - 130)**	**0.050**	**(0 - 50)**
1,2,3,4,7,8-HxCDF	**1000**	**1040**	**pg/sampl**	**104**		**(70 - 130)**		
	1000	**1050**	**pg/sampl**	**105**		**(70 - 130)**	**0.30**	**(0 - 50)**
1,2,3,6,7,8-HxCDF	**1000**	**1050**	**pg/sampl**	**105**		**(70 - 130)**		
	1000	**1060**	**pg/sampl**	**106**		**(70 - 130)**	**0.090**	**(0 - 50)**
2,3,4,6,7,8-HxCDF	**1000**	**1050**	**pg/sampl**	**105**	**B**	**(70 - 130)**		
	1000	**1110**	**pg/sampl**	**111**	**B**	**(70 - 130)**	**5.9**	**(0 - 50)**
1,2,3,7,8,9-HxCDF	**1000**	**980**	**pg/sampl**	**98**	**B**	**(70 - 130)**		
	1000	**1000**	**pg/sampl**	**100**	**B**	**(70 - 130)**	**2.0**	**(0 - 50)**
1,2,3,4,6,7,8-HpCDF	**1000**	**1060**	**pg/sampl**	**106**	**B**	**(70 - 130)**		
	1000	**1040**	**pg/sampl**	**104**	**B**	**(70 - 130)**	**1.3**	**(0 - 50)**
1,2,3,4,7,8,9-HpCDF	**1000**	**872**	**pg/sampl**	**87**		**(70 - 130)**		
	1000	**905**	**pg/sampl**	**91**		**(70 - 130)**	**3.7**	**(0 - 50)**
OCDF	**2000**	**1680**	**pg/sampl**	**84**	**B**	**(70 - 130)**		
	2000	**1730**	**pg/sampl**	**87**	**B**	**(70 - 130)**	**3.2**	**(0 - 50)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	95	(40 - 135)
	93	(40 - 135)
13C-1,2,3,7,8-PeCDD	101	(40 - 135)
	118	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	92	(40 - 135)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...: H6D030236 **Work Order # ...:** H3ED81AC-LCS **Matrix .....:** AIR
LCS Lot-Sample# : H6D170000 - 092 H3ED81AD-LCSD

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
	93	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	101	(40 - 135)
	103	(40 - 135)
13C-OCDD	97	(40 - 135)
	92	(40 - 135)
13C-2,3,7,8-TCDF	92	(40 - 135)
	96	(40 - 135)
13C-1,2,3,7,8-PeCDF	97	(40 - 135)
	113	(40 - 135)
13C-1,2,3,6,7,8-HxCDF	87	(40 - 135)
	83	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	94	(40 - 135)
	92	(40 - 135)

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Sample Receipt Documentation

Request for Analysis/Chain-of-Custody – RFA/COC #018 [MM-5 Train D]
Focus/US Filter Westates Carbon
Comprehensive Performance Test at Parker, Arizona

STL Knoxville Lot Number: H6D030236
STL Knoxville Project Number: 142541

NOTE: After Log-In, please give the original completed RFA/COC to Patti Carswell.

Project Identification:	**Westates Carbon CPT**
STL Knoxville Project Number:	142541
STL Contact:	Ms. Patti Carswell (865) 291-3010
STL - ACS Project Manager:	Dr. William C. Anderson (865) 291-3080

Laboratory Deliverable Turnaround Requirements:	
Analytical Due Date: (Review-Released Data)	21 Days from Lab Receipt
Data Package Due Date:	21 Days from Lab Receipt
Laboratory Destination:	STL Knoxville 5815 Middlebrook Pike Knoxville, Tennessee 37921 (865) 291-3000
Courier:	Federal Express

Analytical Testing QC Requirements:
The Legend for Project-Specific Quality Control Testing is designated in the "QC" column as follows:
"MS" = Matrix Spike, "MSD" = Matrix Spike Duplicate,
"DUP" = Duplicate, and "PDS" = Post Digestion Spike

Project Deliverables:
Report analytical results on R-02 Reports and in data packages.
Include "Field Number", "Sample Type", and "Run Number" on all R-02 Reports.

Holding Time Requirements:

Dioxins & Furans	30 Days to Extraction. 45 Days from Extraction to Analysis.

Field Sample No./ Sample Coding ID	**Sample Collection Date**	**Project QC Require-ments**	**Sample Bottle/ Container**	**Sample Type/Analysis**	**Analytical Specifications**
G-2937-R1-M23A Front Half Composite Train D *Combine with Sample No. G-2938*	3-28-06		Petri Dish	**Particulate Filter Run #1** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion Solvent Probe Rinses sample. Perform Soxhlet extraction on the sample and analyze the extract for all 2,3,7,8 dioxin/furan isomers and totals by chlorinated class (tetra-octas) by Method 8290/Method 0023A.
G-2938 *Combine with Sample No.: G-2937*	3-28-06		250 mL Amber Boston Round	**Front Half of the Filter Holder and Probe Solvent Rinses, Run #1** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion Particulate Filter and proceed with the Method 0023A preparation procedure.
G-2939-R1-M23A Back Half Composite Train D *Combine with Sample No.: G-2940*	3-28-06		XAD-2 Resin Tube	**XAD-2 Resin Tube Run #1** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion Back Half of the Filter Holder and Coil Condenser Solvent Rinses. Perform Soxhlet extraction on the sample and analyze the extract for all 2,3,7,8 dioxin/furan isomers and totals by chlorinated class (tetra-octas) by Method 8290/Method 0023A.
G-2940 *Combine with Sample No.: G-2939*	3-28-06		250 mL Amber Boston Round	**Back Half of the Filter Holder and Coil Condenser Solvent Rinses, Run #1** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion XAD-2 Resin Tube, and proceed with the Method 0023A and PCB congener/coplanar preparation procedures.

Request for Analysis/Chain-of-Custody – RFA/COC #018 [MM-5 Train D]
Focus/US Filter Westates Carbon
Comprehensive Performance Test at Parker, Arizona

Field Sample No./ Sample Coding ID	Sample Collection Date	Project QC Requirements	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
G-3049-R2-M23A Front Half Composite Train D *Combine with Sample No. G-3050*	3-29-06		Petri Dish	**Particulate Filter Run #2** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion Solvent Probe Rinses sample. Perform Soxhlet extraction on the sample and analyze the extract for all 2,3,7,8 dioxin/furan isomers and totals by chlorinated class (tetra-octas) by Method 8290/Method 0023A.
G-3050 *Combine with Sample No.: G-3049*	3-29-06		250 mL Amber Boston Round	**Front Half of the Filter Holder and Probe Solvent Rinses, Run #2** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion Particulate Filter and proceed with the Method 0023A preparation procedure.
G-3051-R2-M23A Back Half Composite Train D *Combine with Sample No.: G-3052*	3-29-06		XAD-2 Resin Tube	**XAD-2 Resin Tube Run #2** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion Back Half of the Filter Holder and Coil Condenser Solvent Rinses. Perform Soxhlet extraction on the sample and analyze the extract for all 2,3,7,8 dioxin/furan isomers and totals by chlorinated class (tetra-octas) by Method 8290/Method 0023A.
G-3052 *Combine with Sample No.: G-3051*	3-29-06		250 mL Amber Boston Round	**Back Half of the Filter Holder and Coil Condenser Solvent Rinses, Run #2** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion XAD-2 Resin Tube, and proceed with the Method 0023A and PCB congener/coplanar preparation procedures.
G-3128-R3-M23A Front Half Composite Train D *Combine with Sample No. G-3129*	3-30-06		Petri Dish	**Particulate Filter Run #3** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion Solvent Probe Rinses sample. Perform Soxhlet extraction on the sample and analyze the extract for all 2,3,7,8 dioxin/furan isomers and totals by chlorinated class (tetra-octas) by Method 8290/Method 0023A.
G-3129 *Combine with Sample No.: G-3128*	3-30-06		250 mL Amber Boston Round	**Front Half of the Filter Holder and Probe Solvent Rinses, Run #3** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion Particulate Filter and proceed with the Method 0023A preparation procedure.
G-3130-R3-M23A Back Half Composite Train D *Combine with Sample No.: G-3131*	3-31-06		XAD-2 Resin Tube	**XAD-2 Resin Tube Run #3** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion Back Half of the Filter Holder and Coil Condenser Solvent Rinses. Perform Soxhlet extraction on the sample and analyze the extract for all 2,3,7,8 dioxin/furan isomers and totals by chlorinated class (tetra-octas) by Method 8290/Method 0023A.

Request for Analysis/Chain-of-Custody – RFA/COC #018 [MM-5 Train D]
Focus/US Filter Westates Carbon
Comprehensive Performance Test at Parker, Arizona

Field Sample No./ Sample Coding ID	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
G-3131 *Combine with Sample No.: G-3130*	3-30-06		250 mL Amber Boston Round	**Back Half of the Filter Holder and Coil Condenser Solvent Rinses, Run #3** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion XAD-2 Resin Tube, and proceed with the Method 0023A and PCB congener/coplanar preparation procedures.
G-3132-R3-M23A Front Half Composite Blank Train D *Combine with Sample No. G-3133*	3-30-06	**Blank Train**	Petri Dish	**Particulate Filter Run #3** Method 0023A Blank Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion Solvent Probe Rinses sample. Perform Soxhlet extraction on the sample and analyze the extract for all 2,3,7,8 dioxin/furan isomers and totals by chlorinated class (tetra-octas) by Method 8290/Method 0023A.
G-3133 *Combine with Sample No.: G-3132*	3-30-06	**Blank Train**	250 mL Amber Boston Round	**Front Half of the Filter Holder and Probe Solvent Rinses, Run #3** Method 0023A Blank Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion Particulate Filter and proceed with the Method 0023A preparation procedure.
G-3134-R3-M23A Back Half Composite Blank Train D *Combine with Sample No.: G-3135*	3-30-06	**Blank Train**	XAD-2 Resin Tube	**XAD-2 Resin Tube Run #3** Method 0023A Blank Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion Back Half of the Filter Holder and Coil Condenser Solvent Rinses. Perform Soxhlet extraction on the sample and analyze the extract for all 2,3,7,8 dioxin/furan isomers and totals by chlorinated class (tetra-octas) by Method 8290/Method 0023A.
G-3135 *Combine with Sample No.: G-3134*	3-30-06	**Blank Train**	250 mL Amber Boston Round XAD-2 Resin Tube	**Back Half of the Filter Holder and Coil Condenser Solvent Rinses, Run #3** Method 0023A Blank Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion XAD-2 Resin Tube, and proceed with the Method 0023A and PCB congener/coplanar preparation procedures.
G-3136-R3-M23A ~~$MeCl_2$~~ RB/TB XAD-2 Resin Tube	3-30-06	**Reagent Blank**	~~Methylene~~ Chloride Reagent/Trip Blank	**Methylene Chloride Reagent/Trip Blank Run #3** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Perform Soxhlet extraction on the sample and analyze the extract for all 2,3,7,8 dioxin/furan isomers and totals by chlorinated class (tetra-octas) by Method 8290/Method 0023A.

Request for Analysis/Chain-of-Custody – RFA/COC #018 [MM-5 Train D]
Focus/US Filter Westates Carbon
Comprehensive Performance Test at Parker, Arizona

Sample Receipt Log and Condition of the Samples Upon Receipt: H6D030234

Please fill in the following information:

	Comments (Please write "NONE" if no comment applicable)
(1) Record the identities of any samples that were listed on the RFA but were not found in the sample shipment.	N/A
(2) Record the sample shipping cooler temperature of all coolers transporting samples listed on this RFA:	5.0°C
(3) Record any apparent sample loss/breakage.	N/A
(4) Record any unidentified samples transported with this shipment of samples:	N/A
(5) Indicate if all samples were received according to the project's required specifications (i.e. no nonconformances):	N/A

Custody Transfer:

Hand delivered

	Name	Company	Date/Time
Relinquished By:			
Accepted By:	[signature]	STL-Knoxville	4/2/06 1625
Relinquished By:			
Accepted By:			
Relinquished By:			
Accepted By:			
Relinquished By:			
Accepted By:			

STL KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Client: Focus **Project:** WestAtes Carbon **Lot Number:** H6D030236

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	ME 4/3/06 ✗	✓		☐ 1a Do not match COC ☐ 1b Incomplete information ☐ 1c Marking smeared ☐ 1d Label torn ☐ 1e No label ☐ 1f COC not received ☐ 1g Other:	14A COC Not relinquished not signed, DAteed or time. 19 - G3136-R3-M23A - on COC states Methylene Chloride Reagent/TRIP Blank Actual sample is XAD trap same sample ID
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C; NC, 1668, 1613B: 0-4°C; VOST: 10°C; MA: 2-6 °C)	✓			☐ 2a Temp Blank = _____ ☐ 2b Cooler Temp = _____	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ 3a Sample preservative =	
4. Were custody seals present/intact on cooler and/or containers?		✓		☑ 4a Not present ☐ 4b Not intact ☐ 4c Other: Hand delivered	
5. Were all of the samples listed on the COC received?	✓			☐ 5a Samples received-not on COC ☐ 5b Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ 6a Leaking ☐ 6b Broken	
7. Were VOA samples received without headspace?			✓	☐ 7a Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ 8a Improper container	
9. Did you check for residual chlorine, if necessary?			✓	☐ 9a Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ 10a Holding time expired	
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For SOG water samples (1613B, 1668A, 8290, LR PAHs), do samples have visible solids present?			✓	If yes & appears to be >1%, was SOG notified? _____	
13. Are the shipping containers intact?	✓			☐ 13a Leaking ☐ 13b Other:	
14. Was COC relinquished? (Signed/Dated/Timed)		✓		☑ 14a Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ 15a Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ 15a Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ 15a Incomplete information	
18. Is the client and project name/# identified?	✓			☐ 15a Incomplete information	
19. Was the sampler identified on the COC?			✓		

Quote #: 64351 PM Instructions: _____

Sample Receiving Associate: [signature] Date: 4/3/06

QA026R18.doc, 1/30/06

Trace Level Organics

Raw Sample Data
DB-5 Column

STL Knoxville - ACS

Sample ID: G-2937/2938-R1-M23A FRONT HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 001	**Work Order #....:**	H2H1D1AA	**Matrix....:**	AIR
Date Sampled....:	03/28/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107079				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Bruce F. Wagner				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	2.5	pg/sampl
Total TCDD	**4.0**	**Q J**	**10**	**2.5**	**pg/sampl**
1,2,3,7,8-PeCDD	ND		50	1.5	pg/sampl
Total PeCDD	**8.2**	**Q J**	**50**	**1.5**	**pg/sampl**
1,2,3,4,7,8-HxCDD	ND		50	1.2	pg/sampl
1,2,3,6,7,8-HxCDD	ND		50	1.2	pg/sampl
1,2,3,7,8,9-HxCDD	ND		50	1.1	pg/sampl
Total HxCDD	**6.3**	**Q J**	**50**	**1.2**	**pg/sampl**
1,2,3,4,6,7,8-HpCDD	**6.7**	**J**	**50**	**2.2**	**pg/sampl**
Total HpCDD	**11**	**J**	**50**	**2.2**	**pg/sampl**
OCDD	**22**	**Q B J**	**100**	**2.0**	**pg/sampl**
2,3,7,8-TCDF	**2.4**	**Q J**	**10**	**2.2**	**pg/sampl**
Total TCDF	**15**	**Q J**	**10**	**2.2**	**pg/sampl**
1,2,3,7,8-PeCDF	**3.3**	**Q J**	**50**	**1.2**	**pg/sampl**
2,3,4,7,8-PeCDF	**2.9**	**Q J**	**50**	**1.1**	**pg/sampl**
Total PeCDF	**29**	**J Q**	**50**	**1.2**	**pg/sampl**
1,2,3,4,7,8-HxCDF	**5.7**	**Q J**	**50**	**1.1**	**pg/sampl**
1,2,3,6,7,8-HxCDF	**3.7**	**Q J**	**50**	**1.0**	**pg/sampl**
2,3,4,6,7,8-HxCDF	**2.7**	**B J**	**50**	**1.1**	**pg/sampl**
1,2,3,7,8,9-HxCDF	ND		50	1.2	pg/sampl
Total HxCDF	**21**	**Q J B**	**50**	**1.1**	**pg/sampl**
1,2,3,4,6,7,8-HpCDF	**8.0**	**Q B J**	**50**	**1.9**	**pg/sampl**
1,2,3,4,7,8,9-HpCDF	ND		50	2.3	pg/sampl
Total HpCDF	**8.0**	**Q B J**	**50**	**2.1**	**pg/sampl**
OCDF	**8.5**	**Q B J**	**100**	**2.5**	**pg/sampl**

STL Knoxville - ACS

Sample ID: G-2937/2938-R1-M23A FRONT HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 001	**Work Order #....:**	H2H1D1AA	**Matrix....:**	AIR
Date Sampled....:	03/28/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107079				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Bruce F. Wagner				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	103	40 - 135
13C-1,2,3,7,8-PeCDD	120	40 - 135
13C-1,2,3,6,7,8-HxCDD	103	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	112	40 - 135
13C-OCDD	107	40 - 135
13C-2,3,7,8-TCDF	100	40 - 135
13C-1,2,3,7,8-PeCDF	120	40 - 135
13C-1,2,3,6,7,8-HxCDF	104	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	101	40 - 135

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	88	70 - 130
13C-1,2,3,4,7,8-HxCDD	101	70 - 130
13C-2,3,4,7,8-PeCDF	90	70 - 130
13C-1,2,3,4,7,8-HxCDF	85	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	90	70 - 130

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

STL - Knoxville

IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1D1AA	**Prep Batch**	6107079	**Lot No**	H6D030236-001
Data File	/20060504s1/bth2h1d.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90534	**Prep Exp Date**	04/27/06	**Date Received**	04/02/06
Analysis Date	5/4/2006	**Matrix**	AIR	**Date Sampled**	03/28/06
Analysis Time	16:08	**Initial Wt/Vol**	1	**Lims Test Code**	XXSINX801
Anal Exp Date	06/01/06	**Extract Vol**	20	**Method**	0023/8290
Instrument	M2A	**Dil Factor**	1.0	**Code**	X8
Analyst	BFW				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (pg/sample		DL (pg/samp
2,3,7,8-TCDD				1.060				ND		2.49
Total TCDD		3174	385	1.060		3.979538		3.979538	QJ	2.49
2,3,7,8-TCDF	33:06	2476	625	1.064		2.394102		2.394102	QJ	2.16
Total TCDF		12664	1975	1.064		14.640419		14.640419	QJ	2.16
1,2,3,7,8-PeCDD				0.977				ND		1.51
Total PeCDD		5805	1458	0.977		8.184210		8.184210	QJ	1.51
1,2,3,7,8-PeCDF	41:32	3075	706	0.955		3.296351		3.296351	QJ	1.19
2,3,4,7,8-PeCDF	42:36	2876	753	1.018		2.893721		2.893721	QJ	1.12
Total PeCDF		22064	4800	0.987		29.094932		29.094932	JQ	1.15
1,2,3,4,7,8-HxCDD				1.047				ND		1.24
1,2,3,6,7,8-HxCDD				1.055				ND		1.24
1,2,3,7,8,9-HxCDD				1.146				ND		1.14
Total HxCDD		4504	1195	1.083		6.332085		6.332085	QJ	1.20
1,2,3,4,7,8-HxCDF	46:08	5652	1550	1.101		5.747915		5.747915	QJ	1.08
1,2,3,6,7,8-HxCDF	46:19	3864	979	1.184		3.653427		3.653427	QJ	1.01
2,3,4,6,7,8-HxCDF	47:06	2567	722	1.052		2.731036		2.731036	BJ	1.13
1,2,3,7,8,9-HxCDF				0.982				ND		1.21
Total HxCDF		8888	3000	1.080		21.348149		21.348149	QJB	1.10
1,2,3,4,6,7,8-HpCDD	52:25	4754	1035	1.018		6.690468		6.690468	J	2.18
Total HpCDD		3416	798	1.018		11.497922		11.497922	J	2.18
1,2,3,4,6,7,8-HpCDF	50:44	7005	1283	1.403		7.956904		7.956904	QBJ	1.95
1,2,3,4,7,8,9-HpCDF				1.197				ND		2.29
Total HpCDF				1.300		7.956904		7.956904	QBJ	2.10
OCDD	56:45	13262	3952	0.965		22.272759		22.272759	QBJ	2.02
OCDF	56:55	5792	1184	1.103		8.504958		8.504958	QBJ	2.50
13C-2,3,7,8-TCDD	35:16	752151	85185	1.068	1000	1025.77639	102.58	1025.77639		7.50
13C-2,3,7,8-TCDF	33:03	972101	101006	1.413	1000	1001.73409	100.17	1001.73409		3.86
13C-1,2,3,7,8-PeCDD	43:03	726208	200249	0.882	1000	1199.35780	119.94	1199.35780		5.01
13C-1,2,3,7,8-PeCDF	41:28	976458	239180	1.188	1000	1197.02985	119.70	1197.02985		4.08
13C-1,2,3,6,7,8-HxCDD	47:23	657074	174590	0.943	1000	1029.60301	102.96	1029.60301		3.04
13C-1,2,3,6,7,8-HxCDF	46:18	893132	247775	1.272	1000	1037.79946	103.78	1037.79946		1.89
13C-1,2,3,4,6,7,8-HpCDD	52:23	698292	156978	0.918	1000	1123.93709	112.39	1123.93709		1.66
13C-1,2,3,4,6,7,8-HpCDF	50:39	627388	132546	0.916	1000	1012.25455	101.23	1012.25455		1.83
13C-OCDD	56:43	1234397	313589	0.850	2000	2146.95897	107.35	2146.95897		2.29
37Cl4-2,3,7,8-TCDD	35:19	1384409	157668	1.046	2000	1759.75946	87.99	1759.75946		2.10
13C-2,3,4,7,8-PeCDF	42:34	1784648	463829	1.010	2000	1809.15391	90.46	1809.15391		1.40
13C-1,2,3,4,7,8-HxCDD	47:16	1194991	330476	0.902	2000	2015.75691	100.79	2015.75691		3.13
13C-1,2,3,4,7,8-HxCDF	46:10	1493769	412561	0.988	2000	1692.51987	84.63	1692.51987		1.68
13C-1,2,3,7,8,9-HxCDF				1.113				ND		2.16
13C-1,2,3,4,7,8,9-HpCDF	53:01	1025142	226262	0.912	2000	1791.36060	89.57	1791.36060		2.38
13C-1,2,3,4-TCDD	34:43	1373148	139151	1.000	2000	2000.00000	100.00	2000.00000		8.01
13C-1,2,3,7,8,9-HxCDD	47:47	1353133	343576	1.000	2000	2000.00000	100.00	2000.00000		2.87

BFW 5/5/06
PMP 5-6-06

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1D1AA	**Prep Batch**	6107079	**Lot No**	H6D030236-001
Data File	/20060504s1/bth2h1d.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90534	**Prep Exp Date**	04/27/06	**Date Received**	04/02/06
Analysis Date	05/04/06 16:08	**Matrix**	AIR	**Date Sampled**	03/28/06
Anal Exp Date	06/01/06	**Initial Wt/Vol**	1 Sample	**Lims Test Code**	XXSINX801
Instrument	M2A	**Extract Vol**	20 uL	**Method**	0023/8290
Analyst	BFW	**Diluton Factor**	1.00	**Code**	X8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	95	138	38	55	0.69	/	
	Unidentified	27:59	00:00	0	1751	3148	253	326	0.56 *	ABB/ABB	RT
	Unidentified	30:26	00:00	0	855	1131	173	167	0.76	MVV/MVV	
	Unidentified	31:02	00:00	0	1398	2074	212	310	0.67	MVV/MVV	
	2,3,7,8-TCDF	33:06	33:07	-1	1077	1855	272	413	0.58 *	ABV/MBV	RM
	Unidentified	33:11	00:00	0	1626	1797	235	300	0.90 *	AVB/MVV	RDTM
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	195	185	78	74	1.05 *	/	
	13C-2,3,7,8-TCDF	33:03	33:03	0	427759	544342	44794	56212	0.79	ABV/AVV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	105	120	42	48	0.88	/	
	Unidentified	28:38	00:00	0	1368	1806	191	194	0.76	MVV/ABB	T
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	188		75				
	37Cl4-2,3,7,8-TCDD	35:19	35:19	0	1384409		157668			ABV	
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	345	213	138	85	1.62 *	/	
	13C-1,2,3,4-TCDD	34:43	34:43	0	613454	759694	62429	76722	0.81	ABV/AVV	
	13C-2,3,7,8-TCDD	35:16	35:16	0	334196	417955	37359	47826	0.80	AVV/AVV	
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**		
	Noise	00:00	00:00	0	123	150	49	60	0.82 *	/	
	Unidentified	38:12	00:00	0	2116	1286	355	228	1.65	ABB/MVV	
	Unidentified	40:11	00:00	0	5848	3927	1247	596	1.49	ABB/MVV	
	Unidentified	41:03	00:00	0	2249	1436	510	319	1.57	ABB/MVV	
	1,2,3,7,8-PeCDF	41:32	41:29	3	1869	1480	429	428	1.26 *	MBB/MBB	RD
	Unidentified	41:57	00:00	0	1321	1185	315	318	1.11 *	ABB/MBB	R
	2,3,4,7,8-PeCDF	42:36	42:35	1	1748	1685	458	374	1.04 *	ABB/MBB	R
	Unidentified	42:46	00:00	0	1841	1490	624	389	1.24 *	ABB/MBB	R
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**		
	Noise	00:00	00:00	0	163	175	65	70	0.93 *	/	
	13C-1,2,3,7,8-PeCDF	41:28	41:28	0	599995	376463	148631	90549	1.59	ABV/ABV	
	13C-2,3,4,7,8-PeCDF	42:34	42:34	0	1097380	687268	285290	178539	1.60	ABV/ABV	
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**		
	Noise	00:00	00:00	0	155	140	62	56	1.11 *	/	
	Unidentified	40:30	00:00	0	1423	783	238	183	1.82 *	ABB/ABV	R
	Unidentified	42:01	00:00	0	1418	885	307	265	1.60	ABB/MVV	
	Unidentified	42:41	00:00	0	915	1365	255	296	0.67 *	AVB/ABB	R
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**		
	Noise	00:00	00:00	0	160	148	64	59	1.08 *	/	
	13C-1,2,3,7,8-PeCDD	43:03	43:02	1	439738	286470	120944	79305	1.54	ABV/ABV	
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	Noise	00:00	00:00	0	185	110	74	44	1.68 *	/	
	Unidentified	44:55	00:00	0	1329	755	400	343	1.76 *	ABB/ABB	R

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1D1AA	**Prep Batch**	6107079	**Lot No**	H6D030236-001
Data File	/20060504s1/bth2h1d.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90534	**Prep Exp Date**	04/27/06	**Date Received**	04/02/06
Analysis Date	05/04/06 16:08	**Matrix**	AIR	**Date Sampled**	03/28/06
Anal Exp Date	06/01/06	**Initial Wt/Vol**	1 Sample	**Lims Test Code**	XXSINX801
Instrument	M2A	**Extract Vol**	20 uL	**Method**	0023/8290
Analyst	BFW	**Diluton Factor**	1.00	**Code**	X8

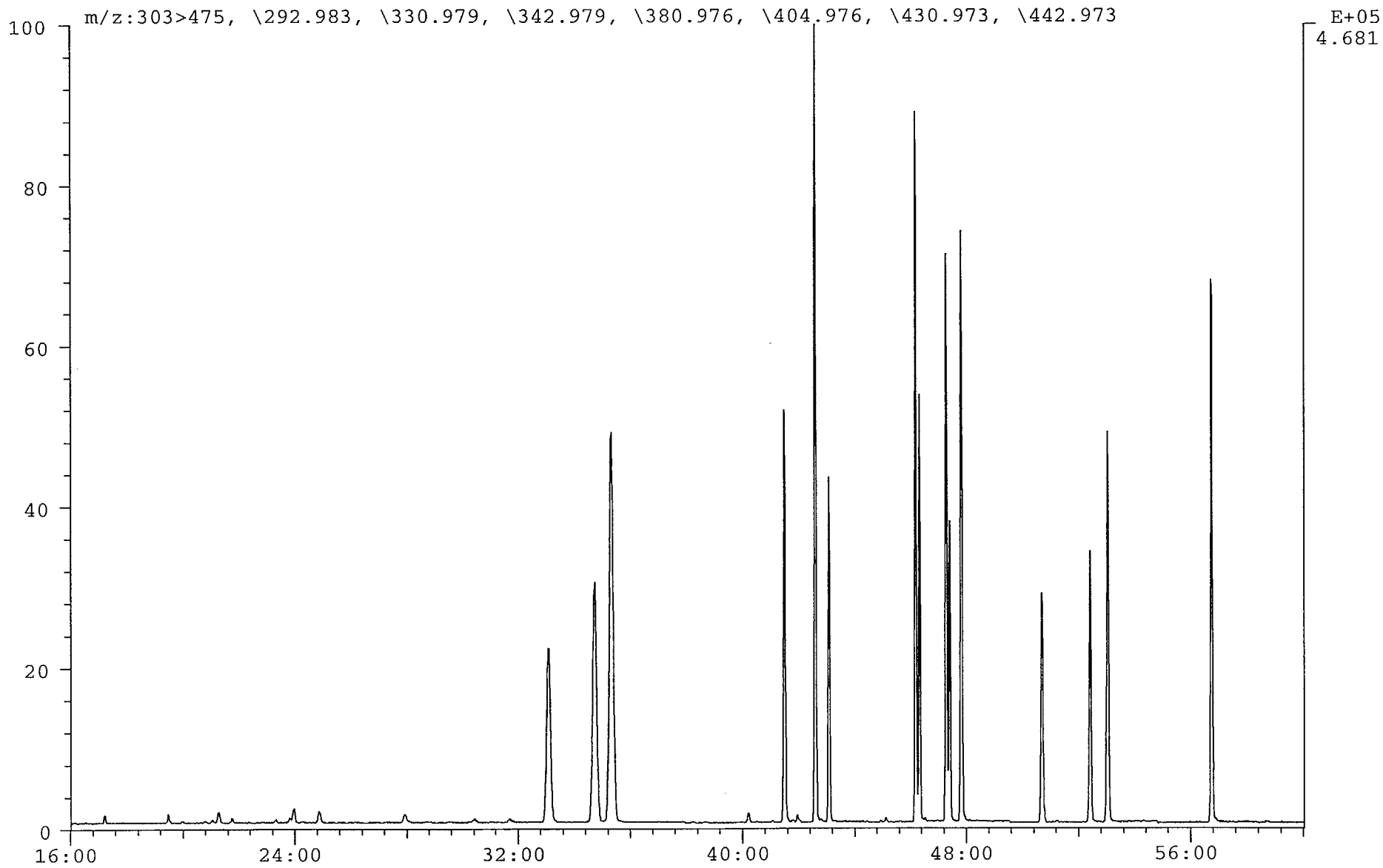
View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	Unidentified	45:05	00:00	0	4042	3155	1092	1140	1.28	ABB/ABB	
	1,2,3,4,7,8-HxCDF	46:08	46:11	-3	3785	2523	853	692	1.50 *	ABB/ABV	R
	1,2,3,6,7,8-HxCDF	46:19	46:20	-1	2604	1725	882	437	1.51 *	ABB/AVB	R
	2,3,4,6,7,8-HxCDF	47:06	47:05	1	1312	1255	272	450	1.05	ABB/ABB	
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**		
	Noise	00:00	00:00	0	183	230	73	92	0.79 *	/	
	13C-1,2,3,4,7,8-HxCDF	46:10	46:10	0	513625	980144	140857	271704	0.52	ABV/AVV	
	13C-1,2,3,6,7,8-HxCDF	46:18	46:19	-1	306399	586733	84896	162879	0.52	AVV/AVV	
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	Noise	00:00	00:00	0	103	125	41	50	0.82 *	/	
	Unidentified	46:12	00:00	0	1964	1185	415	273	1.66 *	MBB/MVV	R
	Unidentified	46:31	00:00	0	1024	1098	323	159	0.93 *	MVV/ABB	R
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**		
	Noise	00:00	00:00	0	215	278	86	111	0.77 *	/	
	13C-1,2,3,4,7,8-HxCDD	47:16	47:15	1	673790	521201	186270	144206	1.29	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDD	47:23	47:22	1	353707	303367	94196	80394	1.17	AVV/AVB	
	13C-1,2,3,7,8,9-HxCDD	47:47	47:48	-1	756492	596641	193010	150566	1.27	AVB/ABB	
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**		
	Noise	00:00	00:00	0	190	173	76	69	1.10	/	
	1,2,3,4,6,7,8-HpCDF	50:44	50:40	4	26818	3434	4954	629	7.81 *	ABV/ABB	RDT
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	Noise	00:00	00:00	0	143	145	57	58	0.98 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	50:39	50:40	-1	198671	428717	40911	91635	0.46	ABV/ABV	
	13C-1,2,3,4,7,8,9-HpCDF	53:01	53:00	1	321549	703593	68472	157790	0.46	ABV/ABV	
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**		
	Noise	00:00	00:00	0	165	183	66	73	0.90	/	
	Unidentified	51:13	00:00	0	1786	1630	400	398	1.10	ABB/MBB	
	1,2,3,4,6,7,8-HpCDD	52:25	52:24	1	2440	2314	491	544	1.05	MBB/MBB	
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**		
	Noise	00:00	00:00	0	130	133	52	53	0.98	/	
	13C-1,2,3,4,6,7,8-HpCDD	52:23	52:23	0	353846	344446	78787	78191	1.03	ABB/ABB	
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**		
	Noise	00:00	00:00	0	215	218	86	87	0.99	/	
	OCDF	56:55	56:52	3	2669	3123	507	677	0.85	MVB/MVV	T
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**		
	Noise	00:00	00:00	0	173	133	69	53	1.30 *	/	
	OCDD	56:45	56:44	1	7547	7017	2013	2091	1.08 *	MBB/MBB	R
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**		
	Noise	00:00	00:00	0	185	150	74	60	1.23 *	/	
	13C-OCDD	56:43	56:43	0	584986	649411	146310	167279	0.90	ABV/ABV	

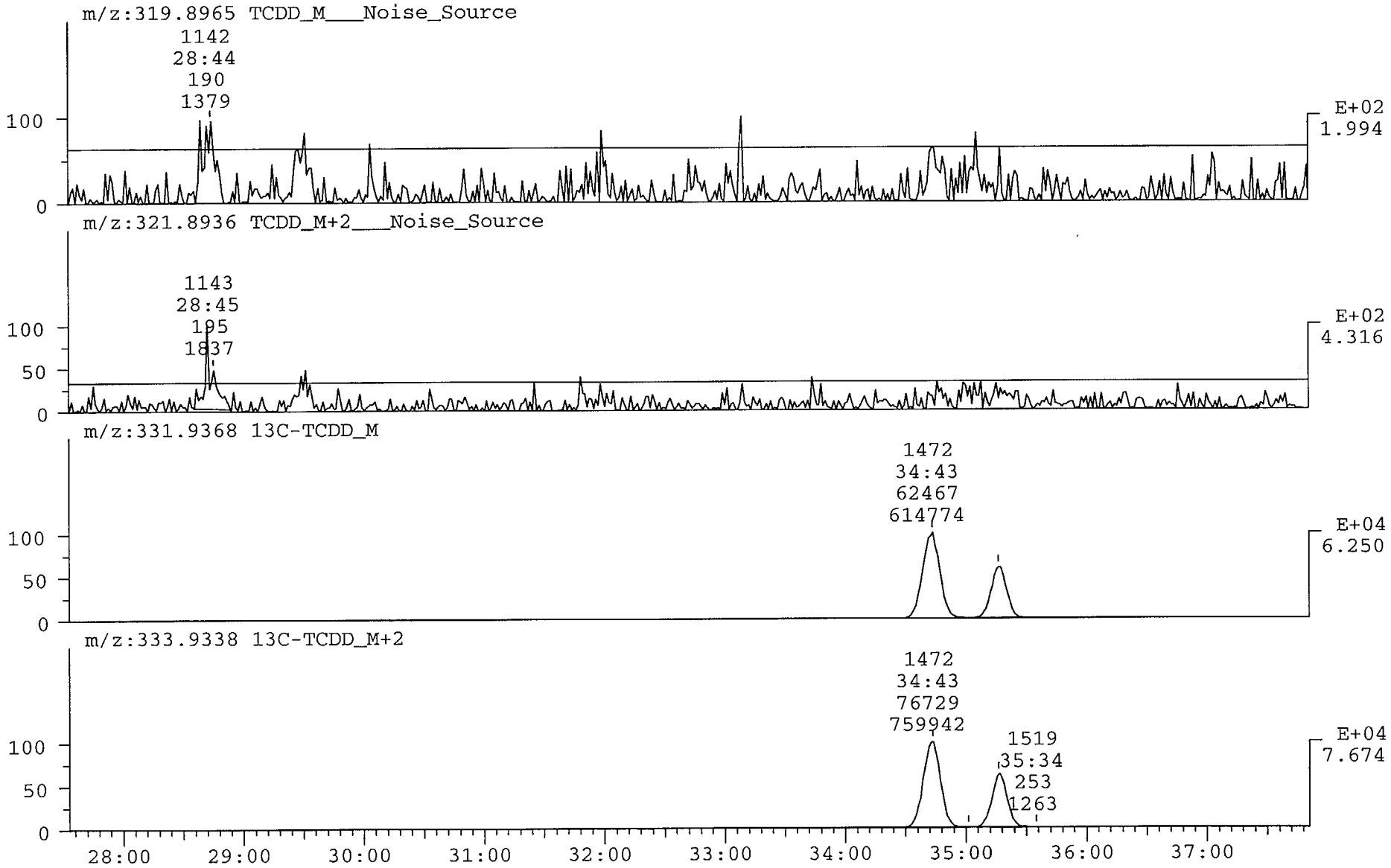
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

CHRO: bth2h1d 04-May-06 Elapse: 56:46 2705
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 441 > 2888 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

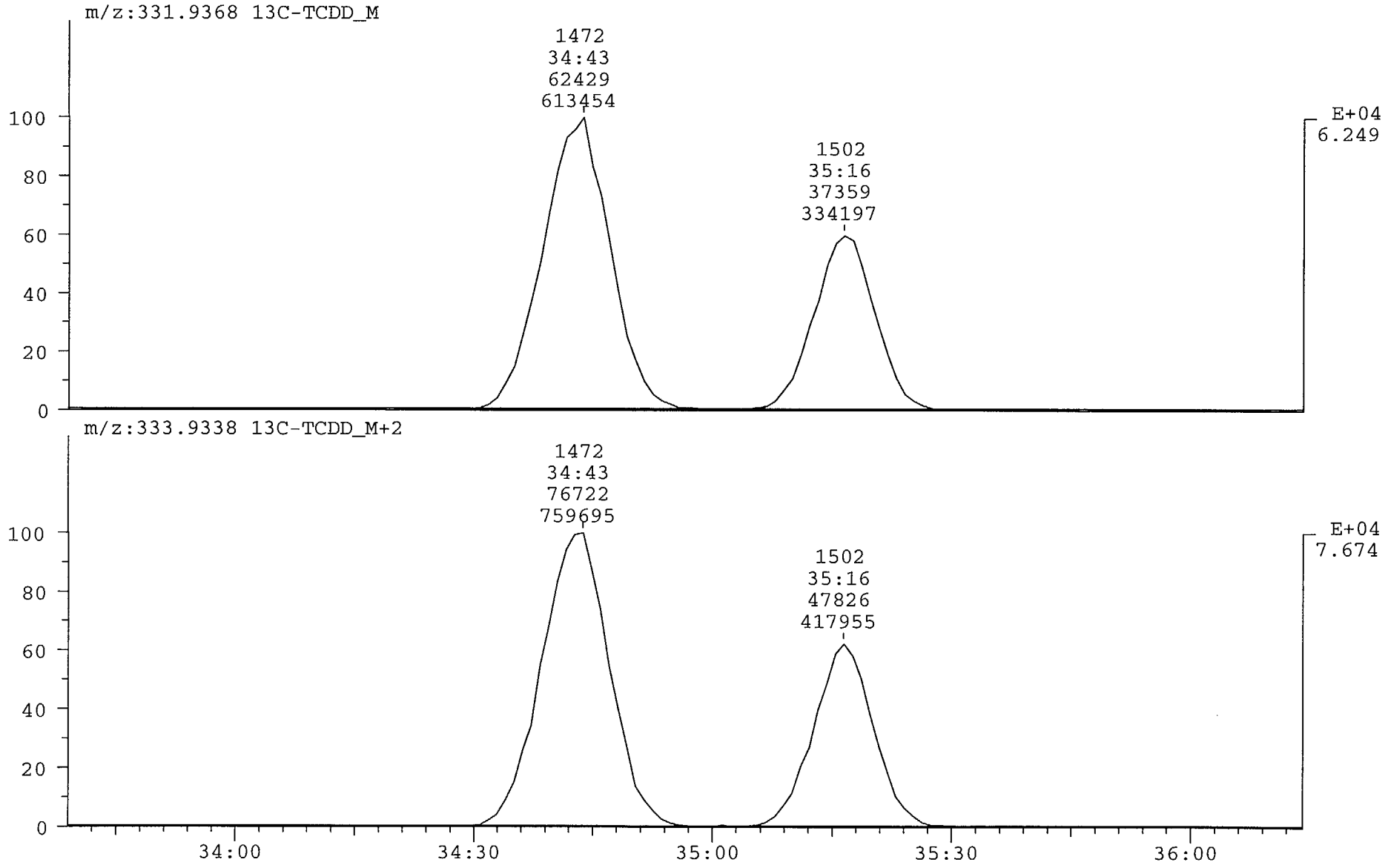
Int PMP 5-4-06
Calc BFW 5/5/06
QC/Rev PMP 5-6-06



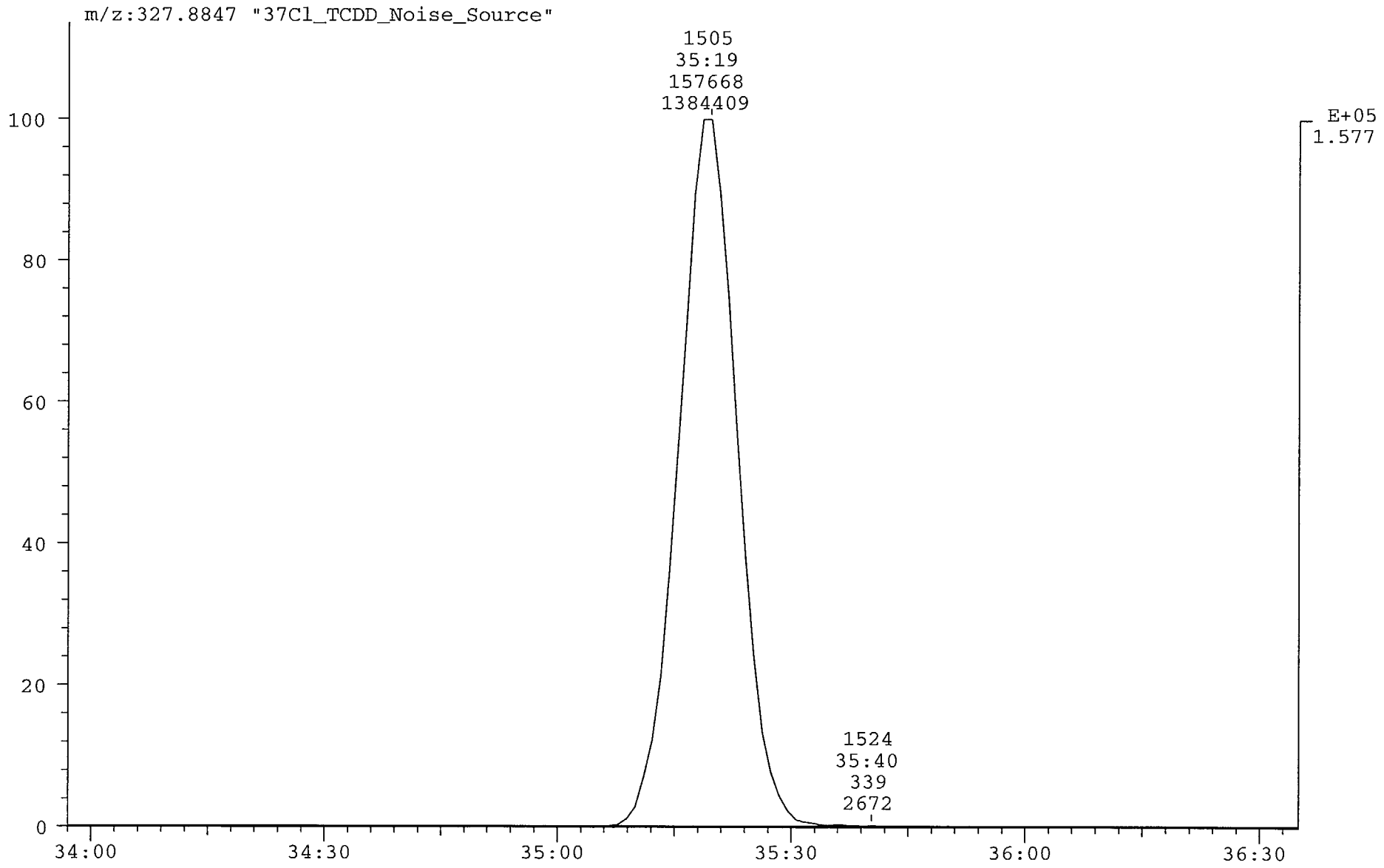
CHRO: bth2h1d 04-May-06 Elapse: 56:46 2705
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 1077 > 1644 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



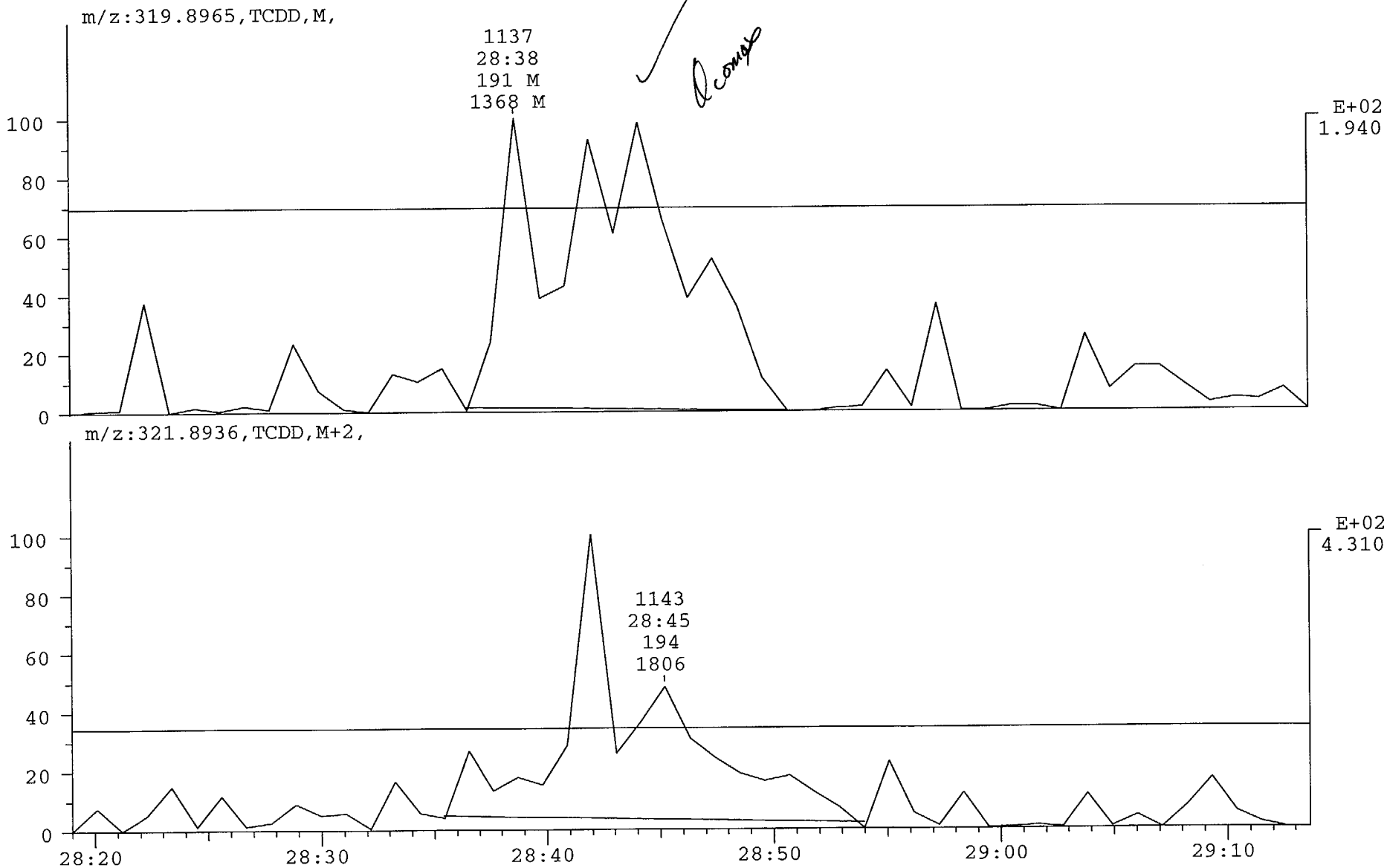
```
CHRO:  bth2h1d                                  04-May-06  Elapse:  34:55      1483
Samp:  Vial 4 WO=h2h1d1aa Meth=X8 Dil=1                    Start :  16:08:51   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-001               Inlet :  GC     Vial   4
Peak:  100.00  ppm      Label wndw:   1413 > 1555          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



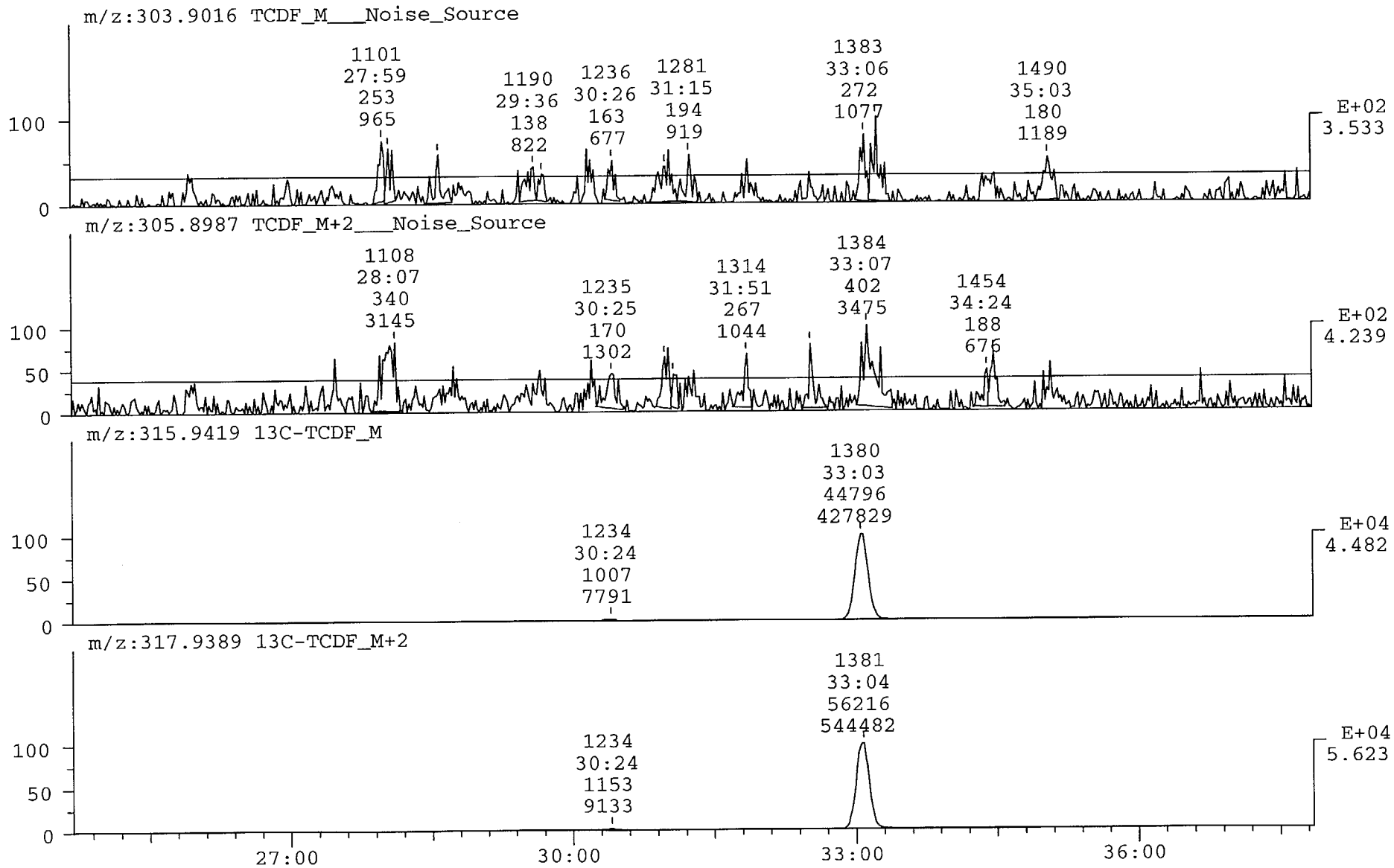
```
CHRO:  bth2h1d                                04-May-06  Elapse:  35:13      1499
Samp:  Vial 4 WO=h2h1d1aa Meth=X8 Dil=1                  Start :  16:08:51   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (Air)
Oper:  BFW          Client:  H6D030236-001               Inlet :  GC     Vial   4
Peak:  100.00  ppm     Label wndw:   1429 > 1574         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



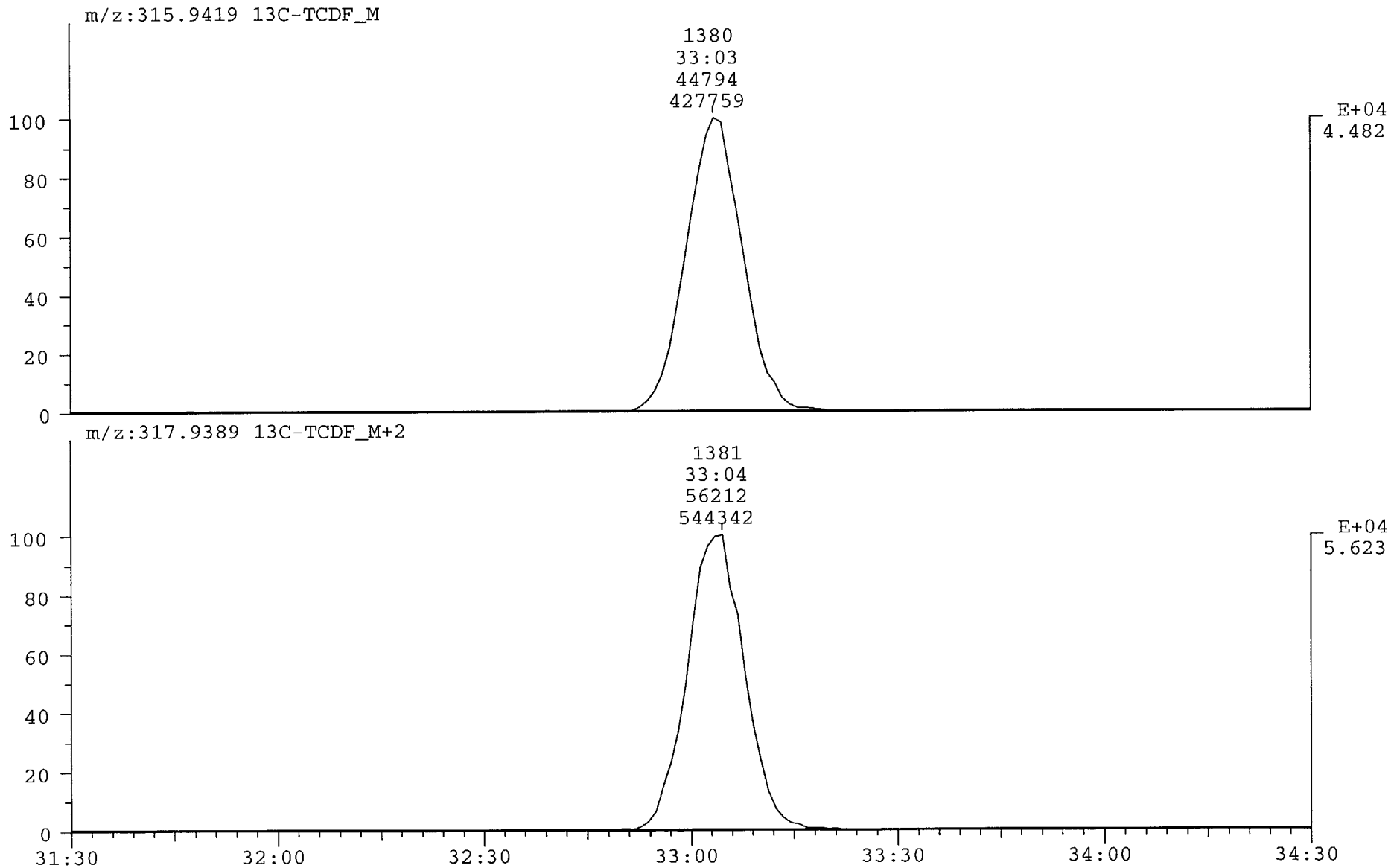
CHRO: bth2h1d 04-May-06 Elapse: 56:45 2704
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 1119 > 1169 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



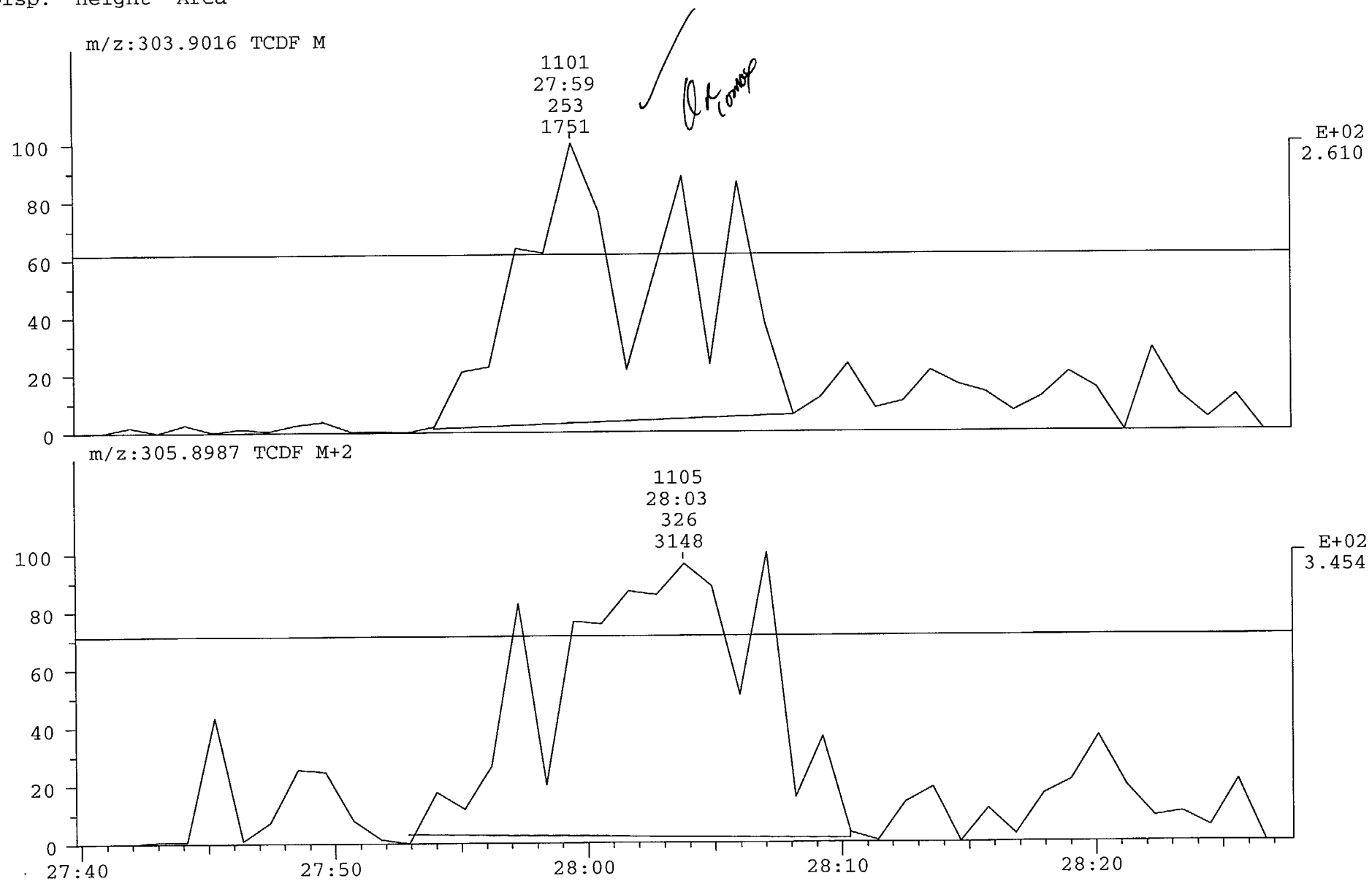
CHRO: bth2h1d 04-May-06 Elapse: 35:13 1499
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 919 > 1644 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



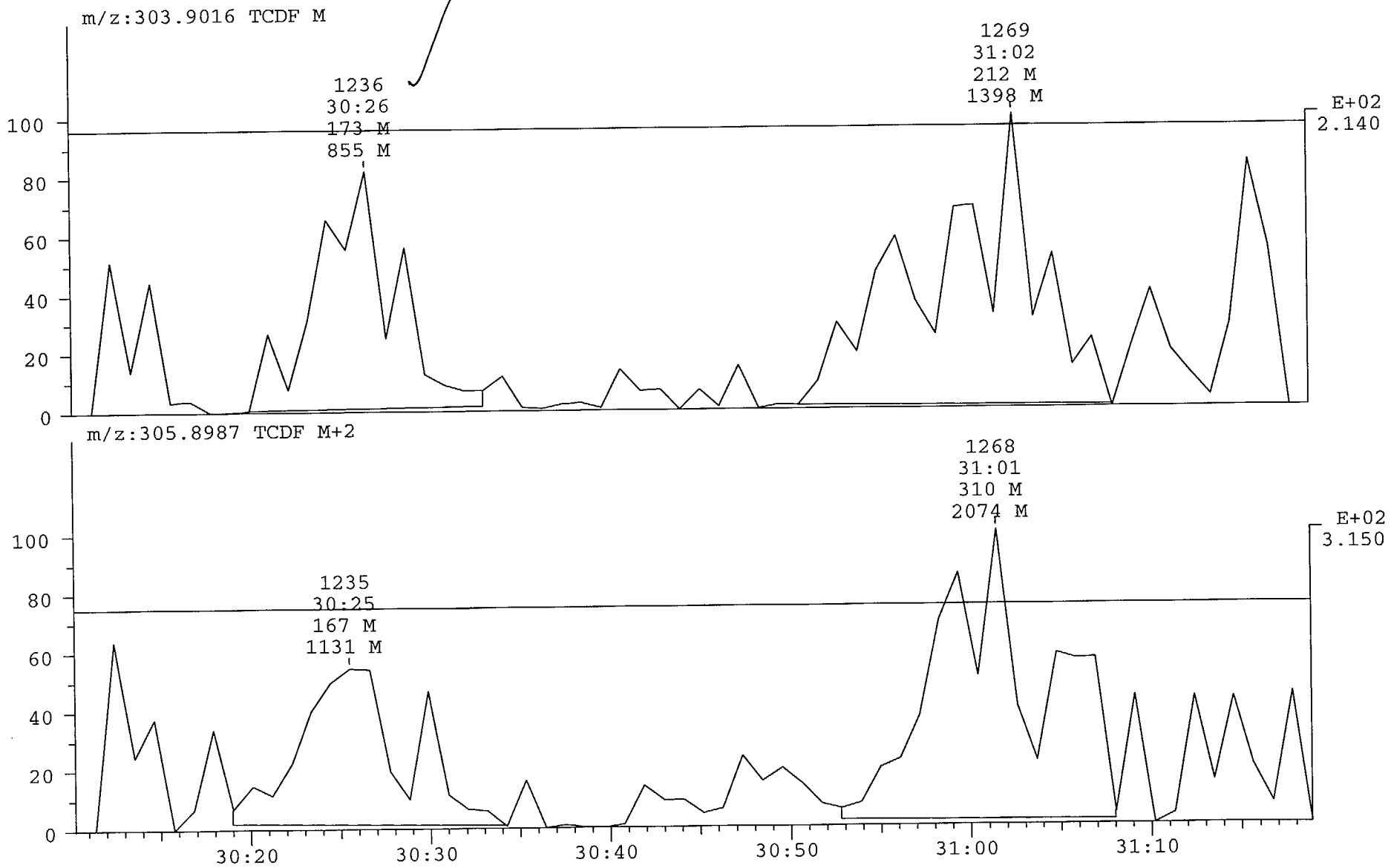
```
CHRO:  bth2h1d                                  04-May-06   Elapse:  32:56      1374
Samp:  Vial 4 WO=h2h1d1aa Meth=X8 Dil=1                     Start :  16:08:51   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-001                Inlet :  GC     Vial   4
Peak:  100.00  ppm      Label wndw:   1294 > 1459           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



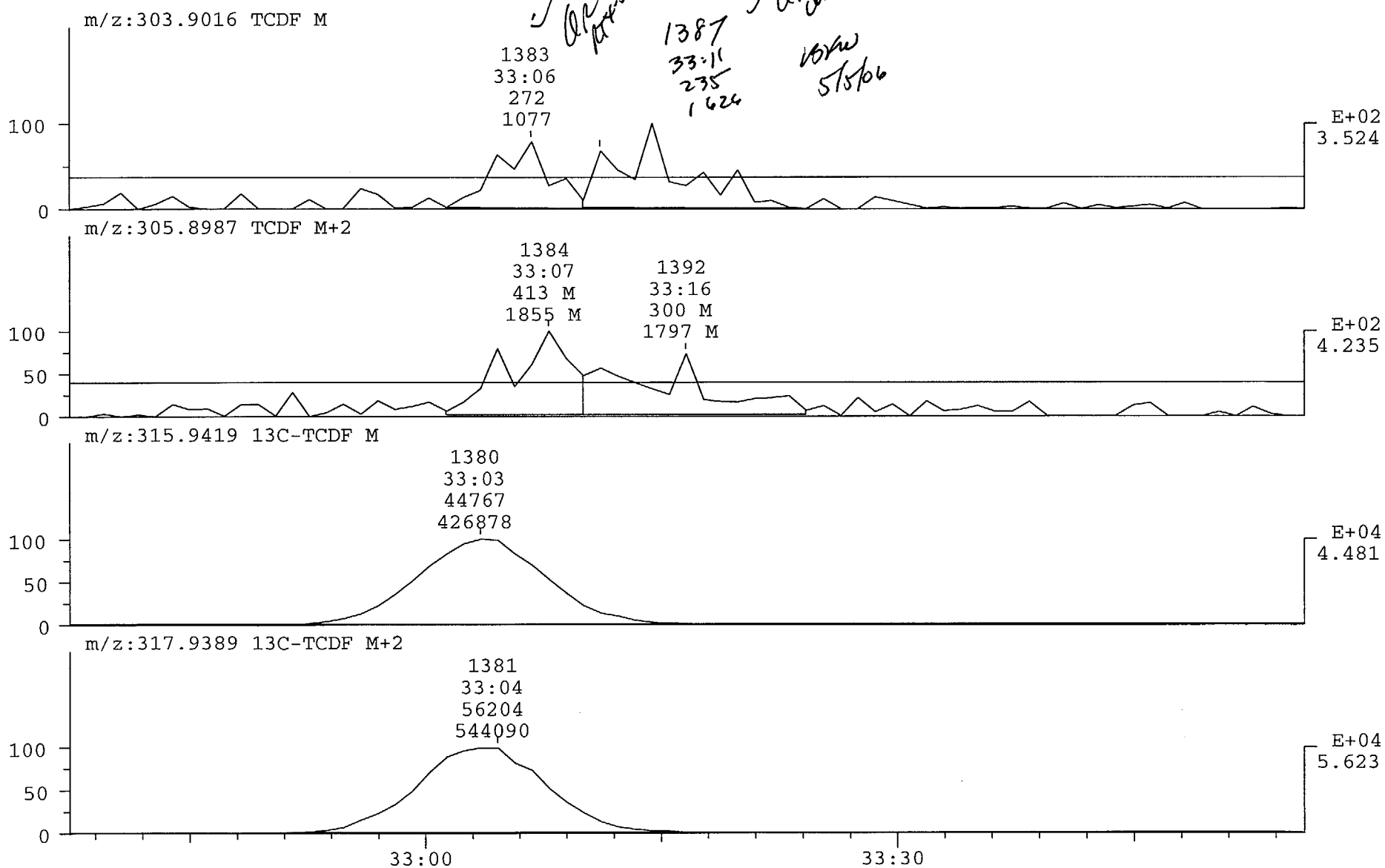
CHRO: bth2h1d 04-May-06 Elapse: 56:45 2704
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 1083 > 1127 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -4, 4.0
Disp: Height Area



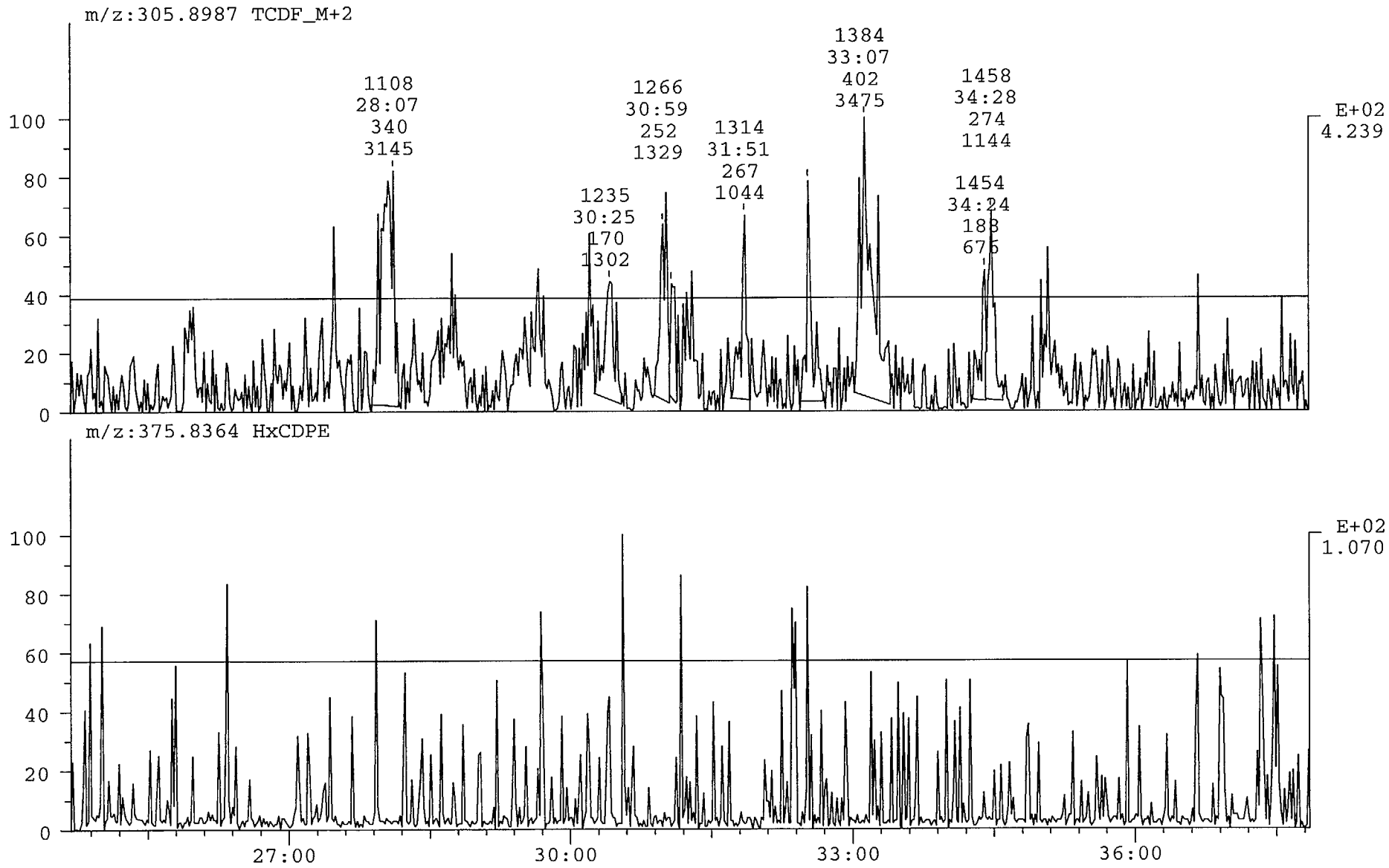
CHRO: bth2h1d 04-May-06 Elapse: 56:45 2704
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 1221 > 1284 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -4, 4.0
Disp: Height Area



CHRO: bth2h1d 04-May-06 Elapse: 56:45 2704
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 1356 > 1428 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1d 04-May-06 Elapse: 32:56 1374
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 919 > 1644 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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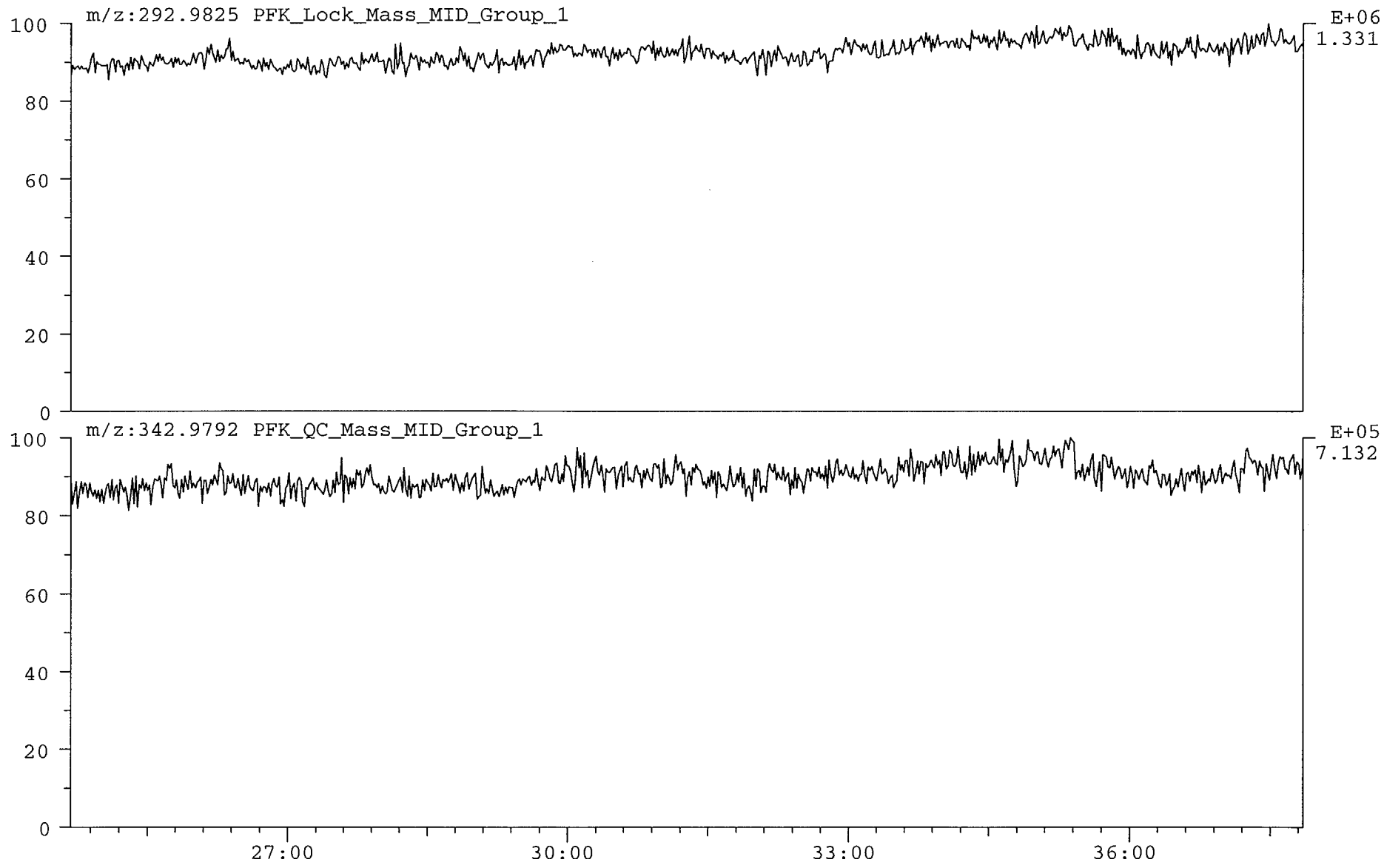
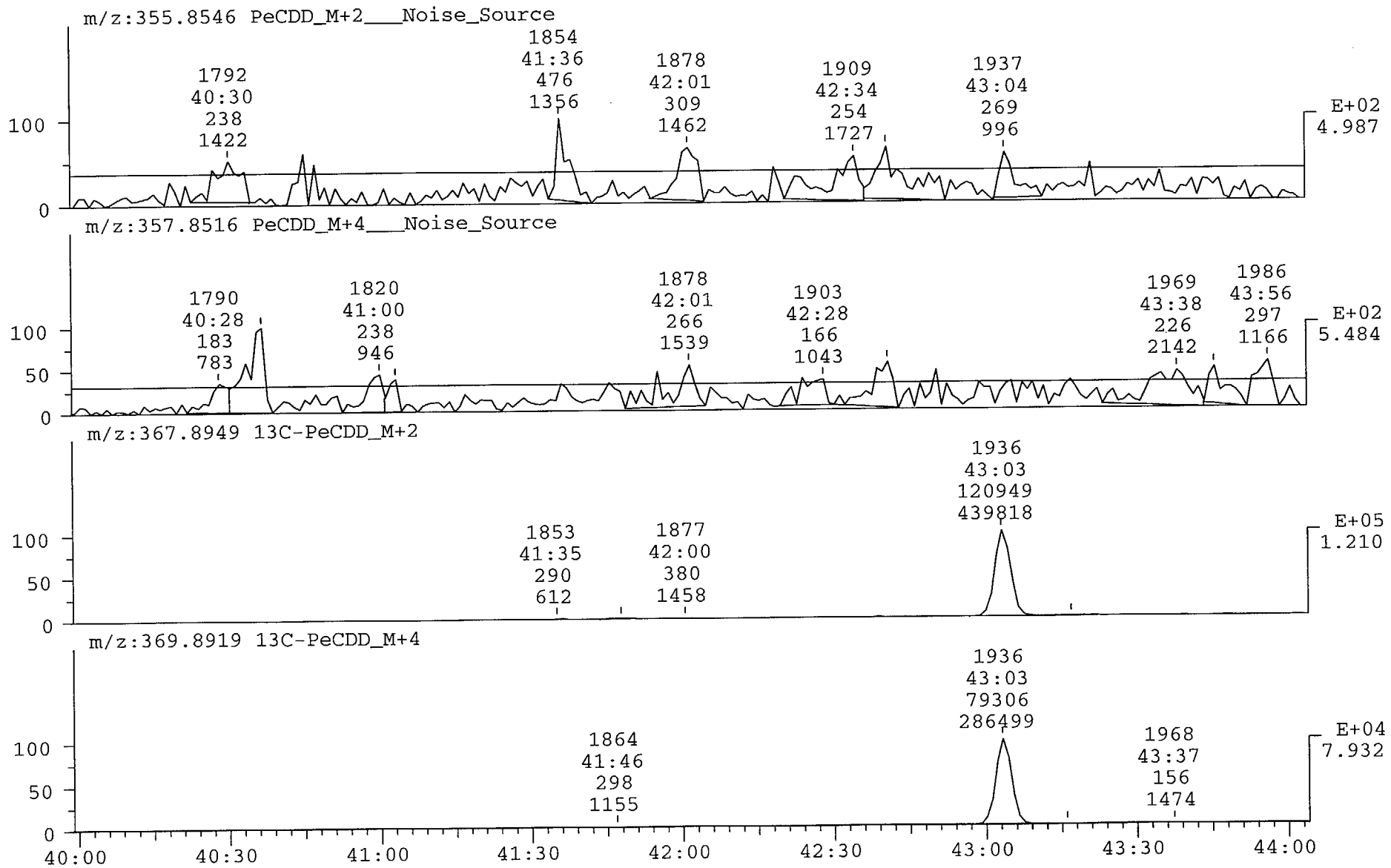
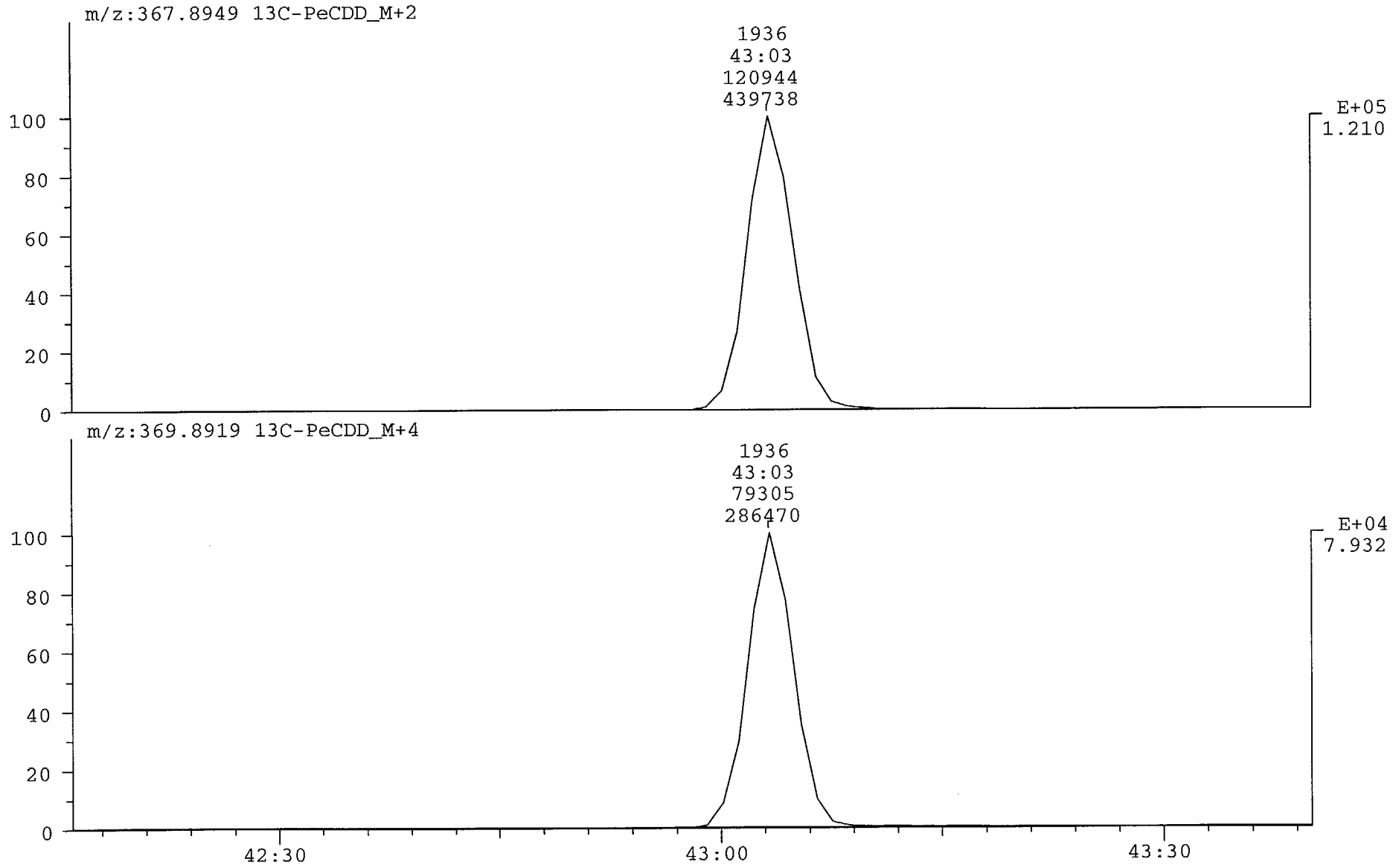
CHRO:  bth2h1d                                04-May-06  Elapse:  32:56      1374
Samp:  Vial 4 WO=h2h1d1aa Meth=X8 Dil=1                  Start :  16:08:51   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-001             Inlet :  GC     Vial   4
Peak:  100.00  ppm      Label wndw:   919 > 1644         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



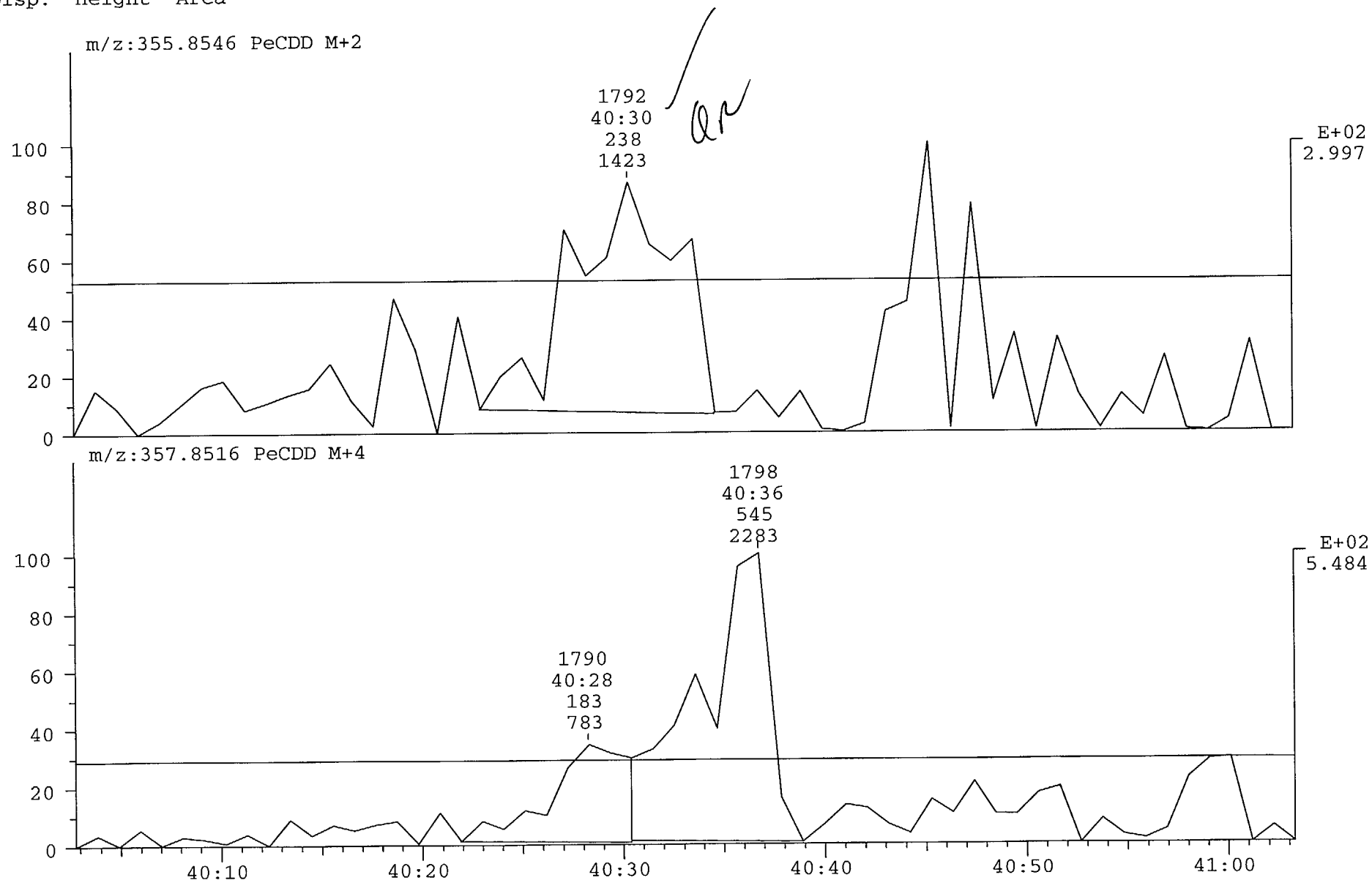
CHRO: bth2h1d 04-May-06 Elapse: 32:56 1374
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 1762 > 1993 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



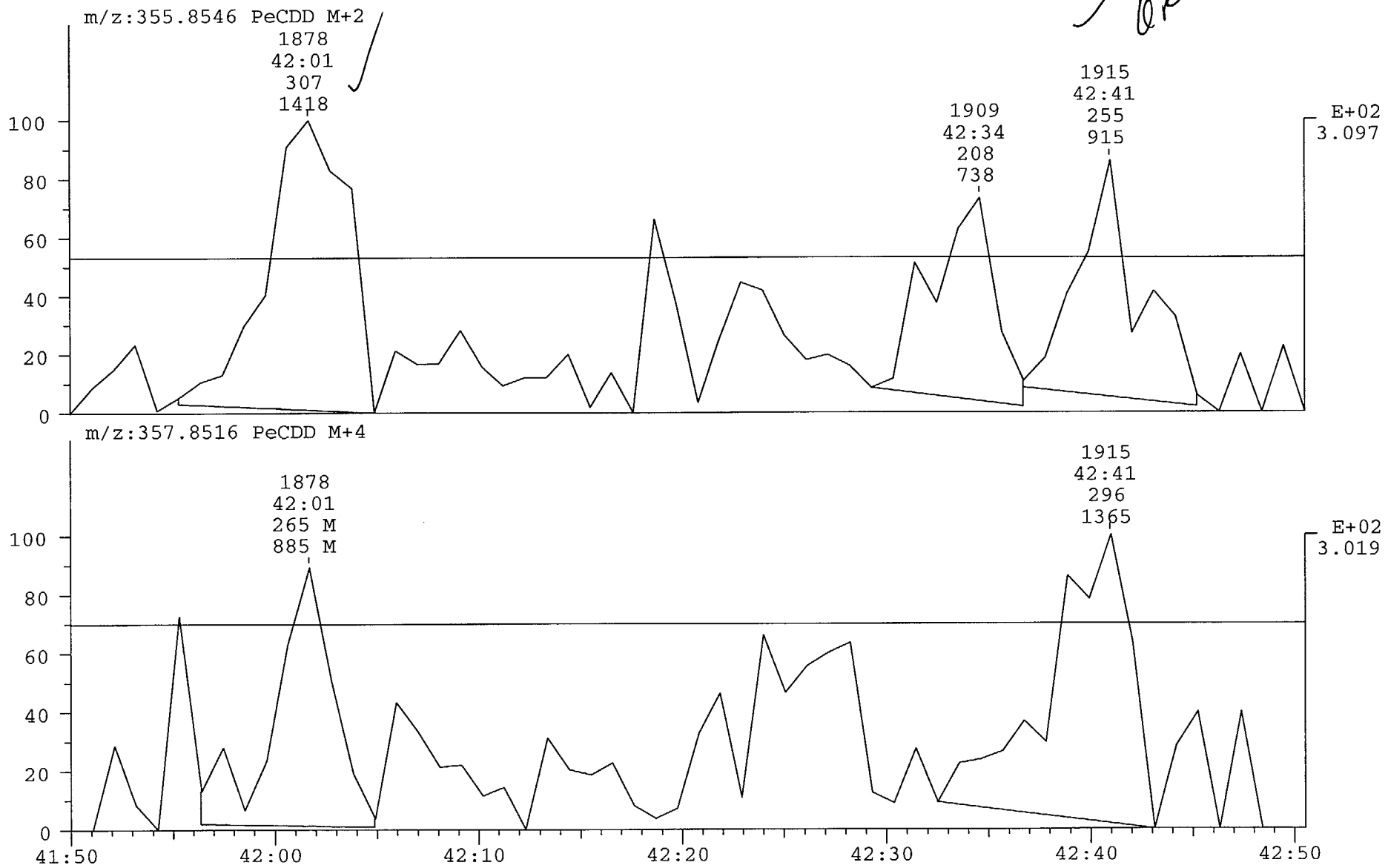
```
CHRO:  bth2h1d                                  04-May-06   Elapse:  42:54      1928
Samp:  Vial 4 WO=h2h1d1aa Meth=X8 Dil=1                     Start :  16:08:51   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-001                Inlet :  GC     Vial   4
Peak:  100.00  ppm      Label wndw:   1891 > 1971           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



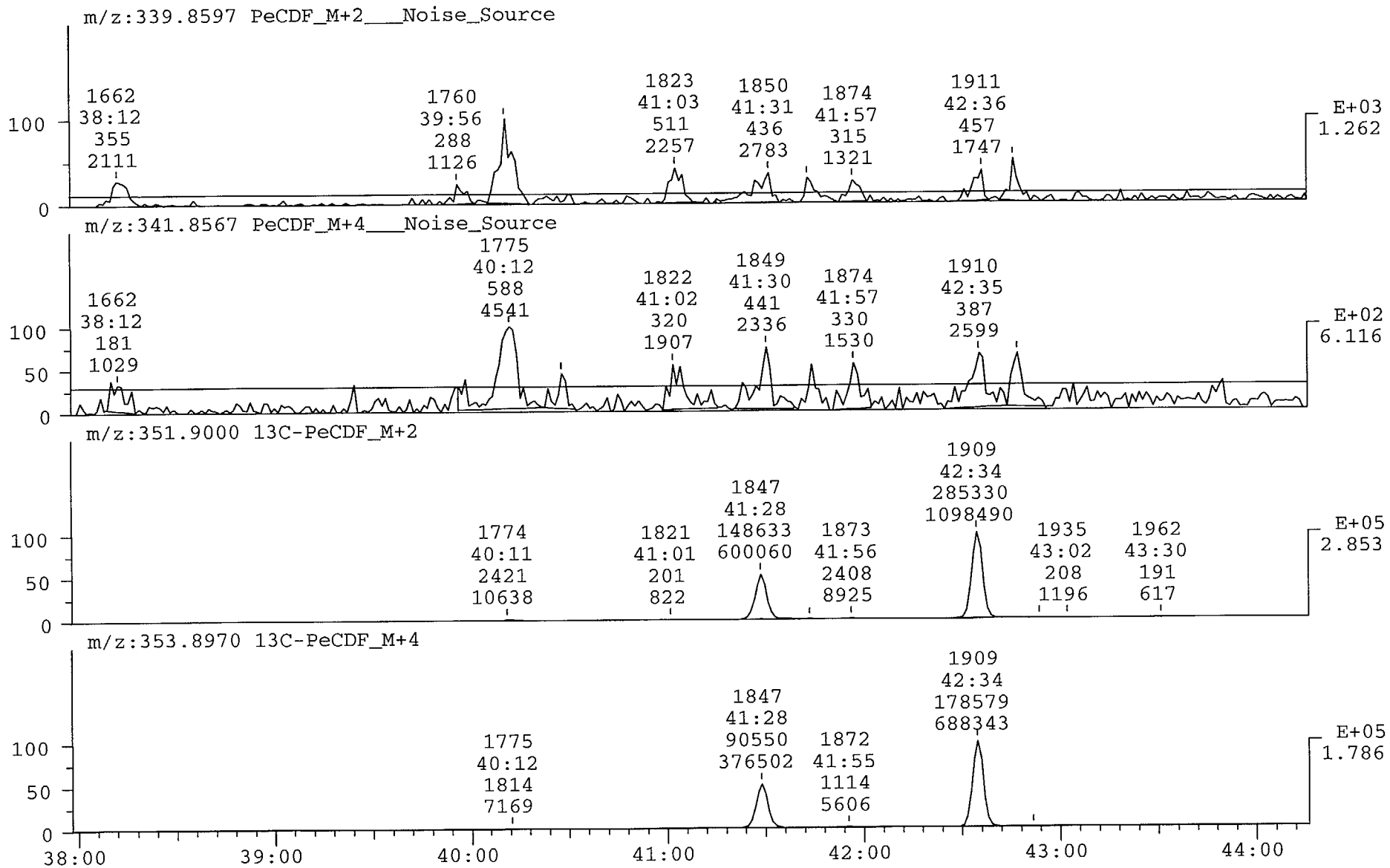
CHRO: bth2h1d 04-May-06 Elapse: 56:45 2704
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 1000 > 3500 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



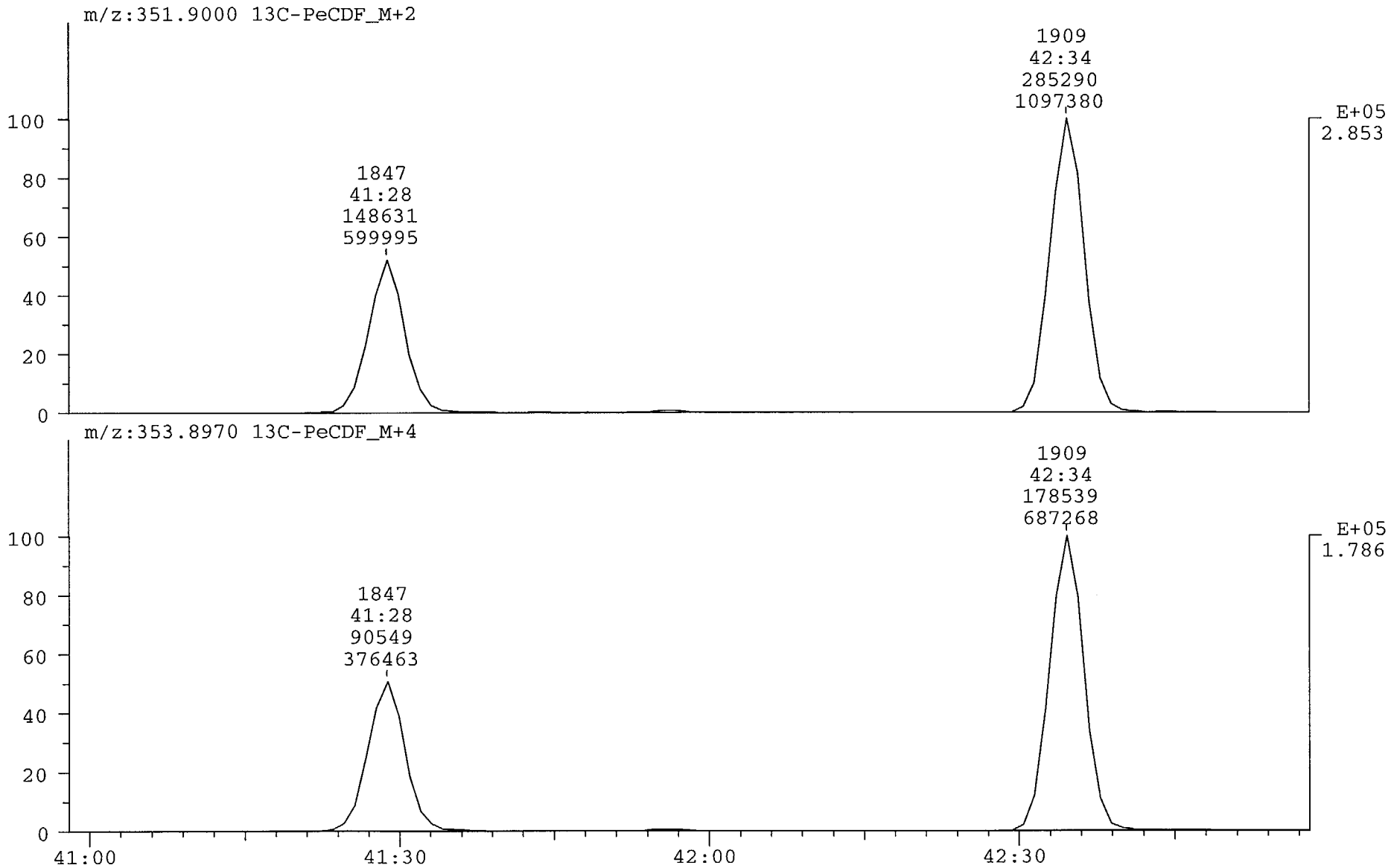
CHRO: bth2h1d 04-May-06 Elapse: 56:45 2704
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 1000 > 3500 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



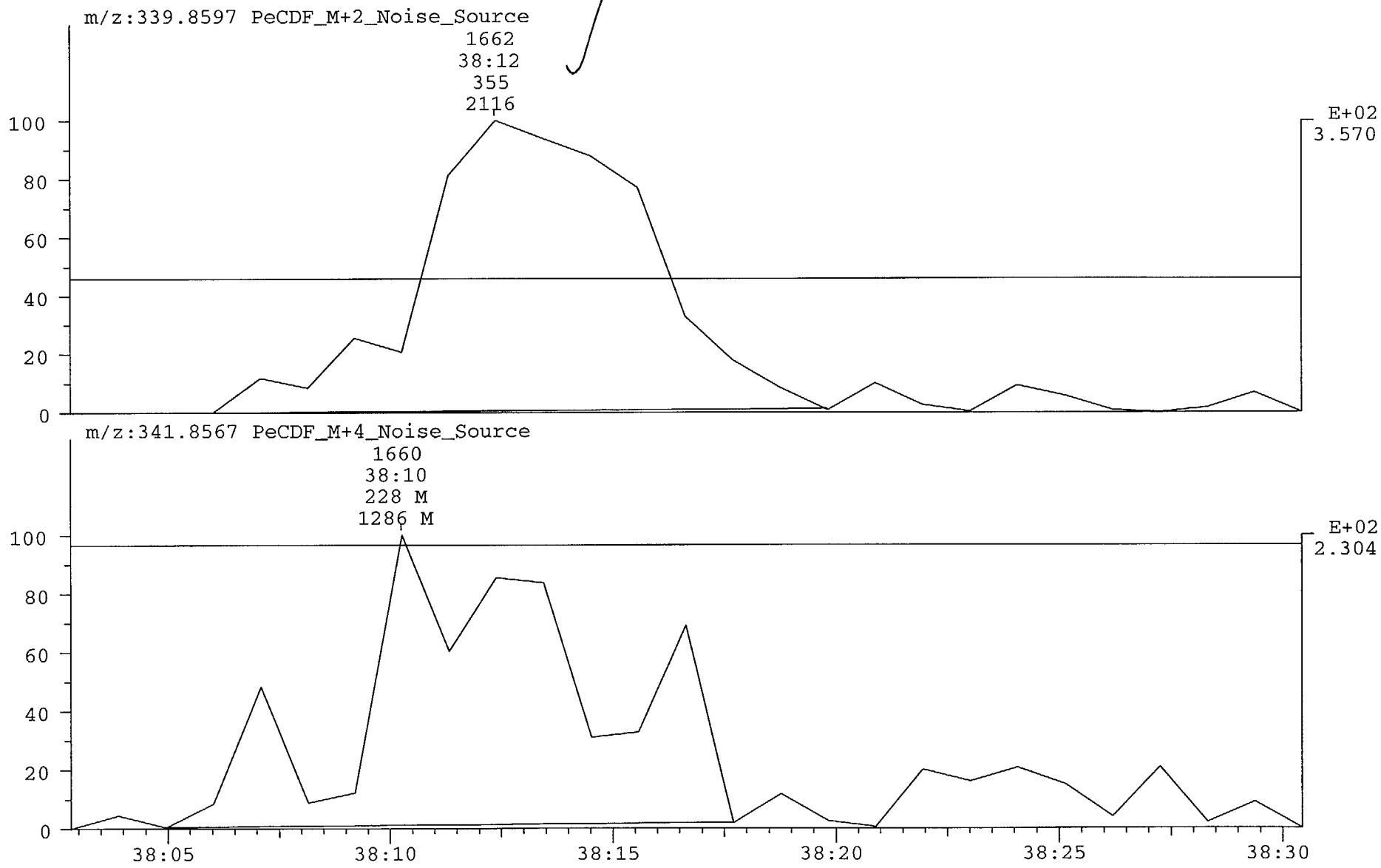
CHRO: bth2h1d 04-May-06 Elapse: 42:54 1928
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 1648 > 2005 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



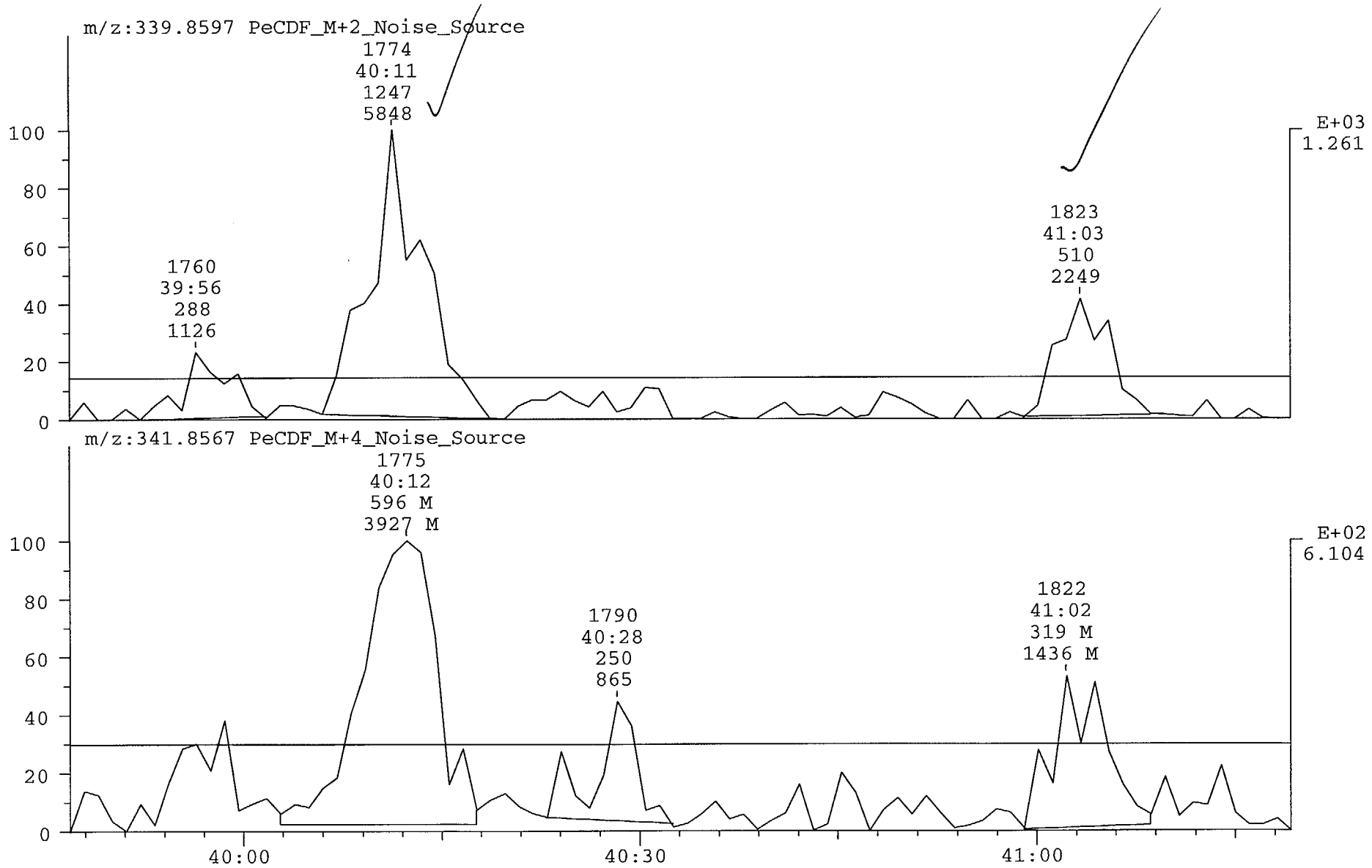
```
CHRO:  bth2h1d                                  04-May-06   Elapse:  41:58      1875
Samp:  Vial 4 WO=h2h1d1aa Meth=X8 Dil=1                     Start :  16:08:51   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-001                Inlet :  GC     Vial   4
Peak:  100.00  ppm      Label wndw:   1818 > 1931           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



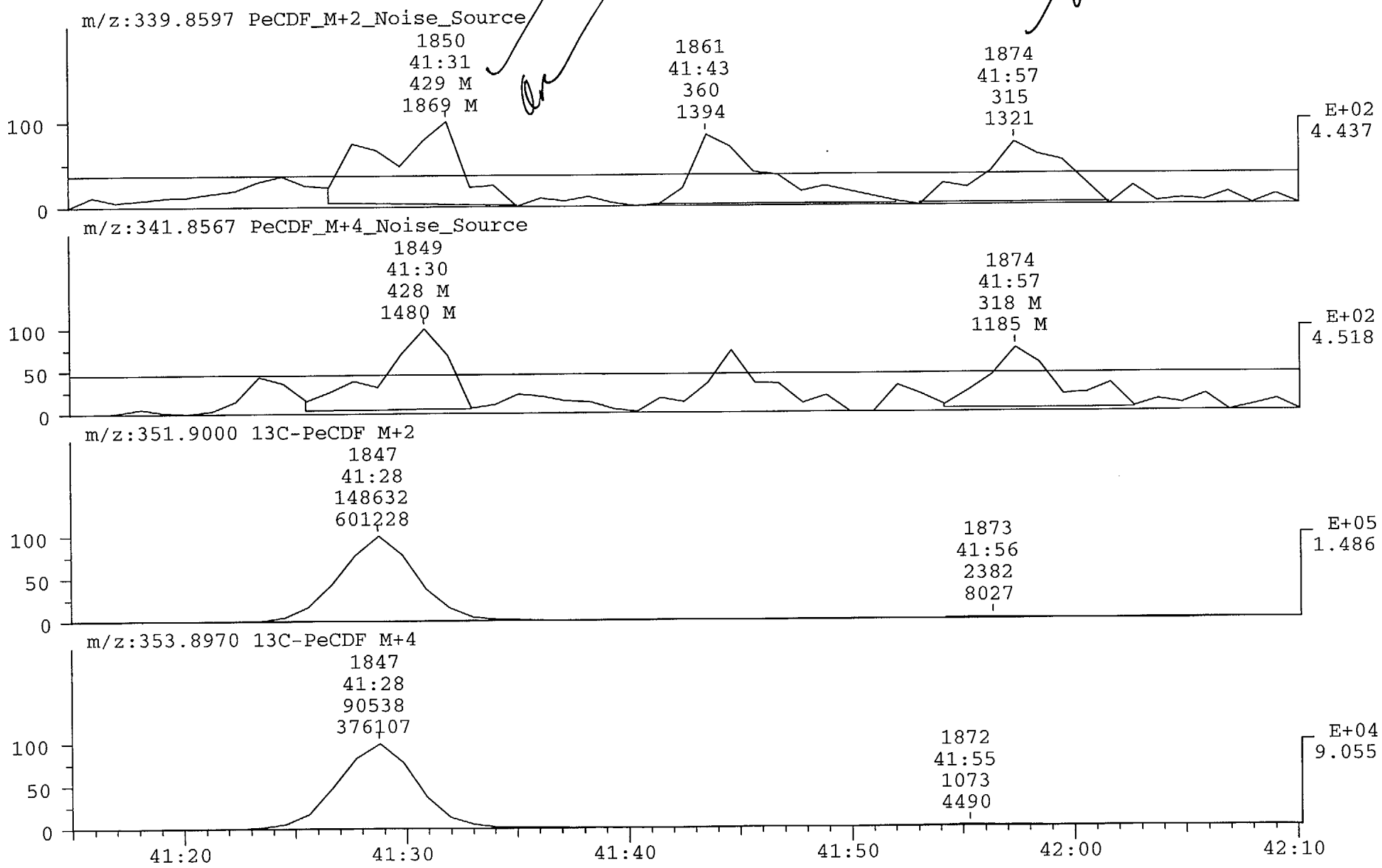
```
CHRO:  bth2h1d                                  04-May-06   Elapse:  56:45      2704
Samp:  Vial 4 WO=h2h1d1aa Meth=X8 Dil=1                     Start :  16:08:51   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-001                Inlet :  GC     Vial   4
Peak:  100.00  ppm      Label wndw:   1653 > 1679           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -4, 4.0
Disp:  Height  Area
```



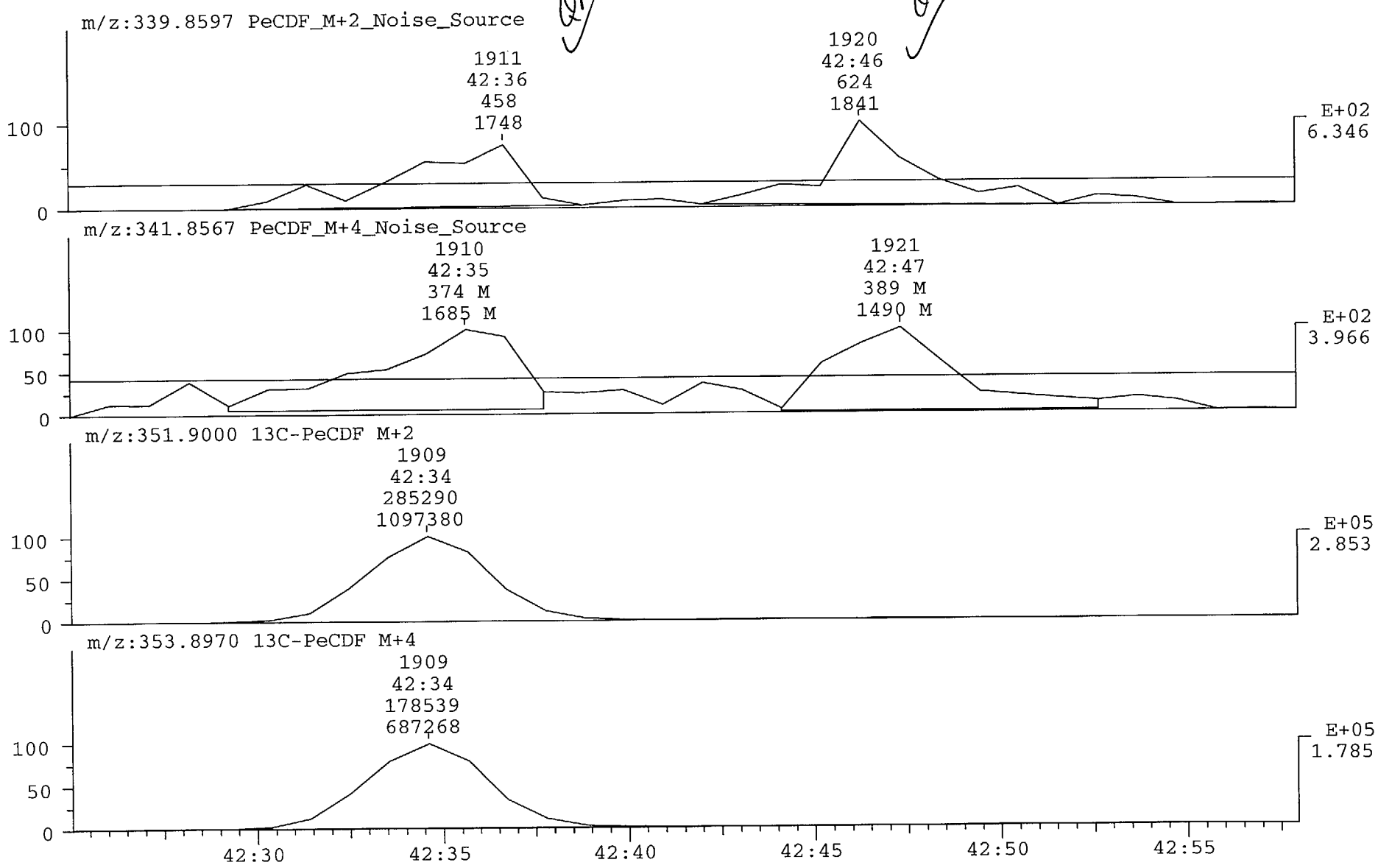
CHRO: bth2h1d 04-May-06 Elapse: 56:45 2704
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 1751 > 1838 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



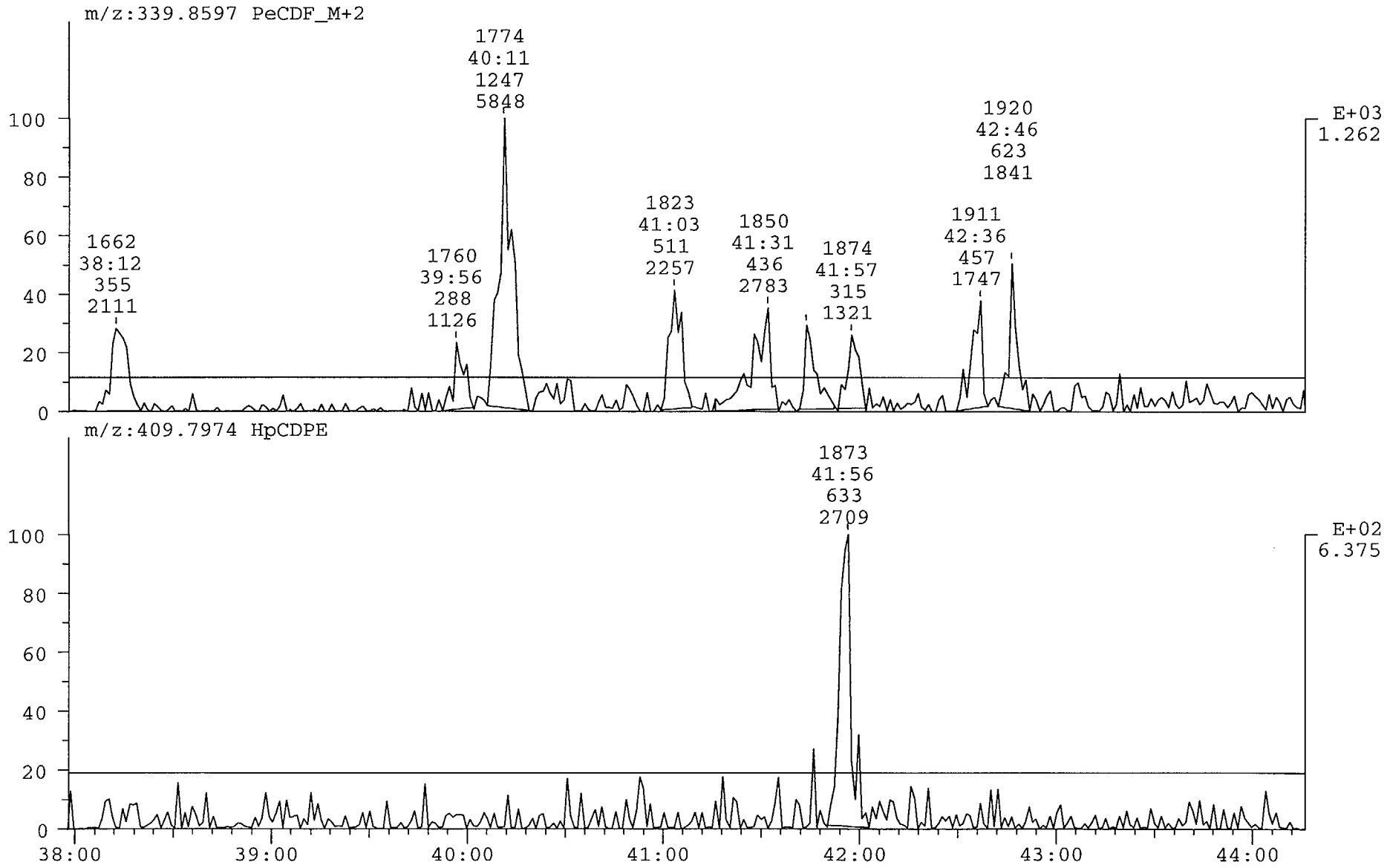
CHRO: bth2h1d 04-May-06 Elapse: 56:45 2704
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 1834 > 1886 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1d 04-May-06 Elapse: 56:45 2704
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 1900 > 1931 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  bth2h1d                                  04-May-06   Elapse:  41:58      1875
Samp:  Vial 4 WO=h2h1d1aa Meth=X8 Dil=1                     Start :  16:08:51   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-001                Inlet :  GC     Vial   4
Peak:  100.00  ppm      Label wndw:   1648 > 2005           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



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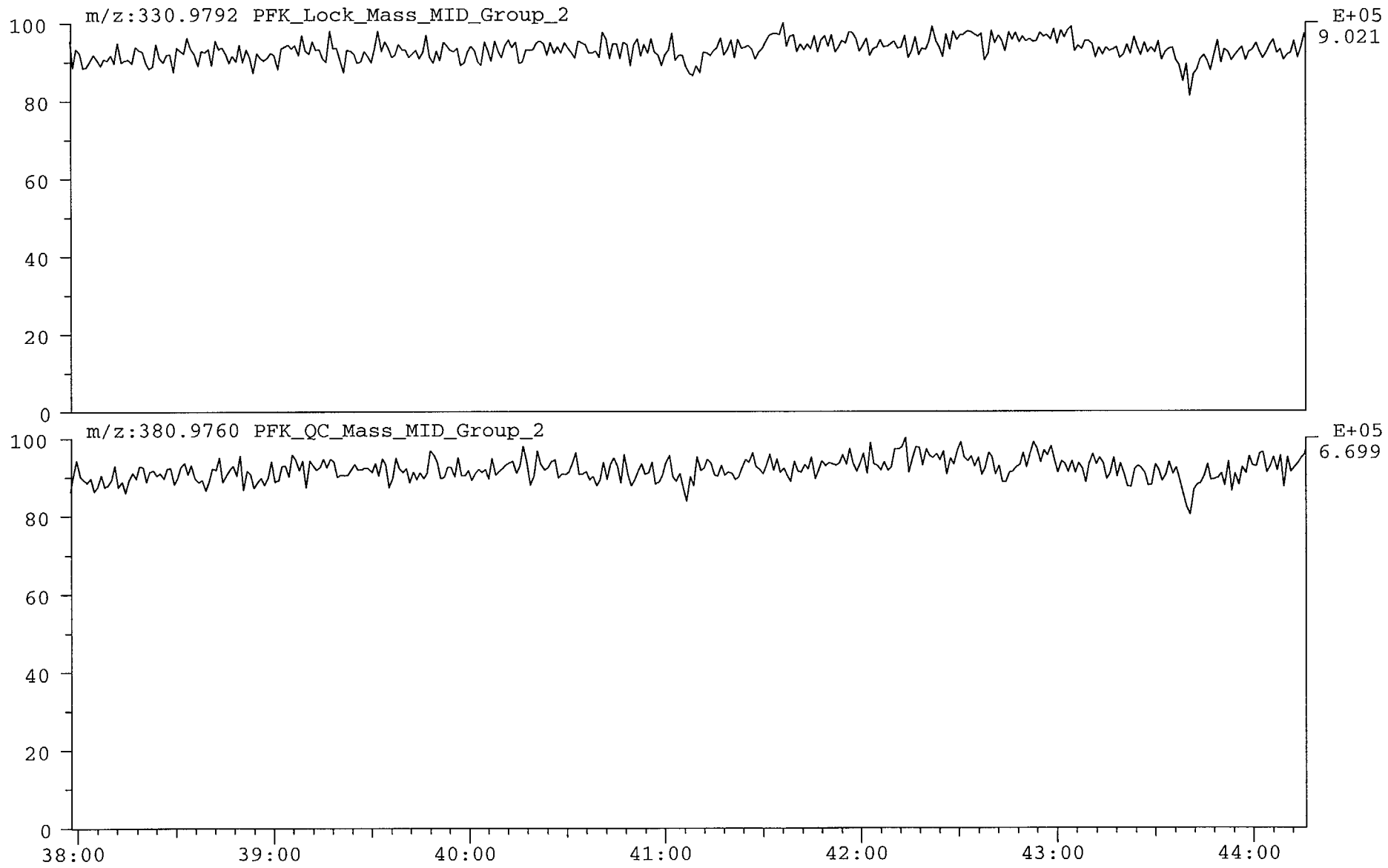
CHRO:  bth2h1d                                04-May-06  Elapse:  41:58      1875
Samp:  Vial 4 WO=h2h1d1aa Meth=X8 Dil=1                  Start :  16:08:51   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-001             Inlet :  GC     Vial   4
Peak:  100.00  ppm      Label wndw:   1648 > 2005        Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  0, 0.0
Disp:  Height  Area
```



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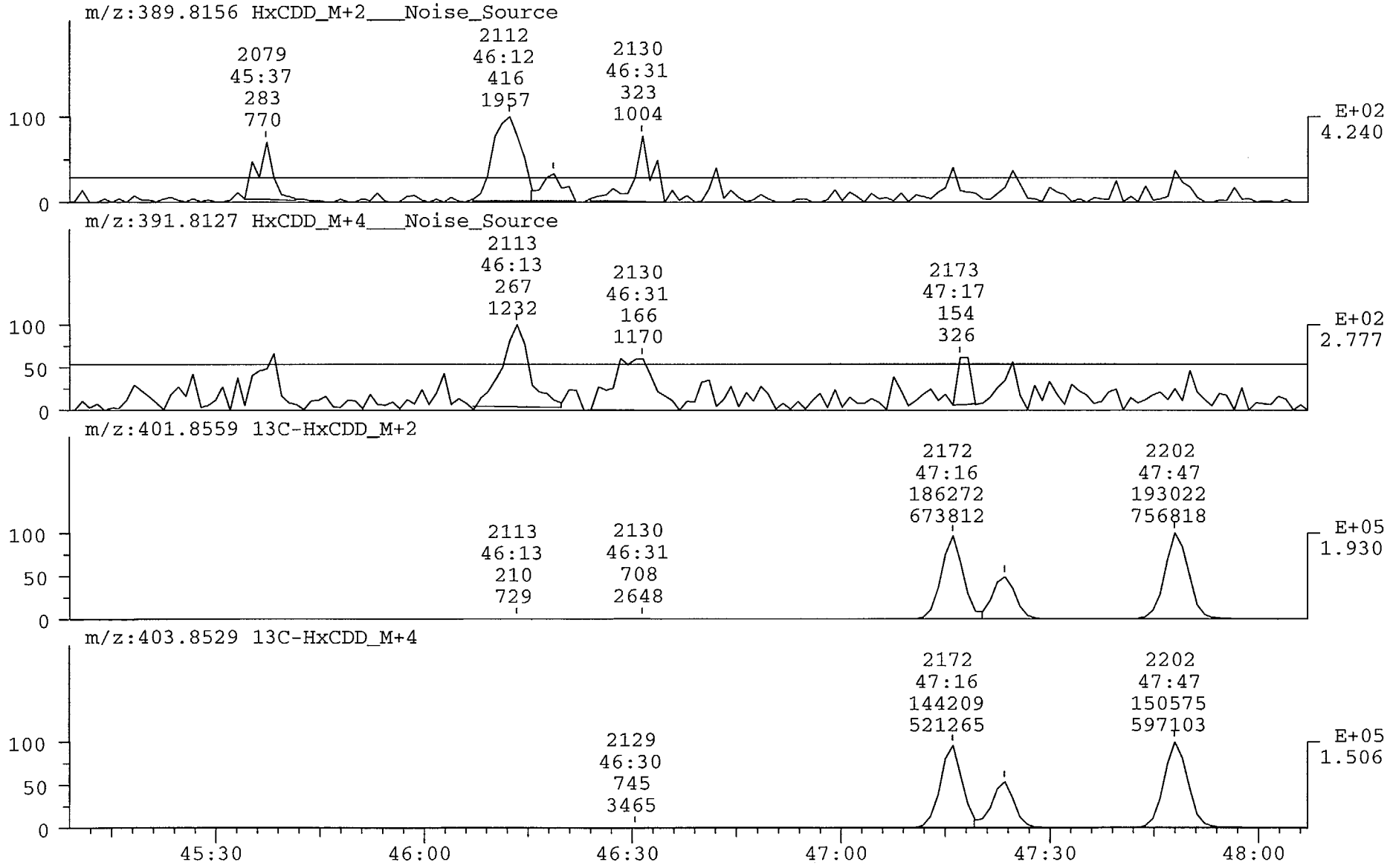
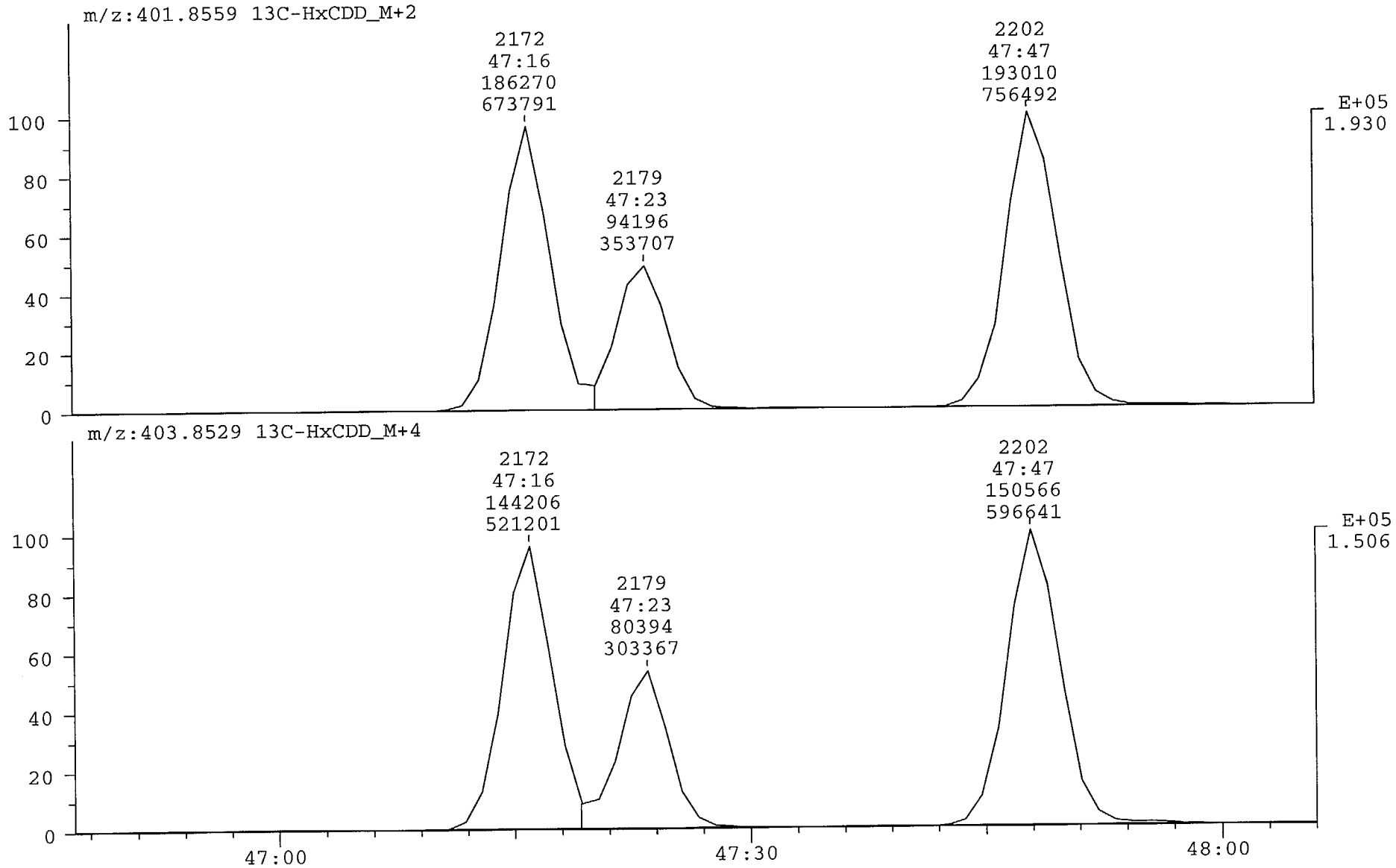
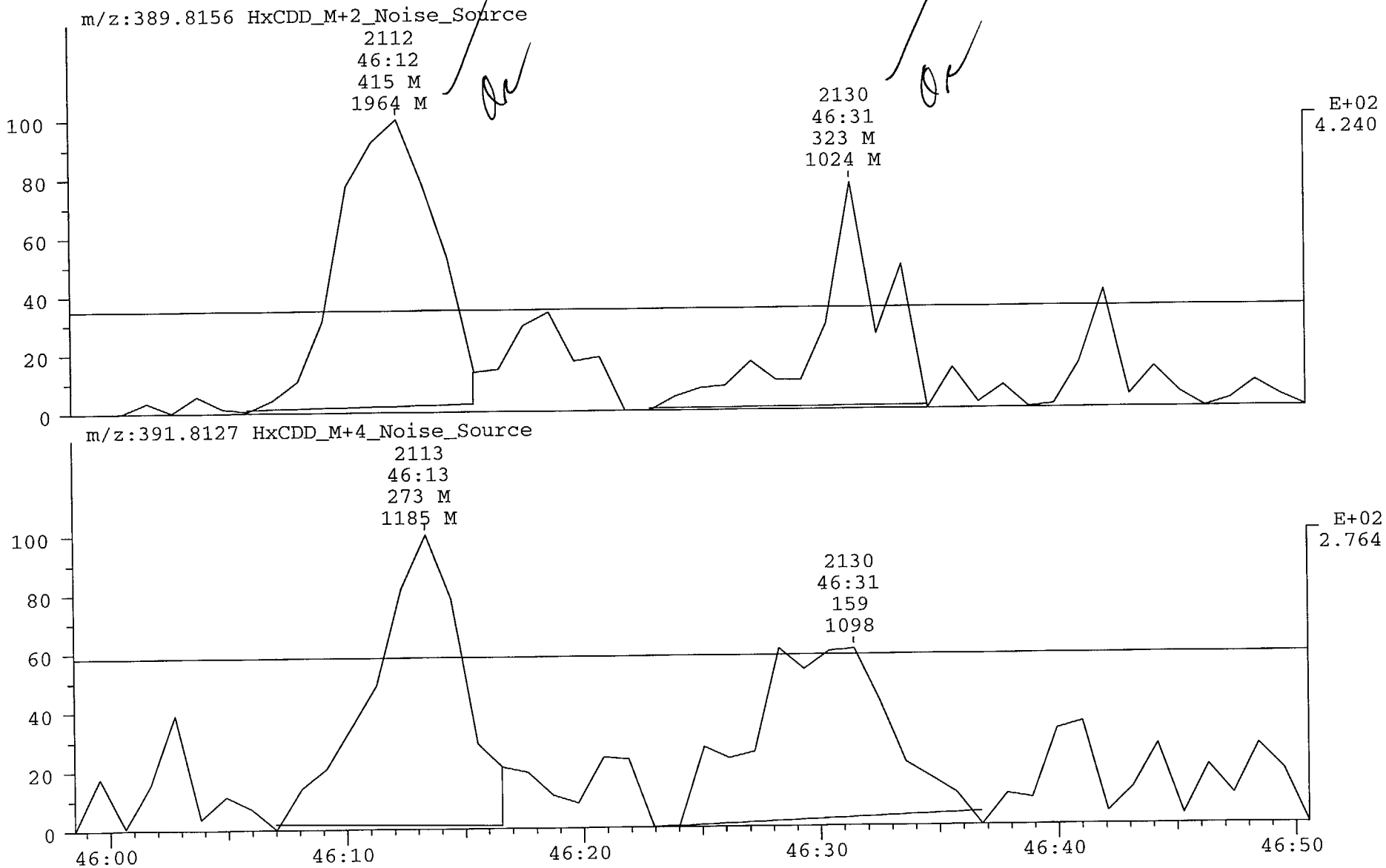
CHRO:  bth2h1d                                  04-May-06  Elapse:  41:58      1875
Samp:  Vial 4 WO=h2h1d1aa Meth=X8 Dil=1                    Start :  16:08:51   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-001               Inlet :  GC     Vial   4
Peak:  100.00  ppm      Label wndw:   2052 > 2220          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



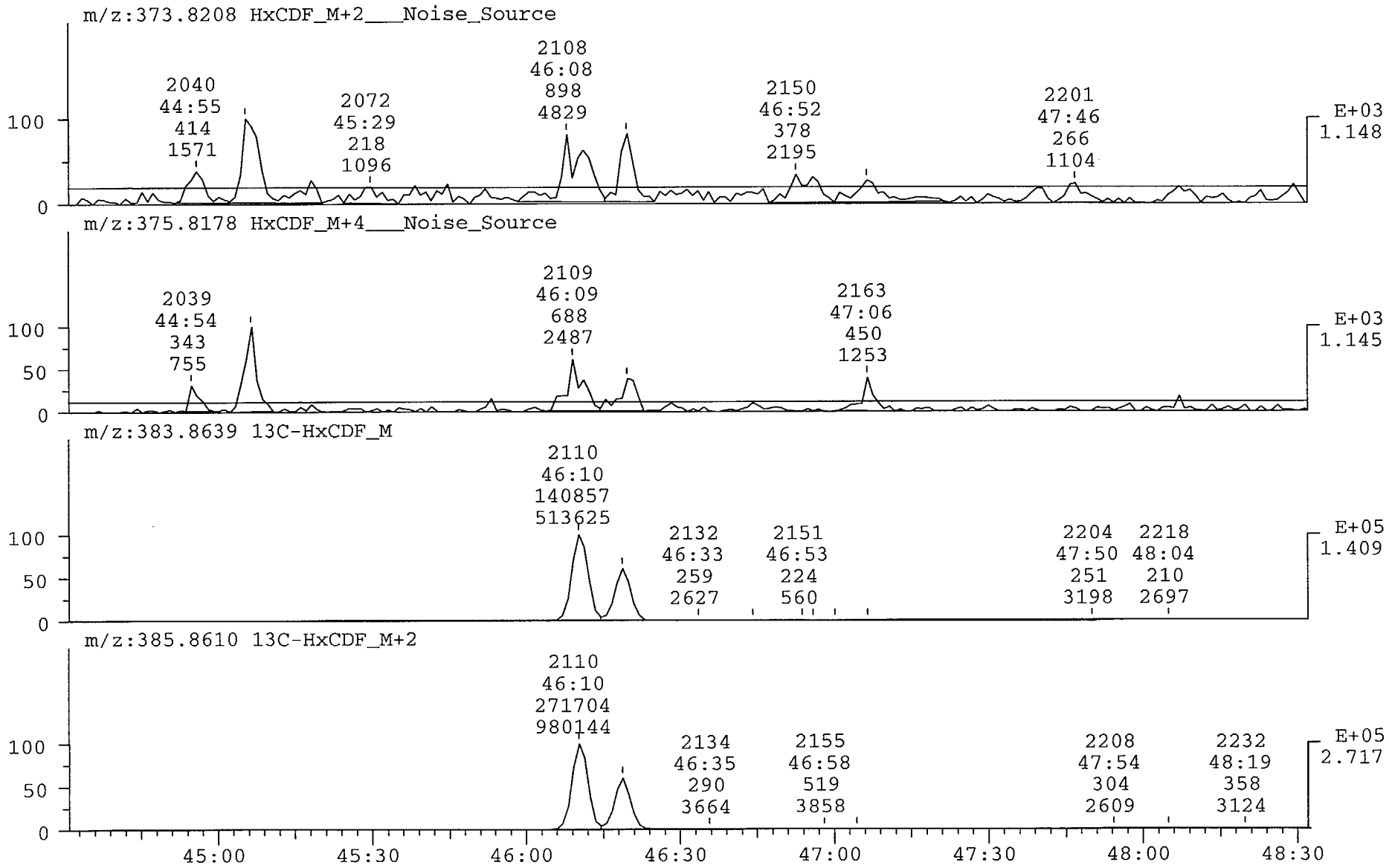
CHRO: bth2h1d 04-May-06 Elapse: 47:25 2181
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 2145 > 2219 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



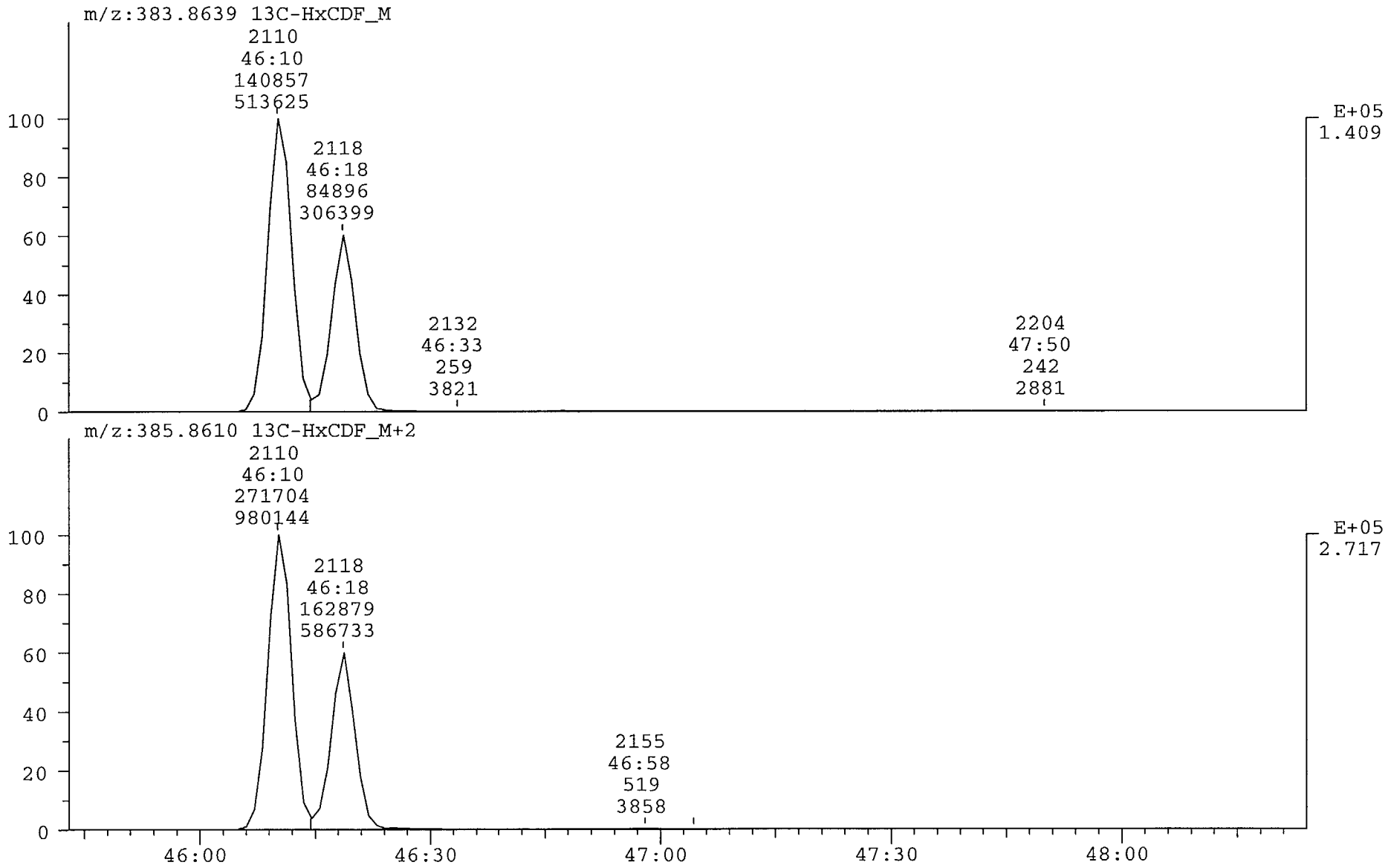
CHRO: bth2h1d 04-May-06 Elapse: 56:45 2704
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 2099 > 2148 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



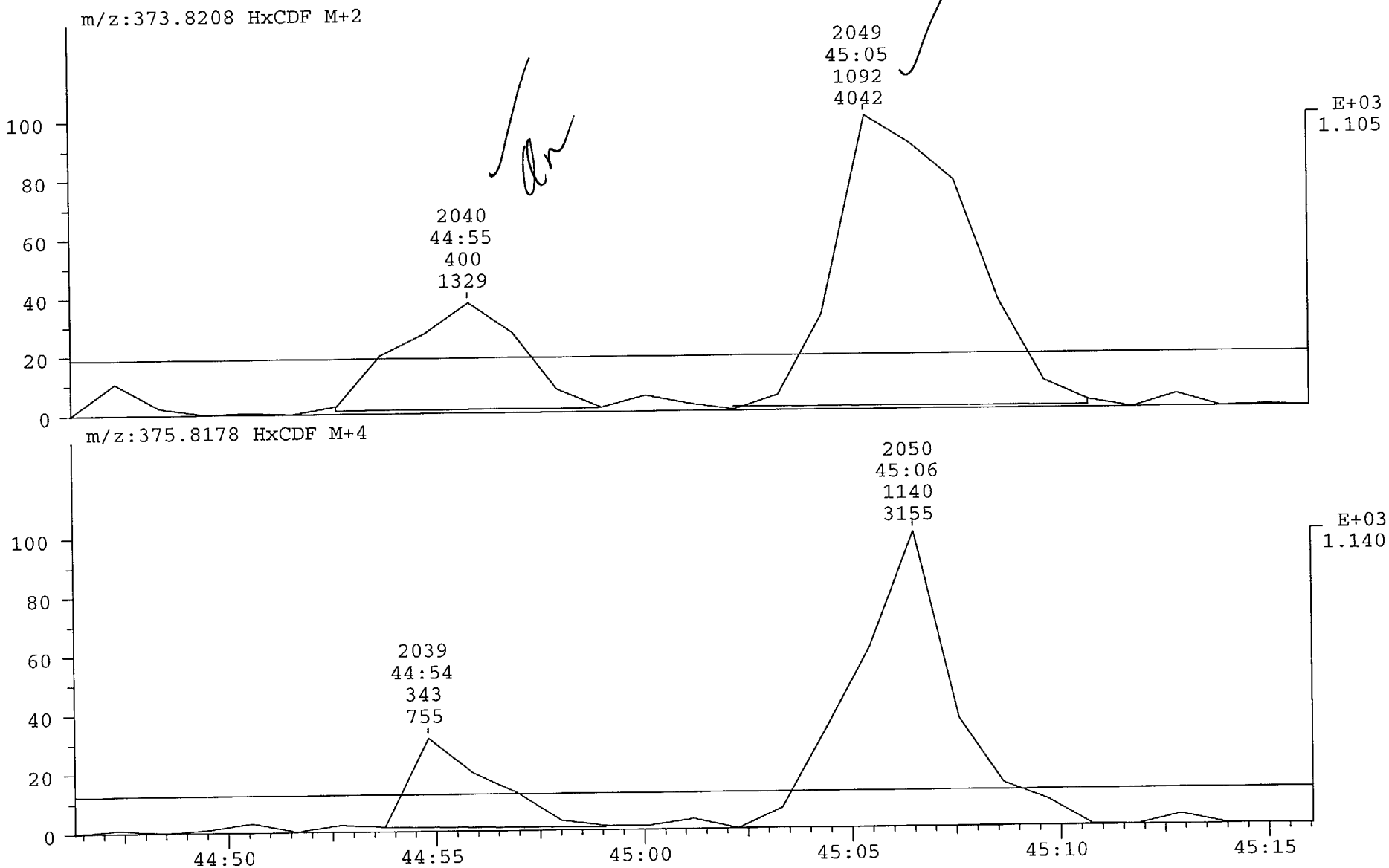
CHRO: bth2h1d 04-May-06 Elapse: 47:25 2181
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 2017 > 2244 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



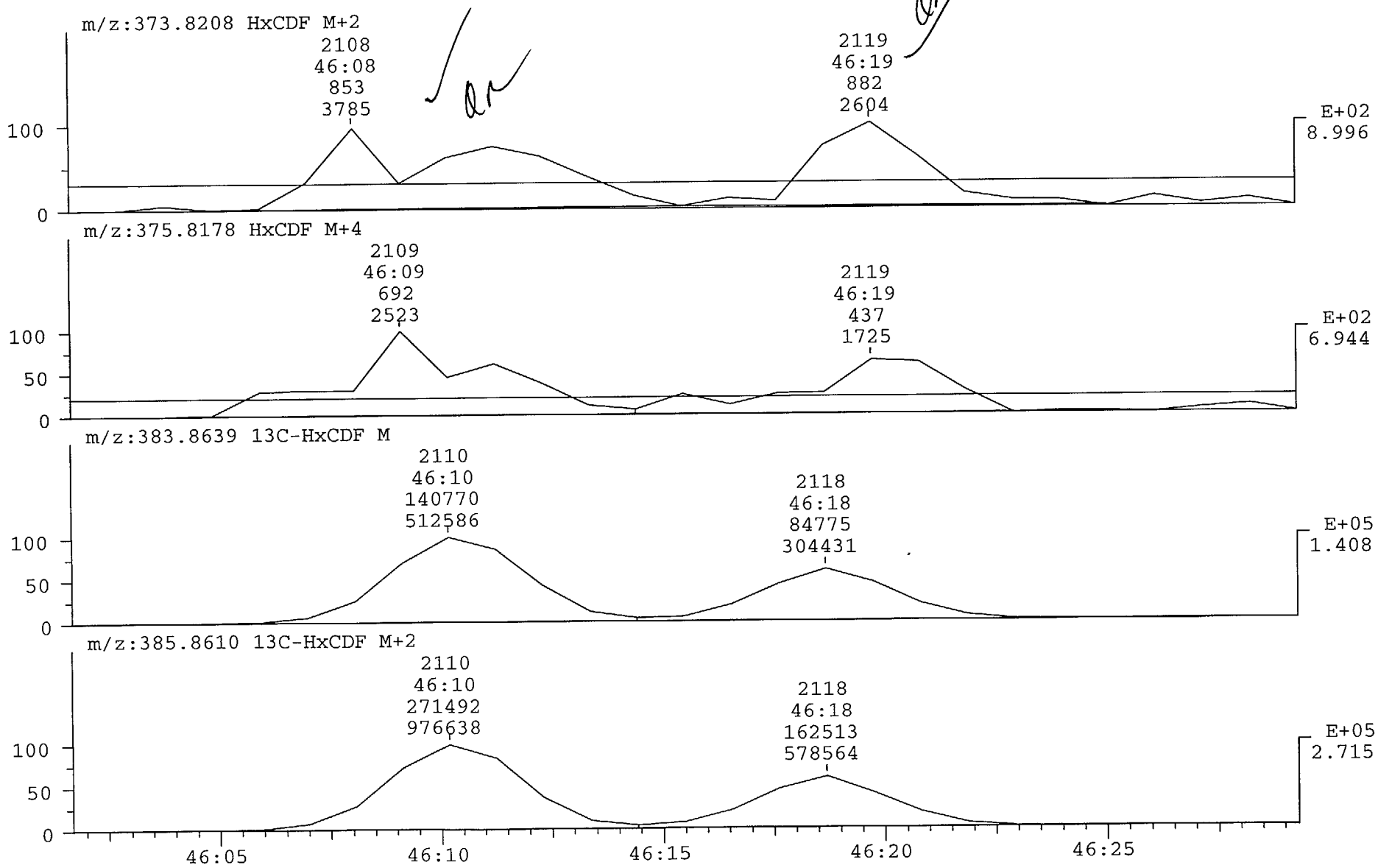
```
CHRO:  bth2h1d                                  04-May-06   Elapse:  47:03      2160
Samp:  Vial 4 WO=h2h1d1aa Meth=X8 Dil=1                     Start :  16:08:51   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-001                Inlet :  GC     Vial   4
Peak:  100.00  ppm      Label wndw:   2084 > 2236           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



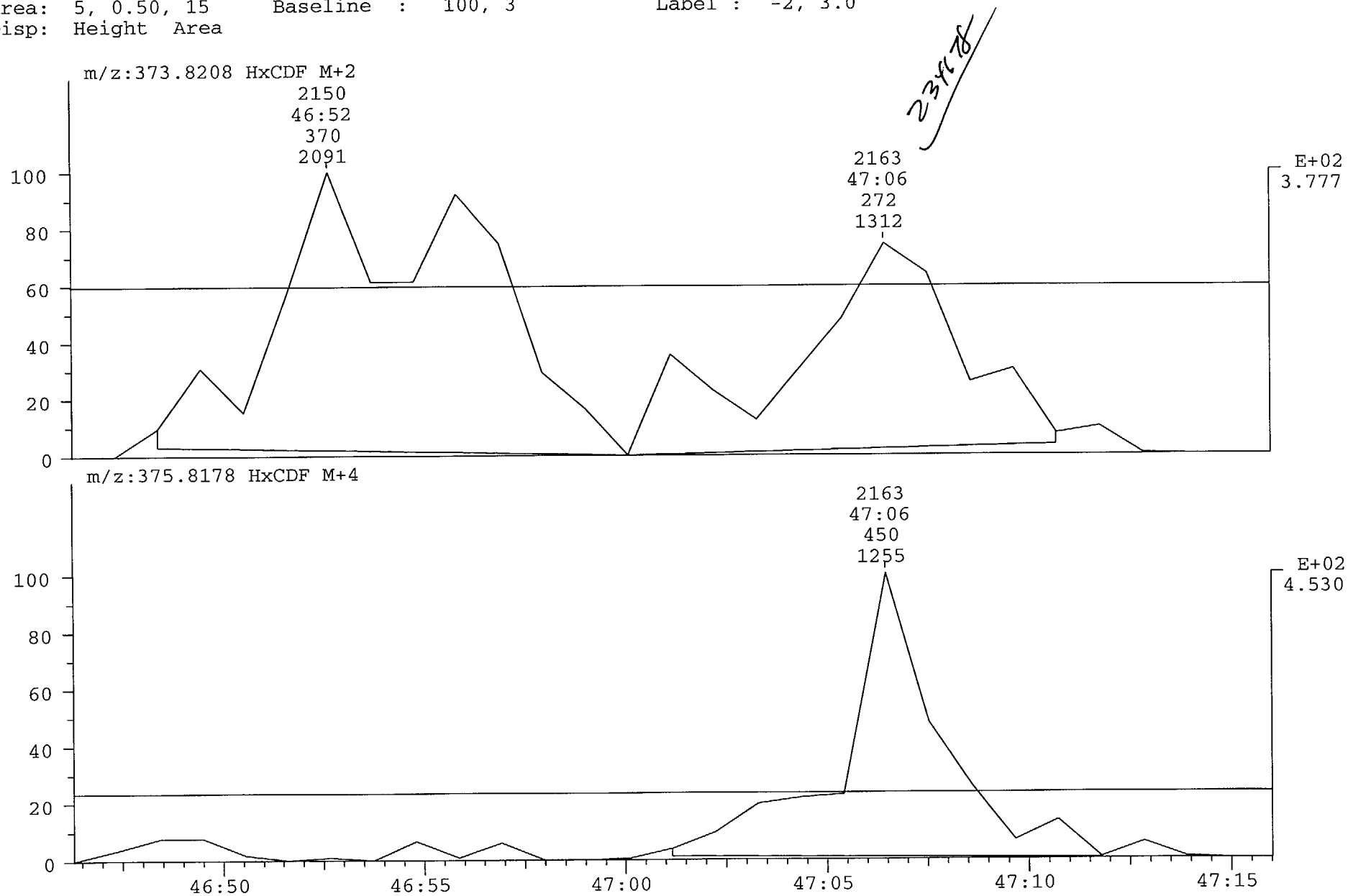
CHRO: bth2h1d 04-May-06 Elapse: 56:45 2704
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 2031 > 2059 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1d 04-May-06 Elapse: 56:45 2704
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 2102 > 2128 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1d 04-May-06 Elapse: 56:45 2704
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 2144 > 2172 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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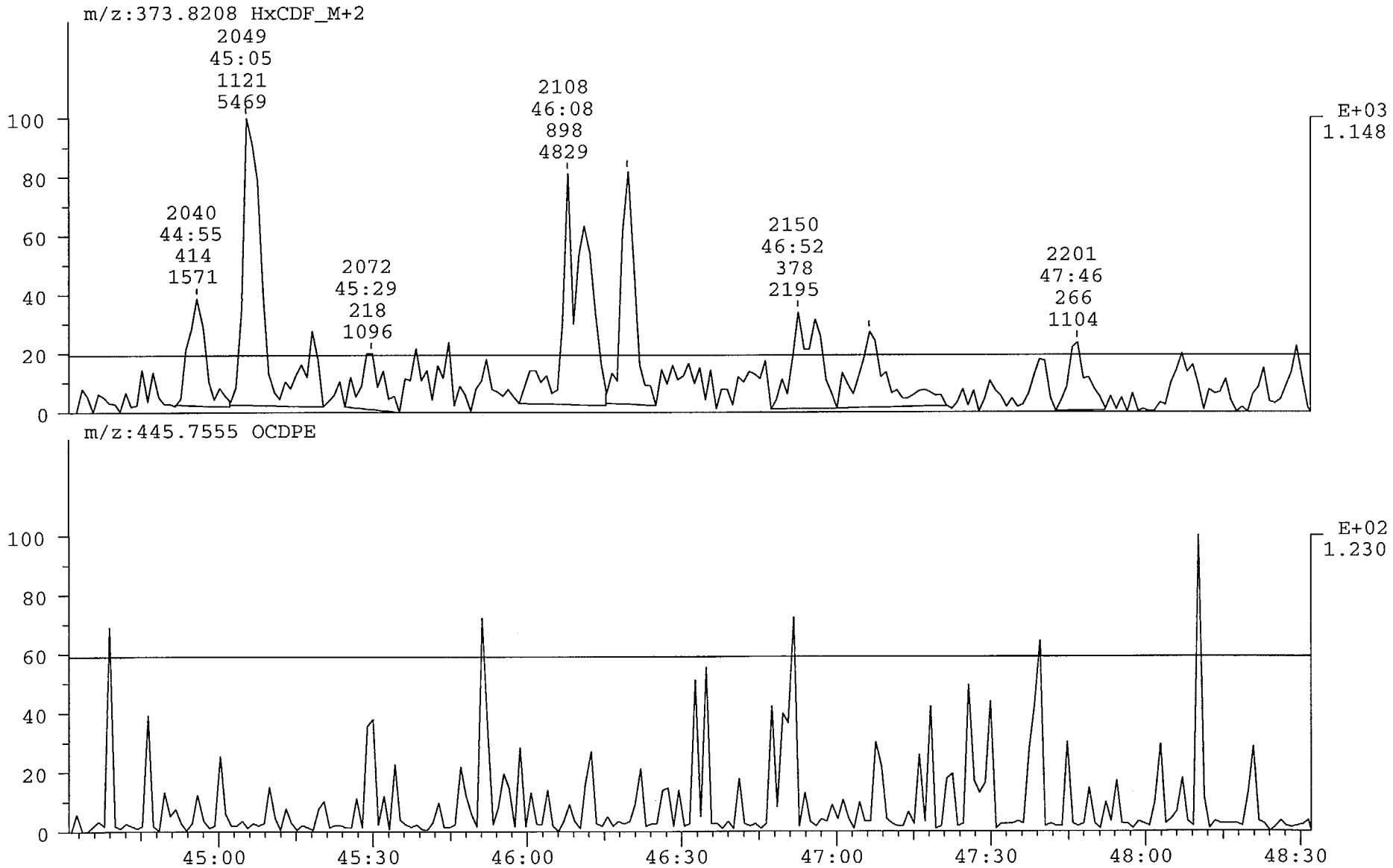
CHRO:  bth2h1d                                  04-May-06   Elapse:  46:12      2112
Samp:  Vial 4 WO=h2h1d1aa Meth=X8 Dil=1                     Start :  16:08:51   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-001                Inlet :  GC     Vial   4
Peak:  100.00  ppm      Label wndw:   2017 > 2244           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



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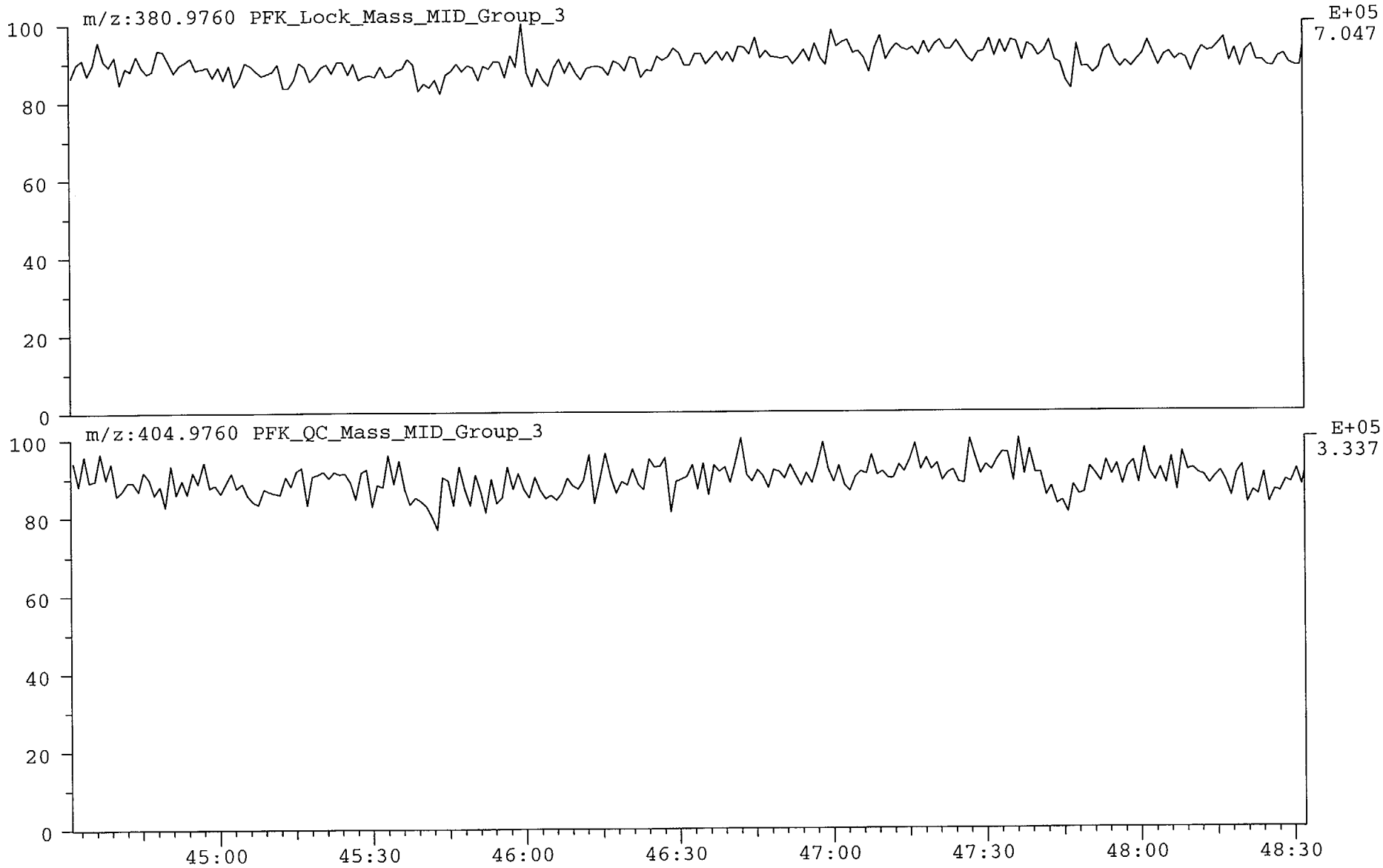
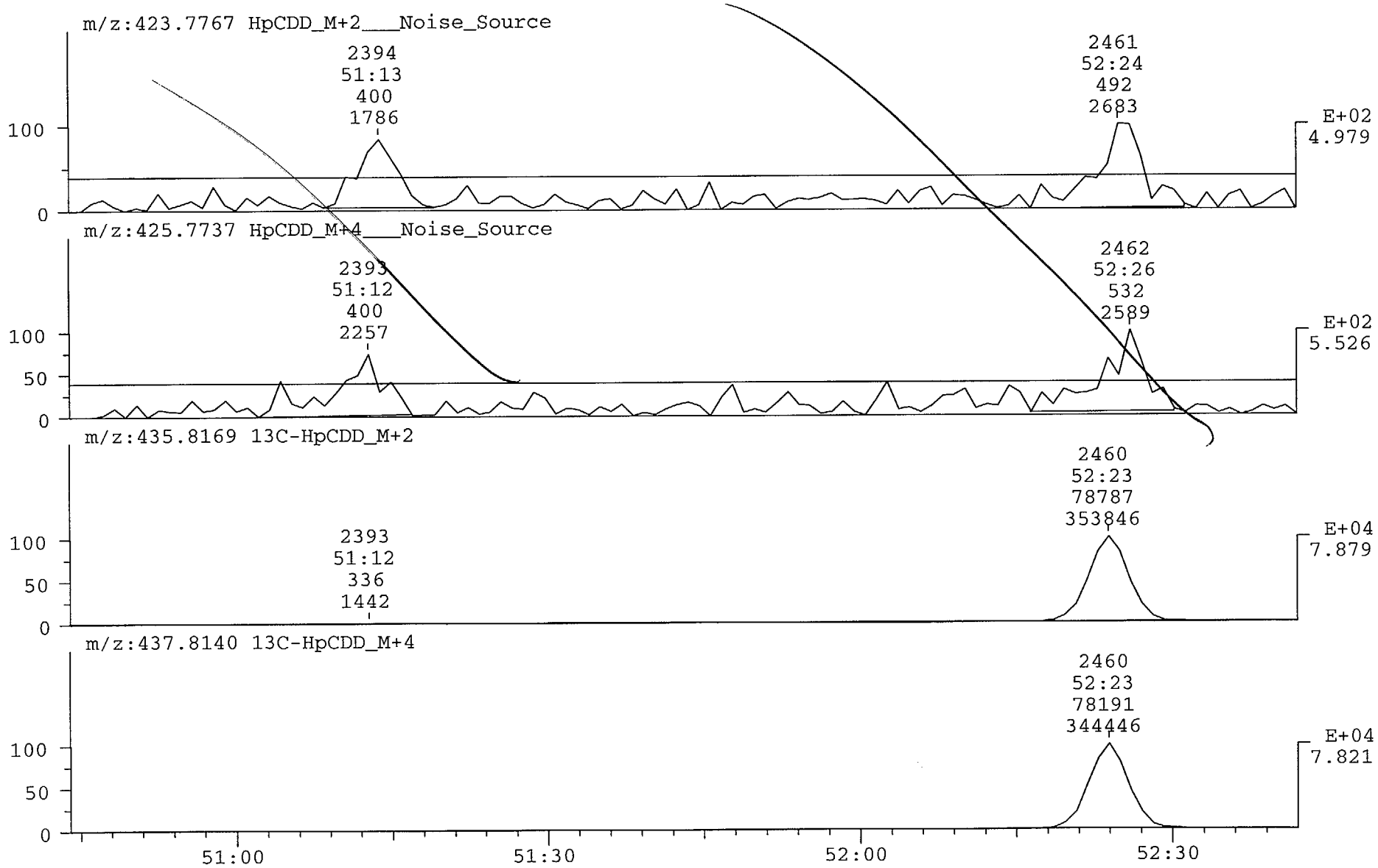
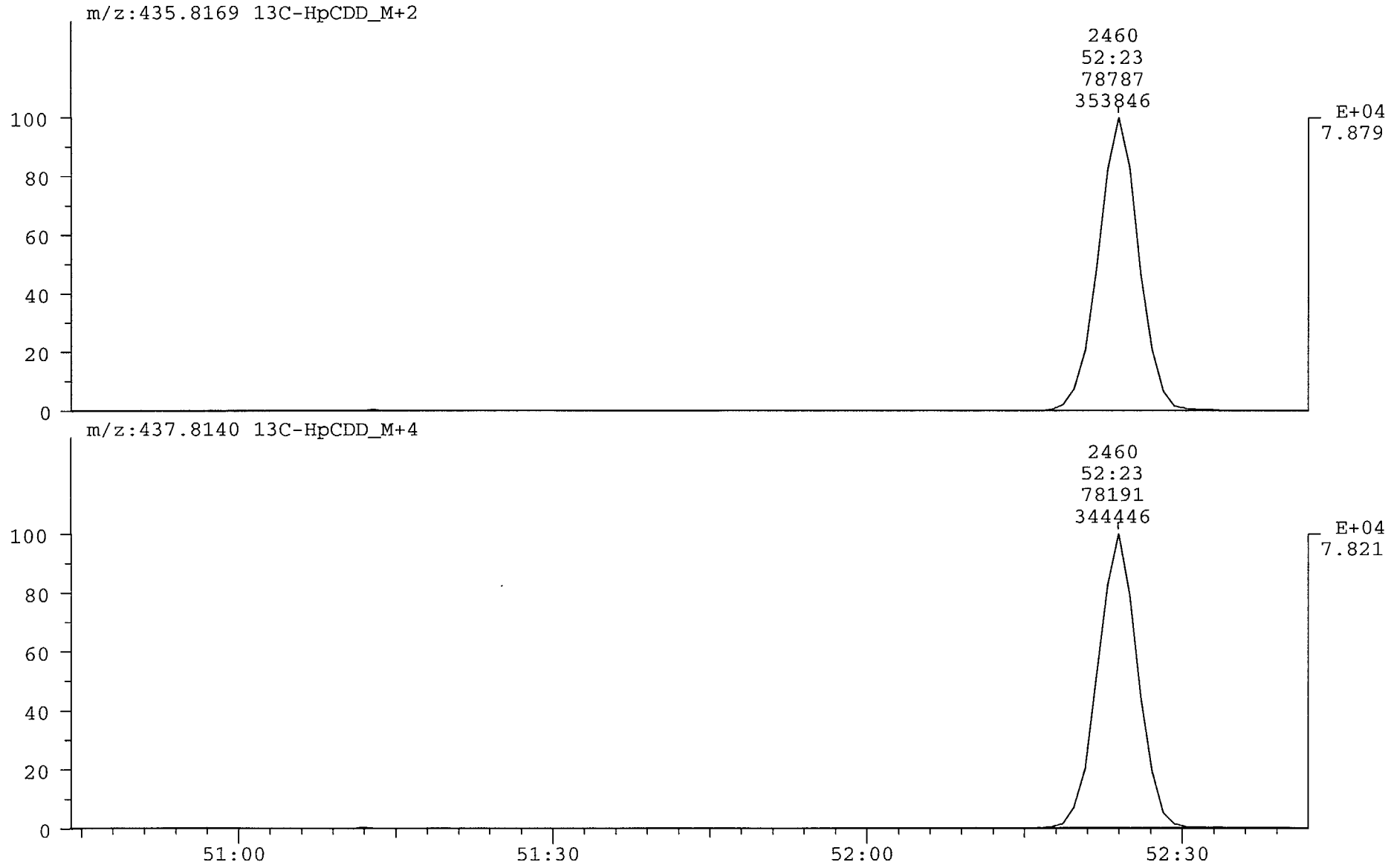
CHRO:  bth2h1d                                  04-May-06   Elapse:  46:12      2112
Samp:  Vial 4 WO=h2h1d1aa Meth=X8 Dil=1                     Start :  16:08:51   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-001                Inlet :  GC     Vial   4
Peak:  100.00  ppm      Label wndw:   2017 > 2244           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```



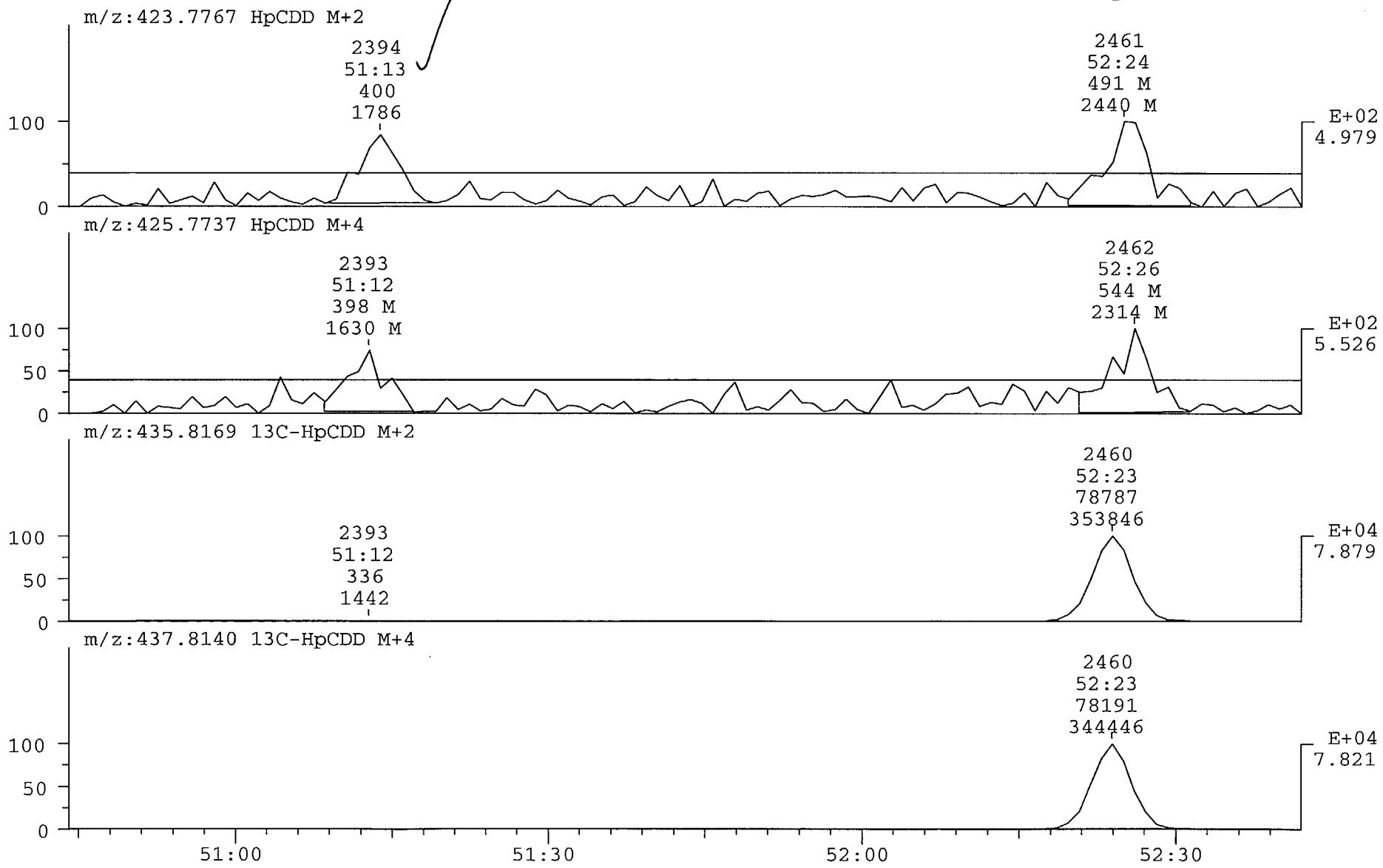
CHRO: bth2h1d 04-May-06 Elapse: 46:12 2112
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 2366 > 2477 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1d 04-May-06 Elapse: 46:12 2112
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 2366 > 2477 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1d 04-May-06 Elapse: 56:45 2704
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 1 > 3000 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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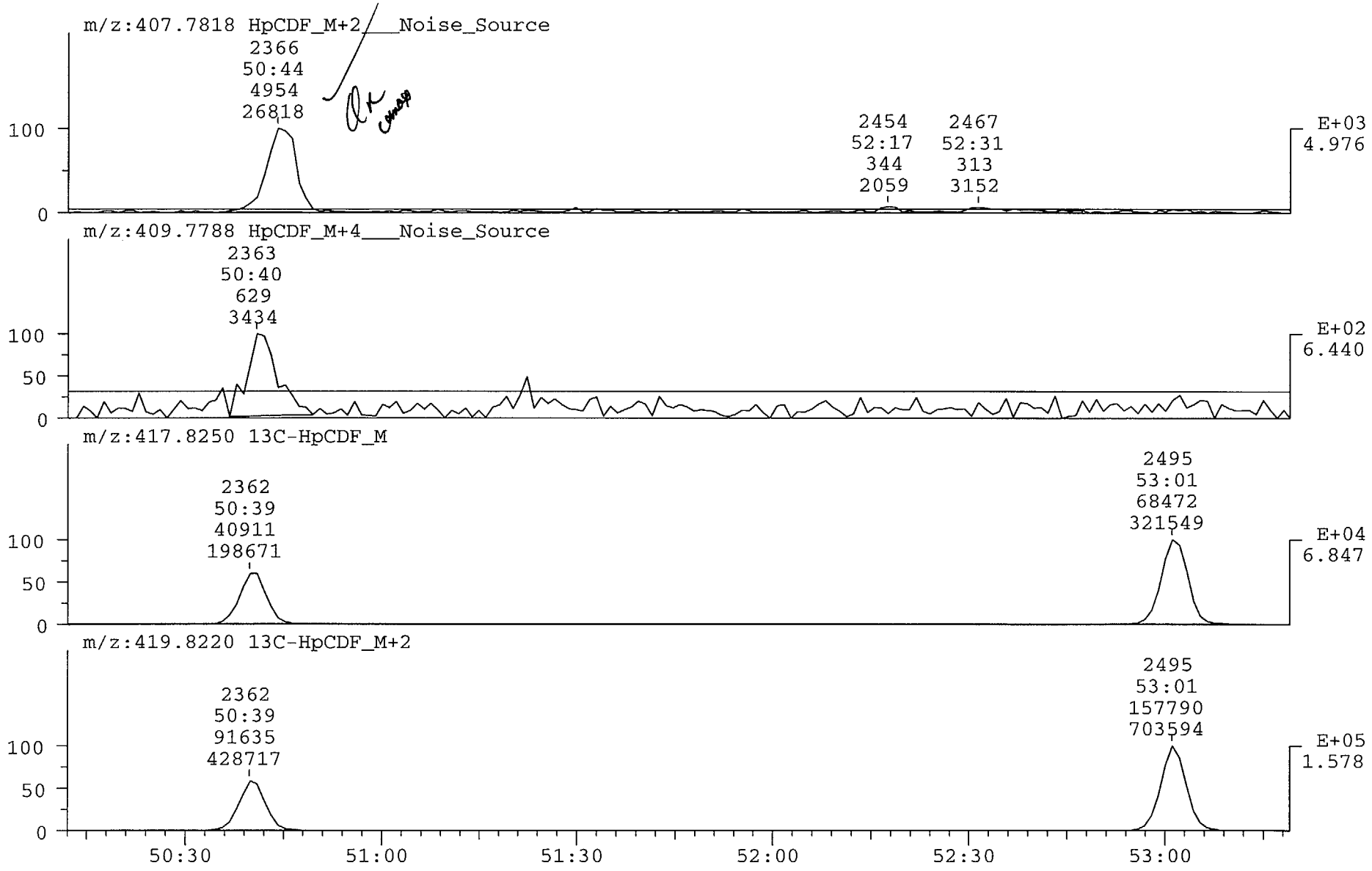
CHRO:  bth2h1d                                  04-May-06   Elapse:  46:12      2112
Samp:  Vial 4 WO=h2h1d1aa Meth=X8 Dil=1                     Start :  16:08:51   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-001                Inlet :  GC     Vial   4
Peak:  100.00  ppm      Label wndw:   2336 > 2512           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



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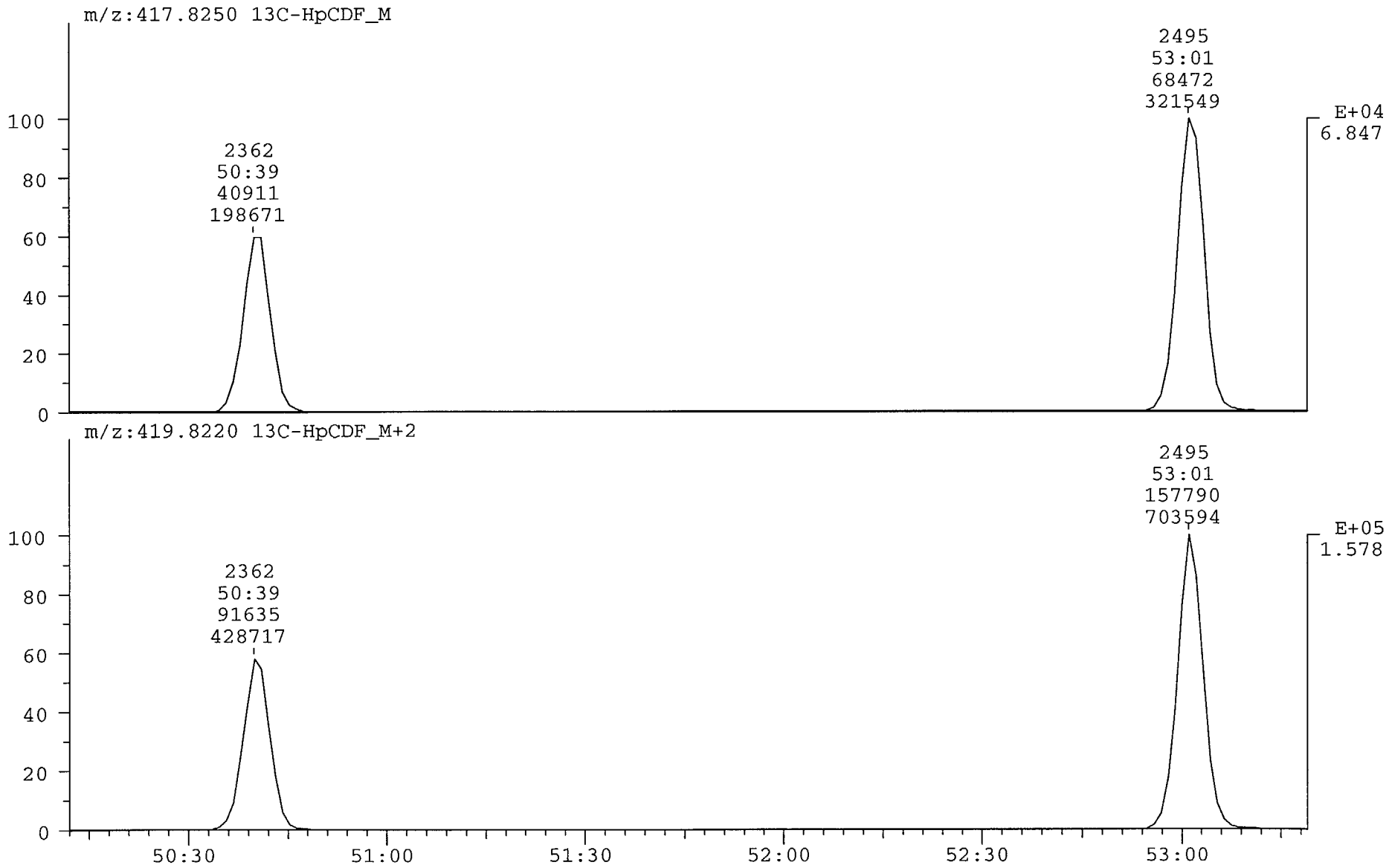
CHRO:  bth2h1d                                  04-May-06   Elapse:  46:12      2112
Samp:  Vial 4 WO=h2h1d1aa Meth=X8 Dil=1                     Start :  16:08:51   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-001                Inlet :  GC     Vial   4
Peak:  100.00  ppm      Label wndw:   2336 > 2512           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



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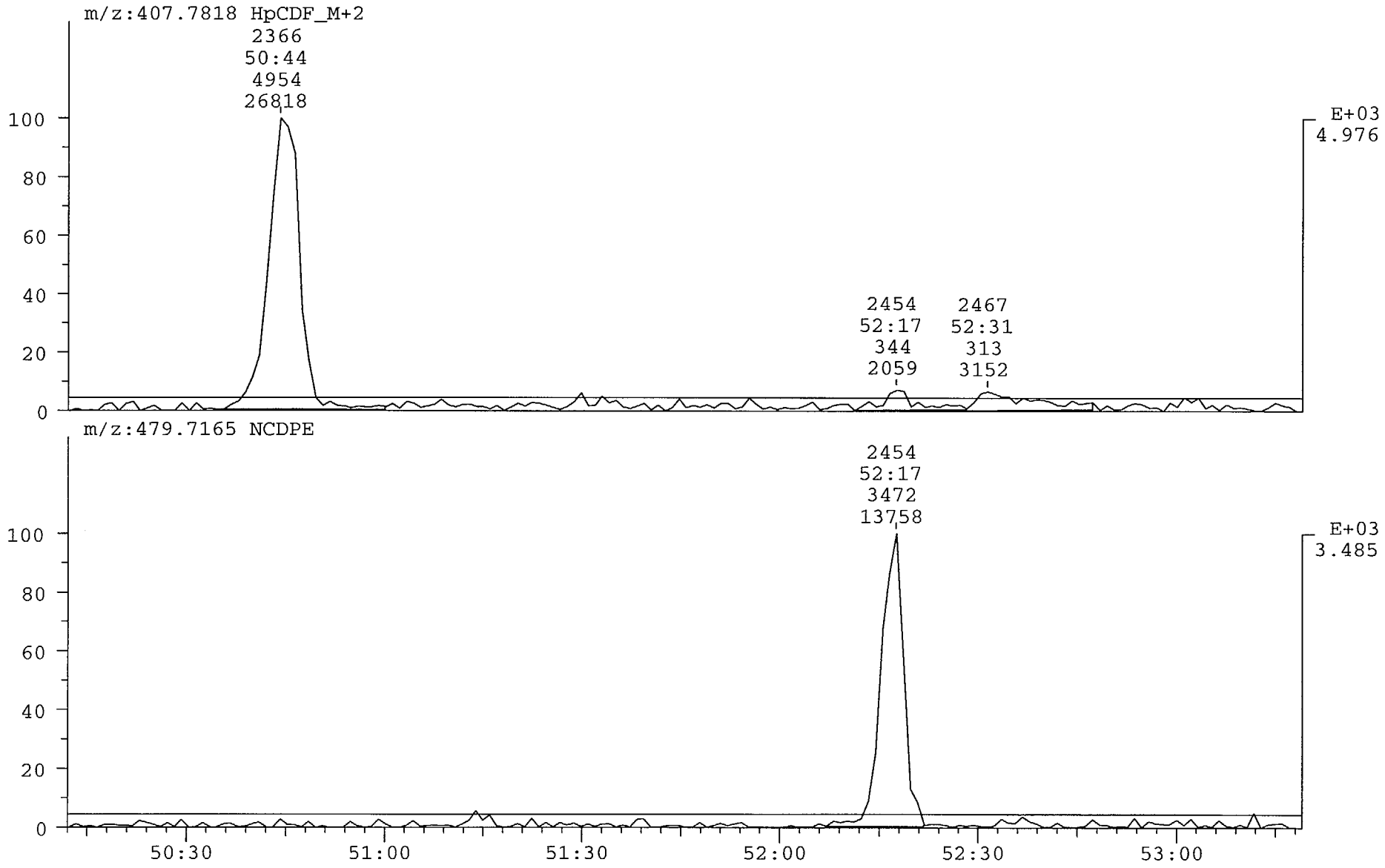
CHRO:  bth2h1d                                  04-May-06   Elapse:  46:12      2112
Samp:  Vial 4 WO=h2h1d1aa Meth=X8 Dil=1                     Start :  16:08:51   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-001                Inlet :  GC     Vial   4
Peak:  100.00  ppm      Label wndw:   2336 > 2512           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



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CHRO:  bth2h1d                                04-May-06  Elapse:  46:12      2112
Samp:  Vial 4 WO=h2h1d1aa Meth=X8 Dil=1                  Start :  16:08:51   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (Air)
Oper:  BFW          Client:  H6D030236-001               Inlet :  GC     Vial   4
Peak:  100.00  ppm     Label wndw:   2336 > 2512         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
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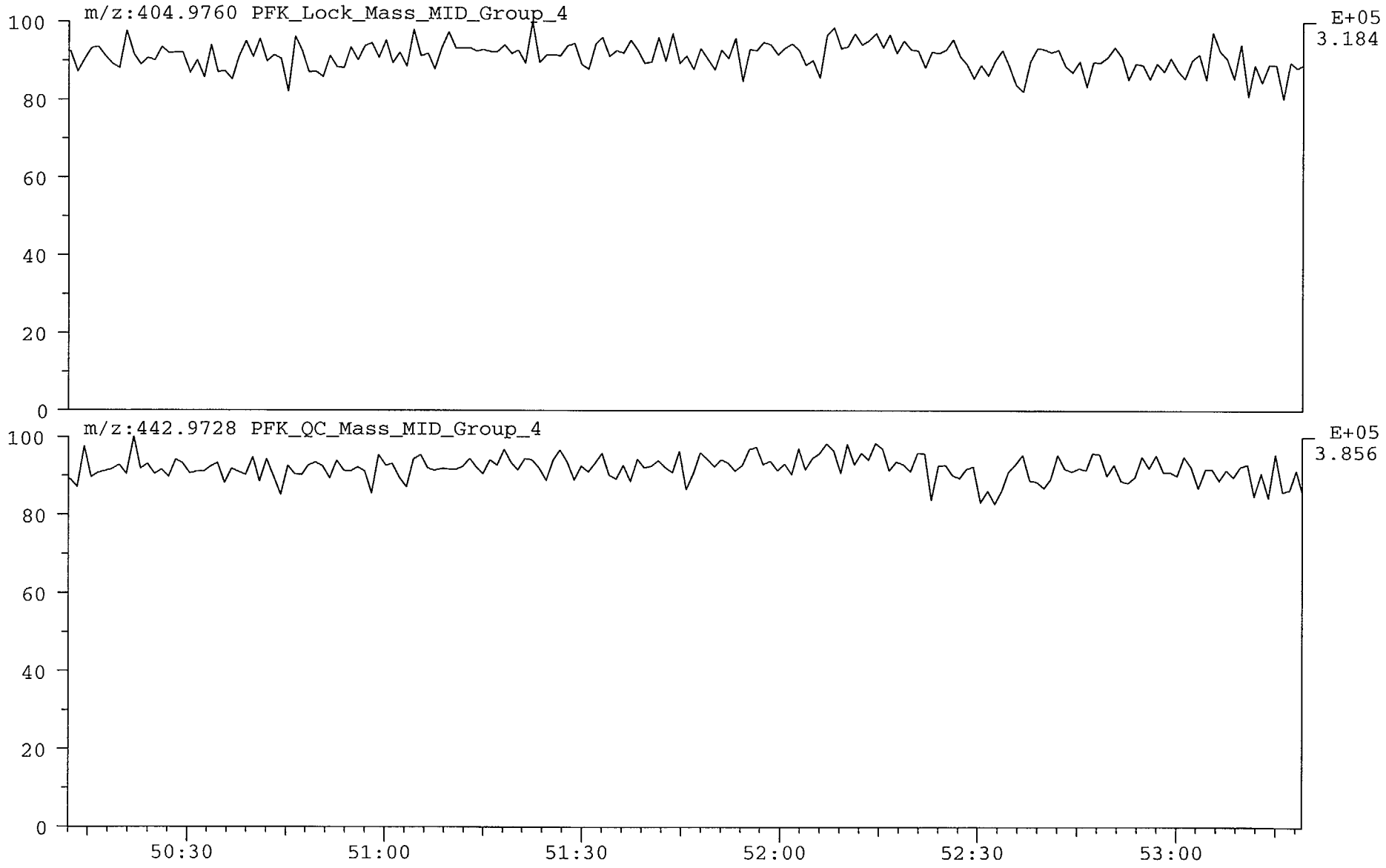

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CHRO:  bth2h1d                                  04-May-06   Elapse:  56:34      2694
Samp:  Vial 4 WO=h2h1d1aa Meth=X8 Dil=1                     Start :  16:08:51   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-001                Inlet :  GC     Vial   4
Peak:  100.00  ppm      Label wndw:   2666 > 2728           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
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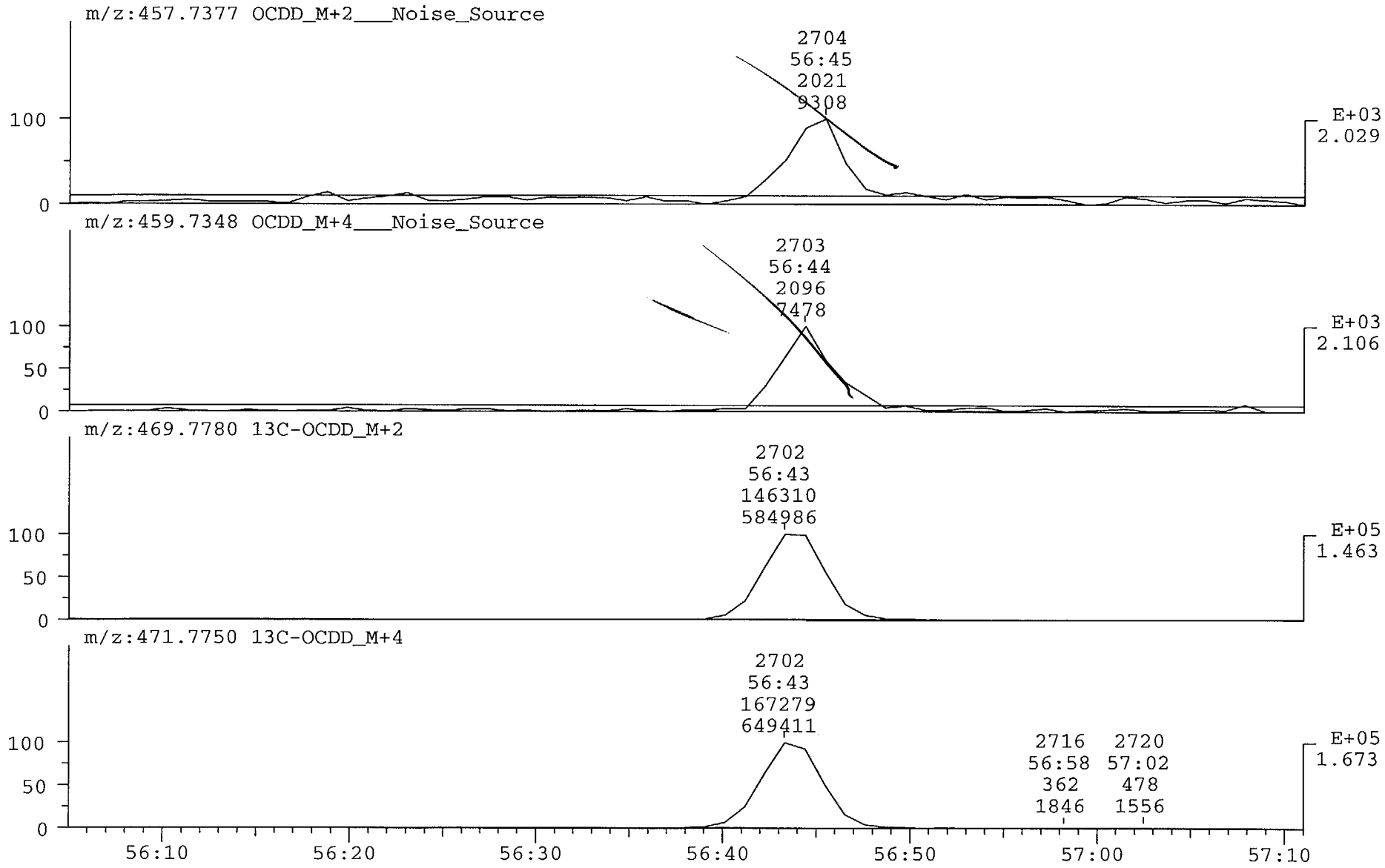

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CHRO:  bth2h1d                                  04-May-06   Elapse:  56:34      2694
Samp:  Vial 4 WO=h2h1d1aa Meth=X8 Dil=1                     Start :  16:08:51   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-001                Inlet :  GC     Vial   4
Peak:  100.00  ppm      Label wndw:   2666 > 2728           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
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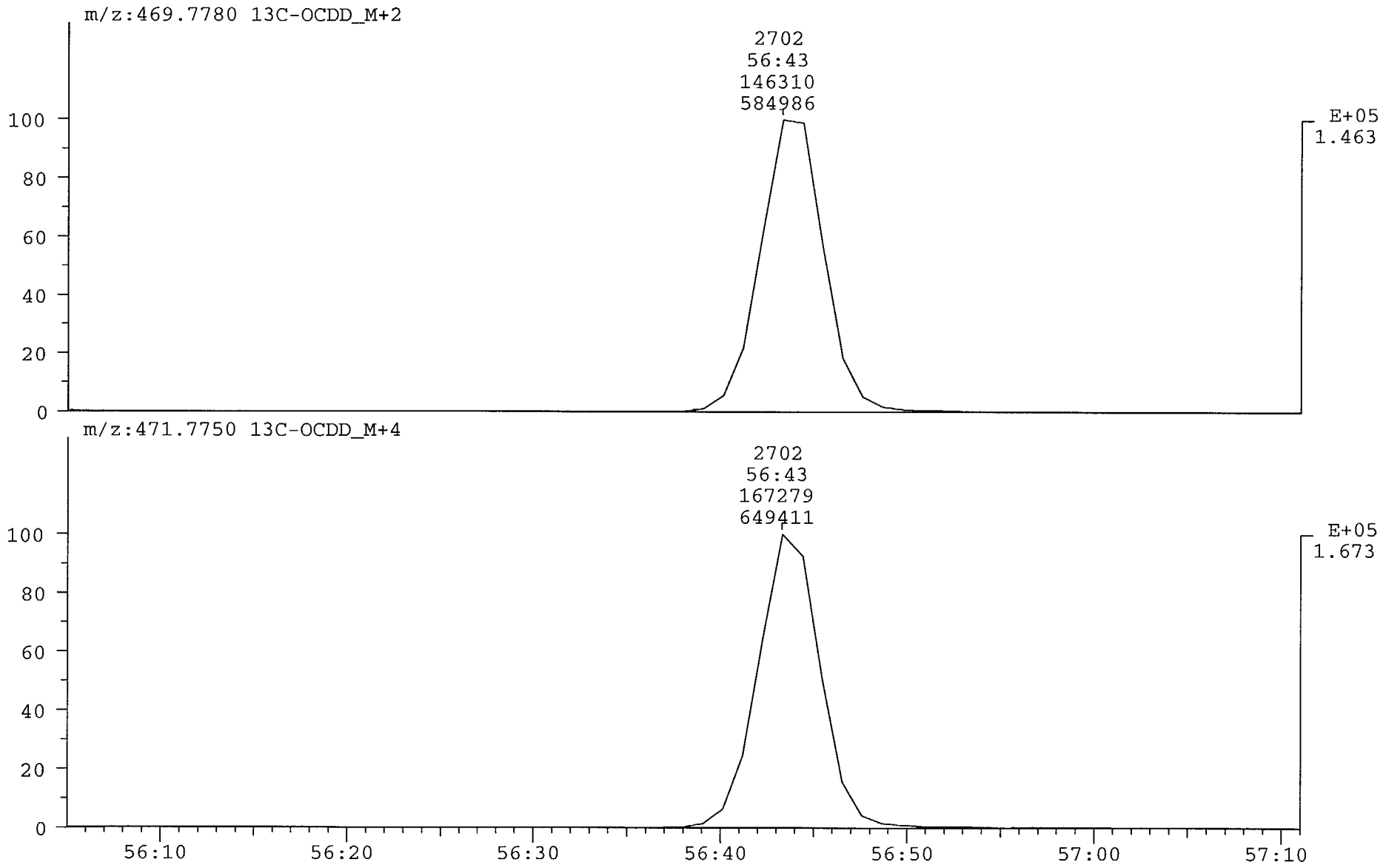
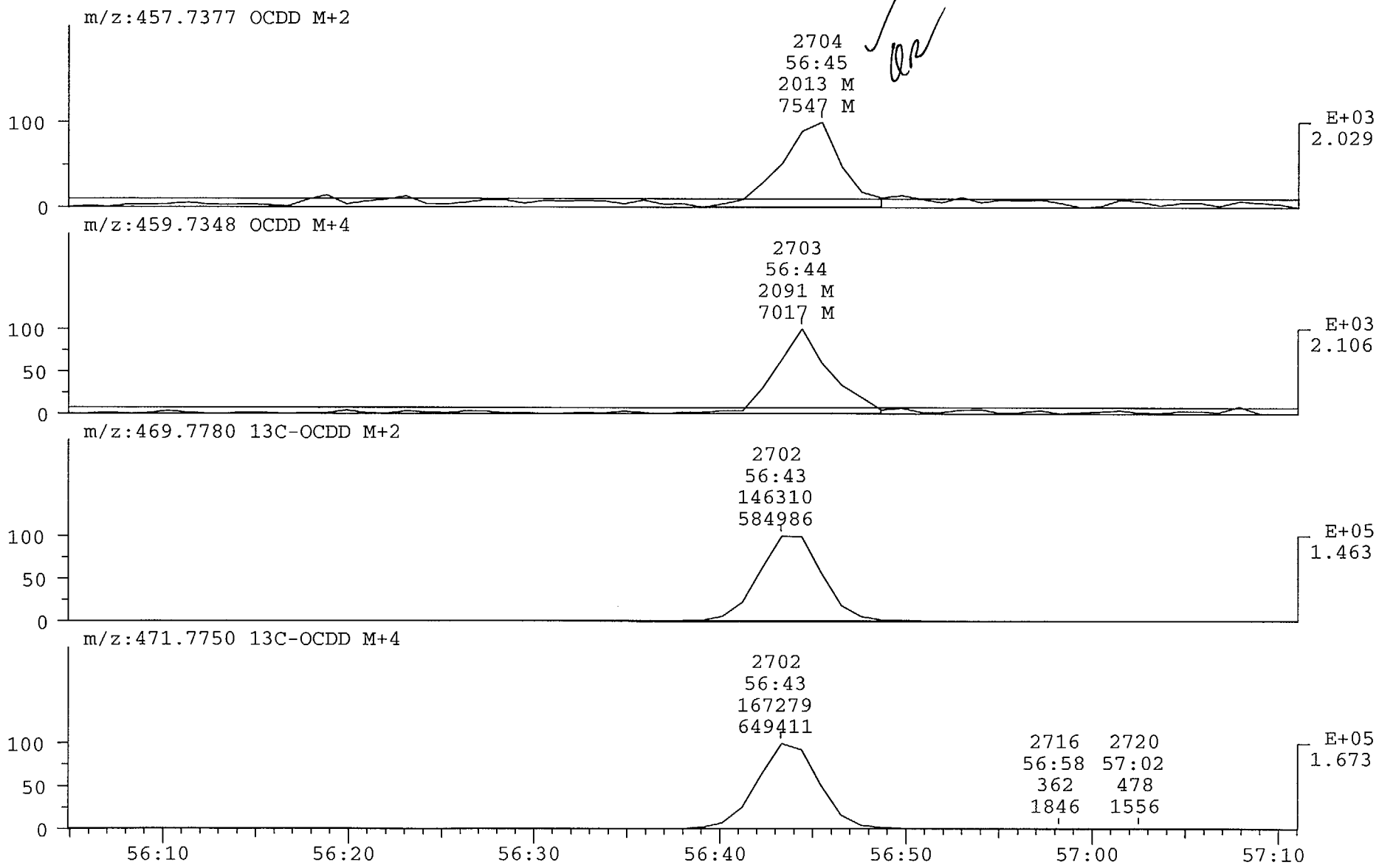
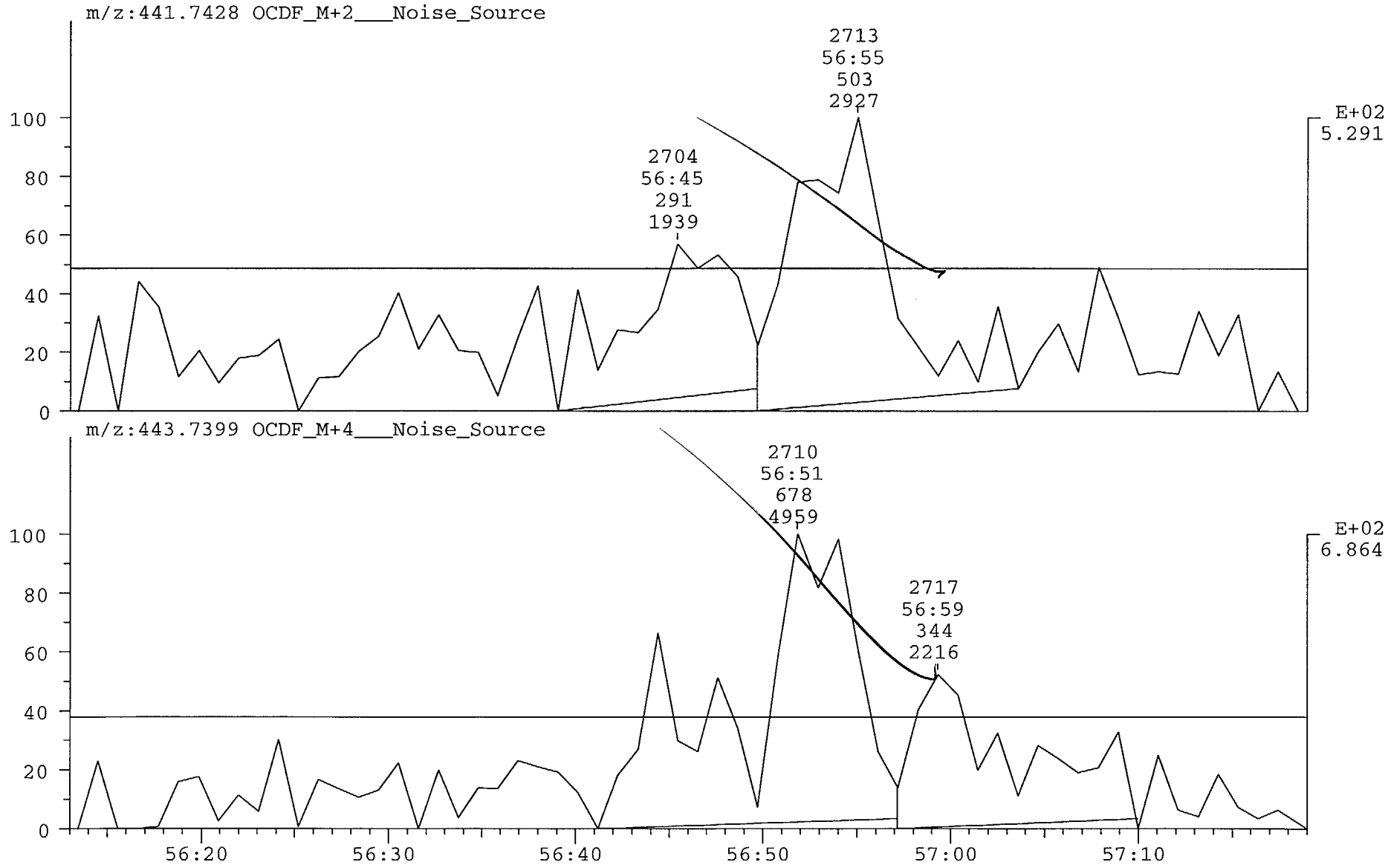


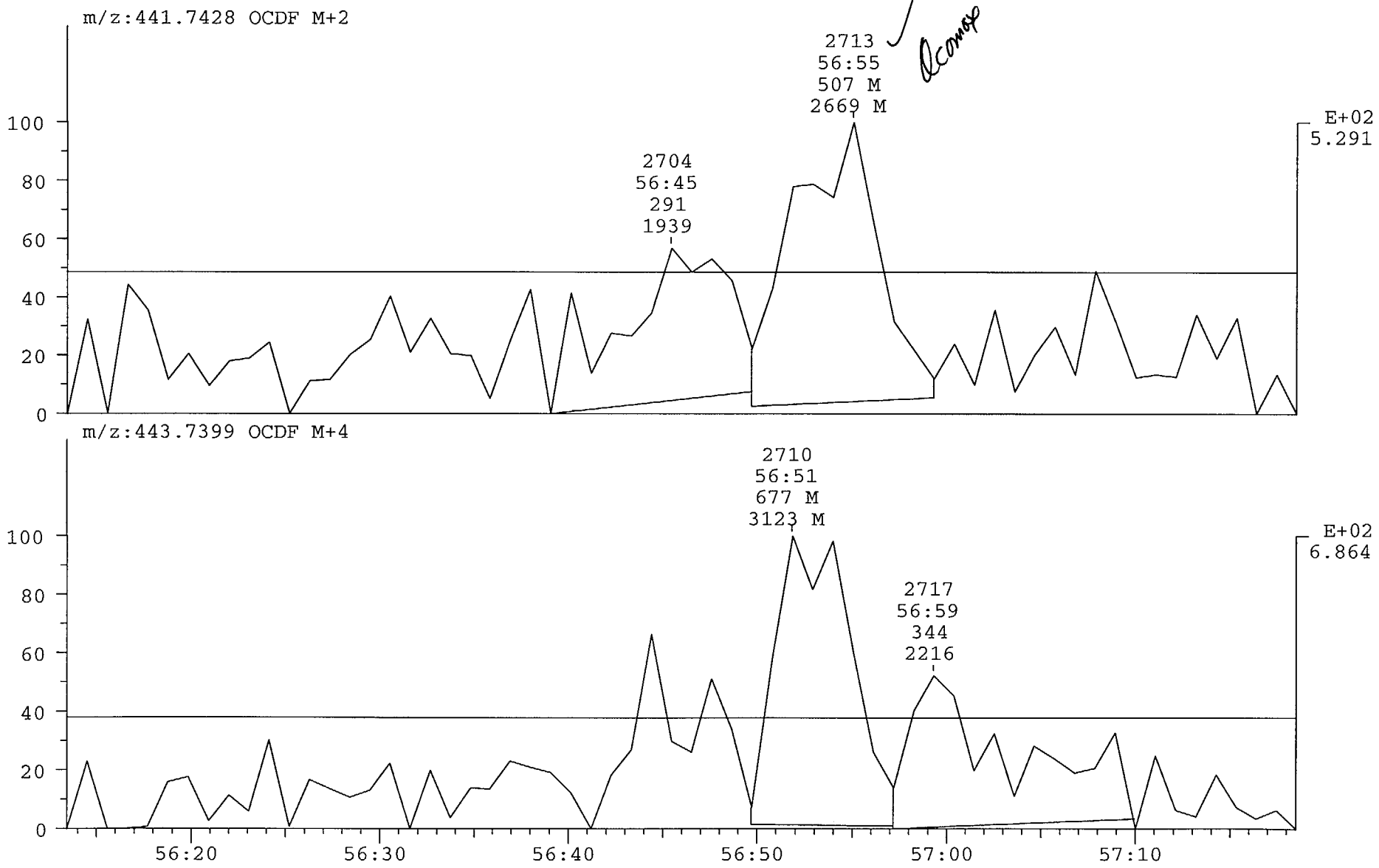
```
CHRO:  bth2h1d                                  04-May-06   Elapse:  56:45      2704
Samp:  Vial 4 WO=h2h1d1aa Meth=X8 Dil=1                     Start :  16:08:51   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-001                Inlet :  GC     Vial   4
Peak:  100.00  ppm      Label wndw:   2666 > 2728           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



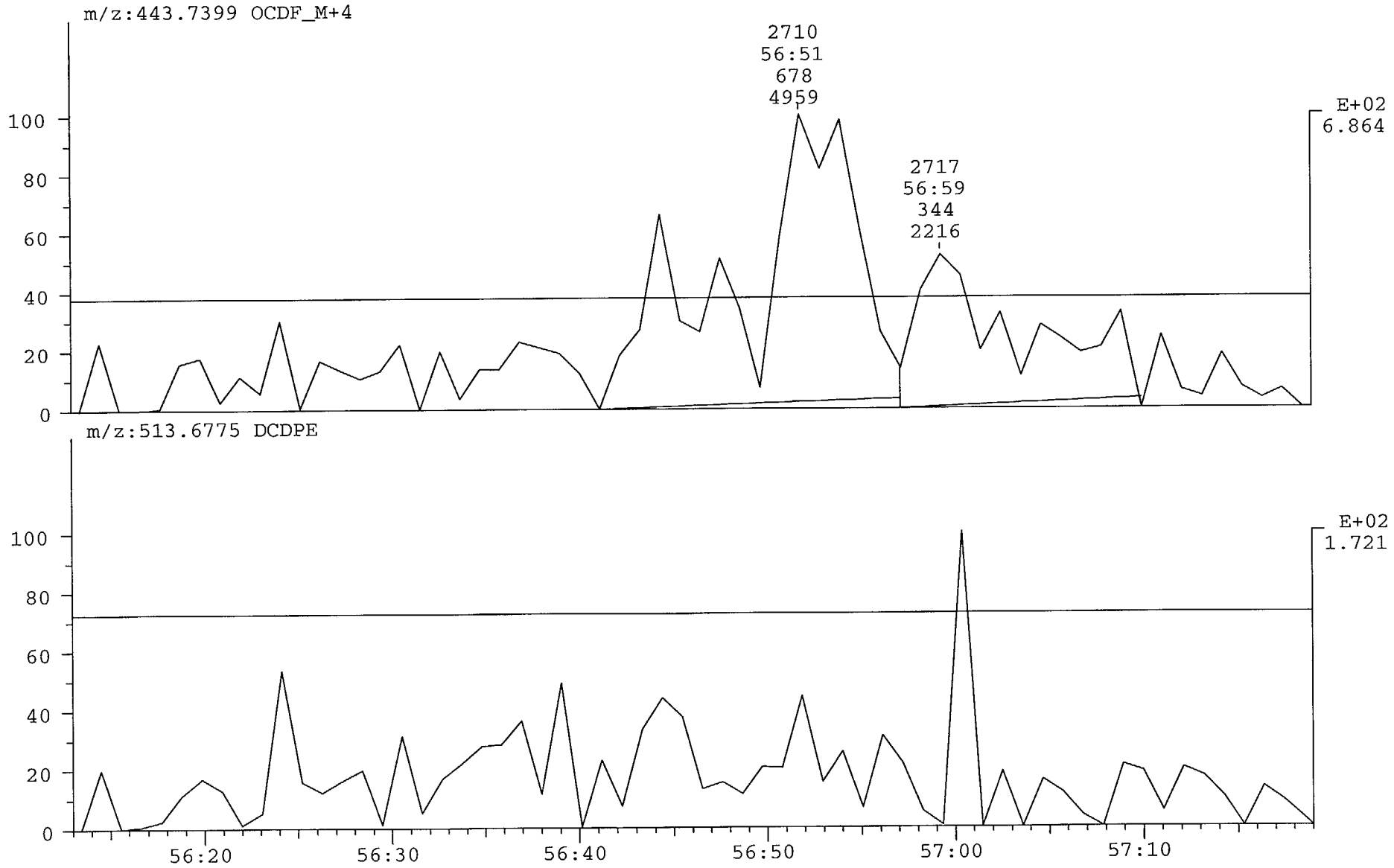
```
CHRO:  bth2h1d                                04-May-06  Elapse:  56:43      2702
Samp:  Vial 4 WO=h2h1d1aa Meth=X8 Dil=1                  Start :  16:08:51   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (Air)
Oper:  BFW          Client:  H6D030236-001               Inlet :  GC     Vial   4
Peak:  100.00  ppm     Label wndw:   2674 > 2735         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



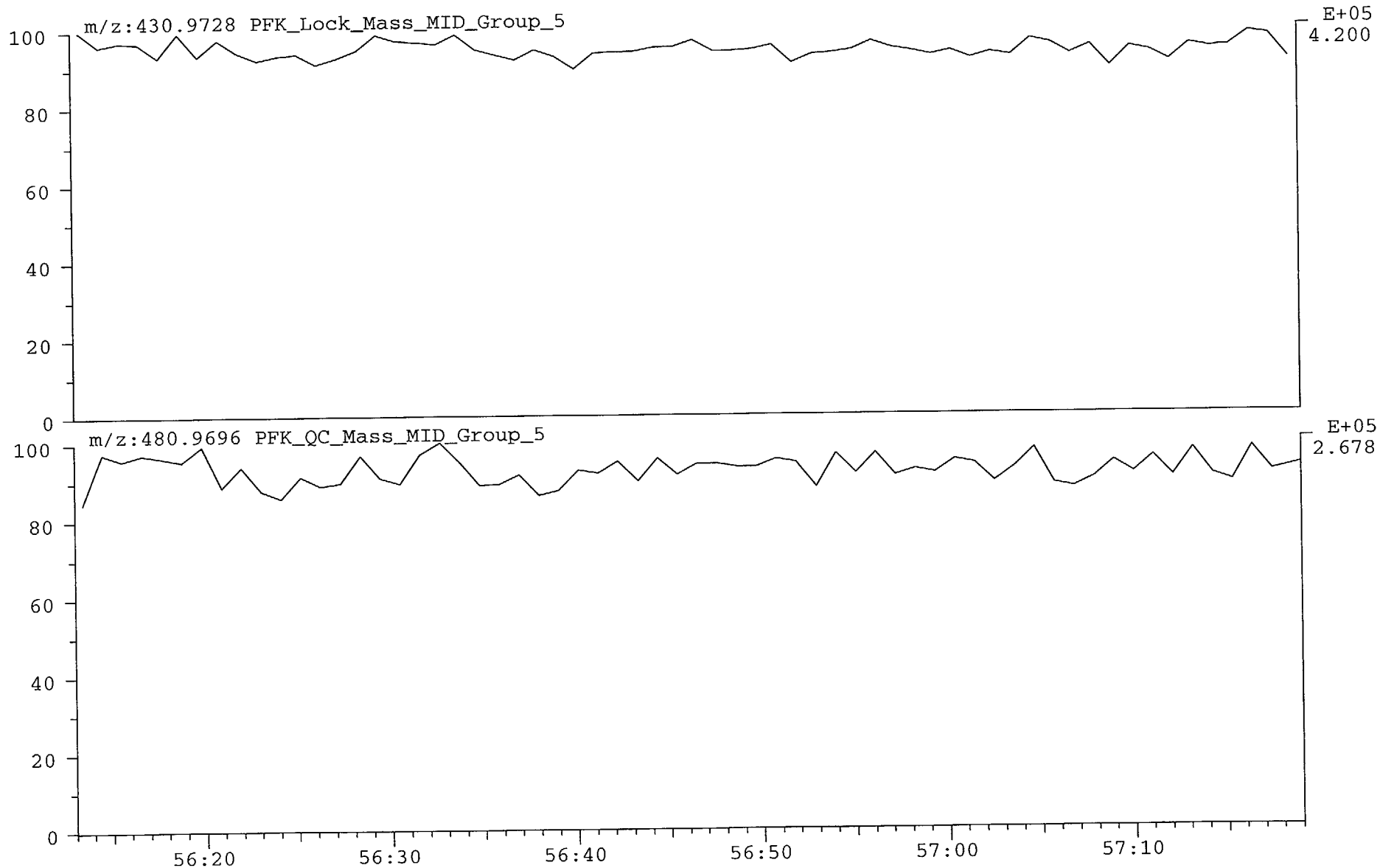
CHRO: bth2h1d 04-May-06 Elapse: 56:45 2704
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 2674 > 2735 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1d 04-May-06 Elapse: 56:43 2702
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 2674 > 2735 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1d 04-May-06 Elapse: 56:43 2702
Samp: Vial 4 WO=h2h1d1aa Meth=X8 Dil=1 Start : 16:08:51 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-001 Inlet : GC Vial 4
Peak: 100.00 ppm Label wndw: 2674 > 2735 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: bth2h1d
Study: 6107079 (Air)
Sample: WO=h2h1d1aa Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: BFW
Client: H6D030236-001
Comments: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Injected volume: 2.0
Sample from Vial 4
Analysis will stop when MID run finishes
Tune file name: tune2
File 4 of list 060504
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	TRUE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	140 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	29:52 min	37:52 min	1.00 sec
# 2	37:52 min	6:32 min	44:25 min	1.00 sec
# 3	44:25 min	5:05 min	49:30 min	1.00 sec
# 4	49:30 min	5:15 min	54:45 min	1.00 sec
# 5	54:45 min	5:15 min	60:00 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

351.9000		1	1	91.48
353.8970		1	1	91.48
355.8546		1	1	91.48
357.8516		1	1	91.48
367.8949		1	1	91.48
369.8919		1	1	91.48
380.9760	c	10	1	8.19
409.7974		1	1	91.48

Window # 3

mass	F	int	gr	time (ms)
373.8208		1	1	91.48
375.8178		1	1	91.48
380.9760	1	10	1	8.19
383.8639		1	1	91.48
385.8610		1	1	91.48
389.8156		1	1	91.48
391.8127		1	1	91.48
401.8559		1	1	91.48
403.8529		1	1	91.48
404.9760	c	10	1	8.19
445.7555		1	1	91.48

Window # 4

mass	F	int	gr	time (ms)
404.9760	1	10	1	8.19
407.7818		1	1	91.48
409.7788		1	1	91.48
417.8250		1	1	91.48
419.8220		1	1	91.48
423.7767		1	1	91.48
425.7737		1	1	91.48
435.8169		1	1	91.48
437.8140		1	1	91.48
442.9728	c	10	1	8.19
479.7165		1	1	91.48

Window # 5

mass	F	int	gr	time (ms)
430.9728	1	10	1	10.92
441.7428		1	1	120.15
443.7399		1	1	120.15
457.7377		1	1	120.15
459.7348		1	1	120.15
469.7780		1	1	120.15
471.7750		1	1	120.15
480.9696	c	10	1	10.92
513.6775		1	1	120.15

Auto Sampler descriptor: pcdd2ul

Injector A

Normal Injection

Slvnt A cln before inj	(K):	3	times
Slvnt B cln before inj	(L):	0	times
Sample rinse cycles	(R):	0	times
Syringe filling volume	(F):	1.0	ul
Pullup delay time	(D):	4	sec
Sample pullup speed	(E):	5.0	ul/sec
Slvnt aftr pre inj cln	(U):	0.0	ul
Air after pre inj cln	(G):	2.0	ul
Sample volume	(V):	2.0	ul
Sample air volume	(A):	2.0	ul
Sample pullup count	(P):	2	times
Injection speed	(S):	10.0	ul/sec
Injection wait time	(W):	10	sec
Injection hold time	(H):	3	sec
Solvent A clean cycles	(C):	15	times
Solvent B clean cycles	(B):	20	times
Loop clean w slvnt A	(LC):	0	times

```
Loop clean w slvnt B (LB):      0 times
Standard sample volume(X):    0.0 ul
Standard air volume    (Y):   0.0 ul
2nd Injection volume   (I):   0.0 ul
Air volume of 2nd inj  (J):   0.0 ul
Time btwn 2 injections(T):      0 sec

GC descriptor :  epa1613
  Injector:          270 deg                        300 deg max
  Transfer Line:     290 deg                        300 deg max
  Column:            140 deg at   0.0 minutes       330 deg max
                     140 deg at   3.0 minutes
                     210 deg at   6.5 minutes
                     210 deg at  34.5 minutes
                     280 deg at  44.5 minutes
                     280 deg at  51.0 minutes
                     325 deg at  60.0 minutes
  Inlet    :
  Pressure         18.0 psi
  Splitless mode
  Purge time        1.5 min
  Purge flow       40.0 mL/min

   Gas saver is on
   Saver time        3.0 min
   Saver flow       15.0 mL/min

  Stabilize time    0.5 minutes
```

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8408.0000
BDEV	8288.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.5861	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9996
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-738.5000	ELEN	61.7750
EMULT	1.8000	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	188.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	530.0000	FVINLET	598.0000
FVSRC	991.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.4804	HVANAL	1584.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4759.4580	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	430.9728
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	2897.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10100.2910	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.8000	TCURR	0.8984	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 04-May-06 16:08:51.7

Autosampler has injected sample from vial 4
Analysis stopped at: 04-May-06 17:08:54.2 (run time 60.03 minutes)
Analysis stopped because MID run finished

STL Knoxville - ACS

Sample ID: G-2939/2940-R1-M23A BACK HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 002	Work Order #....:	H2H1F1AA	Matrix....:	AIR
Date Sampled....:	03/28/06	Date Received....:	04/02/06	Dilution Factor:	1
Prep Date....:	04/17/06	Analysis Date....:	05/05/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	Instrument ID....:	M2A	Method:	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	19	Q	10	3.6	pg/sampl
Total TCDD	1700	Q	10	3.6	pg/sampl
1,2,3,7,8-PeCDD	33	J	50	1.3	pg/sampl
Total PeCDD	580	Q	50	1.3	pg/sampl
1,2,3,4,7,8-HxCDD	11	J	50	1.0	pg/sampl
1,2,3,6,7,8-HxCDD	9.6	J	50	1.0	pg/sampl
1,2,3,7,8,9-HxCDD	16	J	50	0.96	pg/sampl
Total HxCDD	160	Q	50	1.0	pg/sampl
1,2,3,4,6,7,8-HpCDD	24	B J	50	1.0	pg/sampl
Total HpCDD	44	J B	50	1.0	pg/sampl
OCDD	27	B J	100	1.2	pg/sampl
Total TCDF	6000	Q	10	5.5	pg/sampl
1,2,3,7,8-PeCDF	170	Q	50	1.6	pg/sampl
2,3,4,7,8-PeCDF	190		50	1.5	pg/sampl
Total PeCDF	2600	Q	50	1.6	pg/sampl
1,2,3,4,7,8-HxCDF	200	Q	50	1.1	pg/sampl
1,2,3,6,7,8-HxCDF	100		50	1.0	pg/sampl
2,3,4,6,7,8-HxCDF	47	B J	50	1.1	pg/sampl
1,2,3,7,8,9-HxCDF	5.5	B J	50	1.2	pg/sampl
Total HxCDF	830	Q B	50	1.1	pg/sampl
1,2,3,4,6,7,8-HpCDF	150	B	50	1.1	pg/sampl
1,2,3,4,7,8,9-HpCDF	10	Q J	50	1.3	pg/sampl
Total HpCDF	200	B Q	50	1.2	pg/sampl
OCDF	14	B J	100	1.3	pg/sampl

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	92	40 - 135
13C-1,2,3,7,8-PeCDD	98	40 - 135
13C-1,2,3,6,7,8-HxCDD	92	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	102	40 - 135
13C-OCDD	95	40 - 135
13C-2,3,7,8-TCDF	89	40 - 135
13C-1,2,3,7,8-PeCDF	96	40 - 135
13C-1,2,3,6,7,8-HxCDF	98	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	90	40 - 135

STL Knoxville - ACS

Sample ID: G-2939/2940-R1-M23A BACK HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 002	**Work Order #....:**	H2H1F1AA	**Matrix....:**	AIR
Date Sampled....:	03/28/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/05/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	83	70 - 130
13C-1,2,3,4,7,8-HxCDD	97	70 - 130
13C-2,3,4,7,8-PeCDF	91	70 - 130
13C-1,2,3,4,7,8-HxCDF	80	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	82	70 - 130

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

STL - Knoxville

IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1F1AA	**Prep Batch**	6107092	**Lot No**	H6D030236-002
Data File	/20060504s2/bth2h1f.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90542	**Prep Exp Date**	04/27/06	**Date Received**	04/02/06
Analysis Date	5/5/2006	**Matrix**	AIR	**Date Sampled**	03/28/06
Analysis Time	05:16	**Initial Wt/Vol**	1	**Lims Test Code**	XXSIOX801
Anal Exp Date	06/01/06	**Extract Vol**	20	**Method**	0023/8290
Instrument	M2A	**Dil Factor**	1.0	**Code**	X8
Analyst	PMP				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (pg/sample		DL (pg/samp
2,3,7,8-TCDD	35:17	19645	2611	1.060		18.563953		18.563953	Q	3.55
Total TCDD		1801754	203250	1.060		1721.19459		1721.19459	Q	3.55
2,3,7,8-TCDF	33:08	1128380	78718	1.064		836.527501		~~836.527501~~	~~Q~~ NA	5.46
Total TCDF		7007232	731551	1.064		6031.35740		6031.35740	Q	5.46
1,2,3,7,8-PeCDD	43:03	28151	8253	0.977		33.030127		33.030127	J MSD	1.29
Total PeCDD		462052	113609	0.977		575.164607		575.164607	Q 5/8/06	1.29
1,2,3,7,8-PeCDF	41:28	191405	44649	0.955		173.624377		173.624377	Q	1.64
2,3,4,7,8-PeCDF	42:34	225112	50237	1.018		191.666873		191.666873		1.54
Total PeCDF		2542768	470233	0.987		2598.82215		2598.82215	Q	1.59
1,2,3,4,7,8-HxCDD	47:14	8651	2559	1.047		10.604346		10.604346	J	1.05
1,2,3,6,7,8-HxCDD	47:21	7887	2263	1.055		9.598790		9.598790	J	1.04
1,2,3,7,8,9-HxCDD	47:45	14421	3051	1.146		16.156685		16.156685	J	0.957
Total HxCDD		105276	29843	1.083		161.191547		161.191547	Q	1.01
1,2,3,4,7,8-HxCDF	46:08	249679	40214	1.101		202.877529		202.877529	Q	1.09
1,2,3,6,7,8-HxCDF	46:17	135644	38769	1.184		102.463881		102.463881		1.01
2,3,4,6,7,8-HxCDF	47:03	55868	15993	1.052		47.486646		47.486646	BJ	1.14
1,2,3,7,8,9-HxCDF	48:03	6019	1928	0.982		5.483054		5.483054	BJ	1.22
Total HxCDF		570904	170753	1.080		831.231256		831.231256	QB	1.11
1,2,3,4,6,7,8-HpCDD	52:21	20131	4642	1.018		23.575710		23.575710	BJ	1.03
Total HpCDD		17818	4252	1.018		44.442632		44.442632	JB	1.03
1,2,3,4,6,7,8-HpCDF	50:37	159066	34325	1.403		154.401425		154.401425	B	1.11
1,2,3,4,7,8,9-HpCDF	52:58	8780	1716	1.197		9.994312		9.994312	QJ	1.30
Total HpCDF		34768	7917	1.300		200.826312		200.826312	BQ	1.20
OCDD	56:40	18779	5006	0.965		26.905877		26.905877	BJ	1.22
OCDF	56:49	11407	2882	1.103		14.289893		14.289893	BJ	1.32
13C-2,3,7,8-TCDD	35:14	997943	112844	1.068	1000	923.300958	92.33	923.300958		5.33
13C-2,3,7,8-TCDF	33:01	1268034	130791	1.413	1000	886.465524	88.65	886.465524		2.81
13C-1,2,3,7,8-PeCDD	43:02	872612	237199	0.882	1000	977.684674	97.77	977.684674		2.55
13C-1,2,3,7,8-PeCDF	41:27	1154016	274704	1.188	1000	959.738979	95.97	959.738979		3.45
13C-1,2,3,6,7,8-HxCDD	47:20	779019	205231	0.943	1000	923.893101	92.39	923.893101		2.02
13C-1,2,3,6,7,8-HxCDF	46:16	1117915	316411	1.272	1000	983.161185	98.32	983.161185		1.11
13C-1,2,3,4,6,7,8-HpCDD	52:20	839141	180934	0.918	1000	1022.25215	102.23	1022.25215		1.24
13C-1,2,3,4,6,7,8-HpCDF	50:36	734135	160480	0.916	1000	896.494460	89.65	896.494460		1.51
13C-OCDD	56:40	1446908	365023	0.850	2000	1904.70603	95.24	1904.70603		1.68
37Cl4-2,3,7,8-TCDD	35:18	1739051	196390	1.046	2000	1666.09789	83.30	1666.09789		1.21
13C-2,3,4,7,8-PeCDF	42:33	2114332	547985	1.010	2000	1813.58479	90.68	1813.58479		1.48
13C-1,2,3,4,7,8-HxCDD	47:12	1365221	372018	0.902	2000	1942.41810	97.12	1942.41810		2.39
13C-1,2,3,4,7,8-HxCDF	46:07	1770510	514700	0.988	2000	1602.71236	80.14	1602.71236		1.05
13C-1,2,3,7,8,9-HxCDF				1.113				ND		1.27
13C-1,2,3,4,7,8,9-HpCDF	52:56	1093324	231569	0.912	2000	1632.70661	81.64	1632.70661		2.20
13C-1,2,3,4-TCDD	34:41	2024079	200134	1.000	2000	2000.00000	100.00	2000.00000		5.70
13C-1,2,3,7,8,9-HxCDD	47:45	1787814	464775	1.000	2000	2000.00000	100.00	2000.00000		1.90

VMK 5/5/06
MSD 5/8/06

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1F1AA	**Prep Batch**	6107092	**Lot No**	H6D030236-002
Data File	/20060504s2/bth2h1f.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90542	**Prep Exp Date**	04/27/06	**Date Received**	04/02/06
Analysis Date	05/05/06 05:16	**Matrix**	AIR	**Date Sampled**	03/28/06
Anal Exp Date	06/01/06	**Initial Wt/Vol**	1 Sample	**Lims Test Code**	XXSIOX801
Instrument	M2A	**Extract Vol**	20 uL	**Method**	0023/8290
Analyst	PMP	**Diluton Factor**	1.00	**Code**	X8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	355	405	142	162	0.88	/	
	Unidentified	25:54	00:00	0	168056	214884	23480	29953	0.78	ABB/ABB	
	Unidentified	26:54	00:00	0	96610	120781	12663	15295	0.80	ABV/AVV	
	Unidentified	27:26	00:00	0	99306	124156	12036	16694	0.80	ABB/ABB	
	Unidentified	28:00	00:00	0	446391	573643	52923	64966	0.78	ABV/ABV	
	Unidentified	28:18	00:00	0	122931	164498	9707	12541	0.75	AVV/AVV	
	Unidentified	28:33	00:00	0	142445	206004	15673	20631	0.69	AVV/AVV	
	Unidentified	28:45	00:00	0	210213	255998	15330	19384	0.82	AVV/AVV	
	Unidentified	29:36	00:00	0	338947	435756	24154	31747	0.78	AVV/AVB	
	Unidentified	30:10	00:00	0	128447	161161	15055	18704	0.80	AVV/ABV	
	Unidentified	30:24	00:00	0	201964	253040	23572	29514	0.80	AVB/AVB	
	Unidentified	30:59	00:00	0	283336	375276	28618	38710	0.76	ABV/ABV	
	Unidentified	31:16	00:00	0	174457	218086	17706	23732	0.80	AVB/AVB	
	Unidentified	31:49	00:00	0	175206	222100	19201	24908	0.79	AVV/AVV	
	Unidentified	32:03	00:00	0	3074	2418	591	878	1.27 *	AVV/AVV	R
	Unidentified	32:18	00:00	0	23382	27152	3232	3816	0.86	AVV/AVV	
	Unidentified	32:30	00:00	0	101737	129410	10965	13716	0.79	AVV/AVB	
	2,3,7,8-TCDF	33:08	33:04	4	490209	638171	34810	43908	0.77	AVV/AVV	D
	Unidentified	34:26	00:00	0	184751	244004	18224	23792	0.76	ABB/ABV	
	Unidentified	35:00	00:00	0	138674	179852	12840	17969	0.77	ABV/ABB	
	Unidentified	35:32	00:00	0	15075	22325	2044	2961	0.68	ABB/ABB	
	Unidentified	37:37	00:00	0	10361	12537	1540	2001	0.83	ABB/ABB	T
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	200	198	80	79	1.01 *	/	
	13C-2,3,7,8-TCDF	33:01	33:01	0	557509	710525	58902	71889	0.78	ABV/ABV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	198	228	79	91	0.87	/	
	Unidentified	28:41	00:00	0	177474	232393	22704	28976	0.76	ABB/ABB	
	Unidentified	29:29	00:00	0	137384	173913	16643	21388	0.79	ABV/ABB	
	Unidentified	30:14	00:00	0	13042	16817	2144	2399	0.78	ABB/ABB	
	Unidentified	31:54	00:00	0	163370	208661	16523	21464	0.78	ABB/ABB	
	Unidentified	32:23	00:00	0	17180	21788	1580	1928	0.79	ABV/ABV	T
	Unidentified	32:42	00:00	0	25647	31300	2703	3530	0.82	AVV/AVV	
	Unidentified	32:57	00:00	0	3945	5696	548	599	0.69	AVB/AVB	
	Unidentified	33:45	00:00	0	24899	34879	2899	3824	0.71	ABB/ABB	
	Unidentified	34:43	00:00	0	77003	100492	8713	9402	0.77	ABV/ABV	
	Unidentified	35:01	00:00	0	117810	152051	10910	15186	0.77	AVV/AVV	
	2,3,7,8-TCDD	35:17	35:16	1	8546	13472	1136	1807	0.63 *	AVB/AVB	R
	Unidentified	35:43	00:00	0	10086	12934	1276	1523	0.78	ABB/ABB	
	Unidentified	36:17	00:00	0	13755	17215	1841	2553	0.80	ABB/ABB	T
	Unidentified	36:49	00:00	0	2503	3750	489	567	0.67	ABB/ABB	
	Unidentified	37:41	00:00	0	3359	3258	544	530	1.03 *	ABB/ABB	R
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	143		57				

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1F1AA	**Prep Batch**	6107092	**Lot No**	H6D030236-002
Data File	/20060504s2/bth2h1f.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90542	**Prep Exp Date**	04/27/06	**Date Received**	04/02/06
Analysis Date	05/05/06 05:16	**Matrix**	AIR	**Date Sampled**	03/28/06
Anal Exp Date	06/01/06	**Initial Wt/Vol**	1 Sample	**Lims Test Code**	XXSIOX801
Instrument	M2A	**Extract Vol**	20 uL	**Method**	0023/8290
Analyst	PMP	**Diluton Factor**	1.00	**Code**	X8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
328					**327.8847**		**327.8847**				
	37Cl4-2,3,7,8-TCDD	35:18	35:18	0	1739051		196390			AVV	
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	338	233	135	93	1.45 *	/	
	13C-1,2,3,4-TCDD	34:41	34:40	1	898132	1125947	88927	111207	0.80	AVV/AVV	
	13C-2,3,7,8-TCDD	35:14	35:14	0	441479	556464	49453	63391	0.79	AVV/AVV	
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**		
	Noise	00:00	00:00	0	225	205	90	82	1.10 *	/	
	Unidentified	38:11	00:00	0	201949	132687	30824	19983	1.52	ABB/ABB	
	Unidentified	39:56	00:00	0	108407	71404	22597	14672	1.52	ABV/ABV	
	Unidentified	40:10	00:00	0	530194	340201	80703	50790	1.56	AVV/AVV	
	Unidentified	40:27	00:00	0	104373	62989	14527	9949	1.66	AVV/AVB	
	Unidentified	40:40	00:00	0	22010	12493	4942	3032	1.76	AVV/ABV	
	Unidentified	40:47	00:00	0	20306	13105	5591	3094	1.55	AVB/AVB	
	Unidentified	41:02	00:00	0	198749	128593	37652	24444	1.55	ABB/ABB	
	Unidentified	41:22	00:00	0	48881	26730	11730	8175	1.83 *	ABV/ABV	R
	1,2,3,7,8-PeCDF	41:28	41:29	-1	113658	77747	26959	17690	1.46	AVV/AVV	
	Unidentified	41:43	00:00	0	77433	51747	18864	12845	1.50	AVV/AVV	
	Unidentified	41:55	00:00	0	99576	62804	22570	14360	1.59	AVB/AVB	
	2,3,4,7,8-PeCDF	42:34	42:33	1	134725	90387	30442	19795	1.49	AVV/ABV	
	Unidentified	42:45	00:00	0	122668	80323	29527	20241	1.53	AVV/AVV	
	Unidentified	42:57	00:00	0	8594	6057	2086	1302	1.42	AVV/AVB	M
	Unidentified	43:45	00:00	0	11431	6514	3254	1538	1.75	ABB/ABB	
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**		
	Noise	00:00	00:00	0	208	203	83	81	1.02 *	/	
	13C-1,2,3,7,8-PeCDF	41:27	41:28	-1	704326	449690	168179	106525	1.57	ABV/ABV	
	13C-2,3,4,7,8-PeCDF	42:33	42:32	1	1292046	822286	338232	209753	1.57	ABV/ABV	
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**		
	Noise	00:00	00:00	0	160	140	64	56	1.14 *	/	
	Unidentified	40:28	00:00	0	74887	46452	14128	9263	1.61	ABB/ABV	
	Unidentified	41:11	00:00	0	2955	1607	765	350	1.84 *	ABB/ABB	R
	Unidentified	41:35	00:00	0	58999	40057	15081	9700	1.47	ABV/ABB	
	Unidentified	41:47	00:00	0	17210	9249	4168	2416	1.86 *	AVB/ABB	R
	Unidentified	41:59	00:00	0	40162	28552	10847	7745	1.41	ABB/ABB	
	Unidentified	42:16	00:00	0	2616	2460	736	499	1.06 *	ABV/ABV	R
	Unidentified	42:21	00:00	0	11847	6163	2480	1507	1.92 *	AVB/AVB	R
	Unidentified	42:38	00:00	0	54643	37820	14903	9755	1.44	ABV/ABV	
	Unidentified	42:47	00:00	0	6888	4416	1641	1460	1.56	AVB/AVB	
	1,2,3,7,8-PeCDD	43:03	43:03	0	17988	10163	5217	3036	1.77	ABB/AVB	
	Unidentified	43:15	00:00	0	6513	3561	1802	1208	1.83 *	ABB/ABB	R
	Unidentified	43:39	00:00	0	7643	4750	2479	1420	1.61	ABB/ABB	
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**		
	Noise	00:00	00:00	0	113	113	45	45	1.00 *	/	
	13C-1,2,3,7,8-PeCDD	43:02	43:02	0	535139	337473	145433	91766	1.59	ABV/ABV	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
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STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1F1AA	**Prep Batch**	6107092	**Lot No**	H6D030236-002
Data File	/20060504s2/bth2h1f.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90542	**Prep Exp Date**	04/27/06	**Date Received**	04/02/06
Analysis Date	05/05/06 05:16	**Matrix**	AIR	**Date Sampled**	03/28/06
Anal Exp Date	06/01/06	**Initial Wt/Vol**	1 Sample	**Lims Test Code**	XXSIOX801
Instrument	M2A	**Extract Vol**	20 uL	**Method**	0023/8290
Analyst	PMP	**Diluton Factor**	1.00	**Code**	X8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	Noise	00:00	00:00	0	223	158	89	63	1.41	/	
	Unidentified	44:53	00:00	0	53584	45620	17293	14248	1.17	ABV/ABV	WM
	Unidentified	45:04	00:00	0	188158	146795	55986	46000	1.28	AVV/AVV	
	Unidentified	45:15	00:00	0	14711	10768	4579	3226	1.37	AVV/AVB	
	Unidentified	45:26	00:00	0	14276	12259	4698	3653	1.16	AVB/ABB	
	Unidentified	45:40	00:00	0	4102	3821	1329	924	1.07	ABB/ABB	
	1,2,3,4,7,8-HxCDF	46:08	46:09	-1	139864	109815	22389	17825	1.27	ABV/ABV	T
	1,2,3,6,7,8-HxCDF	46:17	46:17	0	74175	61469	21536	17233	1.21	AVV/AVV	
	Unidentified	46:25	00:00	0	9877	7719	2840	1880	1.28	AVB/AVB	
	Unidentified	46:42	00:00	0	19395	16263	4073	3737	1.19	ABB/ABB	
	Unidentified	46:56	00:00	0	6232	5805	1879	1386	1.07	ABV/ABV	
	2,3,4,6,7,8-HxCDF	47:03	47:03	0	30653	25215	8423	7570	1.22	AVB/AVB	
	1,2,3,7,8,9-HxCDF	48:03	48:03	0	3255	2764	983	945	1.18	ABV/ABV	
	Unidentified	48:11	00:00	0	6363	5156	1477	1545	1.23	AVB/AVB	
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**		
	Noise	00:00	00:00	0	143	185	57	74	0.77 *	/	
	13C-1,2,3,4,7,8-HxCDF	46:07	46:08	-1	609696	1160814	179551	335149	0.53	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDF	46:16	46:16	0	385192	732723	109326	207085	0.53	AVV/AVV	
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	Noise	00:00	00:00	0	103	123	41	49	0.84 *	/	
	Unidentified	45:34	00:00	0	7274	6378	2350	1945	1.14	ABB/ABB	
	Unidentified	46:11	00:00	0	33243	23818	9578	6433	1.40	ABB/ABB	
	Unidentified	46:29	00:00	0	18793	14195	5457	3529	1.32	ABV/ABV	
	Unidentified	46:40	00:00	0	872	1034	305	369	0.84 *	AVB/AVB	R
	1,2,3,4,7,8-HxCDD	47:14	47:14	0	4621	4030	1380	1179	1.15	ABV/ABB	
	1,2,3,6,7,8-HxCDD	47:21	47:21	0	4200	3687	1232	1031	1.14	AVB/ABB	
	1,2,3,7,8,9-HxCDD	47:45	47:46	-1	8096	6325	1736	1315	1.28	ABB/ABB	
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**		
	Noise	00:00	00:00	0	198	245	79	98	0.81 *	/	
	13C-1,2,3,4,7,8-HxCDD	47:12	47:13	-1	755479	609742	204993	167025	1.24	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDD	47:20	47:20	0	432915	346104	112495	92736	1.25	AVV/AVB	
	13C-1,2,3,7,8,9-HxCDD	47:45	47:45	0	994736	793078	259168	205607	1.25	ABV/ABV	
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**		
	Noise	00:00	00:00	0	123	128	49	51	0.96	/	
	1,2,3,4,6,7,8-HpCDF	50:37	50:37	0	80987	78079	16963	17362	1.04	ABB/ABB	
	Unidentified	51:02	00:00	0	10992	10226	2288	2282	1.07	ABB/ABB	
	Unidentified	51:17	00:00	0	6650	6900	1604	1743	0.96	ABB/ABB	
	1,2,3,4,7,8,9-HpCDF	52:58	52:58	0	5431	4304	1448	841	1.26 *	ABB/ABB	R
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	Noise	00:00	00:00	0	160	163	64	65	0.98 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	50:36	50:36	0	231925	502210	50748	109732	0.46	ABV/ABV	
	13C-1,2,3,4,7,8,9-HpCDF	52:56	52:56	0	339484	753840	70499	161070	0.45	ABV/ABV	
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**		

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1F1AA	**Prep Batch**	6107092	**Lot No**	H6D030236-002
Data File	/20060504s2/bth2h1f.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90542	**Prep Exp Date**	04/27/06	**Date Received**	04/02/06
Analysis Date	05/05/06 05:16	**Matrix**	AIR	**Date Sampled**	03/28/06
Anal Exp Date	06/01/06	**Initial Wt/Vol**	1 Sample	**Lims Test Code**	XXSIOX801
Instrument	M2A	**Extract Vol**	20 uL	**Method**	0023/8290
Analyst	PMP	**Diluton Factor**	1.00	**Code**	X8

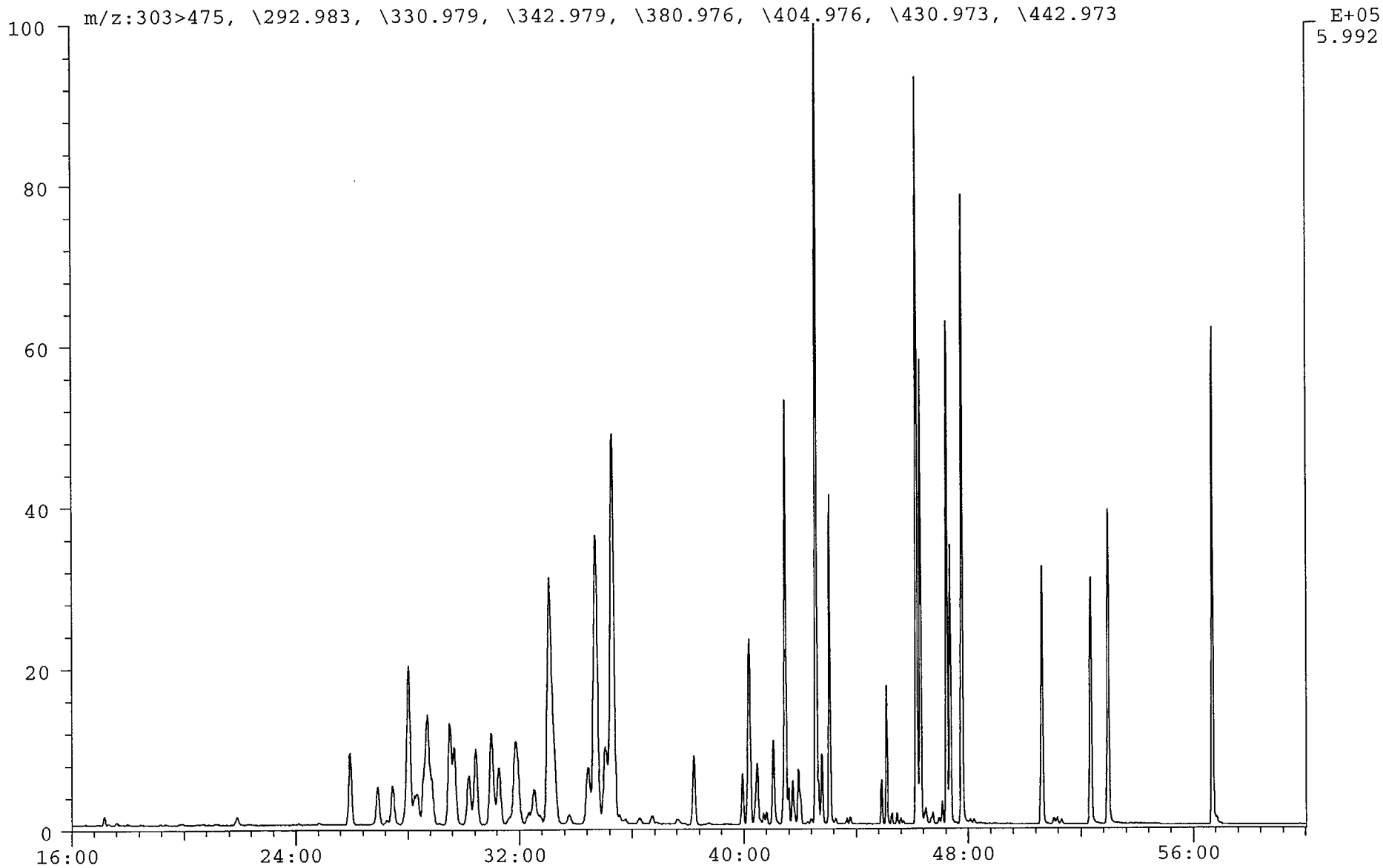
View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration Flags
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**	
	Noise	00:00	00:00	0	135	55	54	22	2.45 *	/
	Unidentified	51:09	00:00	0	9306	8512	2300	1952	1.09	ABB/ABB
	1,2,3,4,6,7,8-HpCDD	52:21	52:20	1	9513	10618	2158	2484	0.90	ABB/ABB
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**	
	Noise	00:00	00:00	0	168	98	67	39	1.72 *	/
	13C-1,2,3,4,6,7,8-HpCDD	52:20	52:19	1	428930	410211	92208	88726	1.05	ABV/ABV
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**	
	Noise	00:00	00:00	0	100	165	40	66	0.61 *	/
	OCDF	56:49	56:50	-1	5451	5956	1489	1393	0.92	MBB/MBB
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**	
	Noise	00:00	00:00	0	113	103	45	41	1.10 *	/
	OCDD	56:40	56:41	-1	8757	10022	2194	2812	0.87	ABB/ABB
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**	
	Noise	00:00	00:00	0	125	208	50	83	0.60 *	/
	13C-OCDD	56:40	56:41	-1	684643	762265	174375	190648	0.90	ABV/ABV

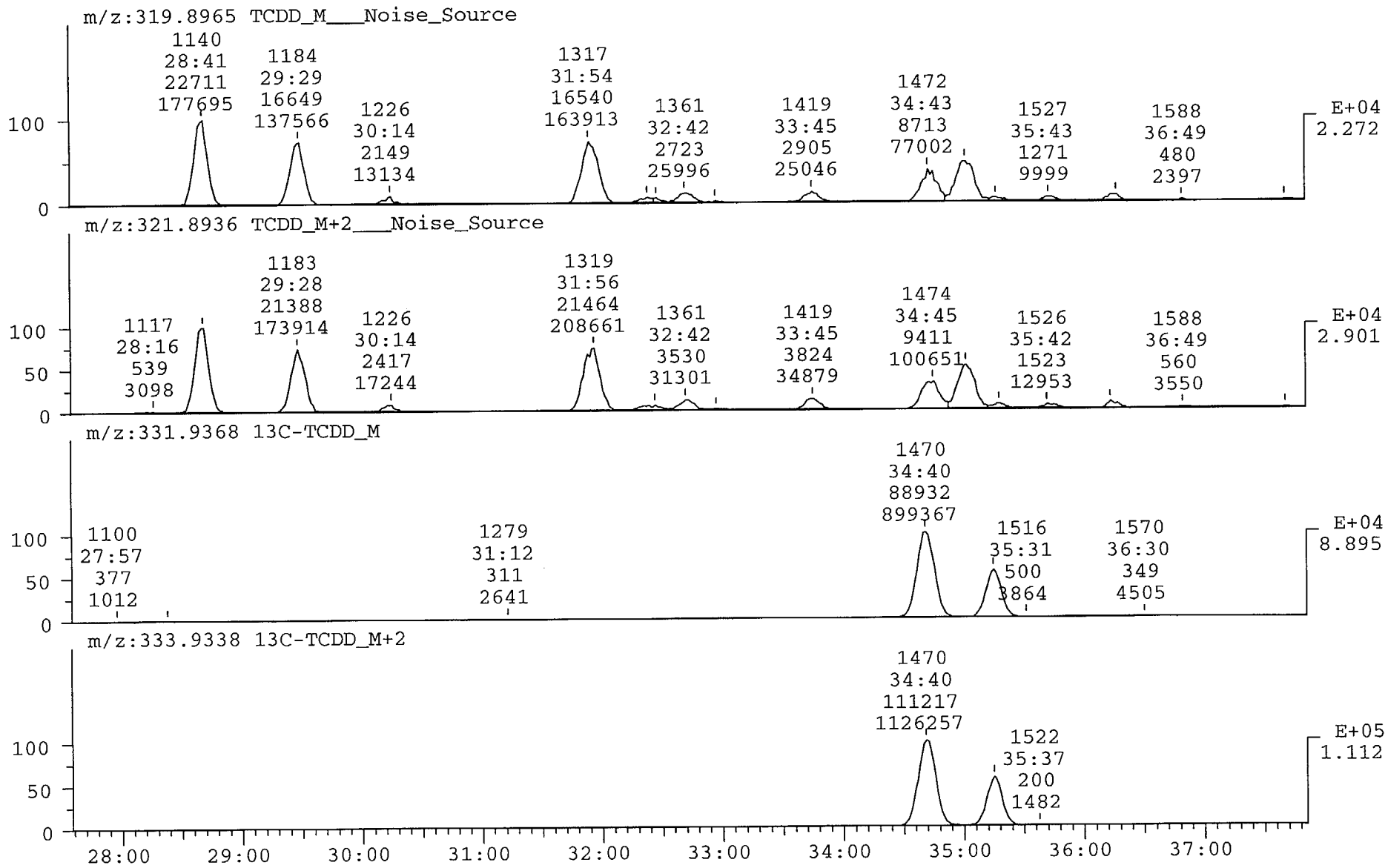
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

CHRO: bth2h1f 05-May-06 Elapse: 56:42 2701
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 441 > 2888 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

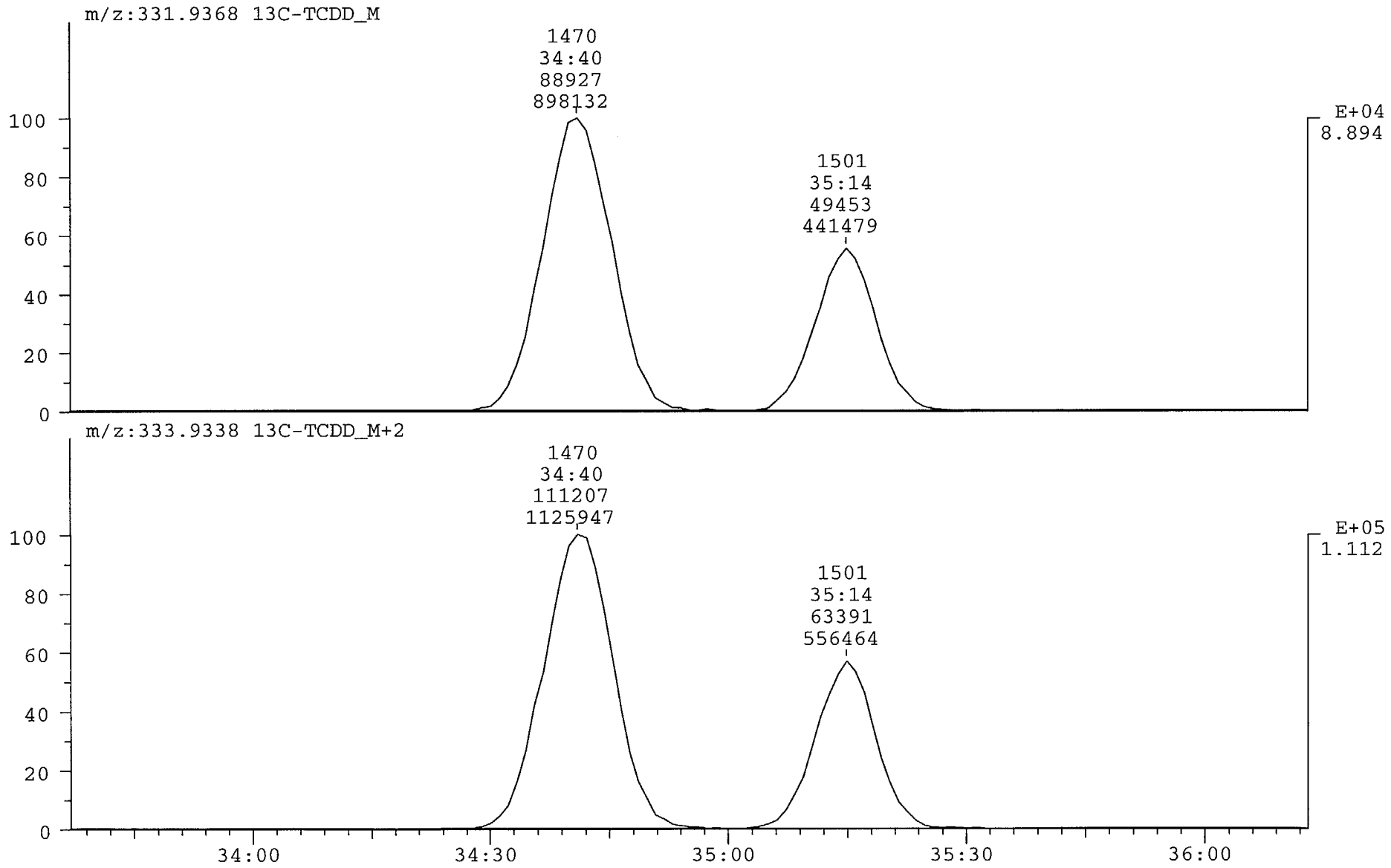
Int BPW 5/5/06
Calc MK 5/5/06
QC/Rev WSD 5/8/06



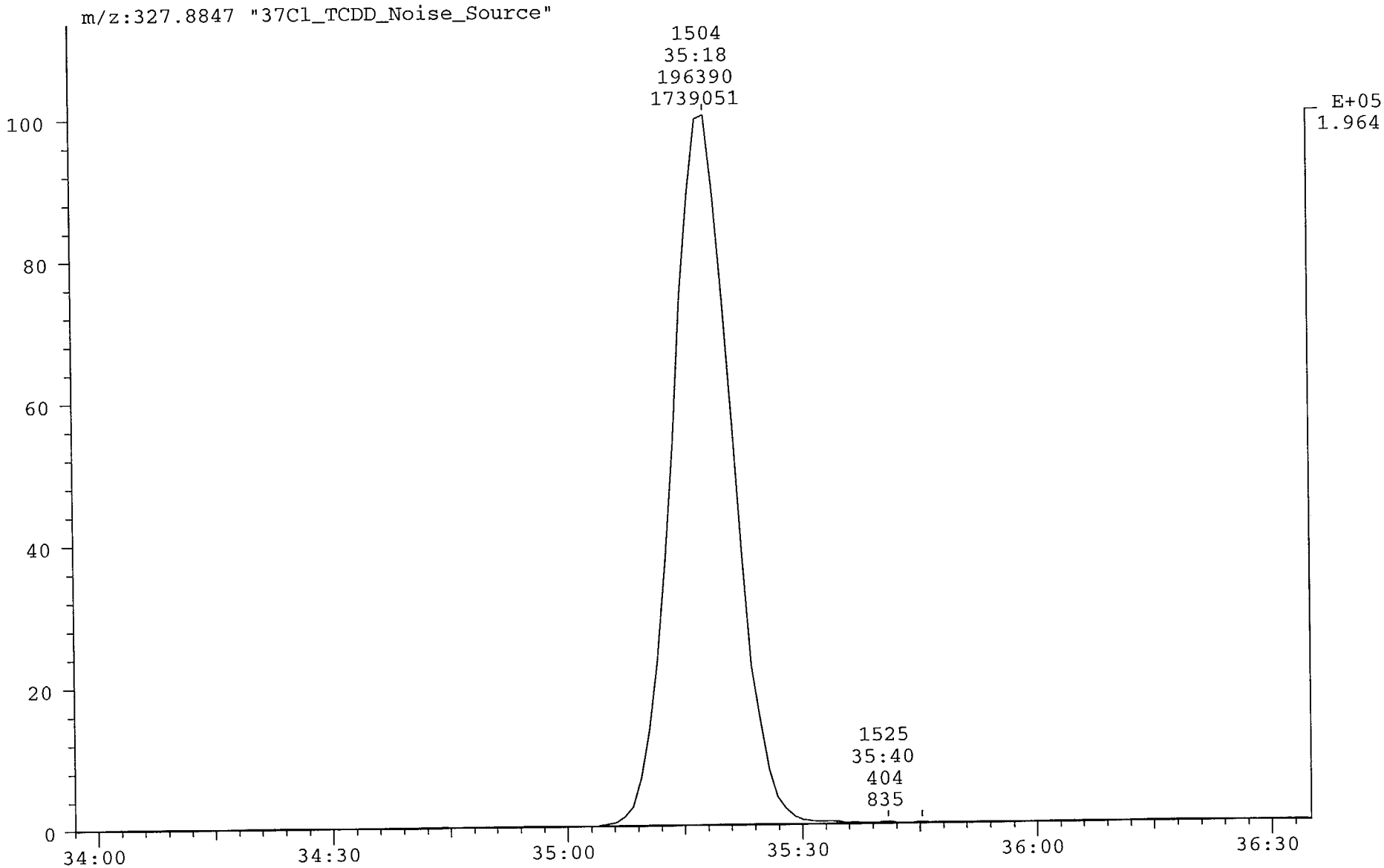
```
CHRO:  bth2h1f                                  05-May-06   Elapse:  56:42      2701
Samp:  Vial 12 WO=h2h1f1aa Meth=X8 Dil=1                    Start :  05:16:34   2888
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-002                Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   1079 > 1644           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



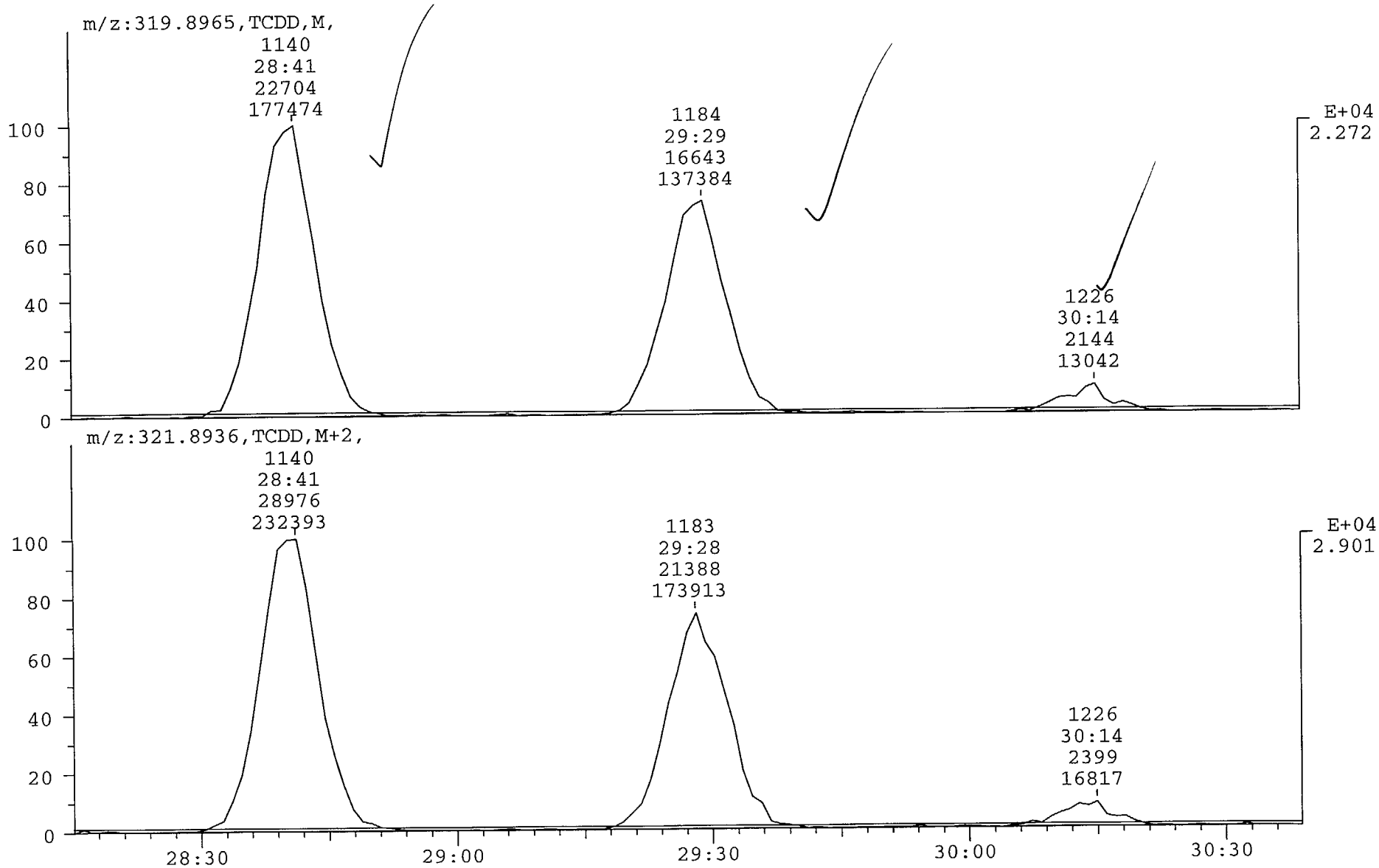
```
CHRO:  bth2h1f                                05-May-06  Elapse:  34:55      1483
Samp:  Vial 12 WO=h2h1f1aa Meth=X8 Dil=1                 Start :  05:16:34   2888
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-002             Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   1411 > 1554        Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  -2, 3.0
Disp:  Height  Area
```



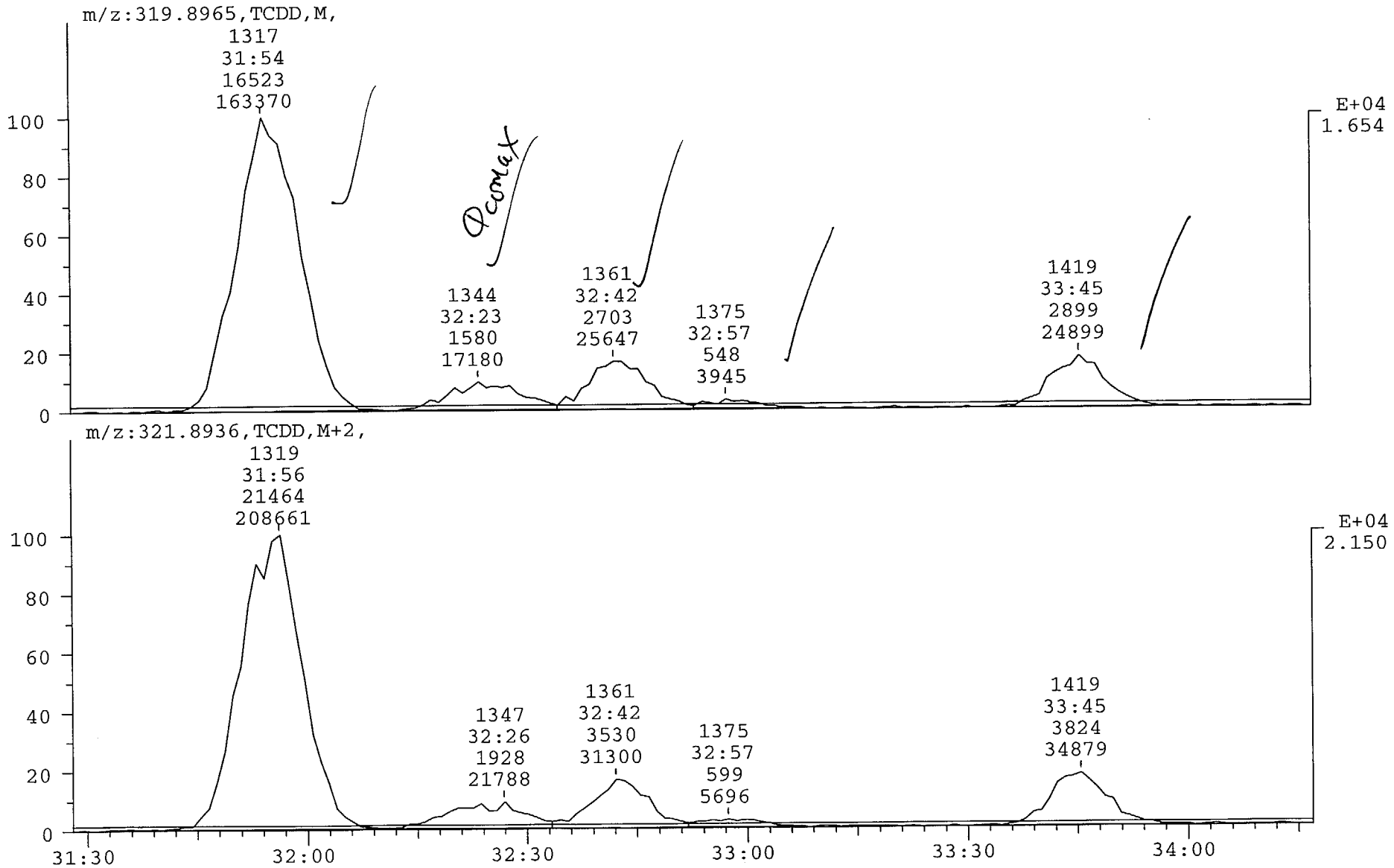
CHRO: bth2h1f 05-May-06 Elapse: 35:12 1499
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 1430 > 1574 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



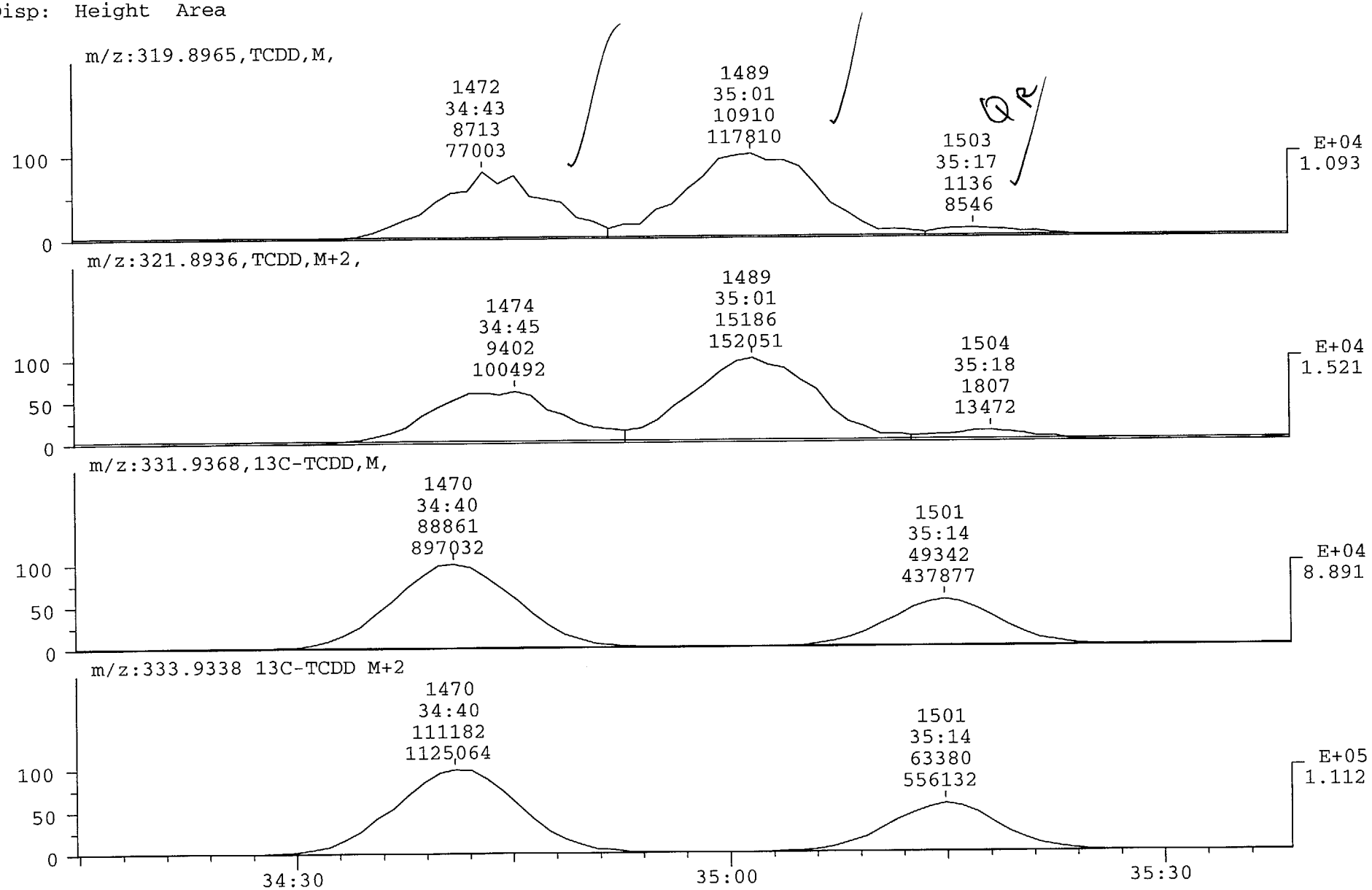
CHRO: bth2h1f 05-May-06 Elapse: 56:46 2705
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 1116 > 1248 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



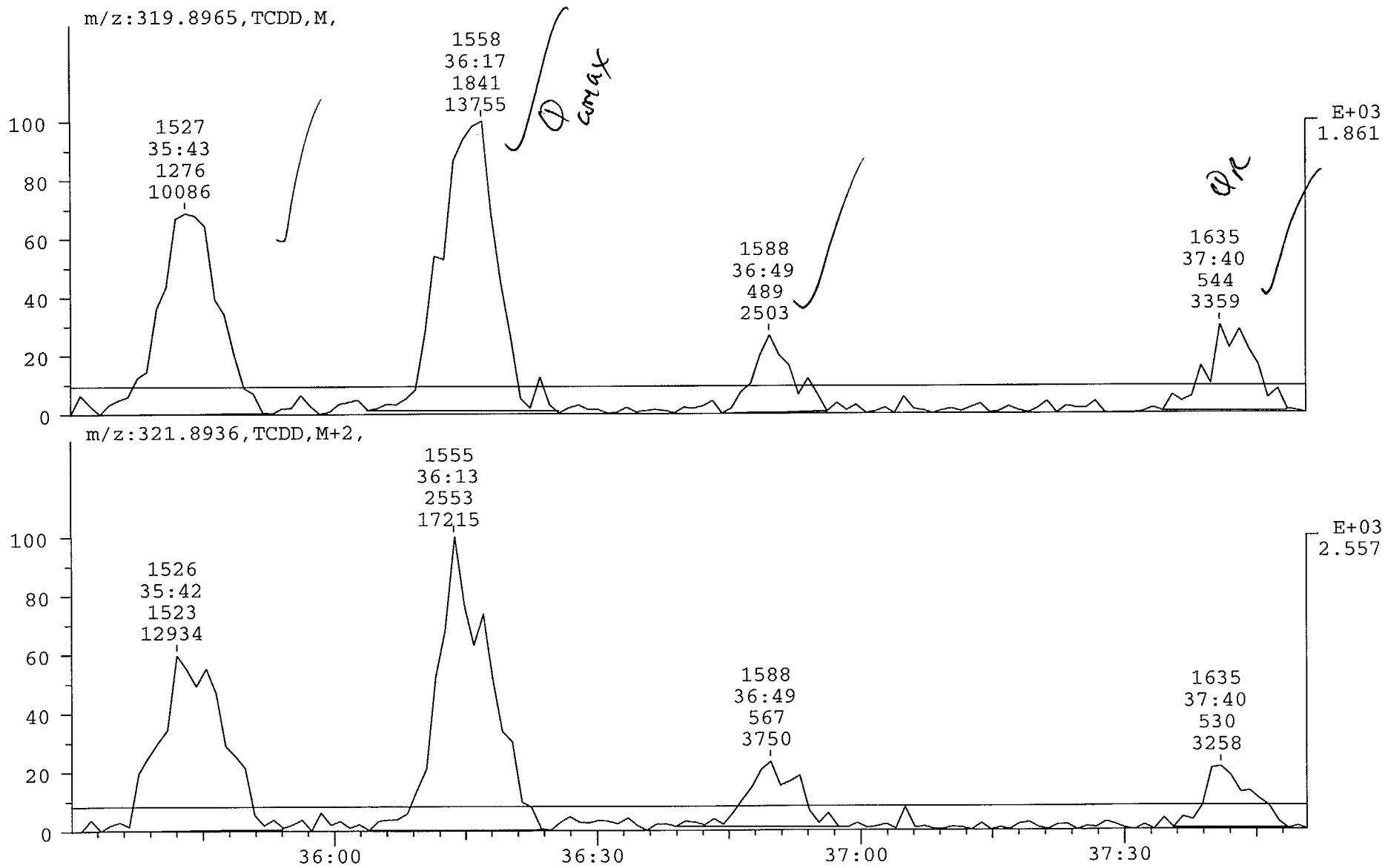
CHRO: bth2h1f 05-May-06 Elapse: 56:46 2705
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 1293 > 1448 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 4 Label : -3, 3.0
Disp: Height Area



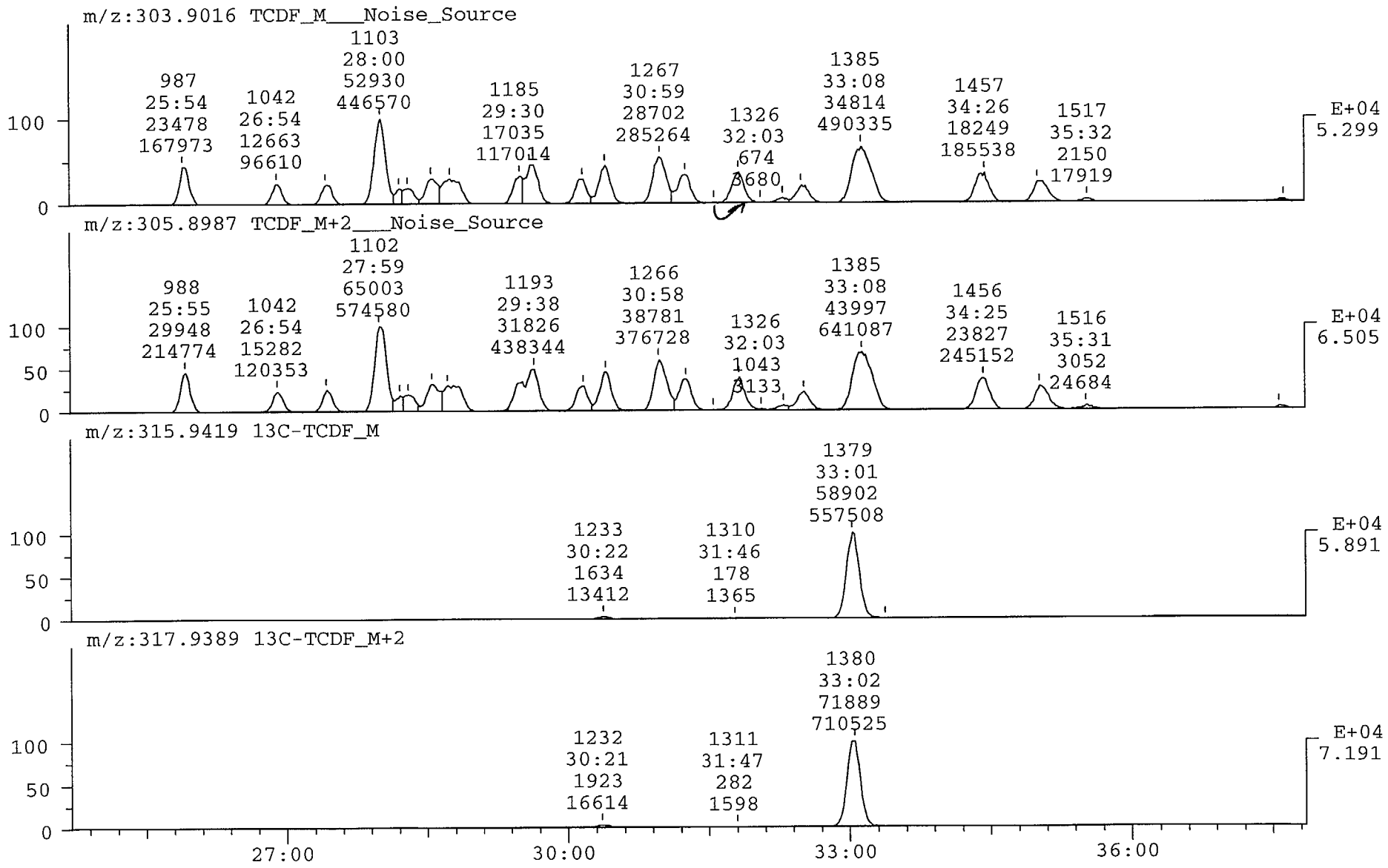
CHRO: bth2h1f 05-May-06 Elapse: 56:46 2705
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 1446 > 1523 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1f 05-May-06 Elapse: 56:46 2705
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 1515 > 1644 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1f 05-May-06 Elapse: 35:12 1499
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 920 > 1644 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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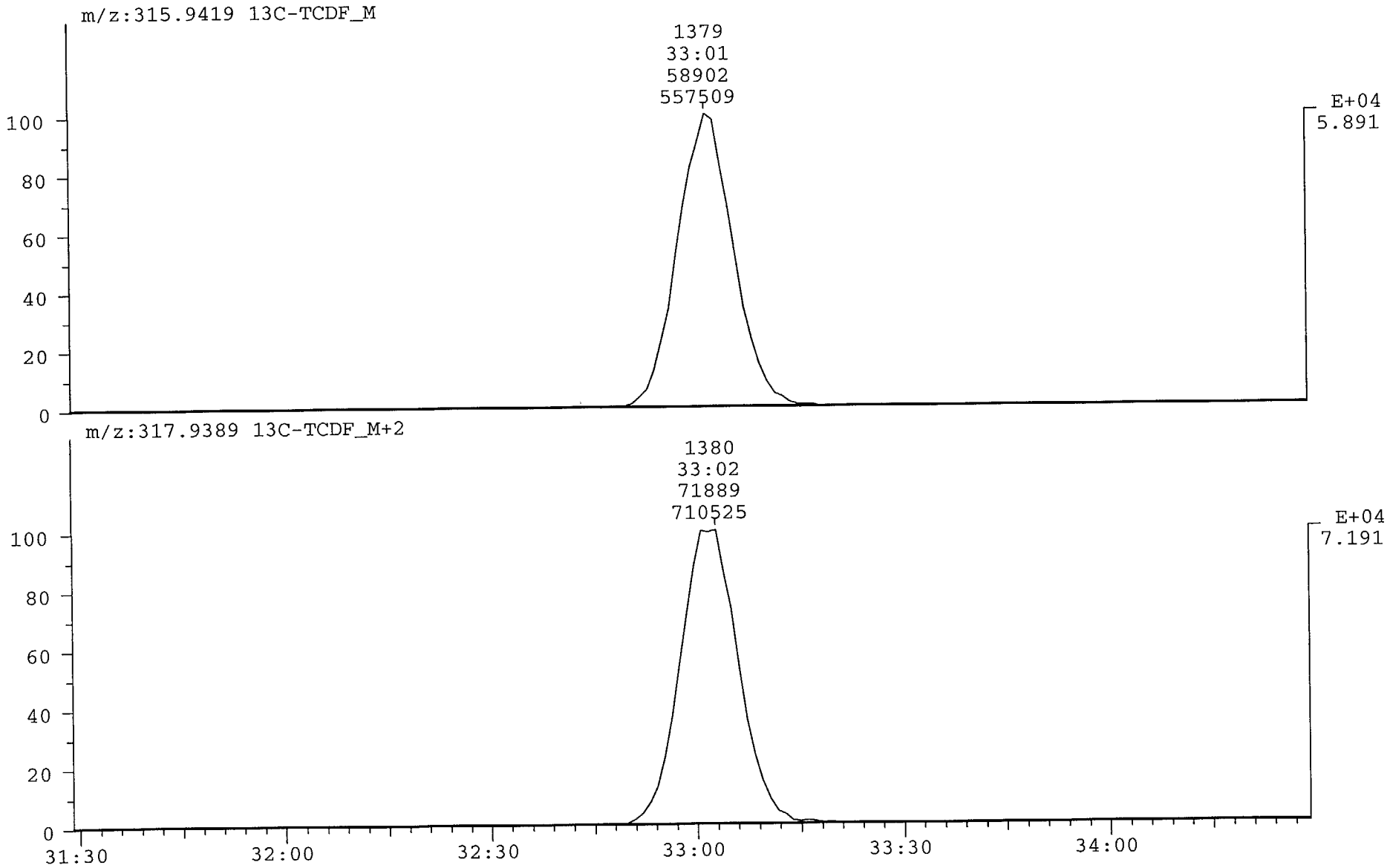
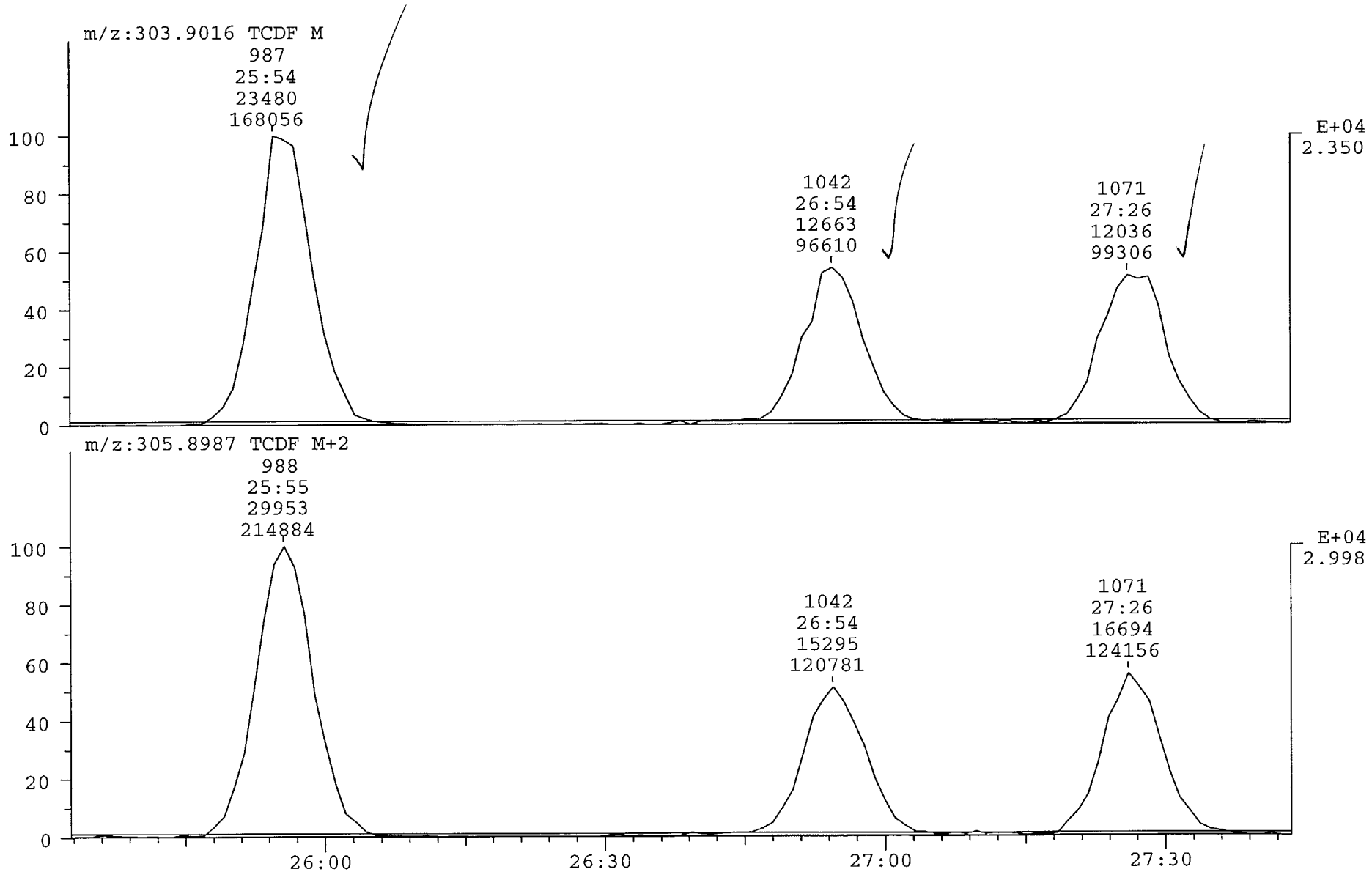
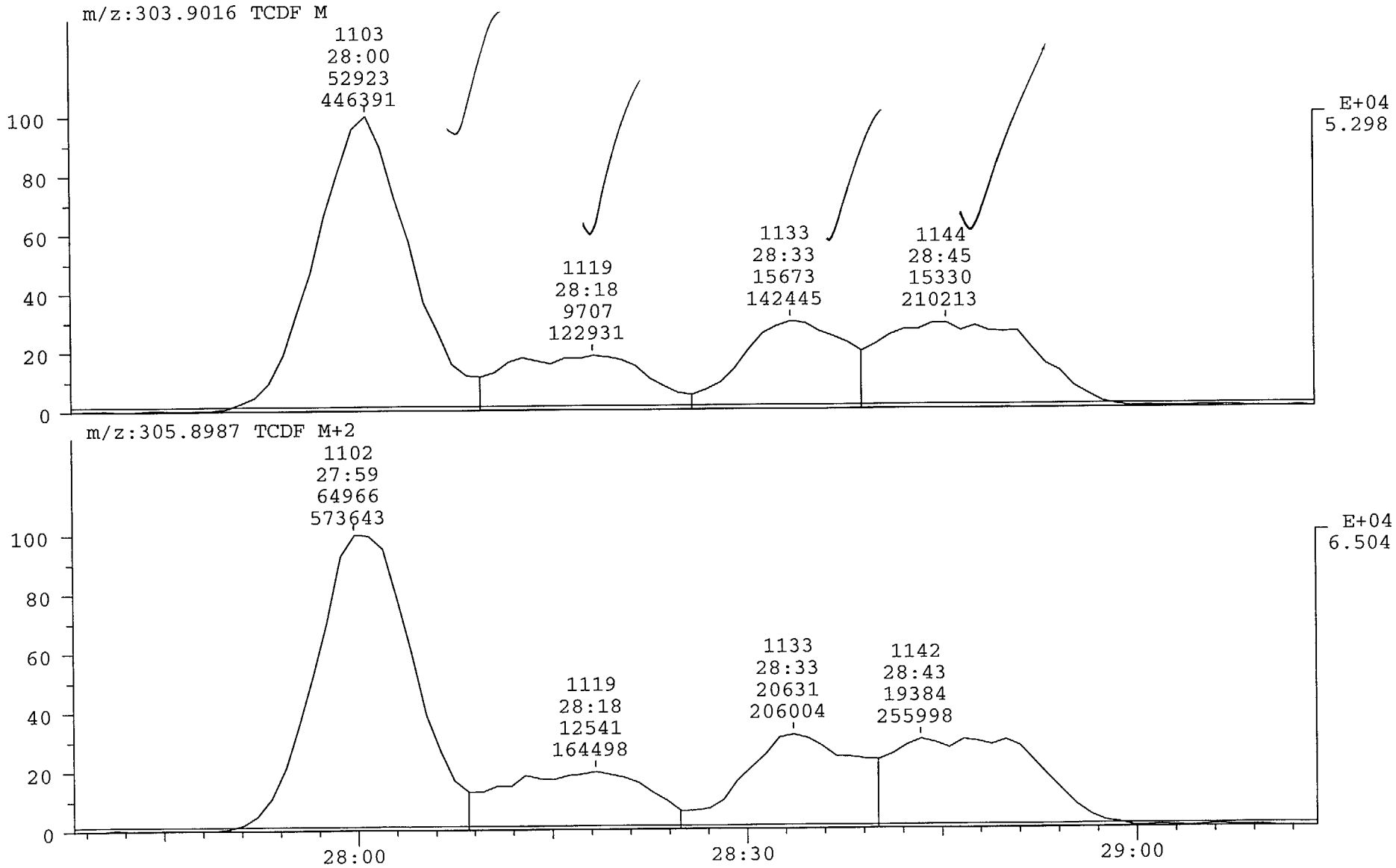
CHRO:  bth2h1f                                  05-May-06   Elapse:  32:56      1374
Samp:  Vial 12 WO=h2h1f1aa Meth=X8 Dil=1                    Start :  05:16:34   2888
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-002                Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   1294 > 1459           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



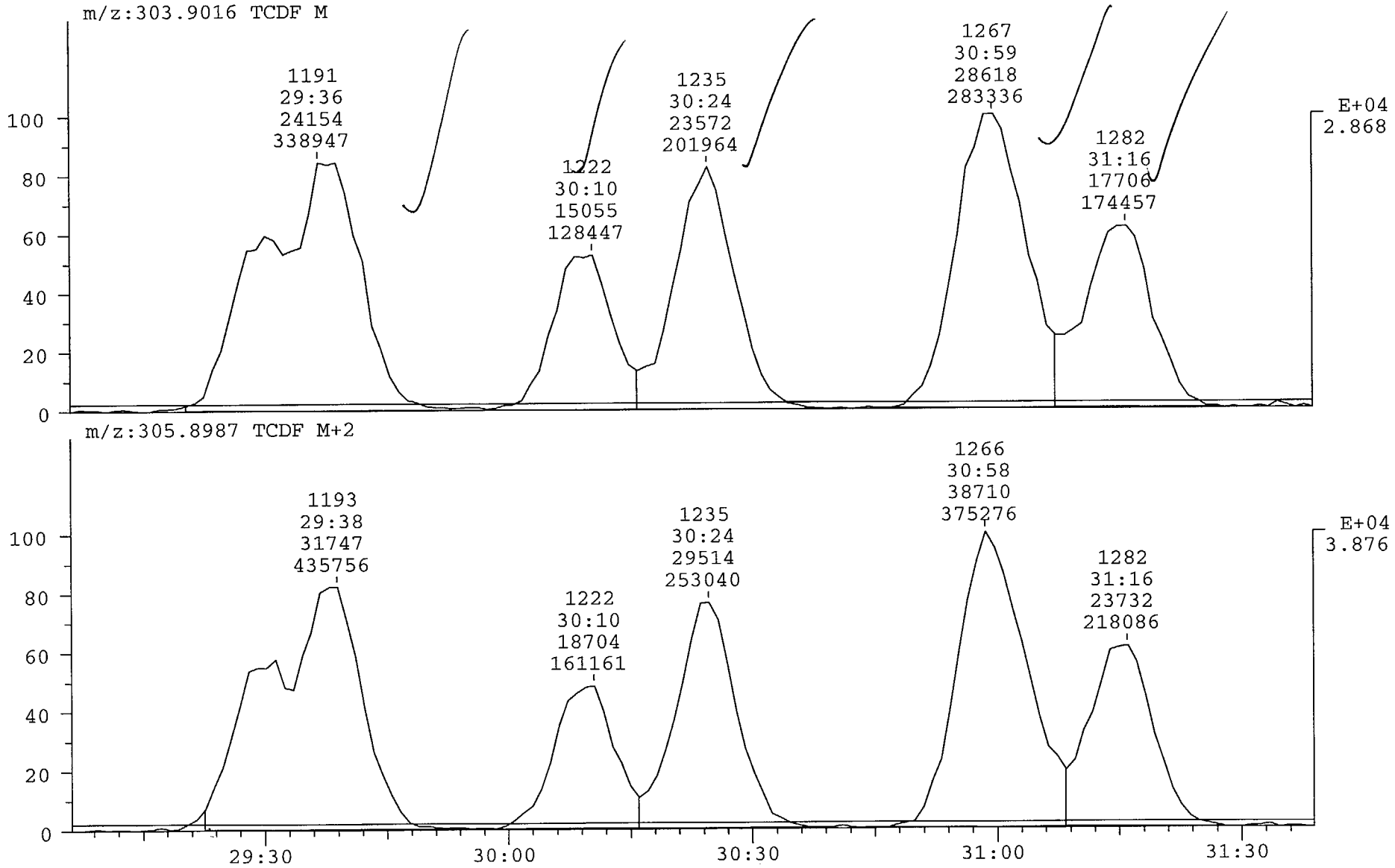
CHRO: bth2h1f 05-May-06 Elapse: 56:46 2705
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 967 > 1087 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



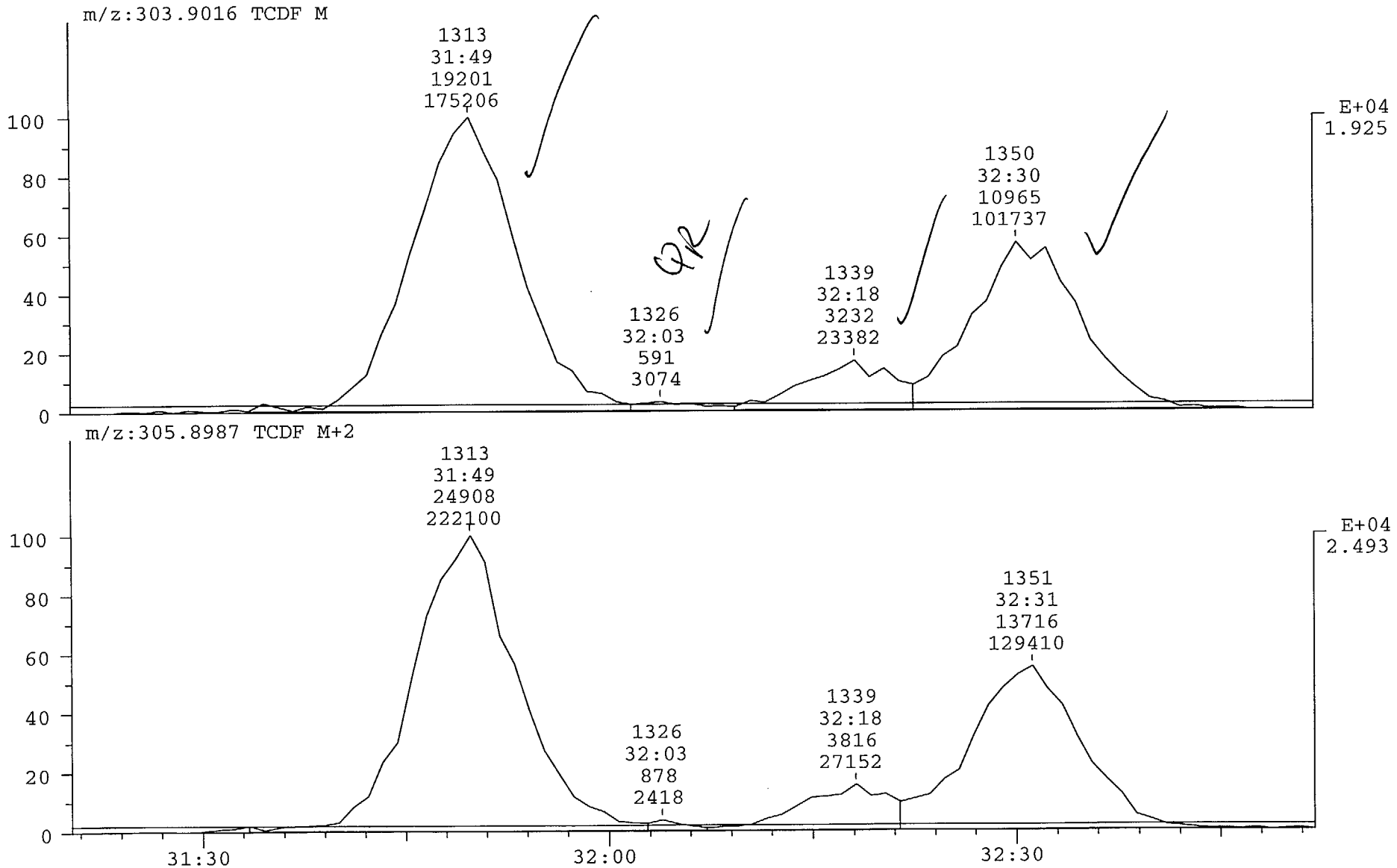
CHRO: bth2h1f 05-May-06 Elapse: 56:46 2705
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 1082 > 1170 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 5 Label : -2, 3.0
Disp: Height Area



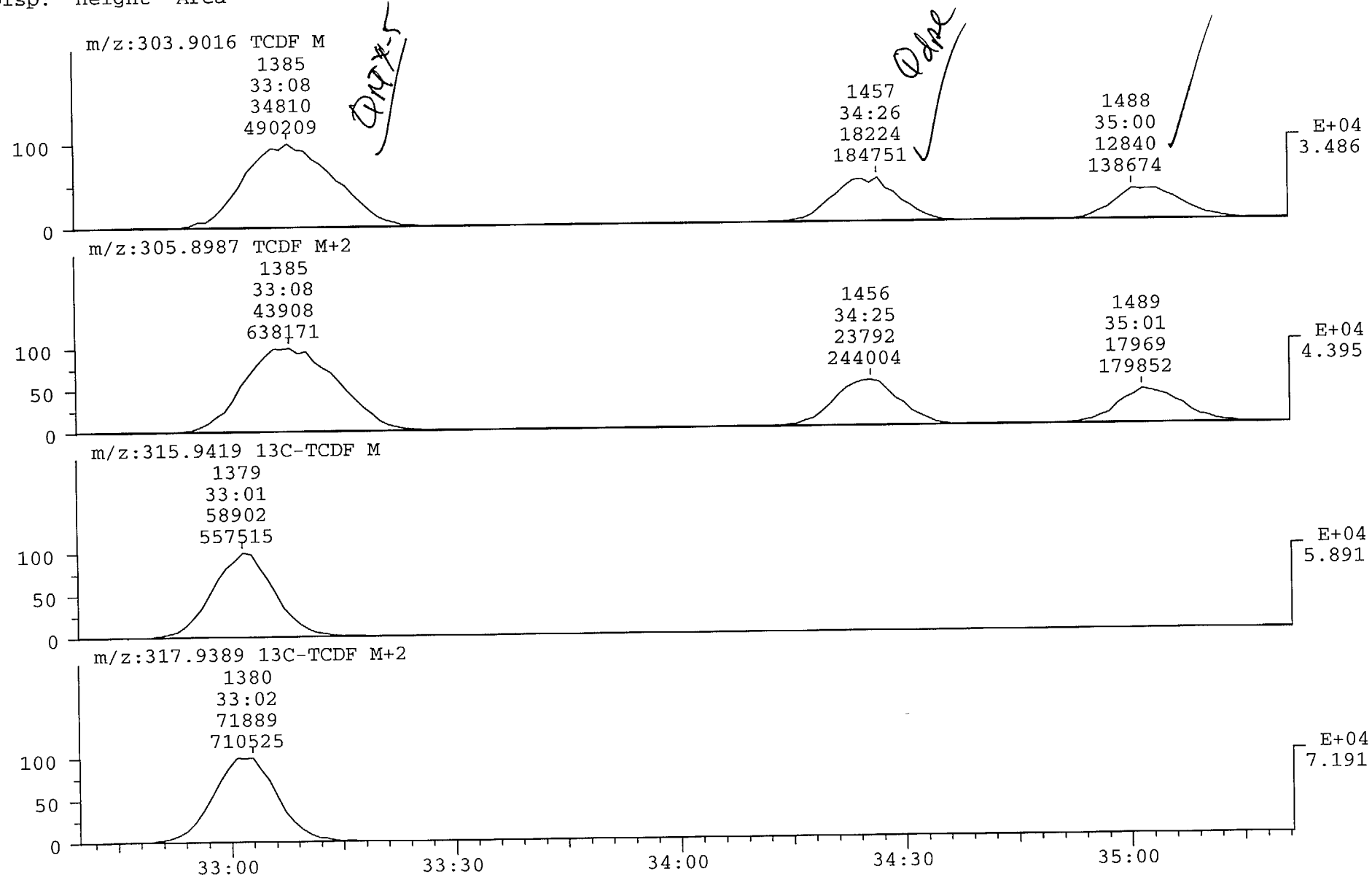
CHRO: bth2h1f 05-May-06 Elapse: 56:46 2705
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 1163 > 1303 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 5 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1f 05-May-06 Elapse: 56:46 2705
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 1286 > 1370 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1f 05-May-06 Elapse: 56:46 2705
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 1359 > 1507 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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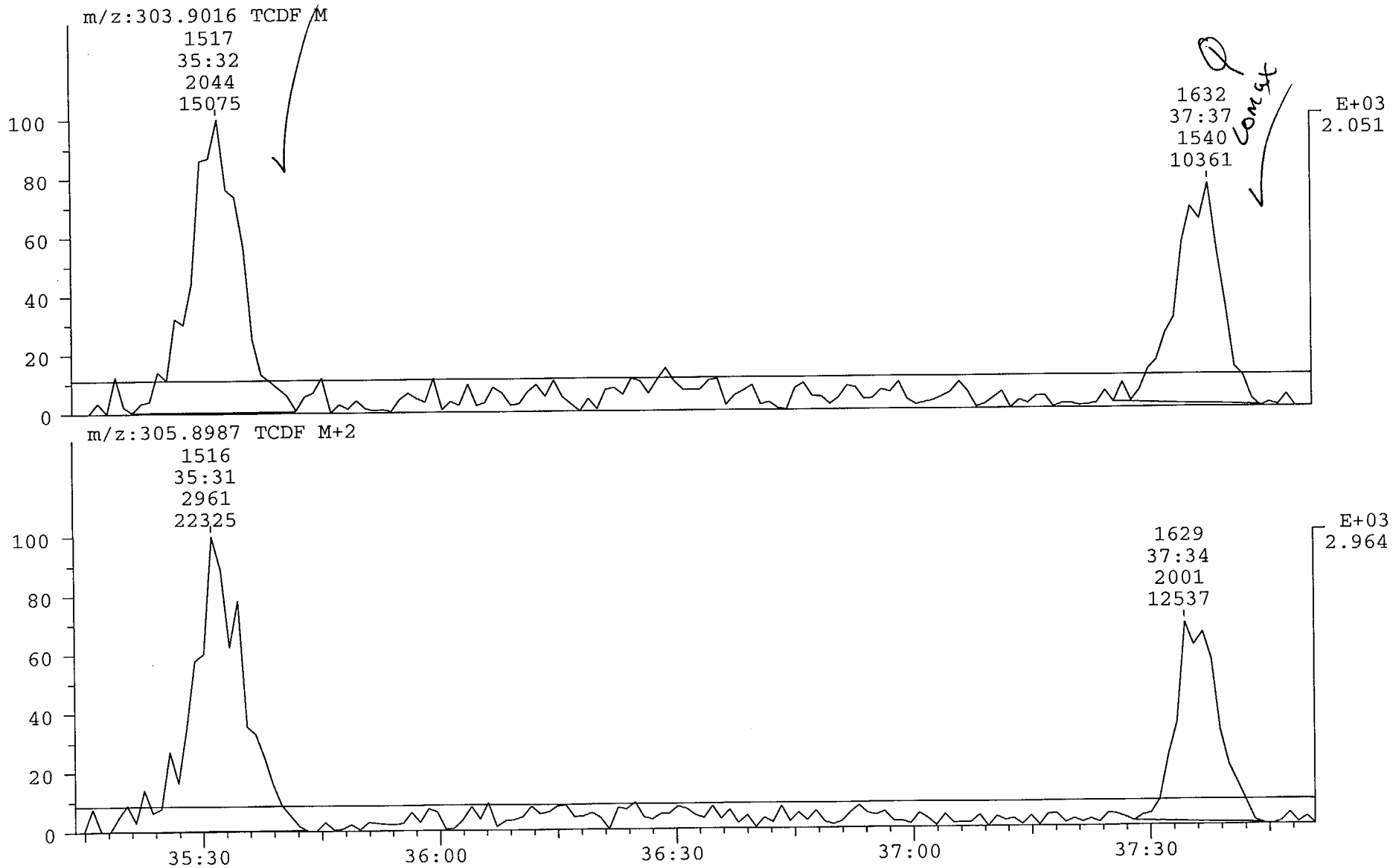
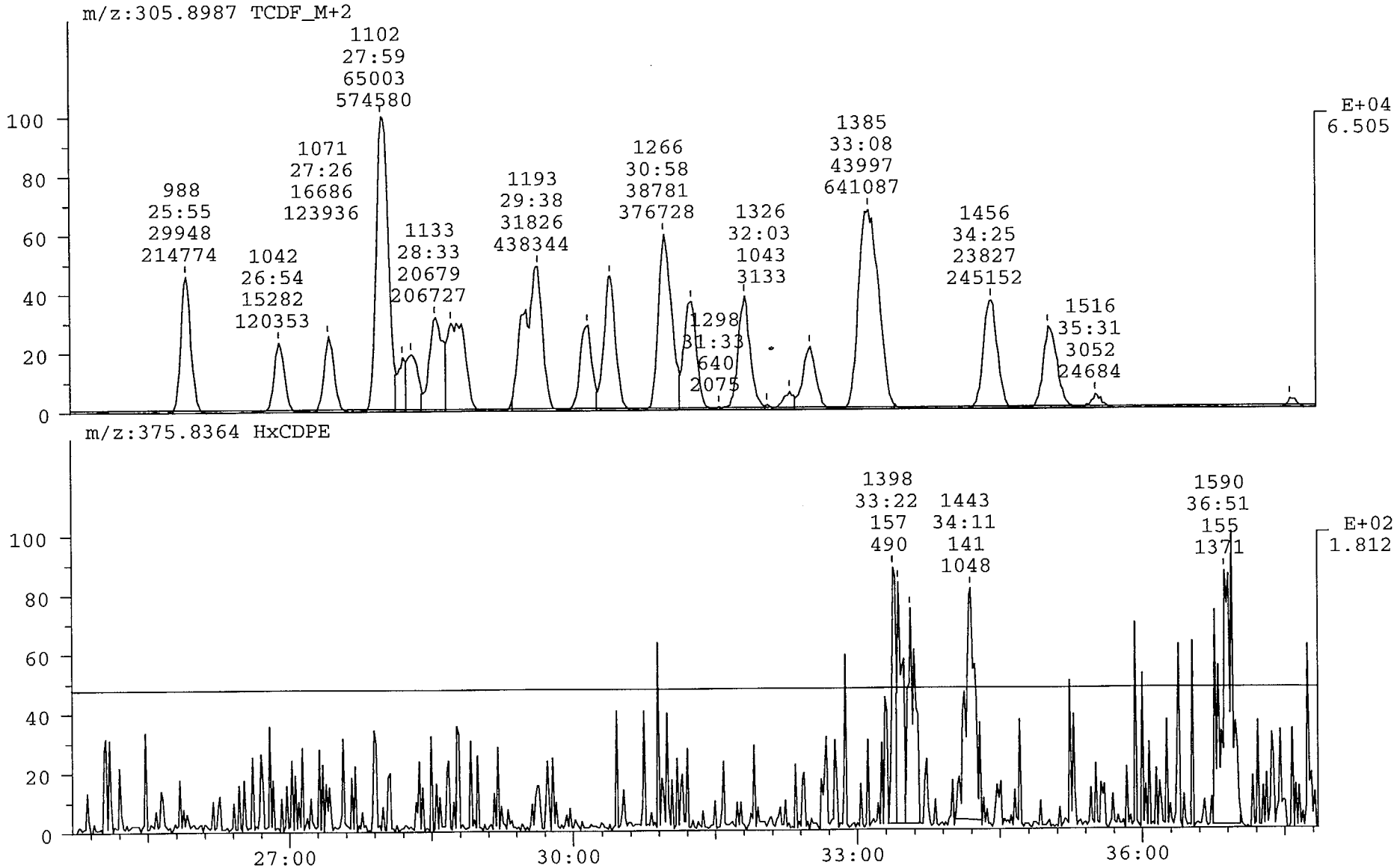
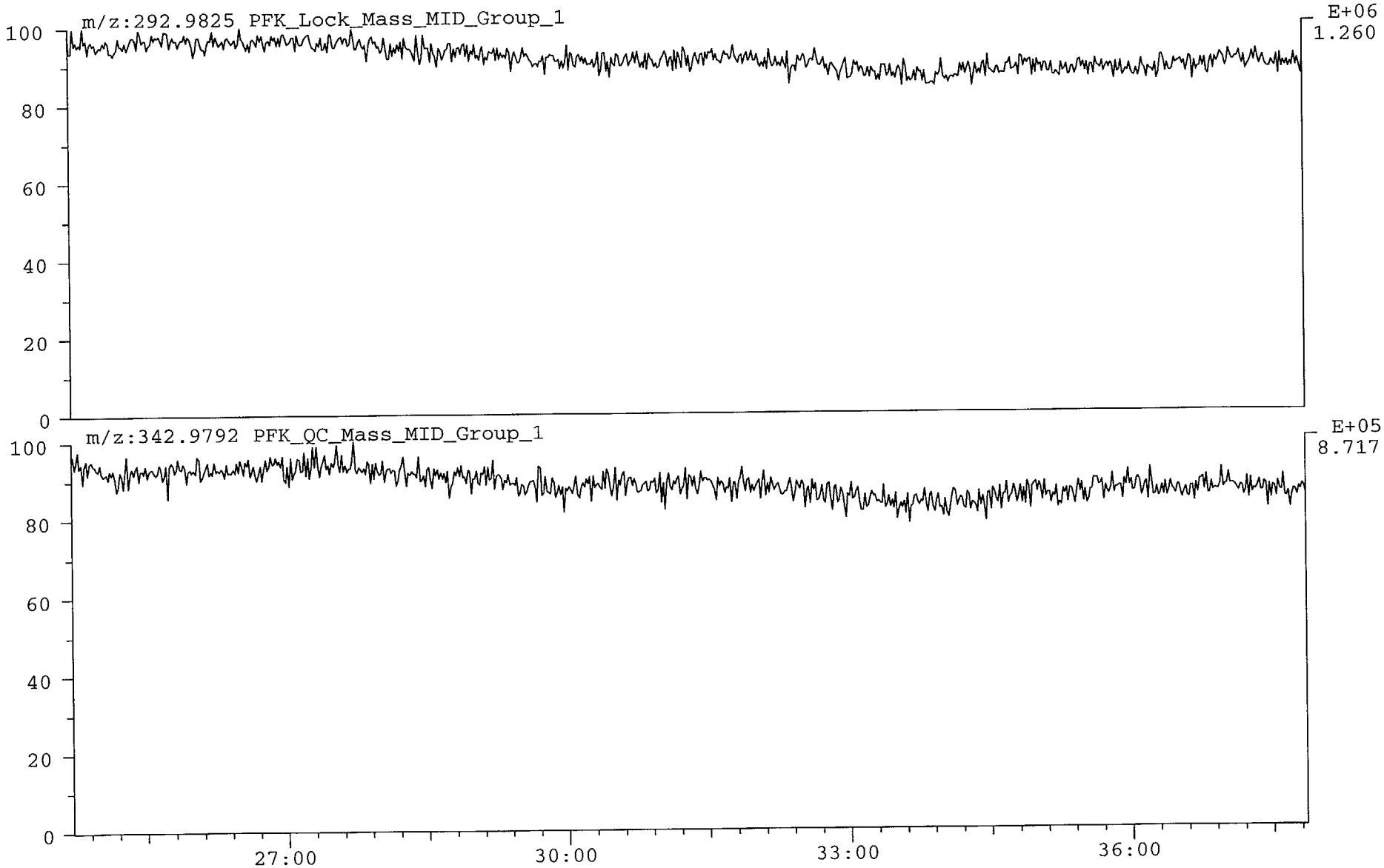
CHRO:  bth2h1f                                  05-May-06   Elapse:  56:46      2705
Samp:  Vial 12 WO=h2h1f1aa Meth=X8 Dil=1                    Start :  05:16:34   2888
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-002                Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   1500 > 1644           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



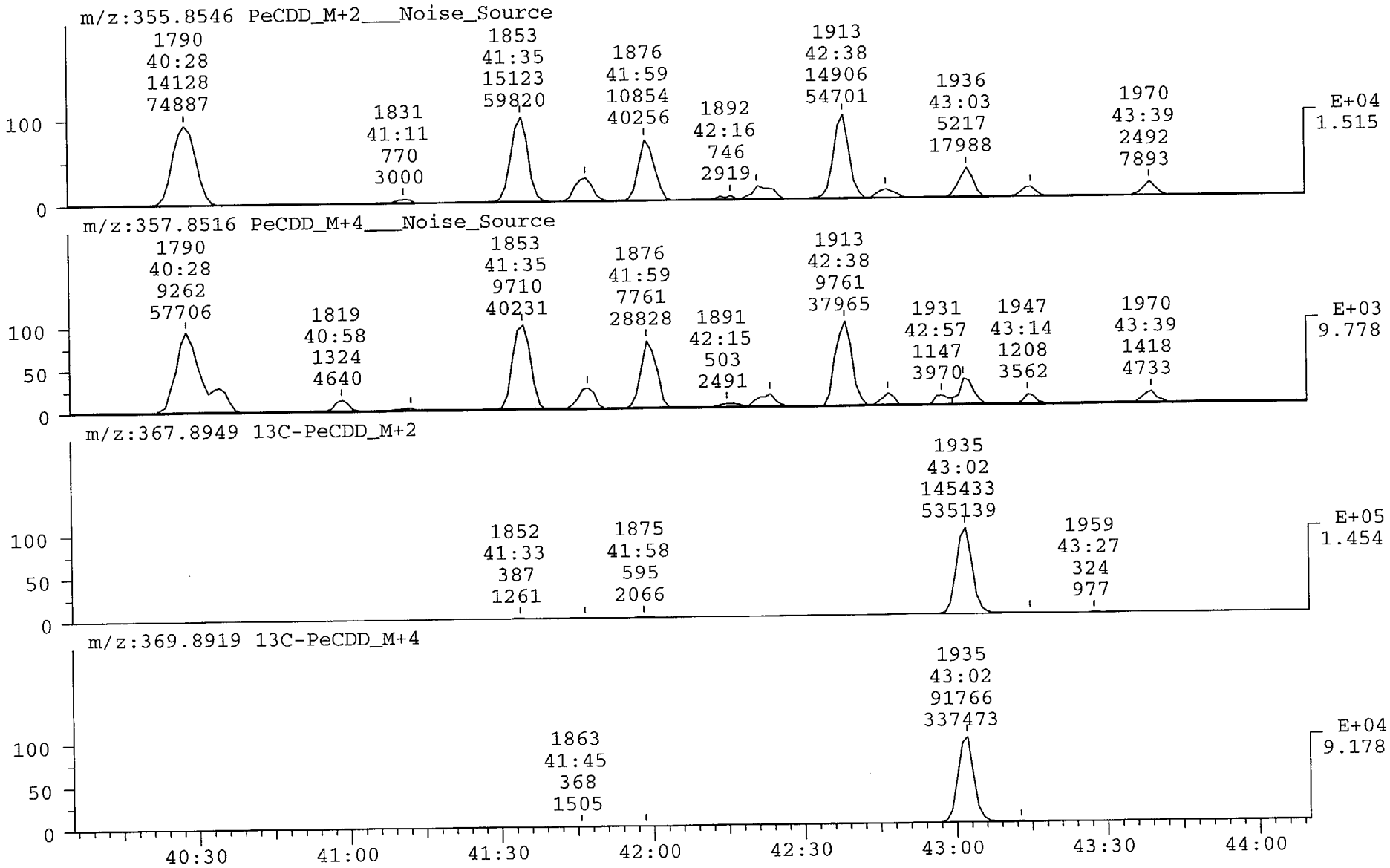
CHRO: bth2h1f 05-May-06 Elapse: 32:56 1374
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 920 > 1644 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1f 05-May-06 Elapse: 32:56 1374
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 920 > 1644 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



CHRO: bth2h1f 05-May-06 Elapse: 32:56 1374
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 1768 > 1999 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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CHRO:  bth2h1f                                  05-May-06   Elapse:  42:55      1929
Samp:  Vial 12 WO=h2h1f1aa Meth=X8 Dil=1                    Start :  05:16:34   2888
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-002                Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   1893 > 1972           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
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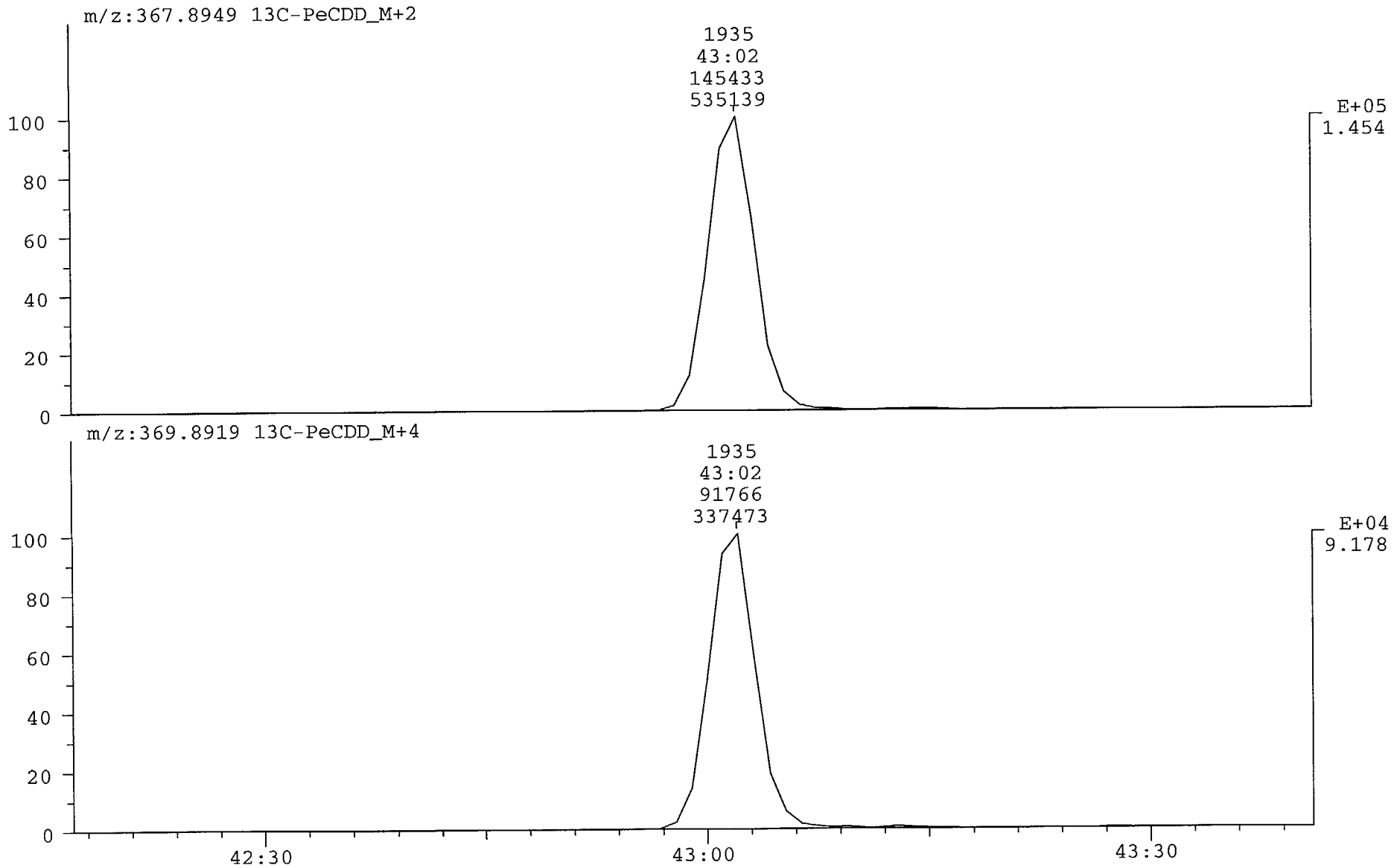
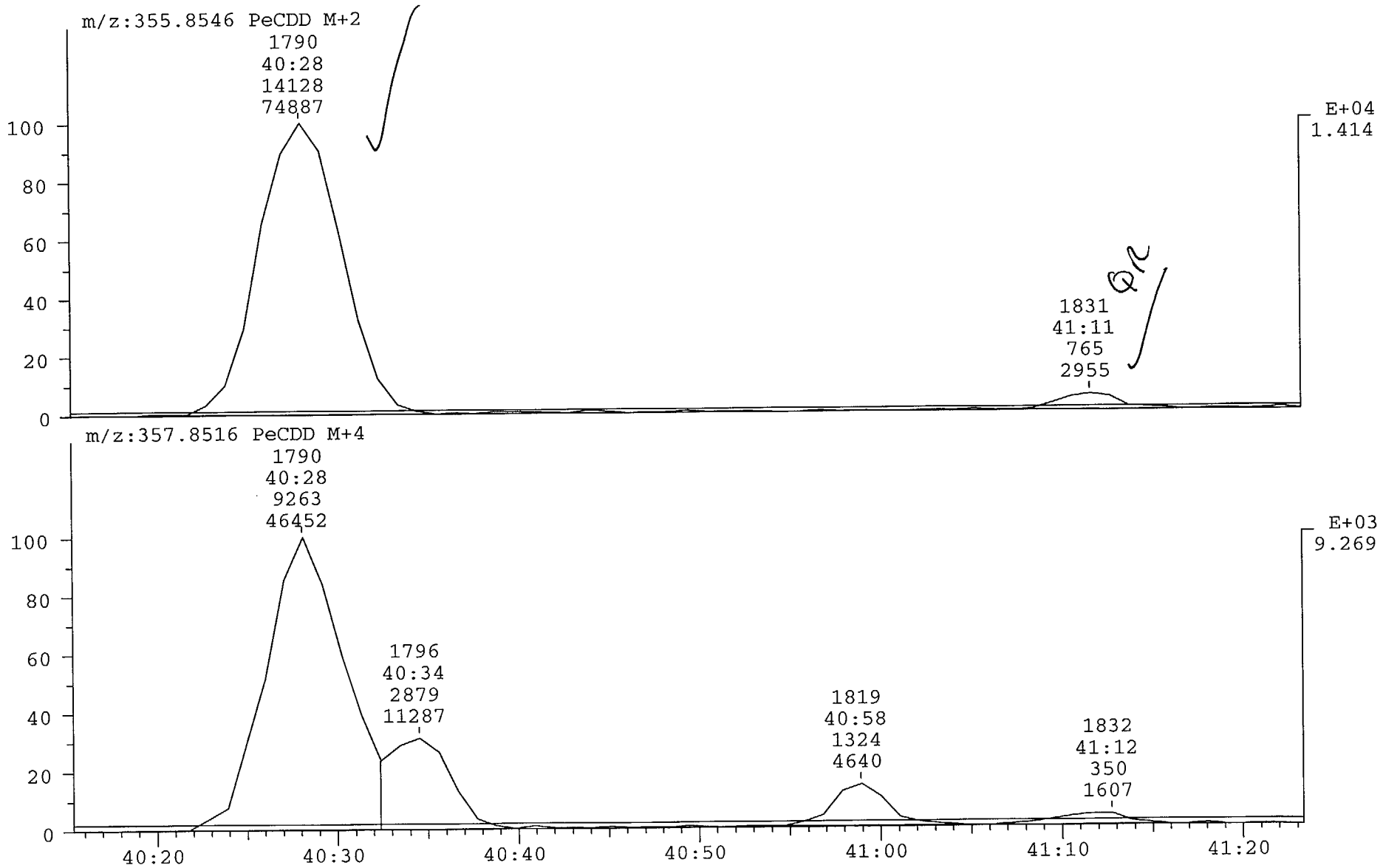
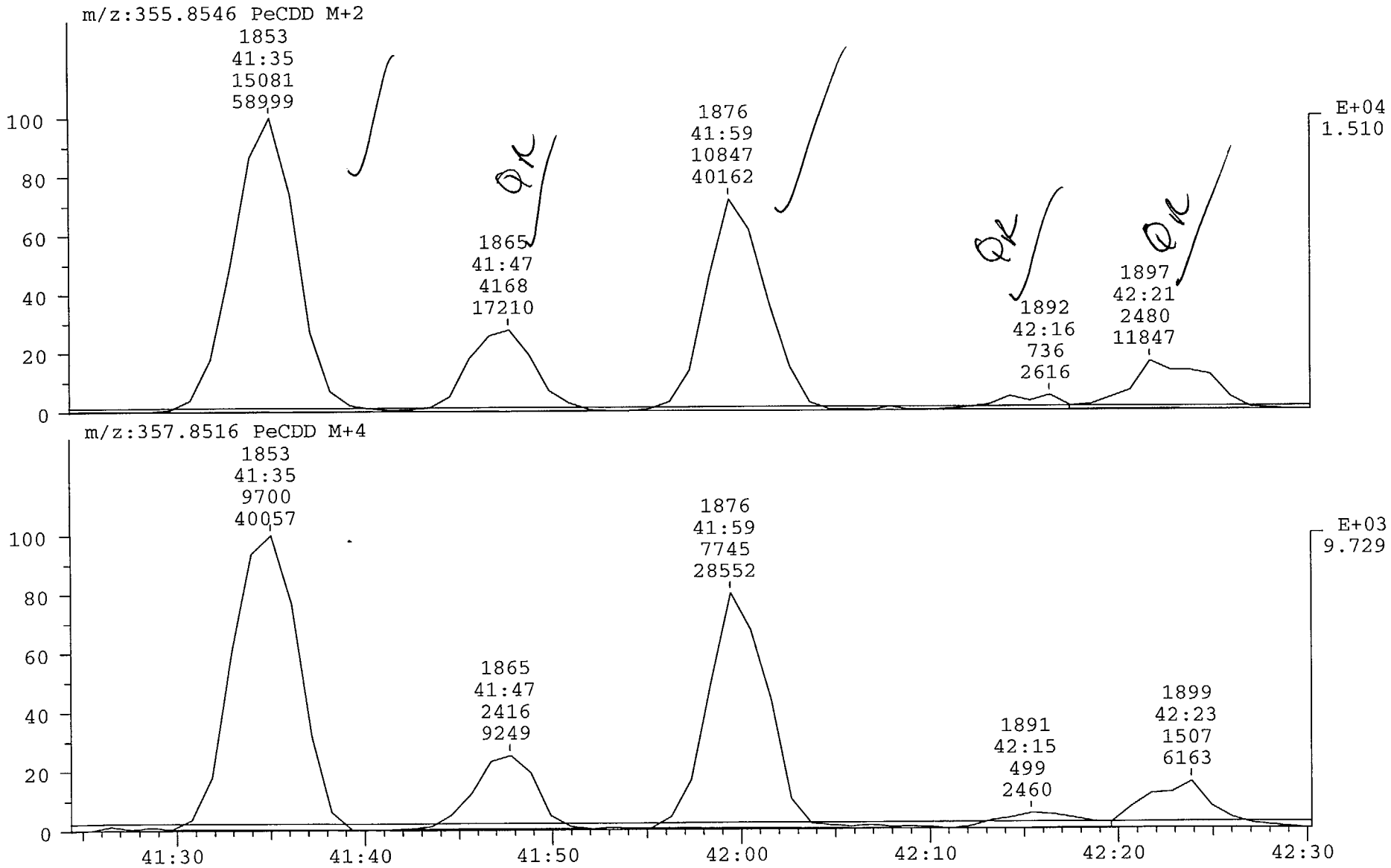


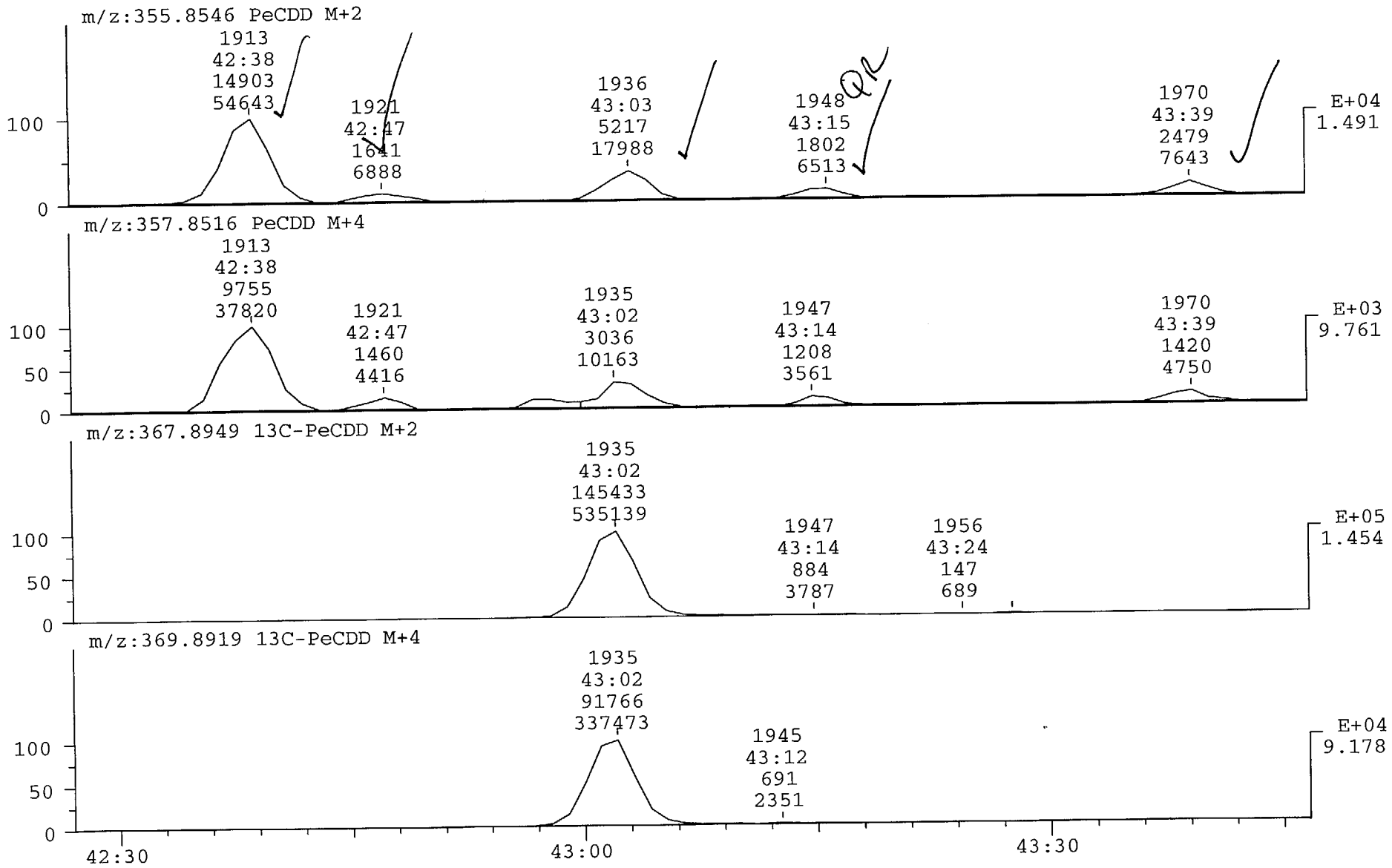
CHRO: bth2h1f 05-May-06 Elapse: 56:46 2705
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 1000 > 3500 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 2 Label : -2, 3.0
Disp: Height Area



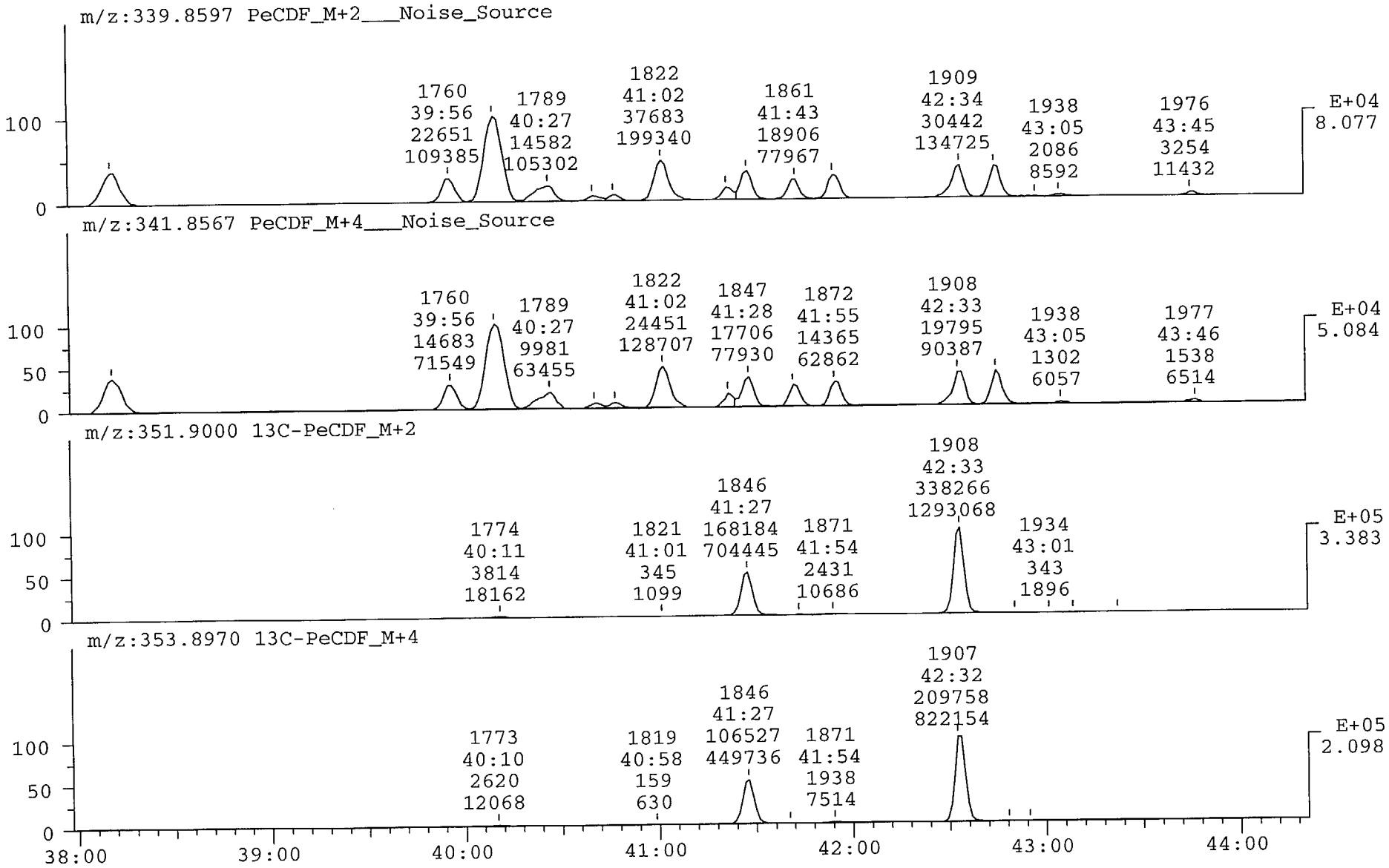
CHRO: bth2h1f 05-May-06 Elapse: 56:46 2705
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 1000 > 3500 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1f 05-May-06 Elapse: 56:46 2705
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 1000 > 3500 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1f 05-May-06 Elapse: 42:55 1929
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 1649 > 2009 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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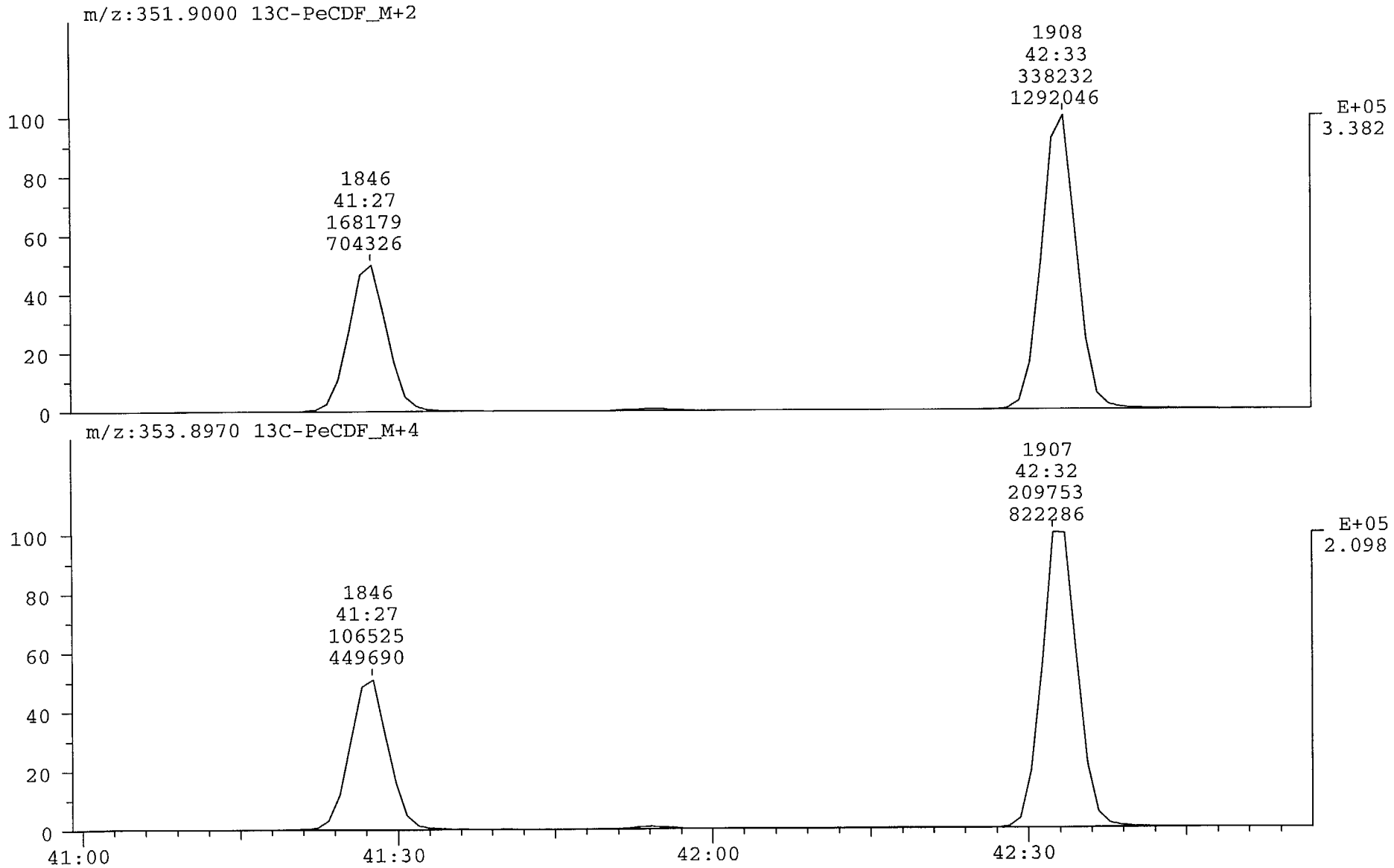
CHRO:  bth2h1f                                  05-May-06   Elapse:  41:58      1875
Samp:  Vial 12 WO=h2h1f1aa Meth=X8 Dil=1                    Start :  05:16:34   2888
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-002                Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   1819 > 1930           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



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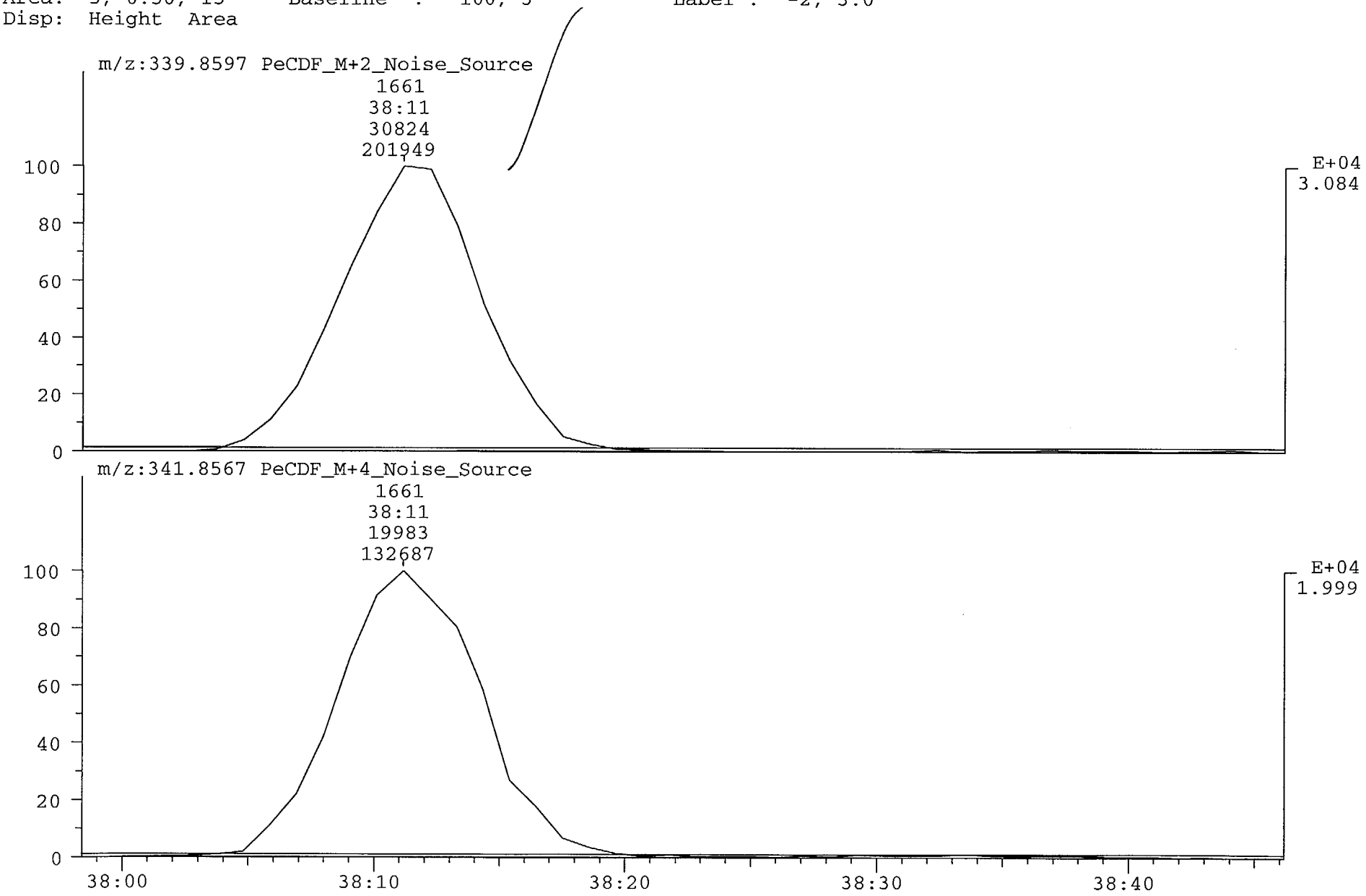
CHRO:  bth2h1f                                05-May-06  Elapse:  56:46      2705
Samp:  Vial 12 WO=h2h1f1aa Meth=X8 Dil=1                 Start :  05:16:34   2888
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-002               Inlet :  GC     Vial  12
Peak:  100.00  ppm     Label wndw:   1649 > 1694         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



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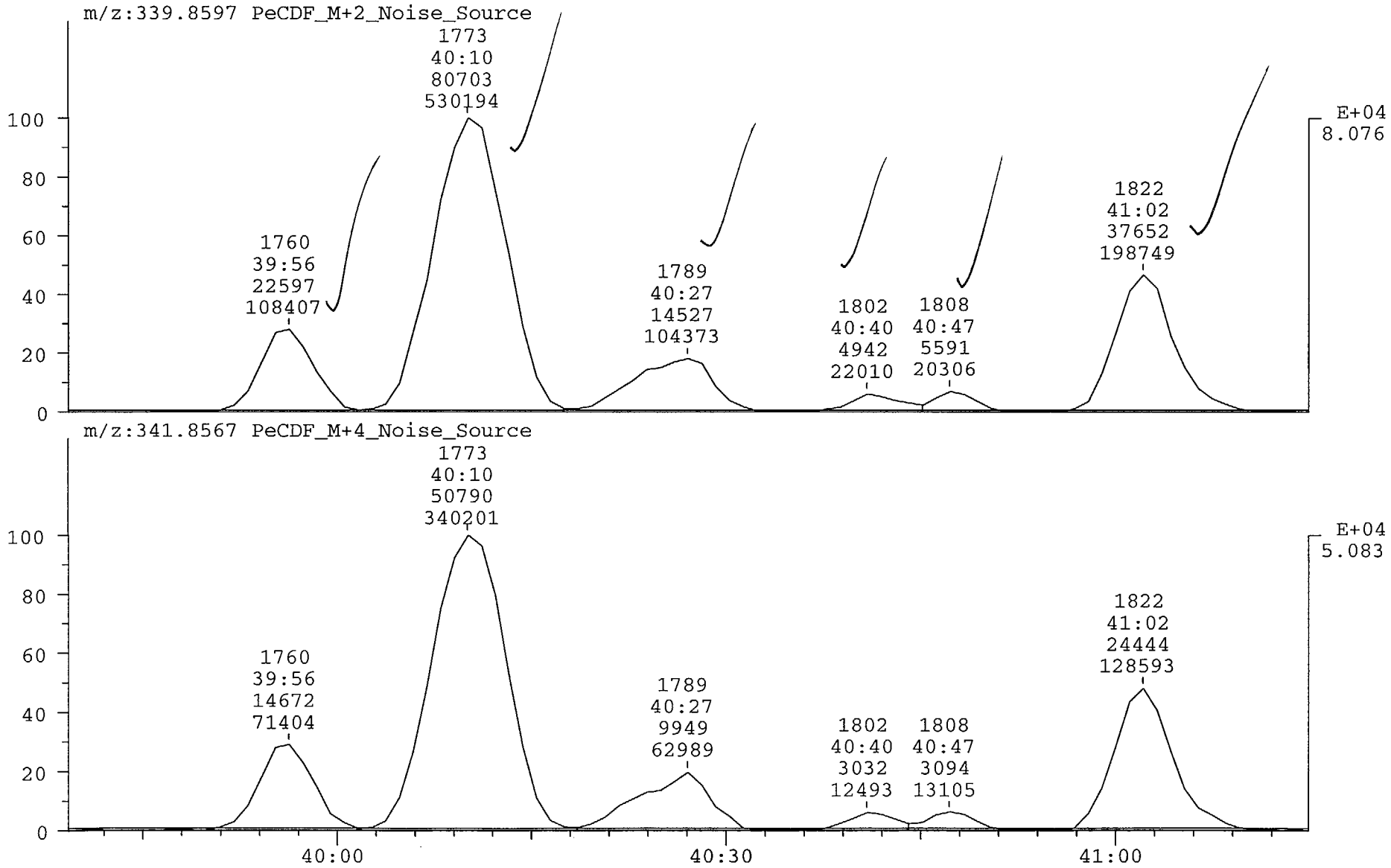
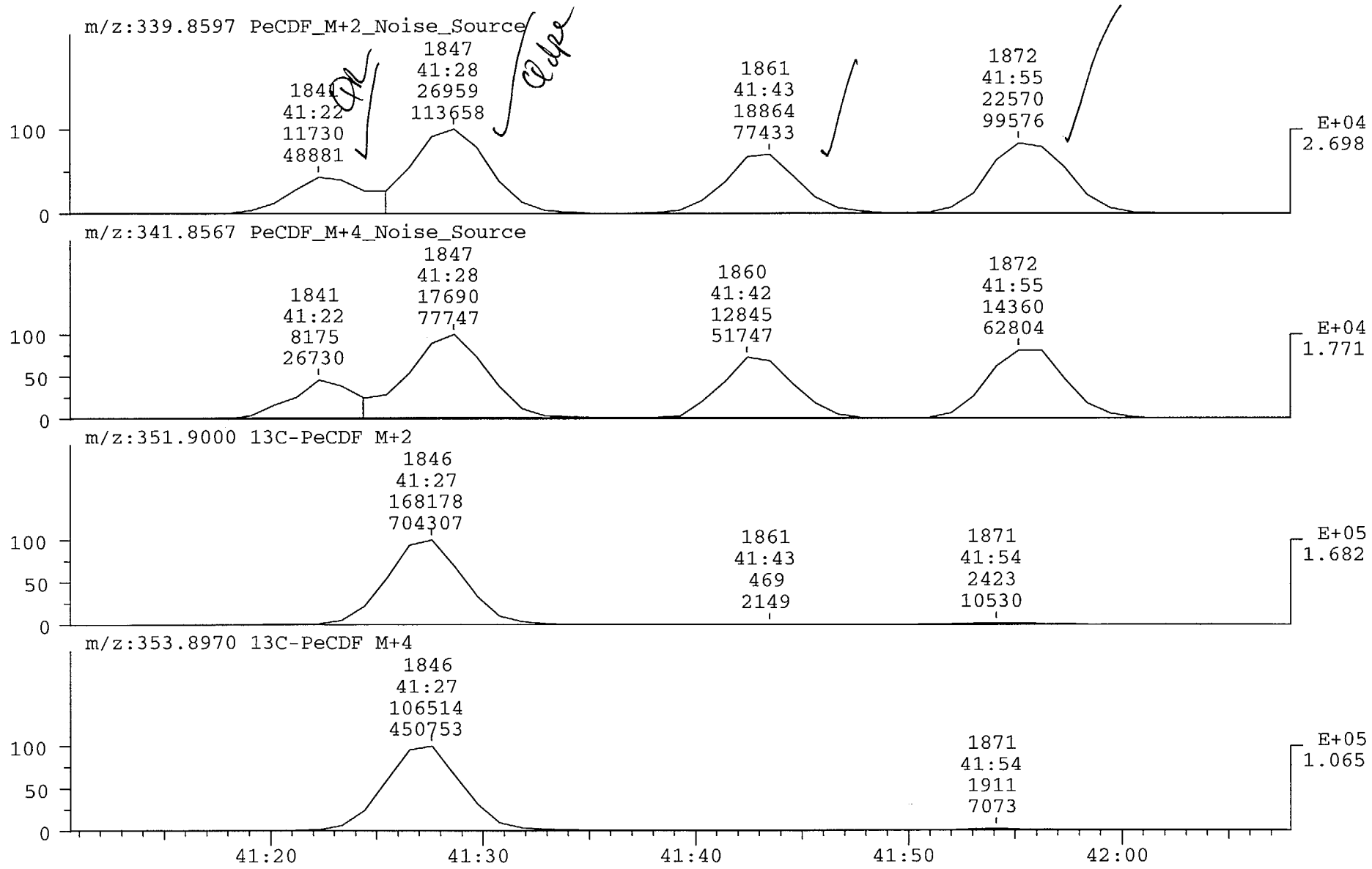
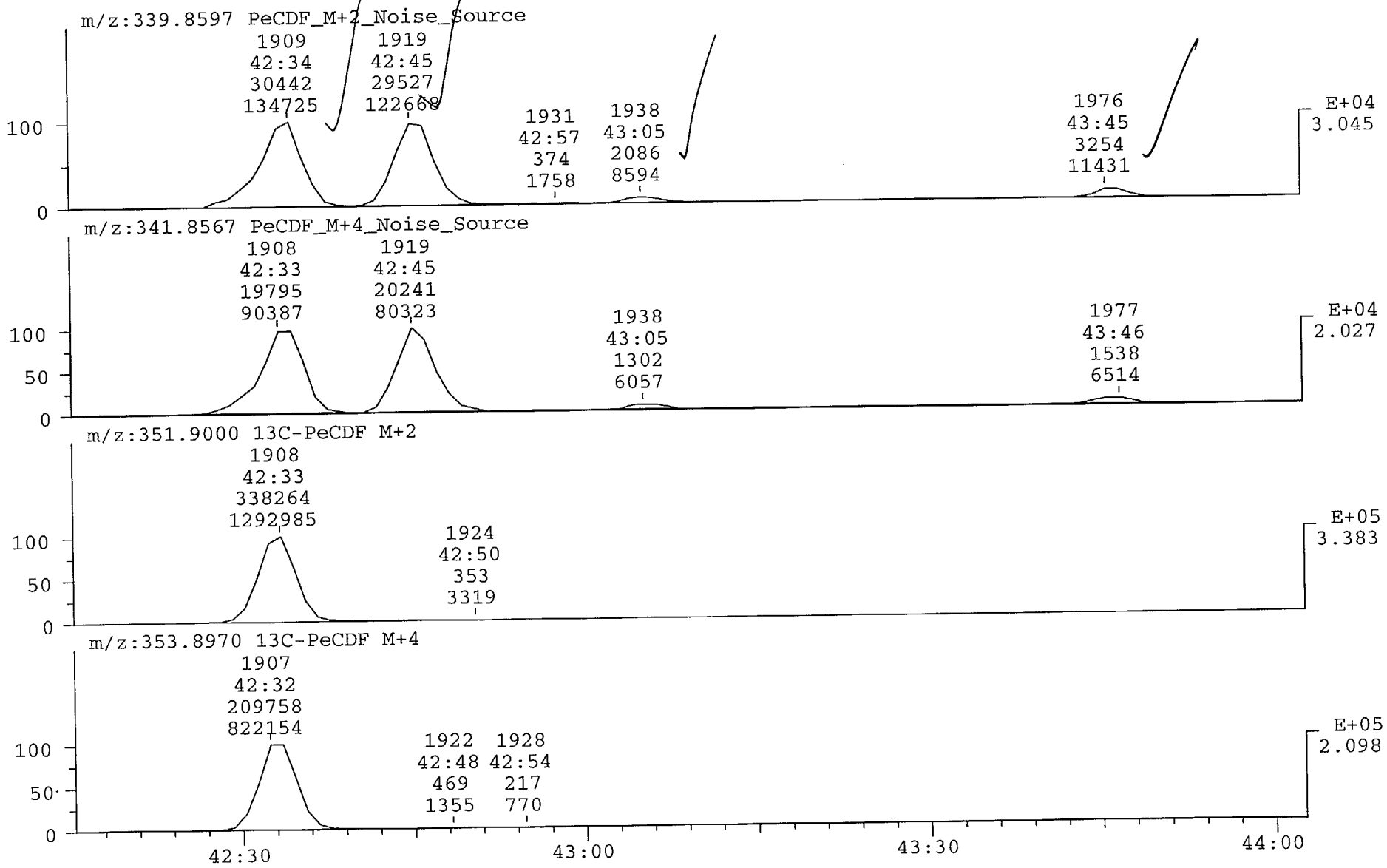
CHRO:  bth2h1f                                05-May-06  Elapse:  56:46      2705
Samp:  Vial 12 WO=h2h1f1aa Meth=X8 Dil=1                 Start :  05:16:34   2888
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-002             Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   1744 > 1834        Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: bth2h1f 05-May-06 Elapse: 56:46 2705
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 1830 > 1884 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1f 05-May-06 Elapse: 56:46 2705
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 1891 > 1992 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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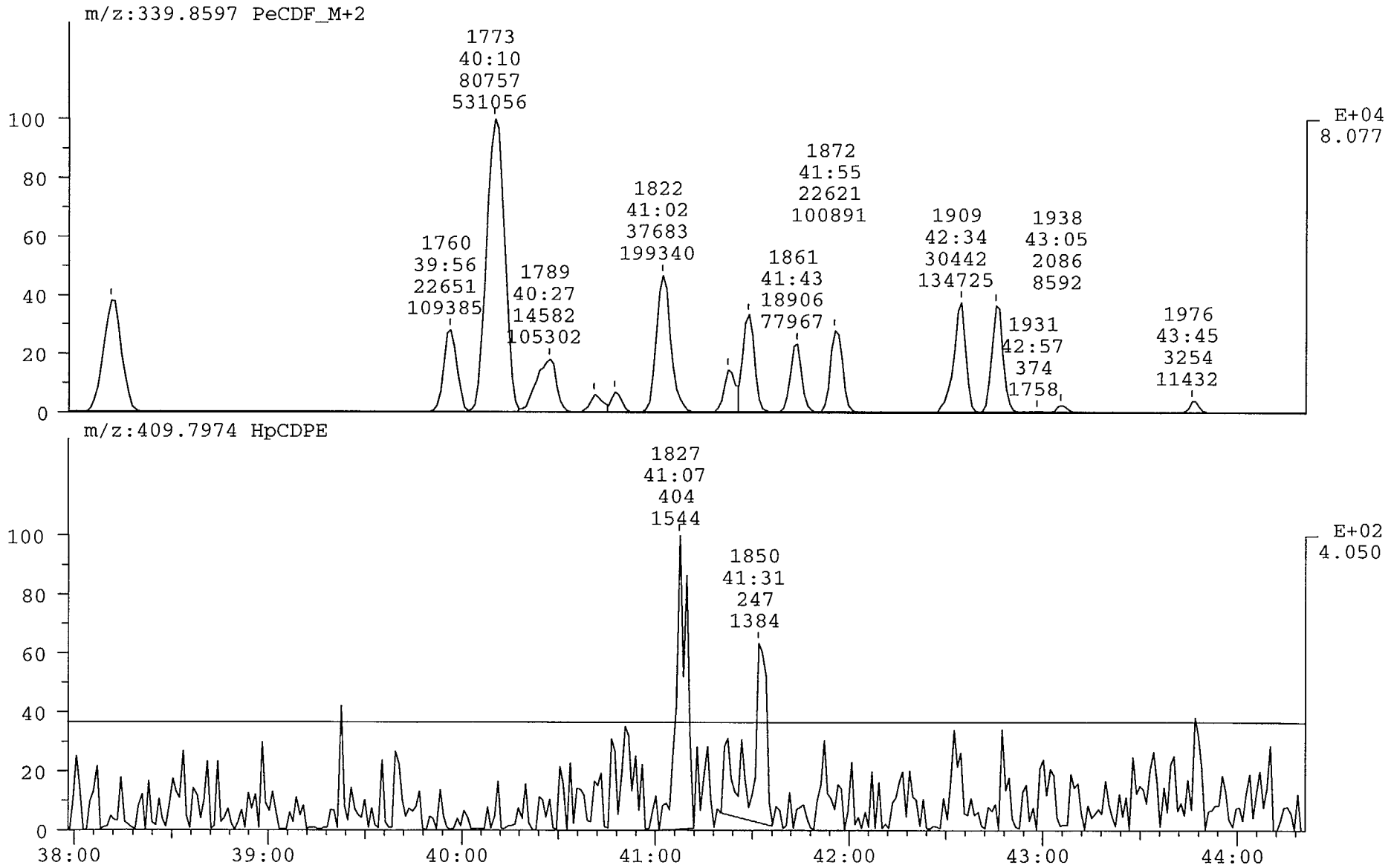
CHRO:  bth2h1f                                05-May-06  Elapse:  41:58      1875
Samp:  Vial 12 WO=h2h1f1aa Meth=X8 Dil=1                 Start :  05:16:34   2888
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-002               Inlet :  GC     Vial  12
Peak:  100.00  ppm     Label wndw:   1649 > 2009         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



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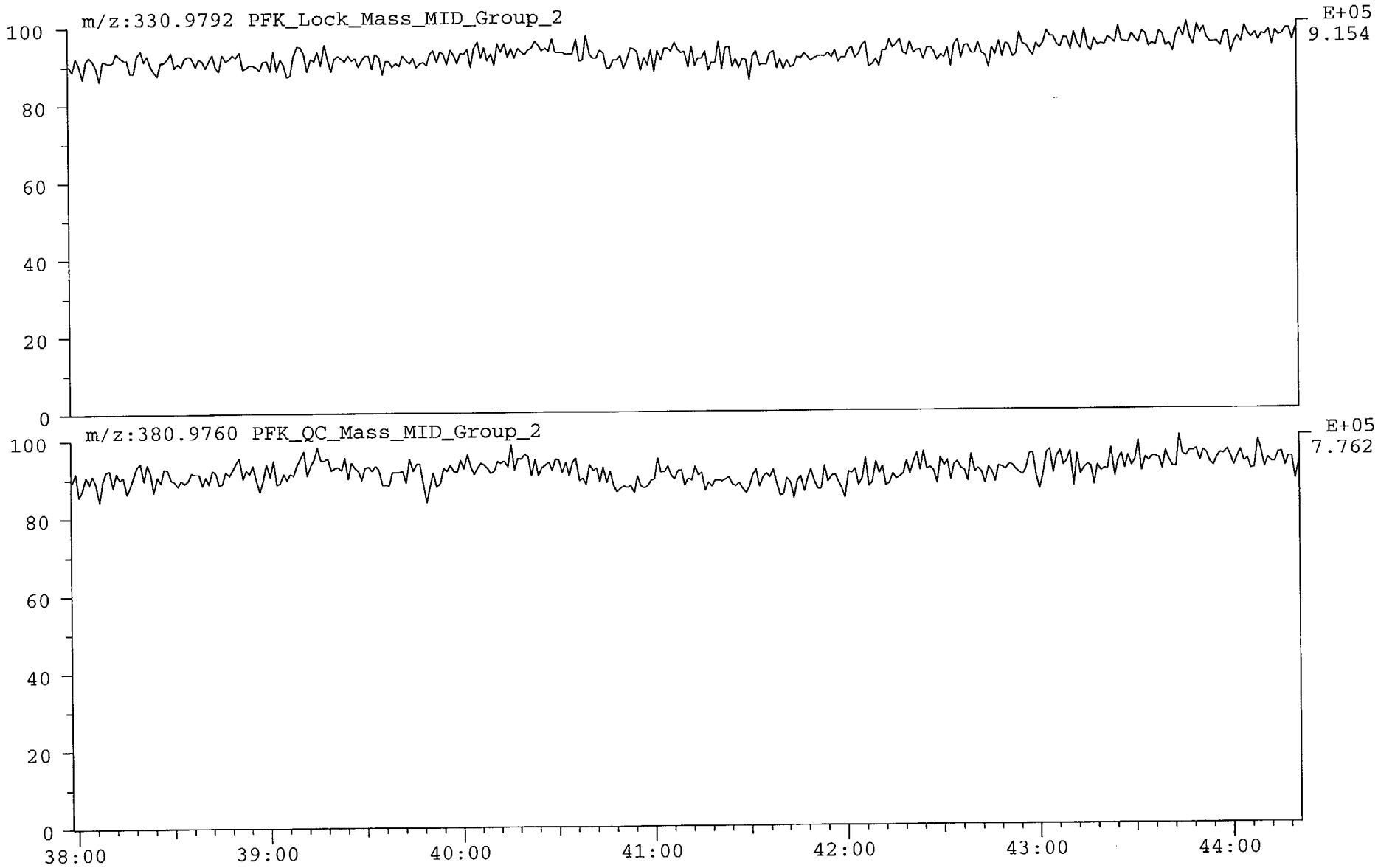
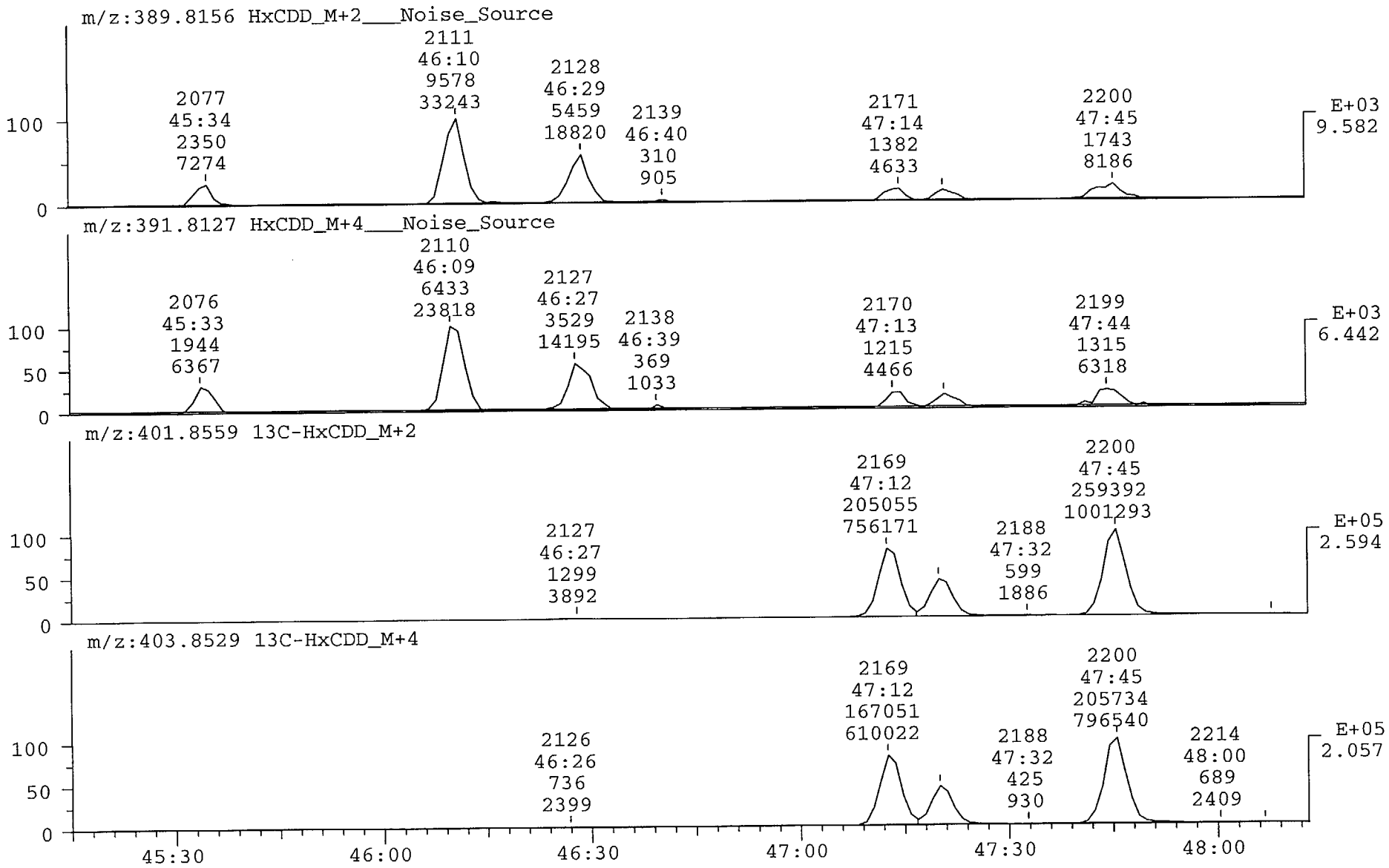
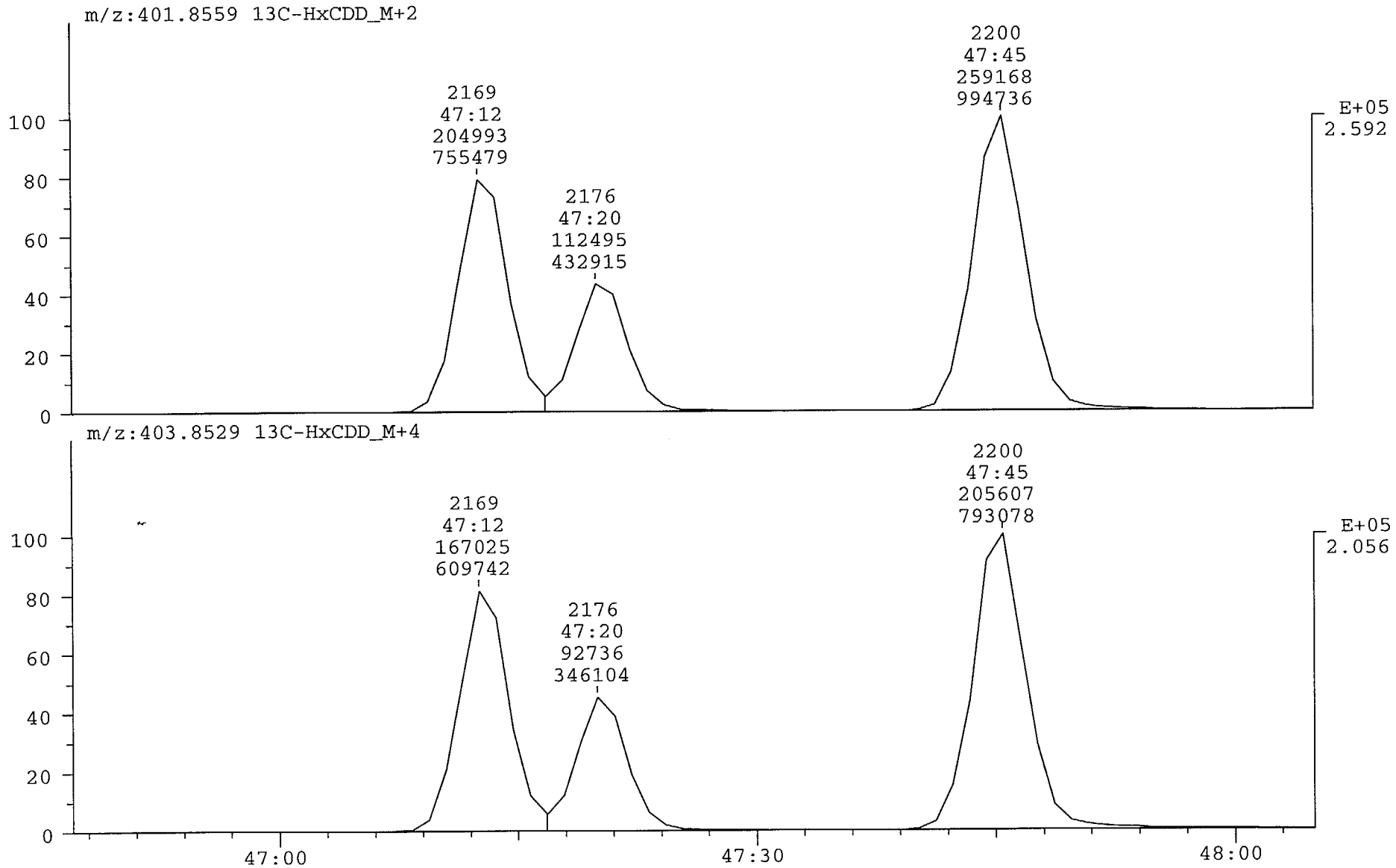
CHRO:  bth2h1f                                  05-May-06   Elapse:  41:58      1875
Samp:  Vial 12 WO=h2h1f1aa Meth=X8 Dil=1                    Start :  05:16:34   2888
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-002                Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   1649 > 2009           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```



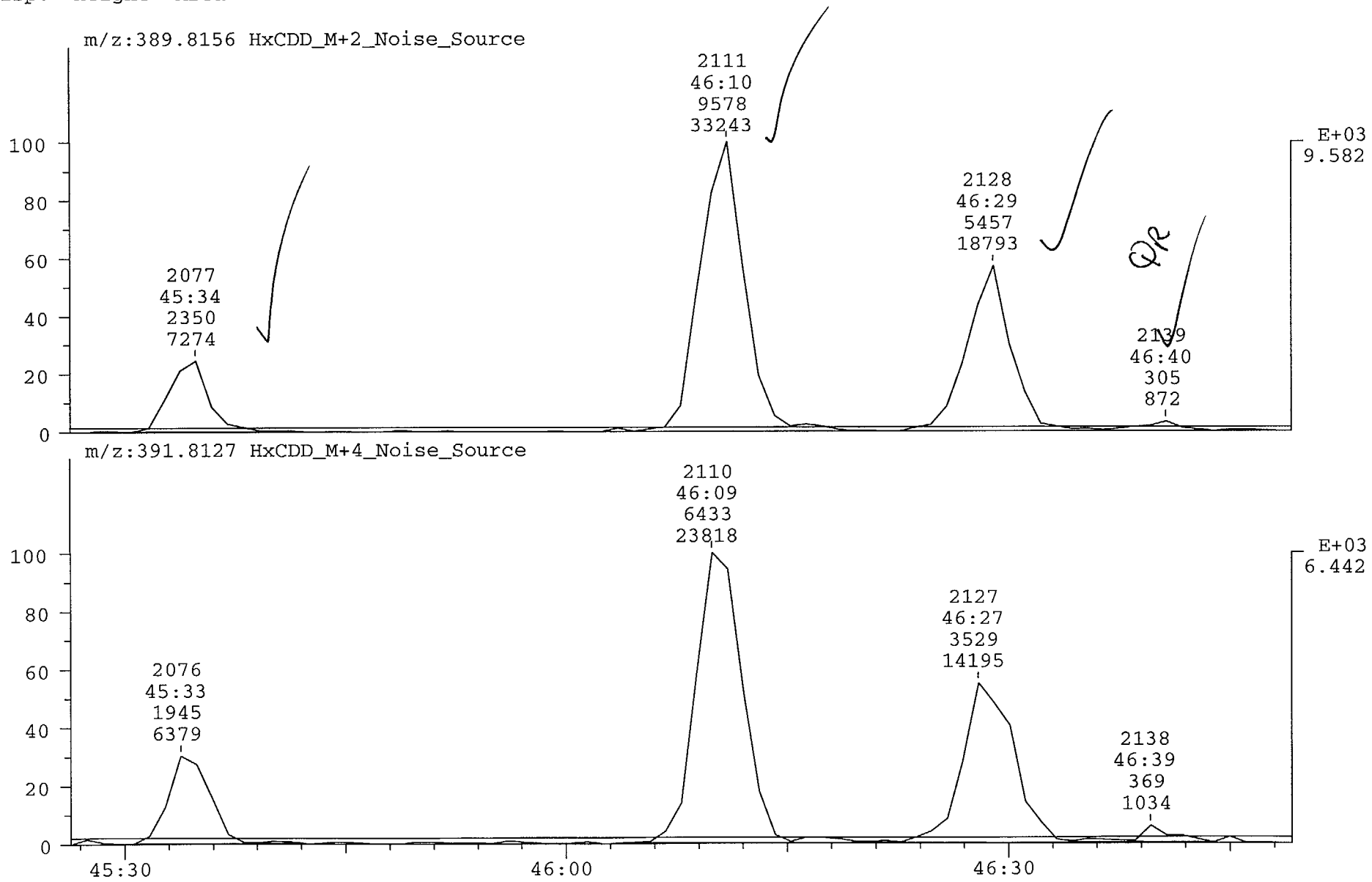
CHRO: bth2h1f 05-May-06 Elapse: 41:58 1875
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2058 > 2226 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



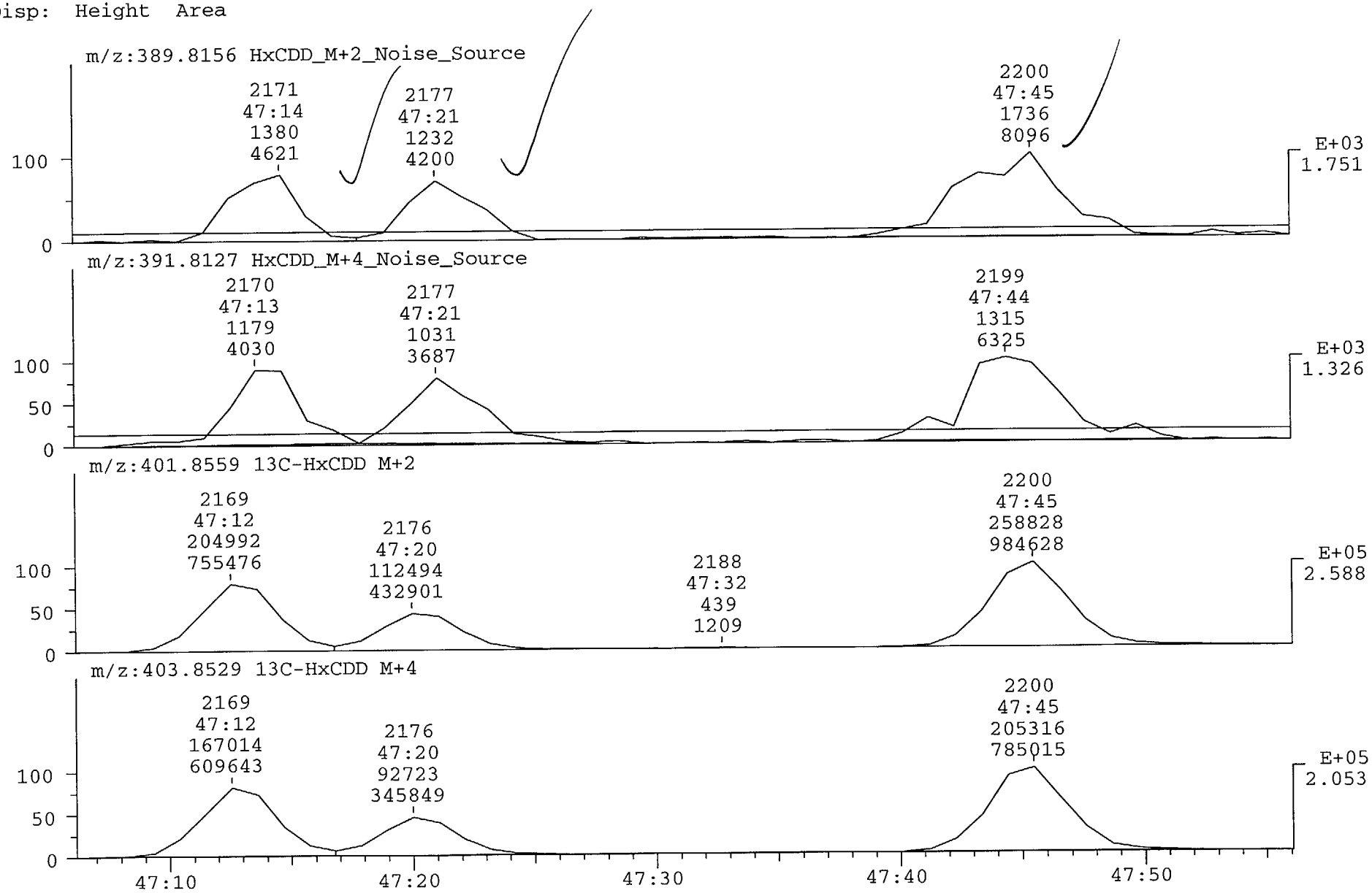
CHRO: bth2h1f 05-May-06 Elapse: 47:26 2182
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2145 > 2218 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1f 05-May-06 Elapse: 56:46 2705
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2069 > 2147 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1f 05-May-06 Elapse: 56:46 2705
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2163 > 2210 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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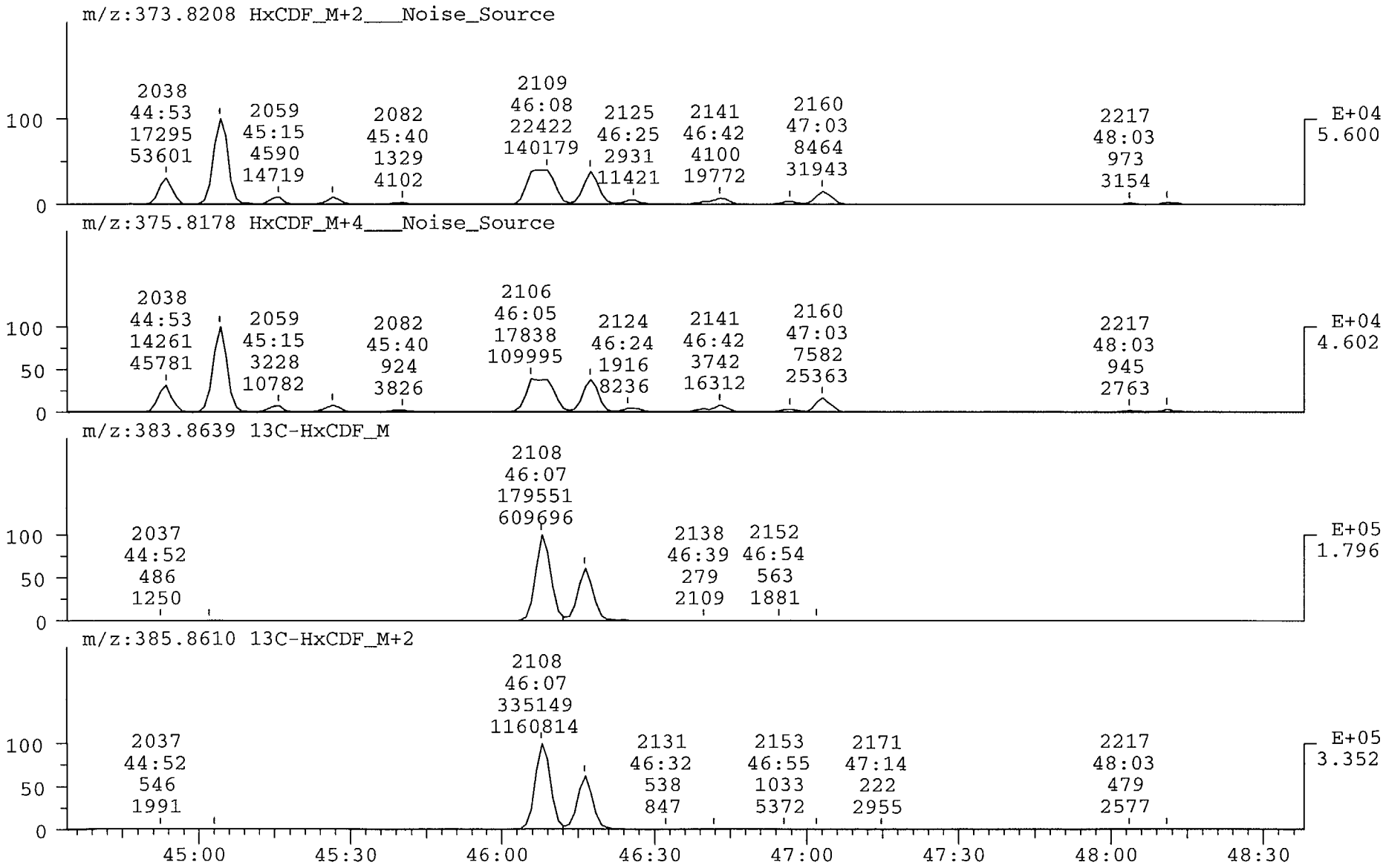
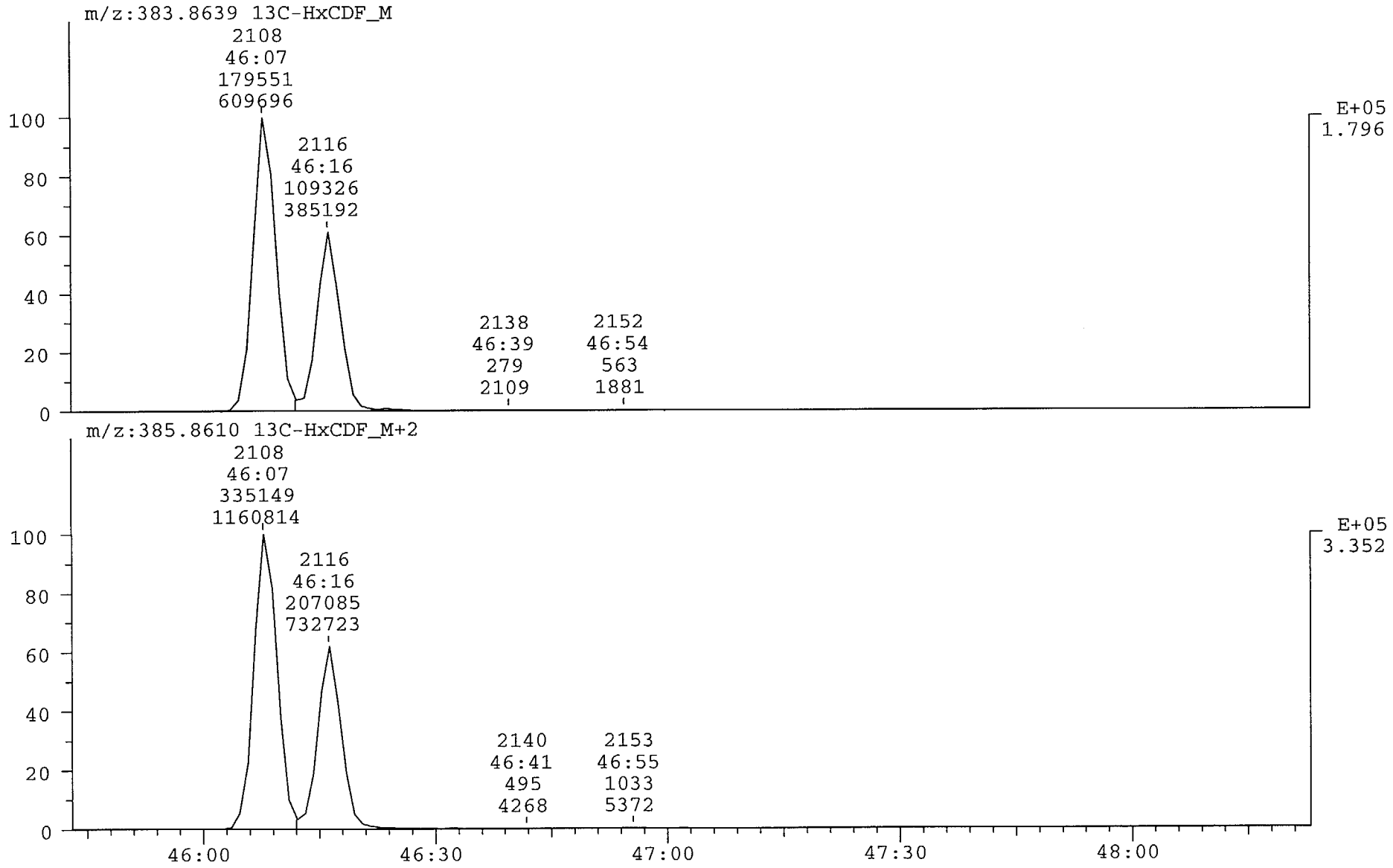
CHRO:  bth2h1f                                05-May-06   Elapse:  47:26      2182
Samp:  Vial 12 WO=h2h1f1aa Meth=X8 Dil=1                  Start :  05:16:34   2888
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-002              Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   2020 > 2249         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: bth2h1f 05-May-06 Elapse: 47:03 2160
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2085 > 2235 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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CHRO:  bth2h1f                                05-May-06  Elapse:  56:46      2705
Samp:  Vial 12 WO=h2h1f1aa Meth=X8 Dil=1                 Start :  05:16:34   2888
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-002             Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   2032 > 2088        Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  -2, 3.0
Disp:  Height  Area
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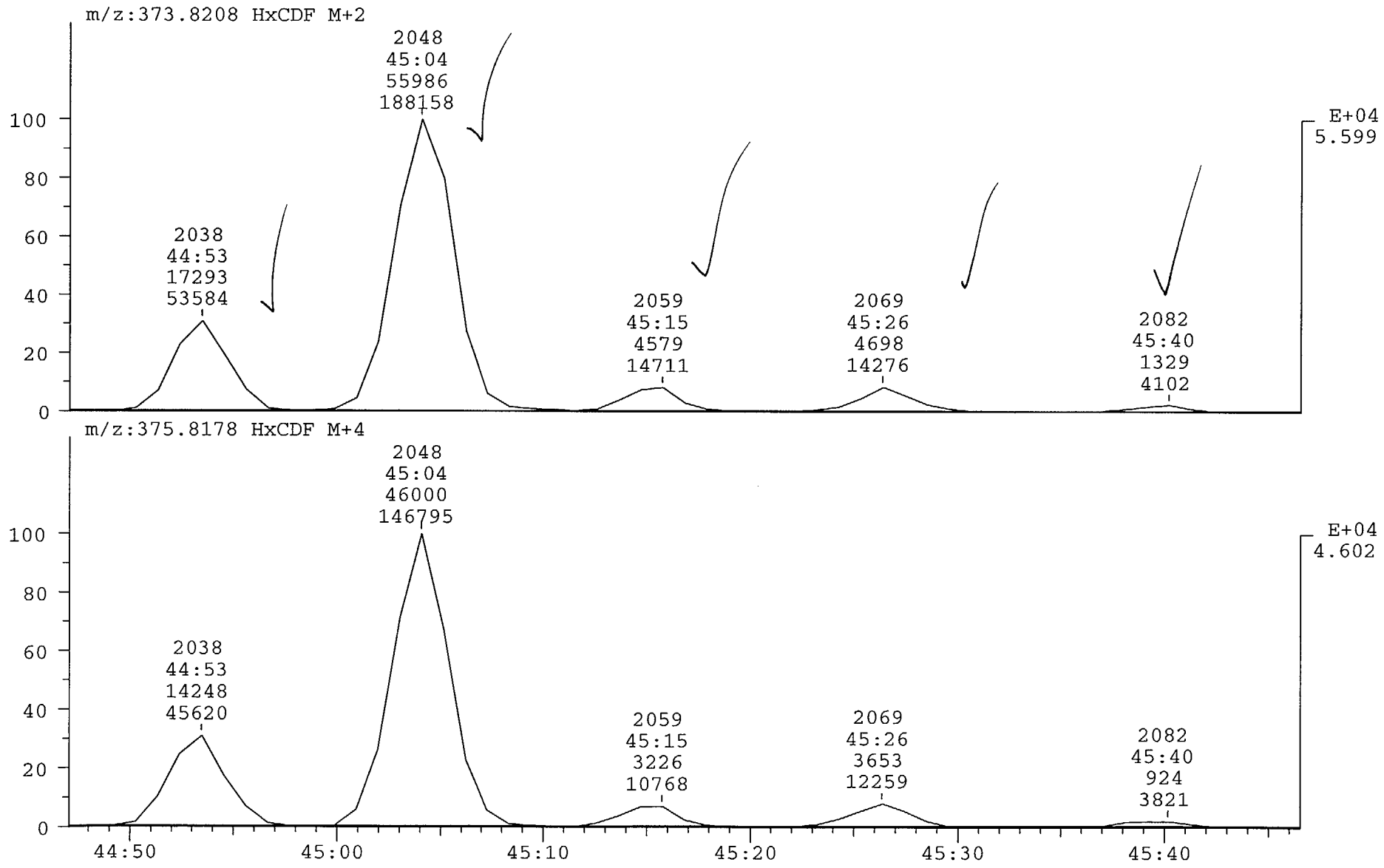
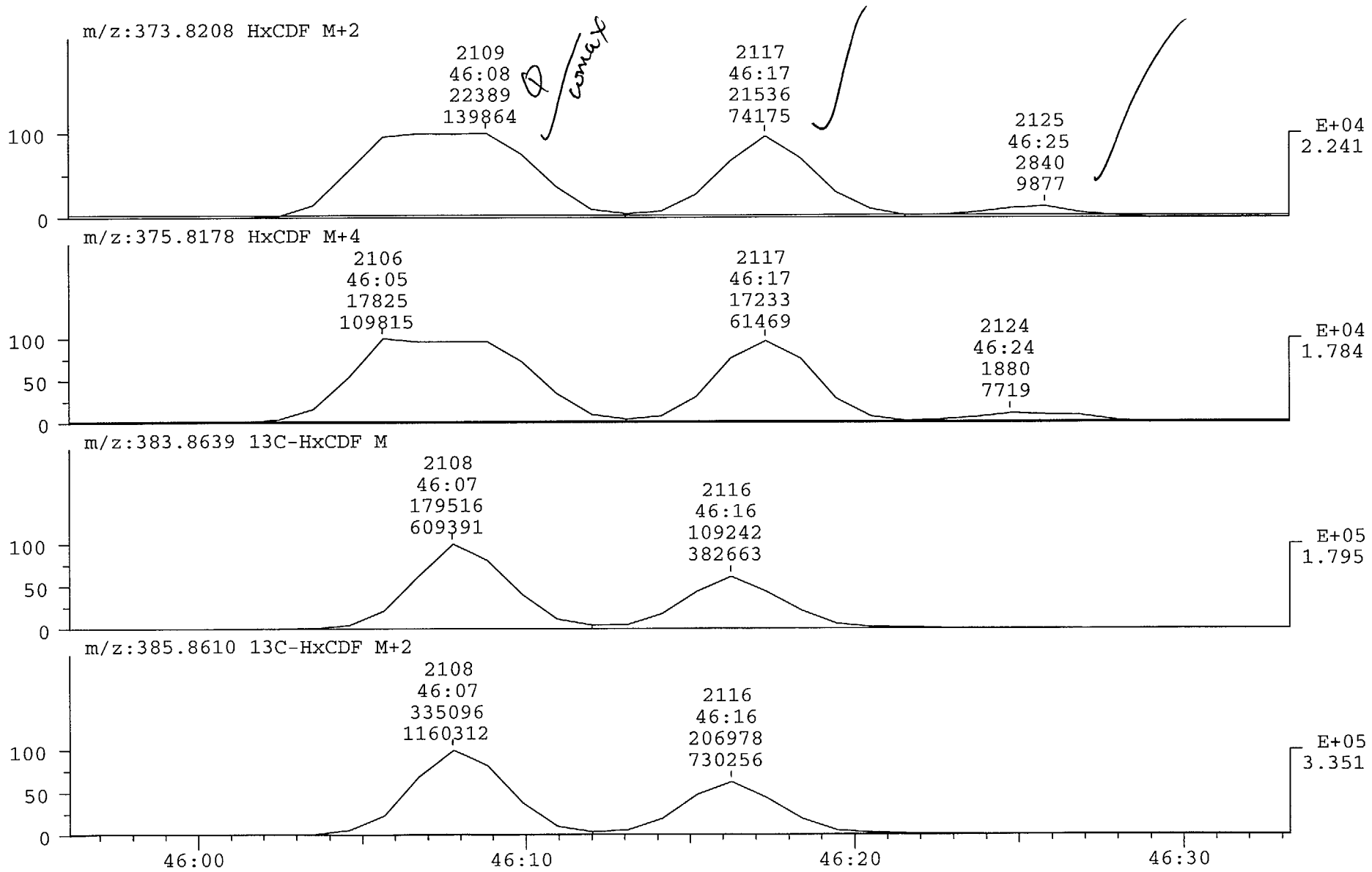
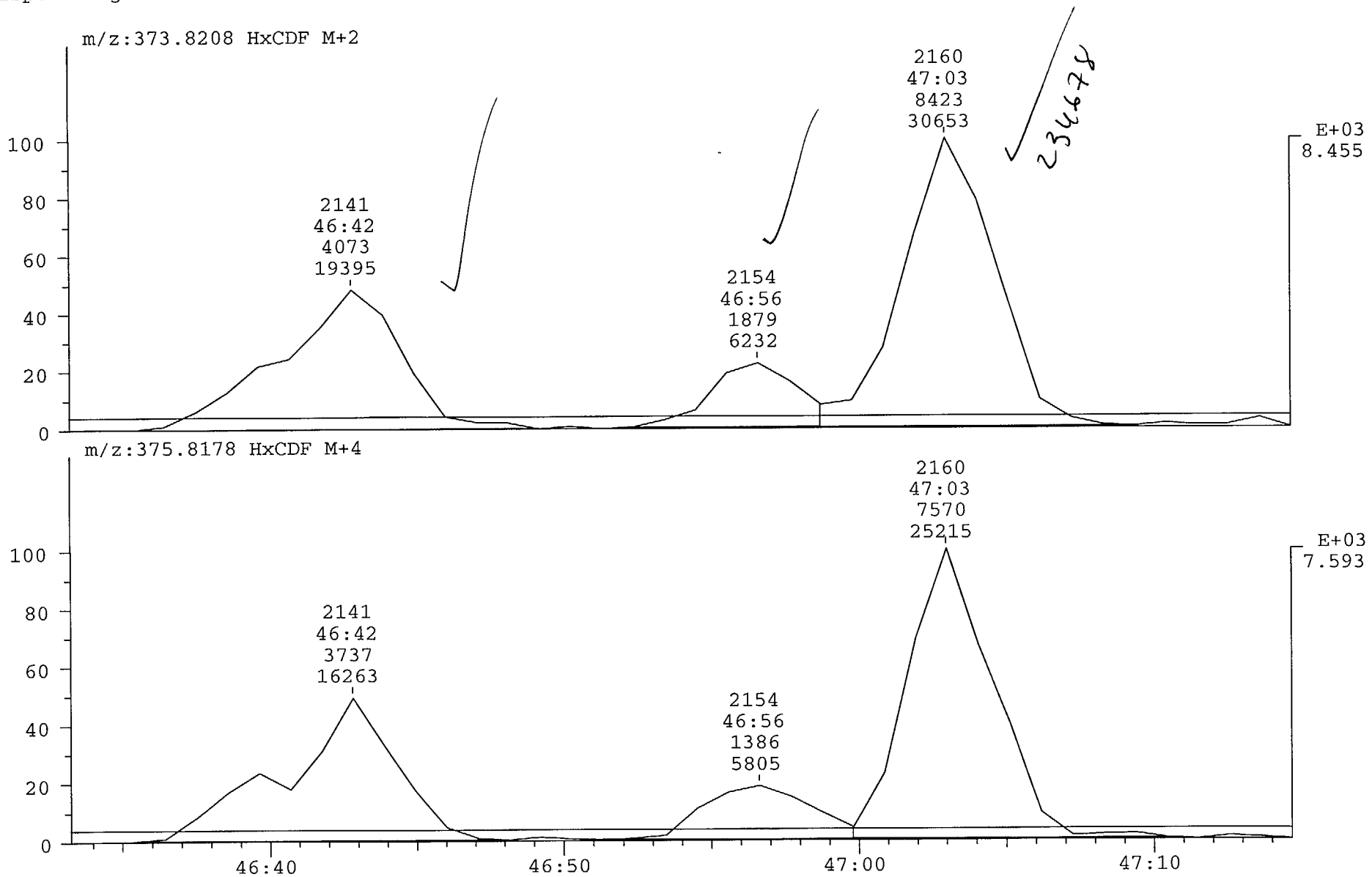


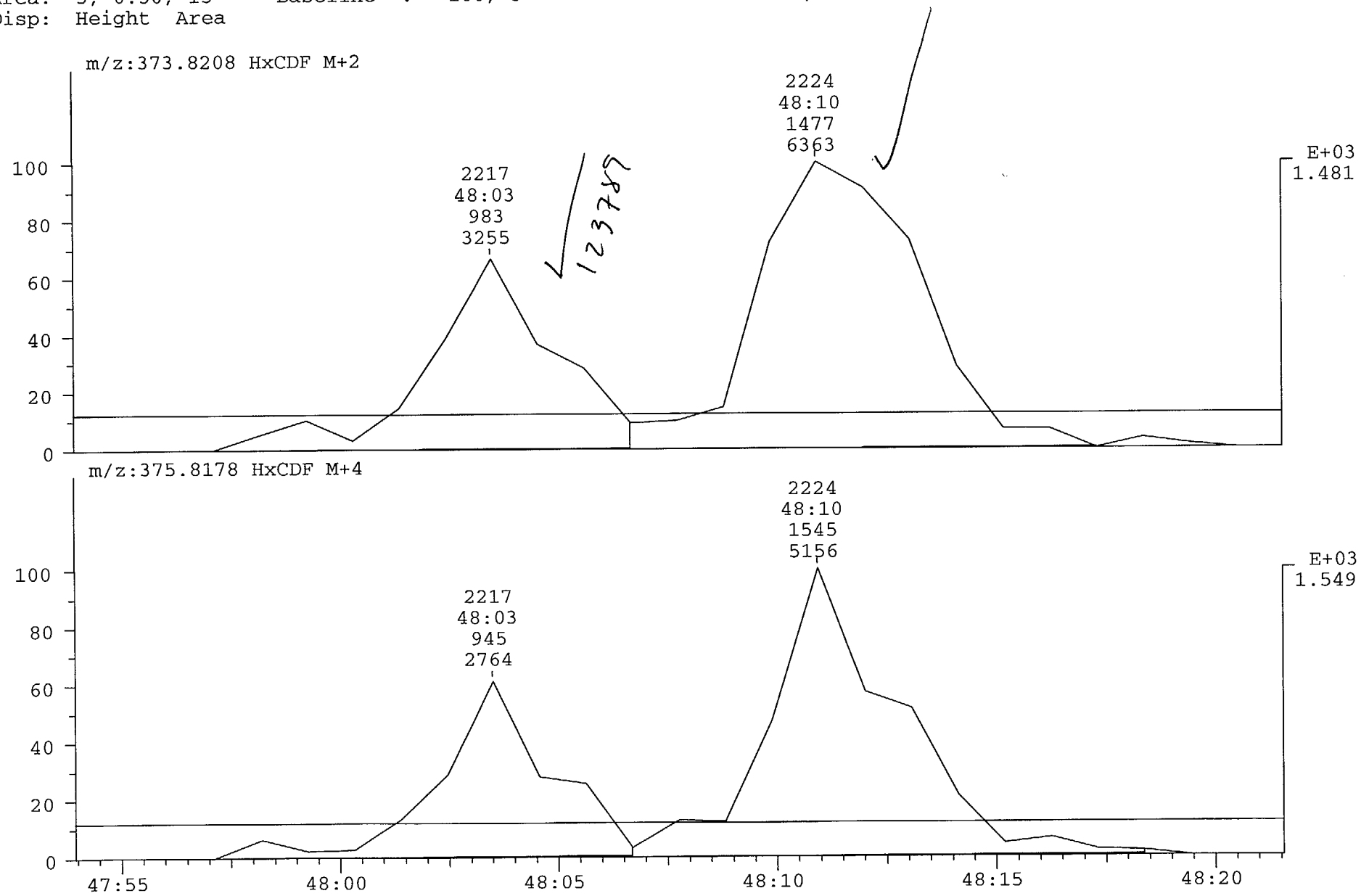
CHRO: bth2h1f 05-May-06 Elapse: 56:46 2705
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2097 > 2132 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



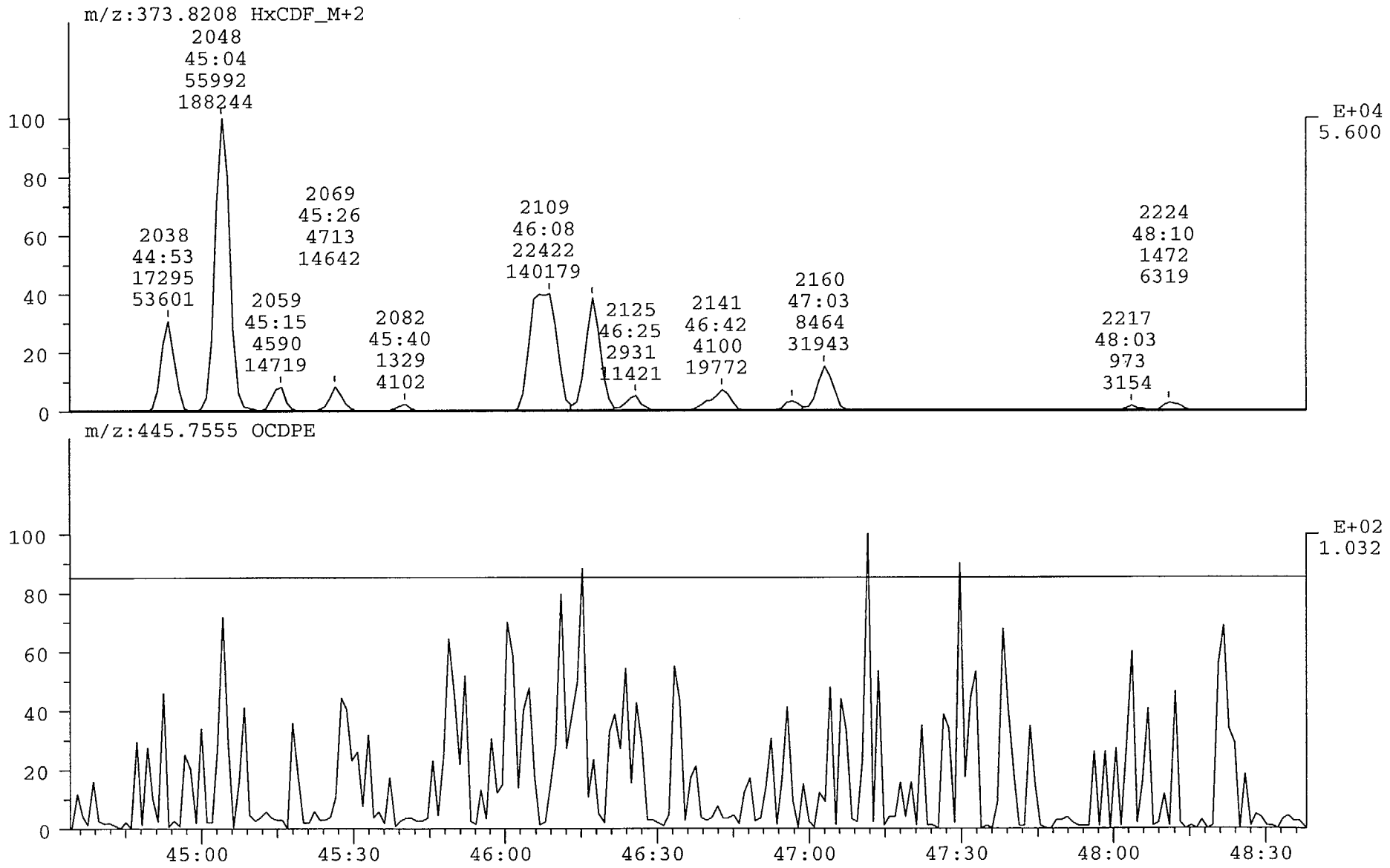
CHRO: bth2h1f 05-May-06 Elapse: 56:46 2705
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2132 > 2171 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1f 05-May-06 Elapse: 56:46 2705
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2208 > 2234 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1f 05-May-06 Elapse: 46:10 2111
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2020 > 2249 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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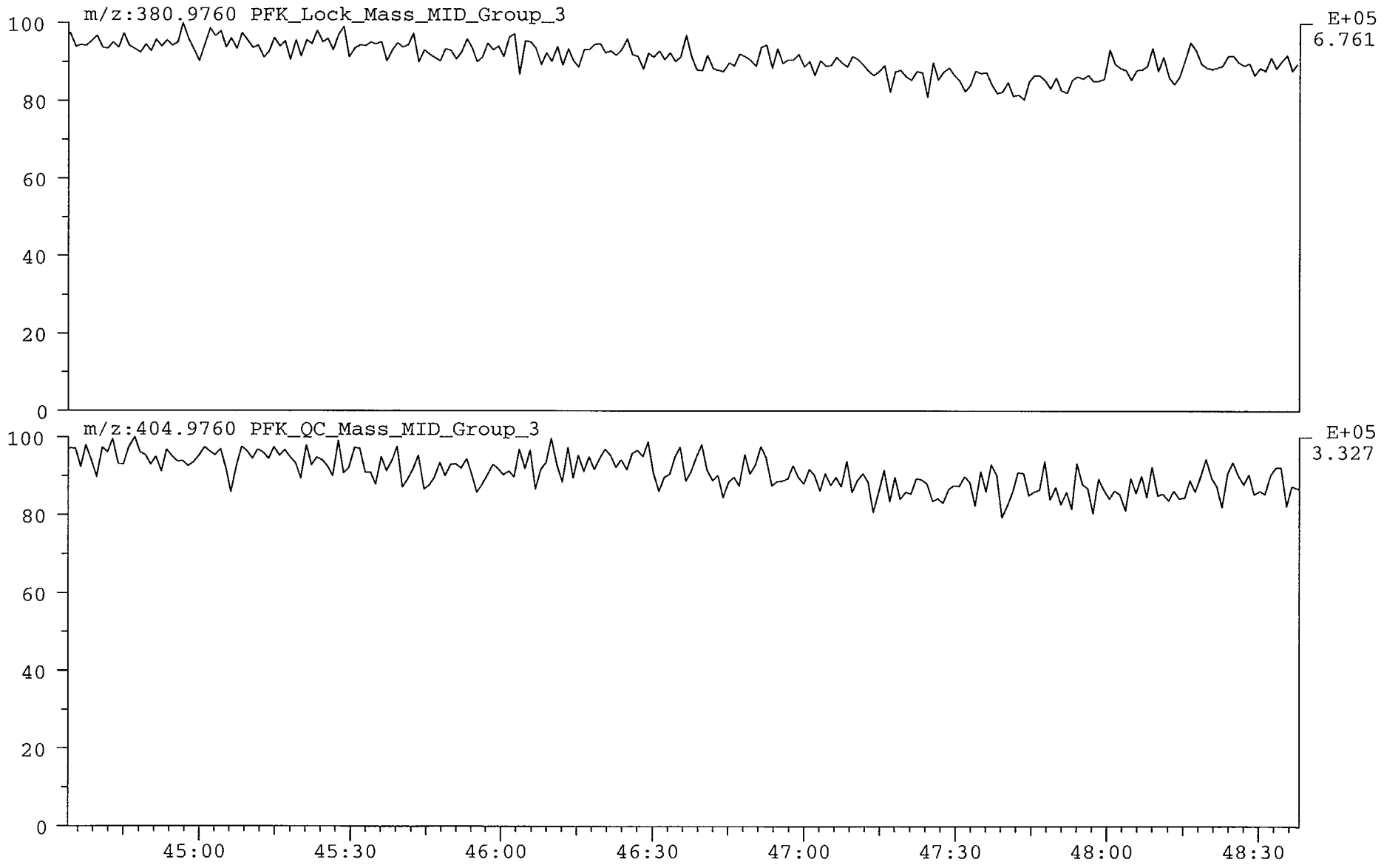
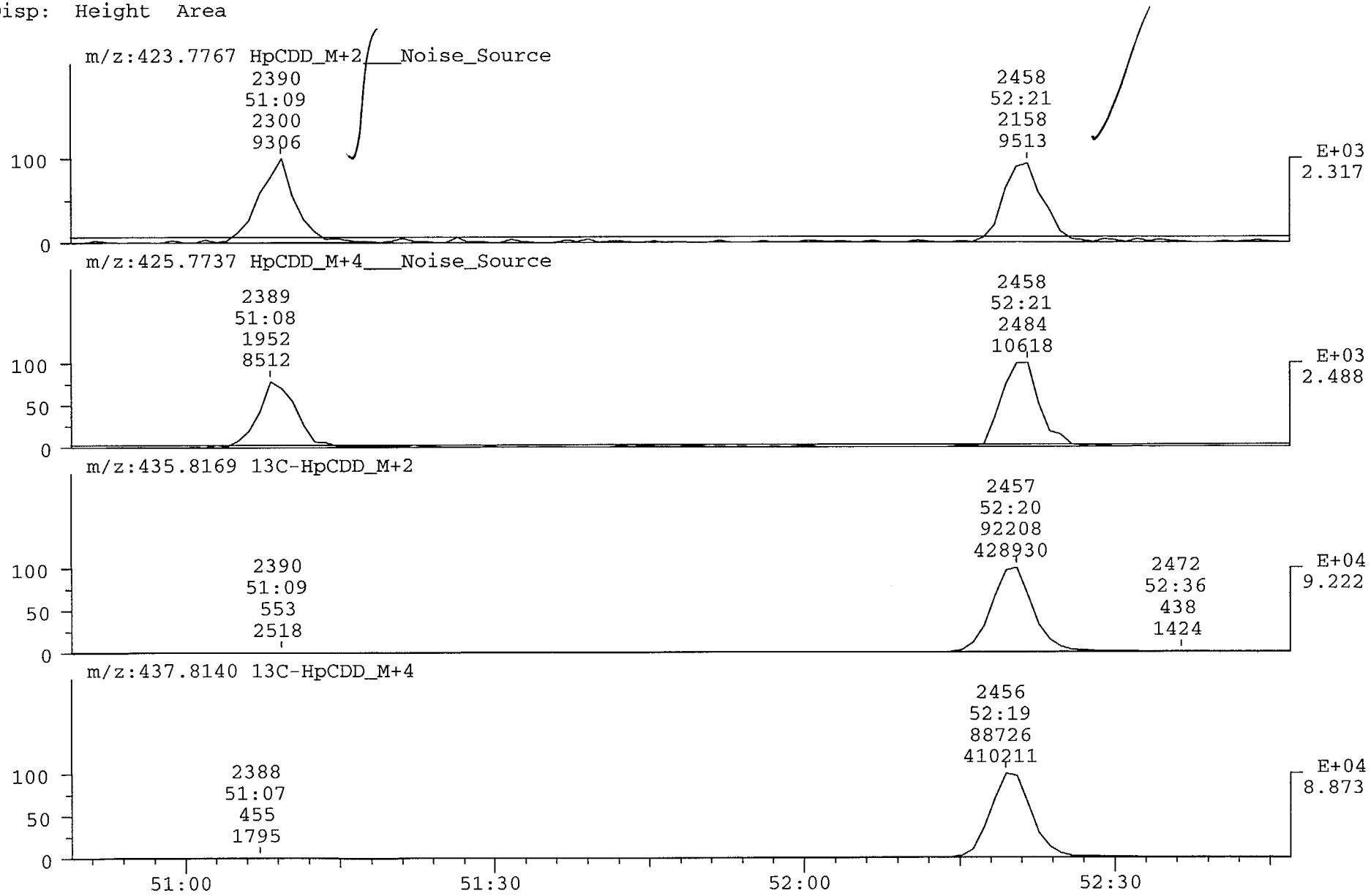
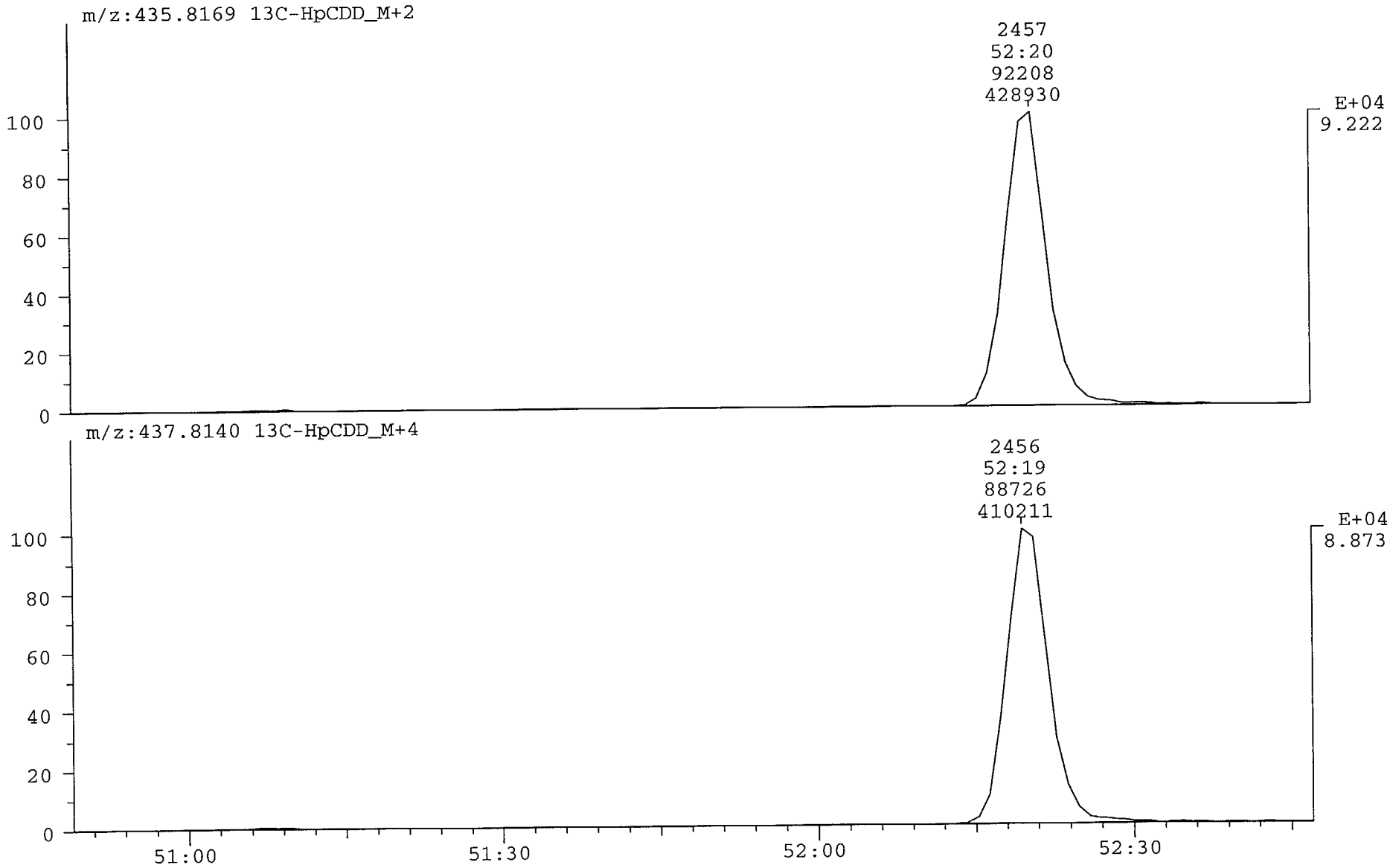
CHRO:  bth2h1f                                05-May-06  Elapse:  46:10      2111
Samp:  Vial 12 WO=h2h1f1aa Meth=X8 Dil=1                 Start :  05:16:34   2888
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP           Client:  H6D030236-002              Inlet :  GC     Vial  12
Peak:  100.00  ppm     Label wndw:   2020 > 2249         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



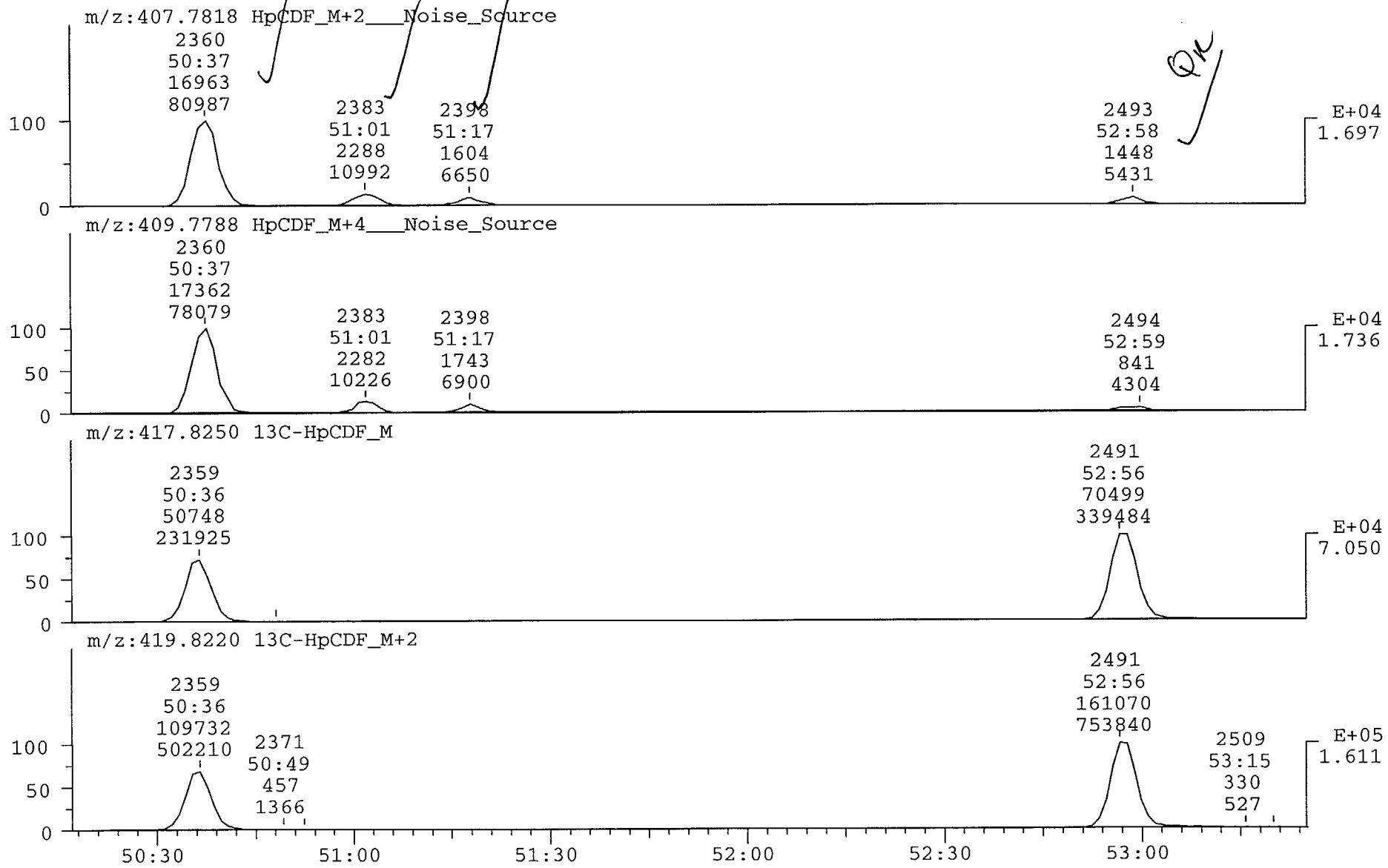
CHRO: bth2h1f 05-May-06 Elapse: 46:10 2111
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2371 > 2482 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1f 05-May-06 Elapse: 46:10 2111
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2371 > 2482 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1f 05-May-06 Elapse: 46:10 2111
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2341 > 2518 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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CHRO:  bth2h1f                                05-May-06   Elapse:  46:10      2111
Samp:  Vial 12 WO=h2h1f1aa Meth=X8 Dil=1                  Start :  05:16:34   2888
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-002              Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   2341 > 2518         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
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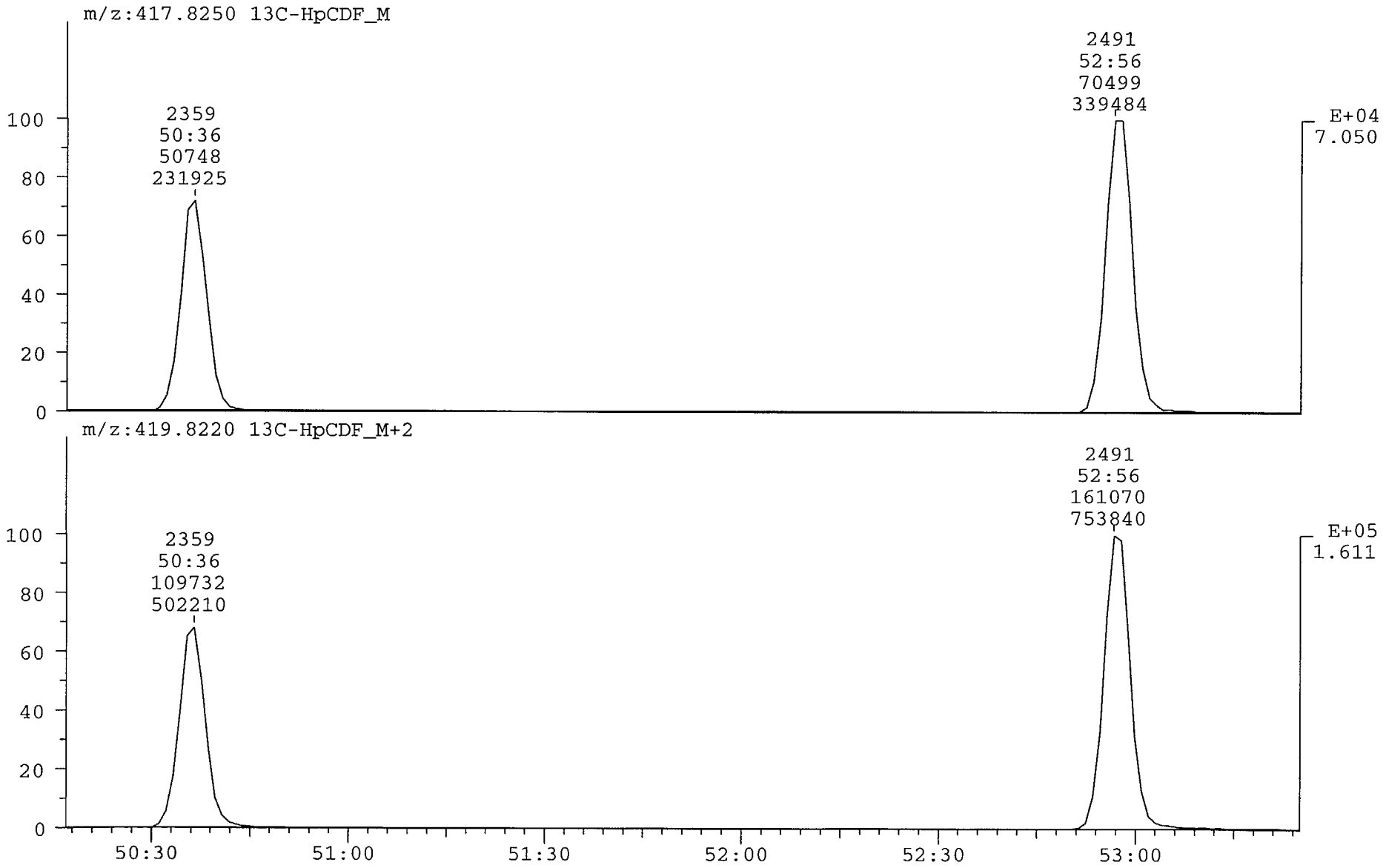

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CHRO:  bth2h1f                                05-May-06   Elapse:  46:10      2111
Samp:  Vial 12 WO=h2h1f1aa Meth=X8 Dil=1                  Start :  05:16:34   2888
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-002              Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   2341 > 2518         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
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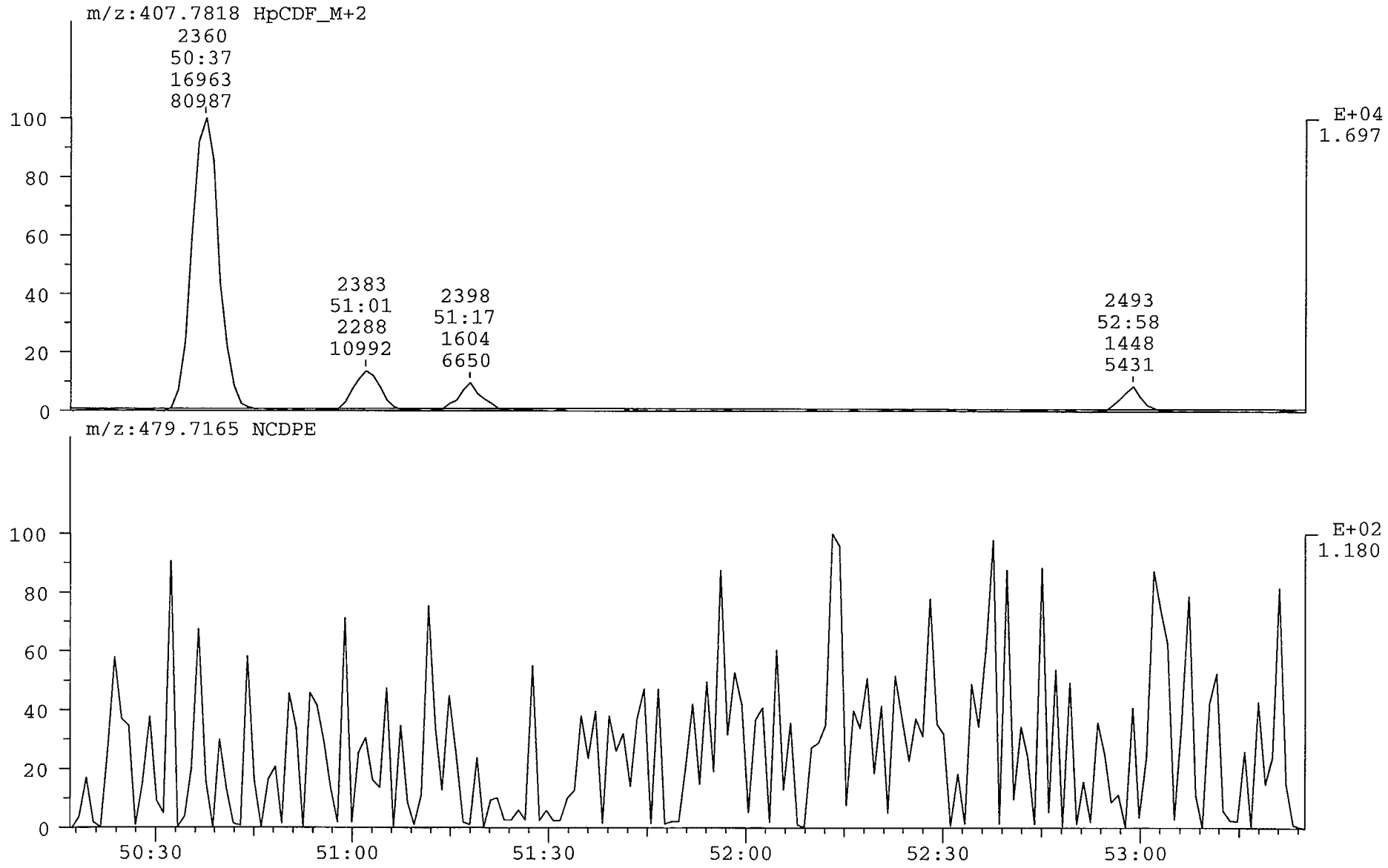

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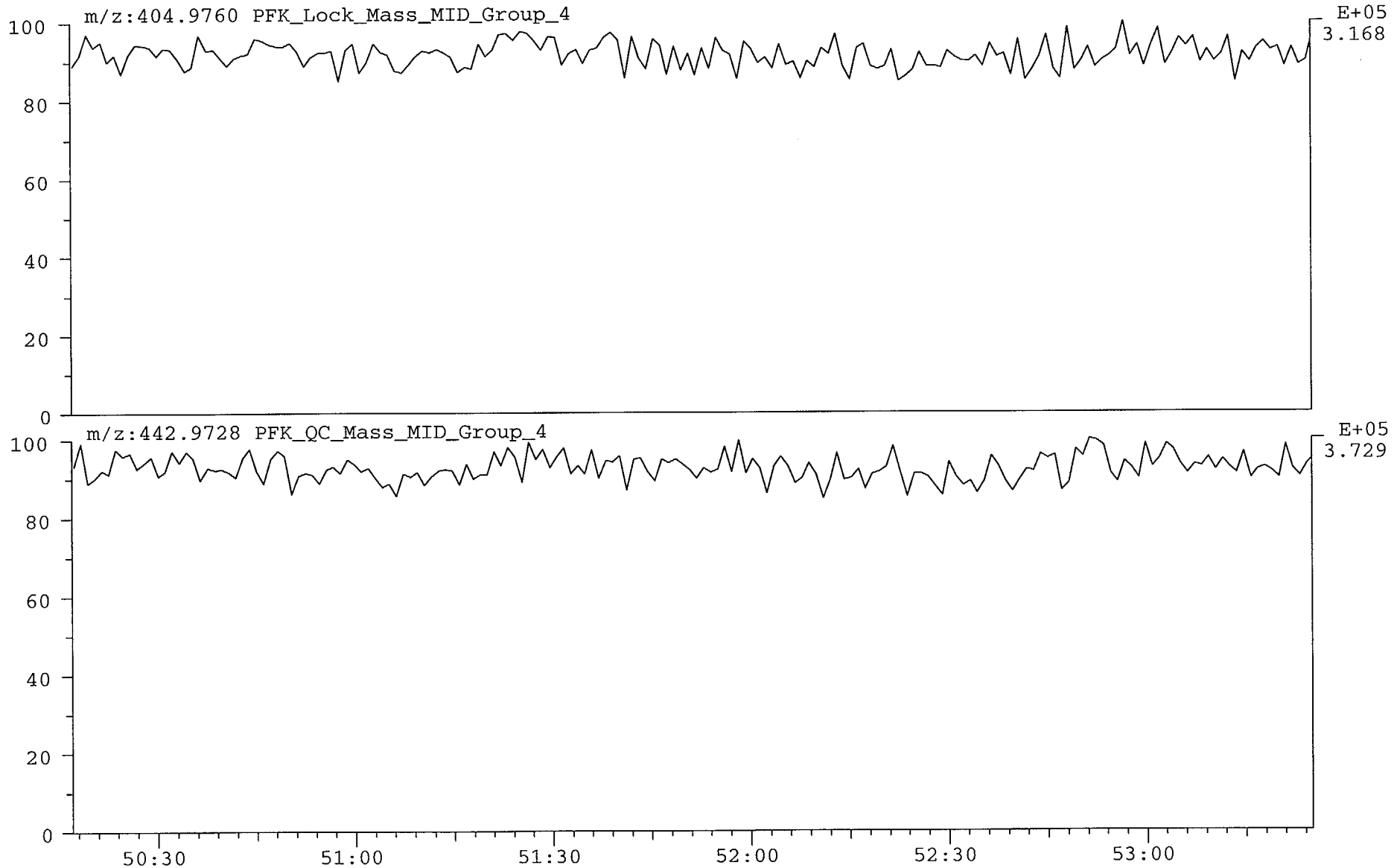
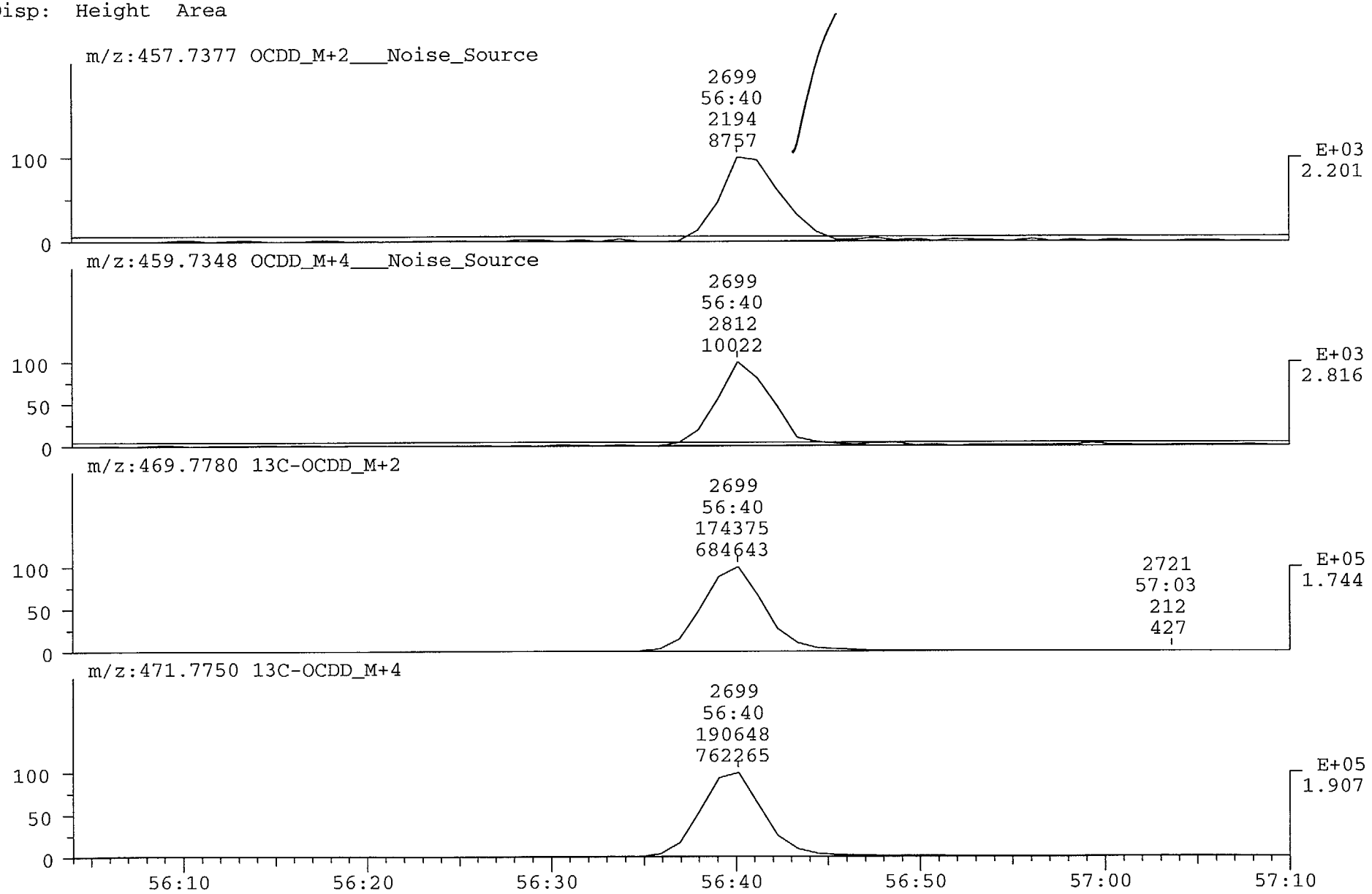
CHRO:  bth2h1f                                05-May-06   Elapse:  46:10      2111
Samp:  Vial 12 WO=h2h1f1aa Meth=X8 Dil=1                  Start :  05:16:34   2888
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-002              Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   2341 > 2518         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
```



CHRO: bth2h1f 05-May-06 Elapse: 56:33 2693
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2665 > 2727 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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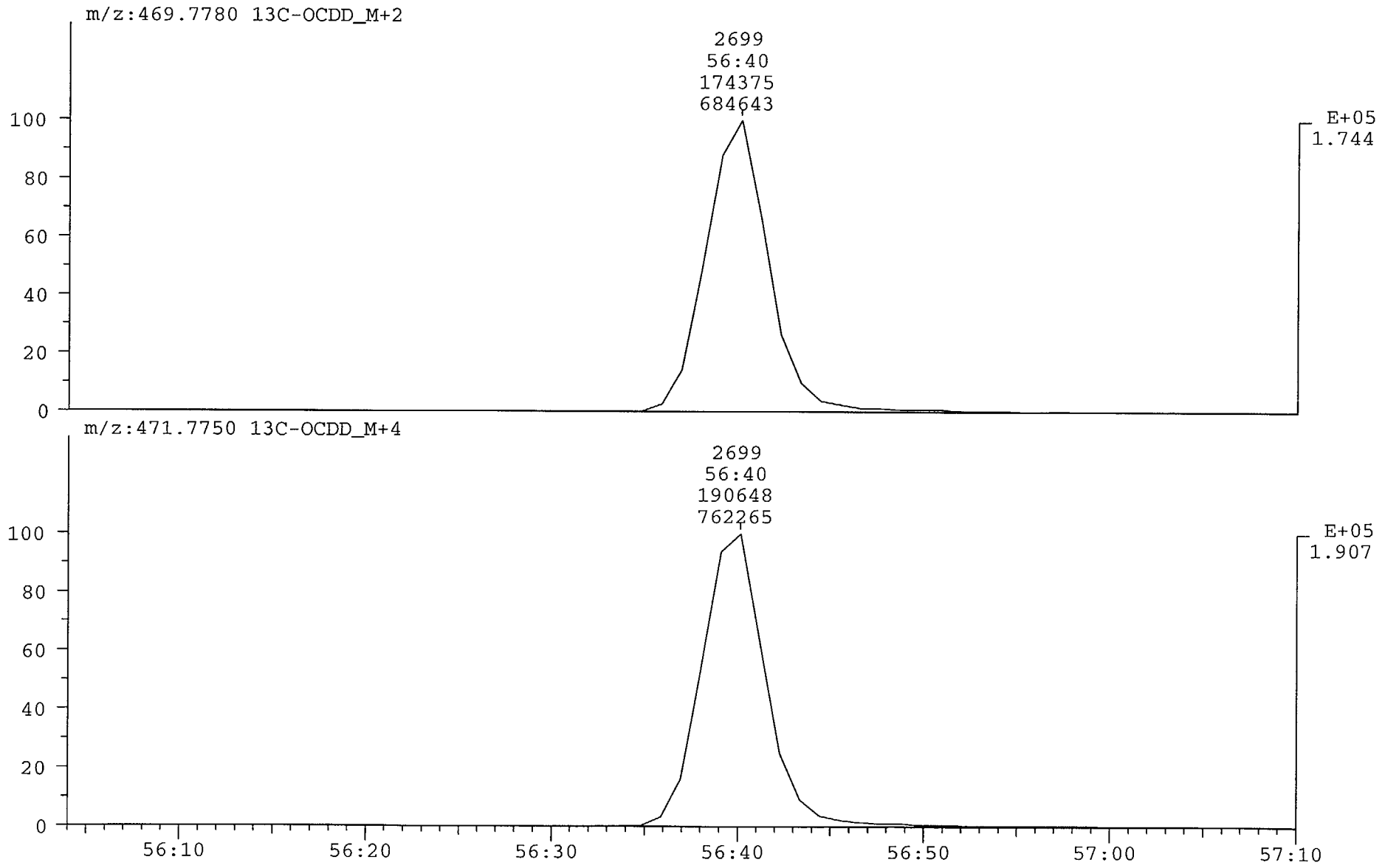
CHRO:  bth2h1f                                05-May-06   Elapse:  56:33      2693
Samp:  Vial 12 WO=h2h1f1aa Meth=X8 Dil=1                  Start :  05:16:34   2888
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-002              Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   2665 > 2727         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



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CHRO:  bth2h1f                                05-May-06   Elapse:  56:43      2702
Samp:  Vial 12 WO=h2h1f1aa Meth=X8 Dil=1                  Start :  05:16:34   2888
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-002              Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   2674 > 2735         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
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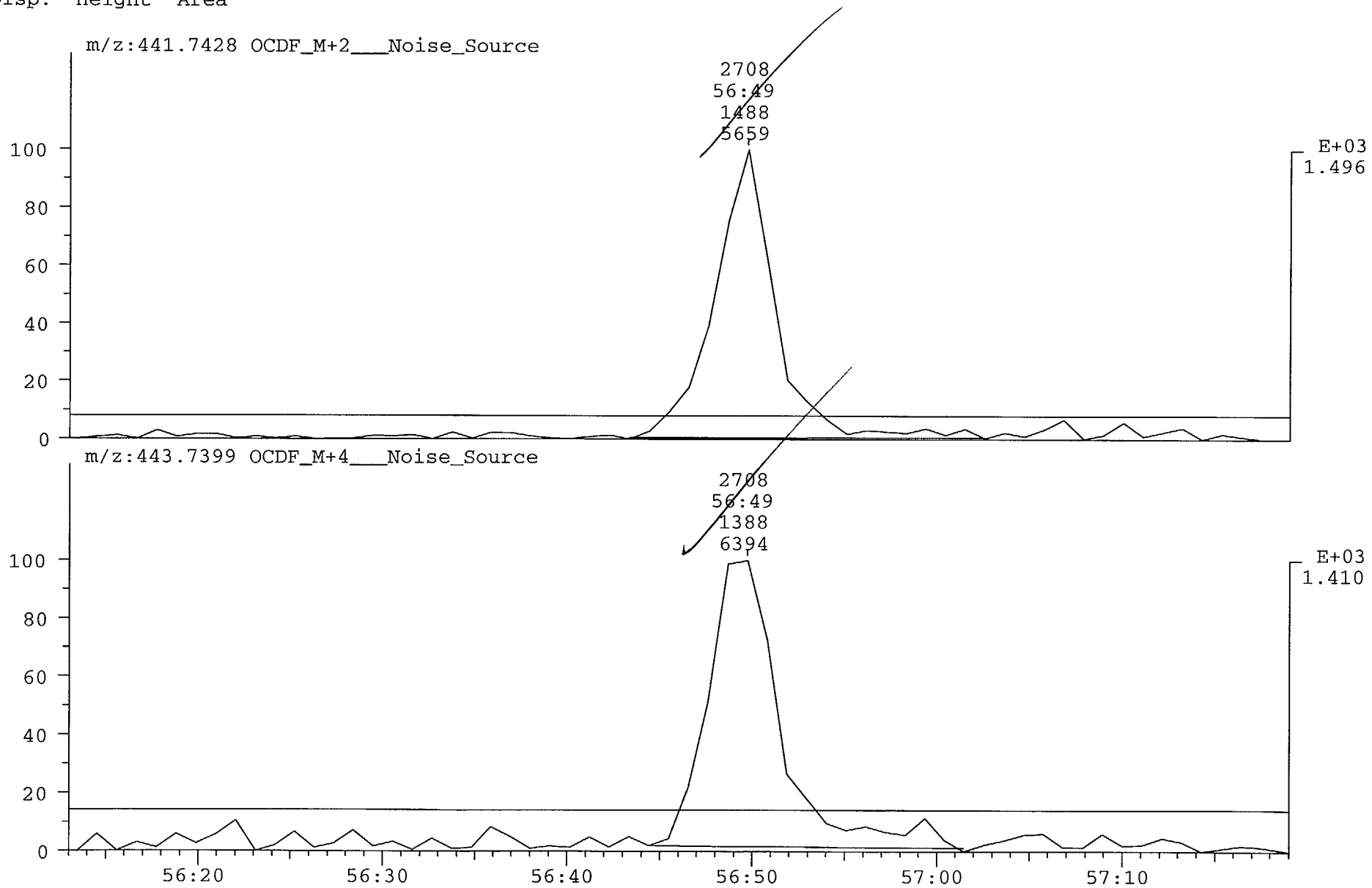
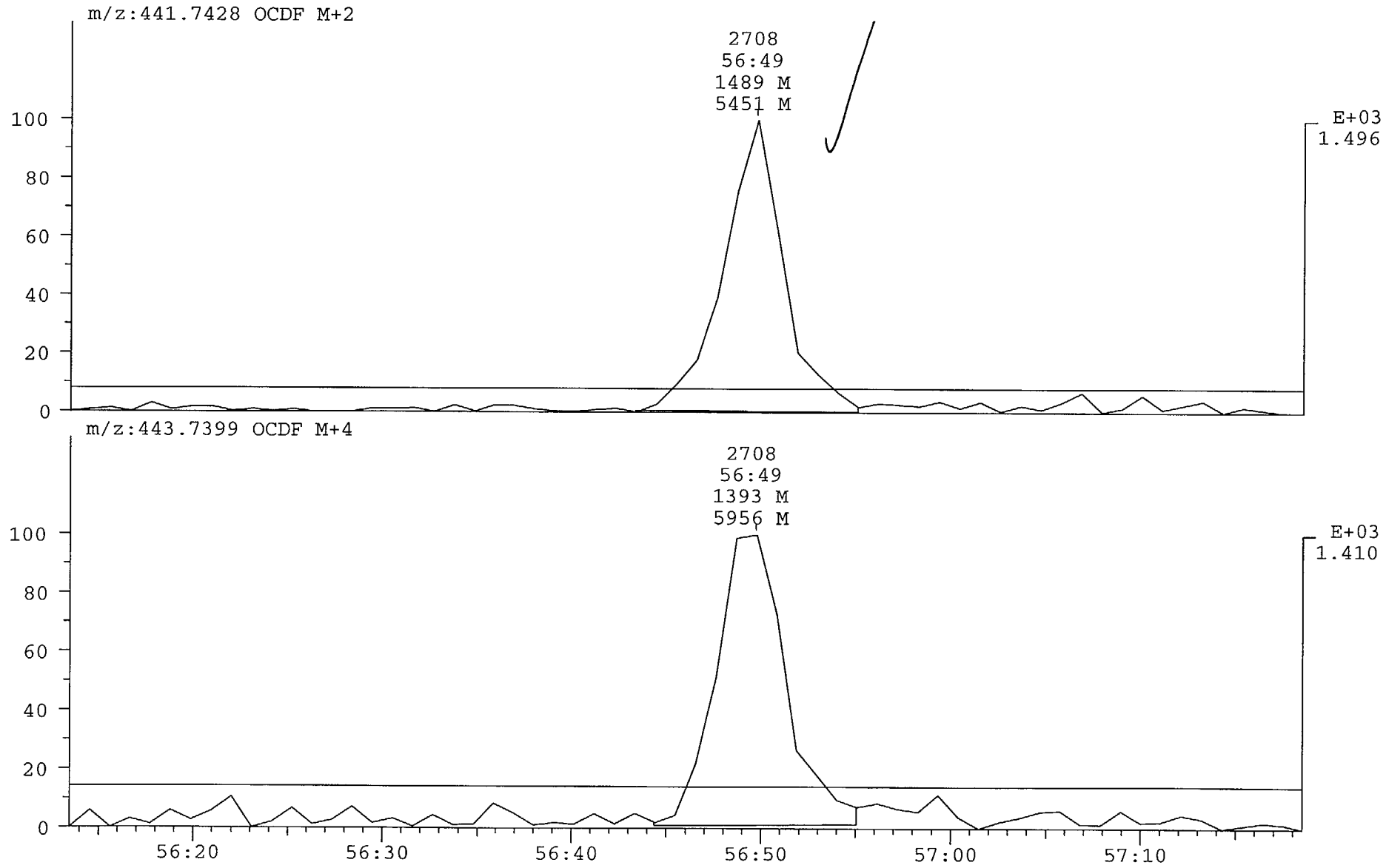
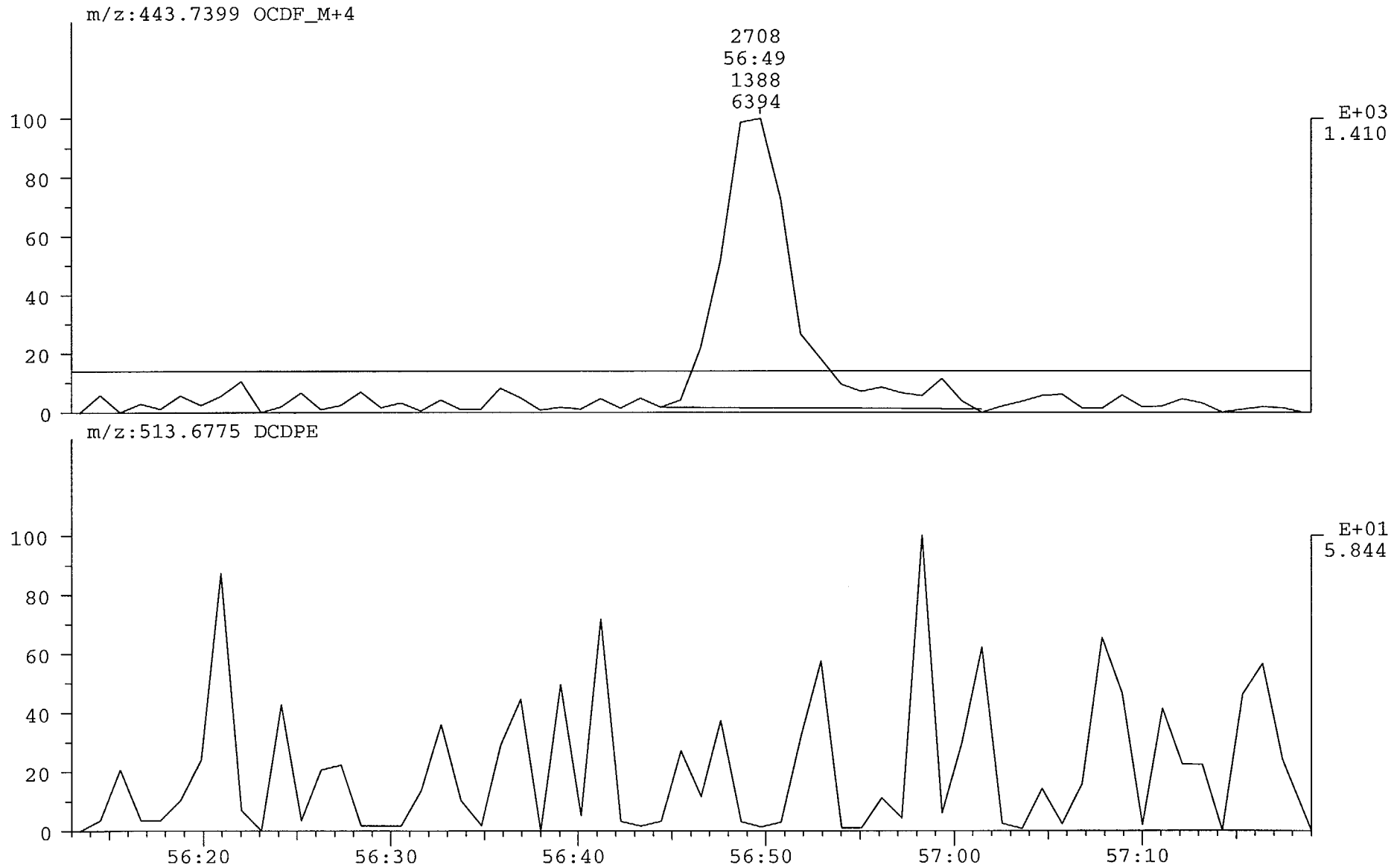


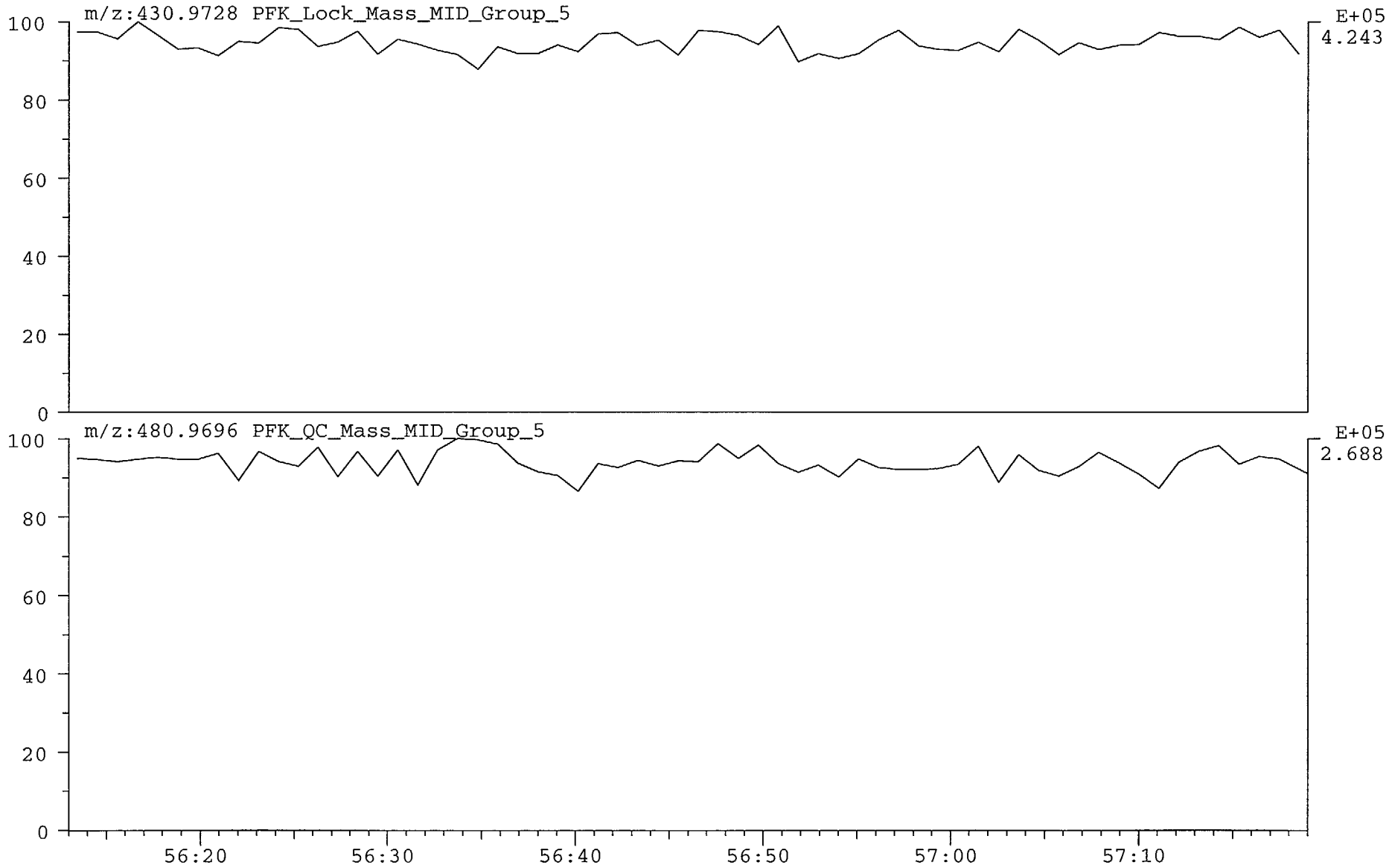
CHRO: bth2h1f 05-May-06 Elapse: 56:46 2705
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2674 > 2735 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1f 05-May-06 Elapse: 56:43 2702
Samp: Vial 12 WO=h2h1f1aa Meth=X8 Dil=1 Start : 05:16:34 2888
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-002 Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2674 > 2735 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  bth2h1f                                05-May-06  Elapse:  56:43      2702
Samp:  Vial 12 WO=h2h1f1aa Meth=X8 Dil=1                 Start :  05:16:34   2888
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP           Client:  H6D030236-002              Inlet :  GC     Vial  12
Peak:  100.00  ppm     Label wndw:   2674 > 2735         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



```
Instrument internet name  -  mat95s
Instrument model          -  MAT 95
Instrument serial number  -  000000
Workstation internet name -  icis2ms
ICIS Version 8.2.1


ICL Version: 10.500
File name: bth2h1f
Study: 6107092 (Air)
Sample: WO=h2h1f1aa Meth=X8 Dil=1
Amount:   0.0
Volume:   0.0
Operator: PMP
Client: H6D030236-002
Comments: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Injected volume:   2.0
Sample from Vial 12
Analysis will stop when MID run finishes
Tune file name: tune2
File 3 of list 060504
  ICL procedure: sleep6x
  MID procedure: epa1613

  MID Remarks:  Tetra-Octa PCDD/F EPA Method 8290/1613B

  Mid Set Up Parameter:
   Measure/lock ratio        1
   Damping Relay          TRUE
   Width first lock       0.55 amu
   Electric jump time       10 ms
   Magnetic jump time       60 ms
   Offset                  140 cts
   Electric range          300 %
   Sweep peak width       3.00
   MID mode              Lock mode
   Acq mode              Cent mode

  Mid Time Windows:
        Start        Measure      End        Cycletime
  # 1    8:00 min   29:52 min   37:52 min    1.00 sec
  # 2   37:52 min    6:32 min   44:25 min    1.00 sec
  # 3   44:25 min    5:05 min   49:30 min    1.00 sec
  # 4   49:30 min    5:15 min   54:45 min    1.00 sec
  # 5   54:45 min    5:15 min   60:00 min    1.00 sec

  Mid Masses:
   Window # 1
        mass F  int  gr  time (ms)
    292.9825 1   10   1      8.19
    303.9016      1   1     81.92
    305.8987      1   1     81.92
    315.9419      1   1     81.92
    317.9389      1   1     81.92
    319.8965      1   1     81.92
    321.8936      1   1     81.92
    327.8847      1   1     81.92
    331.9368      1   1     81.92
    333.9338      1   1     81.92
    342.9792 c   10   1      8.19
    375.8364      1   1     81.92
   Window # 2
        mass F  int  gr  time (ms)
    330.9792 1   10   1      8.19
    339.8597      1   1     91.48
    341.8567      1   1     91.48
```

351.9000		1	1	91.48
353.8970		1	1	91.48
355.8546		1	1	91.48
357.8516		1	1	91.48
367.8949		1	1	91.48
369.8919		1	1	91.48
380.9760	c	10	1	8.19
409.7974		1	1	91.48

Window # 3

mass	F	int	gr	time (ms)
373.8208		1	1	91.48
375.8178		1	1	91.48
380.9760	1	10	1	8.19
383.8639		1	1	91.48
385.8610		1	1	91.48
389.8156		1	1	91.48
391.8127		1	1	91.48
401.8559		1	1	91.48
403.8529		1	1	91.48
404.9760	c	10	1	8.19
445.7555		1	1	91.48

Window # 4

mass	F	int	gr	time (ms)
404.9760	1	10	1	8.19
407.7818		1	1	91.48
409.7788		1	1	91.48
417.8250		1	1	91.48
419.8220		1	1	91.48
423.7767		1	1	91.48
425.7737		1	1	91.48
435.8169		1	1	91.48
437.8140		1	1	91.48
442.9728	c	10	1	8.19
479.7165		1	1	91.48

Window # 5

mass	F	int	gr	time (ms)
430.9728	1	10	1	10.92
441.7428		1	1	120.15
443.7399		1	1	120.15
457.7377		1	1	120.15
459.7348		1	1	120.15
469.7780		1	1	120.15
471.7750		1	1	120.15
480.9696	c	10	1	10.92
513.6775		1	1	120.15

Auto Sampler descriptor: pcdd2ul

Injector A

Normal Injection

Slvnt A cln before inj	(K):	3	times
Slvnt B cln before inj	(L):	0	times
Sample rinse cycles	(R):	0	times
Syringe filling volume	(F):	1.0	ul
Pullup delay time	(D):	4	sec
Sample pullup speed	(E):	5.0	ul/sec
Slvnt aftr pre inj cln	(U):	0.0	ul
Air after pre inj cln	(G):	2.0	ul
Sample volume	(V):	2.0	ul
Sample air volume	(A):	2.0	ul
Sample pullup count	(P):	2	times
Injection speed	(S):	10.0	ul/sec
Injection wait time	(W):	10	sec
Injection hold time	(H):	3	sec
Solvent A clean cycles	(C):	15	times
Solvent B clean cycles	(B):	20	times
Loop clean w slvnt A	(LC):	0	times

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8412.0000
BDEV	8288.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.7814	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9990
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-705.0000	ELEN	61.7750
EMULT	1.8000	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	188.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	546.0000	FVINLET	644.0000
FVSRC	982.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.6373	HVANAL	1570.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4757.0160	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	430.9728
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	2893.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10314.7005	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.7100	TCURR	0.8984	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 05-May-06 05:16:34.5

Autosampler has injected sample from vial 12
Analysis stopped at: 05-May-06 06:16:37.0 (run time 60.03 minutes)
Analysis stopped because MID run finished

STL Knoxville - ACS

Sample ID: G-3049/3050-R2-M23A FRONT HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 003	**Work Order #....:**	H2H1G1AA	**Matrix....:**	AIR
Date Sampled....:	03/29/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107079				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Bruce F. Wagner				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	2.1	pg/sampl
Total TCDD	ND		10	2.1	pg/sampl
1,2,3,7,8-PeCDD	ND		50	1.1	pg/sampl
Total PeCDD	**1.3**	**Q J**	**50**	**1.1**	**pg/sampl**
1,2,3,4,7,8-HxCDD	ND		50	1.1	pg/sampl
1,2,3,6,7,8-HxCDD	ND		50	1.1	pg/sampl
1,2,3,7,8,9-HxCDD	ND		50	1.0	pg/sampl
Total HxCDD	ND		50	1.1	pg/sampl
1,2,3,4,6,7,8-HpCDD	ND		50	1.2	pg/sampl
Total HpCDD	**2.2**	**Q J**	**50**	**1.2**	**pg/sampl**
OCDD	**17**	**B J**	**100**	**1.5**	**pg/sampl**
2,3,7,8-TCDF	ND		10	1.7	pg/sampl
Total TCDF	ND		10	1.7	pg/sampl
1,2,3,7,8-PeCDF	ND		50	0.86	pg/sampl
2,3,4,7,8-PeCDF	ND		50	0.81	pg/sampl
Total PeCDF	**0.80**	**Q J**	**50**	**0.83**	**pg/sampl**
1,2,3,4,7,8-HxCDF	**2.1**	**Q J**	**50**	**0.76**	**pg/sampl**
1,2,3,6,7,8-HxCDF	**1.6**	**Q J**	**50**	**0.70**	**pg/sampl**
2,3,4,6,7,8-HxCDF	ND		50	0.79	pg/sampl
1,2,3,7,8,9-HxCDF	ND		50	0.85	pg/sampl
Total HxCDF	**5.3**	**J Q**	**50**	**0.77**	**pg/sampl**
1,2,3,4,6,7,8-HpCDF	**3.7**	**Q B J**	**50**	**1.1**	**pg/sampl**
1,2,3,4,7,8,9-HpCDF	ND		50	1.3	pg/sampl
Total HpCDF	**3.7**	**Q B J**	**50**	**1.2**	**pg/sampl**
OCDF	**4.5**	**Q B J**	**100**	**1.4**	**pg/sampl**

STL Knoxville - ACS

Sample ID: G-3049/3050-R2-M23A FRONT HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 003	**Work Order #....:**	H2H1G1AA	**Matrix....:**	AIR
Date Sampled....:	03/29/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107079				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Bruce F. Wagner				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	103	40 - 135
13C-1,2,3,7,8-PeCDD	122	40 - 135
13C-1,2,3,6,7,8-HxCDD	101	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	110	40 - 135
13C-OCDD	96	40 - 135
13C-2,3,7,8-TCDF	96	40 - 135
13C-1,2,3,7,8-PeCDF	116	40 - 135
13C-1,2,3,6,7,8-HxCDF	101	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	99	40 - 135

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	86	70 - 130
13C-1,2,3,4,7,8-HxCDD	102	70 - 130
13C-2,3,4,7,8-PeCDF	92	70 - 130
13C-1,2,3,4,7,8-HxCDF	86	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	91	70 - 130

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

STL - Knoxville

IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1G1AA	Prep Batch	6107079	Lot No	H6D030236-003
Data File	/20060504s1/bth2h1g.d	Prep Date	04/17/06	SDG No	
Analysis ID	90536	Prep Exp Date	04/28/06	Date Received	04/02/06
Analysis Date	5/4/2006	Matrix	AIR	Date Sampled	03/29/06
Analysis Time	17:12	Initial Wt/Vol	1	Lims Test Code	XXSINX801
Anal Exp Date	06/01/06	Extract Vol	20	Method	0023/8290
Instrument	M2A	Dil Factor	1.0	Code	X8
Analyst	BFW				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (pg/sample		DL (pg/samp
2,3,7,8-TCDD				1.060				ND		2.09
Total TCDD				1.060				ND		2.09
2,3,7,8-TCDF				1.064				ND		1.66
Total TCDF				1.064				ND		1.66
1,2,3,7,8-PeCDD				0.977				ND		1.07
Total PeCDD		1166	309	0.977		1.250839		1.250839	QJ	1.07
1,2,3,7,8-PeCDF				0.955				ND		0.862
2,3,4,7,8-PeCDF				1.018				ND		0.809
Total PeCDF		954	229	0.987		0.795087		0.795087	QJ	0.835
1,2,3,4,7,8-HxCDD				1.047				ND		1.12
1,2,3,6,7,8-HxCDD				1.055				ND		1.11
1,2,3,7,8,9-HxCDD				1.146				ND		1.02
Total HxCDD				1.083				ND		1.08
1,2,3,4,7,8-HxCDF	46:11	2657	640	1.101		2.136627		2.136627	QJ	0.758
1,2,3,6,7,8-HxCDF	46:17	2126	477	1.184		1.589492		1.589492	QJ	0.705
2,3,4,6,7,8-HxCDF				1.052				ND		0.793
1,2,3,7,8,9-HxCDF				0.982				ND		0.850
Total HxCDF		1925	501	1.080		5.304241		5.304241	JQ	0.773
1,2,3,4,6,7,8-HpCDD				1.018				ND		1.18
Total HpCDD		2007	369	1.018		2.225562		2.225562	QJ	1.18
1,2,3,4,6,7,8-HpCDF	50:42	4107	926	1.403		3.667664		3.667664	QBJ	1.10
1,2,3,4,7,8,9-HpCDF				1.197				ND		1.29
Total HpCDF				1.300		3.667664		3.667664	QBJ	1.19
OCDD	56:42	11520	3186	0.965		16.670057		16.670057	BJ	1.52
OCDF	56:52	3536	798	1.103		4.473562		4.473562	QBJ	1.37
13C-2,3,7,8-TCDD	35:17	971086	109630	1.068	1000	1028.85853	102.89	1028.85853		6.29
13C-2,3,7,8-TCDF	33:02	1194792	127736	1.413	1000	956.497142	95.65	956.497142		2.80
13C-1,2,3,7,8-PeCDD	43:03	954753	266091	0.882	1000	1224.98022	122.50	1224.98022		3.89
13C-1,2,3,7,8-PeCDF	41:28	1216519	288488	1.188	1000	1158.56557	115.86	1158.56557		3.04
13C-1,2,3,6,7,8-HxCDD	47:21	837929	223952	0.943	1000	1010.18886	101.02	1010.18886		1.88
13C-1,2,3,6,7,8-HxCDF	46:17	1129597	314514	1.272	1000	1009.85996	100.99	1009.85996		1.14
13C-1,2,3,4,6,7,8-HpCDD	52:21	886068	197301	0.918	1000	1097.26575	109.73	1097.26575		1.14
13C-1,2,3,4,6,7,8-HpCDF	50:38	797874	176145	0.916	1000	990.438866	99.04	990.438866		1.44
13C-OCDD	56:41	1432620	379417	0.850	2000	1917.07776	95.85	1917.07776		1.56
37Cl4-2,3,7,8-TCDD	35:19	1749841	201287	1.046	2000	1722.79986	86.14	1722.79986		1.48
13C-2,3,4,7,8-PeCDF	42:34	2250134	585814	1.010	2000	1830.90579	91.55	1830.90579		1.17
13C-1,2,3,4,7,8-HxCDD	47:14	1541311	415329	0.902	2000	2038.78234	101.94	2038.78234		2.05
13C-1,2,3,4,7,8-HxCDF	46:09	1925117	565257	0.988	2000	1724.64448	86.23	1724.64448		1.09
13C-1,2,3,7,8,9-HxCDF				1.113				ND		1.30
13C-1,2,3,4,7,8,9-HpCDF	52:58	1322292	289547	0.912	2000	1816.88842	90.84	1816.88842		1.91
13C-1,2,3,4-TCDD	34:42	1767531	188191	1.000	2000	2000.00000	100.00	2000.00000		6.72
13C-1,2,3,7,8,9-HxCDD	47:47	1758736	466822	1.000	2000	2000.00000	100.00	2000.00000		1.78

BFW 5/5/06
PMPS-6-04

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1G1AA	Prep Batch	6107079	Lot No	H6D030236-003
Data File	/20060504s1/bth2h1g.d	Prep Date	04/17/06	SDG No	
Analysis ID	90536	Prep Exp Date	04/28/06	Date Received	04/02/06
Analysis Date	05/04/06 17:12	Matrix	AIR	Date Sampled	03/29/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSINX801
Instrument	M2A	Extract Vol	20 uL	Method	0023/8290
Analyst	BFW	Diluton Factor	1.00	Code	X8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					303.9016	305.8987	303.9016	305.8987	0.65-0.89		
	Noise	00:00	00:00	0	95	130	38	52	0.73	/	
316					315.9419	317.9389	315.9419	317.9389	0.65-0.89		
	Noise	00:00	00:00	0	158	215	63	86	0.73	/	
	13C-2,3,7,8-TCDF	33:02	33:03	-1	521252	673540	54572	73164	0.77	ABV/ABV	
320					319.8965	321.8936	319.8965	321.8936	0.65-0.89		
	Noise	00:00	00:00	0	118	125	47	50	0.94 *	/	
328					327.8847		327.8847				
	Noise	00:00	00:00	0	170		68				
	37Cl4-2,3,7,8-TCDD	35:19	35:19	0	1749841		201287			ABV	
332					331.9368	333.9338	331.9368	333.9338	0.65-0.89		
	Noise	00:00	00:00	0	335	298	134	119	1.13 *	/	
	13C-1,2,3,4-TCDD	34:42	34:43	-1	778223	989308	84128	104063	0.79	ABV/ABV	
	13C-2,3,7,8-TCDD	35:17	35:16	1	427359	543727	47500	62130	0.79	AVV/AVV	
340					339.8597	341.8567	339.8597	341.8567	1.32-1.78		
	Noise	00:00	00:00	0	98	140	39	56	0.70 *	/	
	Unidentified	41:58	00:00	0	580	739	139	181	0.78 *	MVV/MVV	R
352					351.9000	353.8970	351.9000	353.8970	1.32-1.78		
	Noise	00:00	00:00	0	185	155	74	62	1.19 *	/	
	13C-1,2,3,7,8-PeCDF	41:28	41:27	1	743740	472779	177939	110549	1.57	ABV/ABV	
	13C-2,3,4,7,8-PeCDF	42:34	42:34	0	1375564	874570	358458	227356	1.57	ABV/ABB	
356					355.8546	357.8516	355.8546	357.8516	1.32-1.78		
	Noise	00:00	00:00	0	148	130	59	52	1.13 *	/	
	Unidentified	40:32	00:00	0	709	777	188	257	0.91 *	MBB/MVV	R
368					367.8949	369.8919	367.8949	369.8919	1.32-1.78		
	Noise	00:00	00:00	0	180	143	72	57	1.26 *	/	
	13C-1,2,3,7,8-PeCDD	43:03	43:02	1	583201	371552	163435	102656	1.57	ABV/ABV	
374					373.8208	375.8178	373.8208	375.8178	1.05-1.43		
	Noise	00:00	00:00	0	150	113	60	45	1.33	/	
	Unidentified	45:05	00:00	0	1081	844	349	152	1.28	ABB/ABB	
	1,2,3,4,7,8-HxCDF	46:11	46:10	1	1497	1160	383	257	1.29	MVV/ABB	T
	1,2,3,6,7,8-HxCDF	46:17	46:19	-2	1177	1164	264	382	1.01 *	MVV/ABB	R
384					383.8639	385.8610	383.8639	385.8610	0.43-0.59		
	Noise	00:00	00:00	0	163	175	65	70	0.93 *	/	
	13C-1,2,3,4,7,8-HxCDF	46:09	46:09	0	665742	1259375	195842	369415	0.53	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDF	46:17	46:18	-1	391984	737613	109779	204735	0.53	AVV/AVV	
390					389.8156	391.8127	389.8156	391.8127	1.05-1.43		
	Noise	00:00	00:00	0	110	153	44	61	0.72 *	/	
402					401.8559	403.8529	401.8559	403.8529	1.05-1.43		
	Noise	00:00	00:00	0	145	270	58	108	0.54 *	/	
	13C-1,2,3,4,7,8-HxCDD	47:14	47:14	0	859897	681414	228491	186838	1.26	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDD	47:21	47:21	0	463476	374453	121959	101993	1.24	AVV/AVB	
	13C-1,2,3,7,8,9-HxCDD	47:47	47:47	0	971146	787590	261374	205448	1.23	ABV/ABB	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1G1AA	Prep Batch	6107079	Lot No	H6D030236-003
Data File	/20060504s1/bth2h1g.d	Prep Date	04/17/06	SDG No	
Analysis ID	90536	Prep Exp Date	04/28/06	Date Received	04/02/06
Analysis Date	05/04/06 17:12	Matrix	AIR	Date Sampled	03/29/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSINX801
Instrument	M2A	Extract Vol	20 uL	Method	0023/8290
Analyst	BFW	Diluton Factor	1.00	Code	X8

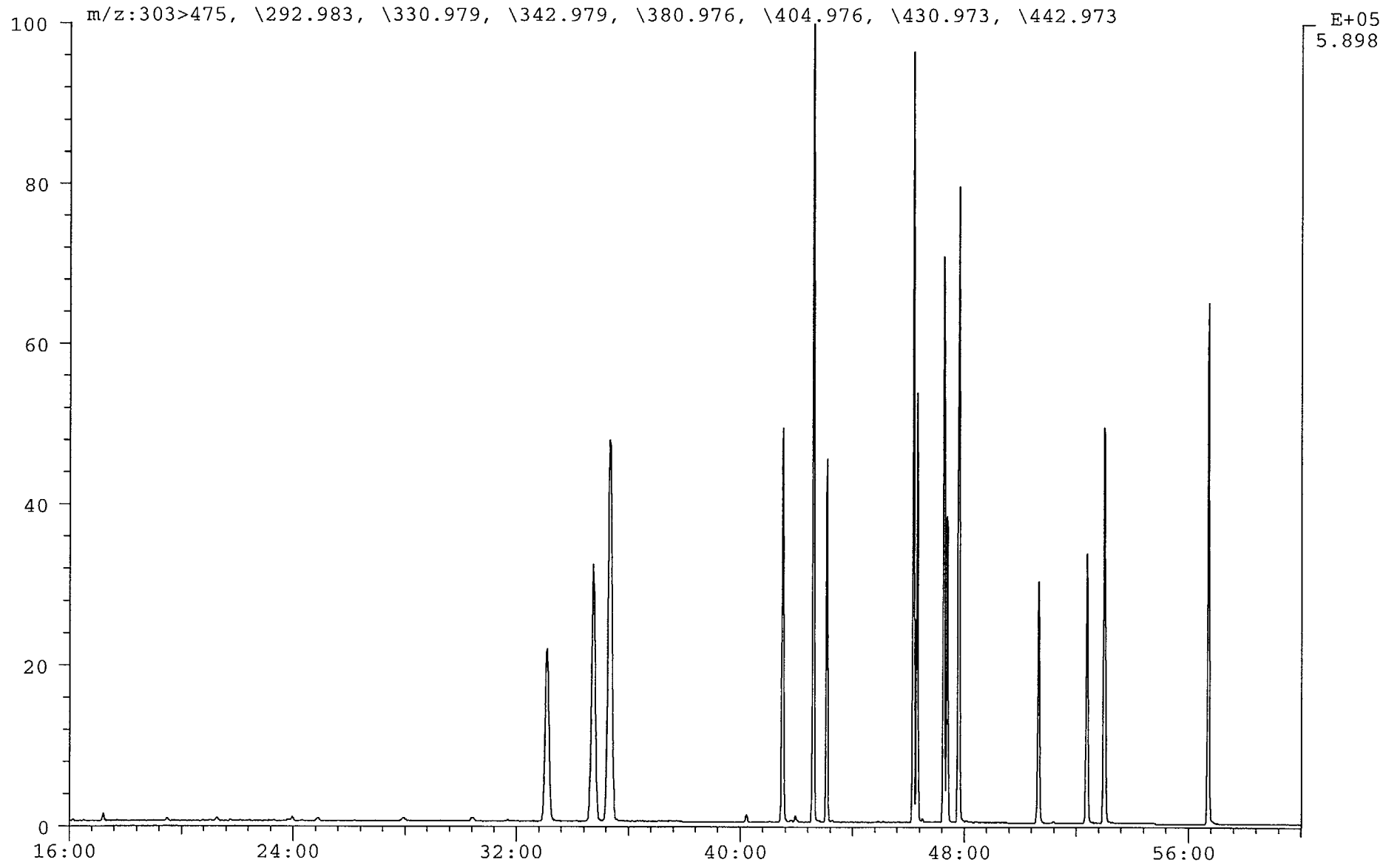
View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
408					407.7818	409.7788	407.7818	409.7788	0.88-1.20		
	Noise	00:00	00:00	0	150	123	60	49	1.22 *	/	
	1,2,3,4,6,7,8-HpCDF	50:42	50:38	4	8474	2013	1788	454	4.21 *	ABB/ABB	RDT
418					417.8250	419.8220	417.8250	419.8220	0.37-0.51		
	Noise	00:00	00:00	0	158	150	63	60	1.05 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	50:38	50:38	0	250141	547733	56222	119923	0.46	ABV/ABV	
	13C-1,2,3,4,7,8,9-HpCDF	52:58	52:58	0	409457	912835	90497	199050	0.45	ABV/ABV	
424					423.7767	425.7737	423.7767	425.7737	0.88-1.20		
	Noise	00:00	00:00	0	138	100	55	40	1.38 *	/	
	Unidentified	51:12	00:00	0	1023	1206	188	291	0.85 *	ABB/ABB	RTXM
436					435.8169	437.8140	435.8169	437.8140	0.88-1.20		
	Noise	00:00	00:00	0	143	103	57	41	1.39 *	/	
	13C-1,2,3,4,6,7,8-HpCDD	52:21	52:21	0	454550	431518	99673	97628	1.05	ABV/ABV	
442					441.7428	443.7399	441.7428	443.7399	0.76-1.02		
	Noise	00:00	00:00	0	125	163	50	65	0.77	/	
	OCDF	56:52	56:51	1	1665	2568	376	493	0.65 *	MBB/ABB	R
458					457.7377	459.7348	457.7377	459.7348	0.76-1.02		
	Noise	00:00	00:00	0	120	158	48	63	0.76	/	
	OCDD	56:42	56:42	0	5347	6173	1696	1490	0.87	MBB/MBB	
470					469.7780	471.7750	469.7780	471.7750	0.76-1.02		
	Noise	00:00	00:00	0	158	153	63	61	1.03 *	/	
	13C-OCDD	56:41	56:41	0	674799	757821	180027	199390	0.89	ABV/ABV	

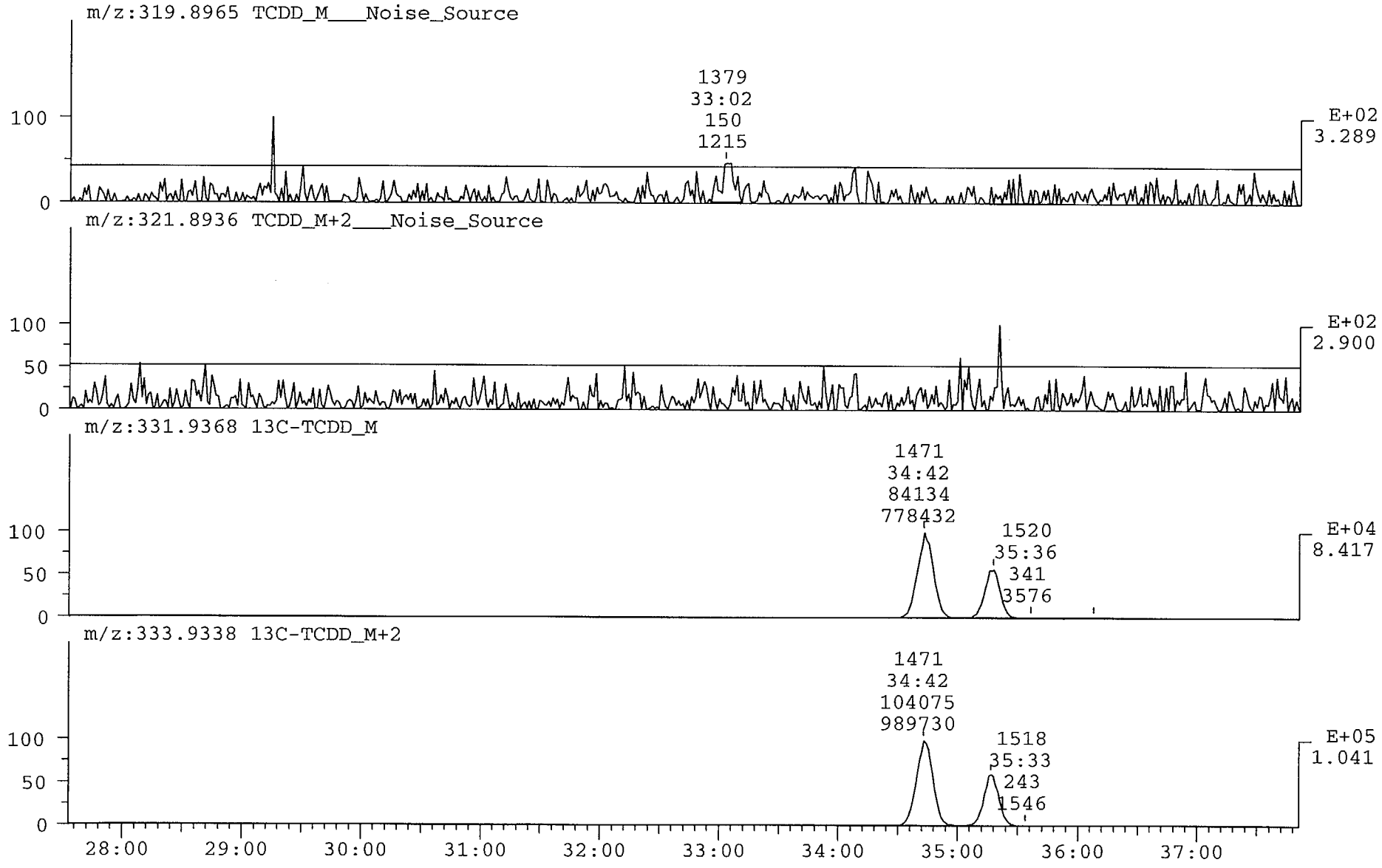
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

CHRO: bth2h1g 04-May-06 Elapse: 56:43 2702
Samp: Vial 5 WO=h2h1g1aa Meth=X8 Dil=1 Start : 17:12:46 2887
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-003 Inlet : GC Vial 5
Peak: 100.00 ppm Label wndw: 440 > 2887 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

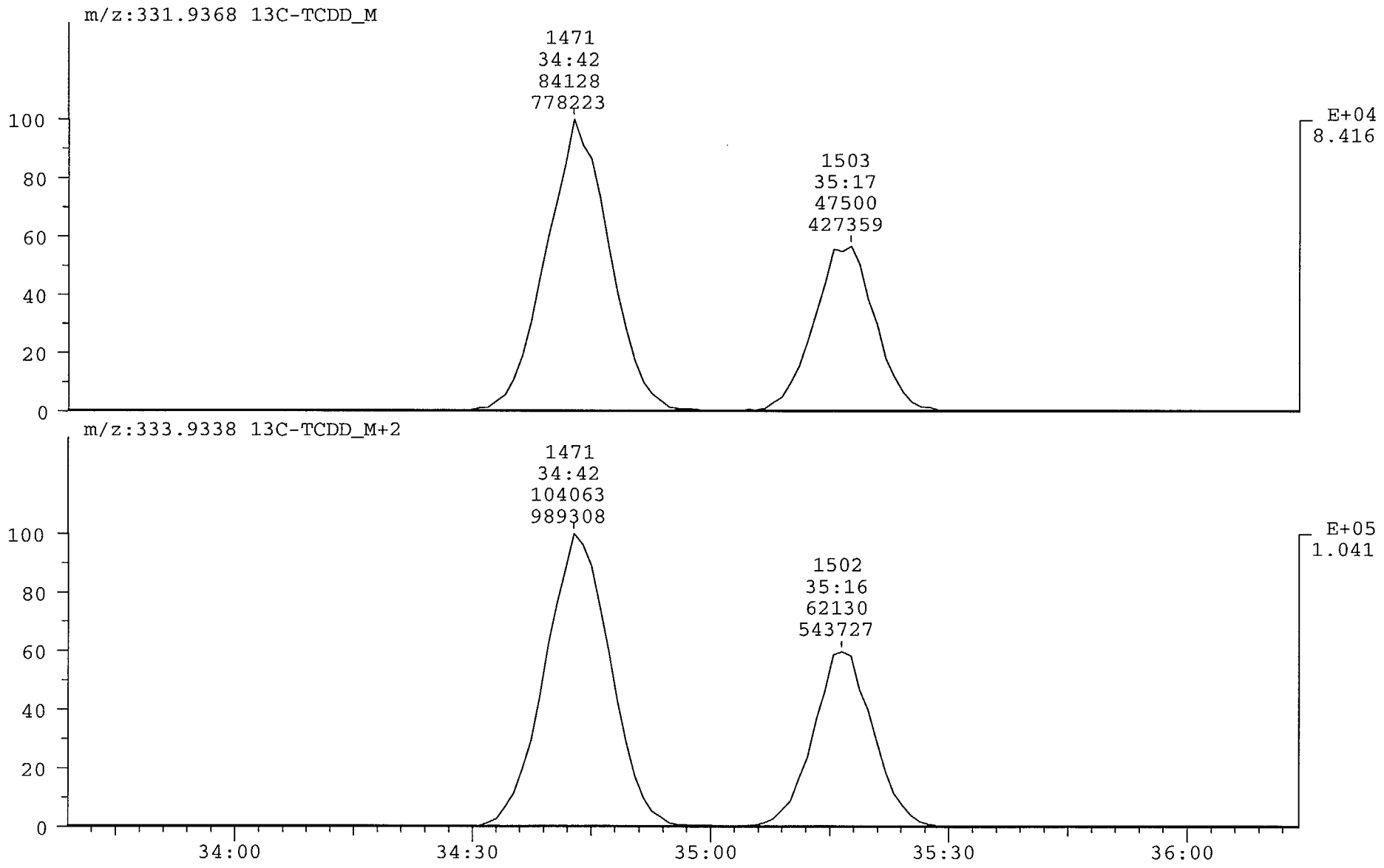
Int PMP 5-4-06
Calc BKW 5/5/06
QC/Rev PMP 5-6-06



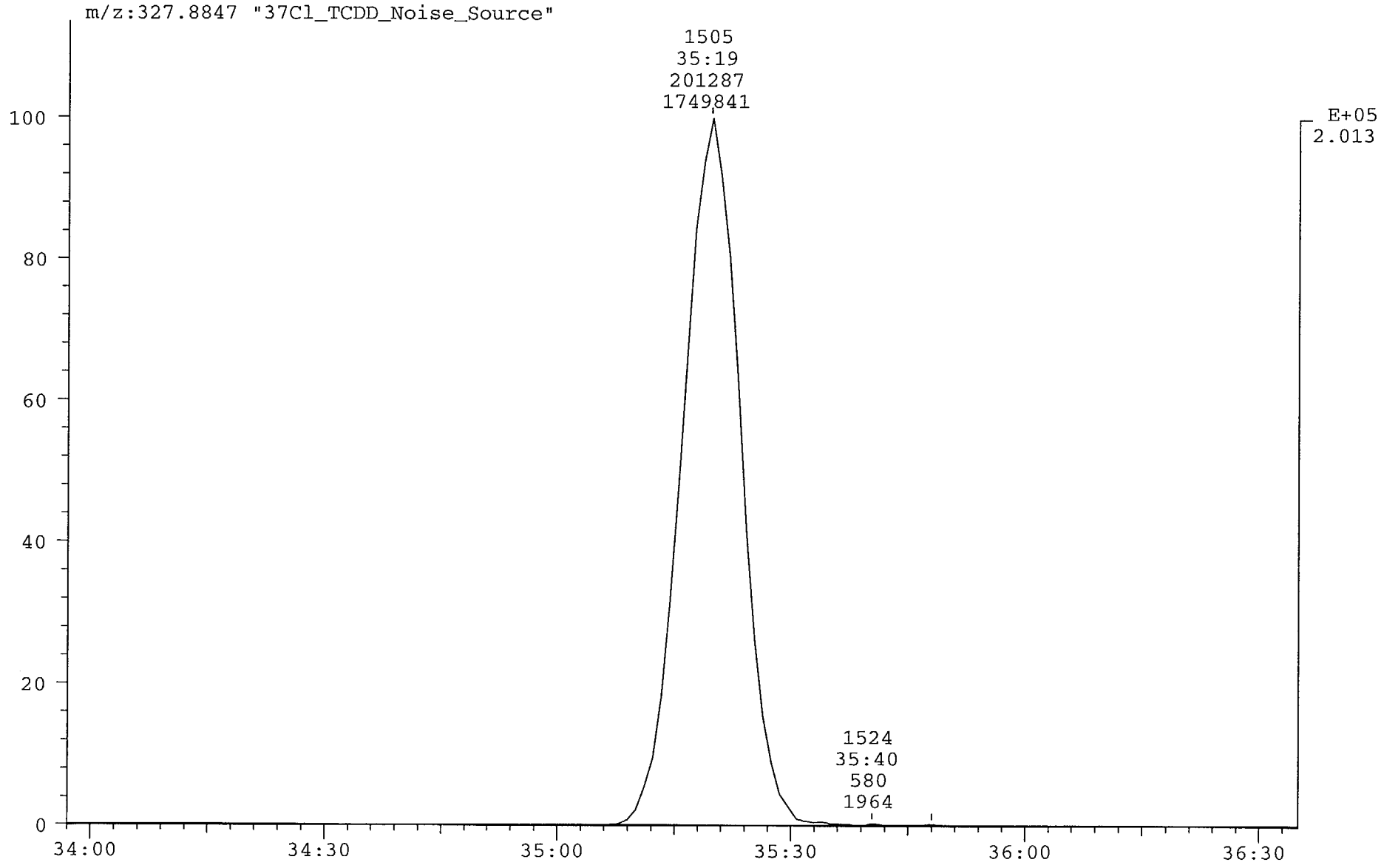
```
CHRO:  bth2h1g                                  04-May-06   Elapse:  56:43      2702
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                     Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-003                Inlet :  GC     Vial   5
Peak:  100.00  ppm      Label wndw:   1076 > 1644           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



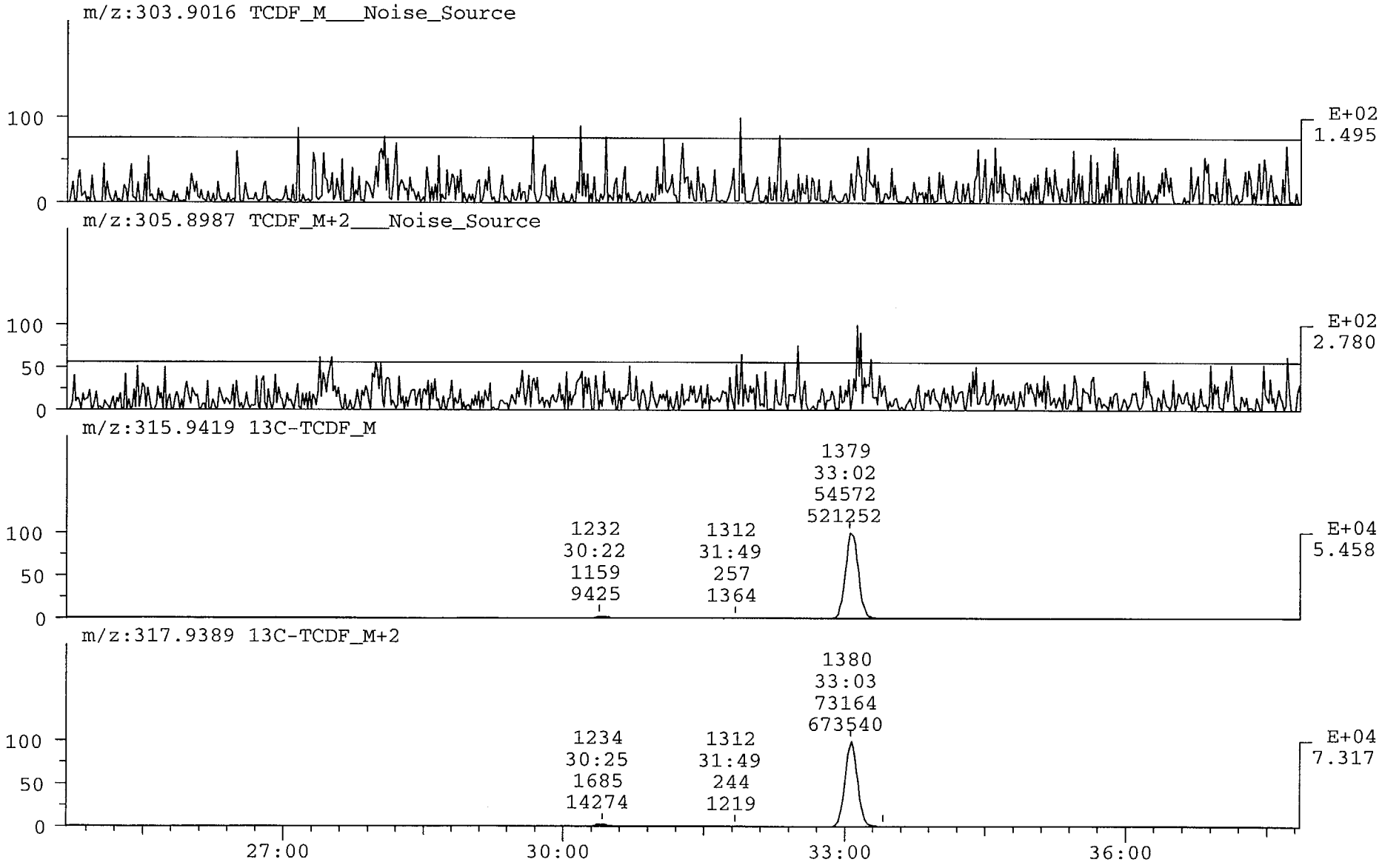
```
CHRO:  bth2h1g                                  04-May-06   Elapse:  34:55      1483
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                     Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-003                Inlet :  GC     Vial   5
Peak:  100.00  ppm      Label wndw:   1412 > 1555           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



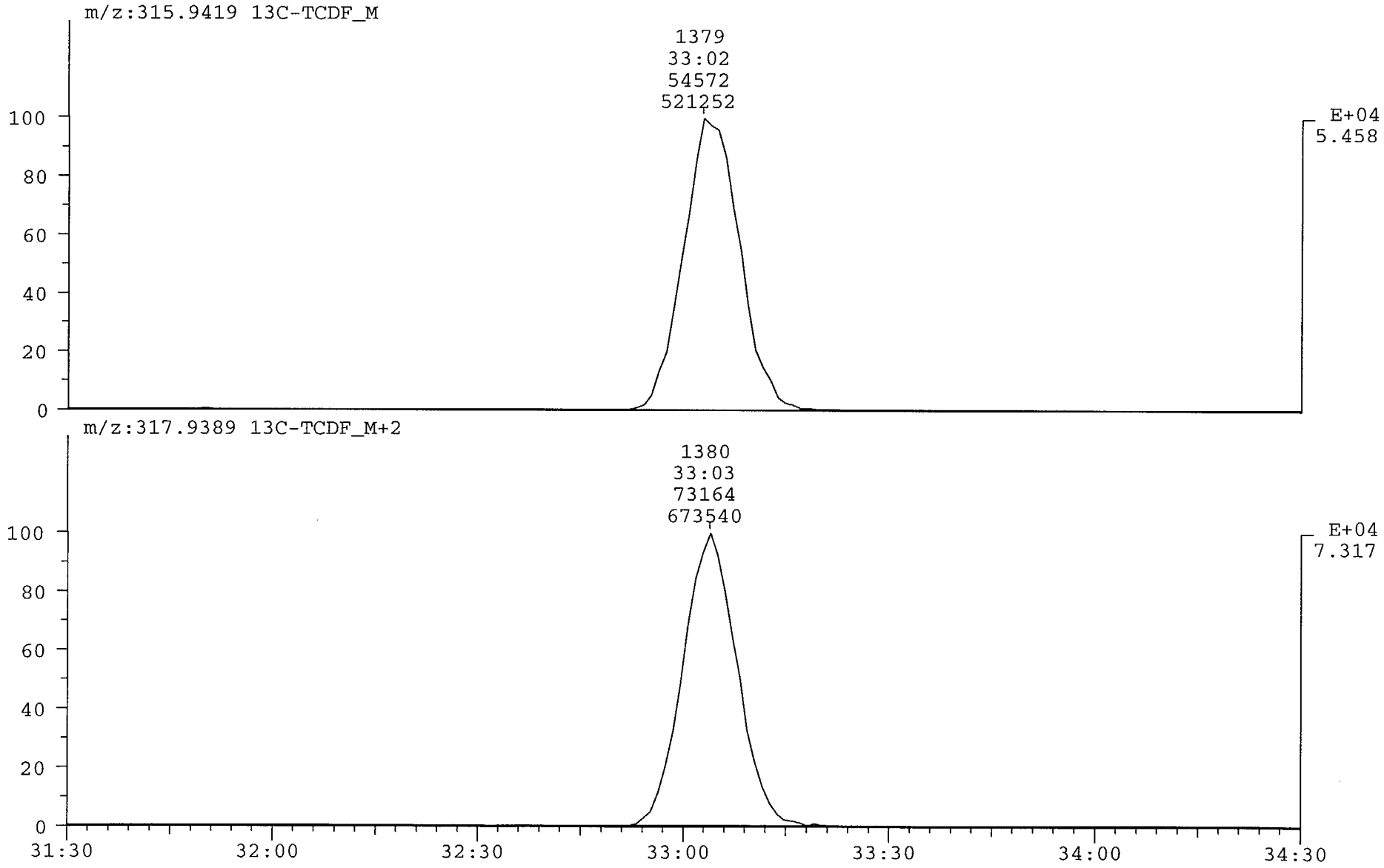
```
CHRO:  bth2h1g                                  04-May-06   Elapse:  35:13      1499
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                     Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-003                Inlet :  GC     Vial   5
Peak:  100.00  ppm      Label wndw:   1429 > 1574           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



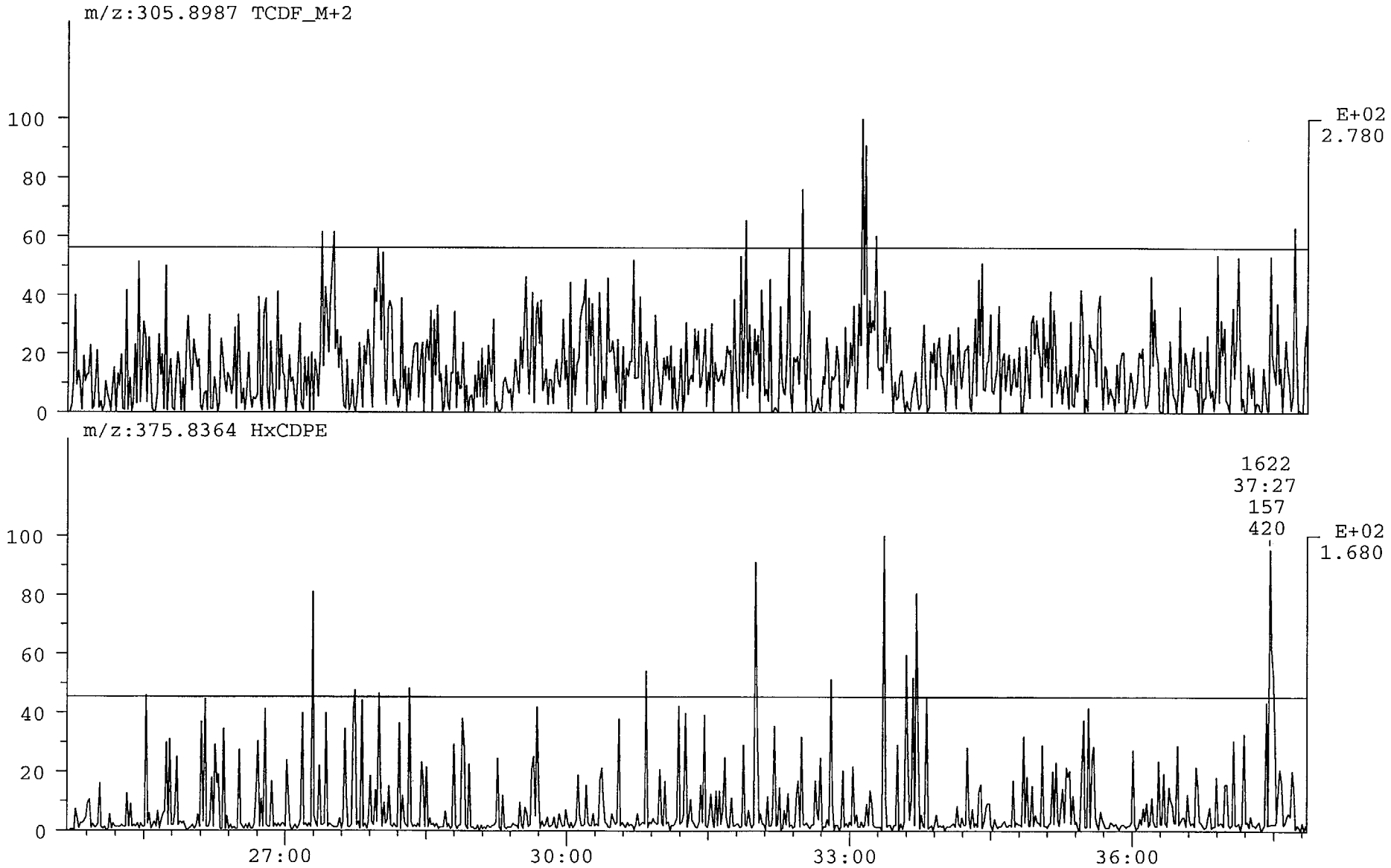
```
CHRO:  bth2h1g                                  04-May-06  Elapse:  35:13      1499
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                    Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107079 (Air)
Oper:  BFW          Client:  H6D030236-003                 Inlet :  GC     Vial   5
Peak:  100.00  ppm     Label wndw:   918 > 1644            Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



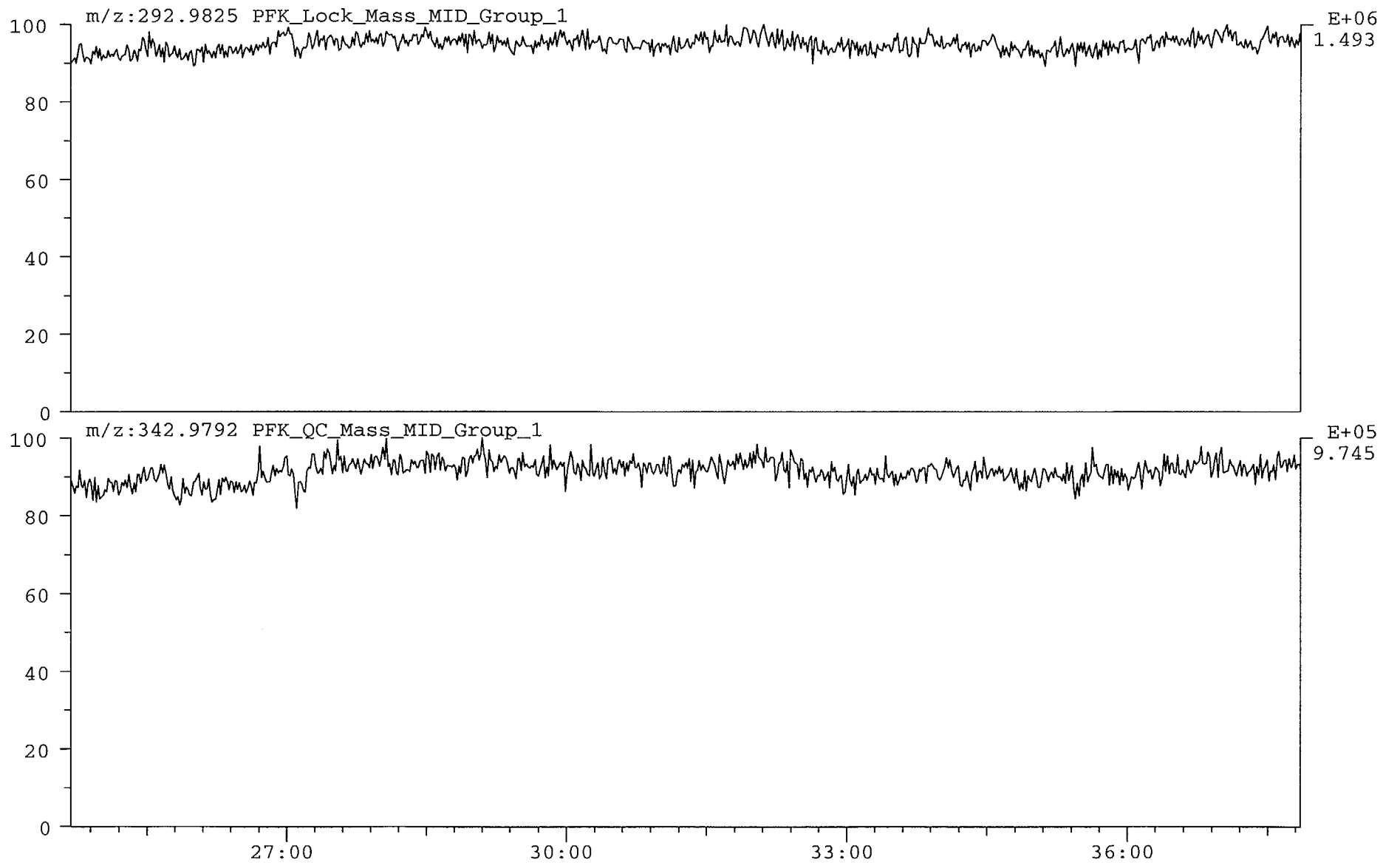
```
CHRO:  bth2h1g                                  04-May-06   Elapse:  32:57      1374
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                     Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-003                Inlet :  GC     Vial   5
Peak:  100.00  ppm      Label wndw:   1294 > 1459           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



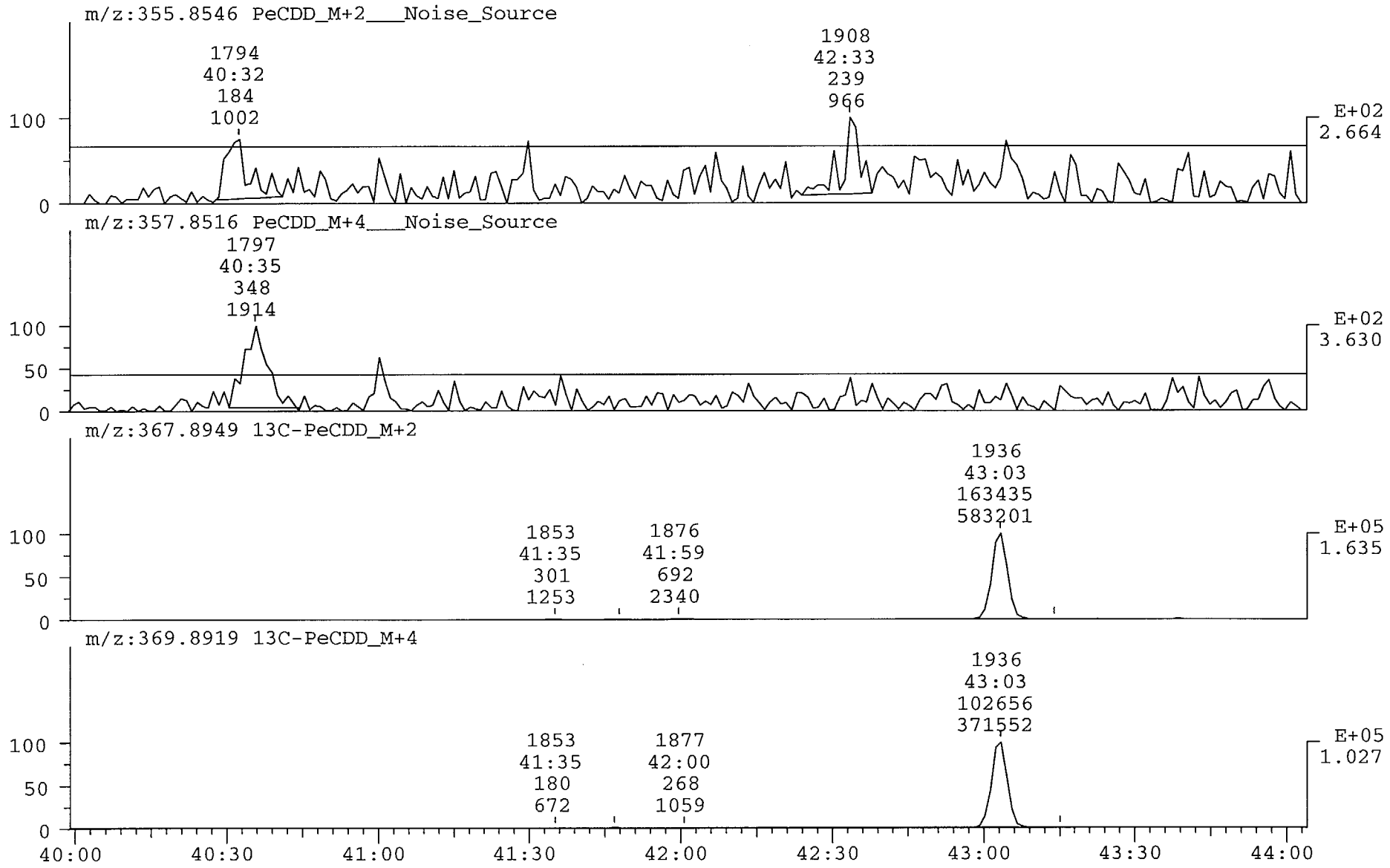
```
CHRO:  bth2h1g                                  04-May-06   Elapse:  32:57      1374
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                     Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-003                Inlet :  GC     Vial   5
Peak:  100.00  ppm      Label wndw:   918 > 1644            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



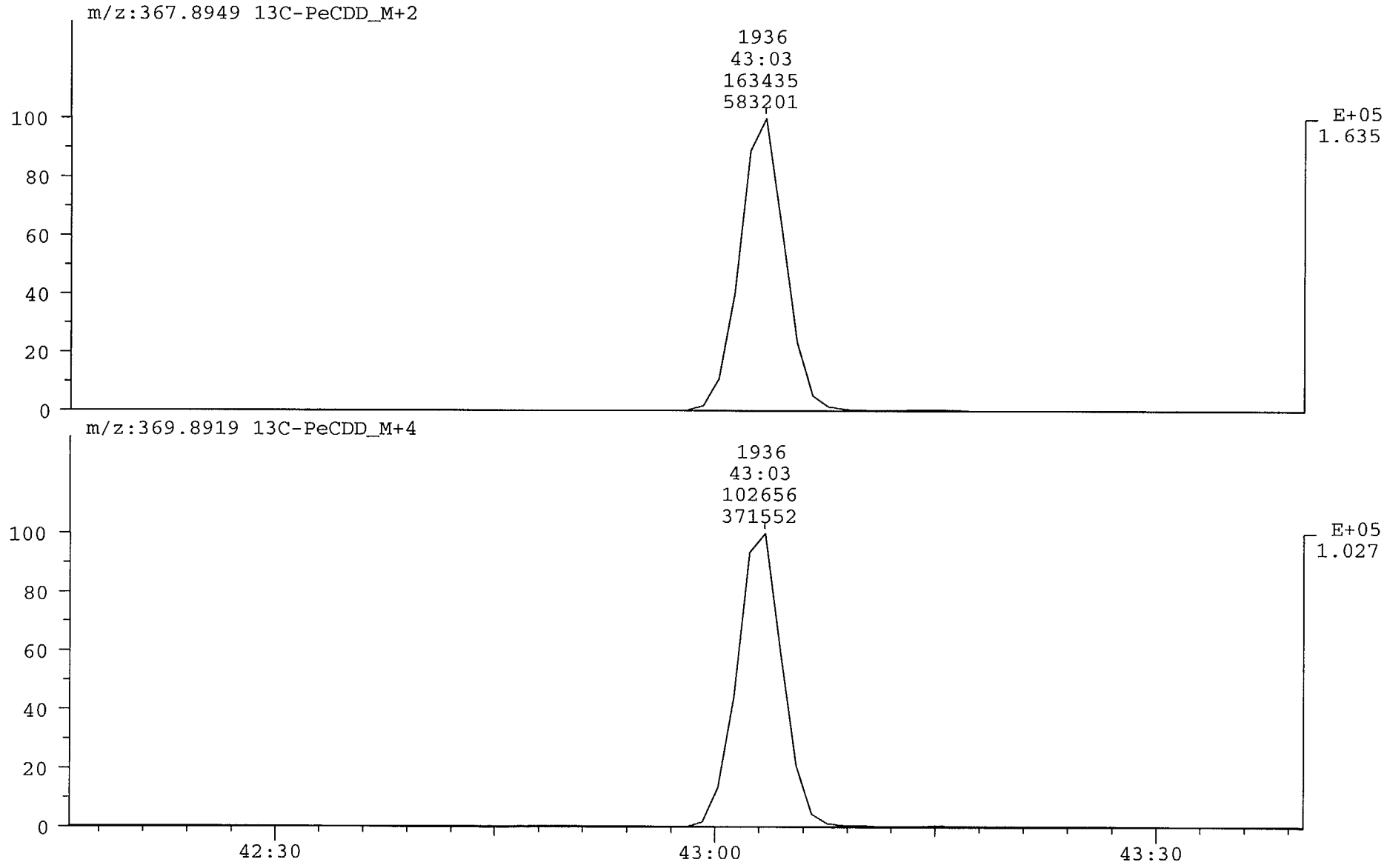
```
CHRO:  bth2h1g                                04-May-06  Elapse:  32:57      1374
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                  Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (Air)
Oper:  BFW          Client:  H6D030236-003               Inlet :  GC     Vial   5
Peak:  100.00  ppm     Label wndw:   918 > 1644          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



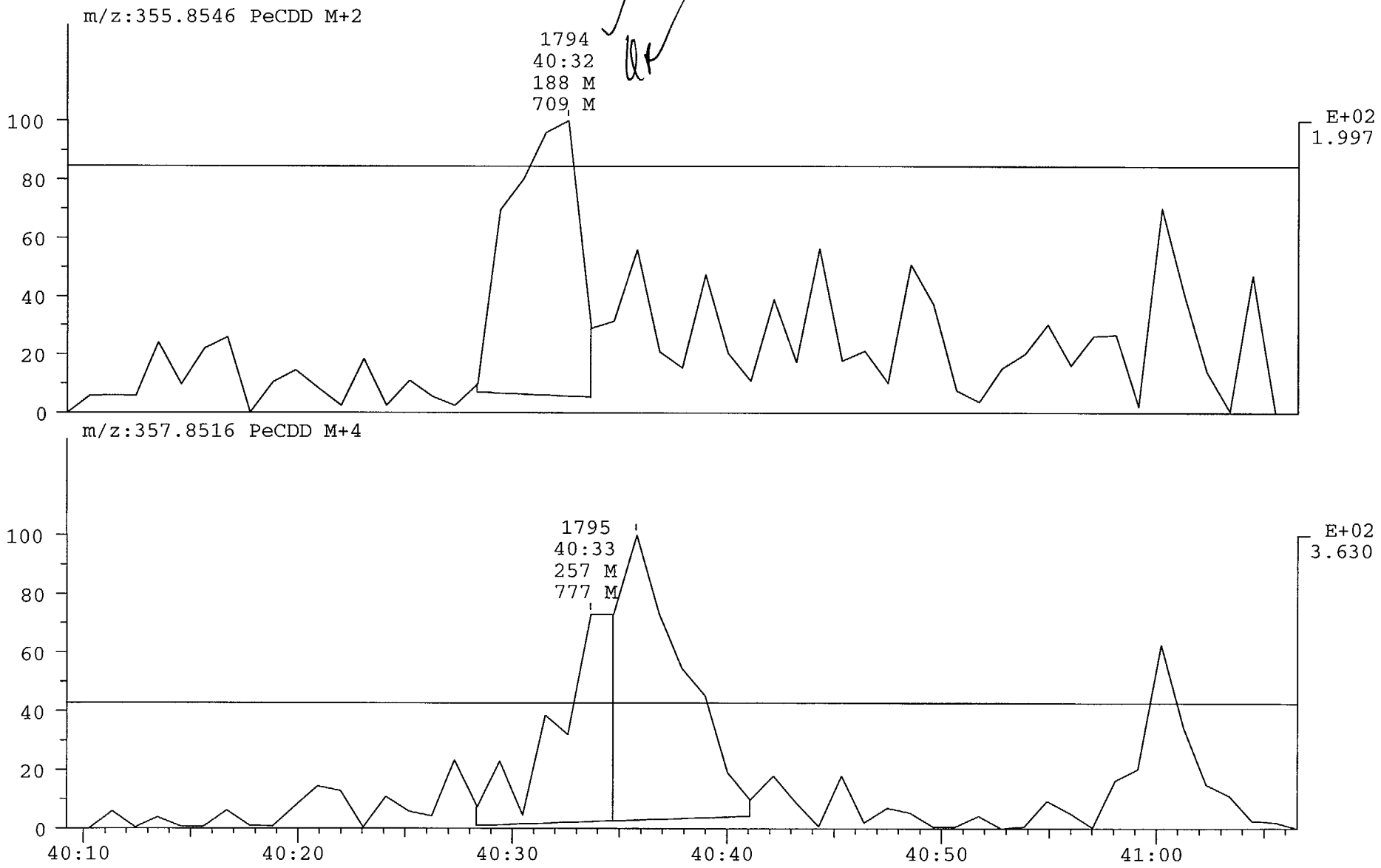
```
CHRO:  bth2h1g                                  04-May-06   Elapse:  32:57      1374
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                     Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-003                Inlet :  GC     Vial   5
Peak:  100.00  ppm      Label wndw:   1762 > 1993           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



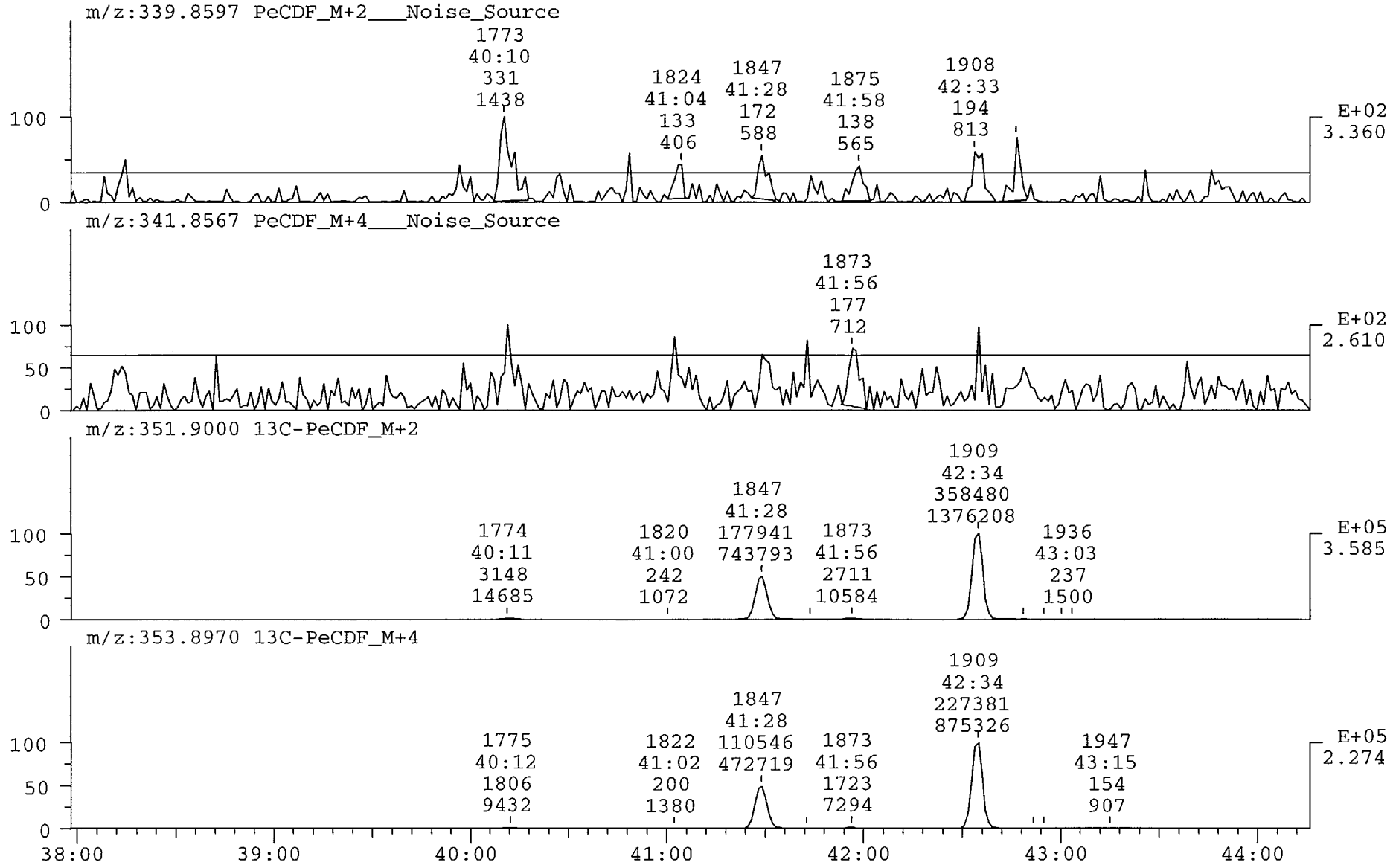
```
CHRO:  bth2h1g                                  04-May-06   Elapse:  42:54      1928
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                     Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-003                Inlet :  GC     Vial   5
Peak:  100.00  ppm      Label wndw:   1891 > 1971           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



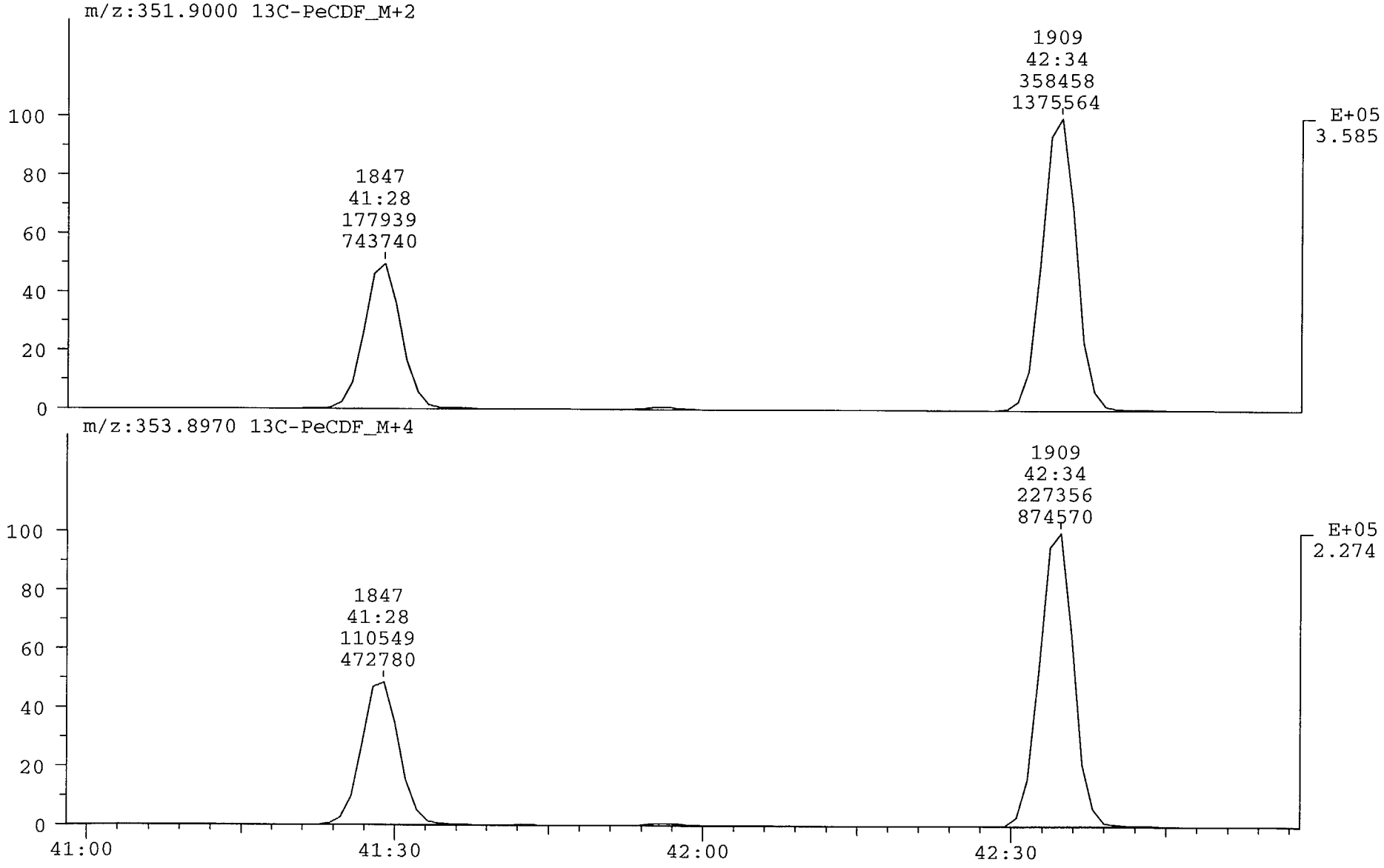
```
CHRO:  bth2h1g                                  04-May-06   Elapse:  56:45      2704
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                     Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW          Client:  H6D030236-003                  Inlet :  GC     Vial   5
Peak:  100.00  ppm     Label wndw:   1000 > 3500            Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



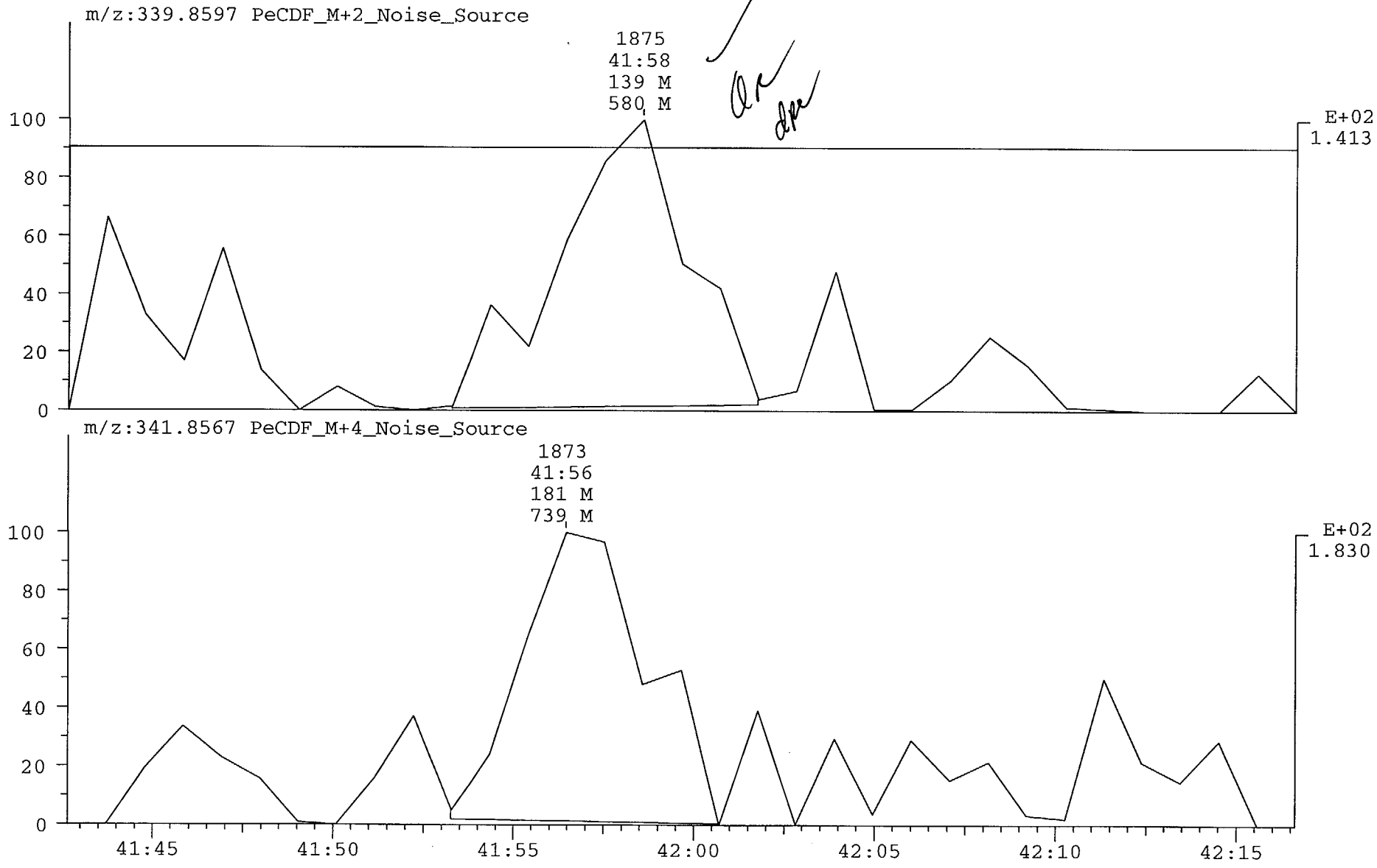
```
CHRO:  bth2h1g                                  04-May-06   Elapse:  42:54      1928
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                     Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-003                Inlet :  GC     Vial   5
Peak:  100.00  ppm      Label wndw:   1648 > 2004           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



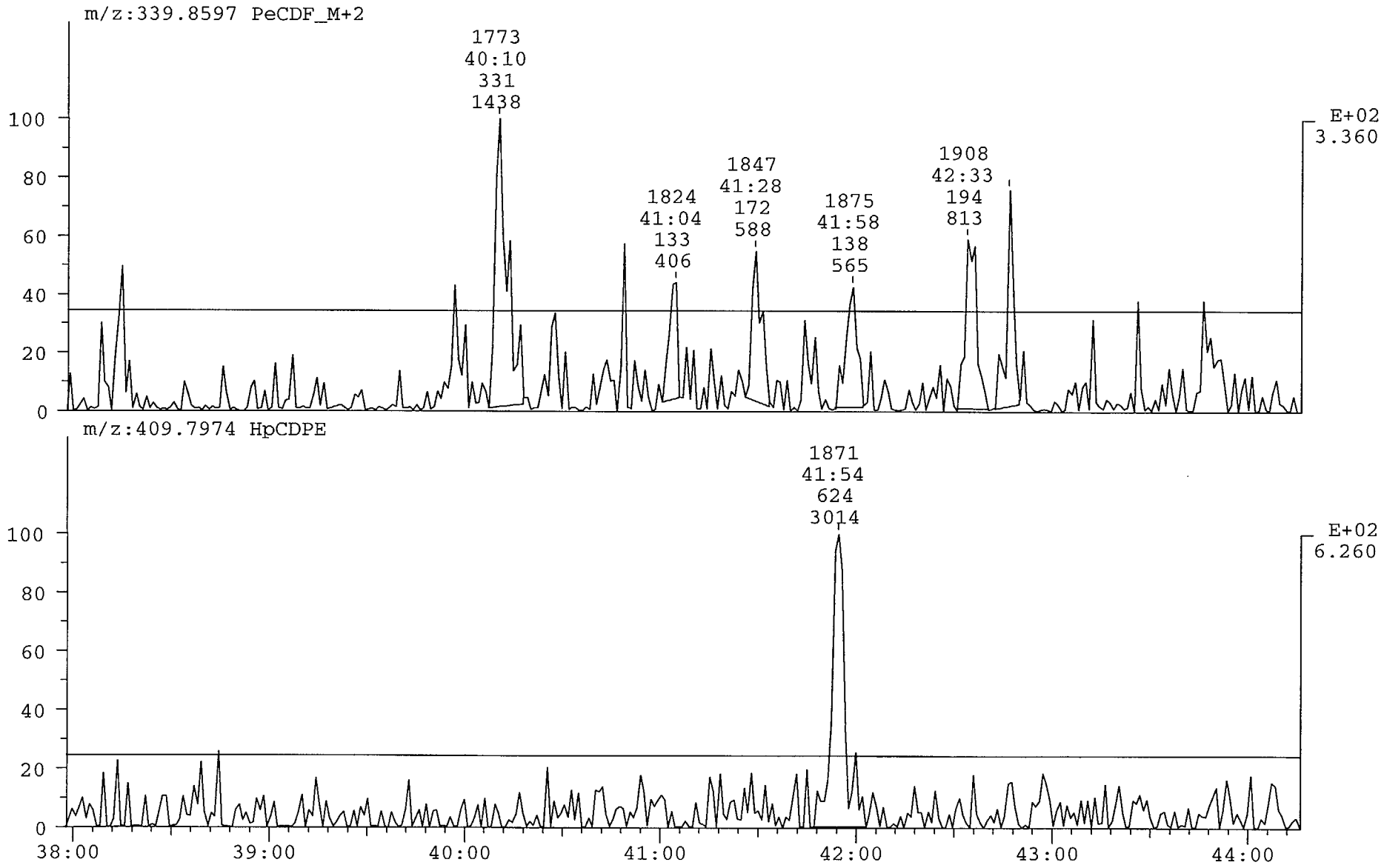
```
CHRO:  bth2h1g                                  04-May-06   Elapse:  41:57      1874
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                     Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-003                Inlet :  GC     Vial   5
Peak:  100.00  ppm      Label wndw:   1818 > 1931           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



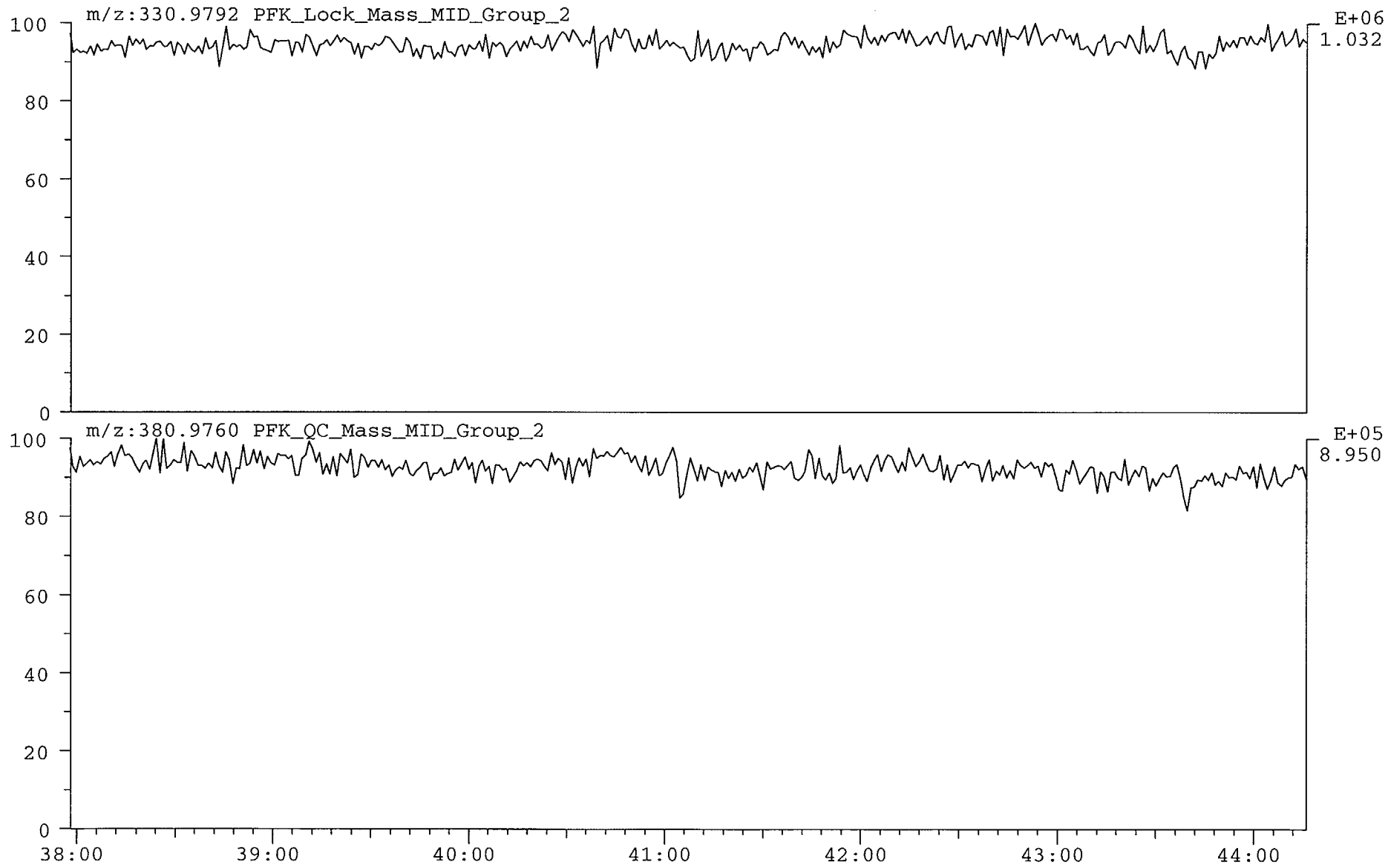
```
CHRO:  bth2h1g                                  04-May-06   Elapse:  56:45      2704
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                     Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-003                Inlet :  GC     Vial   5
Peak:  100.00  ppm      Label wndw:   1860 > 1892           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



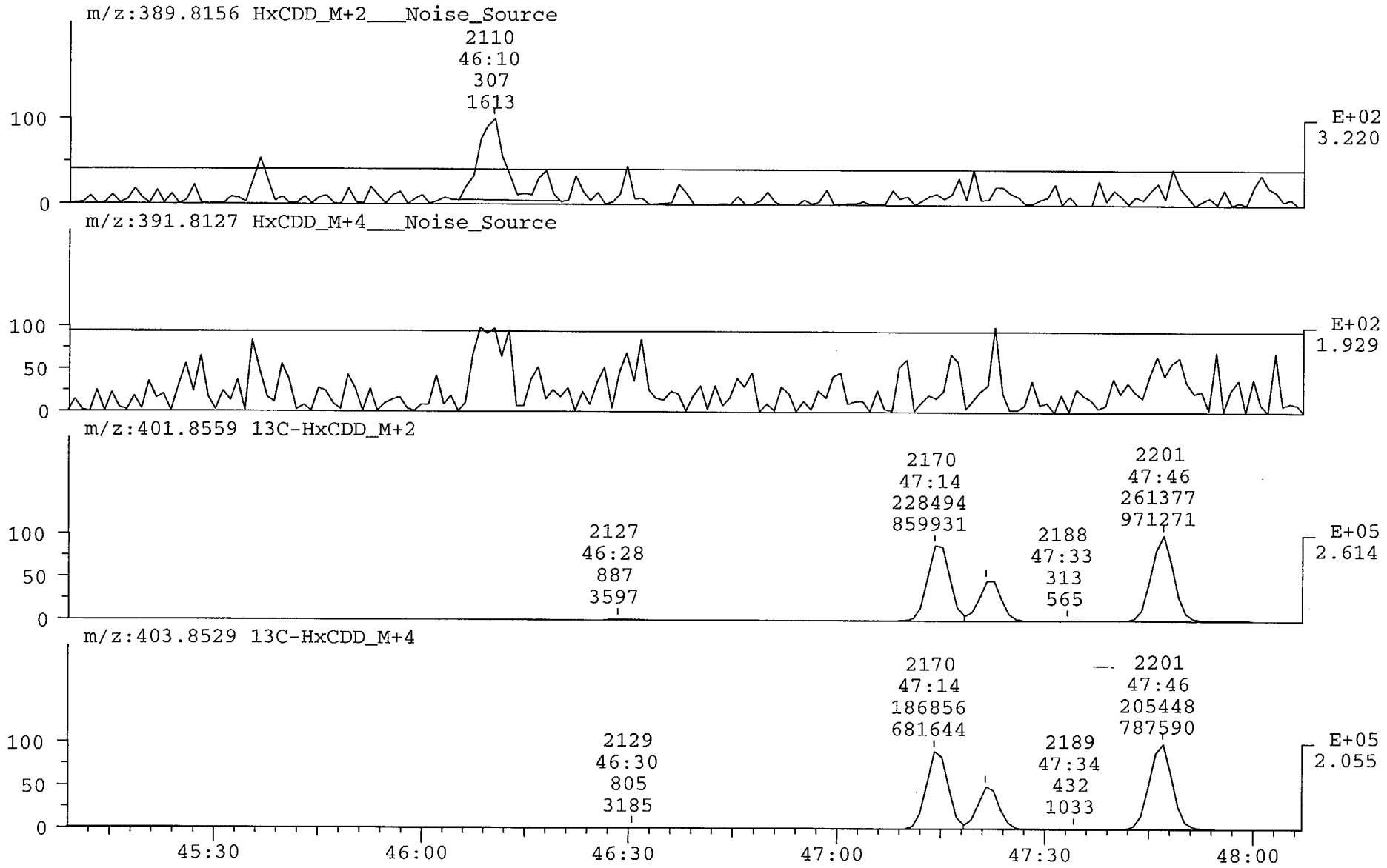
```
CHRO:  bth2h1g                                  04-May-06   Elapse:  41:57      1874
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                     Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW          Client:  H6D030236-003                  Inlet :  GC     Vial   5
Peak:  100.00  ppm     Label wndw:   1648 > 2004            Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



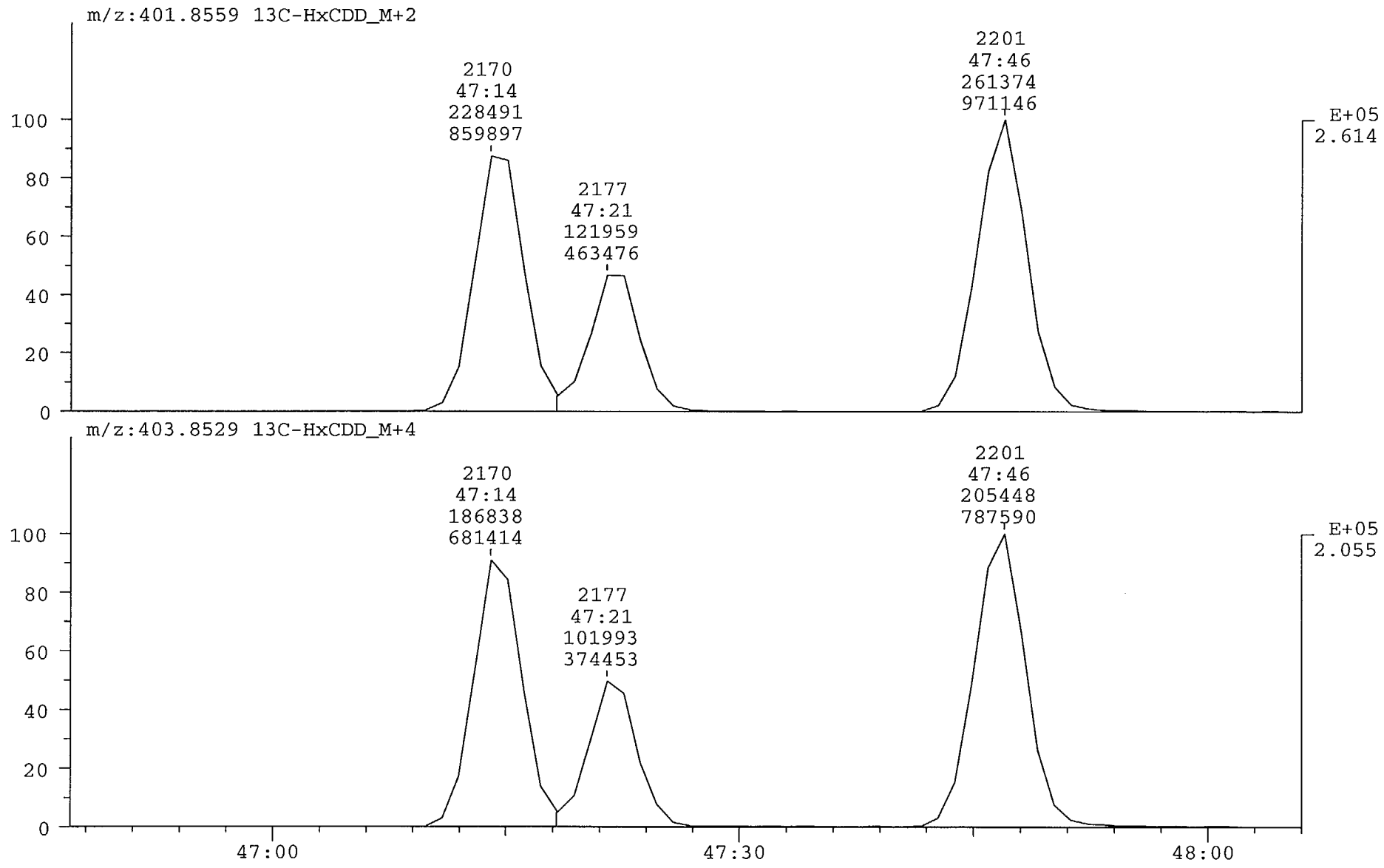
```
CHRO:  bth2h1g                                04-May-06  Elapse:  41:57      1874
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                  Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (Air)
Oper:  BFW          Client:  H6D030236-003               Inlet :  GC     Vial   5
Peak:  100.00  ppm     Label wndw:   1648 > 2004         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



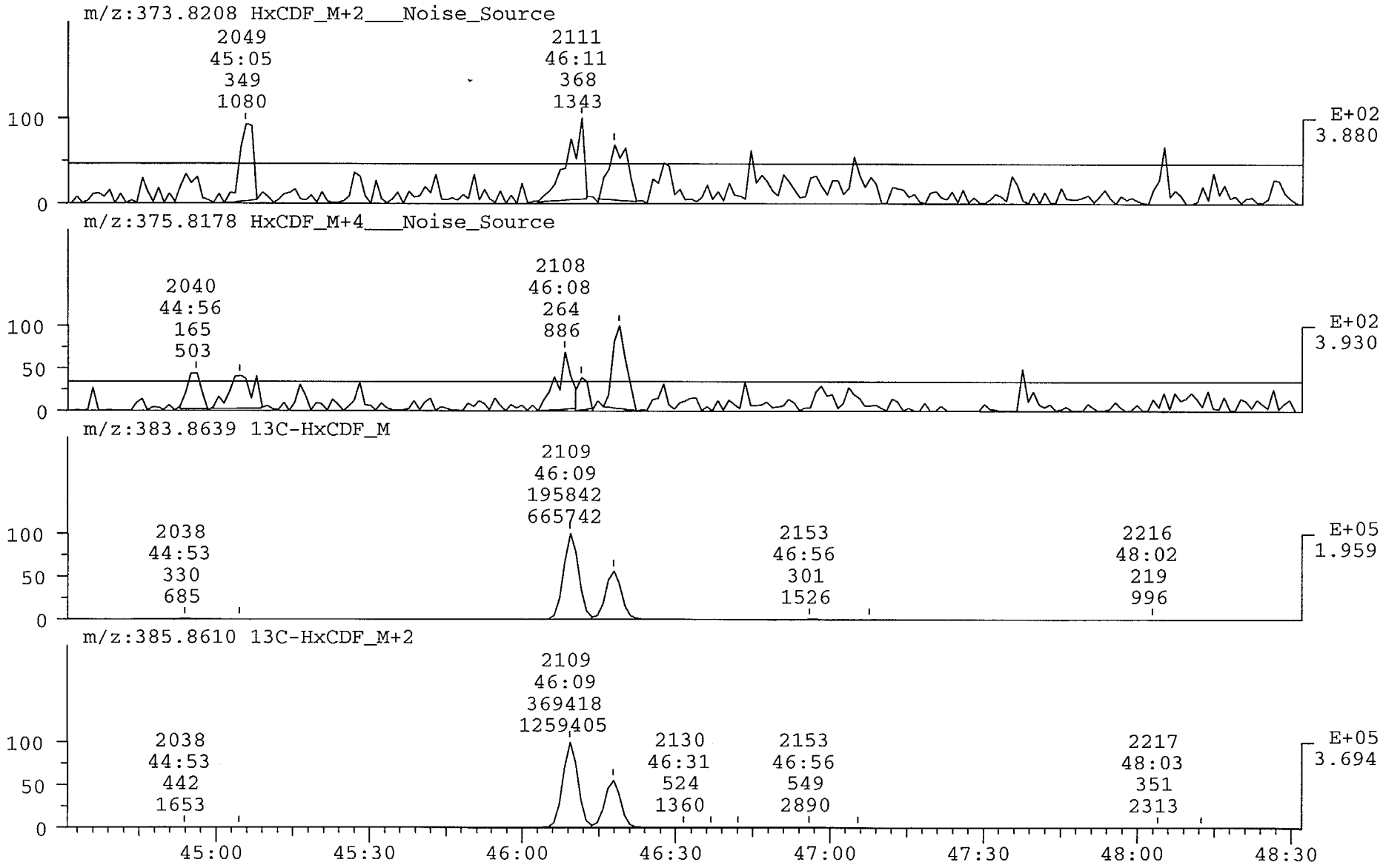
```
CHRO:  bth2h1g                                  04-May-06   Elapse:  41:57      1874
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                     Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-003                Inlet :  GC     Vial   5
Peak:  100.00  ppm      Label wndw:   2052 > 2220           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



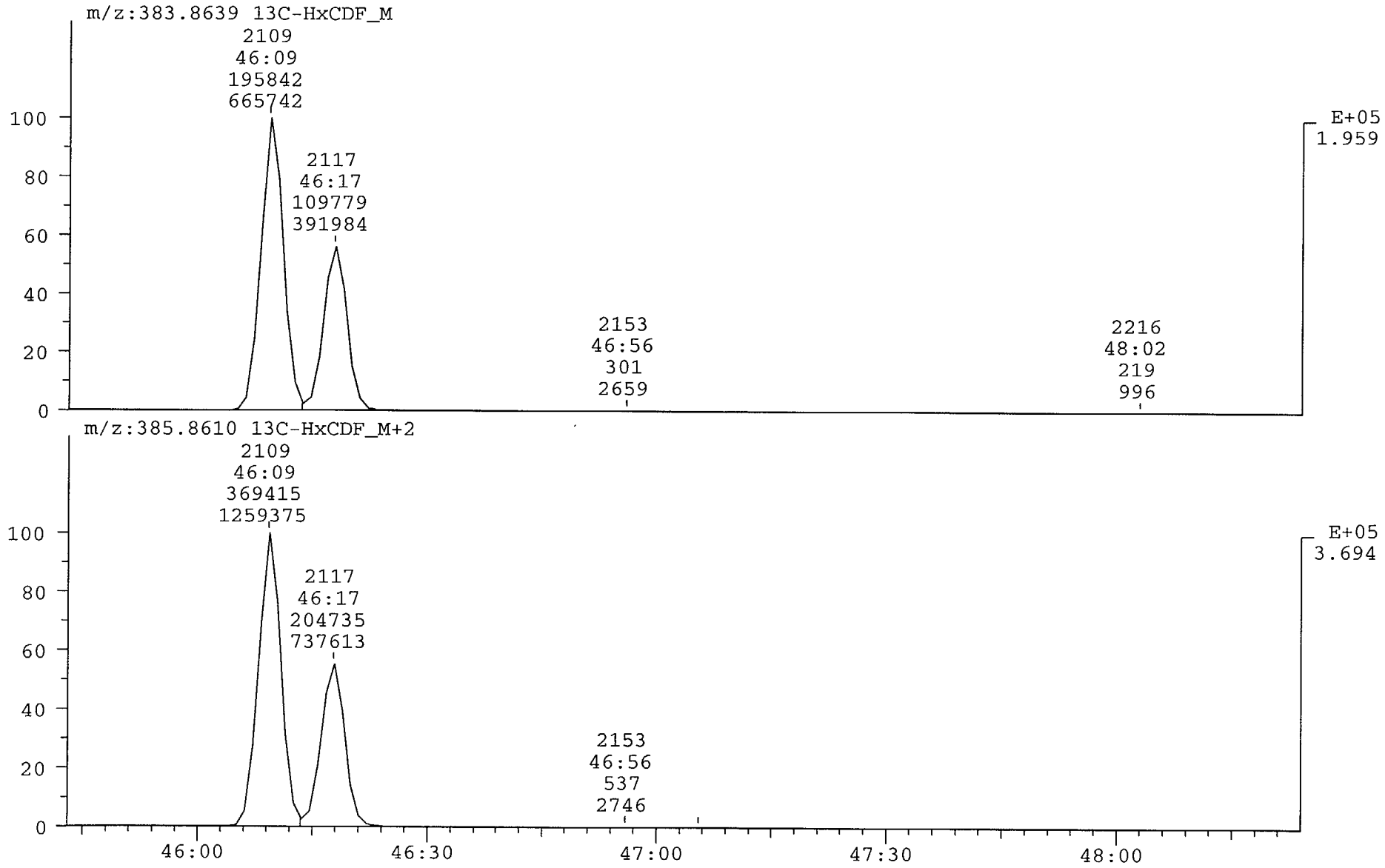
```
CHRO:  bth2h1g                                  04-May-06  Elapse:  47:25      2181
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                    Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107079 (Air)
Oper:  BFW          Client:  H6D030236-003                 Inlet :  GC     Vial   5
Peak:  100.00  ppm     Label wndw:   2145 > 2219           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



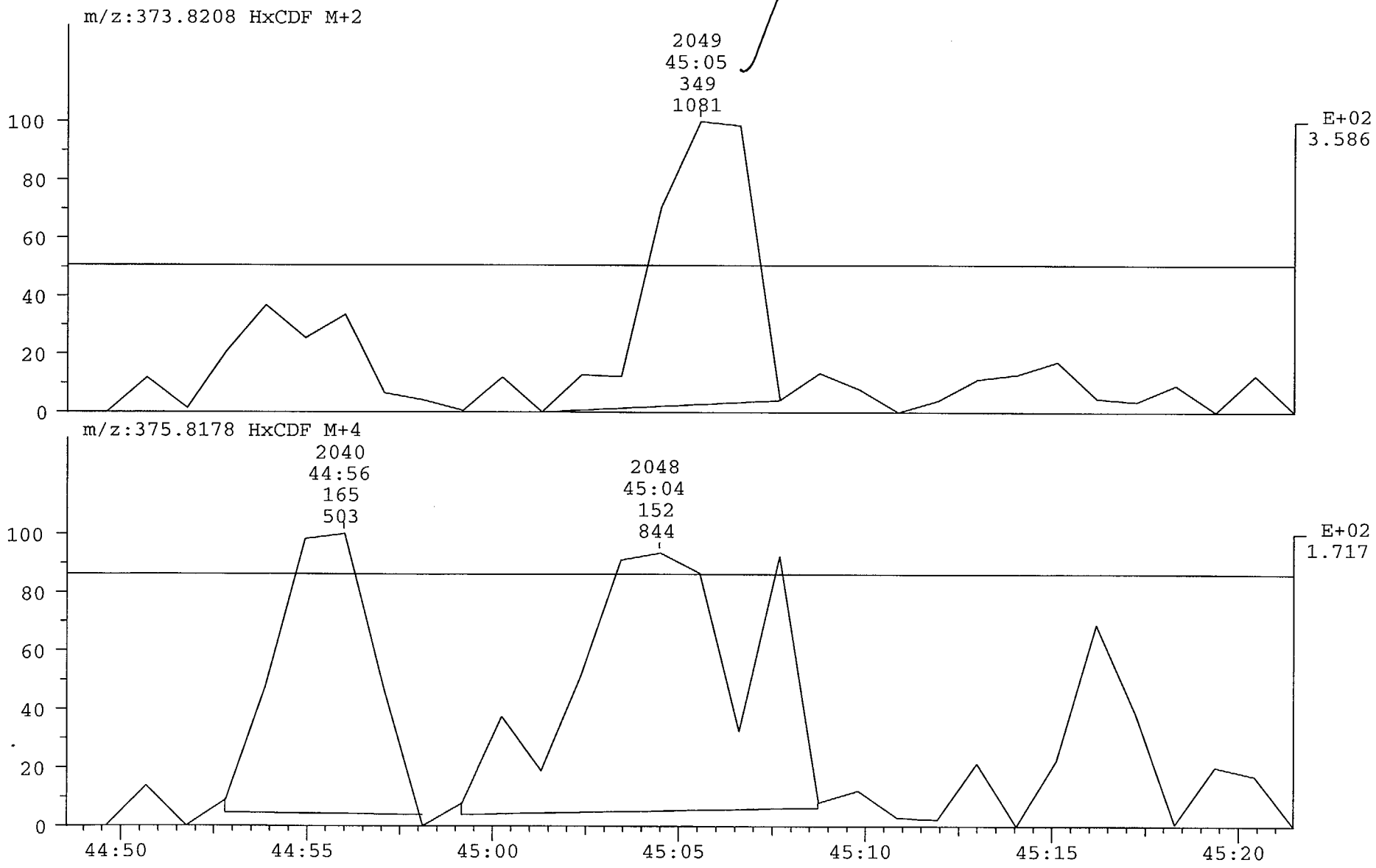
```
CHRO:  bth2h1g                                  04-May-06  Elapse:  47:25      2181
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                    Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-003               Inlet :  GC     Vial   5
Peak:  100.00  ppm      Label wndw:   2016 > 2243          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



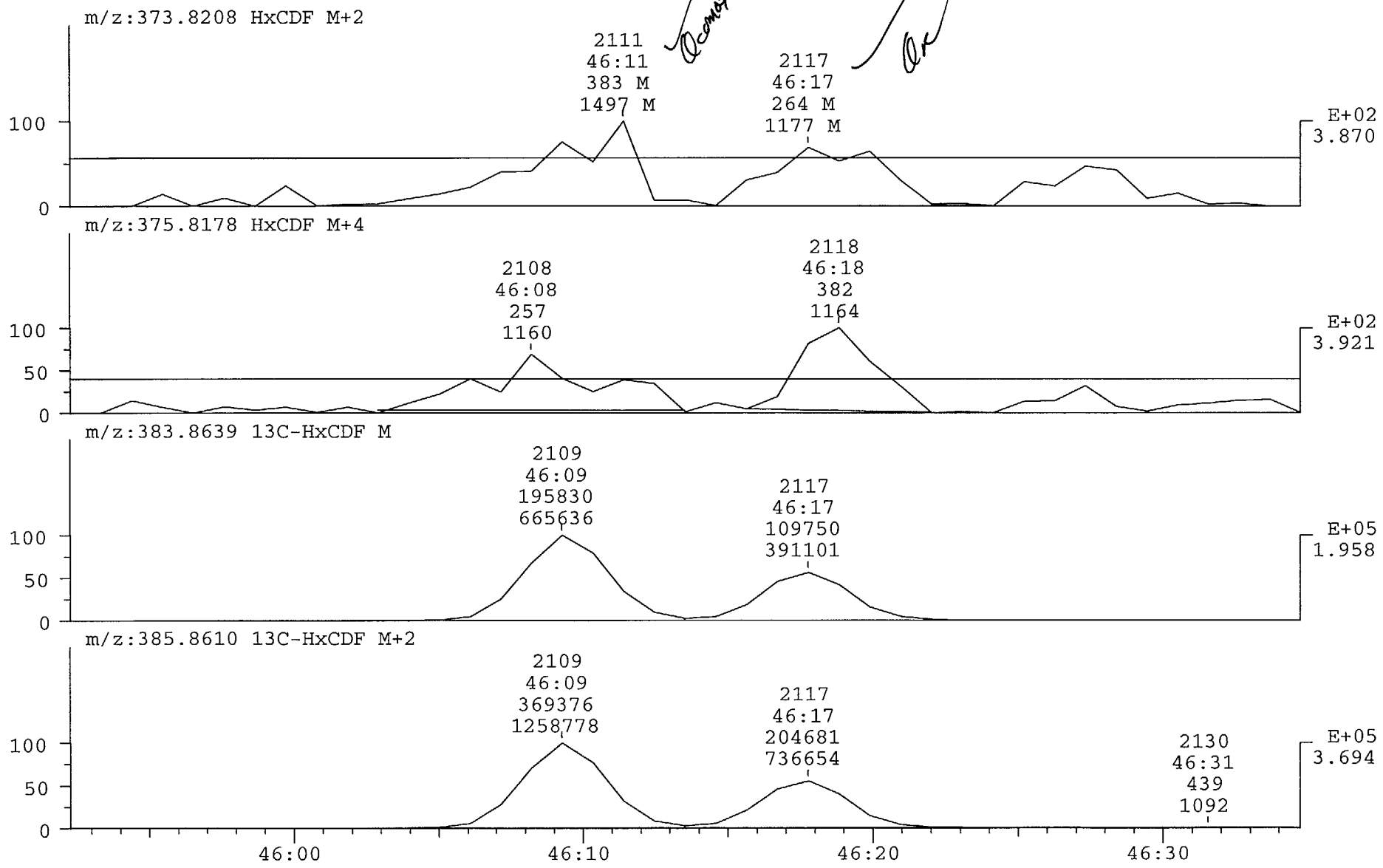
```
CHRO:  bth2h1g                                  04-May-06   Elapse:  47:03      2160
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                     Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-003                Inlet :  GC     Vial   5
Peak:  100.00  ppm      Label wndw:   2084 > 2236           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



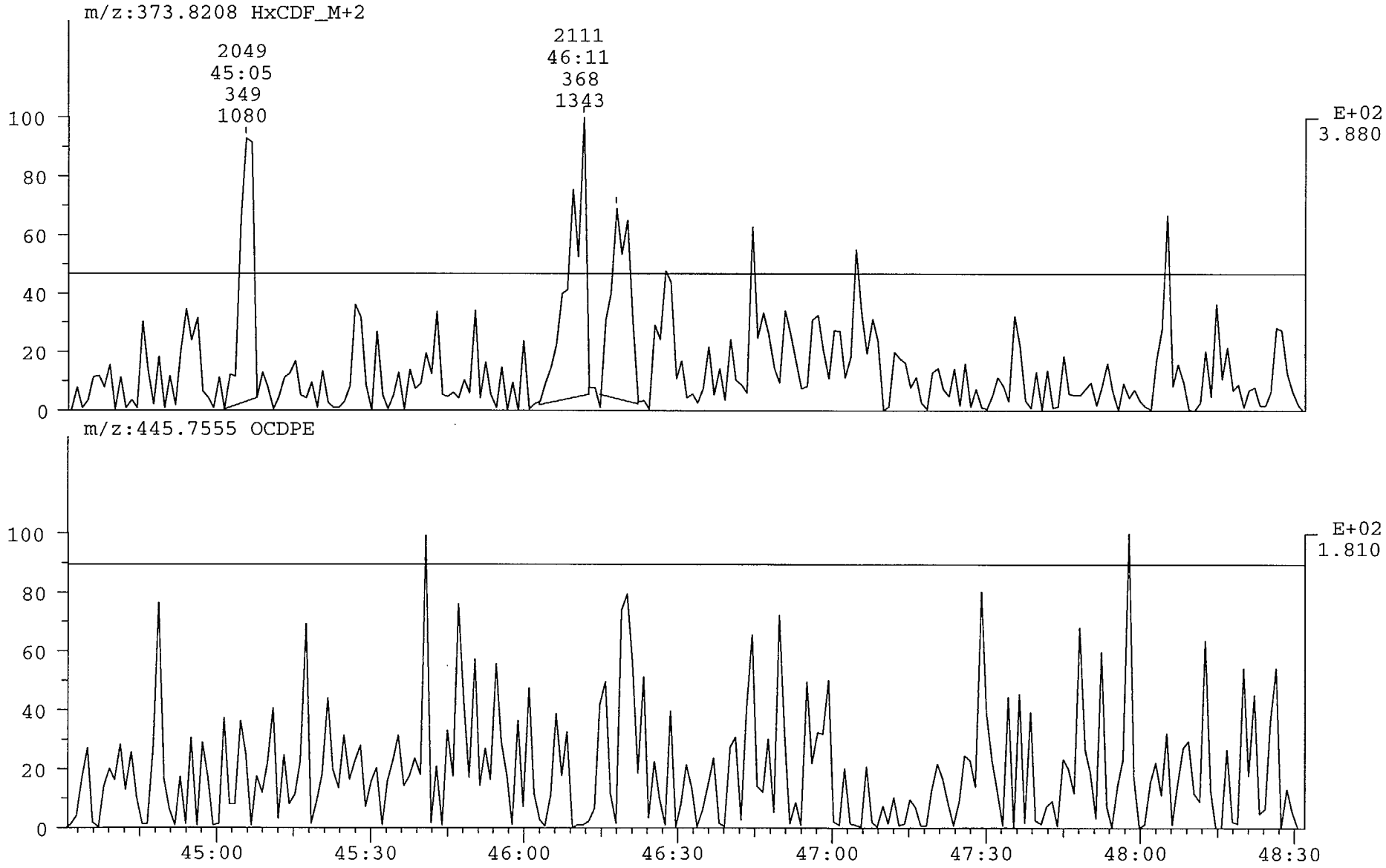
```
CHRO:  bth2h1g                                  04-May-06   Elapse:  56:45      2704
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                     Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-003                Inlet :  GC     Vial   5
Peak:  100.00  ppm      Label wndw:   2033 > 2064           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



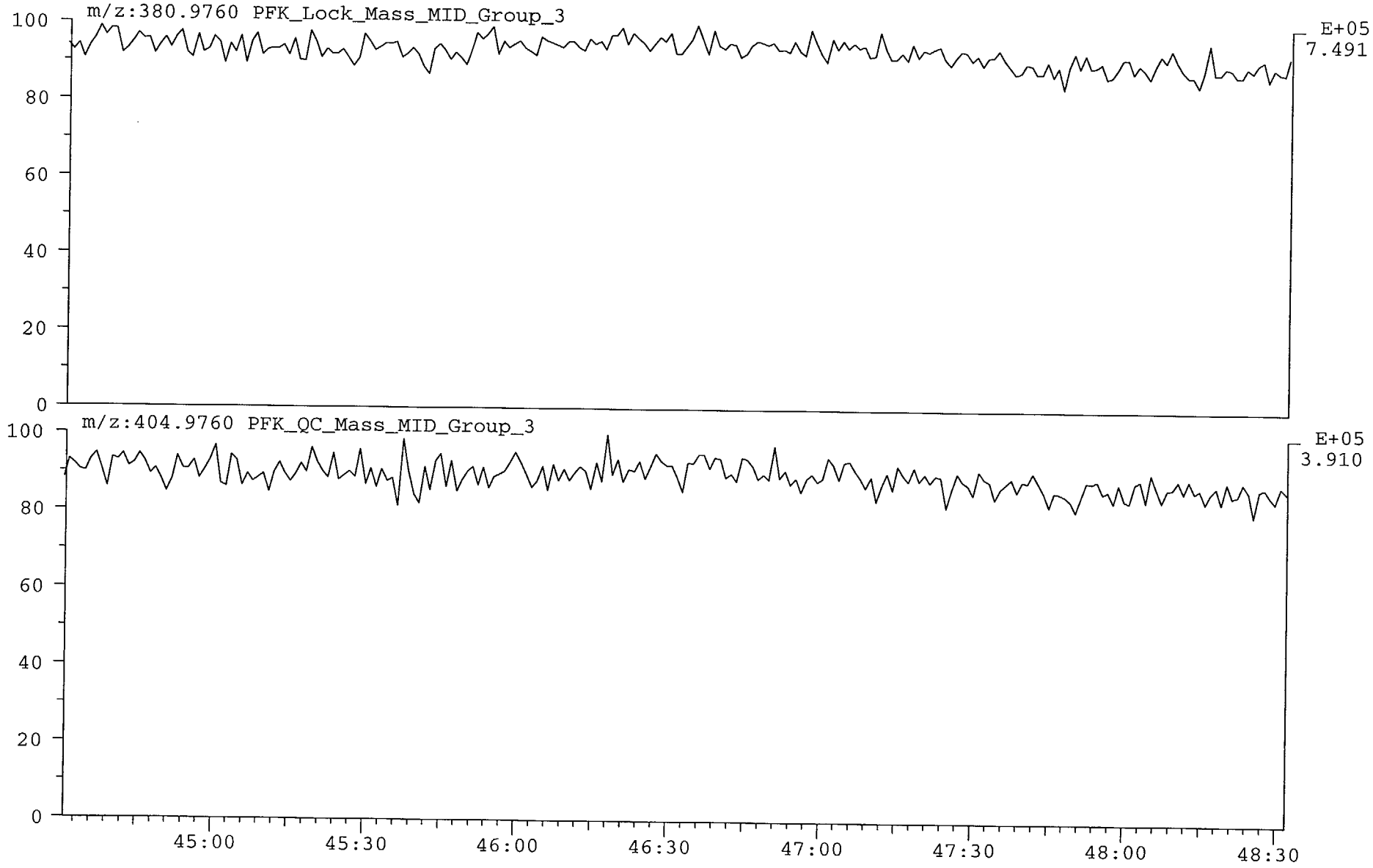
CHRO: bth2h1g 04-May-06 Elapse: 56:45 2704
Samp: Vial 5 WO=h2h1g1aa Meth=X8 Dil=1 Start : 17:12:46 2887
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-003 Inlet : GC Vial 5
Peak: 100.00 ppm Label wndw: 2093 > 2133 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



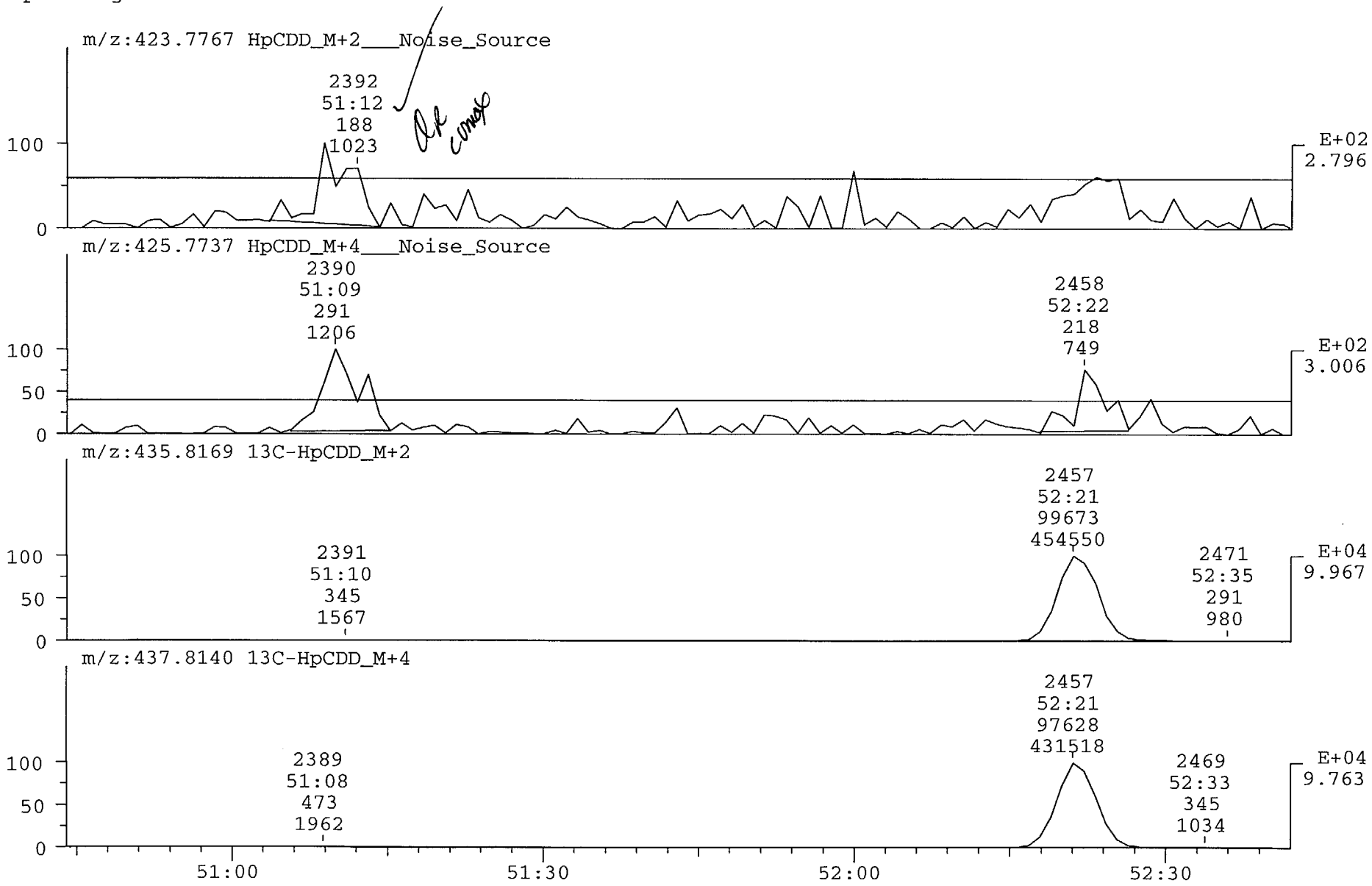
```
CHRO:  bth2h1g                                  04-May-06  Elapse:  46:12      2112
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                    Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107079 (Air)
Oper:  BFW          Client:  H6D030236-003                 Inlet :  GC     Vial   5
Peak:  100.00  ppm     Label wndw:   2016 > 2243           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: bth2h1g 04-May-06 Elapse: 46:12 2112
Samp: Vial 5 WO=h2h1g1aa Meth=X8 Dil=1 Start : 17:12:46 2887
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-003 Inlet : GC Vial 5
Peak: 100.00 ppm Label wndw: 2016 > 2243 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



```
CHRO:  bth2h1g                                  04-May-06   Elapse:  46:12      2112
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                     Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-003                Inlet :  GC     Vial   5
Peak:  100.00  ppm      Label wndw:   2366 > 2477           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  bth2h1g                                04-May-06   Elapse:  46:12      2112
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                   Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-003              Inlet :  GC     Vial   5
Peak:  100.00  ppm      Label wndw:   2366 > 2477         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
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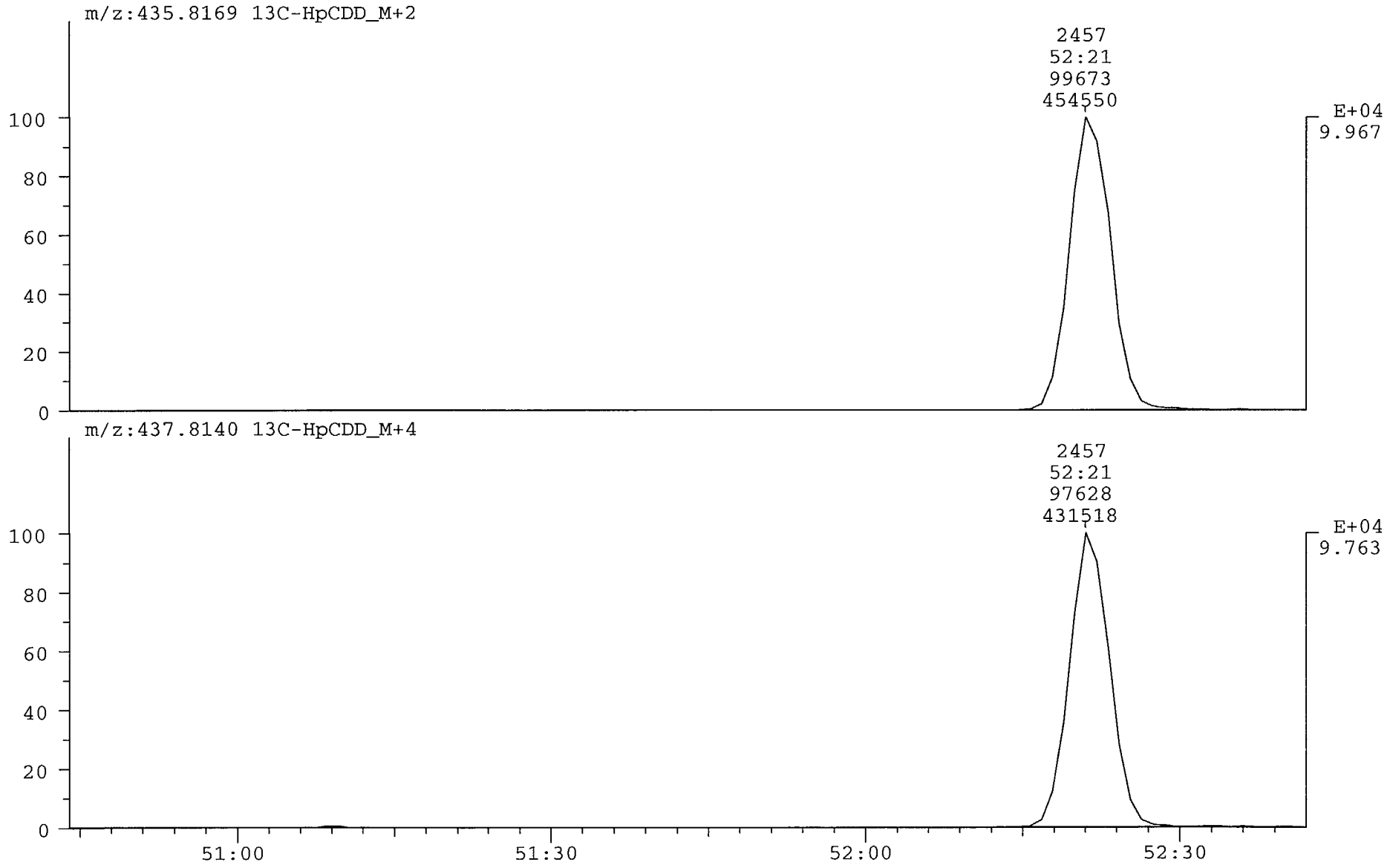

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CHRO:  bth2h1g                                  04-May-06   Elapse:  46:12      2112
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                     Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-003                Inlet :  GC     Vial   5
Peak:  100.00  ppm      Label wndw:   2336 > 2512           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
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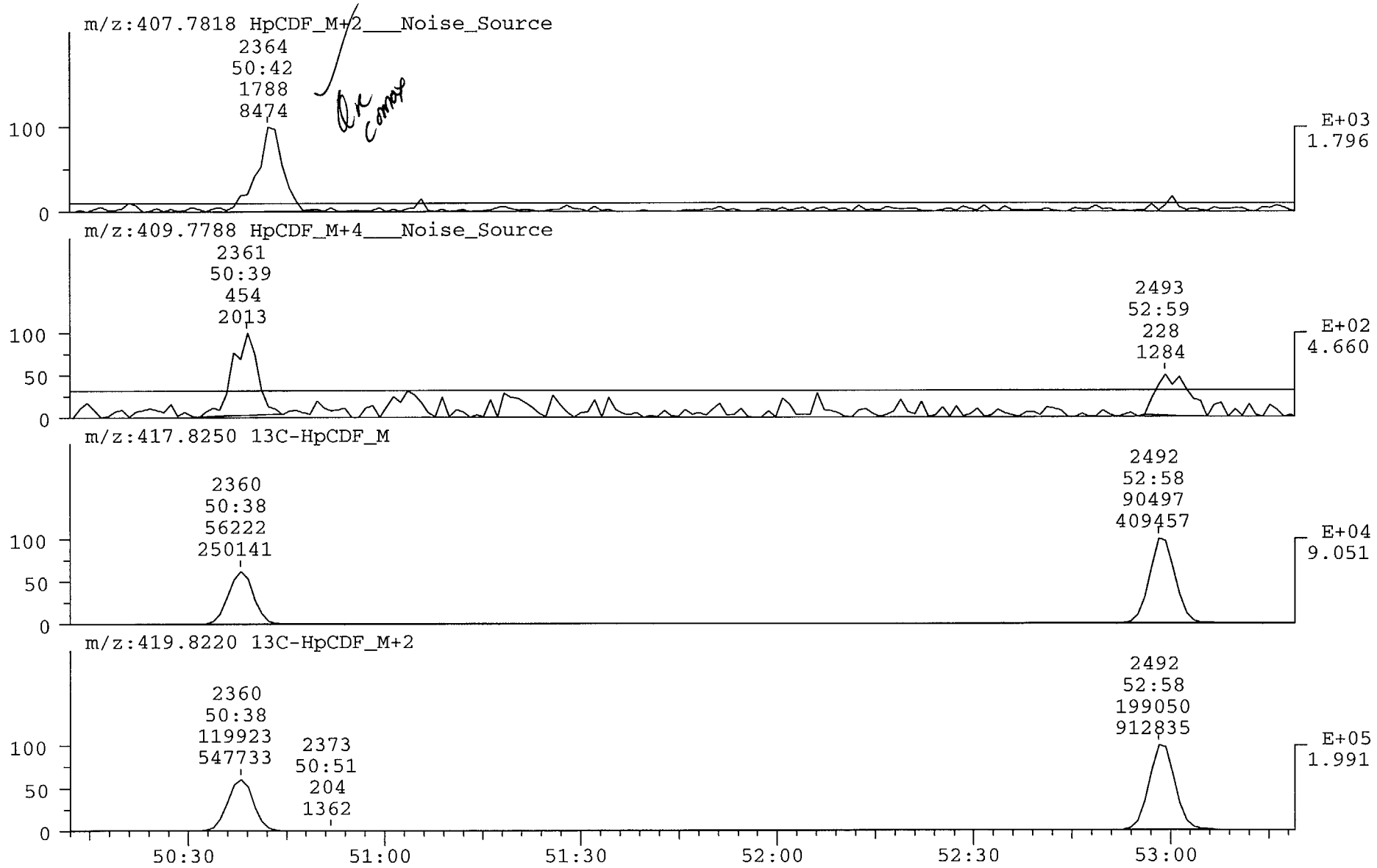

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CHRO:  bth2h1g                                  04-May-06   Elapse:  46:12      2112
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                     Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-003                Inlet :  GC     Vial   5
Peak:  100.00  ppm      Label wndw:   2336 > 2512           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
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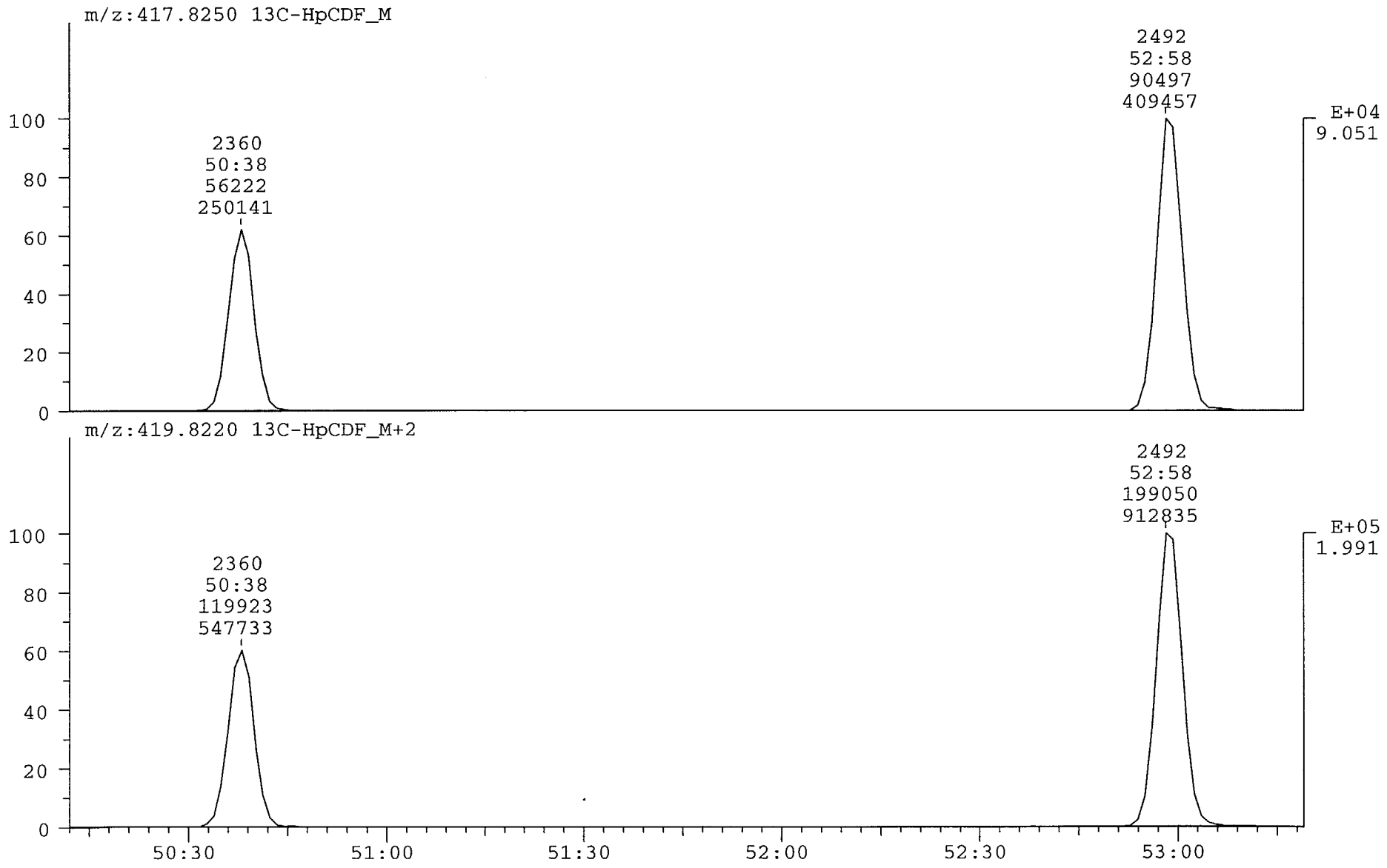
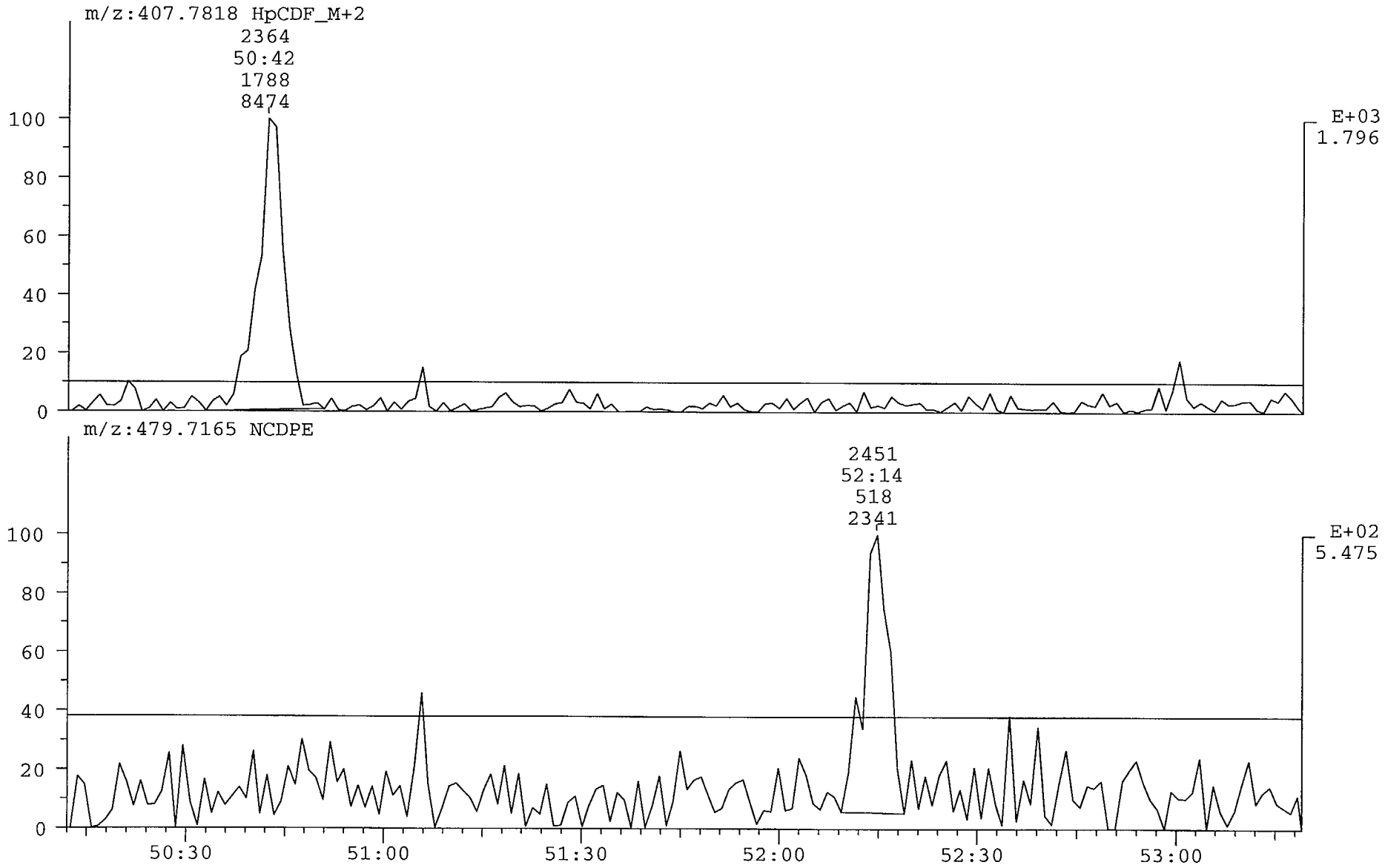


```
CHRO:  bth2h1g                                  04-May-06   Elapse:  46:12      2112
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                     Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-003                Inlet :  GC     Vial   5
Peak:  100.00  ppm      Label wndw:   2336 > 2512           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  bth2h1g                                04-May-06  Elapse:  46:12      2112
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                  Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (Air)
Oper:  BFW          Client:  H6D030236-003               Inlet :  GC     Vial   5
Peak:  100.00  ppm     Label wndw:   2336 > 2512         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
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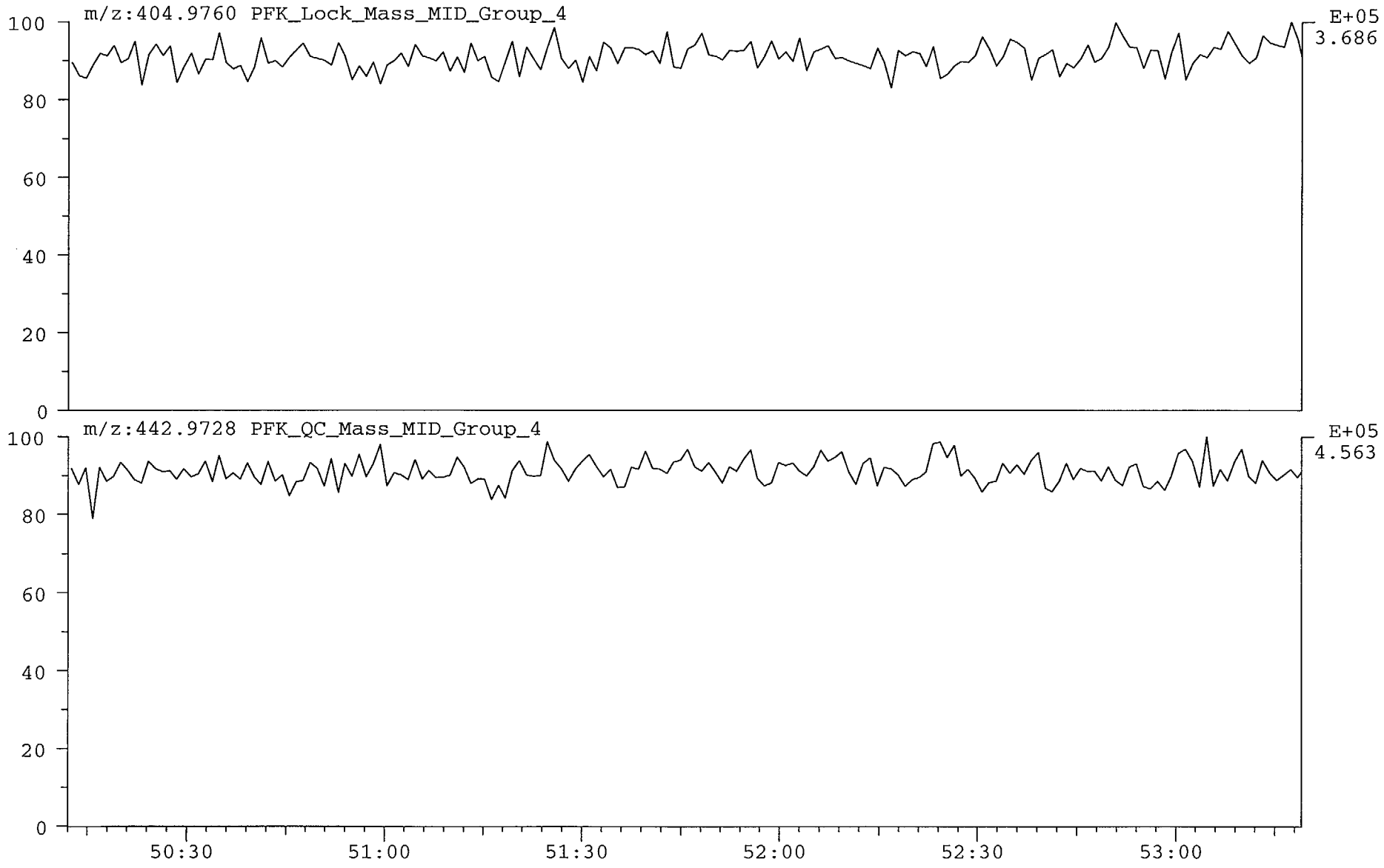
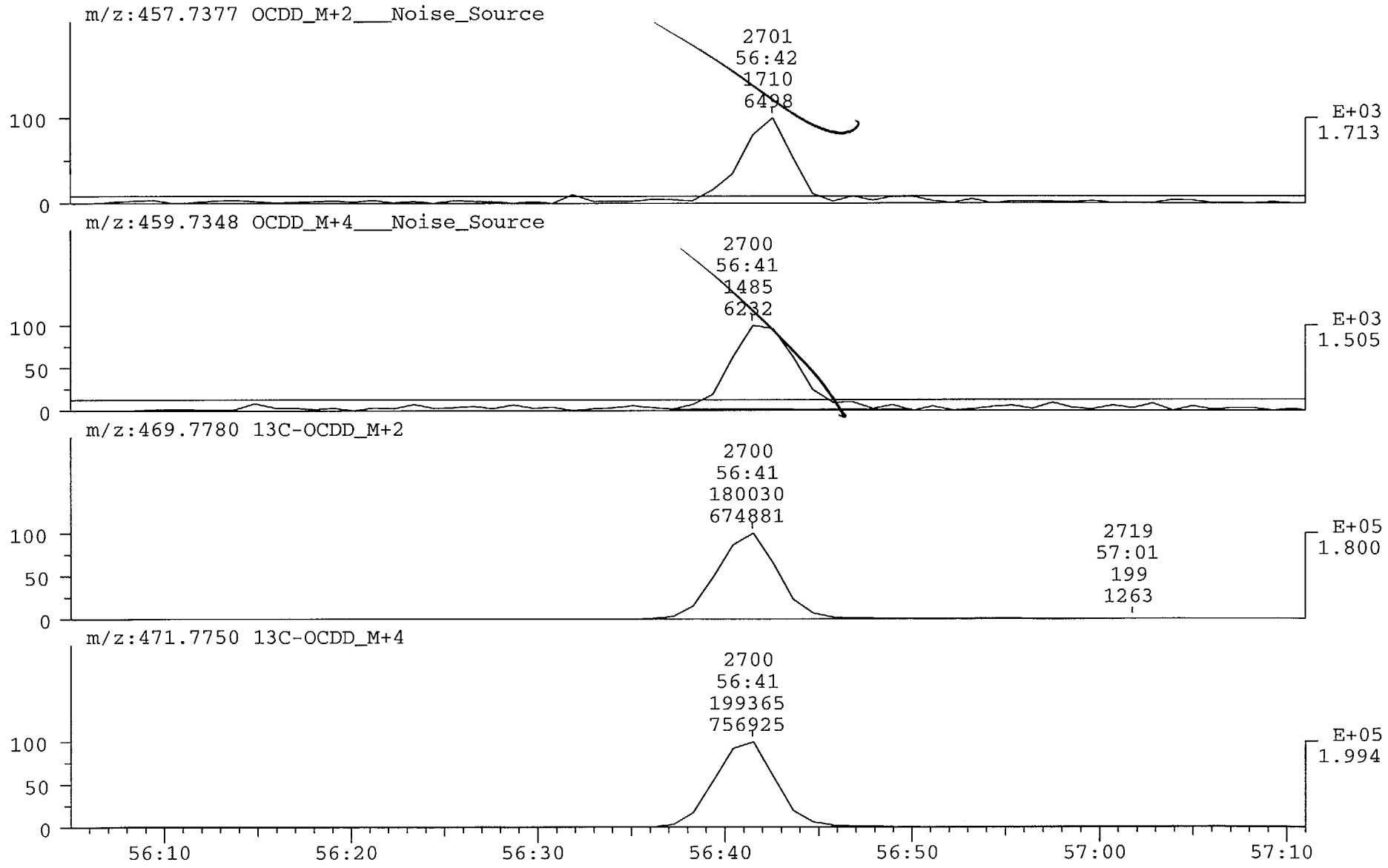
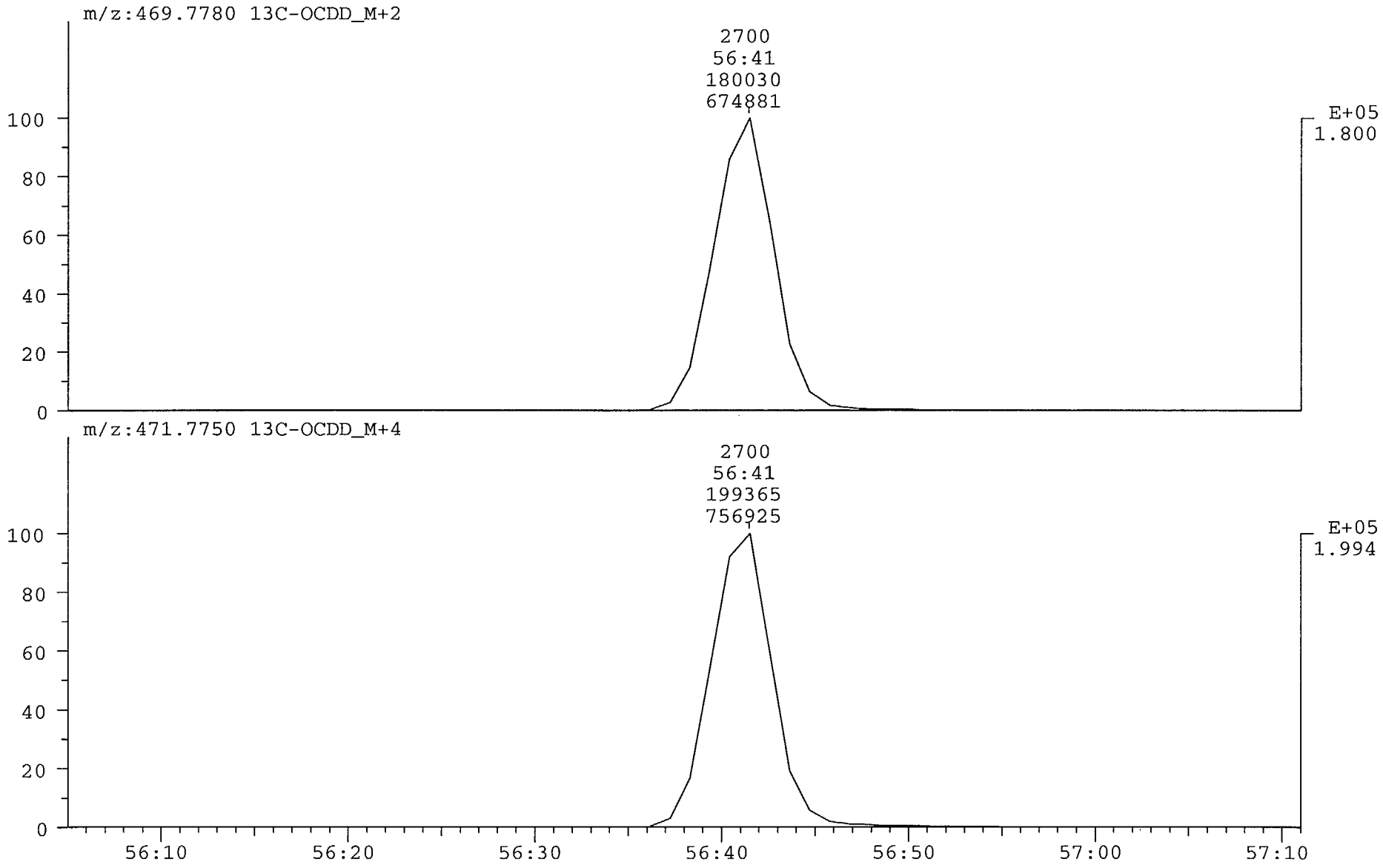


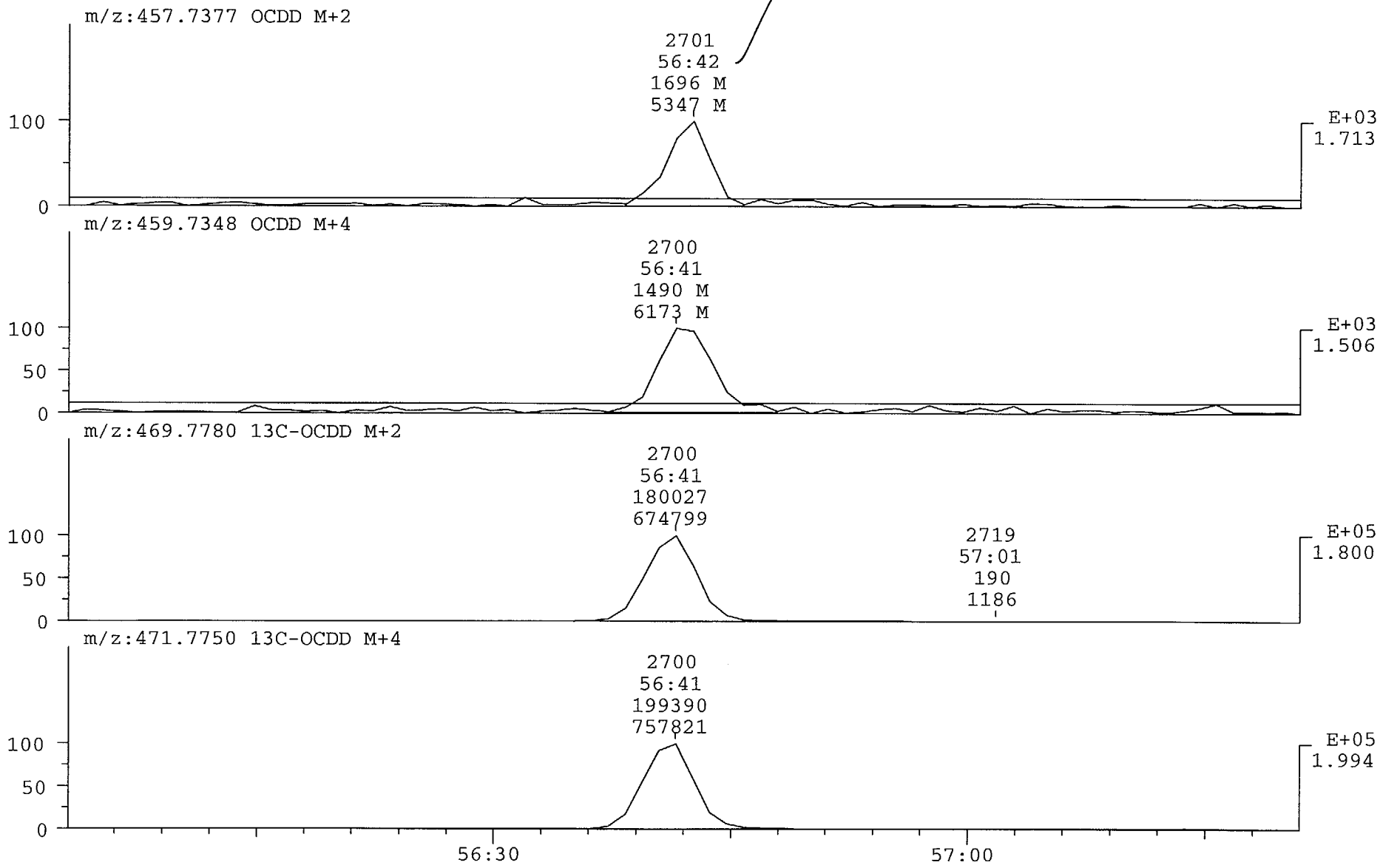
```
CHRO:  bth2h1g                                  04-May-06   Elapse:  56:35      2694
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                     Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-003                Inlet :  GC     Vial   5
Peak:  100.00  ppm      Label wndw:   2666 > 2728           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



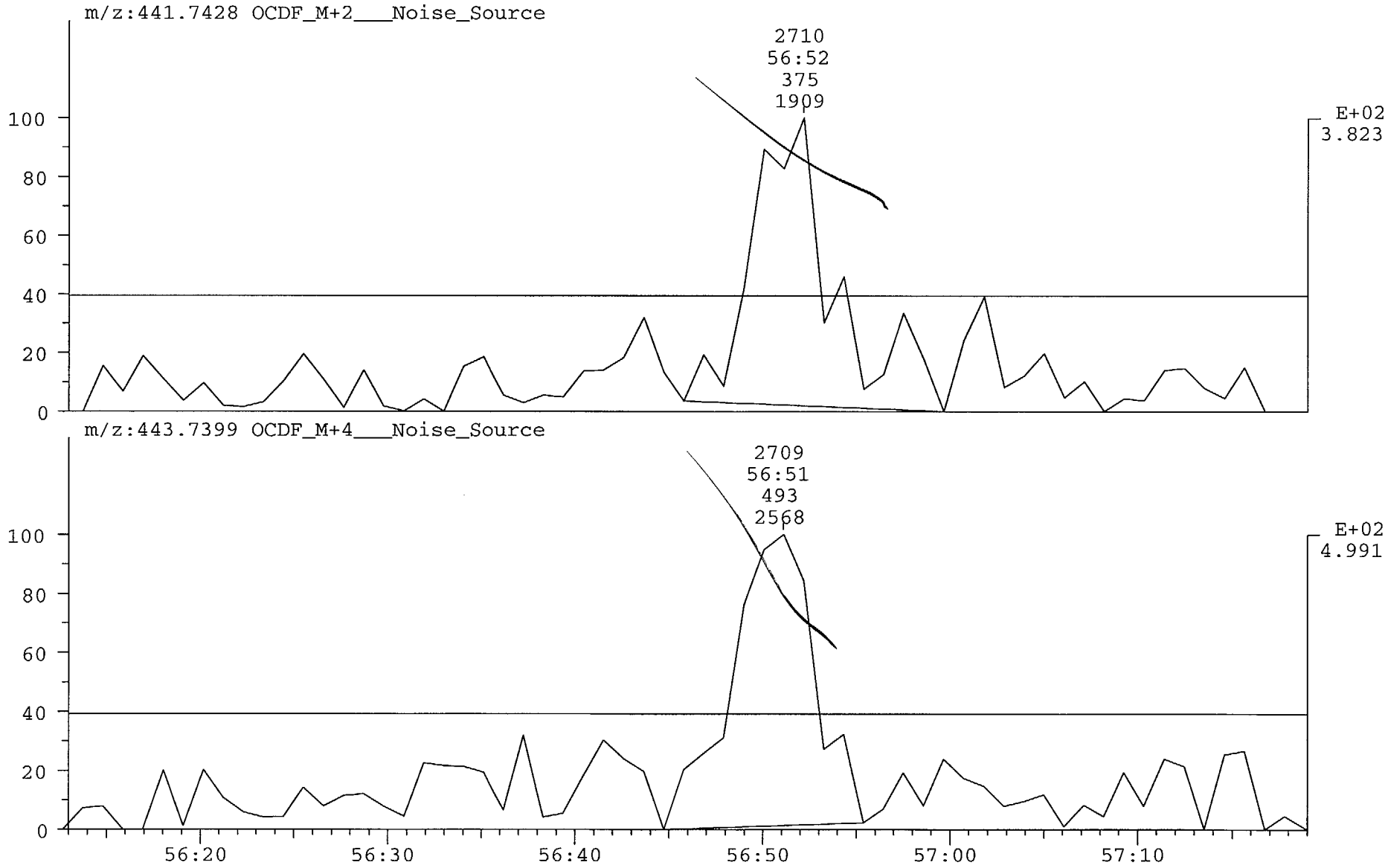
```
CHRO:  bth2h1g                                  04-May-06   Elapse:  56:35      2694
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                     Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-003                Inlet :  GC     Vial   5
Peak:  100.00  ppm      Label wndw:   2666 > 2728           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



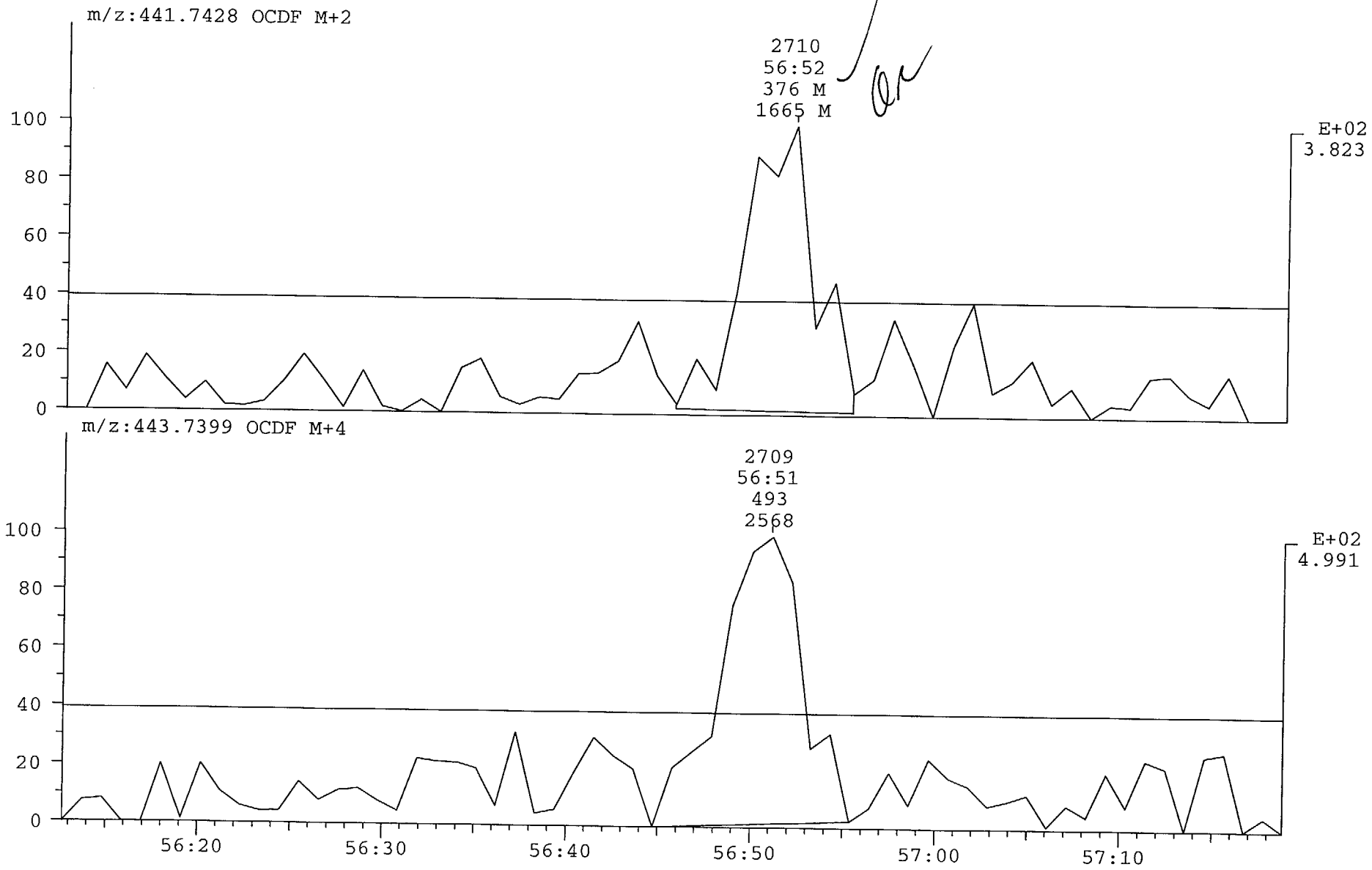
```
CHRO:  bth2h1g                                04-May-06  Elapse:  56:45      2704
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                  Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (Air)
Oper:  BFW          Client:  H6D030236-003               Inlet :  GC     Vial   5
Peak:  100.00  ppm     Label wndw:   2664 > 2737         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



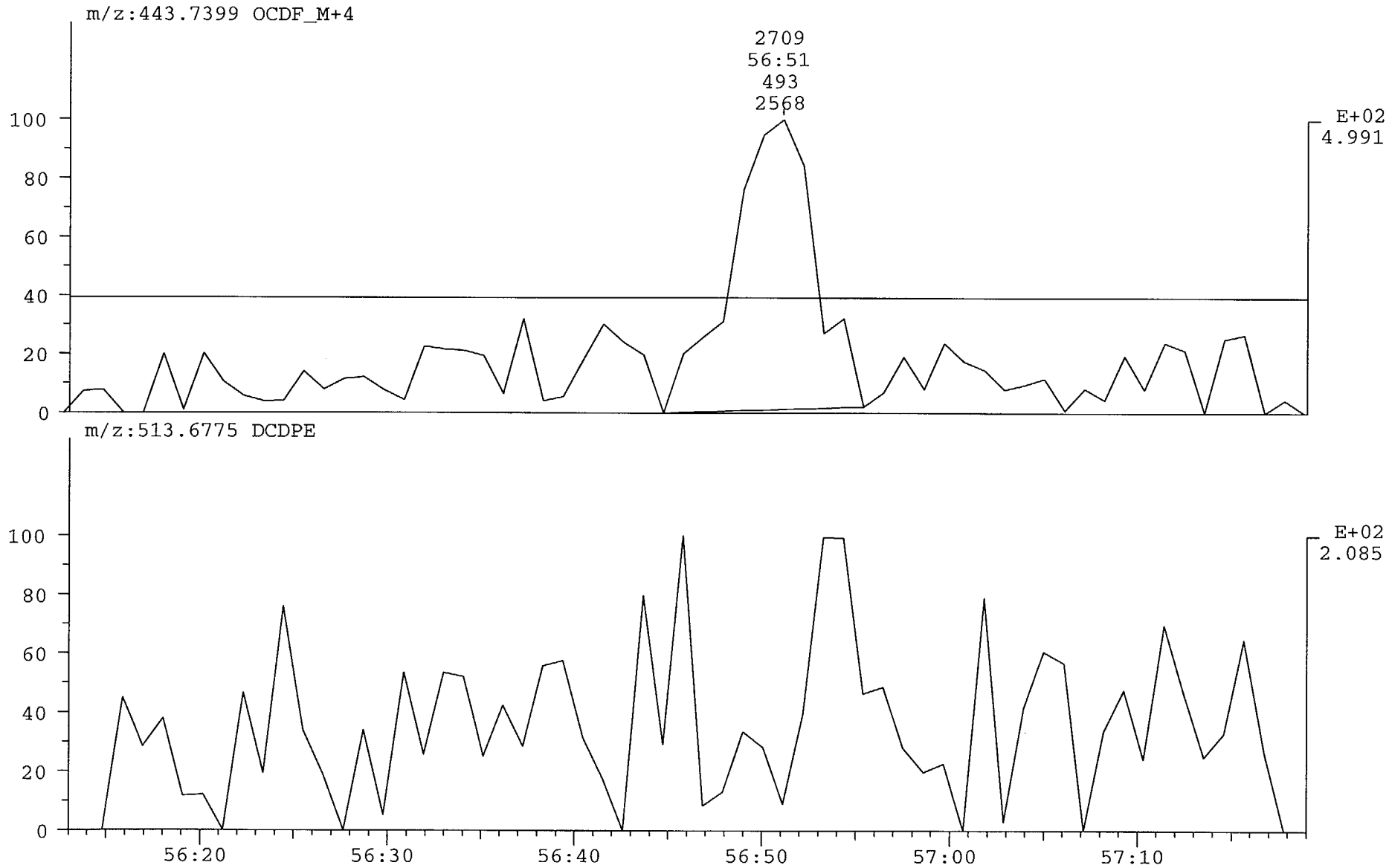
```
CHRO:  bth2h1g                                  04-May-06   Elapse:  56:42      2701
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                     Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-003                Inlet :  GC     Vial   5
Peak:  100.00  ppm      Label wndw:   2673 > 2735           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



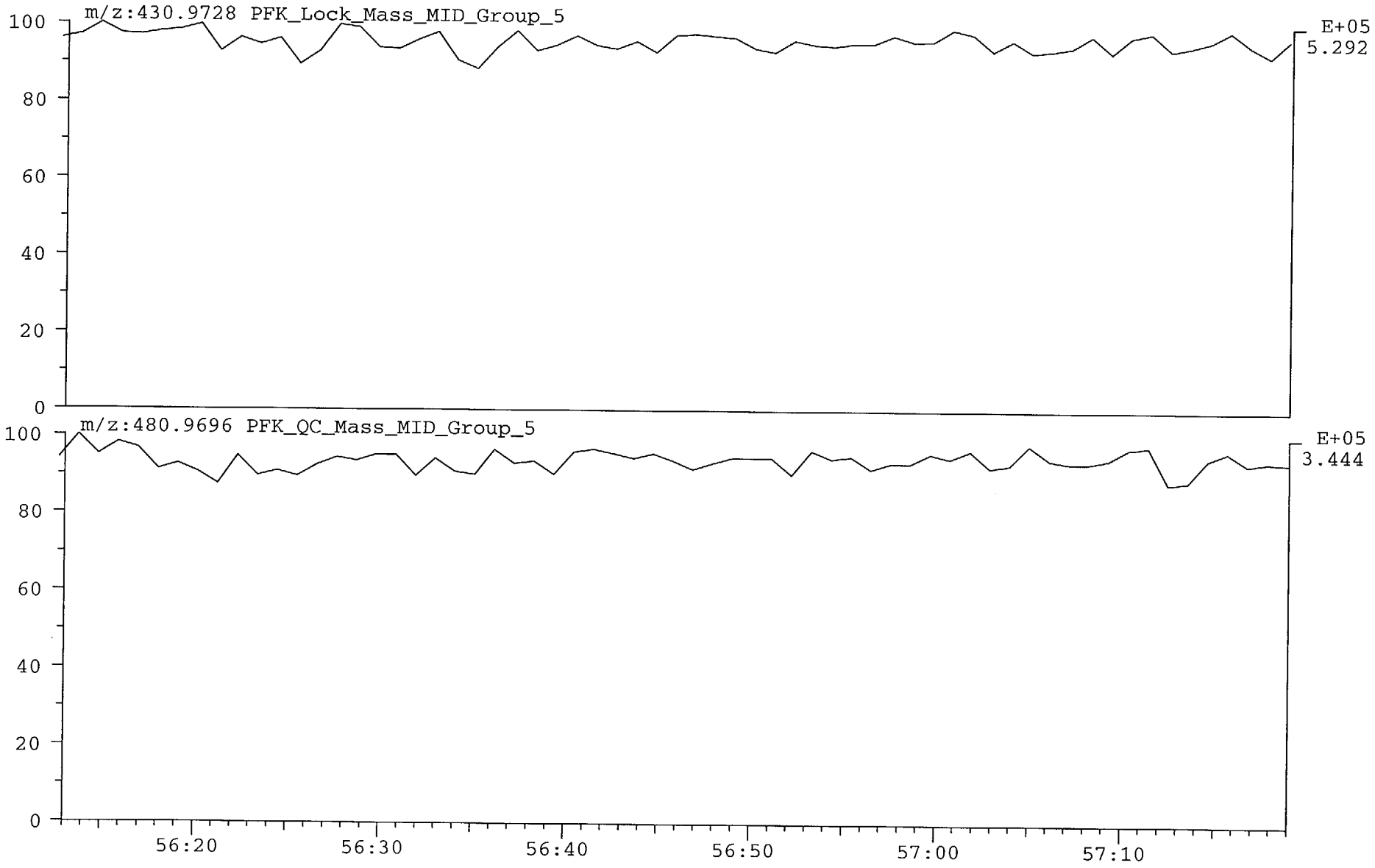
CHRO: bth2h1g 04-May-06 Elapse: 56:45 2704
Samp: Vial 5 WO=h2h1g1aa Meth=X8 Dil=1 Start : 17:12:46 2887
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-003 Inlet : GC Vial 5
Peak: 100.00 ppm Label wndw: 2673 > 2735 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  bth2h1g                                  04-May-06   Elapse:  56:42      2701
Samp:  Vial 5 WO=h2h1g1aa Meth=X8 Dil=1                     Start :  17:12:46   2887
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-003                Inlet :  GC     Vial   5
Peak:  100.00  ppm      Label wndw:   2673 > 2735           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: bth2h1g 04-May-06 Elapse: 56:42 2701
Samp: Vial 5 WO=h2h1g1aa Meth=X8 Dil=1 Start : 17:12:46 2887
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-003 Inlet : GC Vial 5
Peak: 100.00 ppm Label wndw: 2673 > 2735 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: bth2h1g
Study: 6107079 (Air)
Sample: WO=h2h1g1aa Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: BFW
Client: H6D030236-003
Comments: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Injected volume: 2.0
Sample from Vial 5
Analysis will stop when MID run finishes
Tune file name: tune2
File 5 of list 060504
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	TRUE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	140 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	29:52 min	37:52 min	1.00 sec
# 2	37:52 min	6:32 min	44:25 min	1.00 sec
# 3	44:25 min	5:05 min	49:30 min	1.00 sec
# 4	49:30 min	5:15 min	54:45 min	1.00 sec
# 5	54:45 min	5:15 min	60:00 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

```
  351.9000       1   1      91.48
  353.8970       1   1      91.48
  355.8546       1   1      91.48
  357.8516       1   1      91.48
  367.8949       1   1      91.48
  369.8919       1   1      91.48
  380.9760 c    10   1       8.19
  409.7974       1   1      91.48
 Window # 3
      mass F  int  gr  time (ms)
  373.8208       1   1      91.48
  375.8178       1   1      91.48
  380.9760 l    10   1       8.19
  383.8639       1   1      91.48
  385.8610       1   1      91.48
  389.8156       1   1      91.48
  391.8127       1   1      91.48
  401.8559       1   1      91.48
  403.8529       1   1      91.48
  404.9760 c    10   1       8.19
  445.7555       1   1      91.48
 Window # 4
      mass F  int  gr  time (ms)
  404.9760 l    10   1       8.19
  407.7818       1   1      91.48
  409.7788       1   1      91.48
  417.8250       1   1      91.48
  419.8220       1   1      91.48
  423.7767       1   1      91.48
  425.7737       1   1      91.48
  435.8169       1   1      91.48
  437.8140       1   1      91.48
  442.9728 c    10   1       8.19
  479.7165       1   1      91.48
 Window # 5
      mass F  int  gr  time (ms)
  430.9728 l    10   1      10.92
  441.7428       1   1     120.15
  443.7399       1   1     120.15
  457.7377       1   1     120.15
  459.7348       1   1     120.15
  469.7780       1   1     120.15
  471.7750       1   1     120.15
  480.9696 c    10   1      10.92
  513.6775       1   1     120.15

Auto Sampler descriptor: pcdd2ul
 Injector A
 Normal Injection
 Slvnt A cln before inj(K):      3 times
 Slvnt B cln before inj(L):      0 times
 Sample rinse cycles   (R):      0 times
 Syringe filling volume(F):    1.0 ul
 Pullup delay time     (D):      4 sec
 Sample pullup speed   (E):    5.0 ul/sec
 Slvnt aftr pre inj cln(U):    0.0 ul
 Air after pre inj cln (G):    2.0 ul
 Sample volume         (V):    2.0 ul
 Sample air volume     (A):    2.0 ul
 Sample pullup count   (P):      2 times
 Injection speed       (S):   10.0 ul/sec
 Injection wait time   (W):     10 sec
 Injection hold time   (H):      3 sec
 Solvent A clean cycles(C):     15 times
 Solvent B clean cycles(B):     20 times
 Loop clean w slvnt A (LC):      0 times
```

```
Loop clean w slvnt B (LB):      0 times
Standard sample volume(X):    0.0 ul
Standard air volume   (Y):    0.0 ul
2nd Injection volume  (I):    0.0 ul
Air volume of 2nd inj (J):    0.0 ul
Time btwn 2 injections(T):      0 sec

GC descriptor :  epa1613
  Injector:        270 deg                      300 deg max
  Transfer Line:   290 deg                      300 deg max
  Column:          140 deg at   0.0 minutes     330 deg max
                   140 deg at   3.0 minutes
                   210 deg at   6.5 minutes
                   210 deg at  34.5 minutes
                   280 deg at  44.5 minutes
                   280 deg at  51.0 minutes
                   325 deg at  60.0 minutes
  Inlet    :
  Pressure       18.0 psi
  Splitless mode
  Purge time      1.5 min
  Purge flow     40.0 mL/min

   Gas saver is on
   Saver time      3.0 min
   Saver flow     15.0 mL/min

  Stabilize time   0.5 minutes
```

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8409.0000
BDEV	8289.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.5861	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9996
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-738.5000	ELEN	61.7750
EMULT	1.8000	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	188.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	533.0000	FVINLET	596.0000
FVSRC	991.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.6274	HVANAL	1583.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4759.4580	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	430.9728
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	2894.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10100.2910	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.6900	TCURR	0.8594	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 04-May-06 17:12:46.6

Autosampler has injected sample from vial 5
Analysis stopped at: 04-May-06 18:12:48.7 (run time 60.03 minutes)
Analysis stopped because MID run finished

STL Knoxville - ACS

Sample ID: G-3051/3052-R2-M23A BACK HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 004	**Work Order #....:**	H2H1J1AA	**Matrix....:**	AIR
Date Sampled....:	03/29/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/05/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	9.2	Q J	10	2.8	pg/sampl
Total TCDD	500	Q	10	2.8	pg/sampl
1,2,3,7,8-PeCDD	18	J	50	1.4	pg/sampl
Total PeCDD	250	Q	50	1.4	pg/sampl
1,2,3,4,7,8-HxCDD	8.2	J	50	1.1	pg/sampl
1,2,3,6,7,8-HxCDD	8.5	J	50	1.1	pg/sampl
1,2,3,7,8,9-HxCDD	13	J	50	1.0	pg/sampl
Total HxCDD	120	Q J	50	1.1	pg/sampl
1,2,3,4,6,7,8-HpCDD	23	B J	50	1.1	pg/sampl
Total HpCDD	42	J B	50	1.1	pg/sampl
OCDD	24	B J	100	1.1	pg/sampl
Total TCDF	3100	Q	10	3.9	pg/sampl
1,2,3,7,8-PeCDF	140		50	1.5	pg/sampl
2,3,4,7,8-PeCDF	150		50	1.4	pg/sampl
Total PeCDF	2000	Q	50	1.5	pg/sampl
1,2,3,4,7,8-HxCDF	190		50	0.97	pg/sampl
1,2,3,6,7,8-HxCDF	98		50	0.90	pg/sampl
2,3,4,6,7,8-HxCDF	47	B J	50	1.0	pg/sampl
1,2,3,7,8,9-HxCDF	6.0	Q B J	50	1.1	pg/sampl
Total HxCDF	830	B Q	50	0.99	pg/sampl
1,2,3,4,6,7,8-HpCDF	160	B	50	1.2	pg/sampl
1,2,3,4,7,8,9-HpCDF	18	J	50	1.4	pg/sampl
Total HpCDF	230	B	50	1.3	pg/sampl
OCDF	23	B J	100	1.3	pg/sampl

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	95	40 - 135
13C-1,2,3,7,8-PeCDD	105	40 - 135
13C-1,2,3,6,7,8-HxCDD	95	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	108	40 - 135
13C-OCDD	97	40 - 135
13C-2,3,7,8-TCDF	91	40 - 135
13C-1,2,3,7,8-PeCDF	101	40 - 135
13C-1,2,3,6,7,8-HxCDF	97	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	91	40 - 135

STL Knoxville - ACS

Sample ID: G-3051/3052-R2-M23A BACK HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 004	**Work Order #....:**	H2H1J1AA	**Matrix....:**	AIR
Date Sampled....:	03/29/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/05/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	84	70 - 130
13C-1,2,3,4,7,8-HxCDD	97	70 - 130
13C-2,3,4,7,8-PeCDF	92	70 - 130
13C-1,2,3,4,7,8-HxCDF	81	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	85	70 - 130

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

STL - Knoxville

IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1J1AA	**Prep Batch**	6107092	**Lot No**	H6D030236-004
Data File	/20060504s2/bth2h1j.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90543	**Prep Exp Date**	04/28/06	**Date Received**	04/02/06
Analysis Date	5/5/2006	**Matrix**	AIR	**Date Sampled**	03/29/06
Analysis Time	06:19	**Initial Wt/Vol**	1	**Lims Test Code**	XXSIOX801
Anal Exp Date	06/01/06	**Extract Vol**	20	**Method**	0023/8290
Instrument	M2A	**Dil Factor**	1.0	**Code**	X8
Analyst	PMP				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (pg/sample		DL (pg/samp
2,3,7,8-TCDD	35:12	9328	1248	1.060		9.236760		9.236760	QJ	2.80
Total TCDD		494187	58367	1.060		498.582974		498.582974	Q	2.80
2,3,7,8-TCDF	33:02	527145	39364	1.064		411.241888		~~411.241888~~	~~Q~~ NA	3.91
Total TCDF		3488384	381185	1.064		3132.63672		3132.63672	Q WSD	3.91
1,2,3,7,8-PeCDD	42:57	15009	4567	0.977		17.787352		17.787352	J 5/8/06	1.39
Total PeCDD		194367	50346	0.977		248.133727		248.133727	Q	1.39
1,2,3,7,8-PeCDF	41:23	149836	36554	0.955		139.745478		139.745478		1.53
2,3,4,7,8-PeCDF	42:29	168389	37092	1.018		147.409781		147.409781		1.44
Total PeCDF		1912170	347945	0.987		2014.08983		2014.08983	Q	1.48
1,2,3,4,7,8-HxCDD	47:08	6602	1883	1.047		8.184773		8.184773	J	1.10
1,2,3,6,7,8-HxCDD	47:15	6913	2329	1.055		8.509122		8.509122	J	1.09
1,2,3,7,8,9-HxCDD	47:41	11402	2114	1.146		12.919671		12.919671	J	1.01
Total HxCDD		74400	21068	1.083		118.837105		118.837105	QJ	1.06
1,2,3,4,7,8-HxCDF	46:03	222089	38036	1.101		190.730581		190.730581		0.970
1,2,3,6,7,8-HxCDF	46:12	123049	35040	1.184		98.240294		98.240294		0.902
2,3,4,6,7,8-HxCDF	46:57	52133	13595	1.052		46.834129		46.834129	BJ	1.01
1,2,3,7,8,9-HxCDF	47:58	6254	1393	0.982		6.021476		6.021476	QBJ	1.09
Total HxCDF		561949	164753	1.080		833.824079		833.824079	BQ	0.989
1,2,3,4,6,7,8-HpCDD	52:16	19687	4674	1.018		22.763950		22.763950	BJ	1.07
Total HpCDD		16406	3775	1.018		41.734101		41.734101	JB	1.07
1,2,3,4,6,7,8-HpCDF	50:32	160267	36255	1.403		159.304310		159.304310	B	1.21
1,2,3,4,7,8,9-HpCDF	52:53	15649	3955	1.197		18.240912		18.240912	J	1.42
Total HpCDF		50209	11777	1.300		231.418991		231.418991	B	1.30
OCDD	56:35	16607	4614	0.965		24.261107		24.261107	BJ	1.08
OCDF	56:44	18389	4387	1.103		23.488777		23.488777	BJ	1.25
13C-2,3,7,8-TCDD	35:09	952370	109336	1.068	1000	953.126418	95.31	953.126418		6.55
13C-2,3,7,8-TCDF	32:59	1205004	127491	1.413	1000	911.227232	91.12	911.227232		2.93
13C-1,2,3,7,8-PeCDD	42:56	863929	235427	0.882	1000	1047.03917	104.70	1047.03917		3.56
13C-1,2,3,7,8-PeCDF	41:22	1122400	269786	1.188	1000	1009.70896	100.97	1009.70896		2.60
13C-1,2,3,6,7,8-HxCDD	47:14	770255	199586	0.943	1000	948.875623	94.89	948.875623		1.72
13C-1,2,3,6,7,8-HxCDF	46:11	1057712	287960	1.272	1000	966.238775	96.62	966.238775		1.29
13C-1,2,3,4,6,7,8-HpCDD	52:15	849897	185746	0.918	1000	1075.45062	107.55	1075.45062		1.24
13C-1,2,3,4,6,7,8-HpCDF	50:31	716913	157844	0.916	1000	909.367074	90.94	909.367074		1.79
13C-OCDD	56:34	1419045	365149	0.850	2000	1940.36886	97.02	1940.36886		1.53
37Cl4-2,3,7,8-TCDD	35:14	1682637	189208	1.046	2000	1689.19062	84.46	1689.19062		1.20
13C-2,3,4,7,8-PeCDF	42:28	2082986	567275	1.010	2000	1837.02559	91.85	1837.02559		1.10
13C-1,2,3,4,7,8-HxCDD	47:07	1343156	351894	0.902	2000	1932.76805	96.64	1932.76805		1.93
13C-1,2,3,4,7,8-HxCDF	46:02	1683560	478949	0.988	2000	1610.74633	80.54	1610.74633		1.23
13C-1,2,3,7,8,9-HxCDF				1.113				ND		1.47
13C-1,2,3,4,7,8,9-HpCDF	52:52	1109090	245438	0.912	2000	1696.03782	84.80	1696.03782		2.43
13C-1,2,3,4-TCDD	34:37	1871200	194545	1.000	2000	2000.00000	100.00	2000.00000		6.99
13C-1,2,3,7,8,9-HxCDD	47:40	1721160	427474	1.000	2000	2000.00000	100.00	2000.00000		1.63

VMK 5/5/06
WSD 5/8/06

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1J1AA	Prep Batch	6107092	Lot No	H6D030236-004
Data File	/20060504s2/bth2h1j.d	Prep Date	04/17/06	SDG No	
Analysis ID	90543	Prep Exp Date	04/28/06	Date Received	04/02/06
Analysis Date	05/05/06 06:19	Matrix	AIR	Date Sampled	03/29/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSIOX801
Instrument	M2A	Extract Vol	20 uL	Method	0023/8290
Analyst	PMP	Diluton Factor	1.00	Code	X8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	263	268	105	107	0.98 *	/	
	Unidentified	25:53	00:00	0	99546	126147	14611	18142	0.79	ABB/ABB	
	Unidentified	26:50	00:00	0	45964	57120	6121	7479	0.80	AVV/ABV	
	Unidentified	27:24	00:00	0	37772	53547	6003	7005	0.71	ABB/ABB	
	Unidentified	27:57	00:00	0	267295	343749	31594	41405	0.78	ABV/MVV	
	Unidentified	28:16	00:00	0	50440	64987	4240	5238	0.78	AVV/MVV	T
	Unidentified	28:30	00:00	0	84800	106690	9792	11969	0.79	AVV/AVV	
	Unidentified	28:40	00:00	0	107034	138212	8204	10316	0.77	AVB/AVB	
	Unidentified	29:34	00:00	0	168912	216987	12153	16308	0.78	AVB/AVV	
	Unidentified	30:06	00:00	0	68649	92670	8699	11280	0.74	ABV/ABV	
	Unidentified	30:20	00:00	0	94933	119097	11758	13853	0.80	AVB/AVB	
	Unidentified	30:56	00:00	0	131116	170276	14264	18349	0.77	ABV/ABV	
	Unidentified	31:12	00:00	0	70272	89768	7496	10876	0.78	AVB/AVB	
	Unidentified	31:46	00:00	0	86041	111913	8940	12119	0.77	ABV/ABV	
	Unidentified	32:13	00:00	0	10990	14515	1794	1660	0.76	AVV/AVV	
	Unidentified	32:27	00:00	0	45564	59127	5723	6543	0.77	AVB/AVB	
	2,3,7,8-TCDF	33:02	33:01	1	233033	294112	17166	22198	0.79	AVV/ABV	
	Unidentified	34:22	00:00	0	83707	109082	9095	11667	0.77	ABV/ABV	
	Unidentified	34:59	00:00	0	57359	74923	5515	6988	0.77	ABV/ABV	
	Unidentified	35:26	00:00	0	7917	10519	1065	1045	0.75	AVB/AVB	T
	Unidentified	37:31	00:00	0	4674	7557	816	1362	0.62 *	ABB/ABB	R
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	193	210	77	84	0.92 *	/	
	13C-2,3,7,8-TCDF	32:59	32:58	1	529407	675597	56623	70868	0.78	AVV/ABV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	160	165	64	66	0.97 *	/	
	Unidentified	28:37	00:00	0	49912	67396	6073	8860	0.74	ABB/ABB	
	Unidentified	29:24	00:00	0	39575	50218	4914	6334	0.79	ABB/ABB	
	Unidentified	30:08	00:00	0	3288	4227	574	668	0.78	ABB/ABB	
	Unidentified	31:52	00:00	0	47249	59555	5025	6226	0.79	ABB/ABB	
	Unidentified	32:19	00:00	0	3784	6274	397	707	0.60 *	ABV/ABV	RT
	Unidentified	32:36	00:00	0	6022	11105	776	1328	0.54 *	AVB/AVV	R
	Unidentified	33:39	00:00	0	6976	9443	756	1122	0.74	ABB/ABB	
	Unidentified	34:40	00:00	0	17089	25648	1869	2714	0.67	ABV/ABV	
	Unidentified	34:57	00:00	0	32088	42864	3455	4458	0.75	AVV/AVV	
	2,3,7,8-TCDD	35:12	35:13	-1	4058	7222	543	929	0.56 *	AVB/AVB	R
	Unidentified	35:41	00:00	0	2803	4109	508	592	0.68	ABB/ABB	
	Unidentified	36:09	00:00	0	4698	5201	690	860	0.90 *	ABB/ABB	R
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	138		55				
	37Cl4-2,3,7,8-TCDD	35:14	35:15	-1	1682637		189208			AVV	
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	423	258	169	103	1.64 *	/	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1J1AA	**Prep Batch**	6107092	**Lot No**	H6D030236-004
Data File	/20060504s2/bth2h1j.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90543	**Prep Exp Date**	04/28/06	**Date Received**	04/02/06
Analysis Date	05/05/06 06:19	**Matrix**	AIR	**Date Sampled**	03/29/06
Anal Exp Date	06/01/06	**Initial Wt/Vol**	1 Sample	**Lims Test Code**	XXSIOX801
Instrument	M2A	**Extract Vol**	20 uL	**Method**	0023/8290
Analyst	PMP	**Diluton Factor**	1.00	**Code**	X8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	13C-1,2,3,4-TCDD	34:37	34:37	0	822020	1049180	85827	108718	0.78	AVV/ABV	
	13C-2,3,7,8-TCDD	35:09	35:11	-2	425195	527175	48112	61224	0.81	AVV/AVV	
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**		
	Noise	00:00	00:00	0	200	195	80	78	1.03 *	/	
	Unidentified	38:06	00:00	0	155699	105192	22867	14411	1.48	ABB/ABB	
	Unidentified	39:51	00:00	0	89690	59120	19031	13408	1.52	ABV/ABV	
	Unidentified	40:05	00:00	0	393190	254979	60584	38067	1.54	AVV/AVV	
	Unidentified	40:21	00:00	0	75864	47384	10728	6417	1.60	AVB/AVB	
	Unidentified	40:36	00:00	0	32629	19425	3964	2754	1.68	ABB/ABB	
	Unidentified	40:56	00:00	0	138793	91354	27056	16706	1.52	ABB/ABB	
	Unidentified	41:18	00:00	0	33063	18206	7782	5300	1.82 *	ABV/ABV	R
	1,2,3,7,8-PeCDF	41:23	41:24	-1	88779	61057	23362	13192	1.45	AVB/AVV	
	Unidentified	41:38	00:00	0	59222	39954	15702	9870	1.48	ABB/AVV	
	Unidentified	41:51	00:00	0	77132	49500	18841	12040	1.56	ABB/AVB	
	2,3,4,7,8-PeCDF	42:29	42:28	1	103279	65110	22416	14676	1.59	ABV/ABV	
	Unidentified	42:39	00:00	0	87617	58448	20419	13454	1.50	AVV/AVB	
	Unidentified	43:00	00:00	0	8223	5588	2122	1523	1.47	AVB/ABB	
	Unidentified	43:40	00:00	0	10182	6560	2635	1831	1.55	ABB/ABB	
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**		
	Noise	00:00	00:00	0	163	138	65	55	1.18 *	/	
	13C-1,2,3,7,8-PeCDF	41:22	41:23	-1	685181	437219	165262	104524	1.57	ABV/ABV	
	13C-2,3,4,7,8-PeCDF	42:28	42:27	1	1278172	804814	348907	218368	1.59	ABV/ABV	
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**		
	Noise	00:00	00:00	0	175	145	70	58	1.21 *	/	
	Unidentified	40:23	00:00	0	31721	18022	6236	4233	1.76	ABB/ABV	WM
	Unidentified	41:06	00:00	0	1587	1109	328	368	1.43	ABB/ABB	
	Unidentified	41:29	00:00	0	25516	17733	6416	4981	1.44	ABB/ABB	
	Unidentified	41:42	00:00	0	8593	5037	2576	1533	1.71	ABB/ABB	
	Unidentified	41:55	00:00	0	17999	11580	4685	3108	1.55	ABB/ABB	
	Unidentified	42:10	00:00	0	1807	992	690	257	1.82 *	ABV/ABV	R
	Unidentified	42:16	00:00	0	5881	2935	1081	704	2.00 *	AVB/AVB	R
	Unidentified	42:33	00:00	0	19607	12480	5847	3515	1.57	ABV/ABB	
	Unidentified	42:42	00:00	0	2361	1408	553	576	1.68	AVB/ABB	
	1,2,3,7,8-PeCDD	42:57	42:58	-1	9166	5843	2670	1897	1.57	ABB/AVB	
	Unidentified	43:09	00:00	0	3273	1852	828	548	1.77	ABB/ABB	
	Unidentified	43:34	00:00	0	2720	2215	951	593	1.23 *	ABB/ABB	R
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**		
	Noise	00:00	00:00	0	185	120	74	48	1.54	/	
	13C-1,2,3,7,8-PeCDD	42:56	42:57	-1	522929	341000	142017	93410	1.53	ABV/ABV	
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	Noise	00:00	00:00	0	165	143	66	57	1.16	/	
	Unidentified	44:48	00:00	0	53722	44586	17629	14625	1.20	ABV/ABV	WM
	Unidentified	44:58	00:00	0	169289	131210	50201	39083	1.29	AVV/AVV	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1J1AA	**Prep Batch**	6107092	**Lot No**	H6D030236-004
Data File	/20060504s2/bth2h1j.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90543	**Prep Exp Date**	04/28/06	**Date Received**	04/02/06
Analysis Date	05/05/06 06:19	**Matrix**	AIR	**Date Sampled**	03/29/06
Anal Exp Date	06/01/06	**Initial Wt/Vol**	1 Sample	**Lims Test Code**	XXSIOX801
Instrument	M2A	**Extract Vol**	20 uL	**Method**	0023/8290
Analyst	PMP	**Diluton Factor**	1.00	**Code**	X8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	Unidentified	45:09	00:00	0	12884	11404	3494	3368	1.13	AVB/AVB	
	Unidentified	45:21	00:00	0	18293	12913	5332	4362	1.42	ABB/ABB	
	Unidentified	45:34	00:00	0	6899	5153	2123	1805	1.34	ABB/ABB	
	1,2,3,4,7,8-HxCDF	46:03	46:04	-1	124794	97295	21959	16077	1.28	ABV/ABV	
	1,2,3,6,7,8-HxCDF	46:12	46:12	0	68385	54664	19338	15702	1.25	AVV/AVV	
	Unidentified	46:20	00:00	0	12110	9624	3652	2640	1.26	AVB/AVB	
	Unidentified	46:37	00:00	0	22810	20196	4432	3438	1.13	ABB/ABB	
	Unidentified	46:51	00:00	0	9680	6908	2789	2219	1.40	ABV/ABV	
	2,3,4,6,7,8-HxCDF	46:57	46:58	-1	28579	23554	7363	6232	1.21	AVB/AVB	
	1,2,3,7,8,9-HxCDF	47:58	47:58	0	4591	2792	1330	622	1.64 *	ABV/ABV	R
	Unidentified	48:05	00:00	0	7309	6959	1864	1697	1.05	AVB/AVB	
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**		
	Noise	00:00	00:00	0	160	190	64	76	0.84 *	/	
	13C-1,2,3,4,7,8-HxCDF	46:02	46:03	-1	586779	1096781	166748	312201	0.54	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDF	46:11	46:11	0	368884	688828	98087	189873	0.54	AVV/AVV	
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	Noise	00:00	00:00	0	105	125	42	50	0.84 *	/	
	Unidentified	45:29	00:00	0	5461	5409	1916	1610	1.01 *	ABB/ABB	RWM
	Unidentified	46:05	00:00	0	21342	15975	6182	4500	1.34	ABB/ABB	
	Unidentified	46:23	00:00	0	14642	11440	3673	2828	1.28	ABB/ABB	
	Unidentified	46:35	00:00	0	1003	507	256	189	1.98 *	ABB/ABB	R
	1,2,3,4,7,8-HxCDD	47:08	47:09	-1	3845	2757	1106	777	1.39	ABV/ABV	
	1,2,3,6,7,8-HxCDD	47:15	47:16	-1	3809	3104	1385	944	1.23	AVB/AVB	
	1,2,3,7,8,9-HxCDD	47:41	47:41	0	5989	5413	1143	971	1.11	ABB/ABB	
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**		
	Noise	00:00	00:00	0	158	190	63	76	0.83 *	/	
	13C-1,2,3,4,7,8-HxCDD	47:07	47:08	-1	753276	589880	195916	155978	1.28	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDD	47:14	47:15	-1	429352	340903	111380	88206	1.26	AVB/AVV	
	13C-1,2,3,7,8,9-HxCDD	47:40	47:40	0	957925	763235	238654	188820	1.26	ABV/AVV	
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**		
	Noise	00:00	00:00	0	140	128	56	51	1.10	/	
	1,2,3,4,6,7,8-HpCDF	50:32	50:32	0	82130	78137	18932	17323	1.05	ABB/ABV	
	Unidentified	50:57	00:00	0	15987	14970	3972	3661	1.07	ABB/AVB	
	Unidentified	51:13	00:00	0	10303	8949	2224	1920	1.15	ABB/ABB	
	1,2,3,4,7,8,9-HpCDF	52:53	52:53	0	7339	8310	2022	1933	0.88	ABB/ABB	
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	Noise	00:00	00:00	0	185	165	74	66	1.12 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	50:31	50:31	0	223687	493226	48750	109094	0.45	ABV/ABV	
	13C-1,2,3,4,7,8,9-HpCDF	52:52	52:51	1	344259	764831	76060	169378	0.45	ABV/ABV	
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**		
	Noise	00:00	00:00	0	125	78	50	31	1.61 *	/	
	Unidentified	51:04	00:00	0	8581	7825	1995	1780	1.10	ABB/ABB	
	1,2,3,4,6,7,8-HpCDD	52:16	52:15	1	9599	10088	2508	2166	0.95	ABB/ABB	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1J1AA	**Prep Batch**	6107092	**Lot No**	H6D030236-004
Data File	/20060504s2/bth2h1j.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90543	**Prep Exp Date**	04/28/06	**Date Received**	04/02/06
Analysis Date	05/05/06 06:19	**Matrix**	AIR	**Date Sampled**	03/29/06
Anal Exp Date	06/01/06	**Initial Wt/Vol**	1 Sample	**Lims Test Code**	XXSIOX801
Instrument	M2A	**Extract Vol**	20 uL	**Method**	0023/8290
Analyst	PMP	**Diluton Factor**	1.00	**Code**	X8

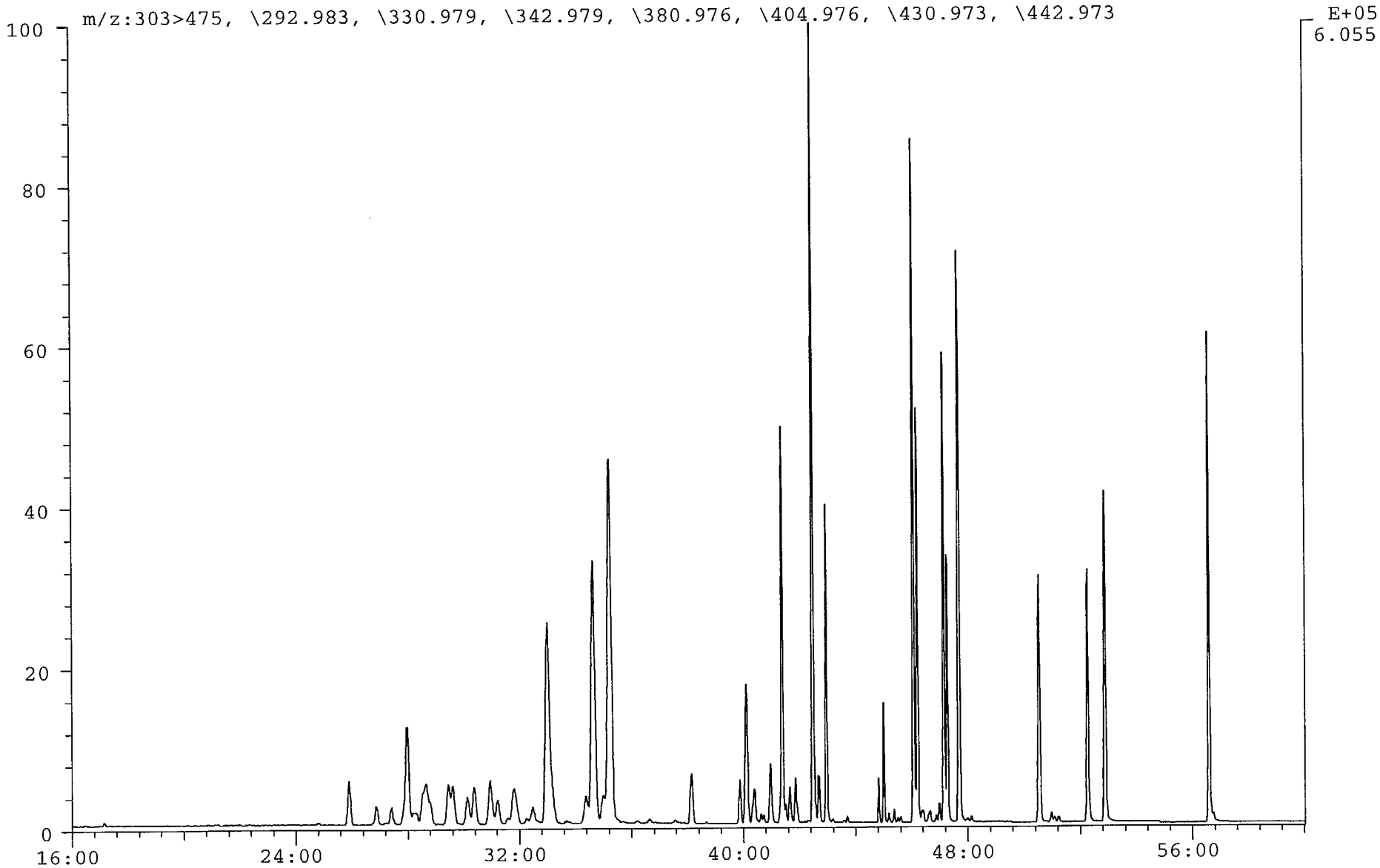
View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration Flags
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**	
	Noise	00:00	00:00	0	135	108	54	43	1.26 *	/
	13C-1,2,3,4,6,7,8-HpCDD	52:15	52:14	1	430917	418980	92649	93097	1.03	ABV/ABV
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**	
	Noise	00:00	00:00	0	105	148	42	59	0.71 *	/
	OCDF	56:44	56:43	1	8155	10234	2107	2280	0.80	ABB/MBB
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**	
	Noise	00:00	00:00	0	85	105	34	42	0.81	/
	OCDD	56:35	56:34	1	8322	8285	2278	2336	1.00	ABB/ABB
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**	
	Noise	00:00	00:00	0	143	135	57	54	1.06 *	/
	13C-OCDD	56:34	56:34	0	667518	751527	172948	192201	0.89	ABV/ABV

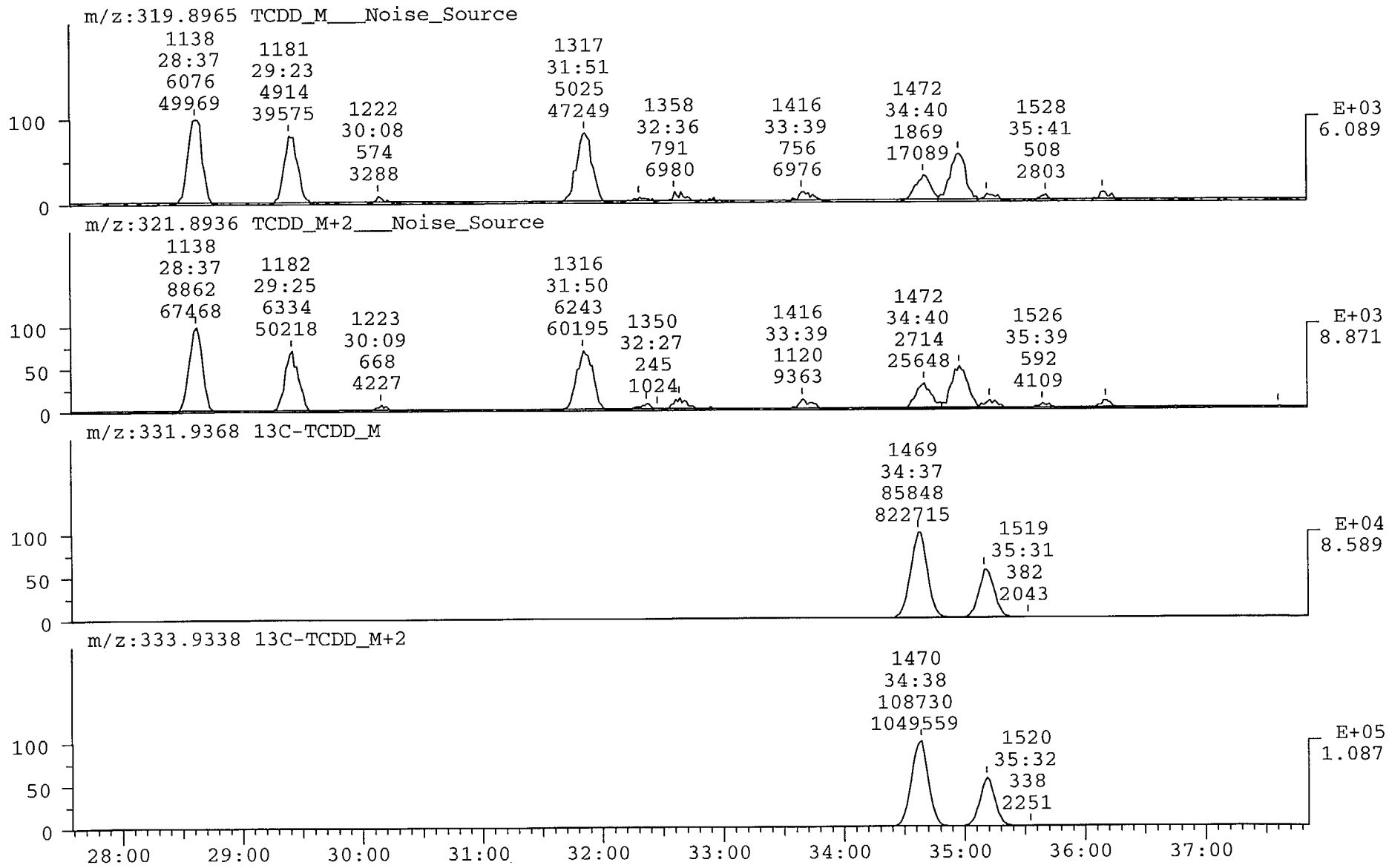
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

CHRO: bth2h1j 05-May-06 Elapse: 56:39 2702
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 442 > 2891 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

Int BW 5/5/06
Calc VMK 5/5/06
QC Rev WSD 5/8/06



CHRO: bth2h1j 05-May-06 Elapse: 56:39 2702
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1081 > 1647 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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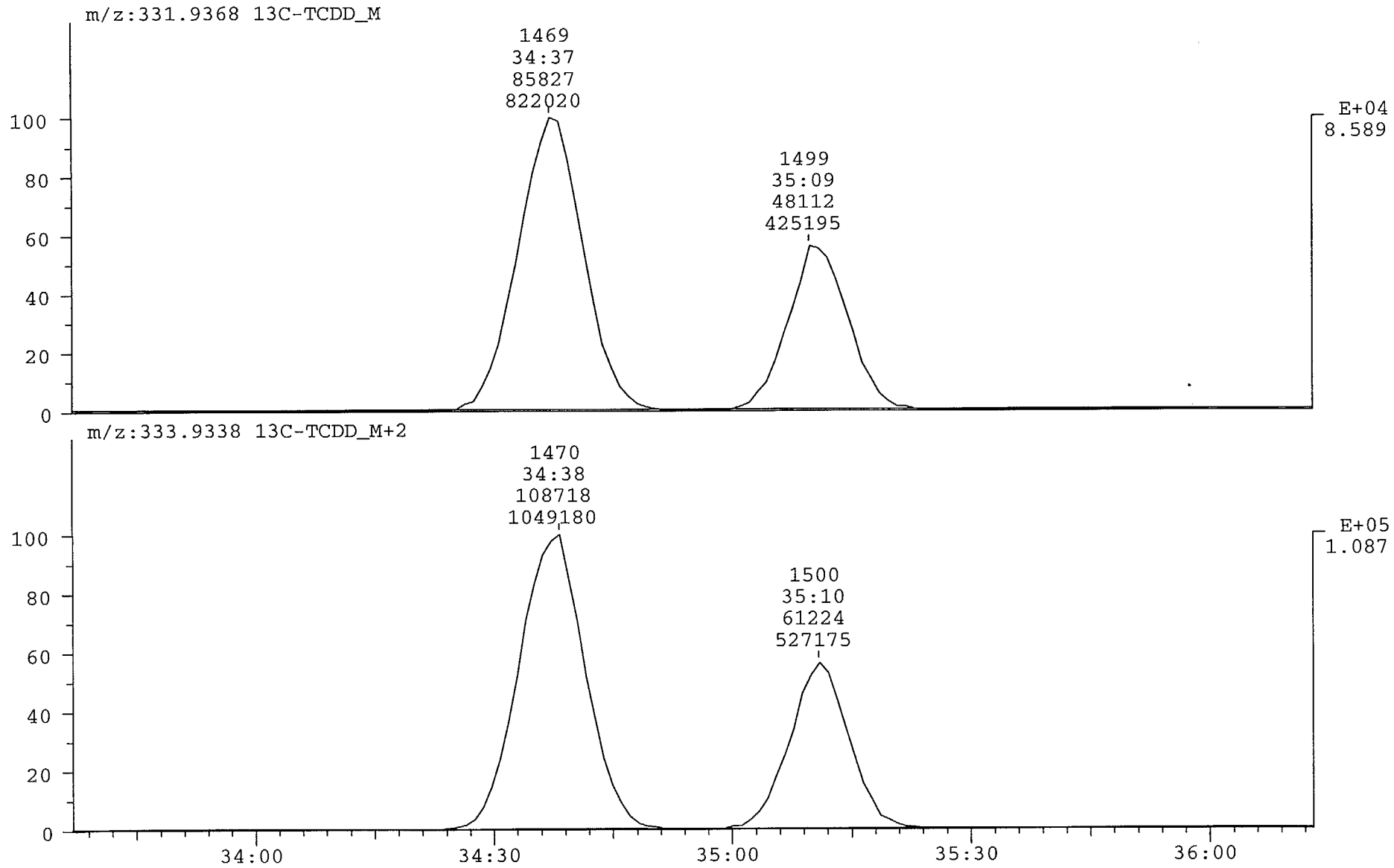
CHRO:  bth2h1j                                05-May-06   Elapse:  34:54      1485
Samp:  Vial 13 WO=h2h1j1aa Meth=X8 Dil=1                  Start :  06:19:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-004              Inlet :  GC     Vial  13
Peak:  100.00  ppm      Label wndw:   1414 > 1557         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



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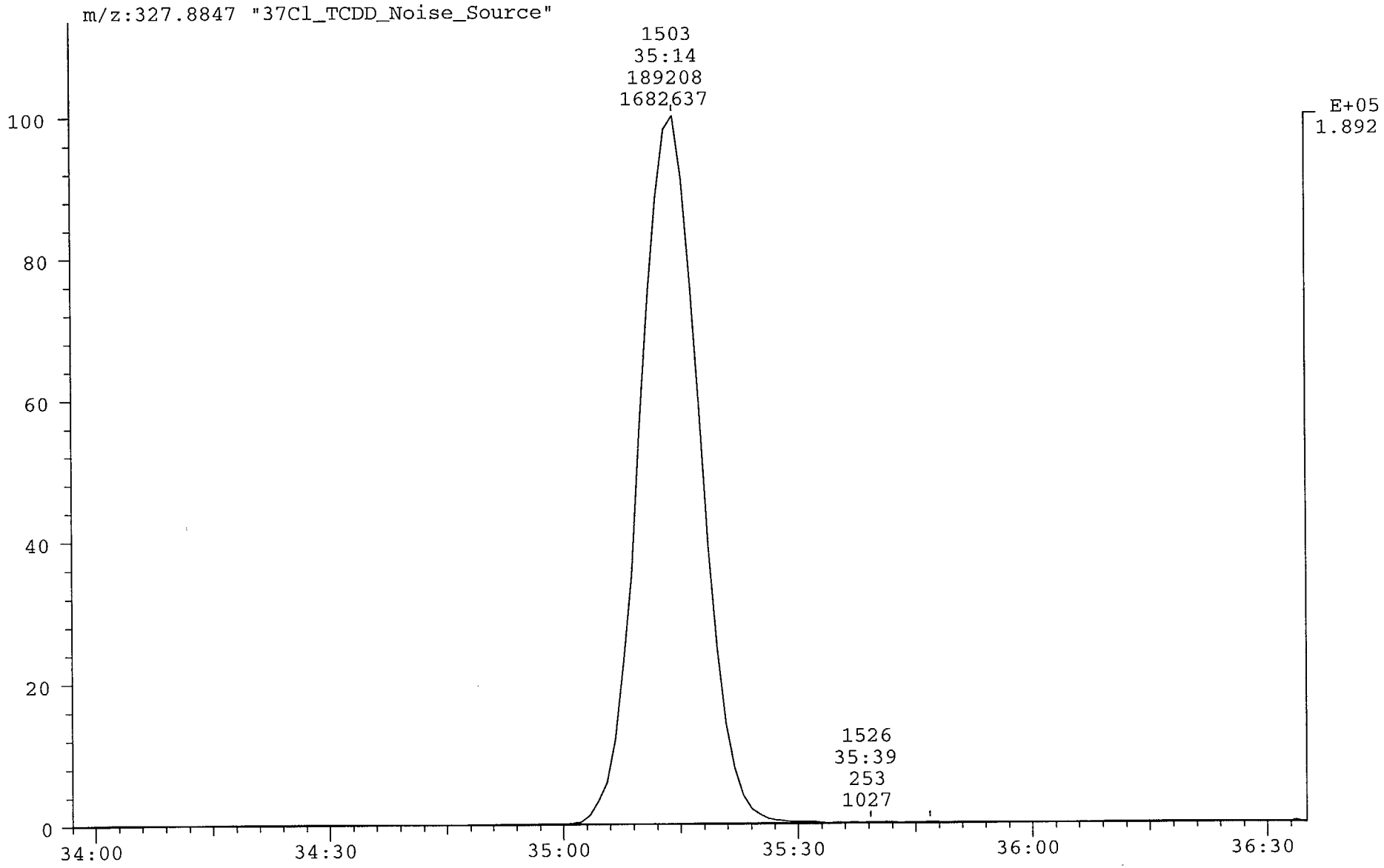
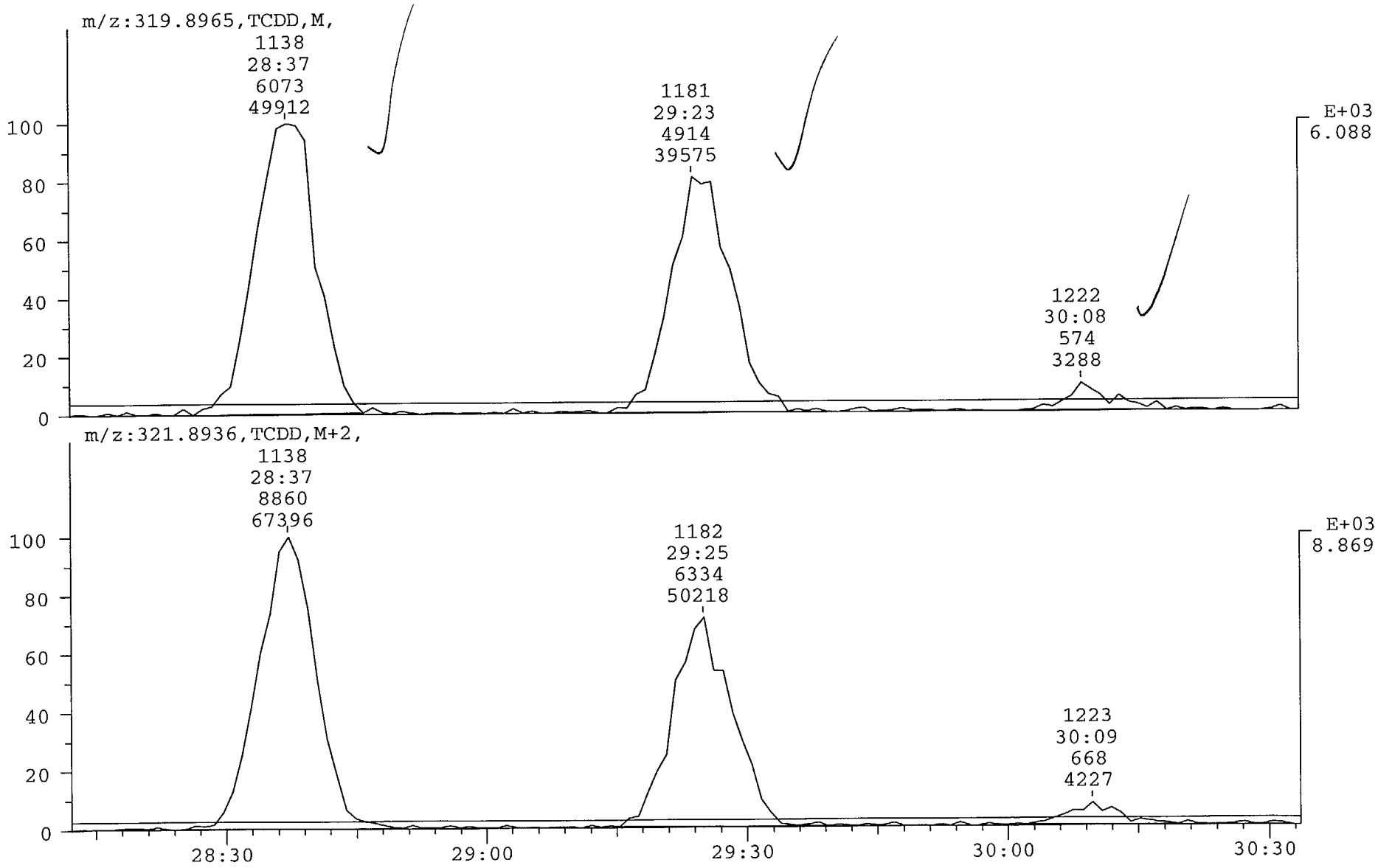
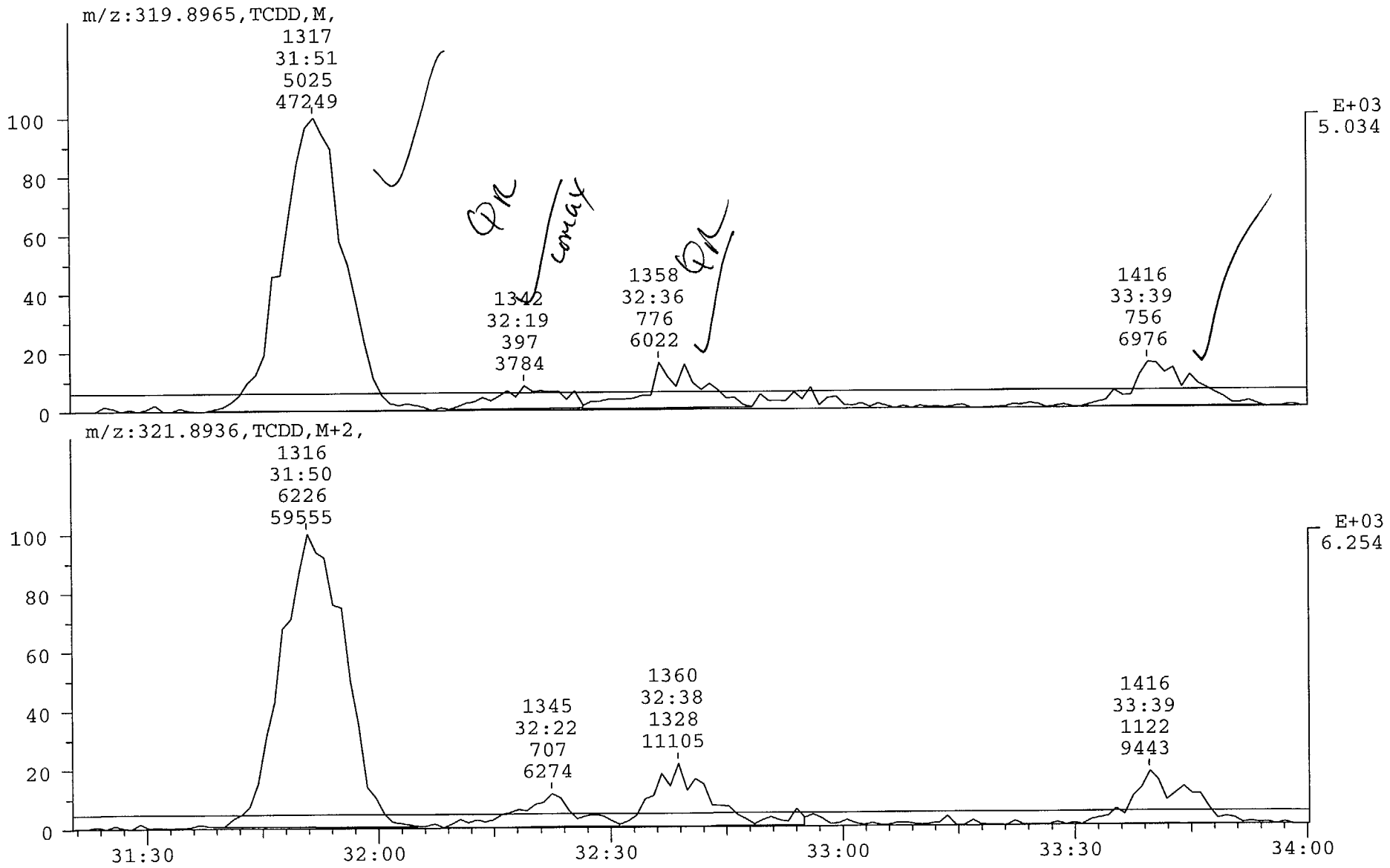
CHRO:  bth2h1j                                05-May-06   Elapse:  35:13      1502
Samp:  Vial 13 WO=h2h1j1aa Meth=X8 Dil=1                  Start :  06:19:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-004              Inlet :  GC     Vial  13
Peak:  100.00  ppm      Label wndw:   1432 > 1577         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



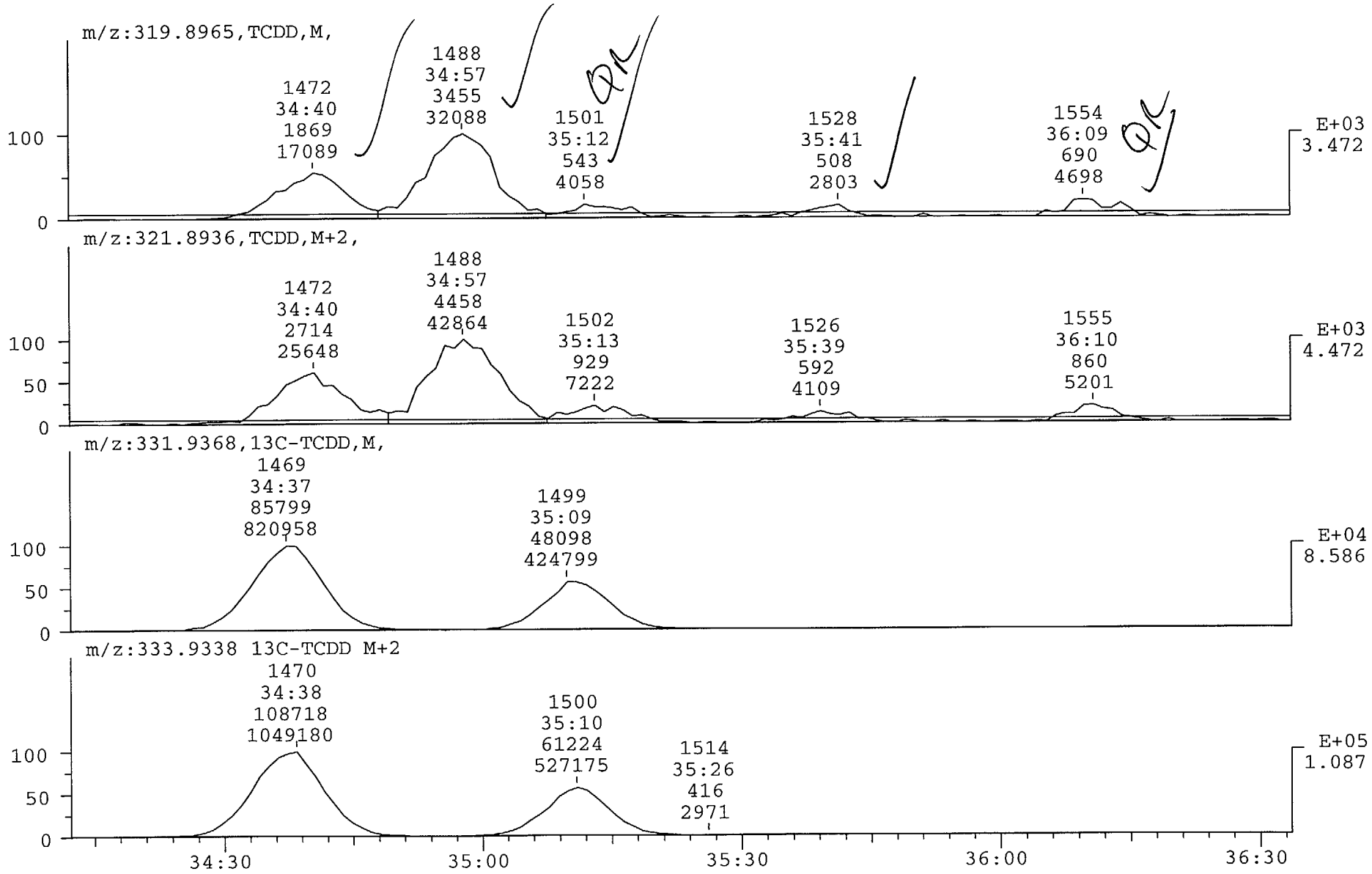
CHRO: bth2h1j 05-May-06 Elapse: 56:43 2705
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1115 > 1245 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



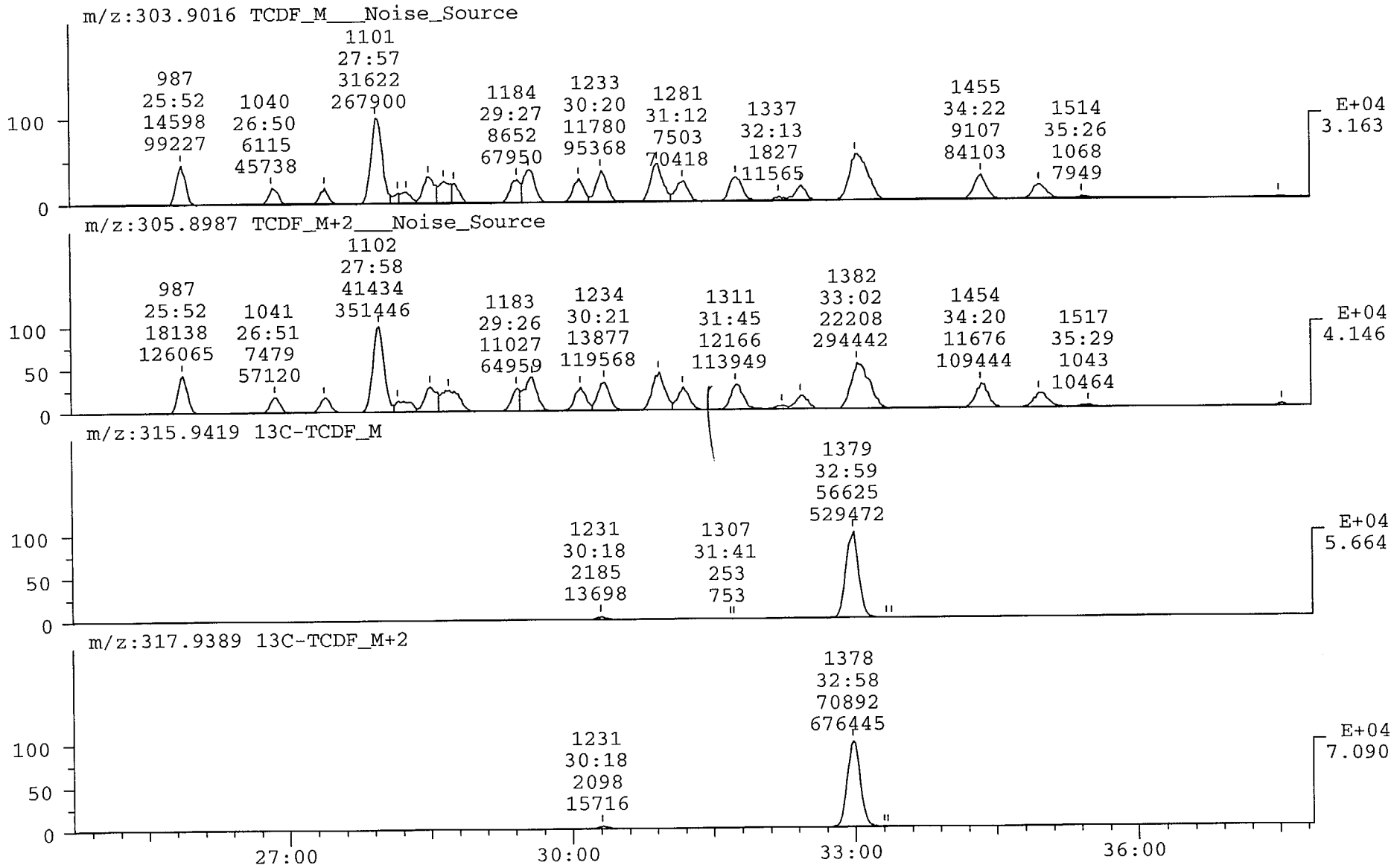
CHRO: bth2h1j 05-May-06 Elapse: 56:43 2705
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1288 > 1435 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 4 Label : -3, 4.0
Disp: Height Area



CHRO: bth2h1j 05-May-06 Elapse: 56:43 2705
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1446 > 1576 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1j 05-May-06 Elapse: 35:13 1502
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 922 > 1647 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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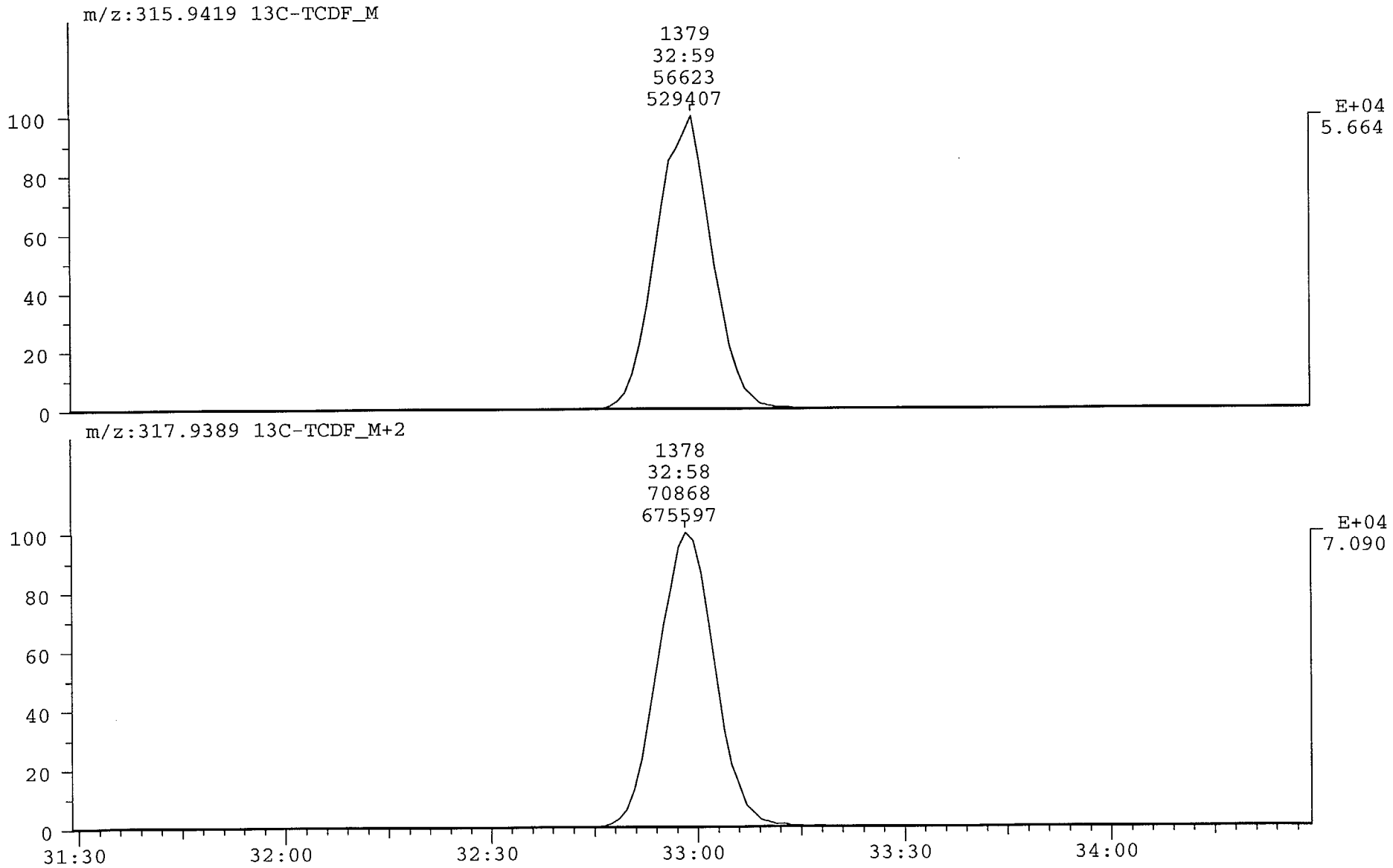
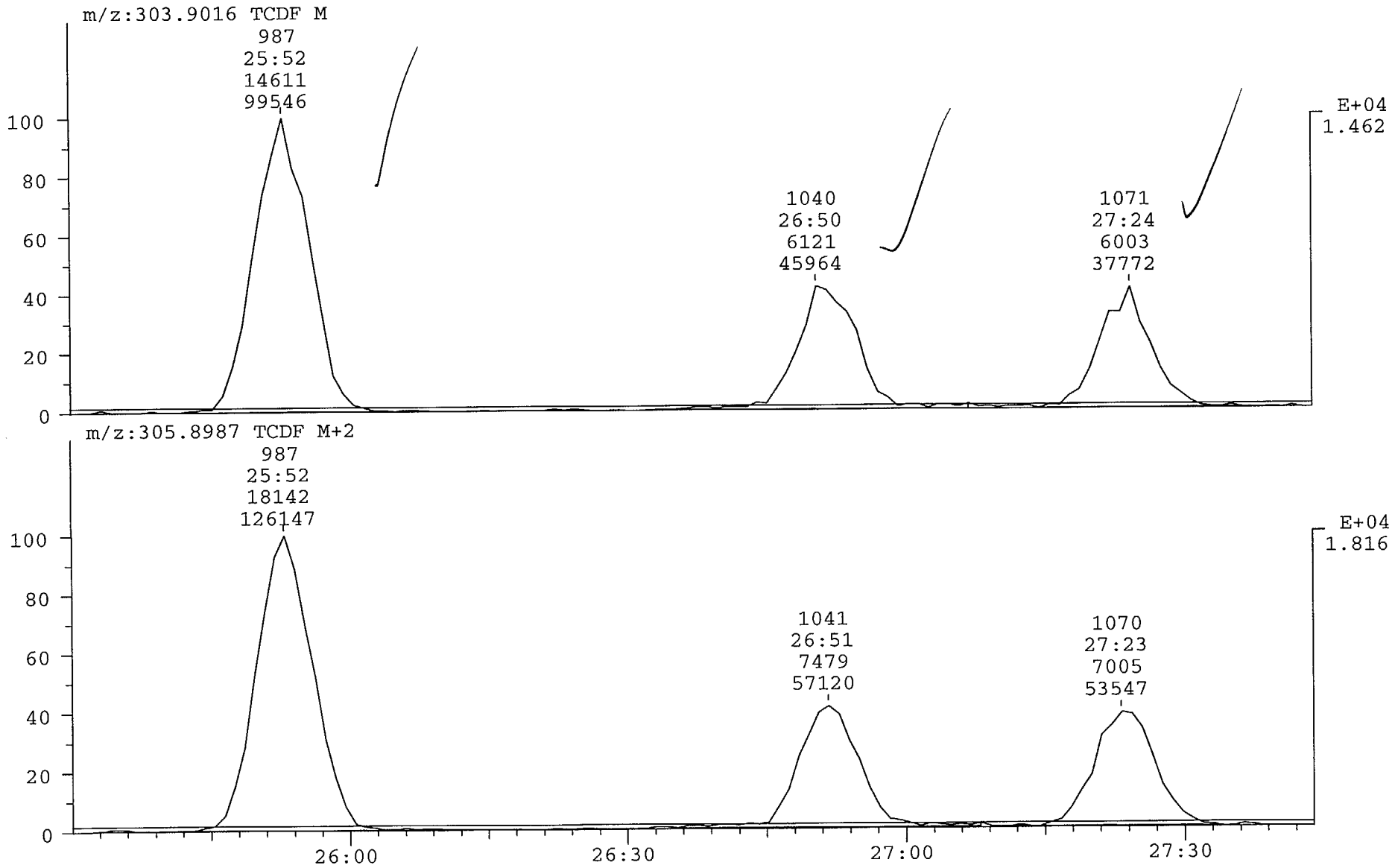
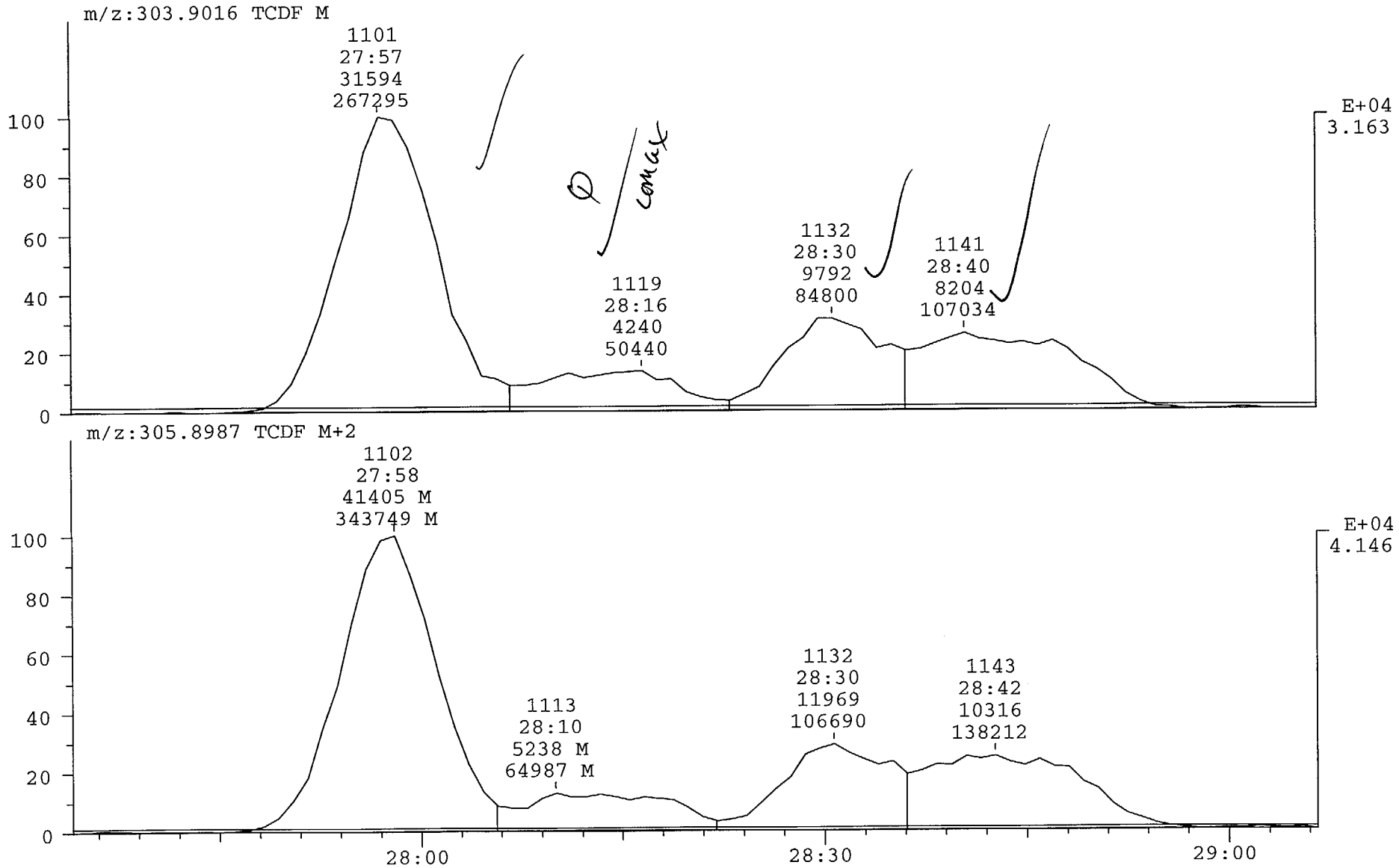
CHRO:  bth2h1j                                05-May-06   Elapse:  32:56      1376
Samp:  Vial 13 WO=h2h1j1aa Meth=X8 Dil=1                  Start :  06:19:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-004                Inlet :  GC     Vial  13
Peak:  100.00  ppm     Label wndw:   1296 > 1461          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



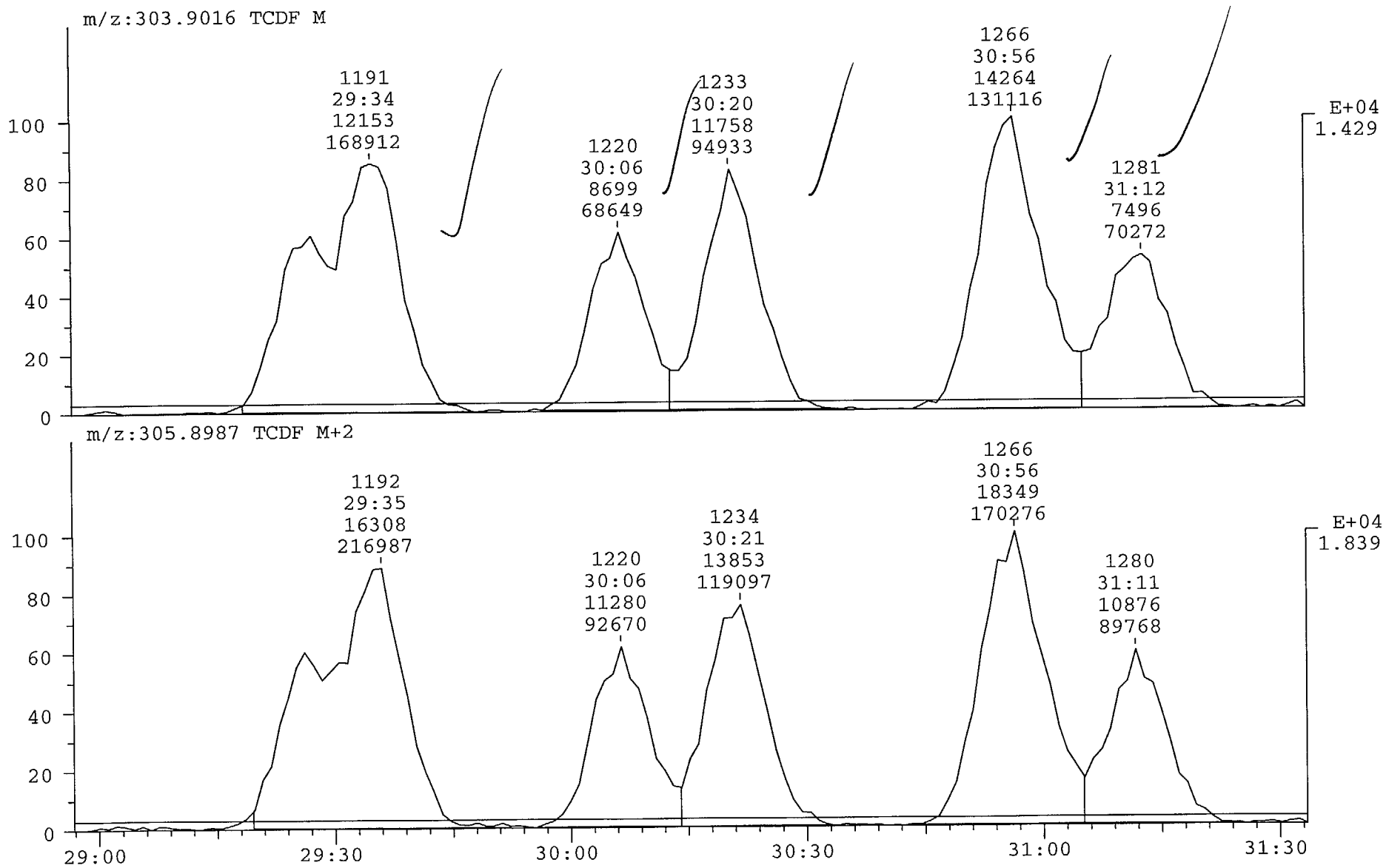
CHRO: bth2h1j 05-May-06 Elapse: 56:43 2705
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 966 > 1089 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 4 Label : -3, 3.0
Disp: Height Area



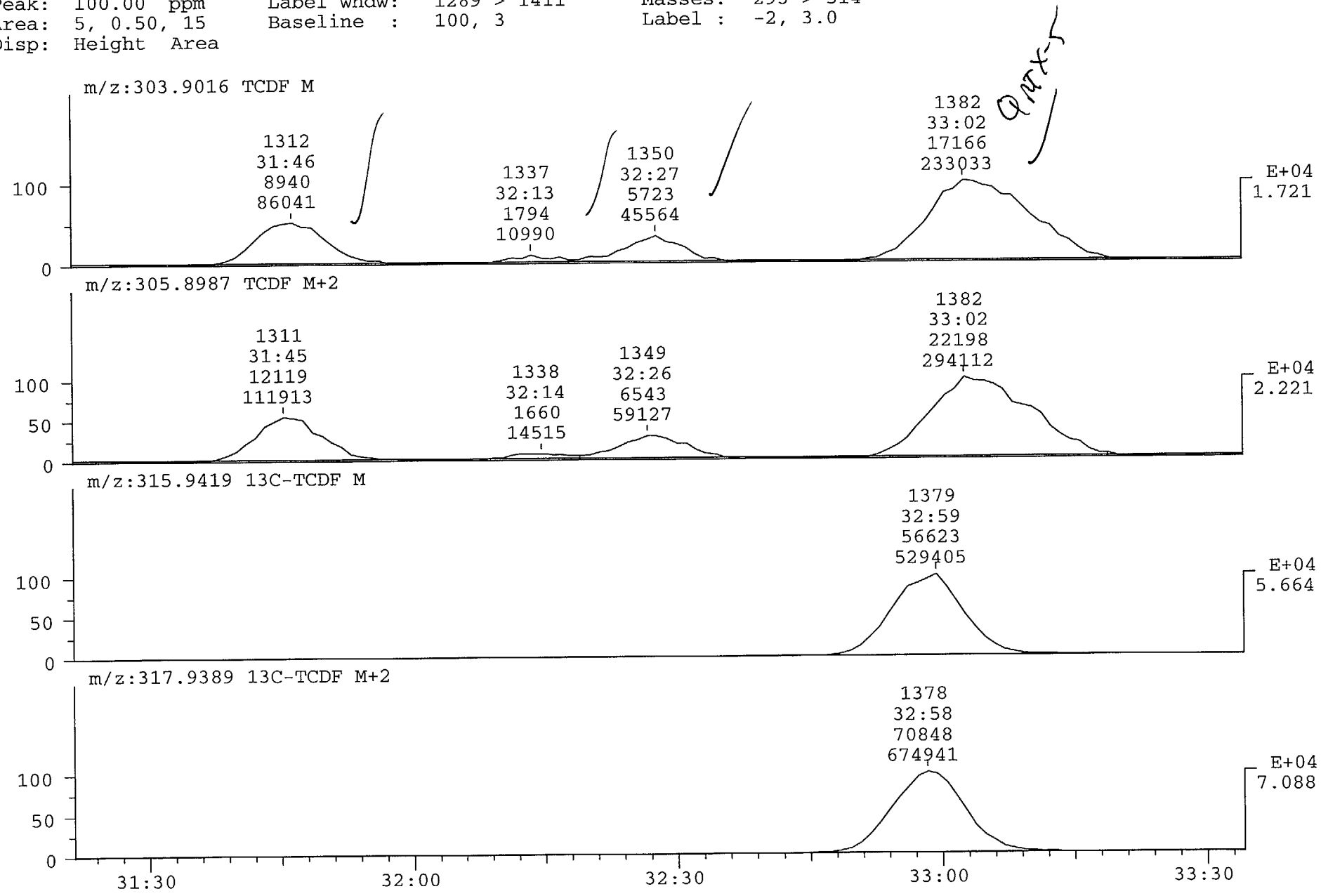
CHRO: bth2h1j 05-May-06 Elapse: 56:43 2705
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1080 > 1165 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 5 Label : -1, 3.0
Disp: Height Area



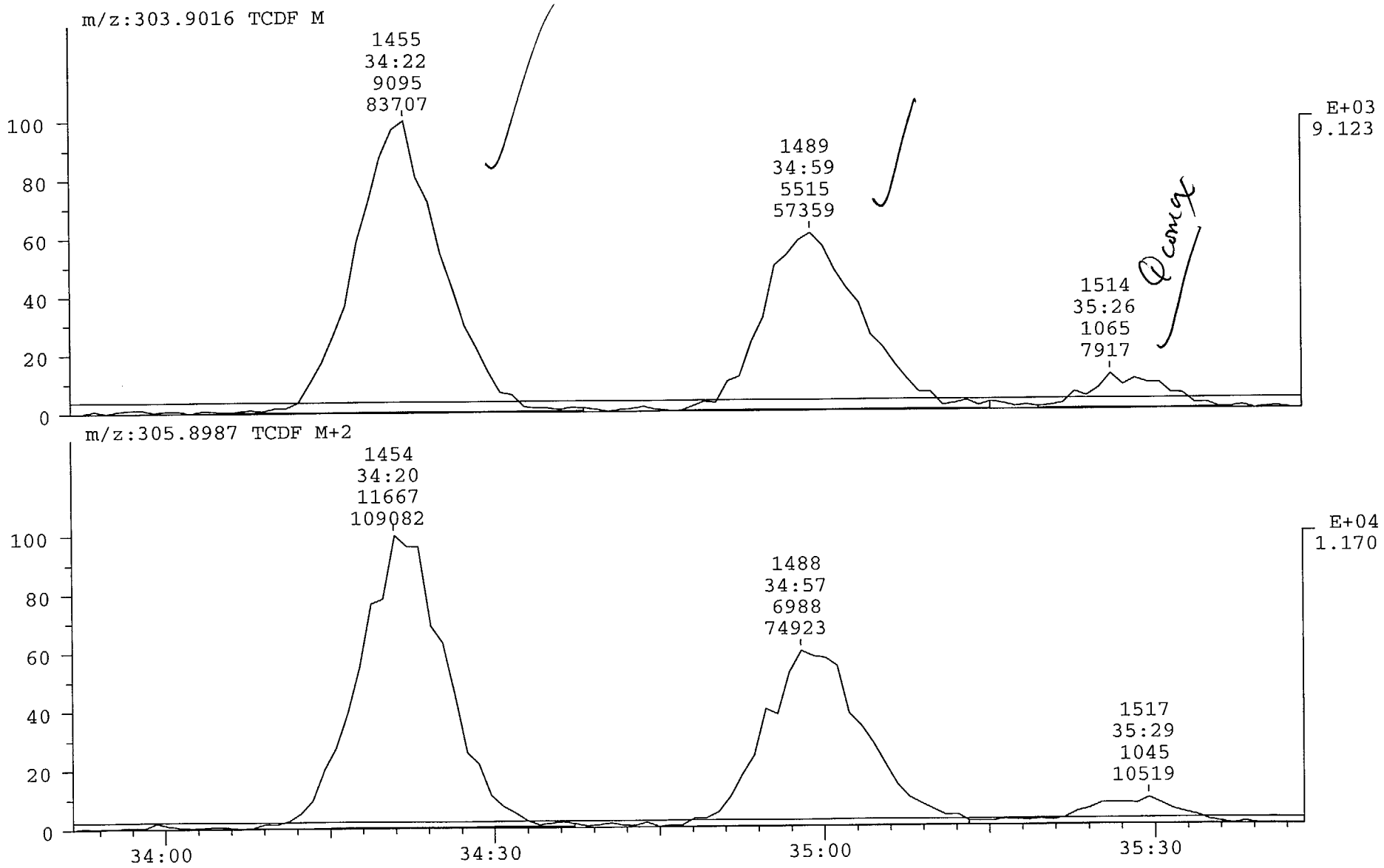
CHRO: bth2h1j 05-May-06 Elapse: 56:43 2705
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1156 > 1300 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 6 Label : -2, 3.0
Disp: Height Area



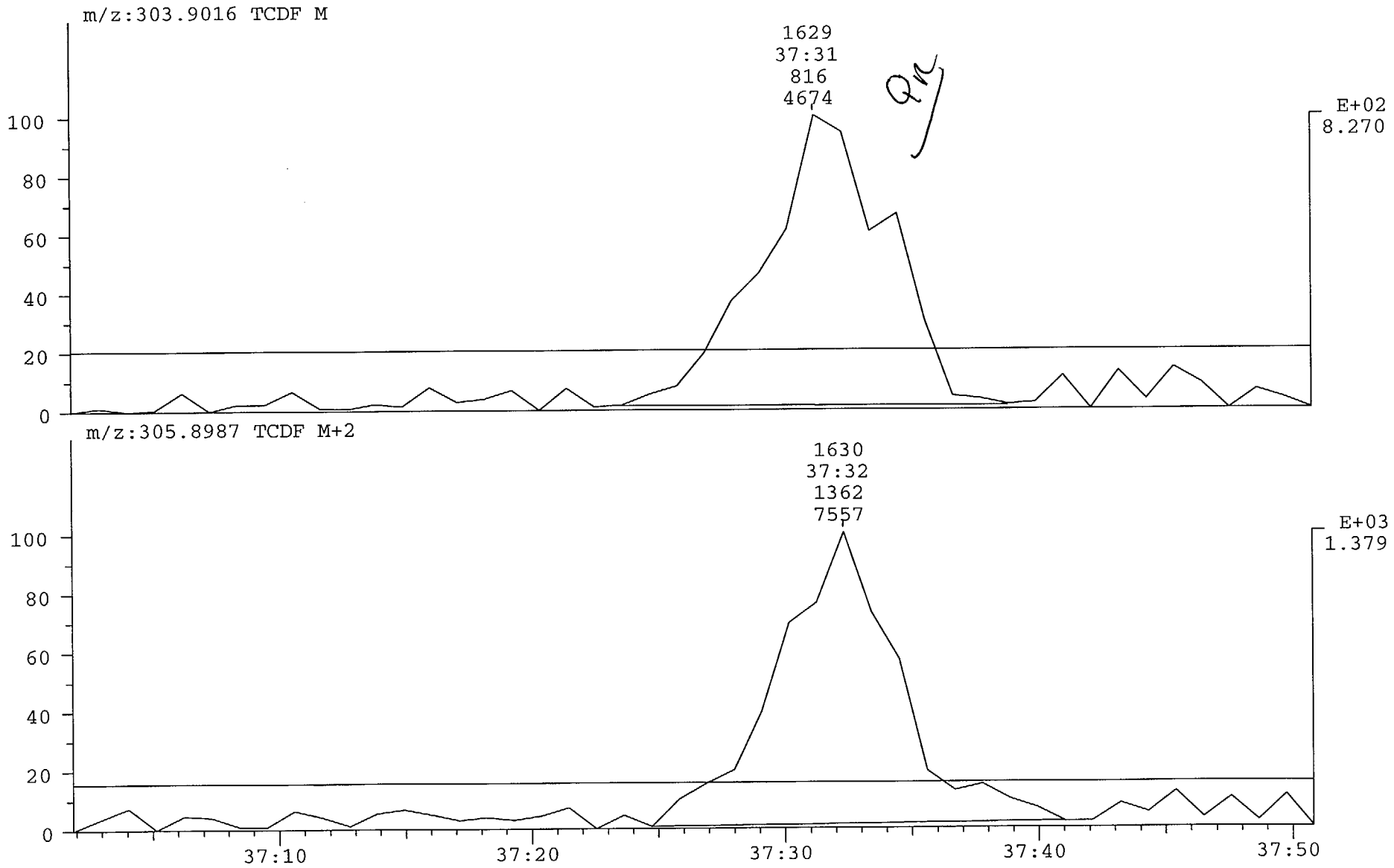
CHRO: bth2h1j 05-May-06 Elapse: 56:43 2705
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1289 > 1411 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



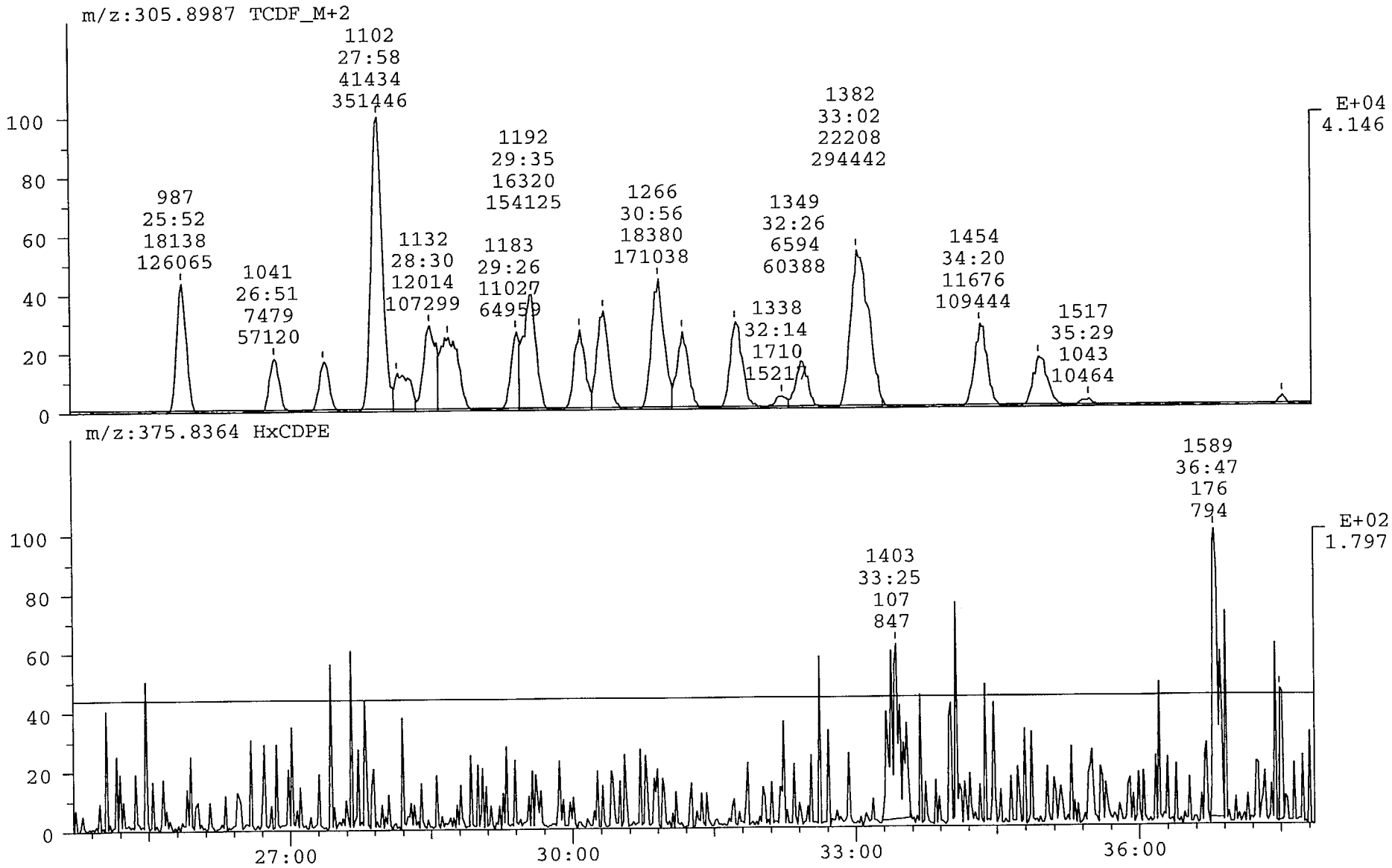
CHRO: bth2h1j 05-May-06 Elapse: 56:43 2705
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1427 > 1530 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1j 05-May-06 Elapse: 56:43 2705
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1602 > 1647 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1j 05-May-06 Elapse: 32:56 1376
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 922 > 1647 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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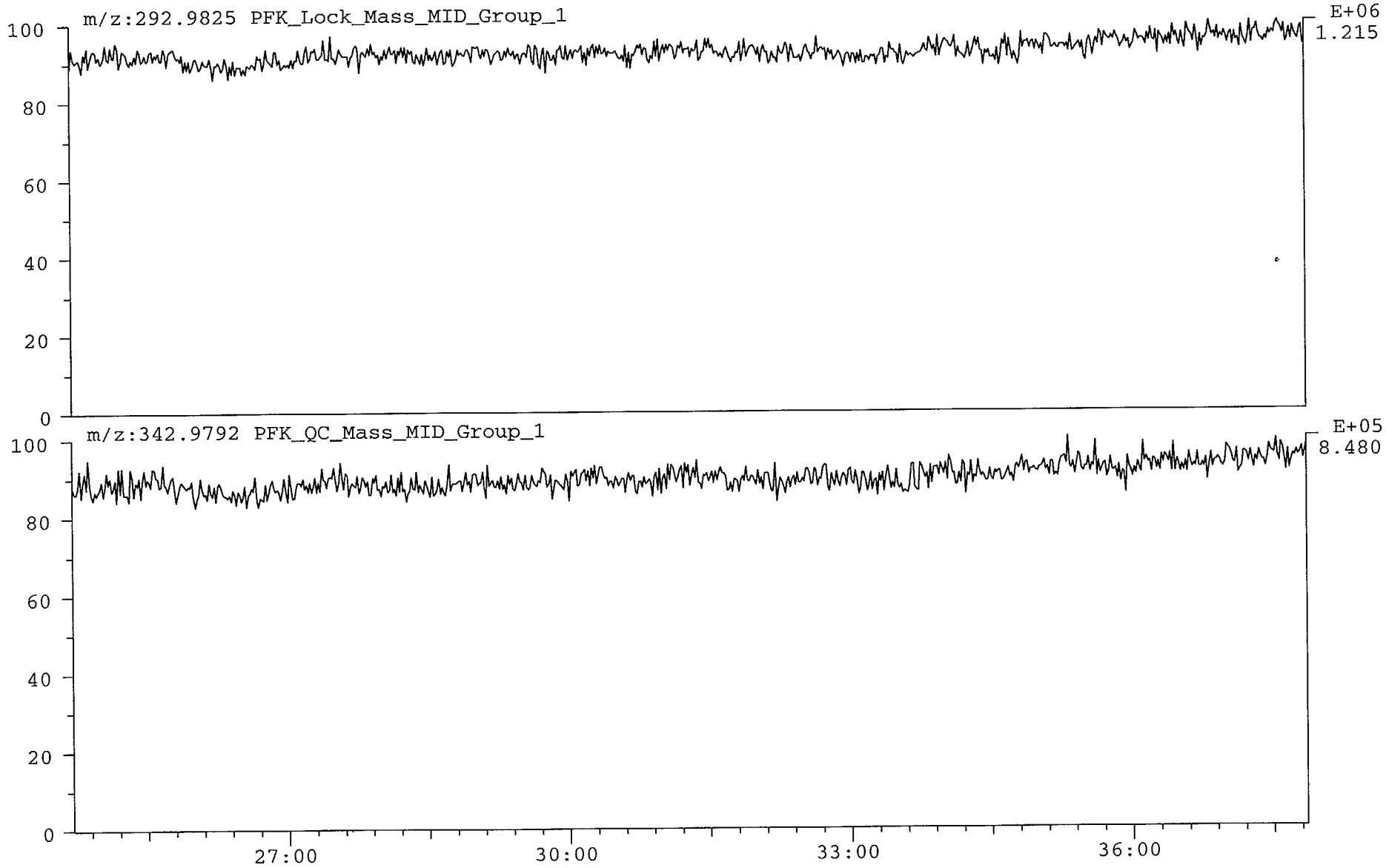
CHRO:  bth2h1j                                  05-May-06   Elapse:  32:56      1376
Samp:  Vial 13 WO=h2h1j1aa Meth=X8 Dil=1                    Start :  06:19:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-004                Inlet :  GC     Vial  13
Peak:  100.00  ppm      Label wndw:   922 > 1647            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```



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CHRO:  bth2h1j                                05-May-06   Elapse:  32:56      1376
Samp:  Vial 13 WO=h2h1j1aa Meth=X8 Dil=1                  Start :  06:19:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-004              Inlet :  GC     Vial  13
Peak:  100.00  ppm      Label wndw:   1771 > 2002         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
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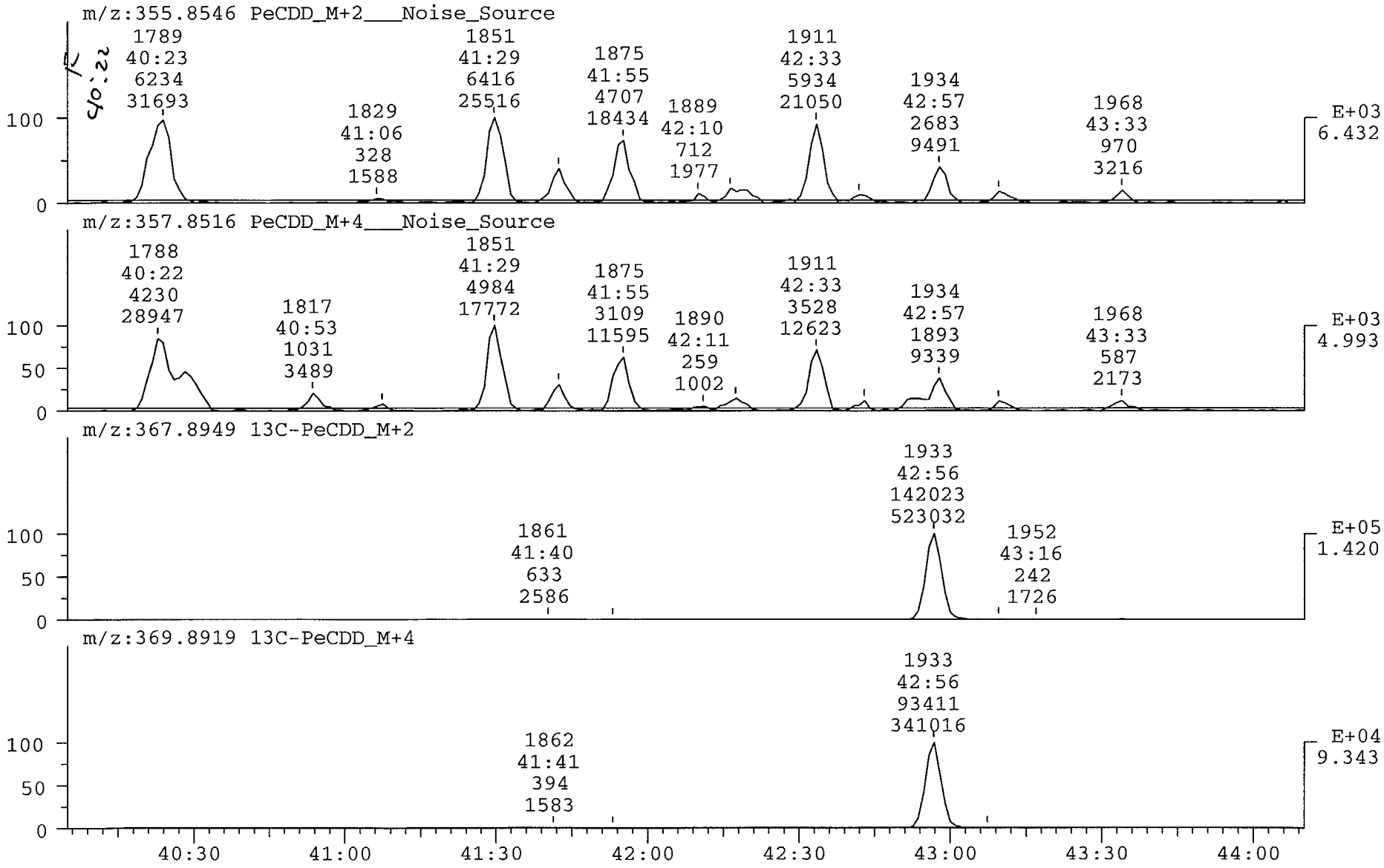

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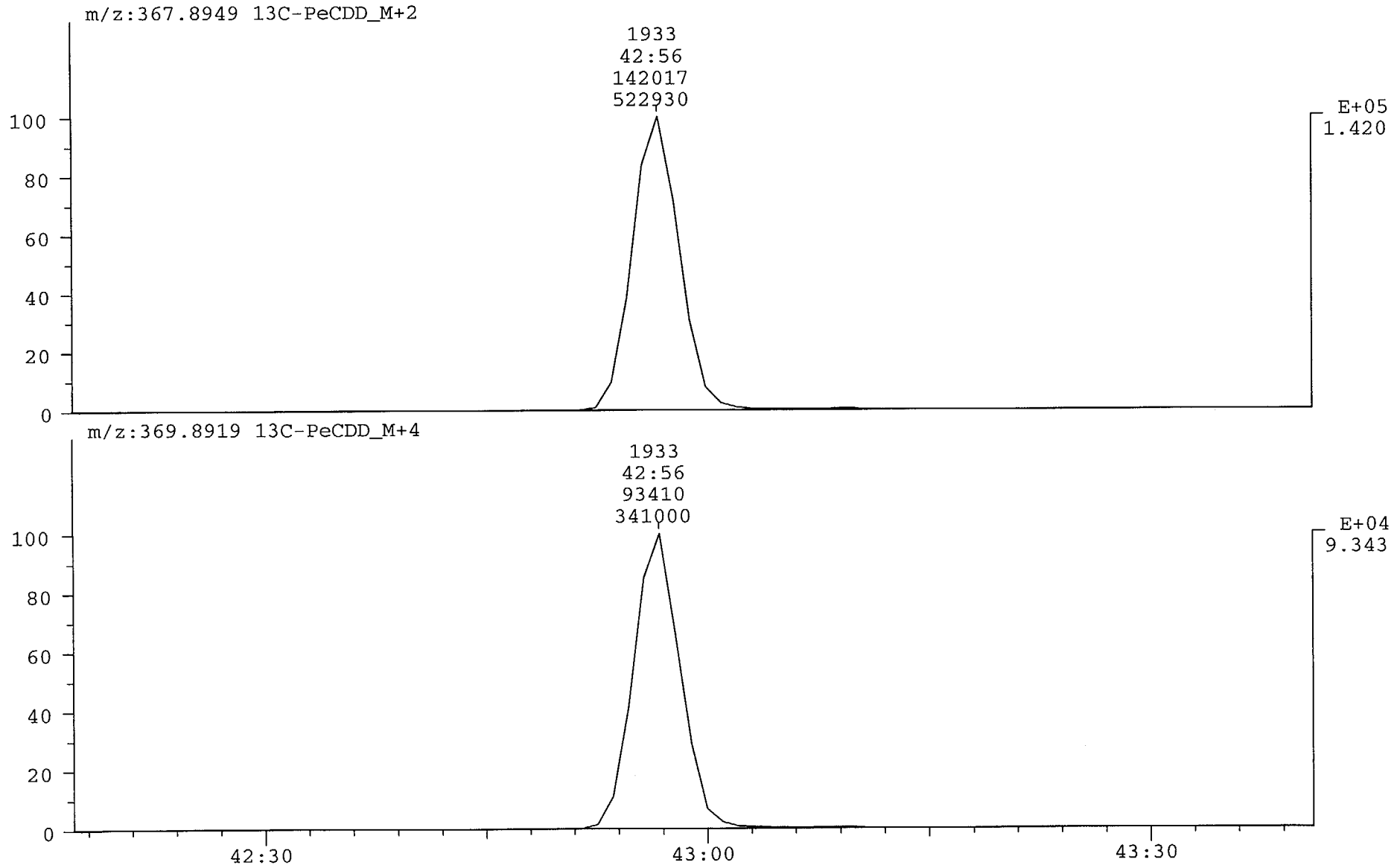
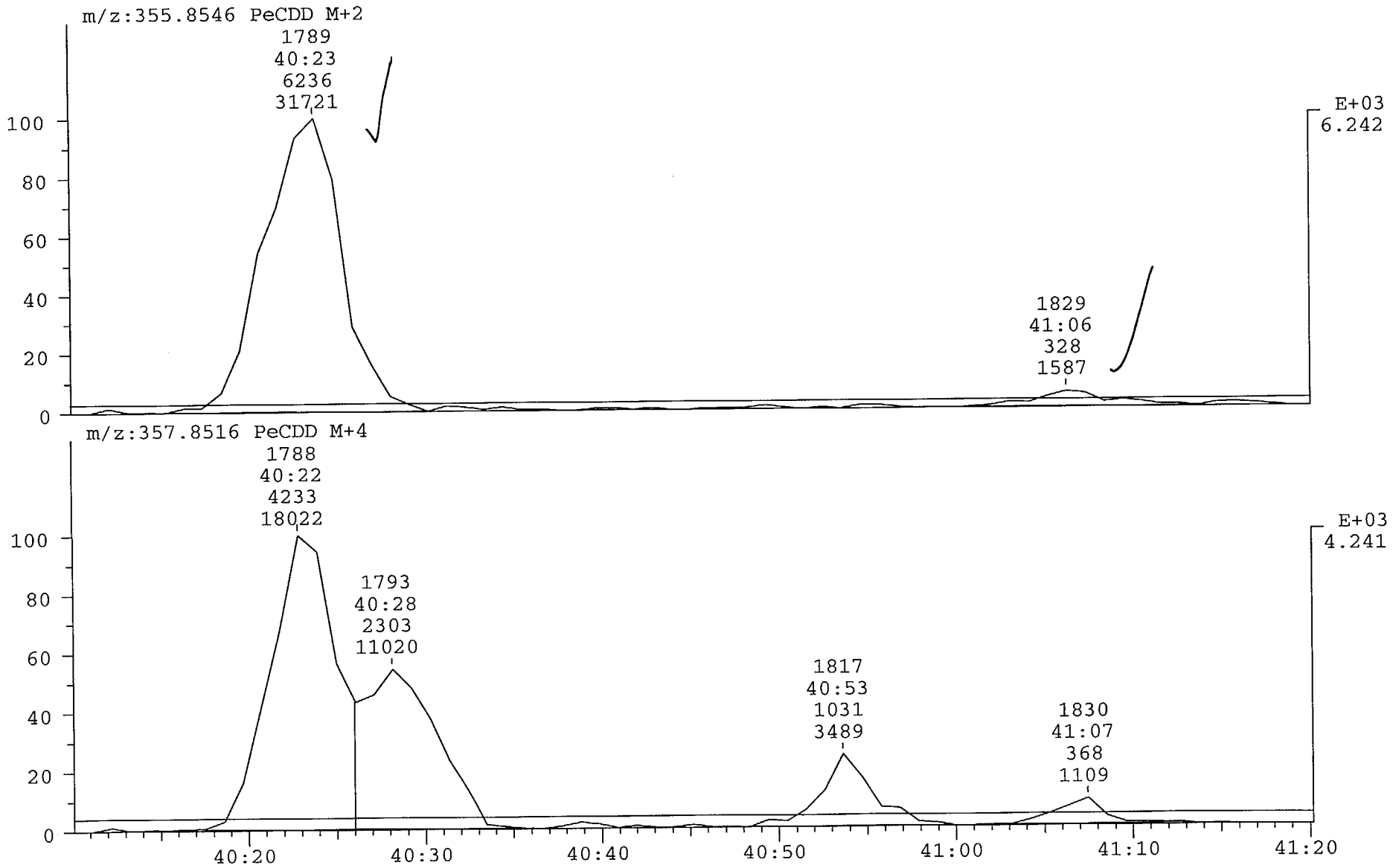
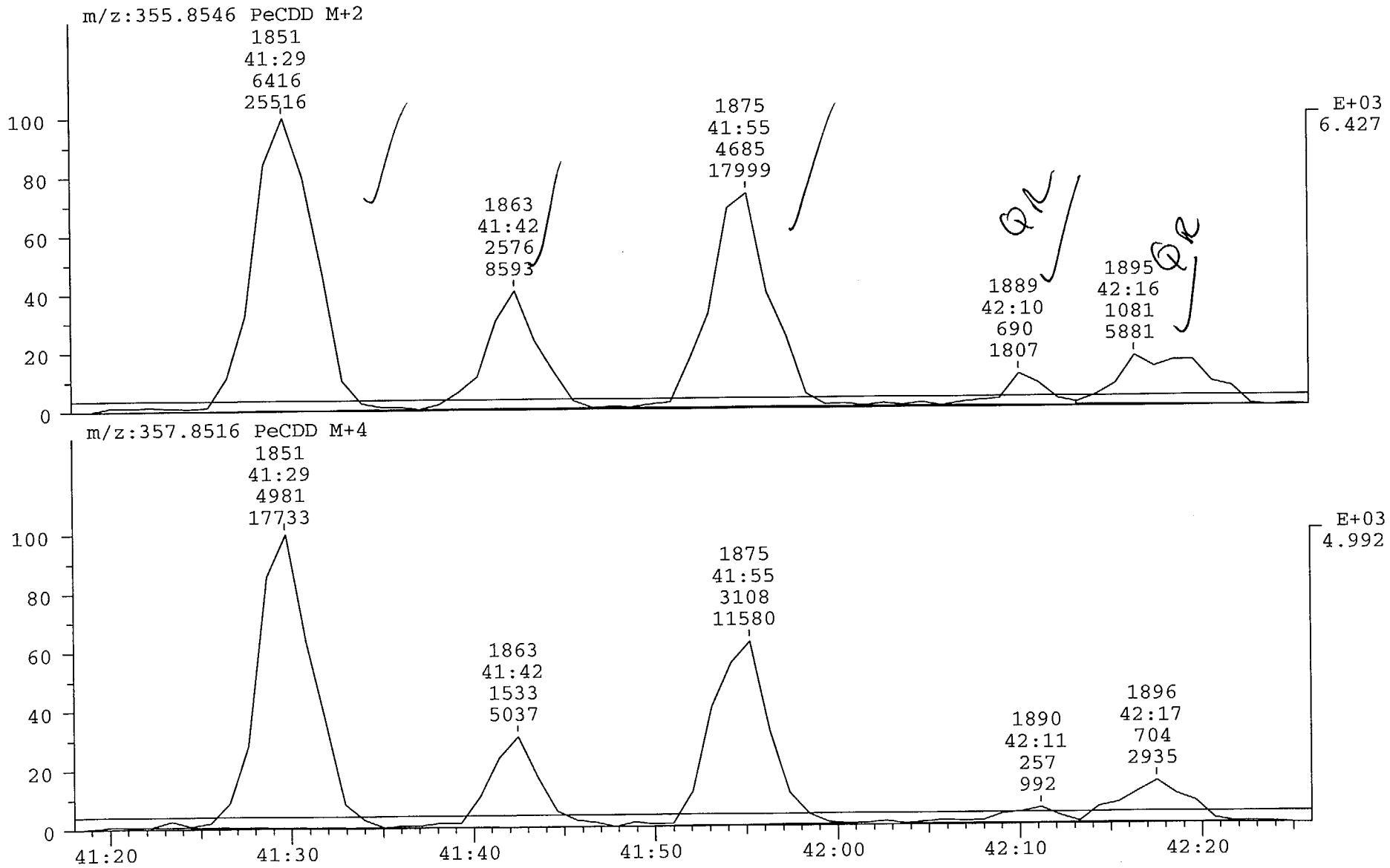
CHRO:  bth2h1j                                05-May-06  Elapse:  42:55      1932
Samp:  Vial 13 WO=h2h1j1aa Meth=X8 Dil=1                 Start :  06:19:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-004               Inlet :  GC     Vial  13
Peak:  100.00  ppm     Label wndw:   1896 > 1975         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



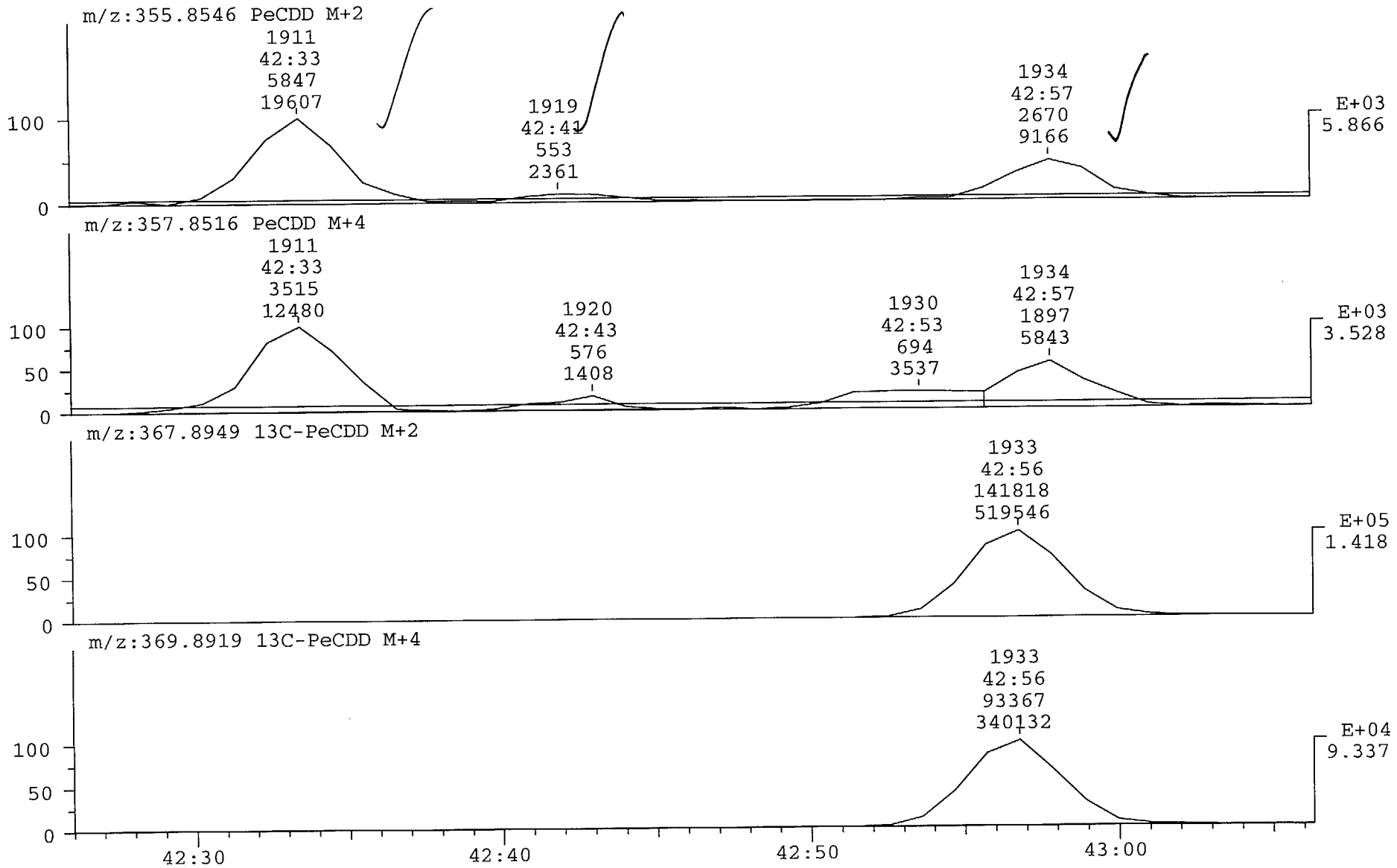
CHRO: bth2h1j 05-May-06 Elapse: 56:43 2705
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1000 > 3500 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 2 Label : -2, 3.0
Disp: Height Area



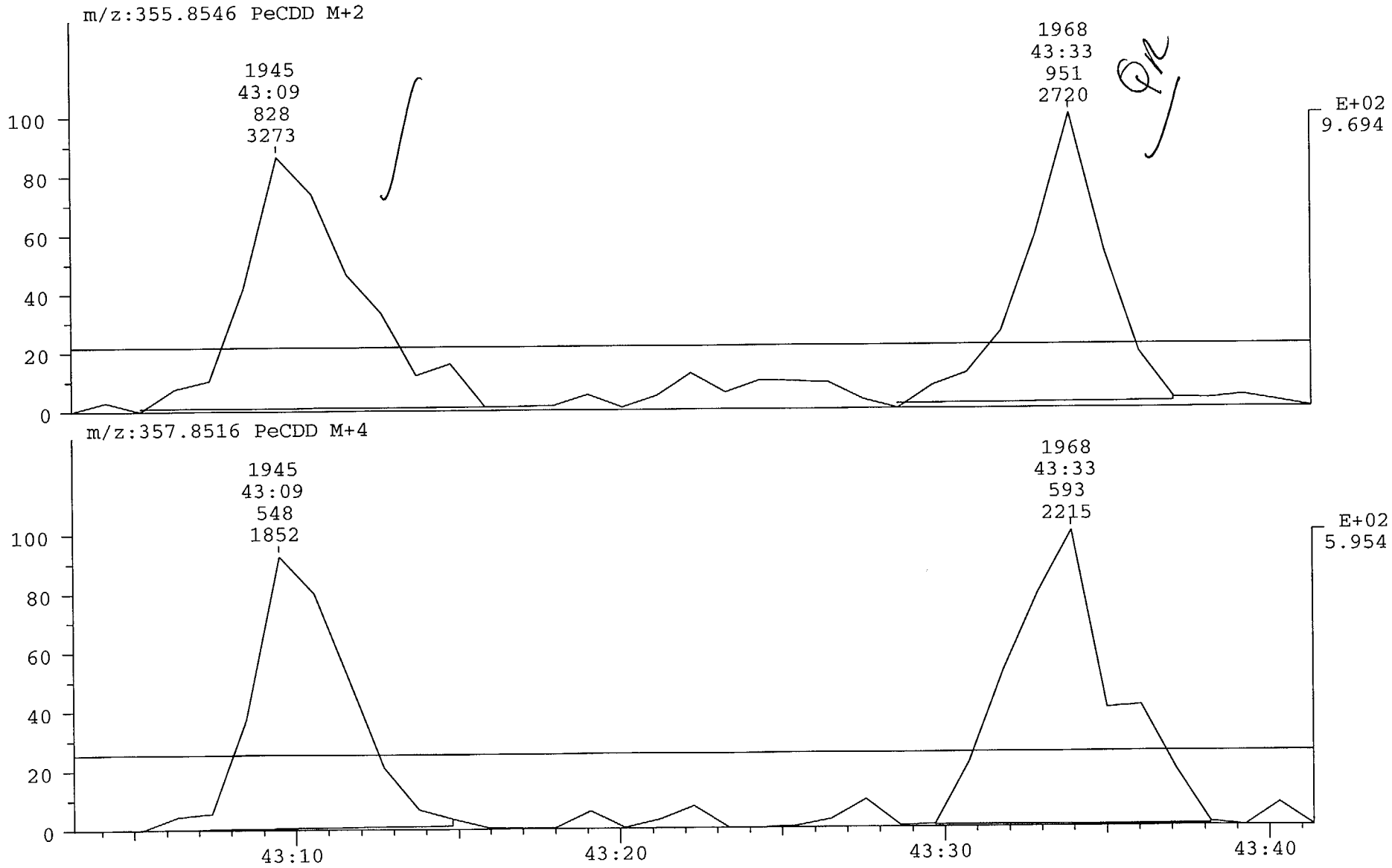
CHRO: bth2h1j 05-May-06 Elapse: 56:43 2705
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1000 > 3500 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



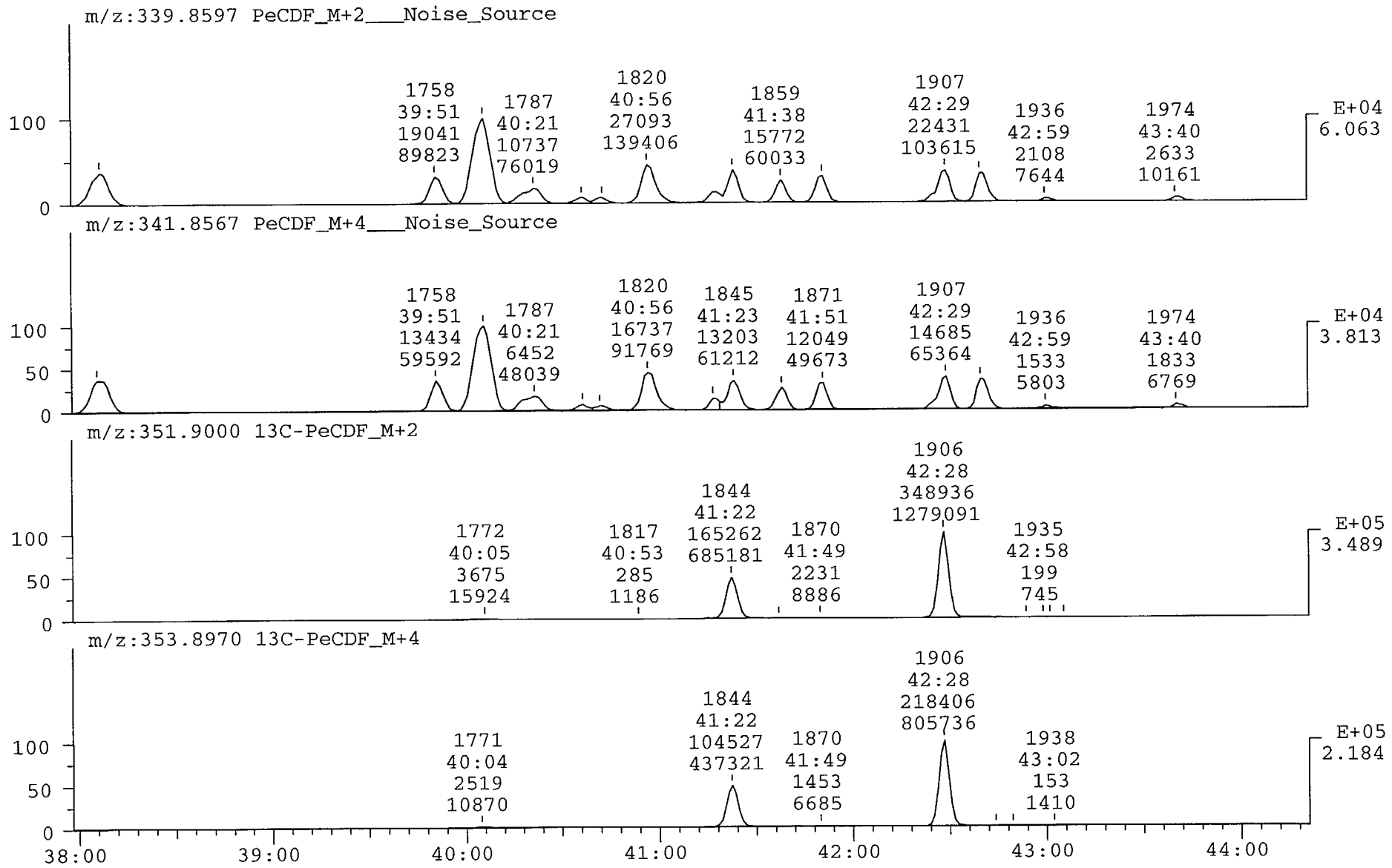
CHRO: bth2h1j 05-May-06 Elapse: 56:43 2705
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1000 > 3500 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 2 Label : -2, 3.0
Disp: Height Area



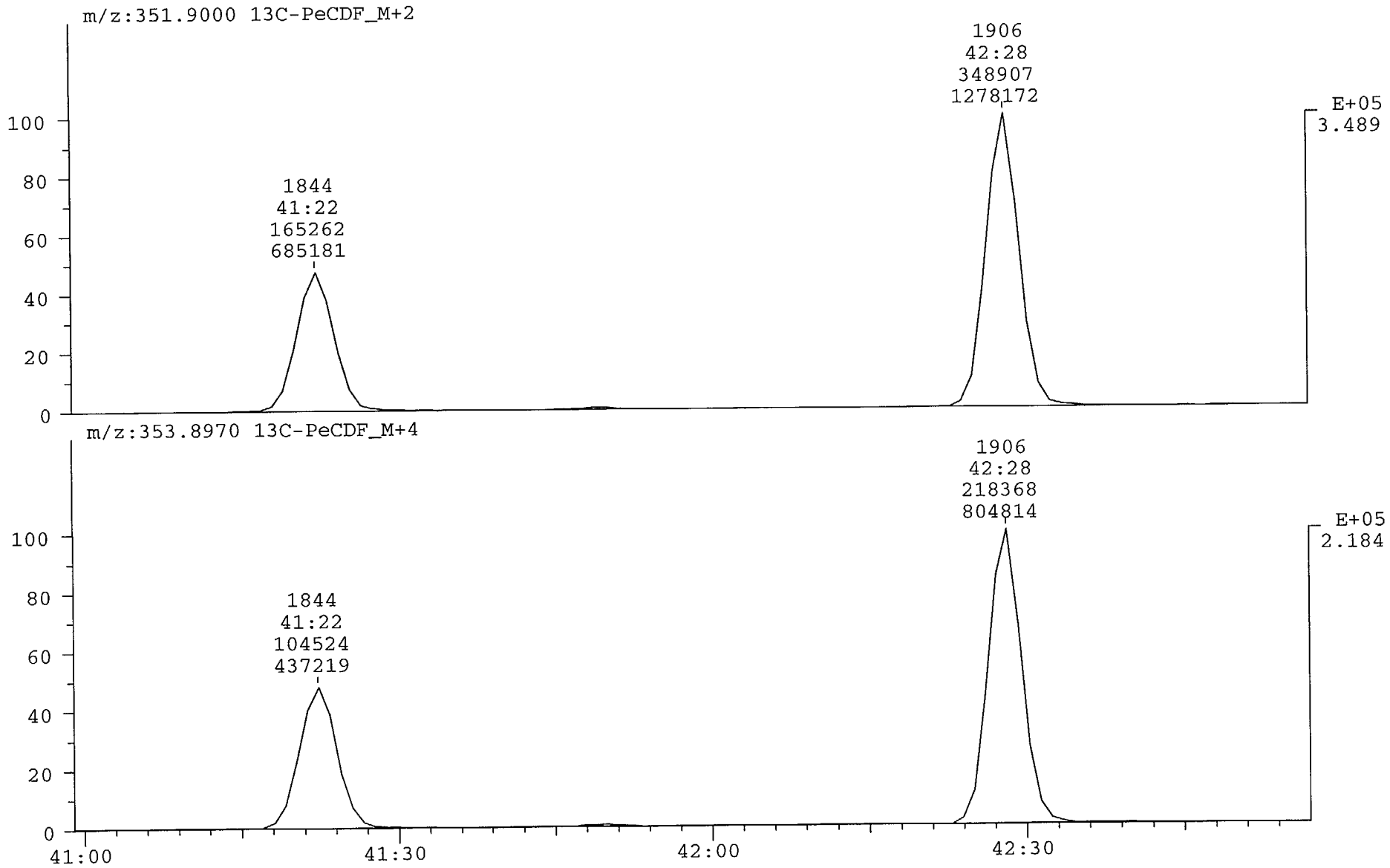
CHRO: bth2h1j 05-May-06 Elapse: 56:43 2705
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1000 > 3500 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1j 05-May-06 Elapse: 42:55 1932
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1652 > 2012 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1j 05-May-06 Elapse: 41:58 1878
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1822 > 1933 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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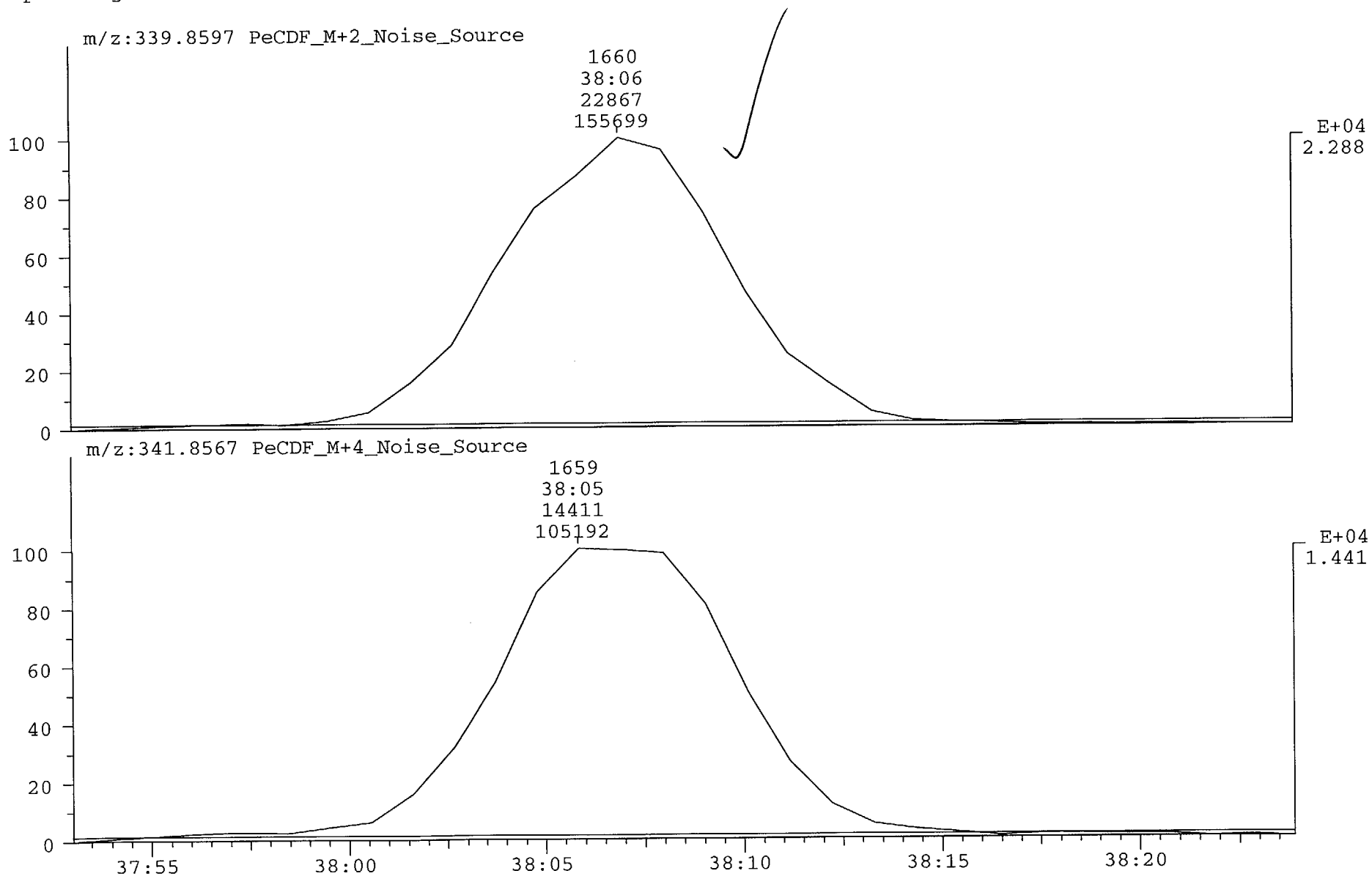
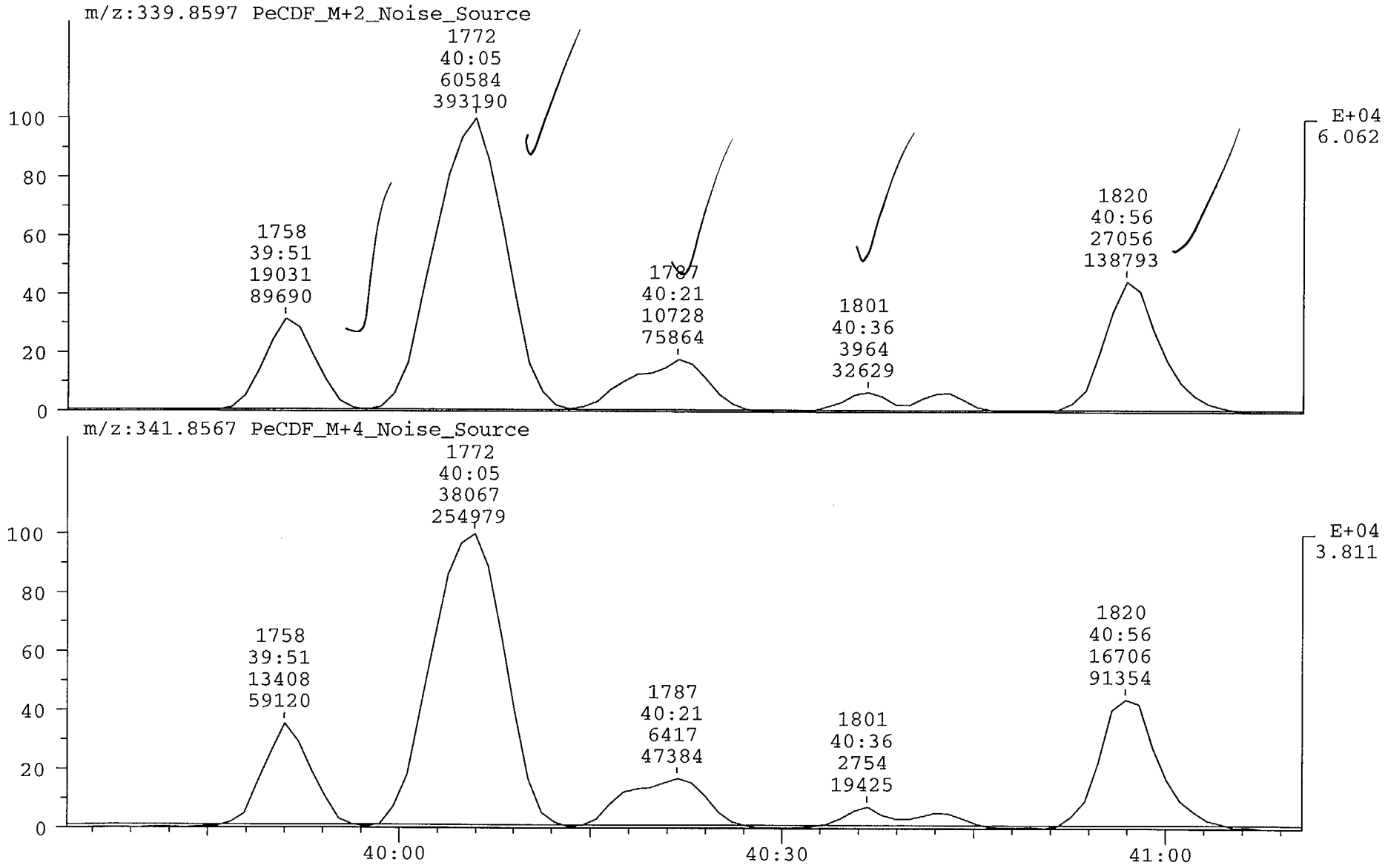
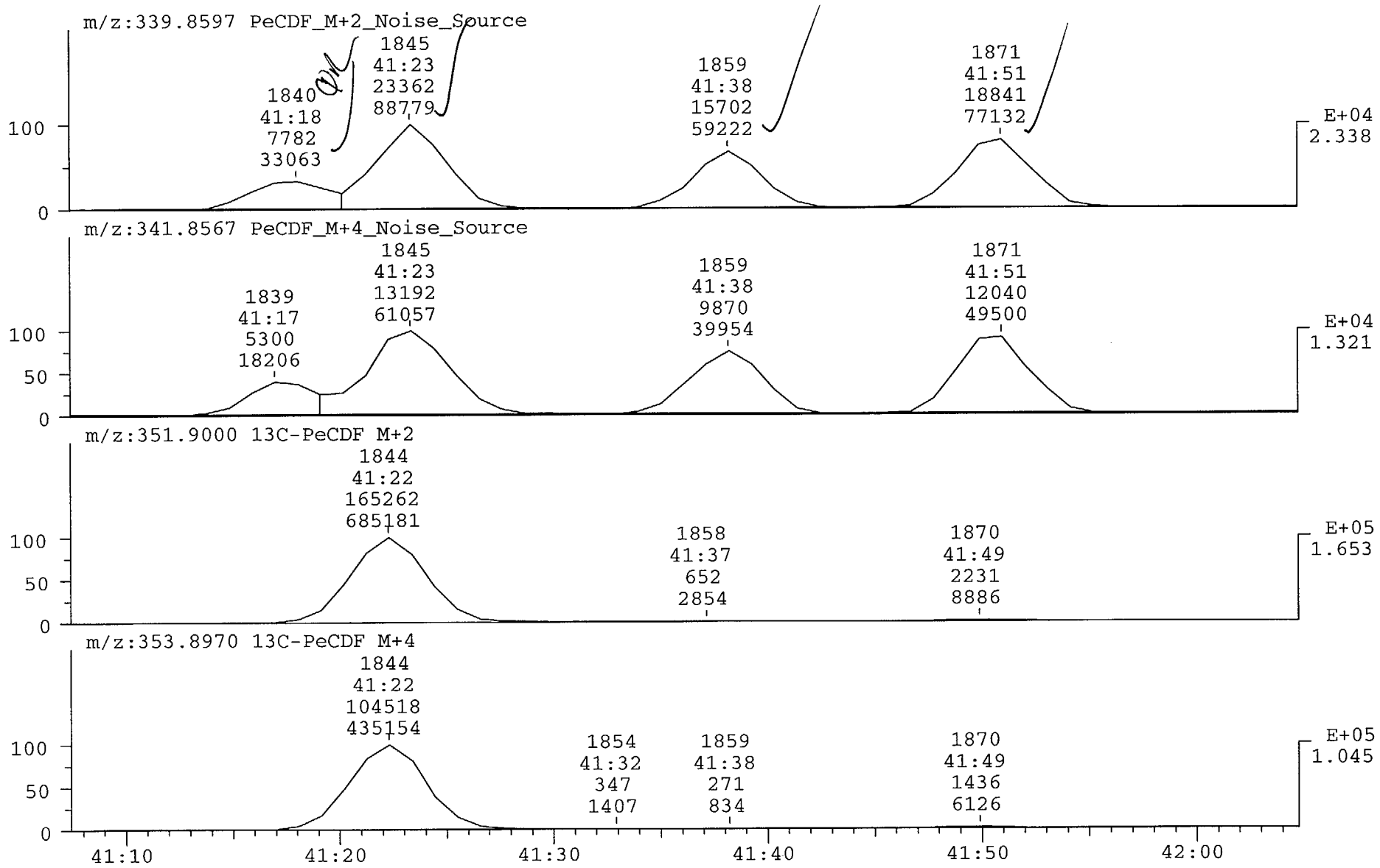
CHRO:  bth2h1j                                  05-May-06   Elapse:  56:43      2705
Samp:  Vial 13 WO=h2h1j1aa Meth=X8 Dil=1                    Start :  06:19:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-004                Inlet :  GC     Vial  13
Peak:  100.00  ppm      Label wndw:   1649 > 1676           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



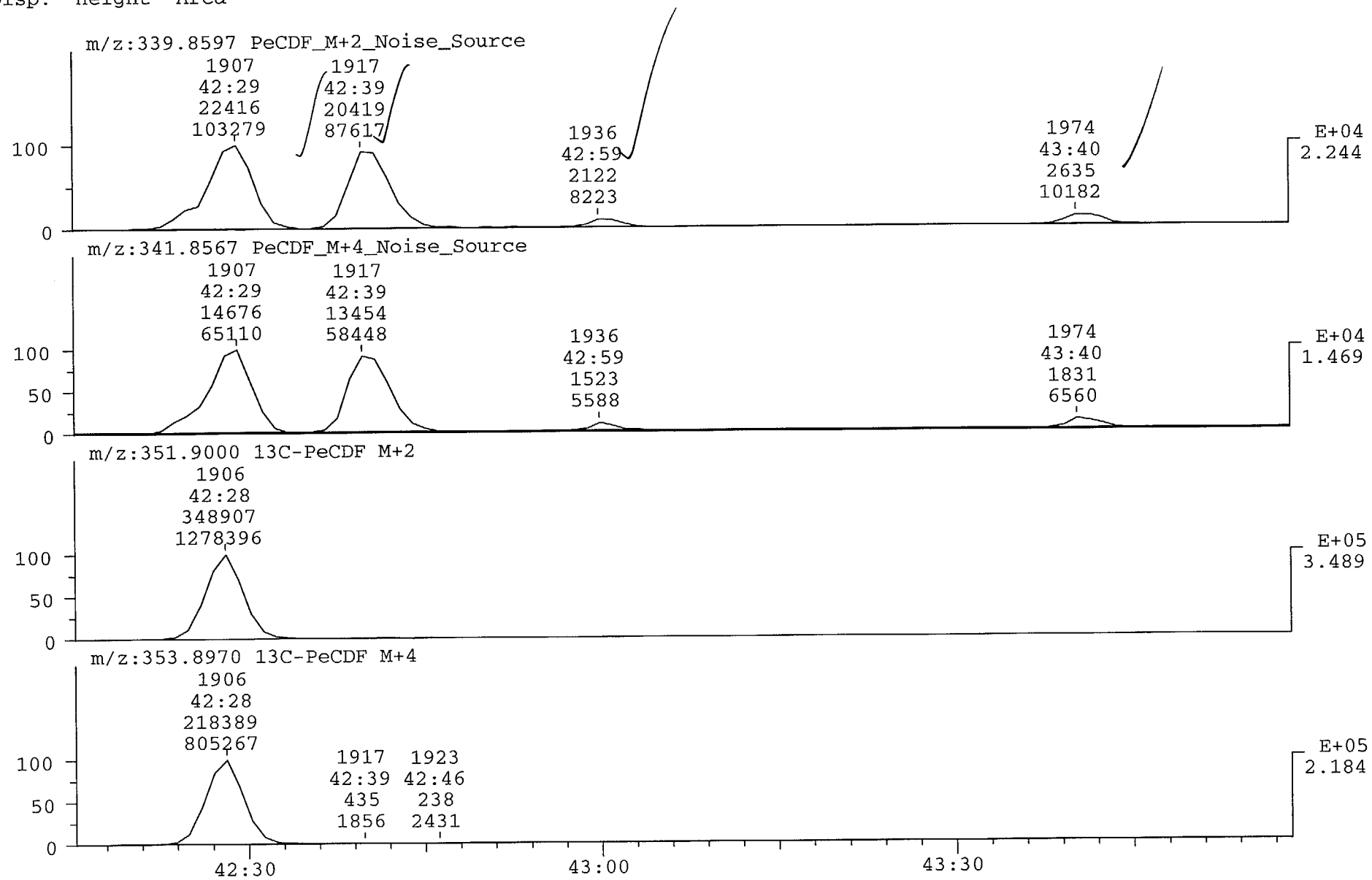
CHRO: bth2h1j 05-May-06 Elapse: 56:43 2705
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1742 > 1833 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 6 Label : -2, 3.0
Disp: Height Area



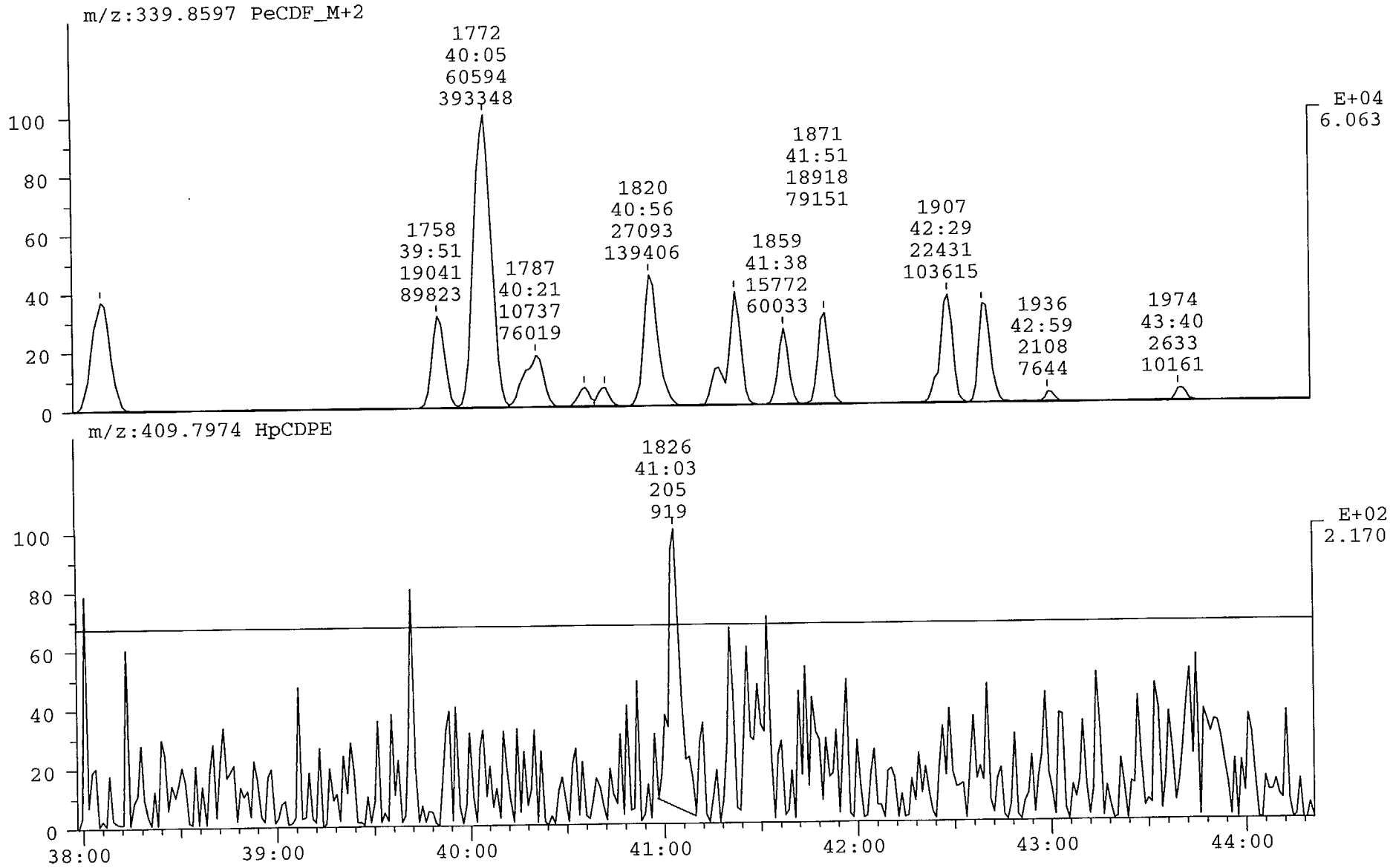
CHRO: bth2h1j 05-May-06 Elapse: 56:43 2705
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1830 > 1884 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 2 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1j 05-May-06 Elapse: 56:43 2705
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1894 > 1991 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1j 05-May-06 Elapse: 41:58 1878
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1652 > 2012 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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CHRO:  bth2h1j                                05-May-06   Elapse:  41:58      1878
Samp:  Vial 13 WO=h2h1j1aa Meth=X8 Dil=1                  Start :  06:19:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP           Client:  H6D030236-004               Inlet :  GC     Vial  13
Peak:  100.00  ppm     Label wndw:   1652 > 2012          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
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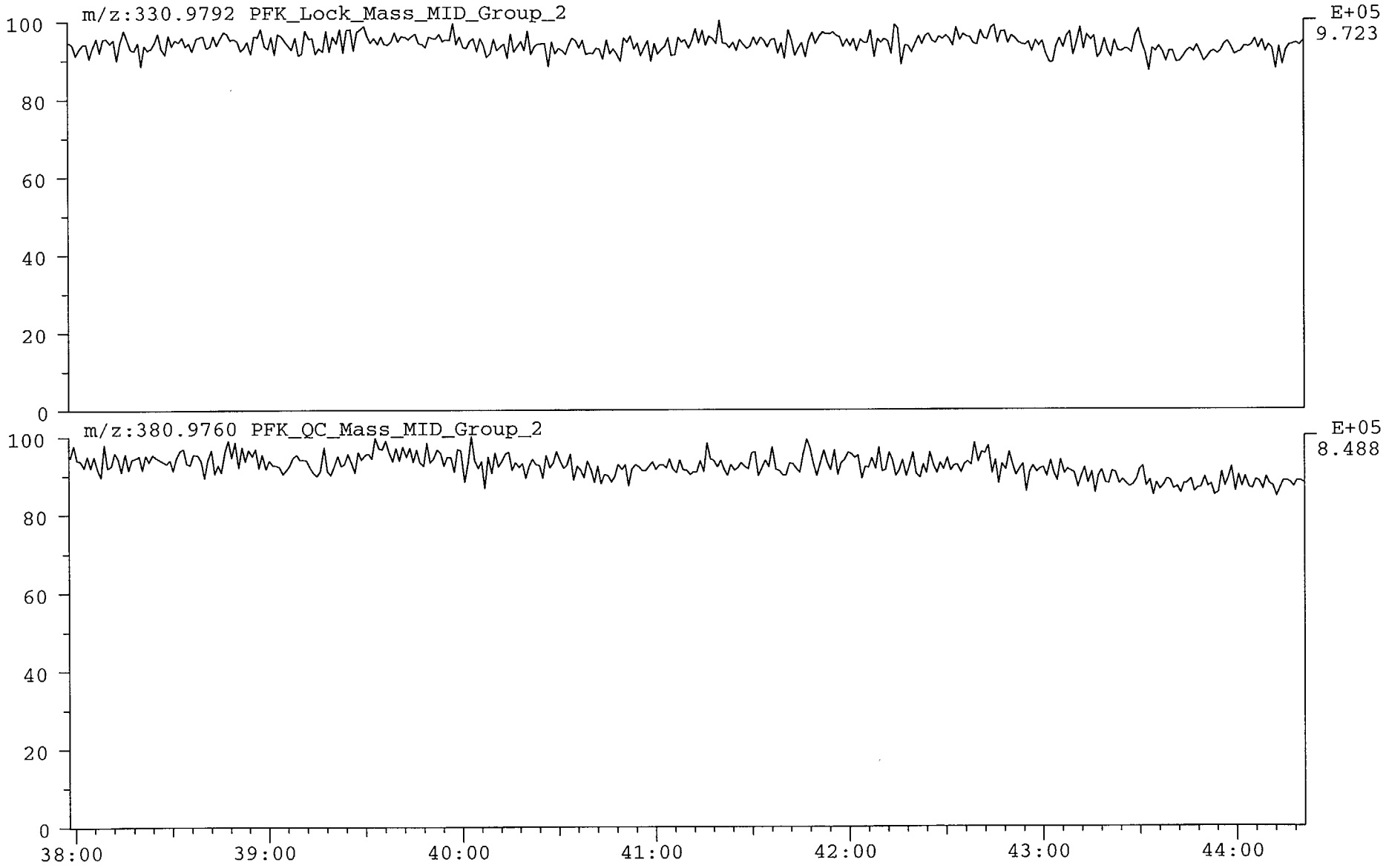
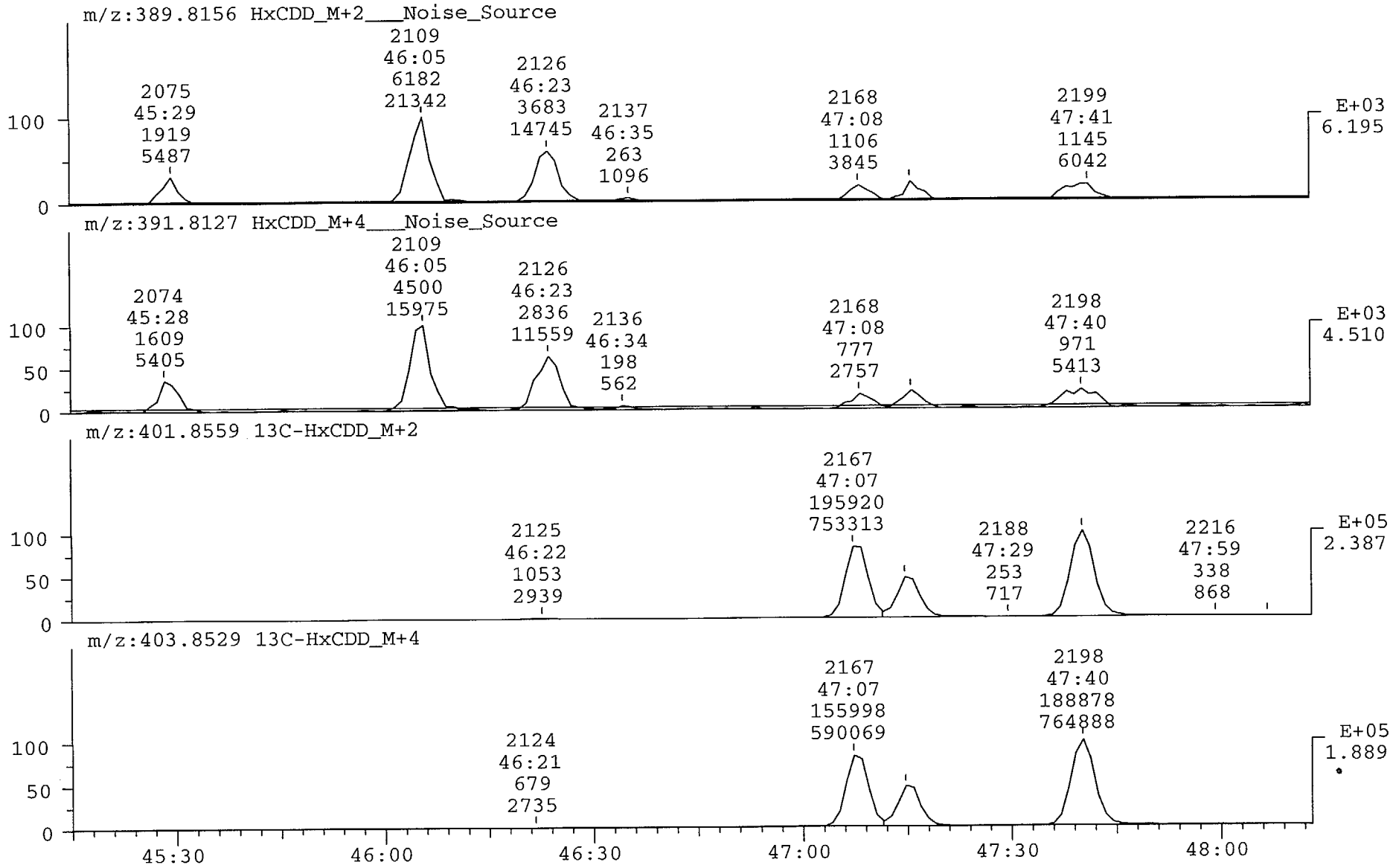
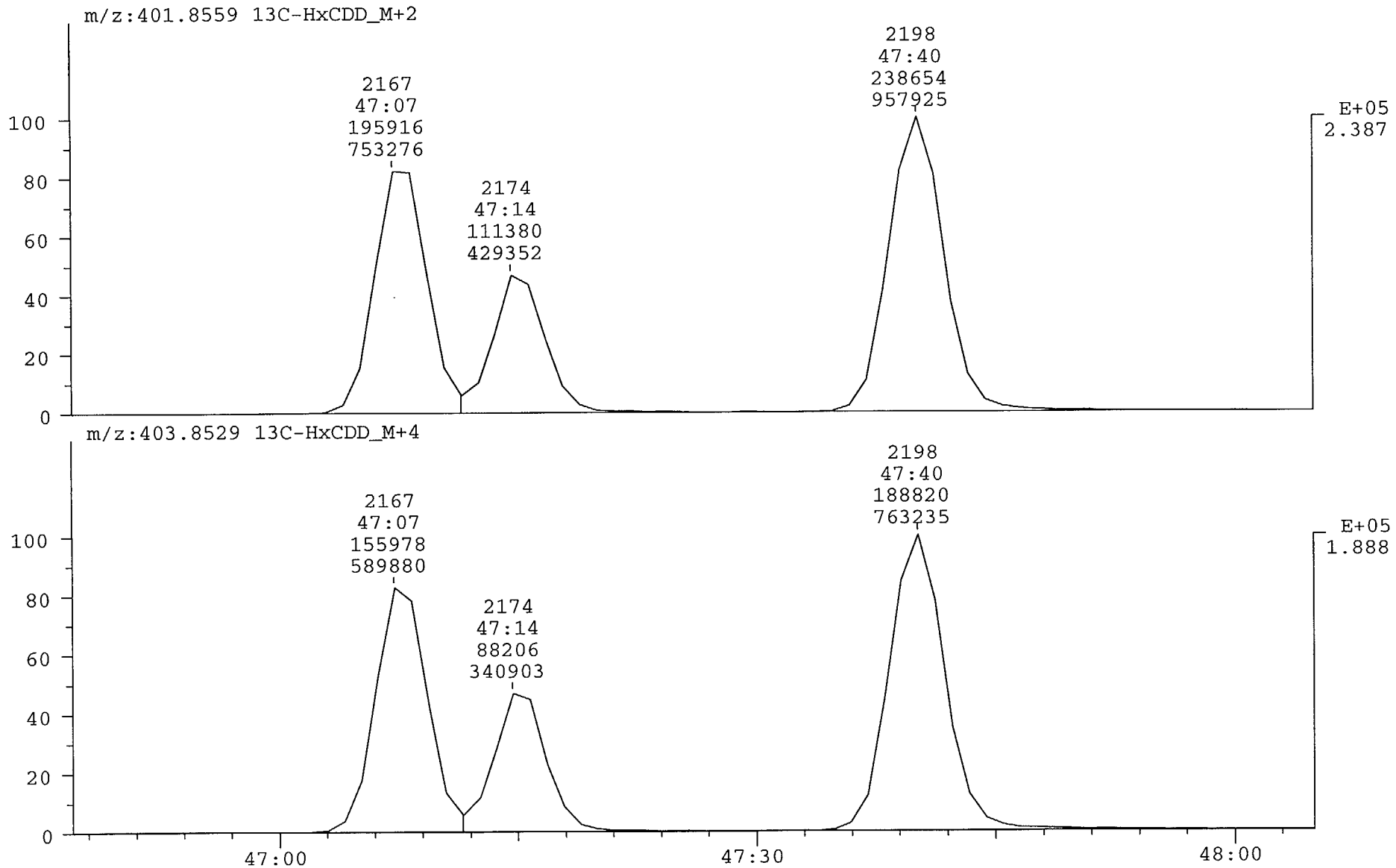


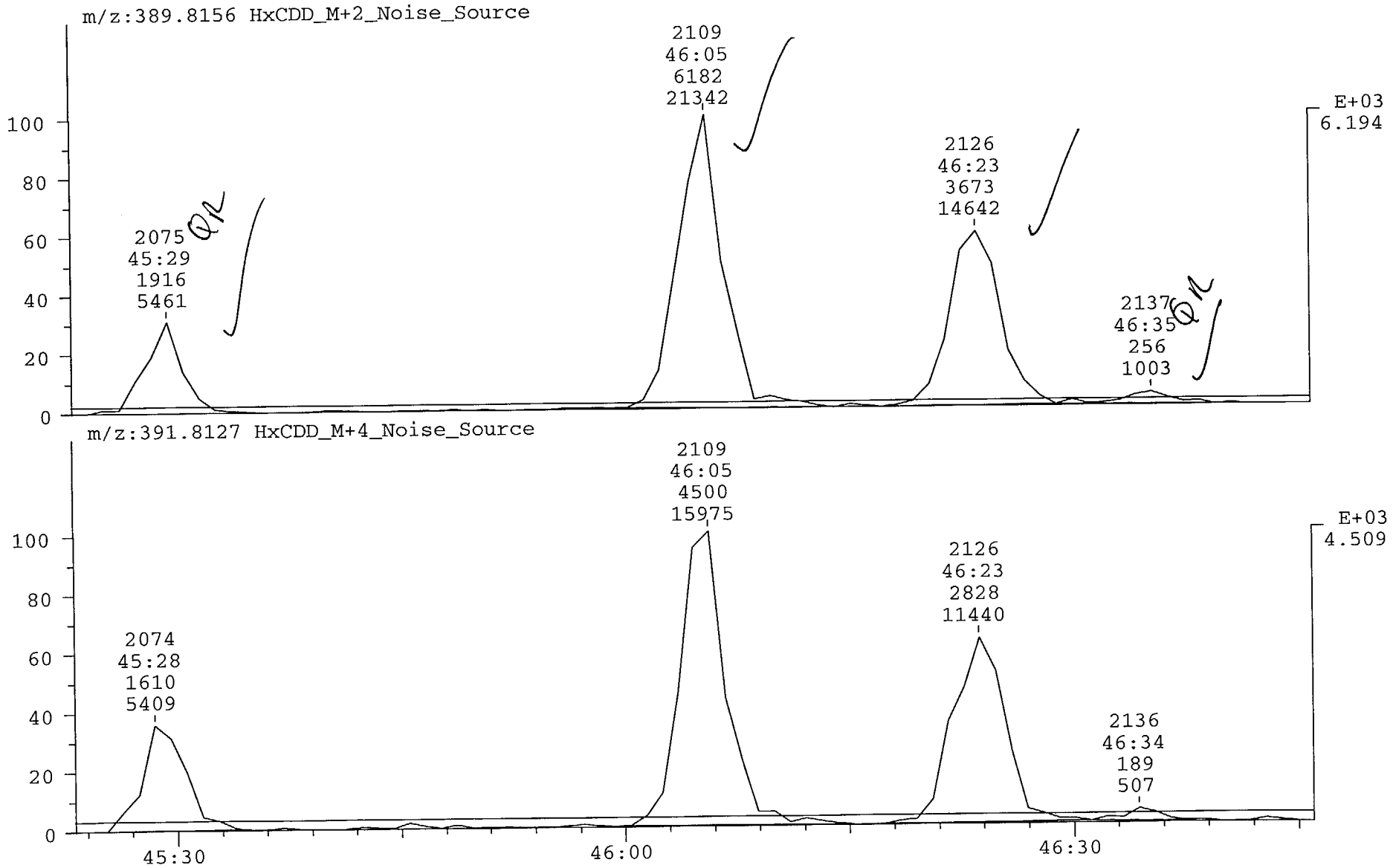
CHRO: bth2h1j 05-May-06 Elapse: 41:58 1878
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 2061 > 2229 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



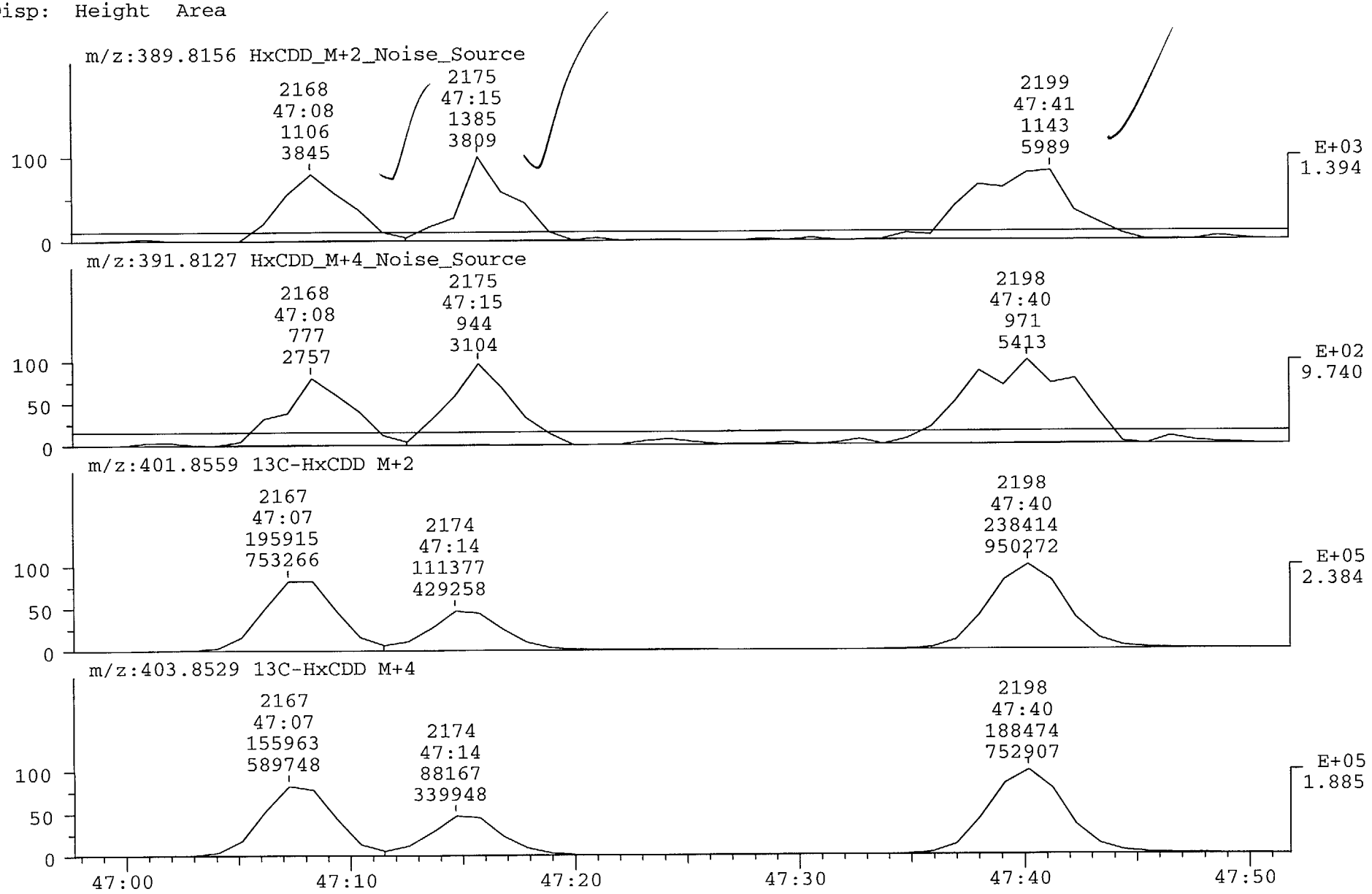
CHRO: bth2h1j 05-May-06 Elapse: 47:26 2185
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 2148 > 2221 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



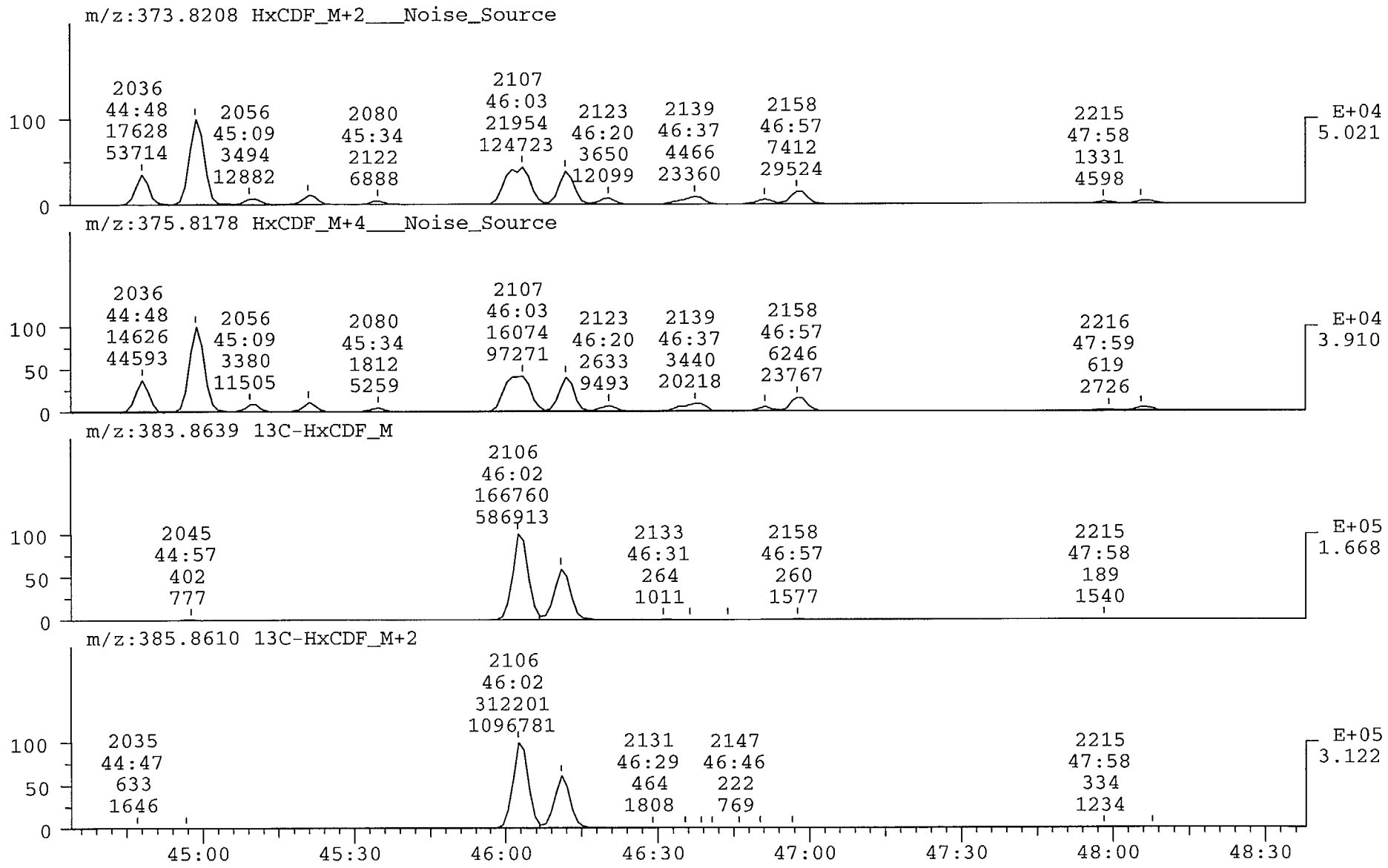
CHRO: bth2h1j 05-May-06 Elapse: 56:43 2705
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 2069 > 2147 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1j 05-May-06 Elapse: 56:43 2705
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 2158 > 2209 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1j 05-May-06 Elapse: 47:26 2185
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 2023 > 2252 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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CHRO:  bth2h1j                                05-May-06   Elapse:  47:03      2163
Samp:  Vial 13 WO=h2h1j1aa Meth=X8 Dil=1                  Start :  06:19:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-004              Inlet :  GC     Vial  13
Peak:  100.00  ppm      Label wndw:   2088 > 2238         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
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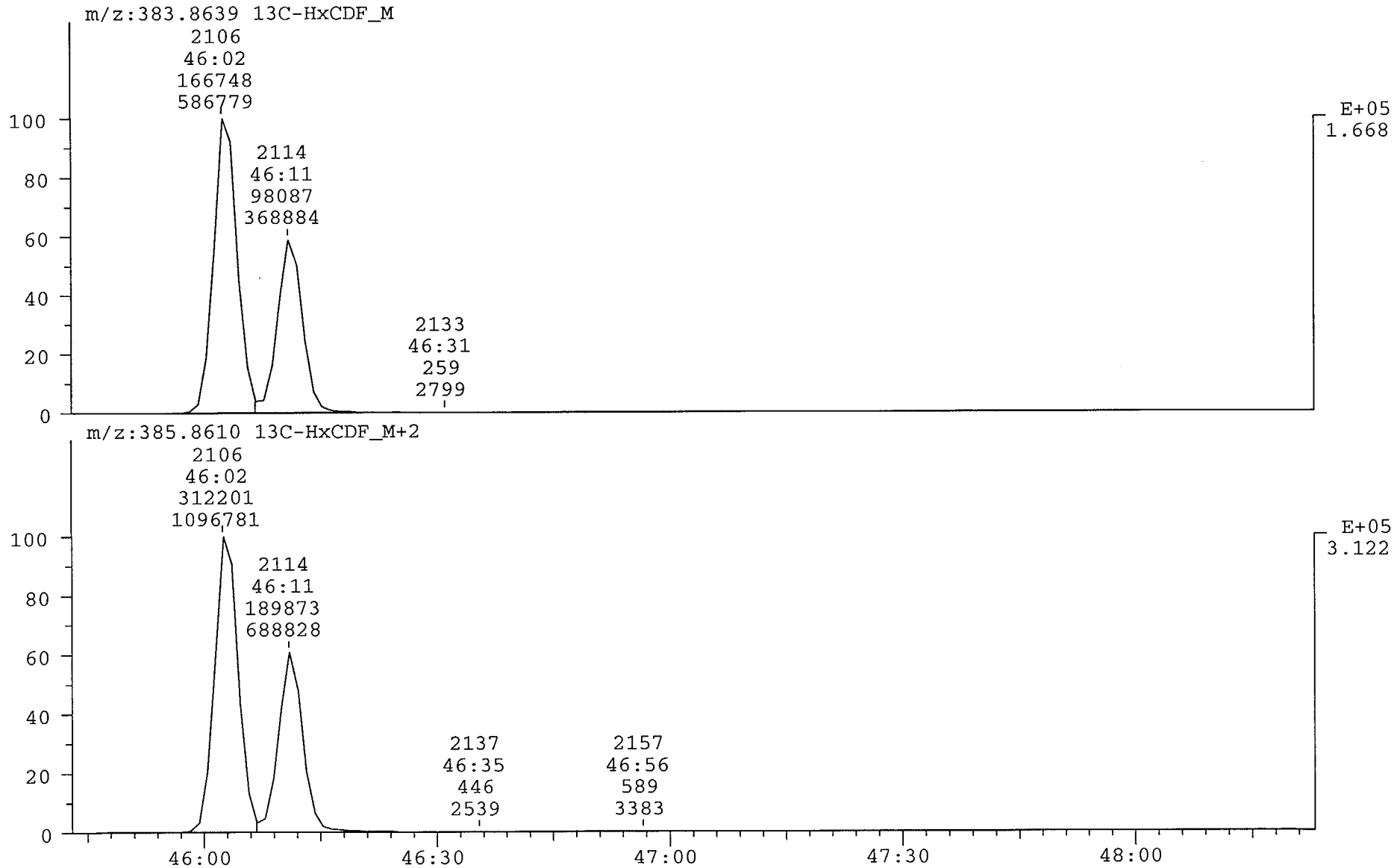
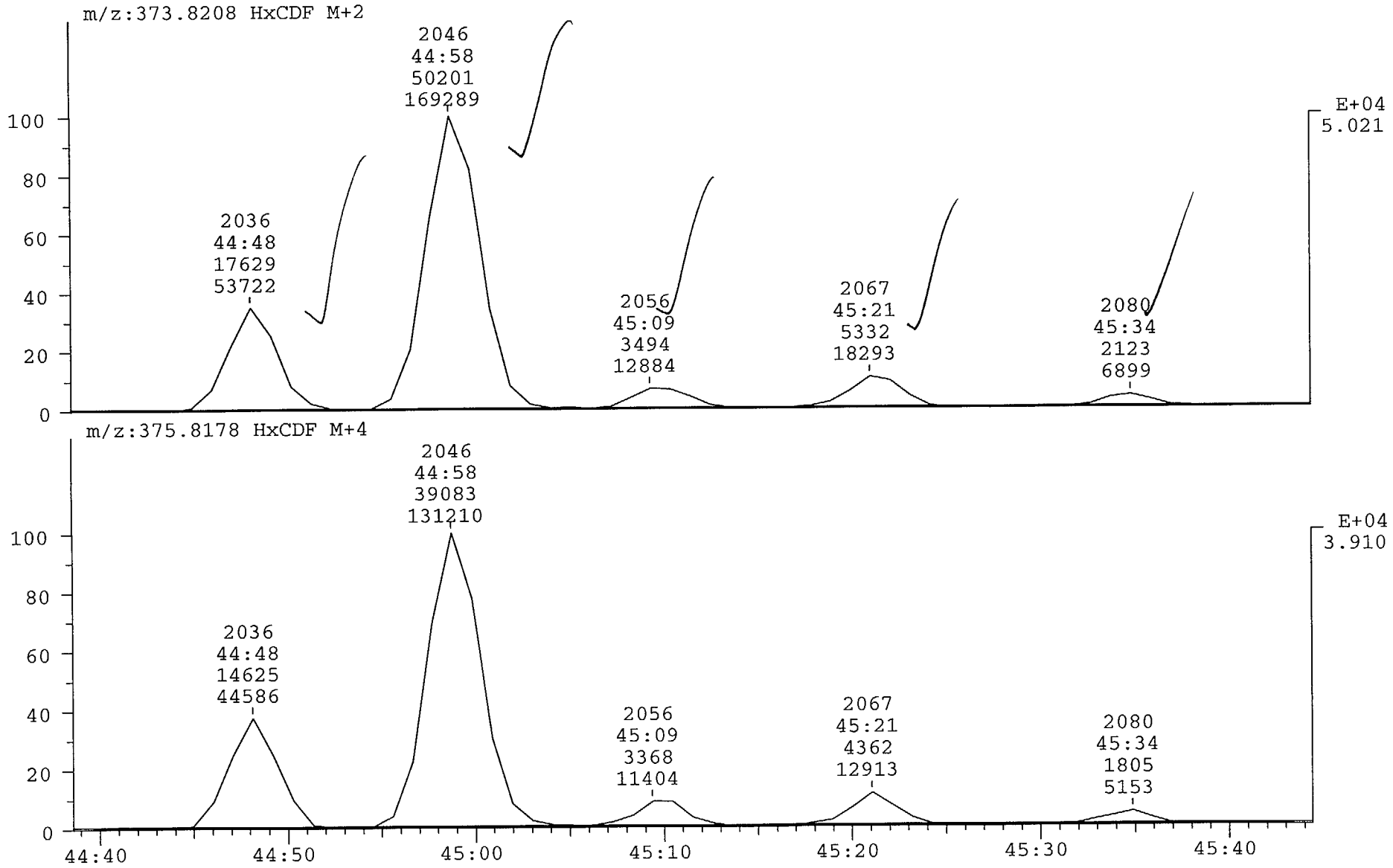
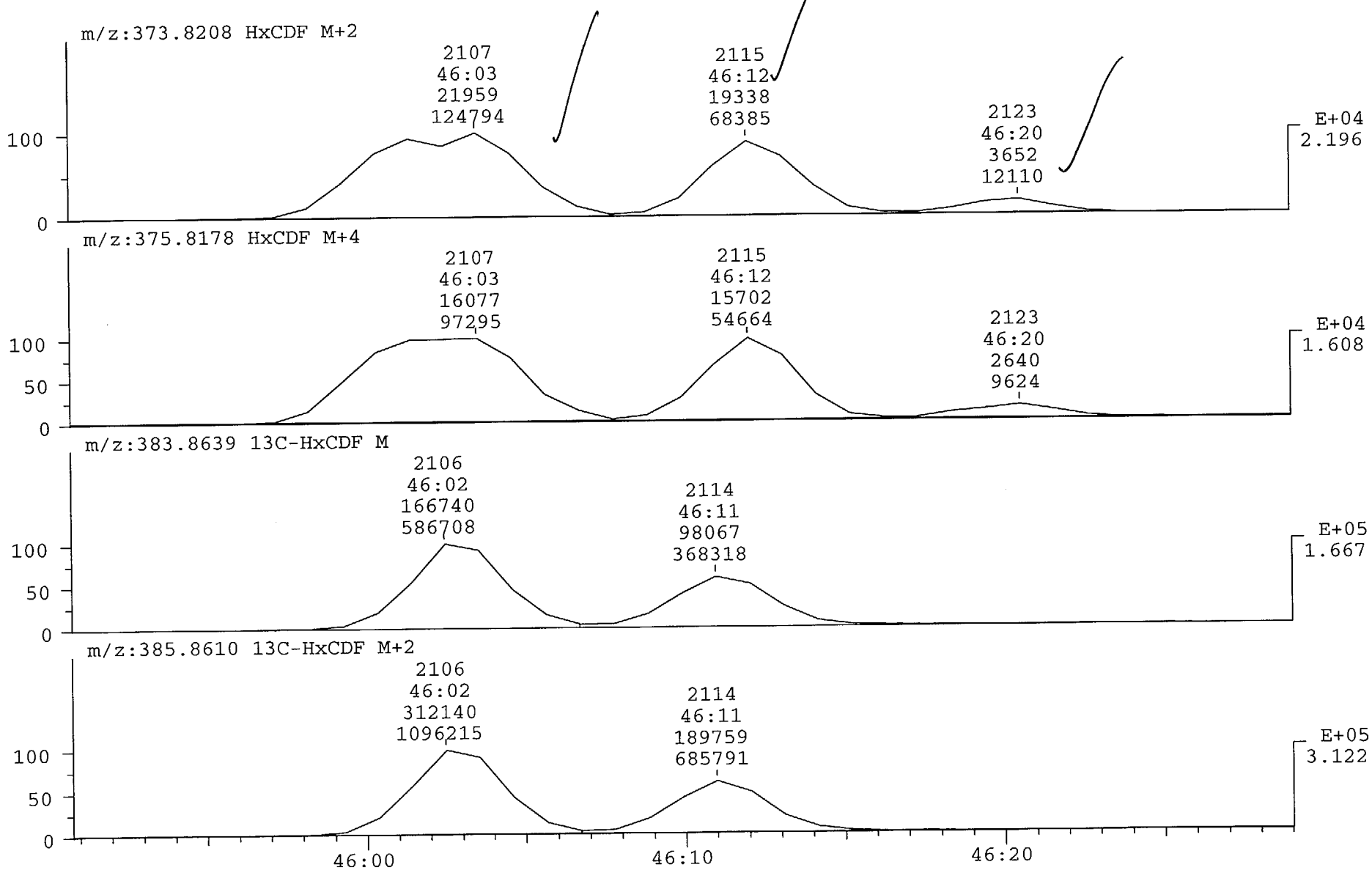


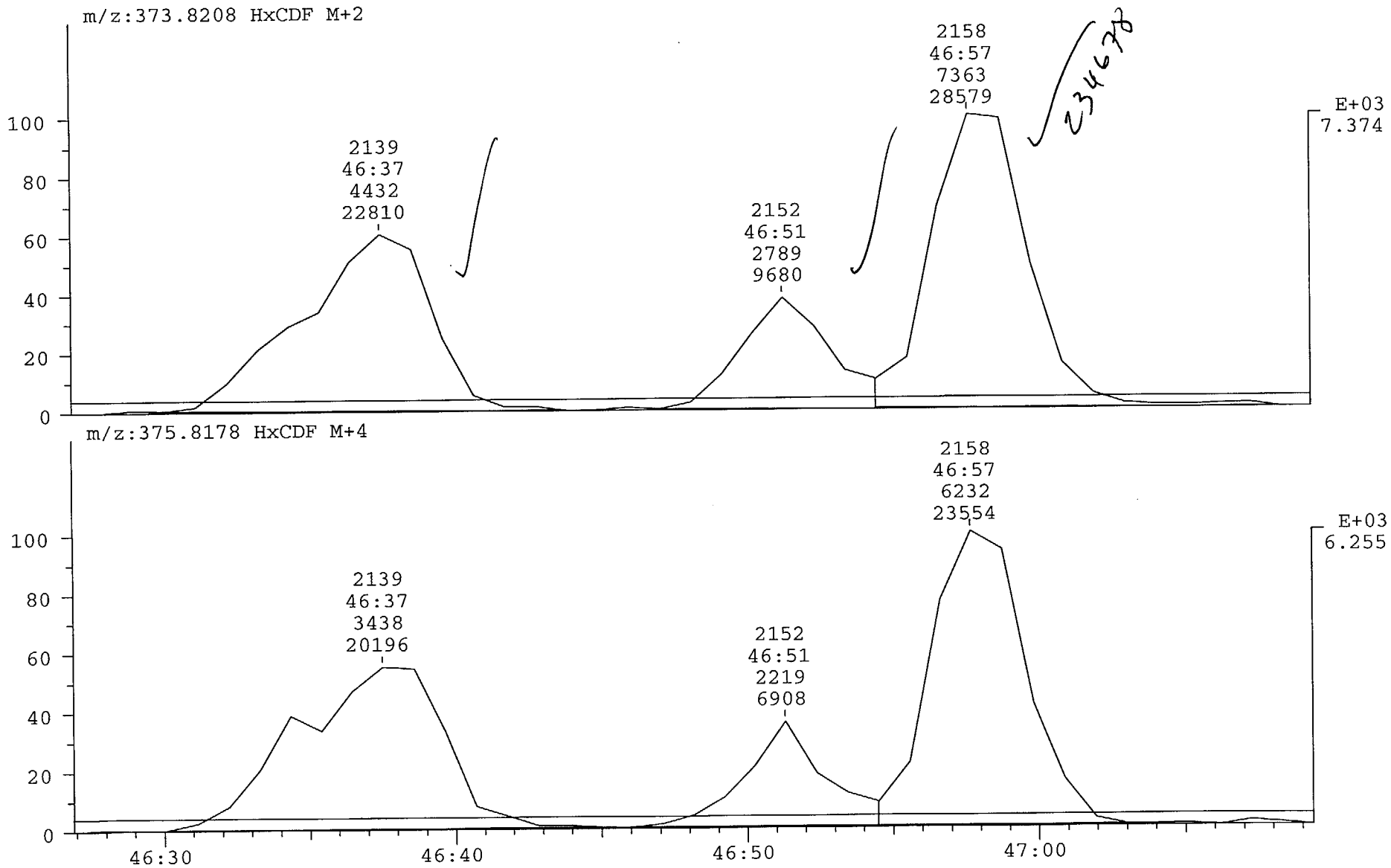
CHRO: bth2h1j 05-May-06 Elapse: 56:43 2705
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 2027 > 2089 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



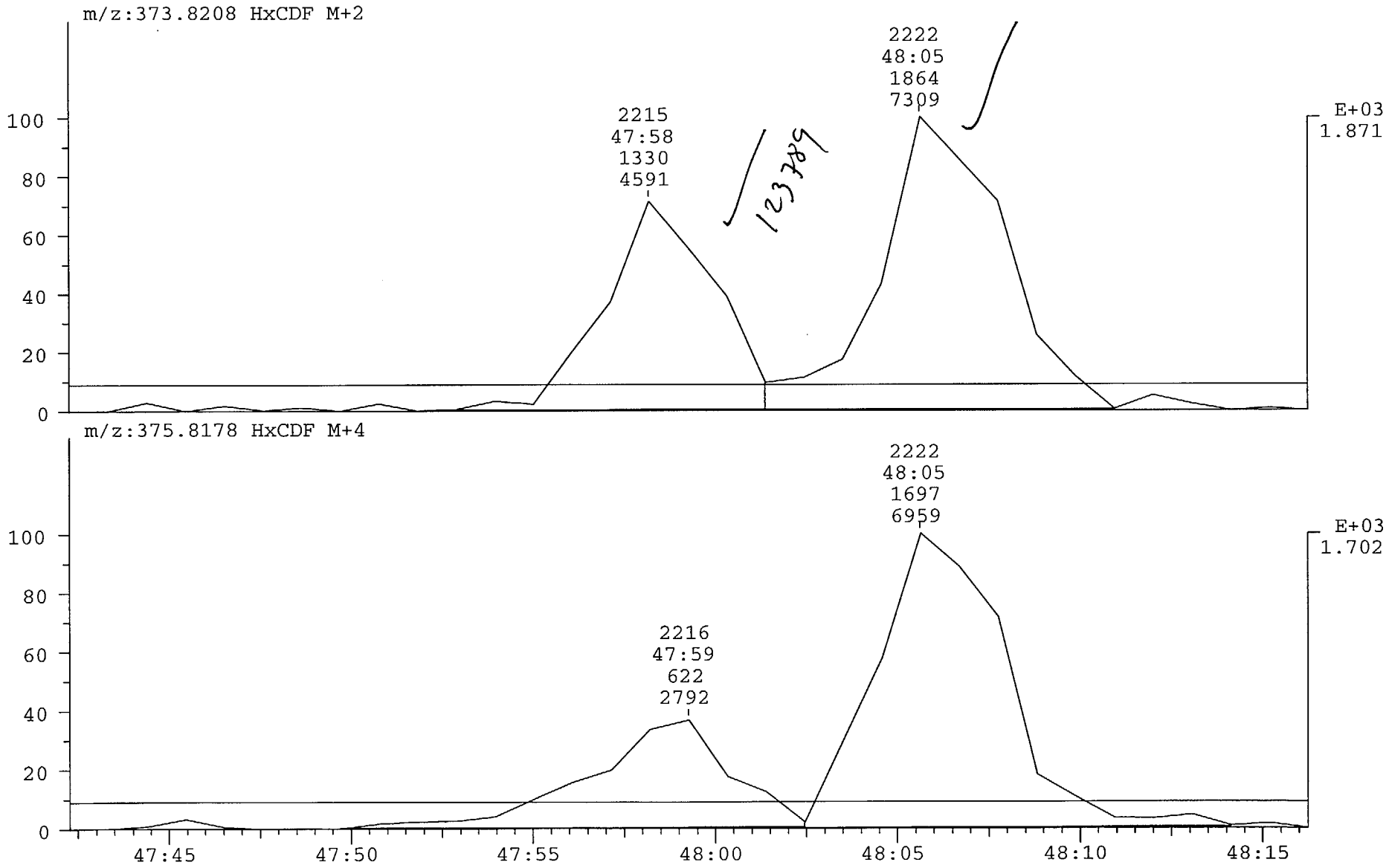
CHRO: bth2h1j 05-May-06 Elapse: 56:43 2705
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 2095 > 2131 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



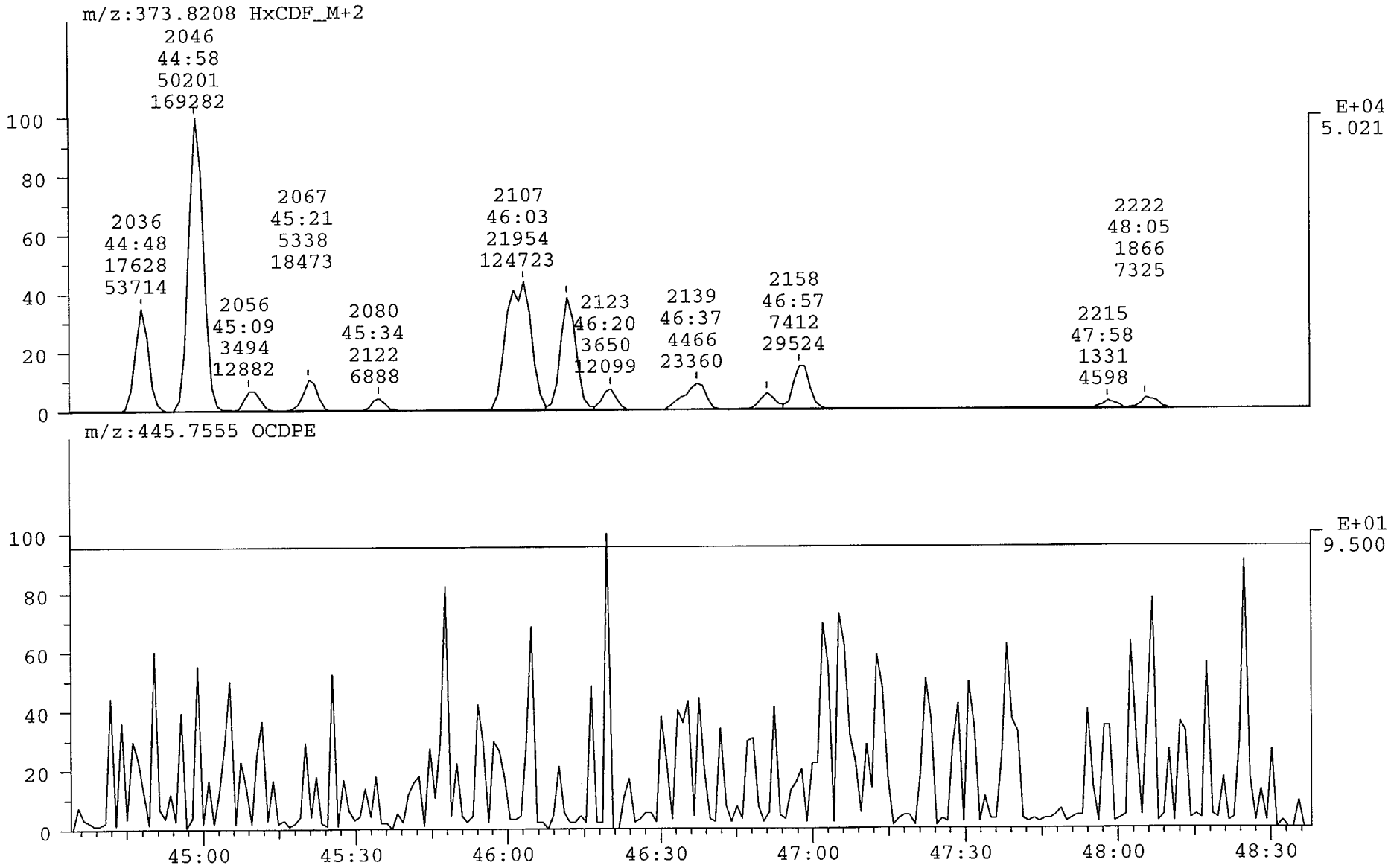
CHRO: bth2h1j 05-May-06 Elapse: 56:43 2705
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 2129 > 2169 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1j 05-May-06 Elapse: 56:43 2705
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 2200 > 2232 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1j 05-May-06 Elapse: 46:11 2114
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 2023 > 2252 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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CHRO:  bth2h1j                                05-May-06   Elapse:  46:11      2114
Samp:  Vial 13 WO=h2h1j1aa Meth=X8 Dil=1                  Start :  06:19:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-004              Inlet :  GC     Vial  13
Peak:  100.00  ppm      Label wndw:   2023 > 2252         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
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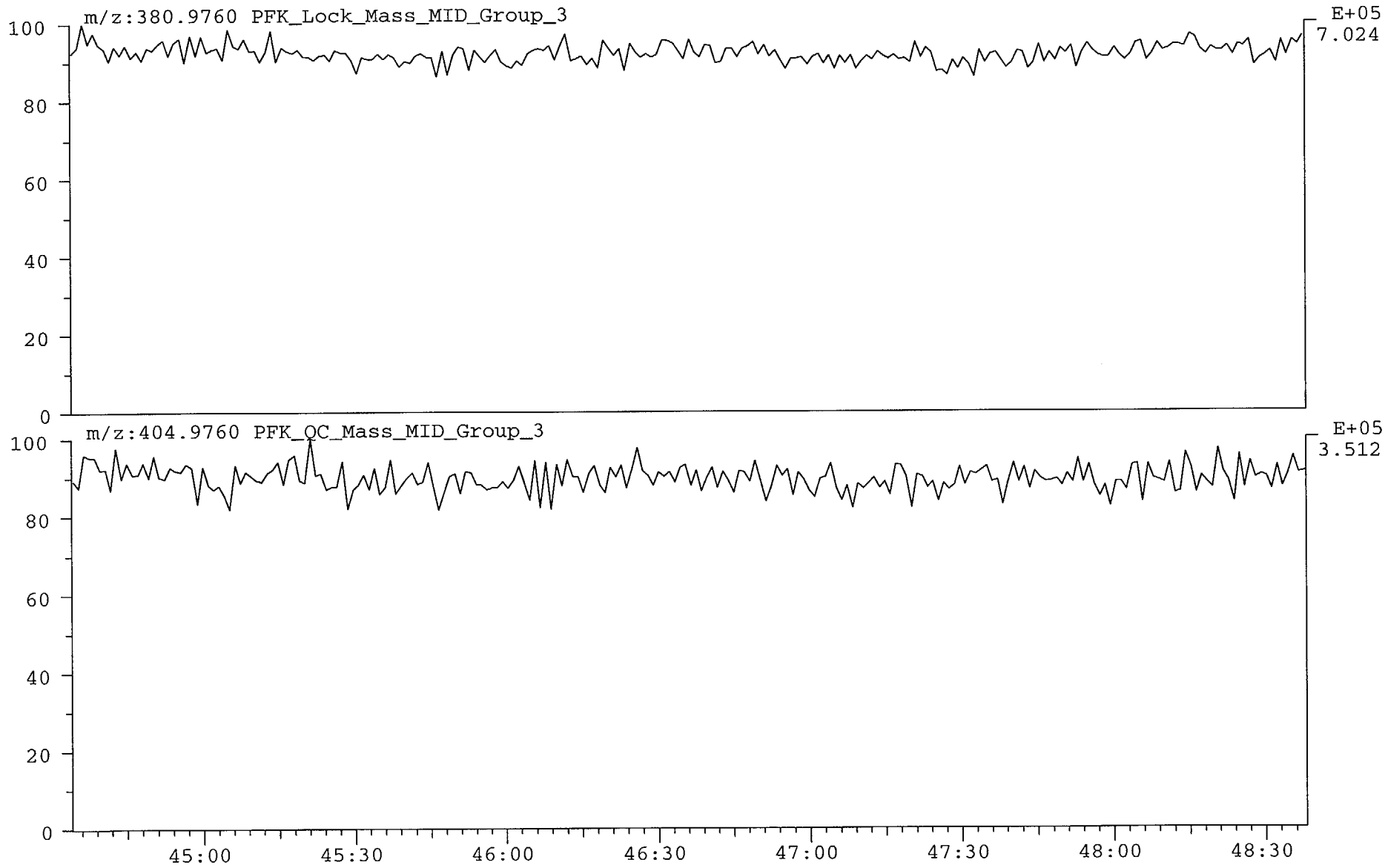
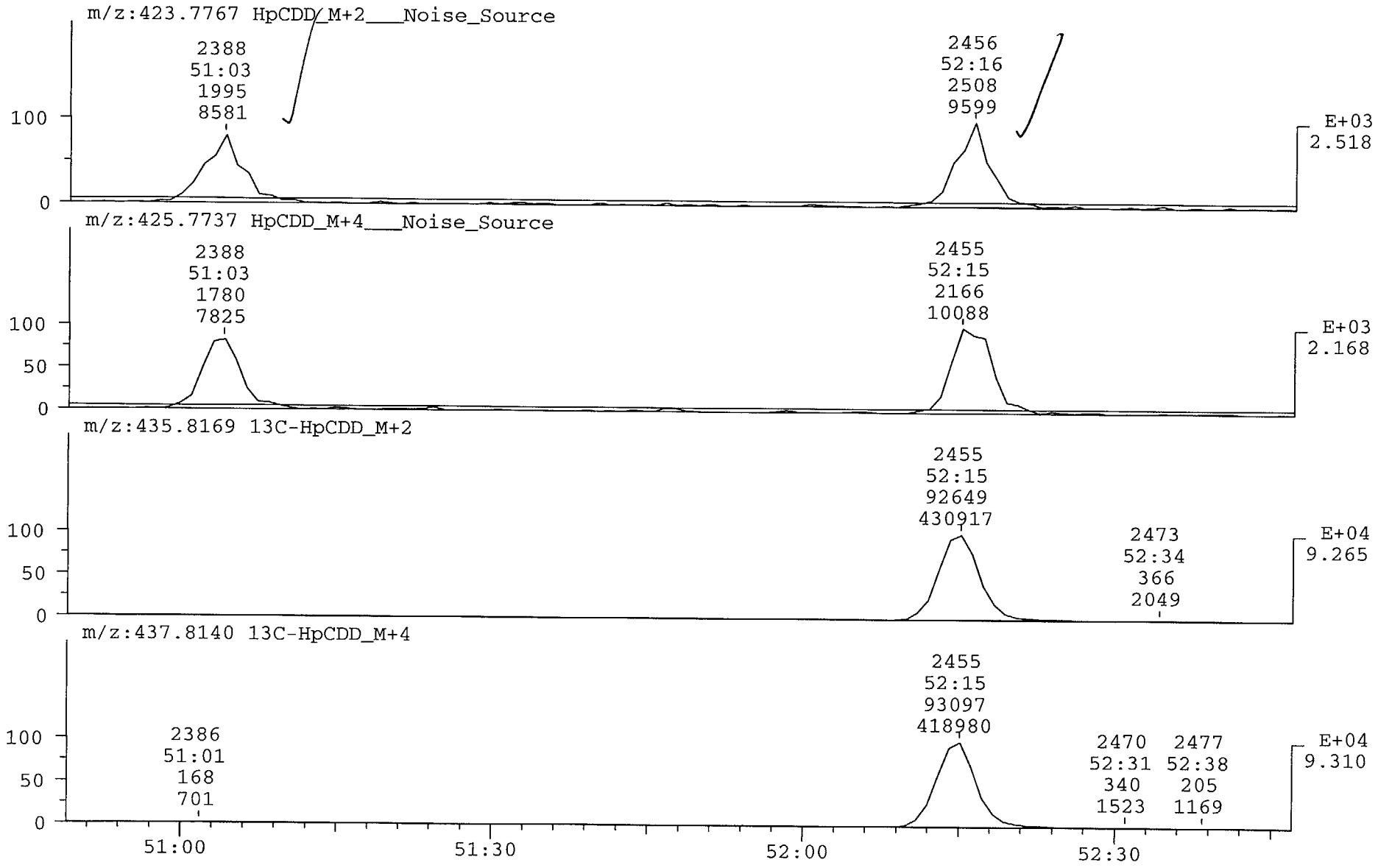


CHRO: bth2h1j 05-May-06 Elapse: 46:11 2114
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 2374 > 2485 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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CHRO:  bth2h1j                                05-May-06   Elapse:  46:11      2114
Samp:  Vial 13 WO=h2h1j1aa Meth=X8 Dil=1                  Start :  06:19:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-004                Inlet :  GC     Vial  13
Peak:  100.00  ppm     Label wndw:   2374 > 2485          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
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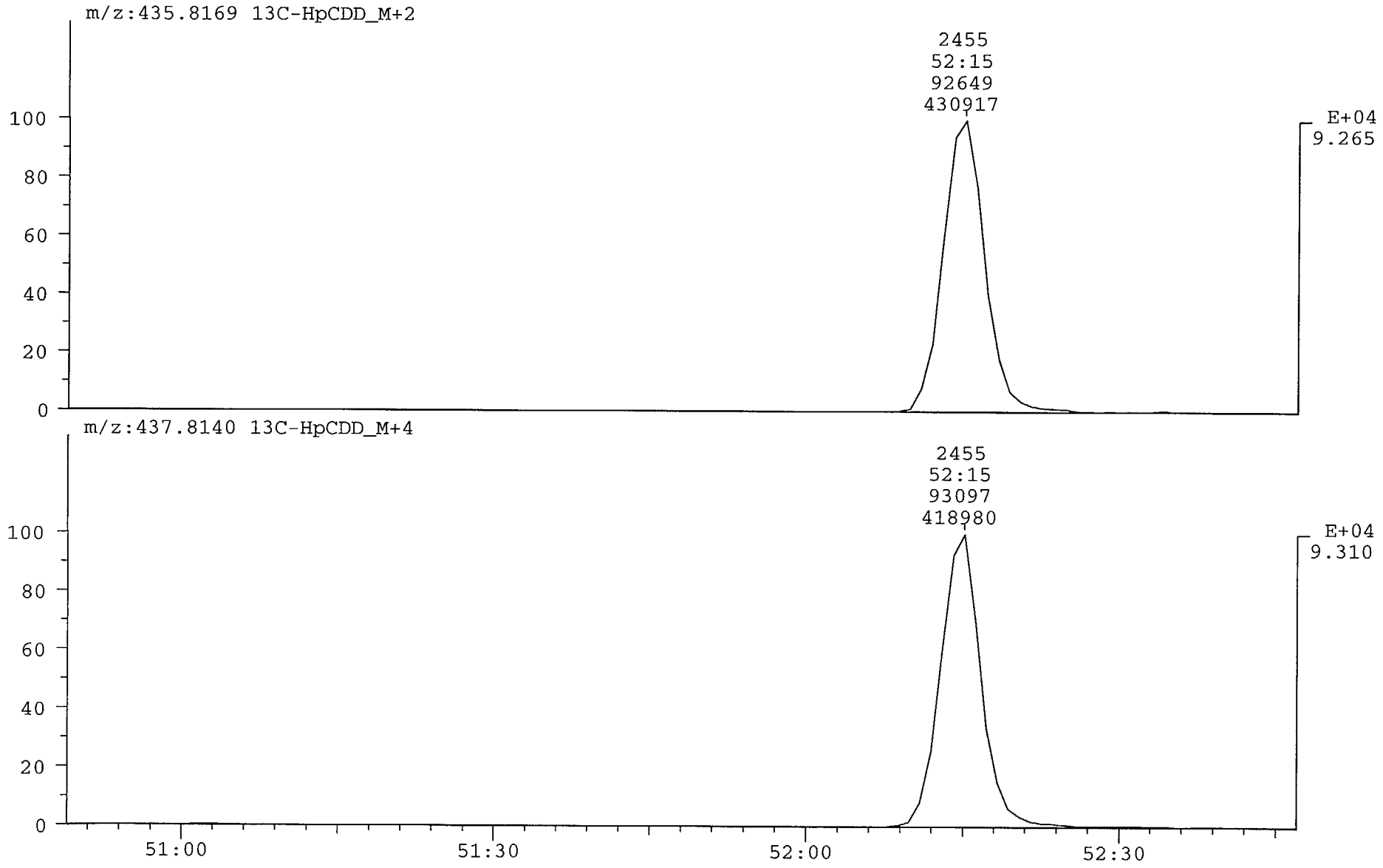
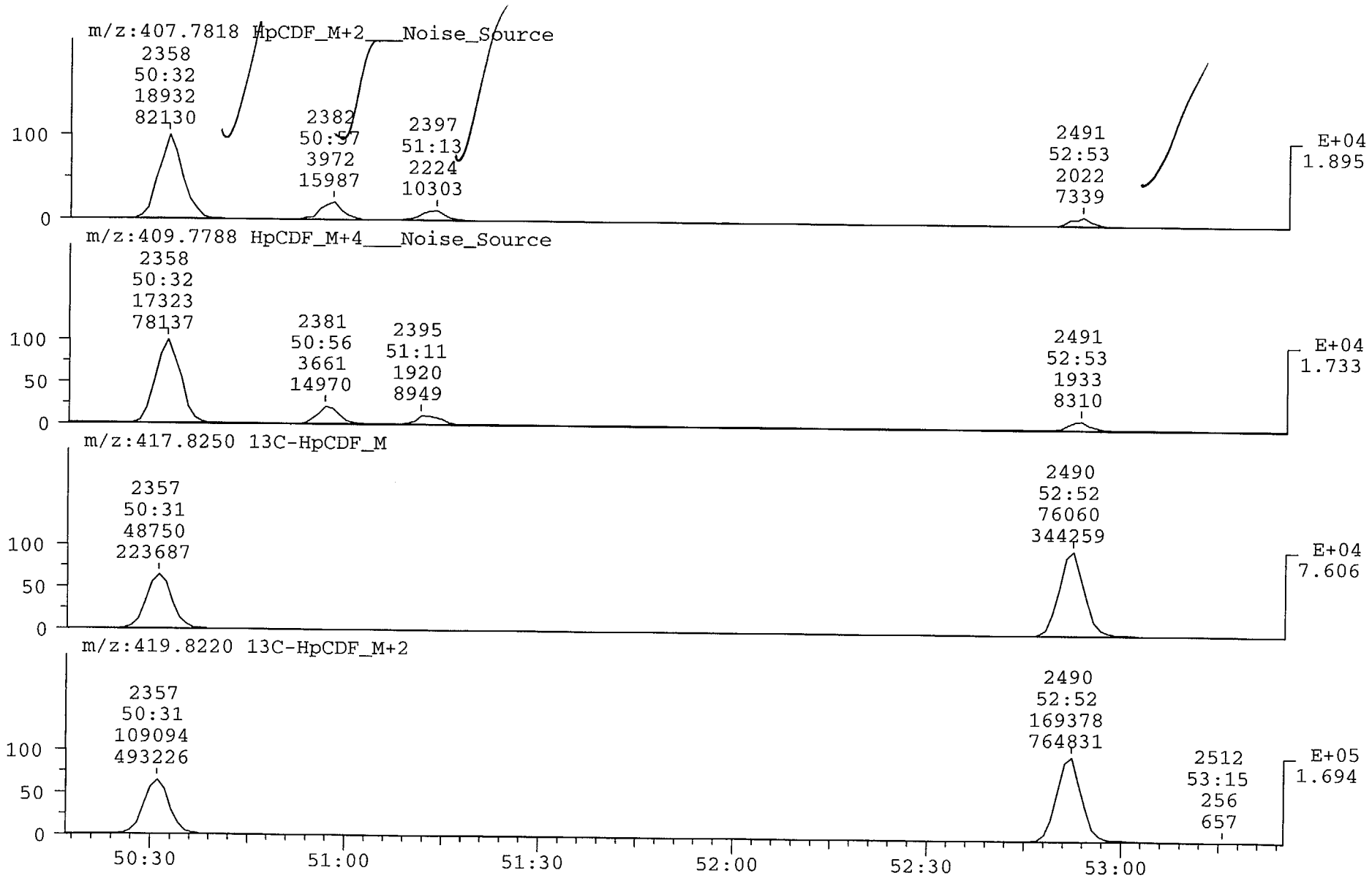


CHRO: bth2h1j 05-May-06 Elapse: 46:11 2114
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 2344 > 2521 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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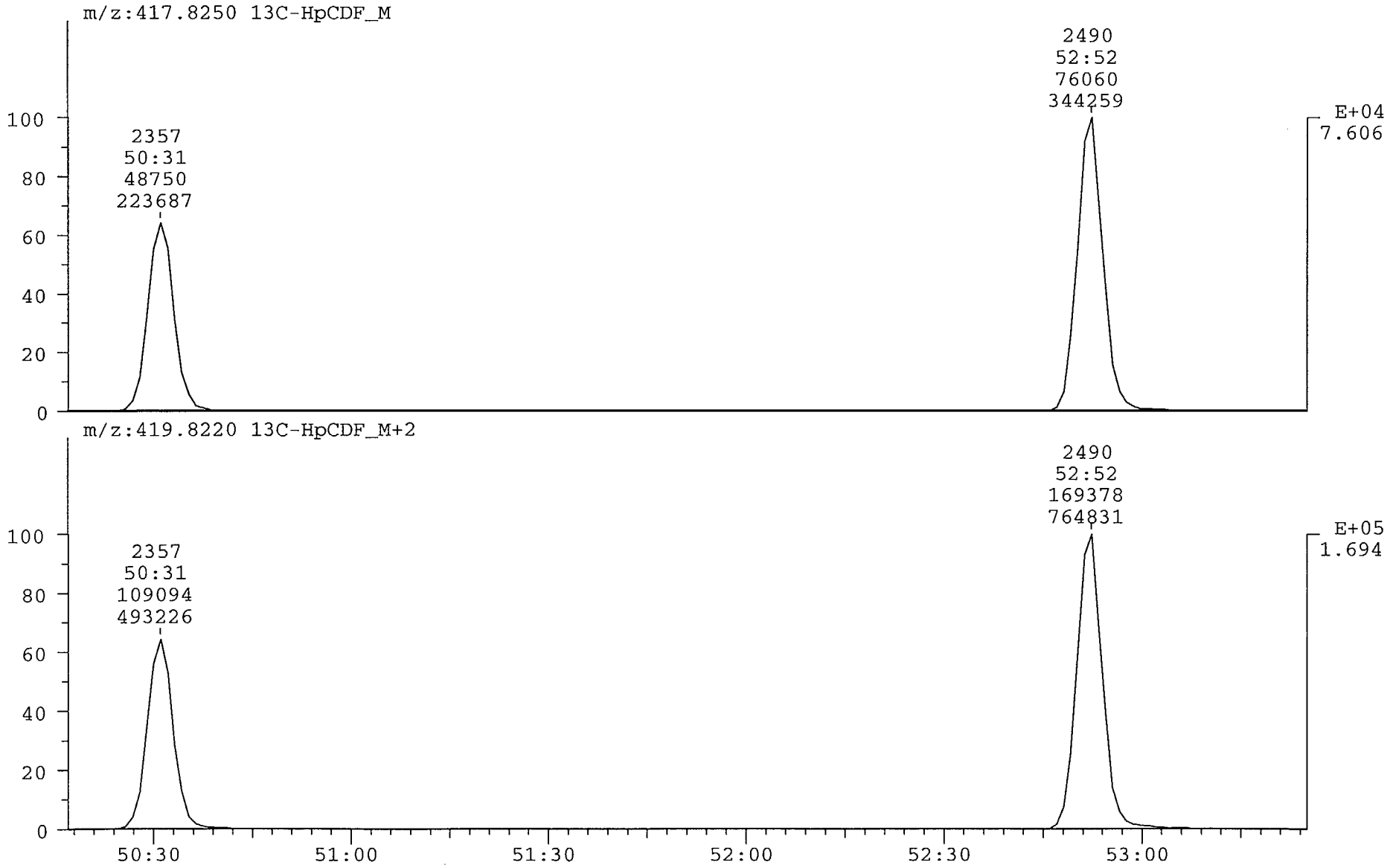
CHRO:  bth2h1j                              05-May-06   Elapse:  46:11      2114
Samp:  Vial 13 WO=h2h1j1aa Meth=X8 Dil=1                Start :  06:19:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                        Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-004              Inlet :  GC     Vial  13
Peak:  100.00  ppm     Label wndw:   2344 > 2521        Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3             Label :  -2, 3.0
Disp:  Height  Area
```



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CHRO:  bth2h1j                                05-May-06   Elapse:  46:11      2114
Samp:  Vial 13 WO=h2h1j1aa Meth=X8 Dil=1                  Start :  06:19:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-004              Inlet :  GC     Vial  13
Peak:  100.00  ppm      Label wndw:   2344 > 2521         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
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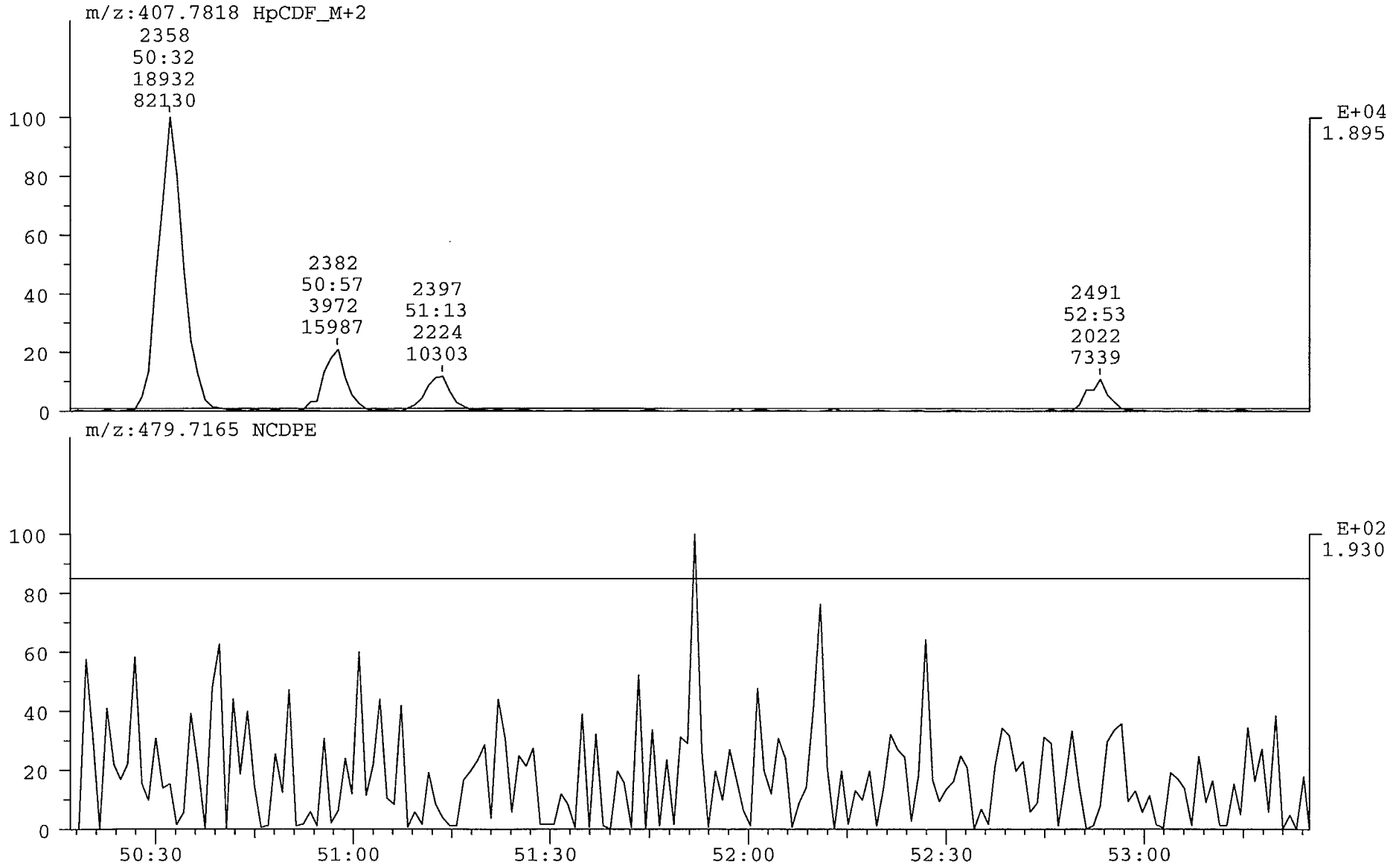

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CHRO:  bth2h1j                                05-May-06   Elapse:  46:11      2114
Samp:  Vial 13 WO=h2h1j1aa Meth=X8 Dil=1                  Start :  06:19:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP           Client:  H6D030236-004               Inlet :  GC     Vial  13
Peak:  100.00  ppm     Label wndw:   2344 > 2521          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
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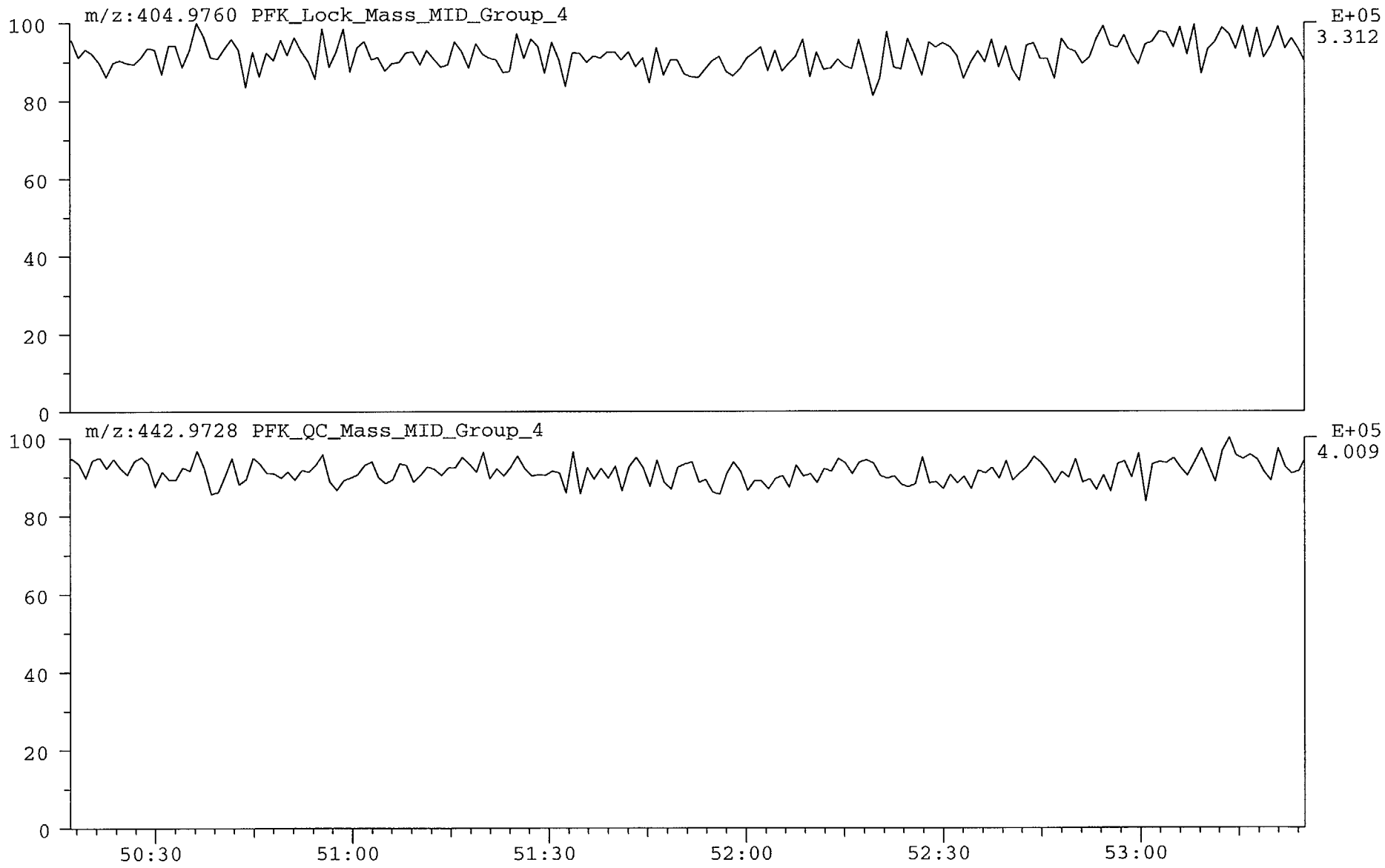
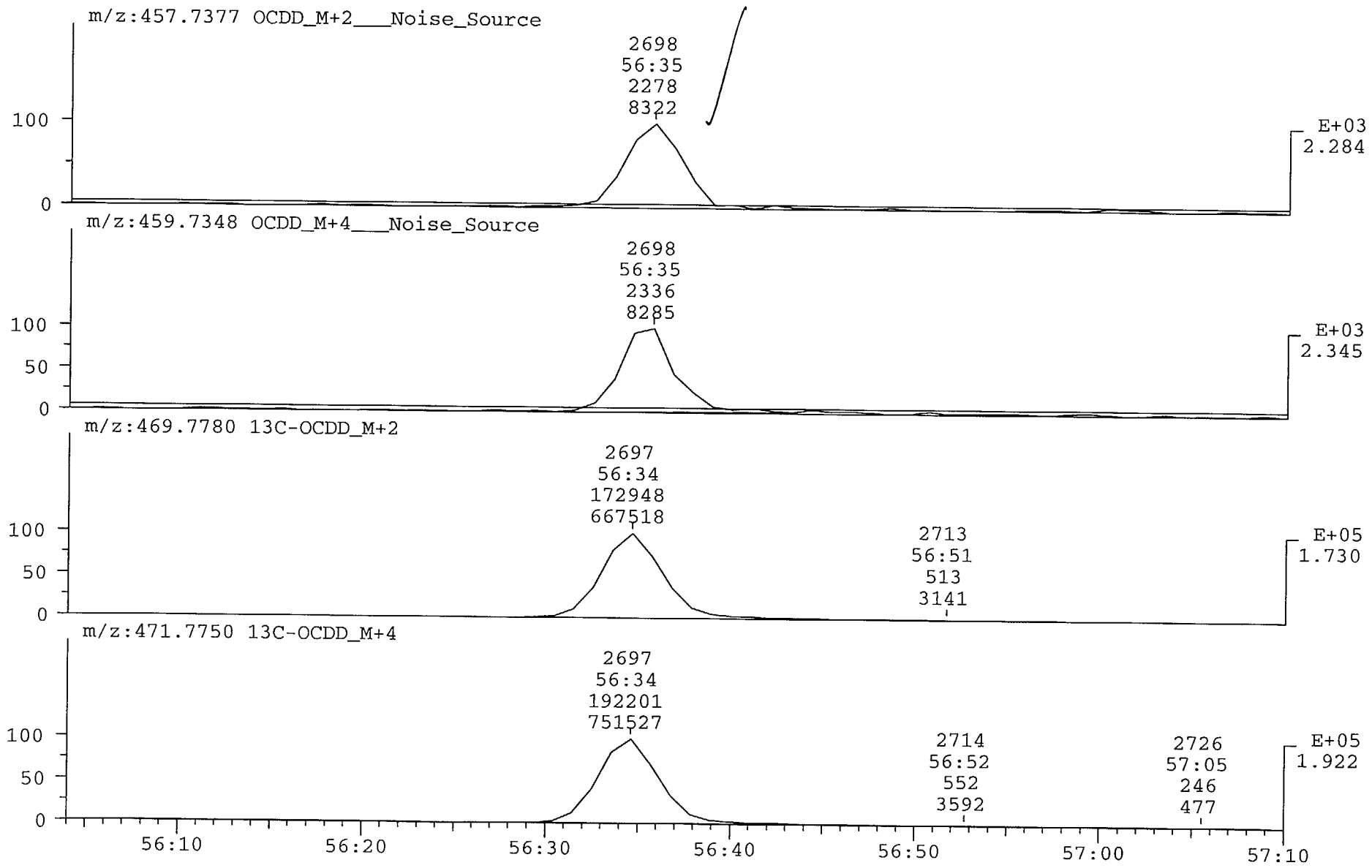
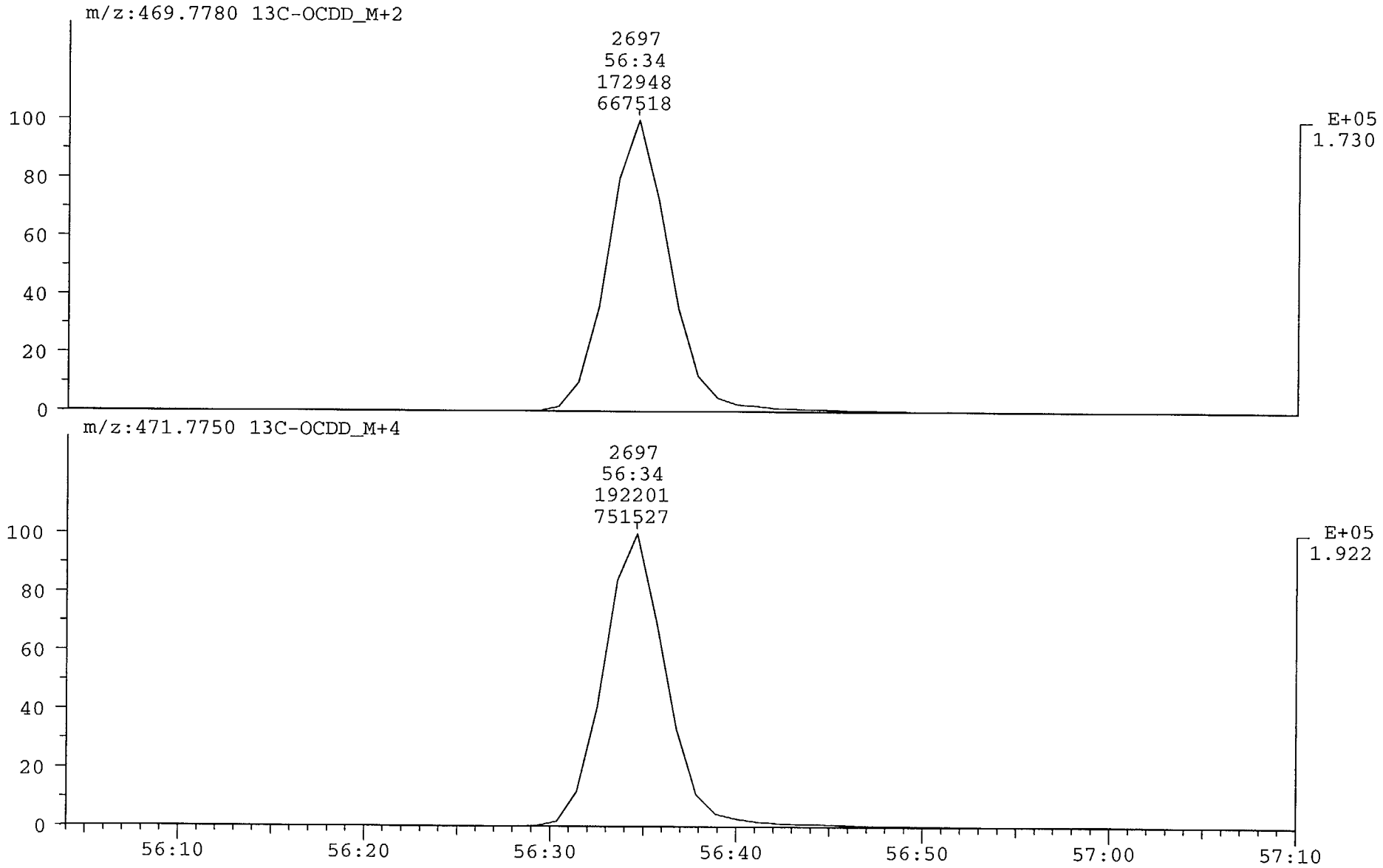


CHRO: bth2h1j 05-May-06 Elapse: 56:33 2696
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 2668 > 2730 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1j 05-May-06 Elapse: 56:33 2696
Samp: Vial 13 WO=h2h1j1aa Meth=X8 Dil=1 Start : 06:19:06 2891
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-004 Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 2668 > 2730 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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CHRO:  bth2h1j                                05-May-06   Elapse:  56:43      2705
Samp:  Vial 13 WO=h2h1j1aa Meth=X8 Dil=1                  Start :  06:19:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-004              Inlet :  GC     Vial  13
Peak:  100.00  ppm      Label wndw:   2677 > 2739         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
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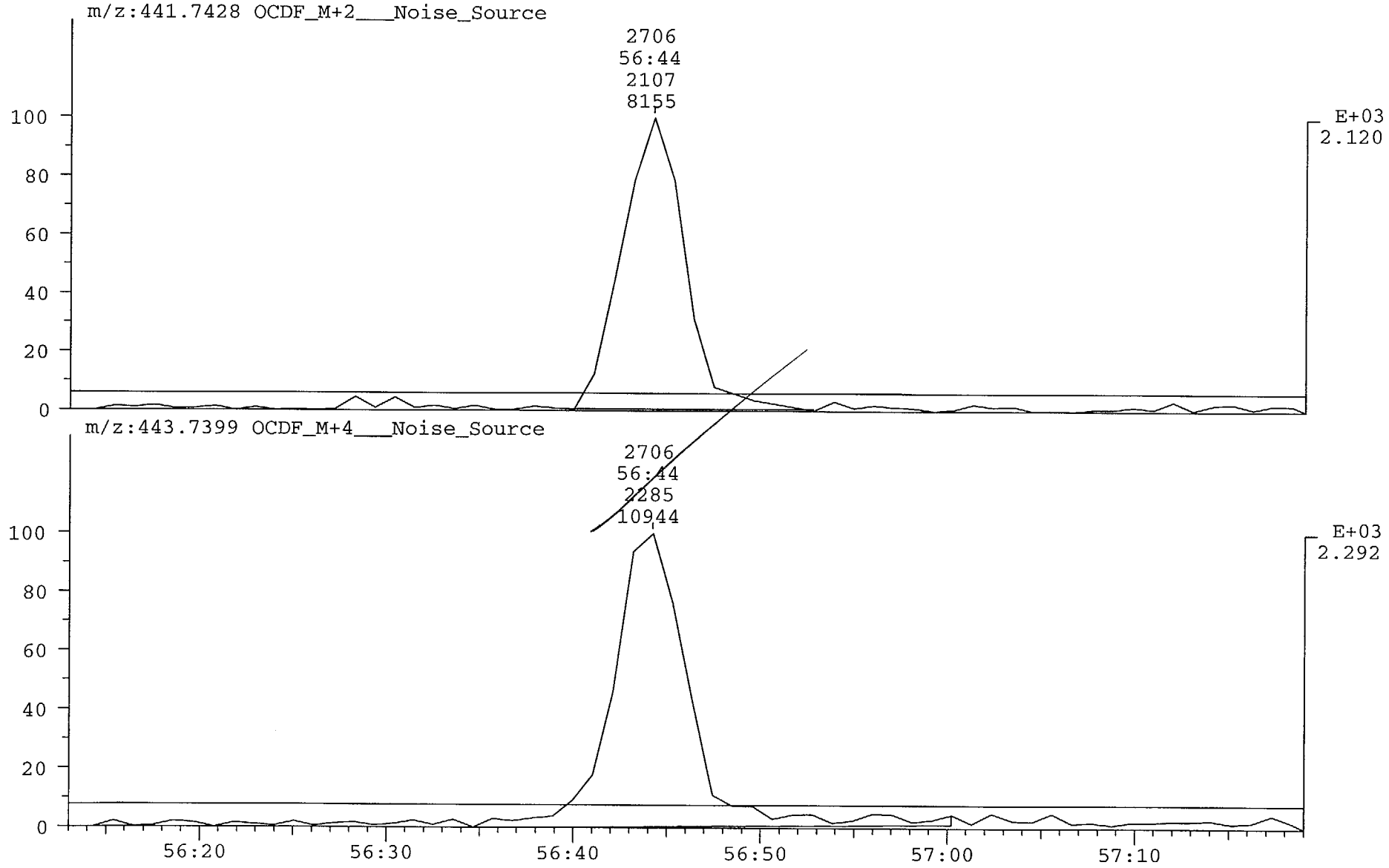

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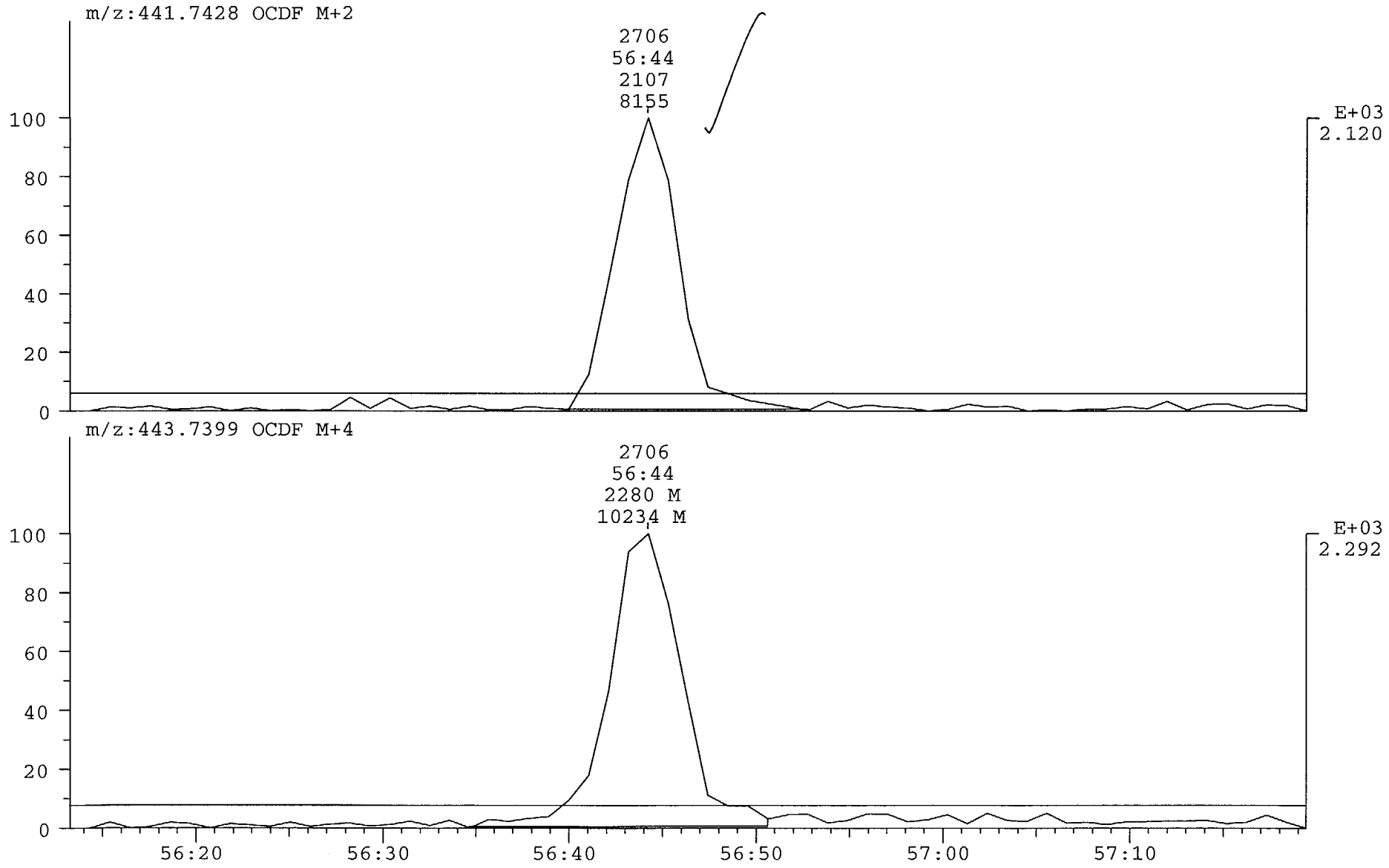
CHRO:  bth2h1j                                05-May-06   Elapse:  56:43      2705
Samp:  Vial 13 WO=h2h1j1aa Meth=X8 Dil=1                  Start :  06:19:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-004              Inlet :  GC     Vial  13
Peak:  100.00  ppm      Label wndw:   2677 > 2739         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



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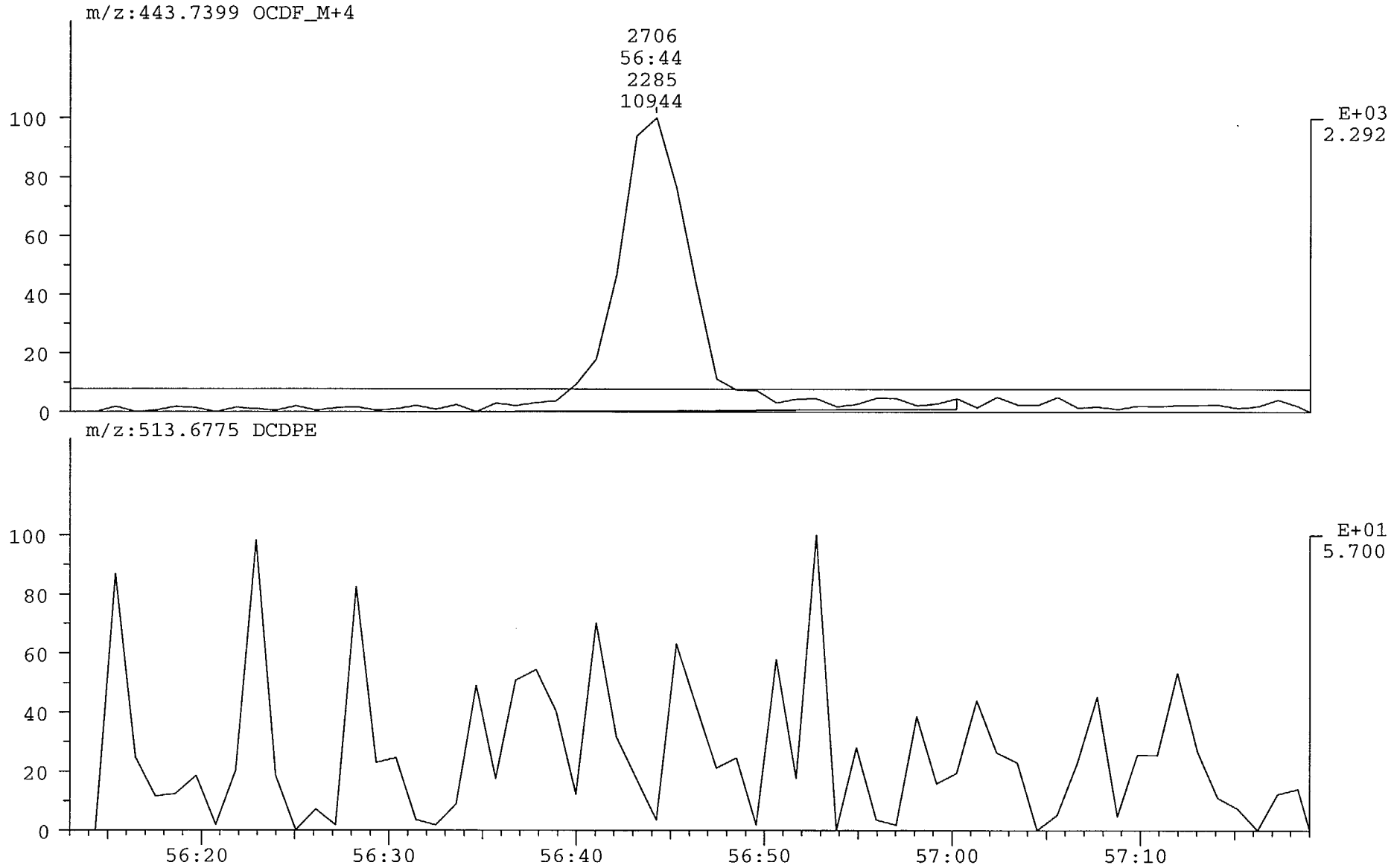
CHRO:  bth2h1j                                05-May-06   Elapse:  56:43      2705
Samp:  Vial 13 WO=h2h1j1aa Meth=X8 Dil=1                  Start :  06:19:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-004                Inlet :  GC     Vial  13
Peak:  100.00  ppm     Label wndw:   2677 > 2739          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



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CHRO:  bth2h1j                                05-May-06   Elapse:  56:43      2705
Samp:  Vial 13 WO=h2h1j1aa Meth=X8 Dil=1                  Start :  06:19:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-004              Inlet :  GC     Vial  13
Peak:  100.00  ppm      Label wndw:   2677 > 2739         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
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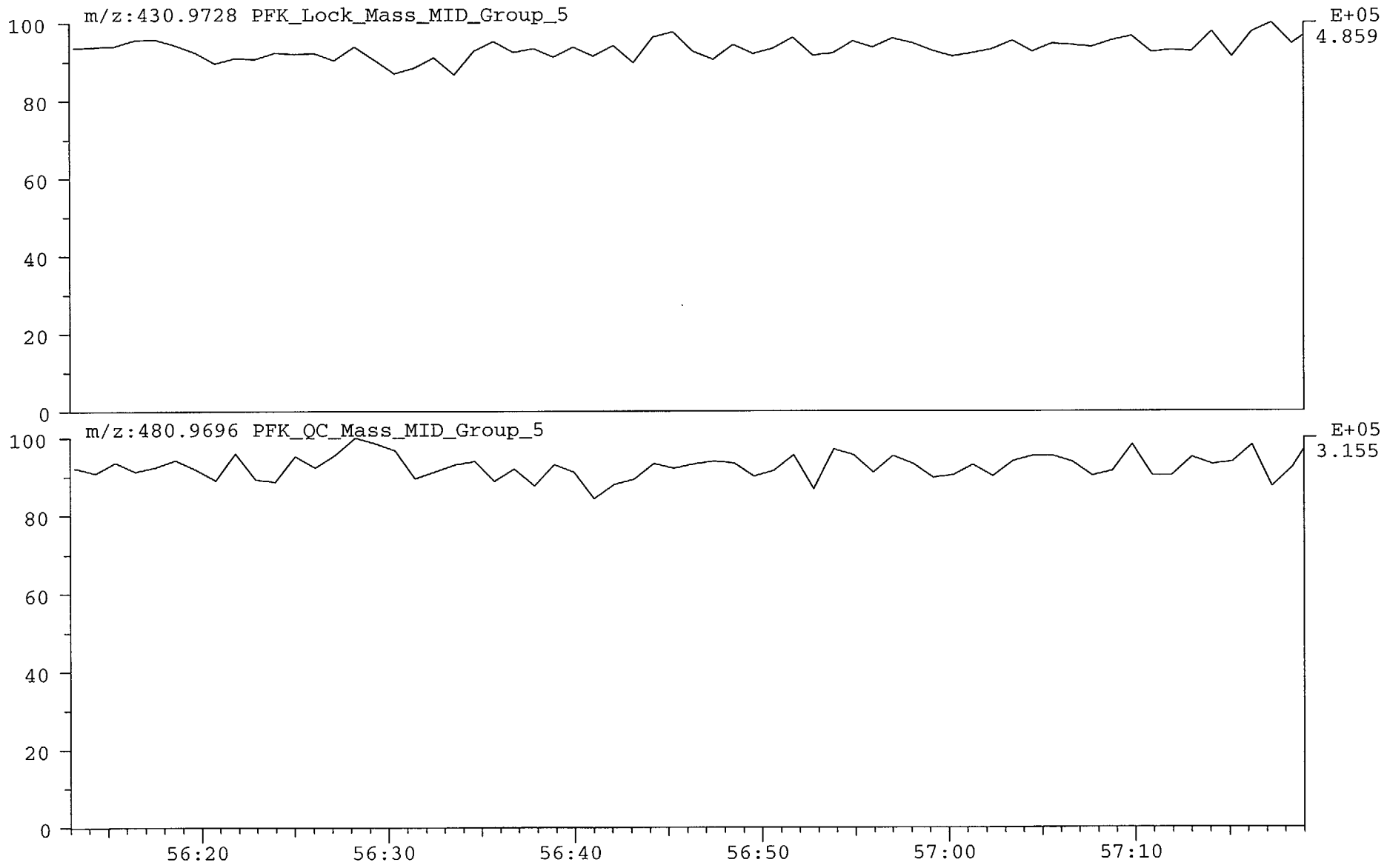


Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: bth2h1j
Study: 6107092 (Air)
Sample: WO=h2h1j1aa Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: PMP
Client: H6D030236-004
Comments: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Injected volume: 2.0
Sample from Vial 13
Analysis will stop when MID run finishes
Tune file name: tune2
File 4 of list 060504
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	TRUE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	140 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	29:52 min	37:52 min	1.00 sec
# 2	37:52 min	6:32 min	44:25 min	1.00 sec
# 3	44:25 min	5:05 min	49:30 min	1.00 sec
# 4	49:30 min	5:15 min	54:45 min	1.00 sec
# 5	54:45 min	5:15 min	60:00 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

```
  351.9000       1   1      91.48
  353.8970       1   1      91.48
  355.8546       1   1      91.48
  357.8516       1   1      91.48
  367.8949       1   1      91.48
  369.8919       1   1      91.48
  380.9760 c    10   1       8.19
  409.7974       1   1      91.48
 Window # 3
      mass F  int  gr  time (ms)
  373.8208       1   1      91.48
  375.8178       1   1      91.48
  380.9760 1    10   1       8.19
  383.8639       1   1      91.48
  385.8610       1   1      91.48
  389.8156       1   1      91.48
  391.8127       1   1      91.48
  401.8559       1   1      91.48
  403.8529       1   1      91.48
  404.9760 c    10   1       8.19
  445.7555       1   1      91.48
 Window # 4
      mass F  int  gr  time (ms)
  404.9760 1    10   1       8.19
  407.7818       1   1      91.48
  409.7788       1   1      91.48
  417.8250       1   1      91.48
  419.8220       1   1      91.48
  423.7767       1   1      91.48
  425.7737       1   1      91.48
  435.8169       1   1      91.48
  437.8140       1   1      91.48
  442.9728 c    10   1       8.19
  479.7165       1   1      91.48
 Window # 5
      mass F  int  gr  time (ms)
  430.9728 1    10   1      10.92
  441.7428       1   1     120.15
  443.7399       1   1     120.15
  457.7377       1   1     120.15
  459.7348       1   1     120.15
  469.7780       1   1     120.15
  471.7750       1   1     120.15
  480.9696 c    10   1      10.92
  513.6775       1   1     120.15

Auto Sampler descriptor: pcdd2ul
 Injector A
 Normal Injection
 Slvnt A cln before inj(K):      3 times
 Slvnt B cln before inj(L):      0 times
 Sample rinse cycles   (R):      0 times
 Syringe filling volume(F):    1.0 ul
 Pullup delay time     (D):      4 sec
 Sample pullup speed   (E):    5.0 ul/sec
 Slvnt aftr pre inj cln(U):    0.0 ul
 Air after pre inj cln (G):    2.0 ul
 Sample volume         (V):    2.0 ul
 Sample air volume     (A):    2.0 ul
 Sample pullup count   (P):      2 times
 Injection speed       (S):   10.0 ul/sec
 Injection wait time   (W):     10 sec
 Injection hold time   (H):      3 sec
 Solvent A clean cycles(C):     15 times
 Solvent B clean cycles(B):     20 times
 Loop clean w slvnt A (LC):      0 times
```

```
Loop clean w slvnt B (LB):      0 times
Standard sample volume(X):    0.0 ul
Standard air volume   (Y):    0.0 ul
2nd Injection volume  (I):    0.0 ul
Air volume of 2nd inj (J):    0.0 ul
Time btwn 2 injections(T):      0 sec

GC descriptor :  epa1613
  Injector:          270 deg                      300 deg max
  Transfer Line:     290 deg                      300 deg max
  Column:            140 deg at   0.0 minutes     330 deg max
                     140 deg at   3.0 minutes
                     210 deg at   6.5 minutes
                     210 deg at  34.5 minutes
                     280 deg at  44.5 minutes
                     280 deg at  51.0 minutes
                     325 deg at  60.0 minutes
  Inlet    :
  Pressure         18.0 psi
  Splitless mode
  Purge time        1.5 min
  Purge flow       40.0 mL/min

   Gas saver is on
   Saver time        3.0 min
   Saver flow       15.0 mL/min

  Stabilize time    0.5 minutes
```

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8416.0000
BDEV	8288.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.7814	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9990
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-705.0000	ELEN	61.7750
EMULT	1.8000	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	188.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	548.0000	FVINLET	648.0000
FVSRC	982.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.5588	HVANAL	1569.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4757.0160	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	430.9728
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	2894.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10314.7005	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.5900	TCURR	0.8984	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 05-May-06 06:19:06.5

Autosampler has injected sample from vial 13
Analysis stopped at: 05-May-06 07:19:09.1 (run time 60.03 minutes)
Analysis stopped because MID run finished

STL Knoxville - ACS

Sample ID: G-3128/3129-R3-M23A FRONT HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 005	**Work Order #....:**	H2H1K1AA	**Matrix....:**	AIR
Date Sampled....:	03/30/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107079				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Bruce F. Wagner				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	2.9	pg/sampl
Total TCDD	ND		10	2.9	pg/sampl
1,2,3,7,8-PeCDD	ND		50	1.5	pg/sampl
Total PeCDD	ND		50	1.5	pg/sampl
1,2,3,4,7,8-HxCDD	ND		50	1.3	pg/sampl
1,2,3,6,7,8-HxCDD	ND		50	1.3	pg/sampl
1,2,3,7,8,9-HxCDD	ND		50	1.2	pg/sampl
Total HxCDD	ND		50	1.3	pg/sampl
1,2,3,4,6,7,8-HpCDD	**2.2**	**J**	**50**	**1.4**	**pg/sampl**
Total HpCDD	**2.2**	**J**	**50**	**1.4**	**pg/sampl**
OCDD	**18**	**B J**	**100**	**1.7**	**pg/sampl**
2,3,7,8-TCDF	ND		10	2.3	pg/sampl
Total TCDF	ND		10	2.3	pg/sampl
1,2,3,7,8-PeCDF	ND		50	1.2	pg/sampl
2,3,4,7,8-PeCDF	ND		50	1.1	pg/sampl
Total PeCDF	**2.0**	**Q J**	**50**	**1.2**	**pg/sampl**
1,2,3,4,7,8-HxCDF	ND		50	0.92	pg/sampl
1,2,3,6,7,8-HxCDF	ND		50	0.85	pg/sampl
2,3,4,6,7,8-HxCDF	ND		50	0.96	pg/sampl
1,2,3,7,8,9-HxCDF	ND		50	1.0	pg/sampl
Total HxCDF	ND		50	0.93	pg/sampl
1,2,3,4,6,7,8-HpCDF	**3.5**	**Q B J**	**50**	**1.4**	**pg/sampl**
1,2,3,4,7,8,9-HpCDF	ND		50	1.6	pg/sampl
Total HpCDF	**3.5**	**Q B J**	**50**	**1.5**	**pg/sampl**
OCDF	**3.4**	**Q B J**	**100**	**1.3**	**pg/sampl**

STL Knoxville - ACS

Sample ID: G-3128/3129-R3-M23A FRONT HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 005	**Work Order #....:**	H2H1K1AA	**Matrix....:**	AIR
Date Sampled....:	03/30/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107079				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Bruce F. Wagner				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	103	40 - 135
13C-1,2,3,7,8-PeCDD	110	40 - 135
13C-1,2,3,6,7,8-HxCDD	118	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	135	40 - 135
13C-OCDD	122	40 - 135
13C-2,3,7,8-TCDF	98	40 - 135
13C-1,2,3,7,8-PeCDF	107	40 - 135
13C-1,2,3,6,7,8-HxCDF	117	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	116	40 - 135

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	86	70 - 130
13C-1,2,3,4,7,8-HxCDD	103	70 - 130
13C-2,3,4,7,8-PeCDF	91	70 - 130
13C-1,2,3,4,7,8-HxCDF	86	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	92	70 - 130

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

STL - Knoxville

IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1K1AA	Prep Batch	6107079	Lot No	H6D030236-005
Data File	/20060504s1/bth2h1k.d	Prep Date	04/17/06	SDG No	
Analysis ID	90535	Prep Exp Date	04/29/06	Date Received	04/02/06
Analysis Date	5/4/2006	Matrix	AIR	Date Sampled	03/30/06
Analysis Time	18:16	Initial Wt/Vol	1	Lims Test Code	XXSINX801
Anal Exp Date	06/01/06	Extract Vol	20	Method	0023/8290
Instrument	M2A	Dil Factor	1.0	Code	X8
Analyst	BFW				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (pg/sample		DL (pg/samp
2,3,7,8-TCDD				1.060				ND		2.91
Total TCDD				1.060				ND		2.91
2,3,7,8-TCDF				1.064				ND		2.27
Total TCDF				1.064				ND		2.27
1,2,3,7,8-PeCDD				0.977				ND		1.49
Total PeCDD				0.977				ND		1.49
1,2,3,7,8-PeCDF				0.955				ND		1.19
2,3,4,7,8-PeCDF				1.018				ND		1.12
Total PeCDF		1648	285	0.987		2.023193		2.023193	QJ	1.15
1,2,3,4,7,8-HxCDD				1.047				ND		1.30
1,2,3,6,7,8-HxCDD				1.055				ND		1.29
1,2,3,7,8,9-HxCDD				1.146				ND		1.19
Total HxCDD				1.083				ND		1.26
1,2,3,4,7,8-HxCDF				1.101				ND		0.915
1,2,3,6,7,8-HxCDF				1.184				ND		0.851
2,3,4,6,7,8-HxCDF				1.052				ND		0.957
1,2,3,7,8,9-HxCDF				0.982				ND		1.03
Total HxCDF				1.080				ND		0.933
1,2,3,4,6,7,8-HpCDD	52:24	1406	369	1.018		2.208079		2.208079	J	1.41
Total HpCDD				1.018		2.208079		2.208079	J	1.41
1,2,3,4,6,7,8-HpCDF	50:45	2648	657	1.403		3.521093		3.521093	QBJ	1.37
1,2,3,4,7,8,9-HpCDF				1.197				ND		1.61
Total HpCDF				1.300		3.521093		3.521093	QBJ	1.48
OCDD	56:42	8952	2532	0.965		17.682637		17.682637	BJ	1.66
OCDF	56:52	1947	590	1.103		3.363186		3.363186	QBJ	1.32
13C-2,3,7,8-TCDD	35:15	717594	77042	1.068	1000	1033.37551	103.34	1033.37551		6.74
13C-2,3,7,8-TCDF	33:02	897961	94401	1.413	1000	977.080264	97.71	977.080264		3.41
13C-1,2,3,7,8-PeCDD	43:03	632141	171671	0.882	1000	1102.38527	110.24	1102.38527		5.33
13C-1,2,3,7,8-PeCDF	41:28	825916	186963	1.188	1000	1069.10165	106.91	1069.10165		4.34
13C-1,2,3,6,7,8-HxCDD	47:23	563262	161493	0.943	1000	1183.01615	118.30	1183.01615		2.91
13C-1,2,3,6,7,8-HxCDF	46:17	748864	205964	1.272	1000	1166.34073	116.63	1166.34073		2.07
13C-1,2,3,4,6,7,8-HpCDD	52:21	625756	137772	0.918	1000	1350.00277	135.00	1350.00277		1.83
13C-1,2,3,4,6,7,8-HpCDF	50:40	535892	118002	0.916	1000	1158.92545	115.89	1158.92545		2.30
13C-OCDD	56:41	1049515	281330	0.850	2000	2446.70853	122.34	2446.70853		2.69
37Cl4-2,3,7,8-TCDD	35:18	1294126	145511	1.046	2000	1724.21610	86.21	1724.21610		2.61
13C-2,3,4,7,8-PeCDF	42:34	1523218	416081	1.010	2000	1825.58768	91.28	1825.58768		1.80
13C-1,2,3,4,7,8-HxCDD	47:17	1051285	292236	0.902	2000	2068.70146	103.44	2068.70146		2.44
13C-1,2,3,4,7,8-HxCDF	46:10	1278010	355287	0.988	2000	1727.01967	86.35	1727.01967		1.67
13C-1,2,3,7,8,9-HxCDF				1.113				ND		2.37
13C-1,2,3,4,7,8,9-HpCDF	53:00	900509	193951	0.912	2000	1842.23905	92.11	1842.23905		2.53
13C-1,2,3,4-TCDD	34:41	1300426	131891	1.000	2000	2000.00000	100.00	2000.00000		7.20
13C-1,2,3,7,8,9-HxCDD	47:47	1009522	258262	1.000	2000	2000.00000	100.00	2000.00000		2.75

BFW 5/5/06
PMP 5-6-06

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1K1AA	Prep Batch	6107079	Lot No	H6D030236-005
Data File	/20060504s1/bth2h1k.d	Prep Date	04/17/06	SDG No	
Analysis ID	90535	Prep Exp Date	04/29/06	Date Received	04/02/06
Analysis Date	05/04/06 18:16	Matrix	AIR	Date Sampled	03/30/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSINX801
Instrument	M2A	Extract Vol	20 uL	Method	0023/8290
Analyst	BFW	Diluton Factor	1.00	Code	X8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					303.9016	305.8987	303.9016	305.8987	0.65-0.89		
	Noise	00:00	00:00	0	95	133	38	53	0.72	/	
316					315.9419	317.9389	315.9419	317.9389	0.65-0.89		
	Noise	00:00	00:00	0	143	175	57	70	0.81	/	
	13C-2,3,7,8-TCDF	33:02	33:02	0	394132	503829	42477	51924	0.78	ABV/AVV	
320					319.8965	321.8936	319.8965	321.8936	0.65-0.89		
	Noise	00:00	00:00	0	113	125	45	50	0.90 *	/	
328					327.8847		327.8847				
	Noise	00:00	00:00	0	210		84				
	37Cl4-2,3,7,8-TCDD	35:18	35:18	0	1294126		145511			ABV	
332					331.9368	333.9338	331.9368	333.9338	0.65-0.89		
	Noise	00:00	00:00	0	270	205	108	82	1.32 *	/	
	13C-1,2,3,4-TCDD	34:41	34:42	-1	574512	725914	58486	73405	0.79	AVV/ABV	
	13C-2,3,7,8-TCDD	35:15	35:15	0	317600	399994	34087	42955	0.79	AVV/AVV	
340					339.8597	341.8567	339.8597	341.8567	1.32-1.78		
	Noise	00:00	00:00	0	80	133	32	53	0.60 *	/	
	Unidentified	40:09	00:00	0	1002	895	173	195	1.12 *	MVV/MVV	R
352					351.9000	353.8970	351.9000	353.8970	1.32-1.78		
	Noise	00:00	00:00	0	170	170	68	68	1.00 *	/	
	13C-1,2,3,7,8-PeCDF	41:28	41:27	1	504782	321134	114667	72296	1.57	ABV/ABV	
	13C-2,3,4,7,8-PeCDF	42:34	42:33	1	926266	596952	254728	161353	1.55	ABV/ABV	
356					355.8546	357.8516	355.8546	357.8516	1.32-1.78		
	Noise	00:00	00:00	0	143	108	57	43	1.33	/	
368					367.8949	369.8919	367.8949	369.8919	1.32-1.78		
	Noise	00:00	00:00	0	148	163	59	65	0.91 *	/	
	13C-1,2,3,7,8-PeCDD	43:03	43:01	2	381992	250149	104273	67398	1.53	ABV/ABV	
374					373.8208	375.8178	373.8208	375.8178	1.05-1.43		
	Noise	00:00	00:00	0	123	85	49	34	1.44 *	/	
384					383.8639	385.8610	383.8639	385.8610	0.43-0.59		
	Noise	00:00	00:00	0	160	180	64	72	0.89 *	/	
	13C-1,2,3,4,7,8-HxCDF	46:10	46:08	2	440474	837536	122432	232855	0.53	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDF	46:17	46:17	0	261539	487325	72350	133614	0.54	AVV/AVV	
390					389.8156	391.8127	389.8156	391.8127	1.05-1.43		
	Noise	00:00	00:00	0	90	130	36	52	0.69 *	/	
402					401.8559	403.8529	401.8559	403.8529	1.05-1.43		
	Noise	00:00	00:00	0	128	228	51	91	0.56 *	/	
	13C-1,2,3,4,7,8-HxCDD	47:17	47:14	3	584110	467175	162001	130235	1.25	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDD	47:23	47:21	2	318440	244822	92308	69185	1.30	AVB/AVB	
	13C-1,2,3,7,8,9-HxCDD	47:47	47:47	0	561622	447900	144723	113539	1.25	ABV/ABB	
408					407.7818	409.7788	407.7818	409.7788	0.88-1.20		
	Noise	00:00	00:00	0	130	98	52	39	1.33 *	/	
	1,2,3,4,6,7,8-HpCDF	50:45	50:38	7	3807	1298	678	322	2.93 *	ABB/ABB	RTM
418					417.8250	419.8220	417.8250	419.8220	0.37-0.51		

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1K1AA	**Prep Batch**	6107079	**Lot No**	H6D030236-005
Data File	/20060504s1/bth2h1k.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90535	**Prep Exp Date**	04/29/06	**Date Received**	04/02/06
Analysis Date	05/04/06 18:16	**Matrix**	AIR	**Date Sampled**	03/30/06
Anal Exp Date	06/01/06	**Initial Wt/Vol**	1 Sample	**Lims Test Code**	XXSINX801
Instrument	M2A	**Extract Vol**	20 uL	**Method**	0023/8290
Analyst	BFW	**Diluton Factor**	1.00	**Code**	X8

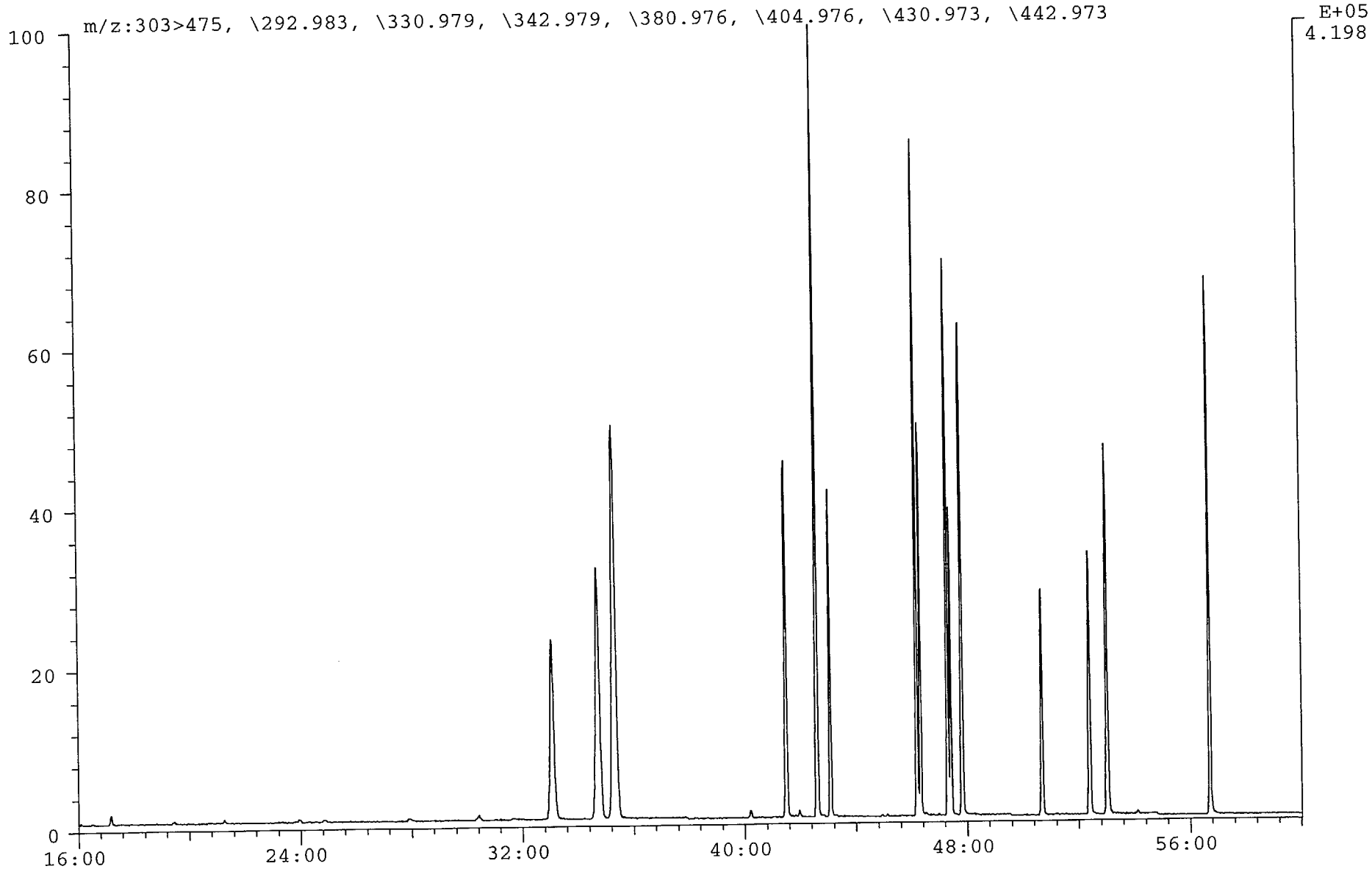
View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	Noise	00:00	00:00	0	130	143	52	57	0.91 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	50:40	50:38	2	166867	369025	37109	80893	0.45	ABV/ABV	
	13C-1,2,3,4,7,8,9-HpCDF	53:00	52:58	2	283934	616575	61959	131992	0.46	ABB/ABV	
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**		
	Noise	00:00	00:00	0	123	75	49	30	1.63 *	/	
	1,2,3,4,6,7,8-HpCDD	52:24	52:22	2	678	728	169	200	0.93	ABV/ABB	
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**		
	Noise	00:00	00:00	0	123	95	49	38	1.29 *	/	
	13C-1,2,3,4,6,7,8-HpCDD	52:21	52:21	0	315980	309776	68335	69437	1.02	ABB/ABV	
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**		
	Noise	00:00	00:00	0	85	120	34	48	0.71 *	/	
	OCDF	56:52	56:51	1	917	1322	278	350	0.69 *	MBB/MBB	R
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**		
	Noise	00:00	00:00	0	105	120	42	48	0.88	/	
	OCDD	56:42	56:43	-1	4056	4896	1206	1326	0.83	ABB/MBB	
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**		
	Noise	00:00	00:00	0	130	165	52	66	0.79	/	
	13C-OCDD	56:41	56:42	-1	495462	554053	130638	150692	0.89	ABV/ABV	

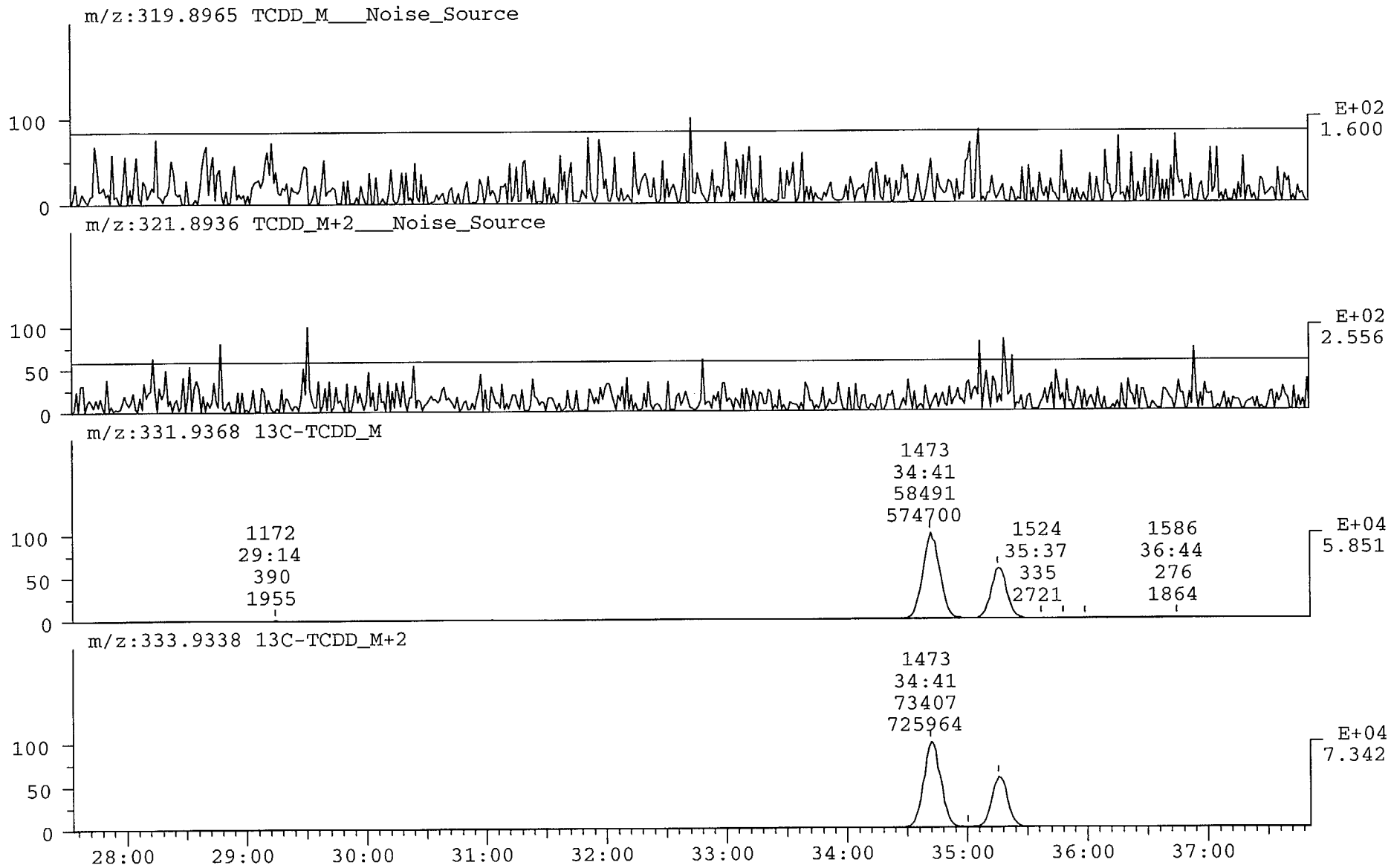
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

CHRO: bth2h1k 04-May-06 Elapse: 56:39 2701
Samp: Vial 6 WO=h2h1k1aa Meth=X8 Dil=1 Start : 18:16:37 2890
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-005 Inlet : GC Vial 6
Peak: 100.00 ppm Label wndw: 442 > 2890 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

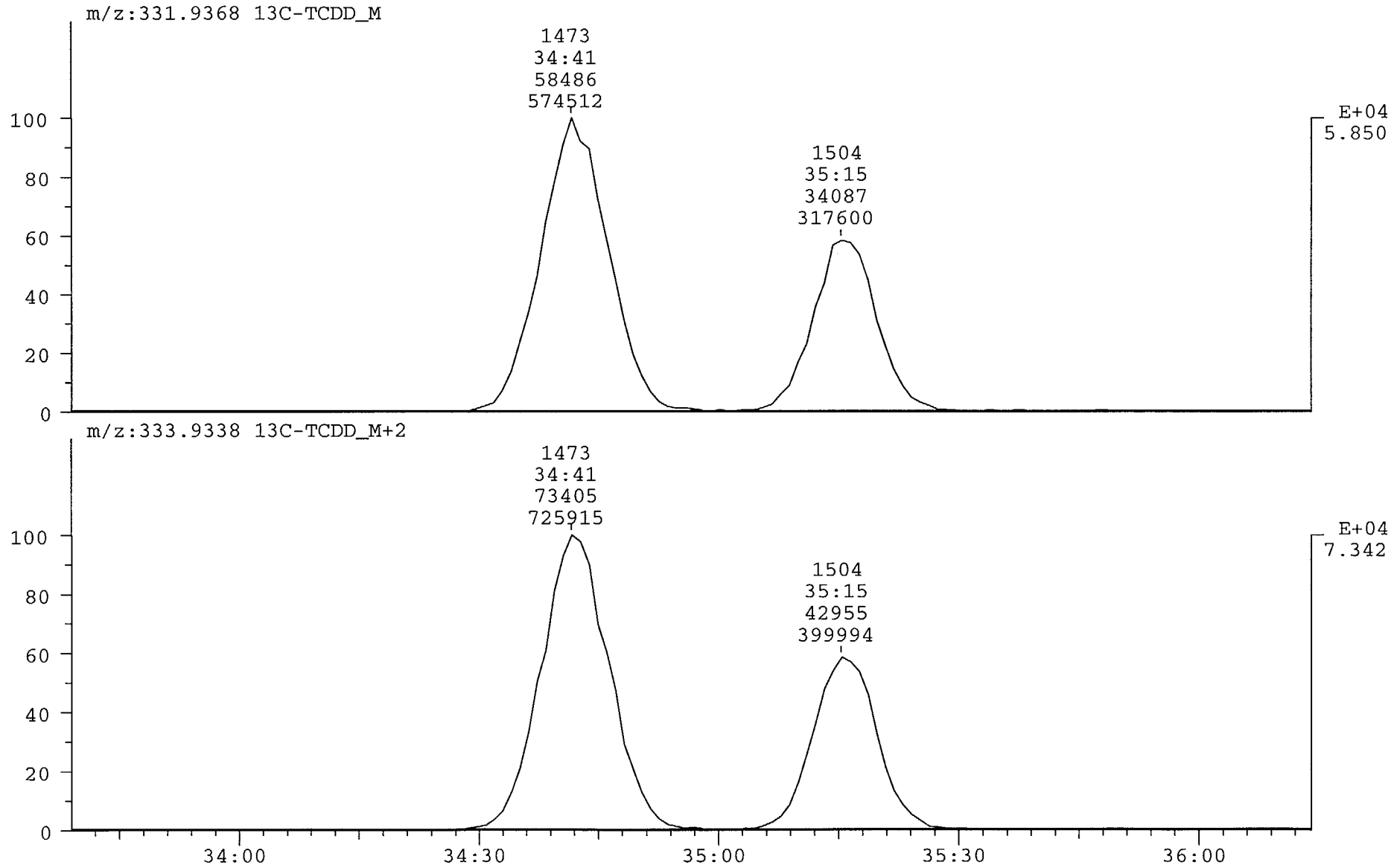
Int PMP 5.4.06
Calc BKW 5/5/06
QC/Rev PMP 5-6-06



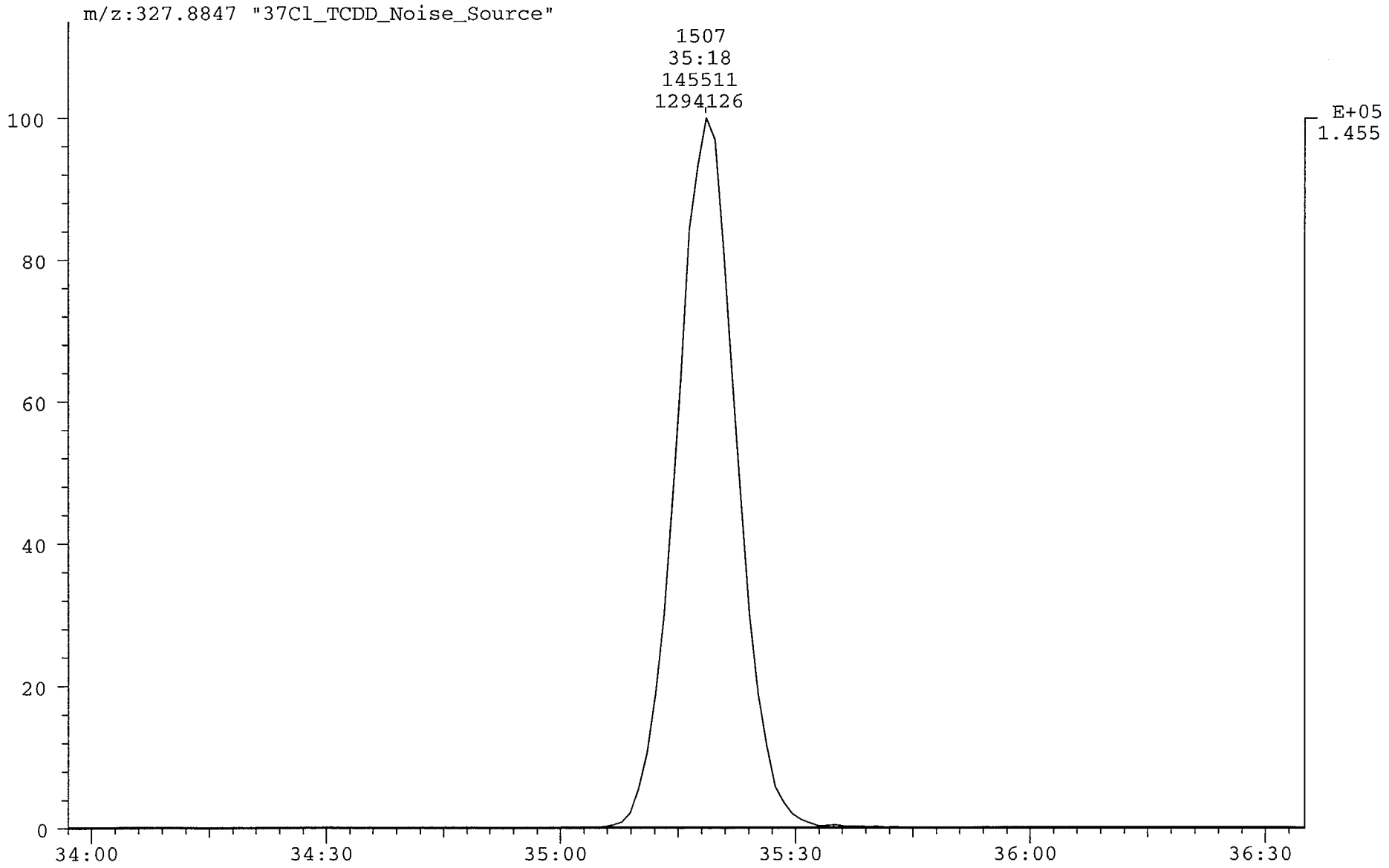
CHRO: bth2h1k 04-May-06 Elapse: 56:39 2701
Samp: Vial 6 WO=h2h1k1aa Meth=X8 Dil=1 Start : 18:16:37 2890
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-005 Inlet : GC Vial 6
Peak: 100.00 ppm Label wndw: 1079 > 1647 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



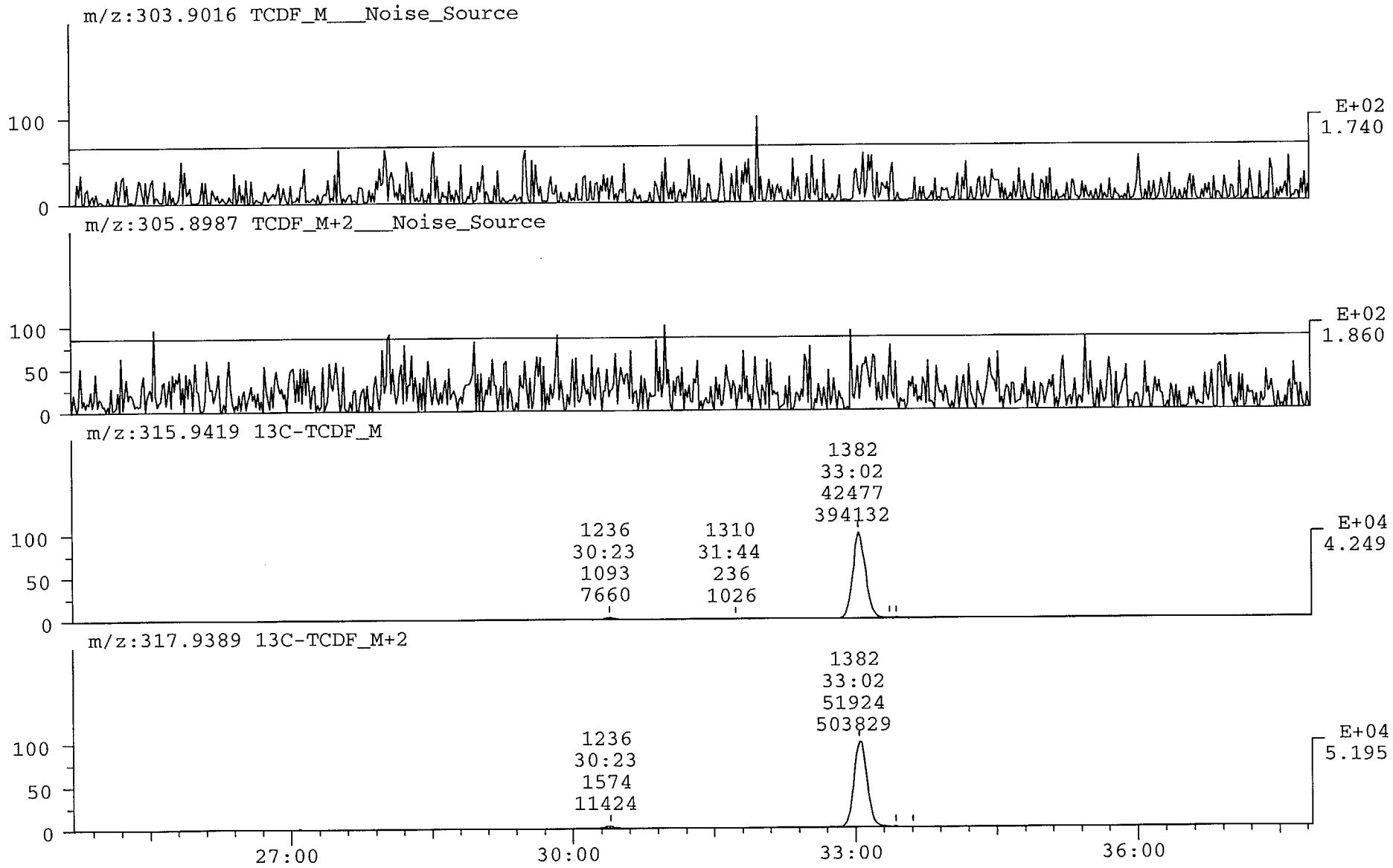
```
CHRO:  bth2h1k                                04-May-06  Elapse:  34:55      1486
Samp:  Vial 6 WO=h2h1k1aa Meth=X8 Dil=1                  Start :  18:16:37   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-005             Inlet :  GC     Vial   6
Peak:  100.00  ppm      Label wndw:   1415 > 1558        Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



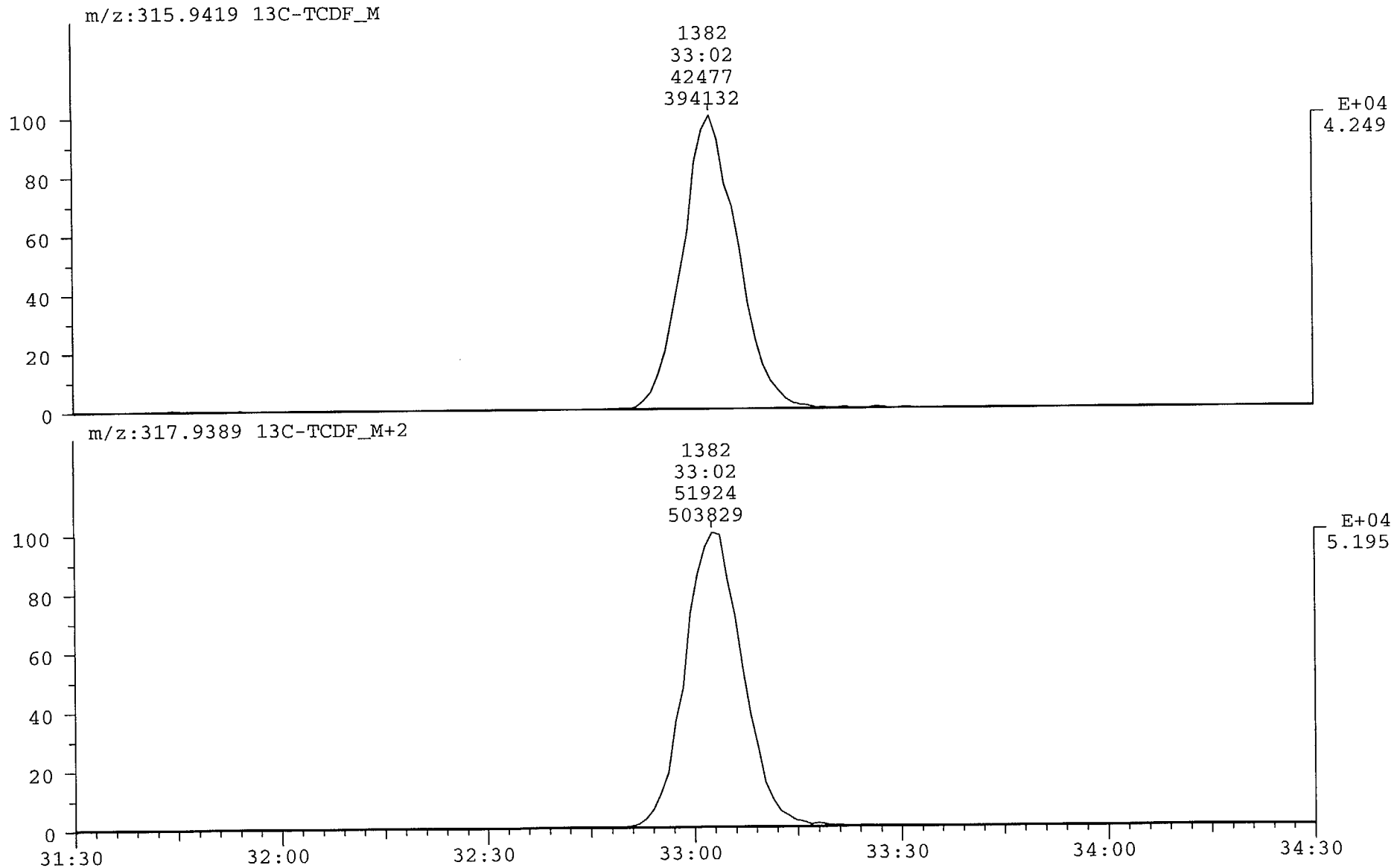
```
CHRO:  bth2h1k                                04-May-06   Elapse:  35:13      1502
Samp:  Vial 6 WO=h2h1k1aa Meth=X8 Dil=1                   Start :  18:16:37   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-005              Inlet :  GC     Vial   6
Peak:  100.00  ppm      Label wndw:   1432 > 1577         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



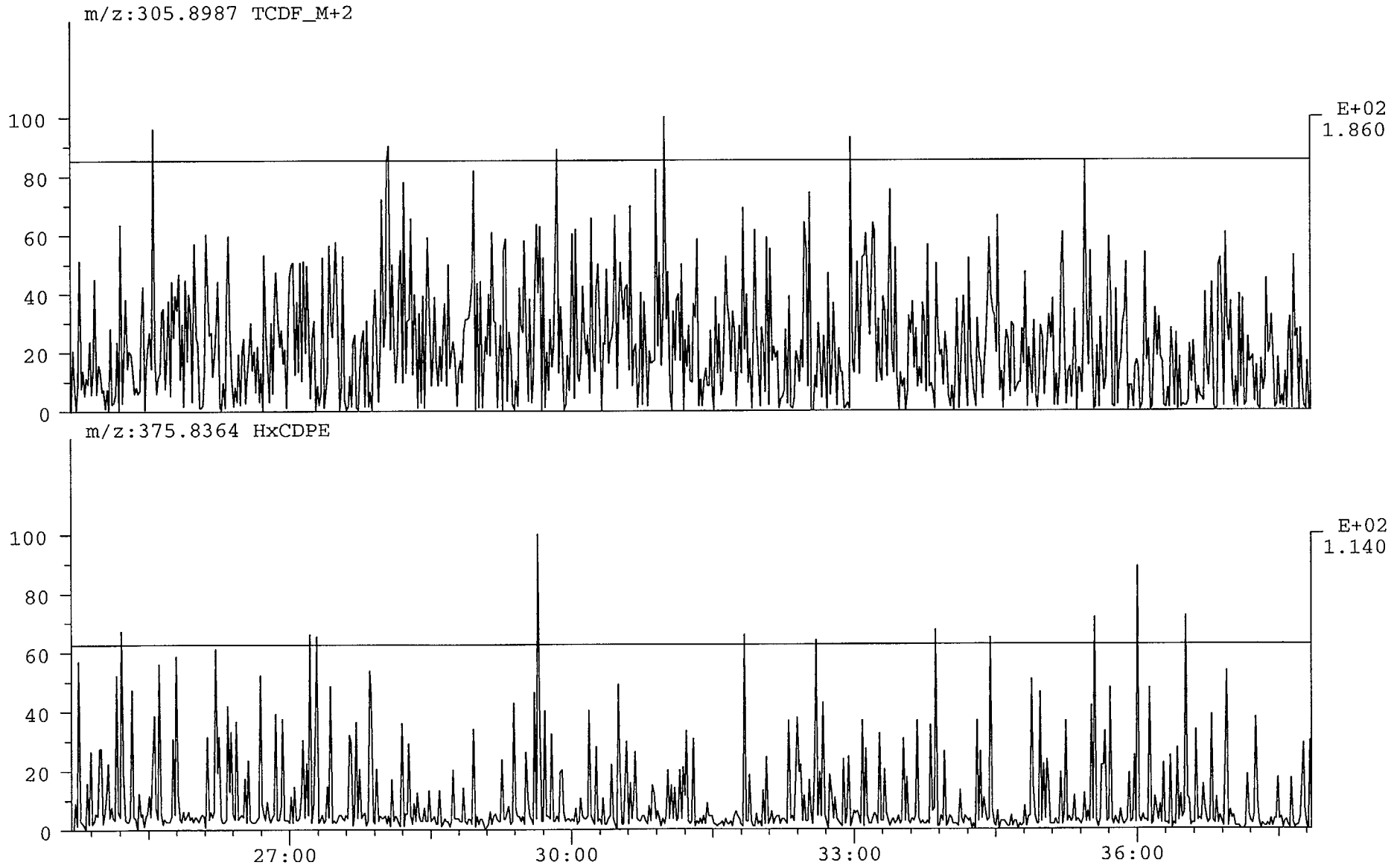
```
CHRO:  bth2h1k                                  04-May-06   Elapse:  35:13      1502
Samp:  Vial 6 WO=h2h1k1aa Meth=X8 Dil=1                     Start :  18:16:37   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-005                Inlet :  GC     Vial   6
Peak:  100.00  ppm      Label wndw:   921 > 1647            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



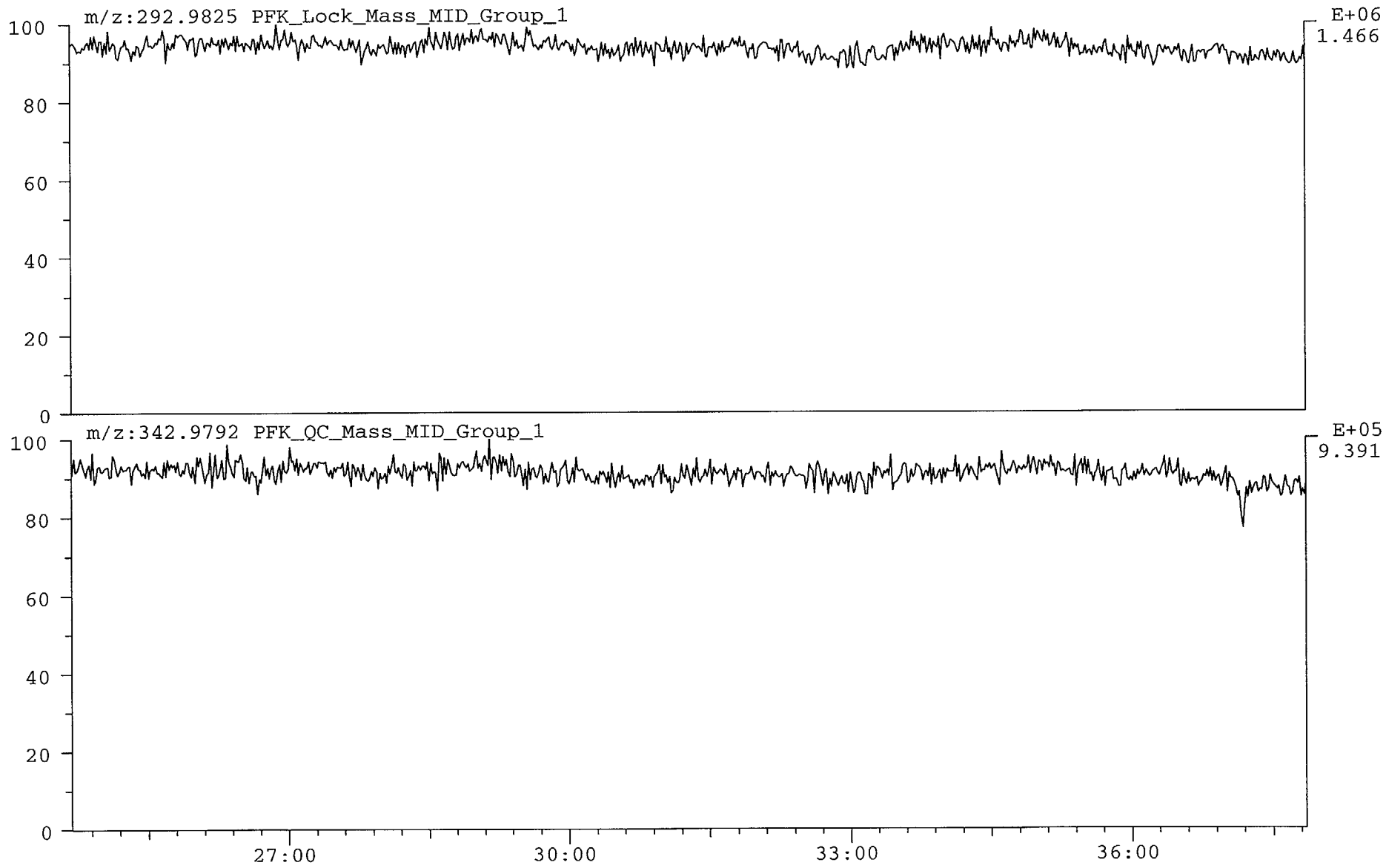
```
CHRO:  bth2h1k                                  04-May-06   Elapse:  32:57      1377
Samp:  Vial 6 WO=h2h1k1aa Meth=X8 Dil=1                     Start :  18:16:37   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-005                Inlet :  GC     Vial   6
Peak:  100.00  ppm      Label wndw:   1297 > 1462           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



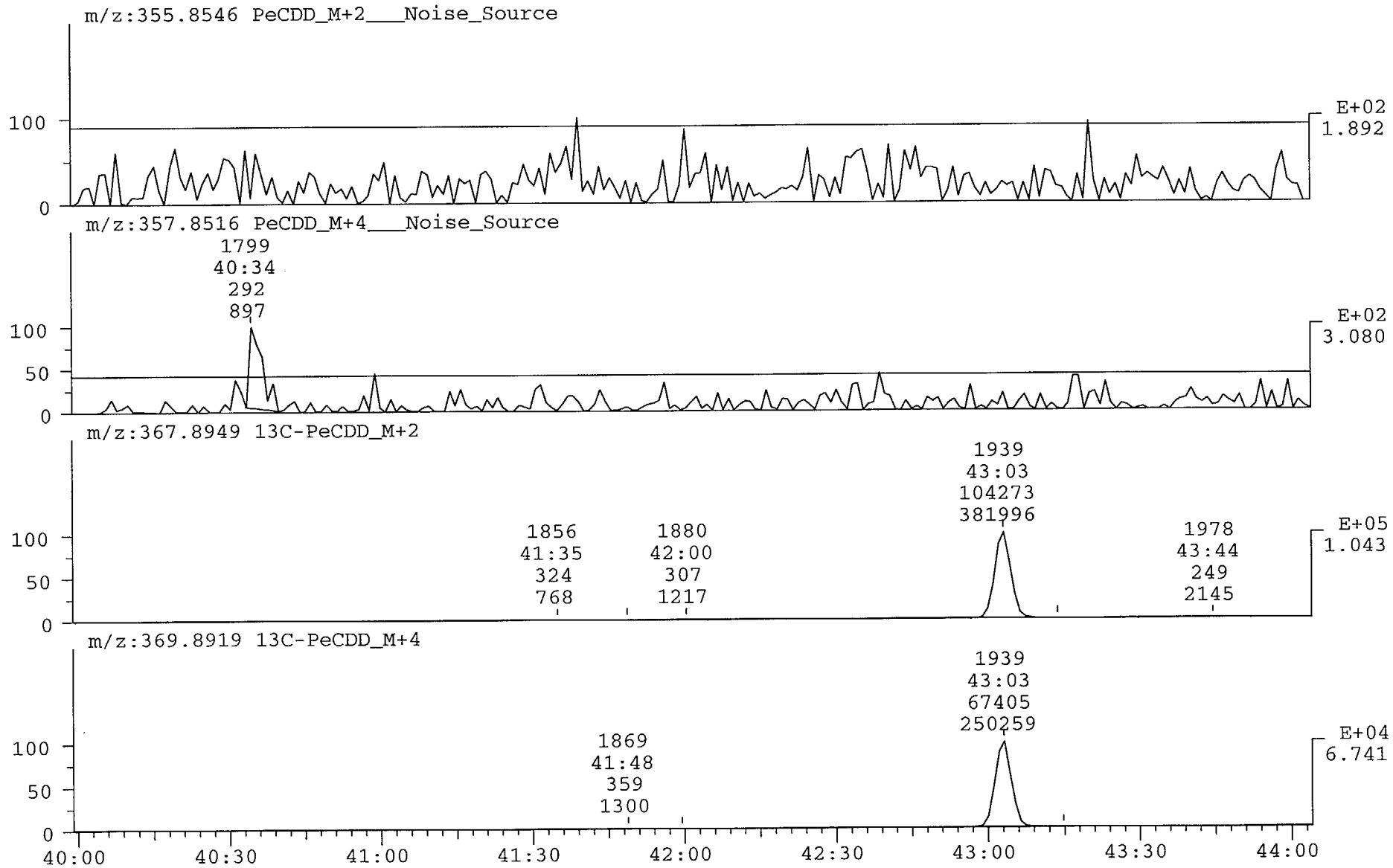
CHRO: bth2h1k 04-May-06 Elapse: 32:57 1377
Samp: Vial 6 WO=h2h1k1aa Meth=X8 Dil=1 Start : 18:16:37 2890
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-005 Inlet : GC Vial 6
Peak: 100.00 ppm Label wndw: 921 > 1647 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



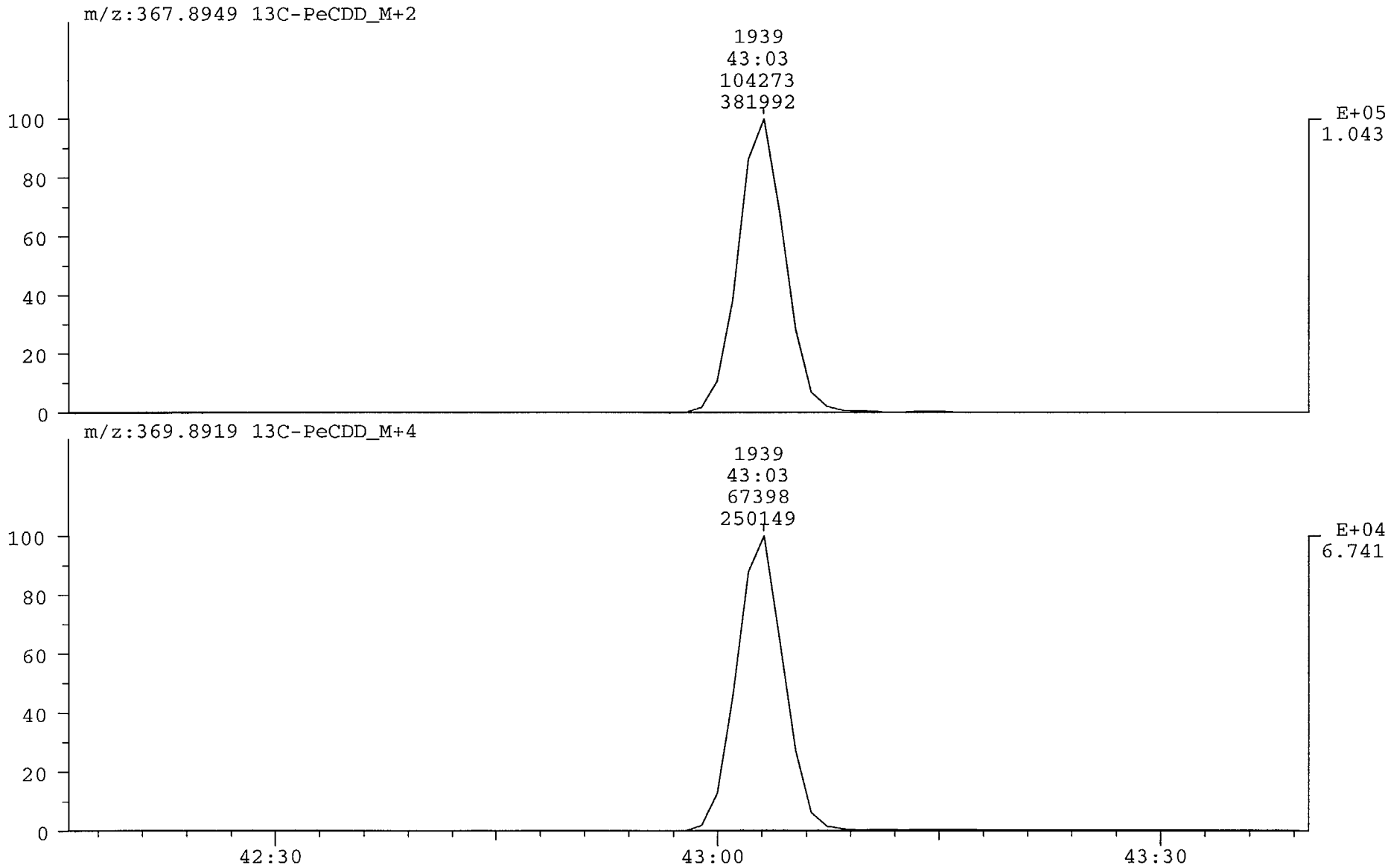
```
CHRO:  bth2h1k                                04-May-06   Elapse:  32:57      1377
Samp:  Vial 6 WO=h2h1k1aa Meth=X8 Dil=1                   Start :  18:16:37   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-005              Inlet :  GC     Vial   6
Peak:  100.00  ppm      Label wndw:   921 > 1647          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
```



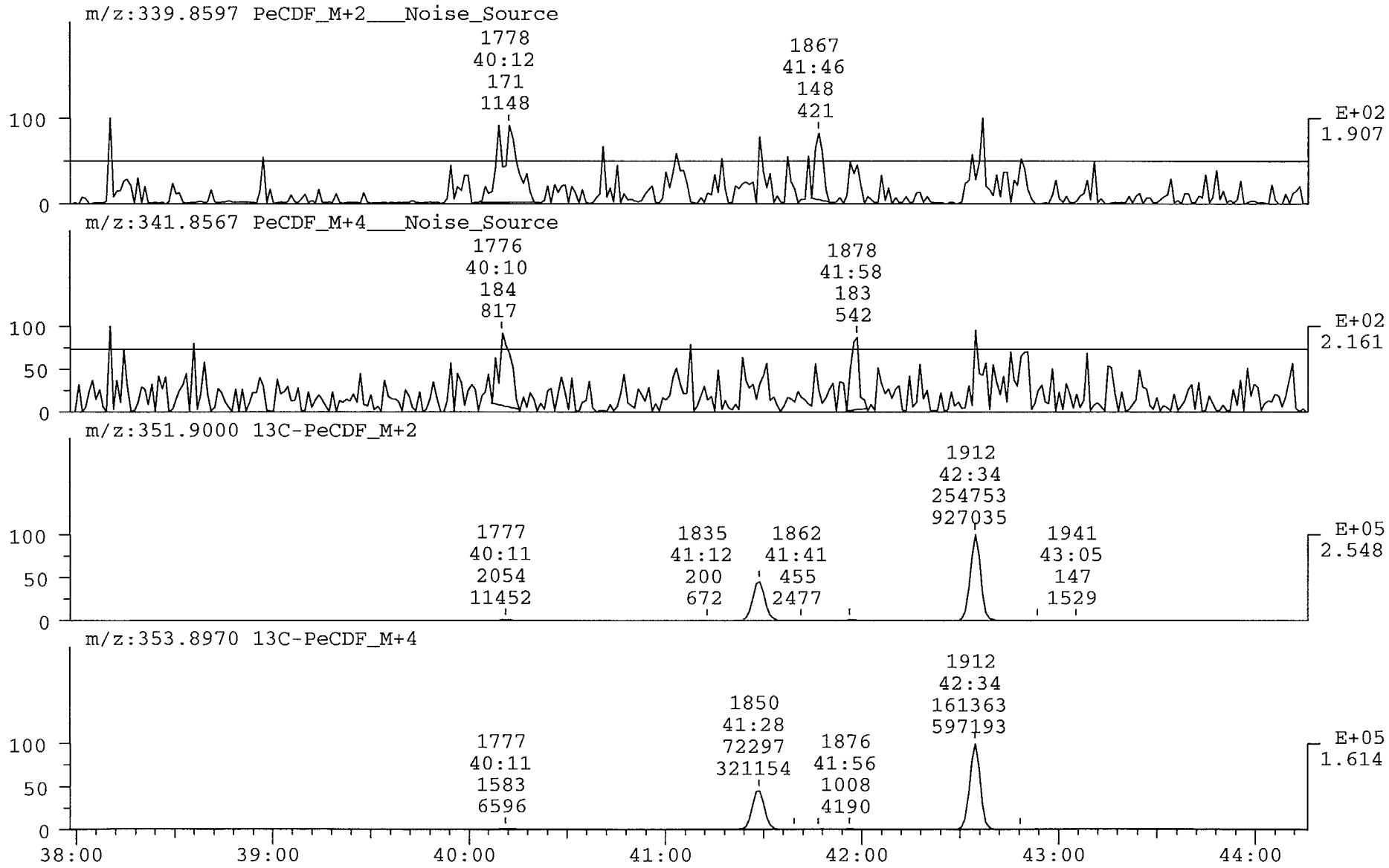
CHRO: bth2h1k 04-May-06 Elapse: 32:57 1377
Samp: Vial 6 WO=h2h1k1aa Meth=X8 Dil=1 Start : 18:16:37 2890
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-005 Inlet : GC Vial 6
Peak: 100.00 ppm Label wndw: 1766 > 1996 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



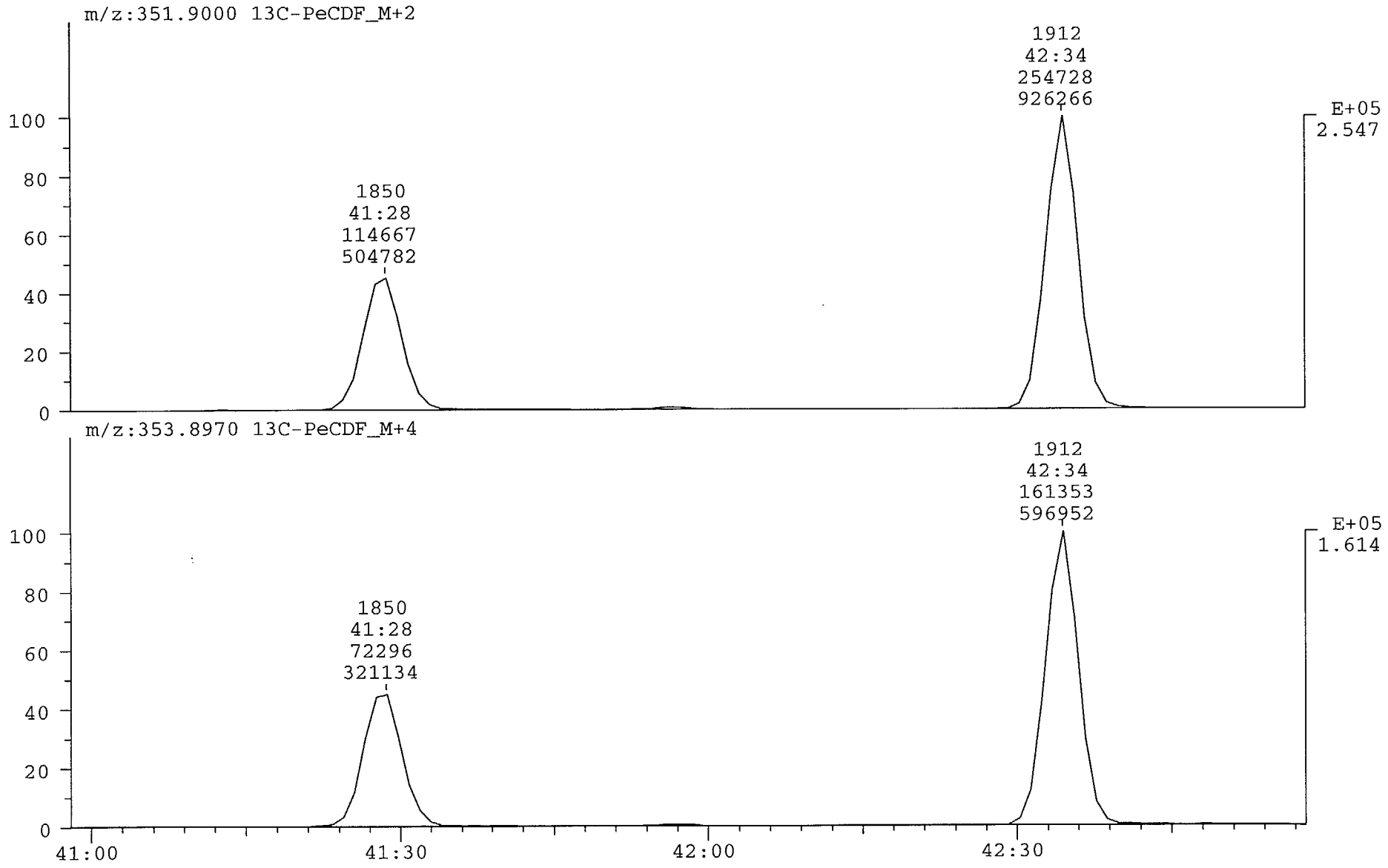
```
CHRO:  bth2h1k                                04-May-06  Elapse:  42:54      1931
Samp:  Vial 6 WO=h2h1k1aa Meth=X8 Dil=1                  Start :  18:16:37   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (Air)
Oper:  BFW           Client:  H6D030236-005              Inlet :  GC     Vial   6
Peak:  100.00  ppm     Label wndw:   1895 > 1974         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



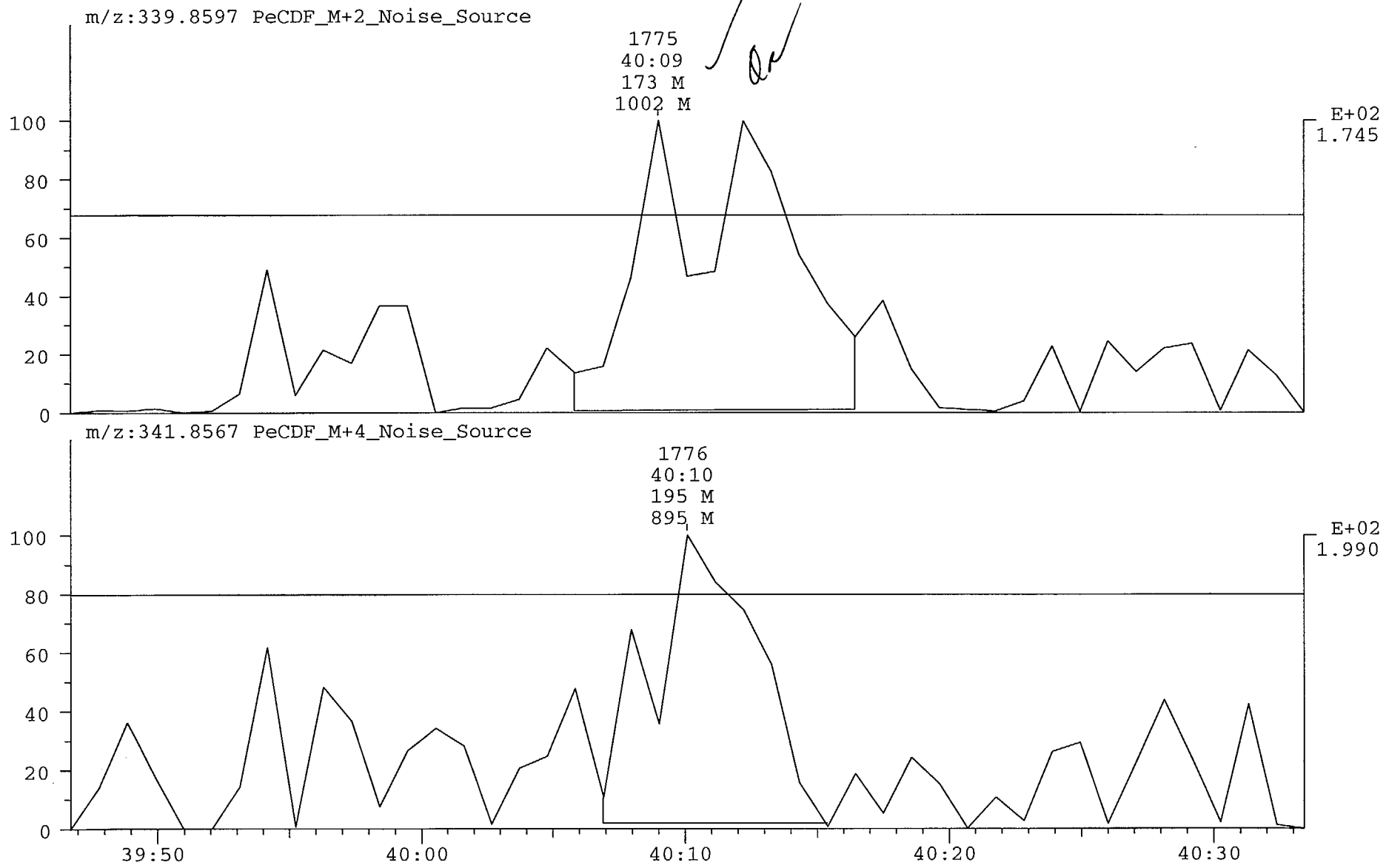
CHRO: bth2h1k 04-May-06 Elapse: 42:54 1931
Samp: Vial 6 WO=h2h1k1aa Meth=X8 Dil=1 Start : 18:16:37 2890
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-005 Inlet : GC Vial 6
Peak: 100.00 ppm Label wndw: 1652 > 2008 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



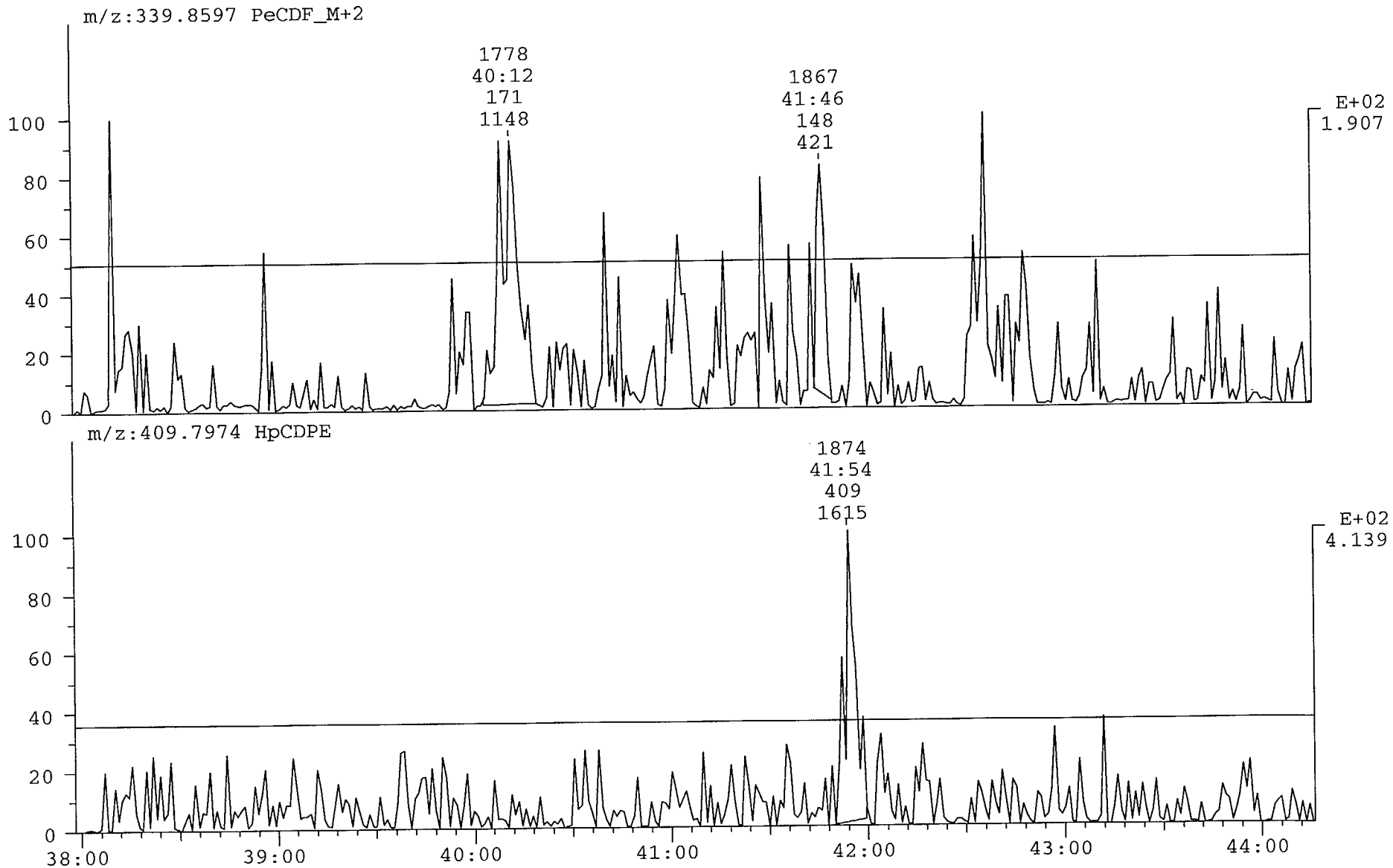
```
CHRO:  bth2h1k                                  04-May-06   Elapse:  41:58      1878
Samp:  Vial 6 WO=h2h1k1aa Meth=X8 Dil=1                     Start :  18:16:37   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-005                Inlet :  GC     Vial   6
Peak:  100.00  ppm      Label wndw:   1821 > 1934           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



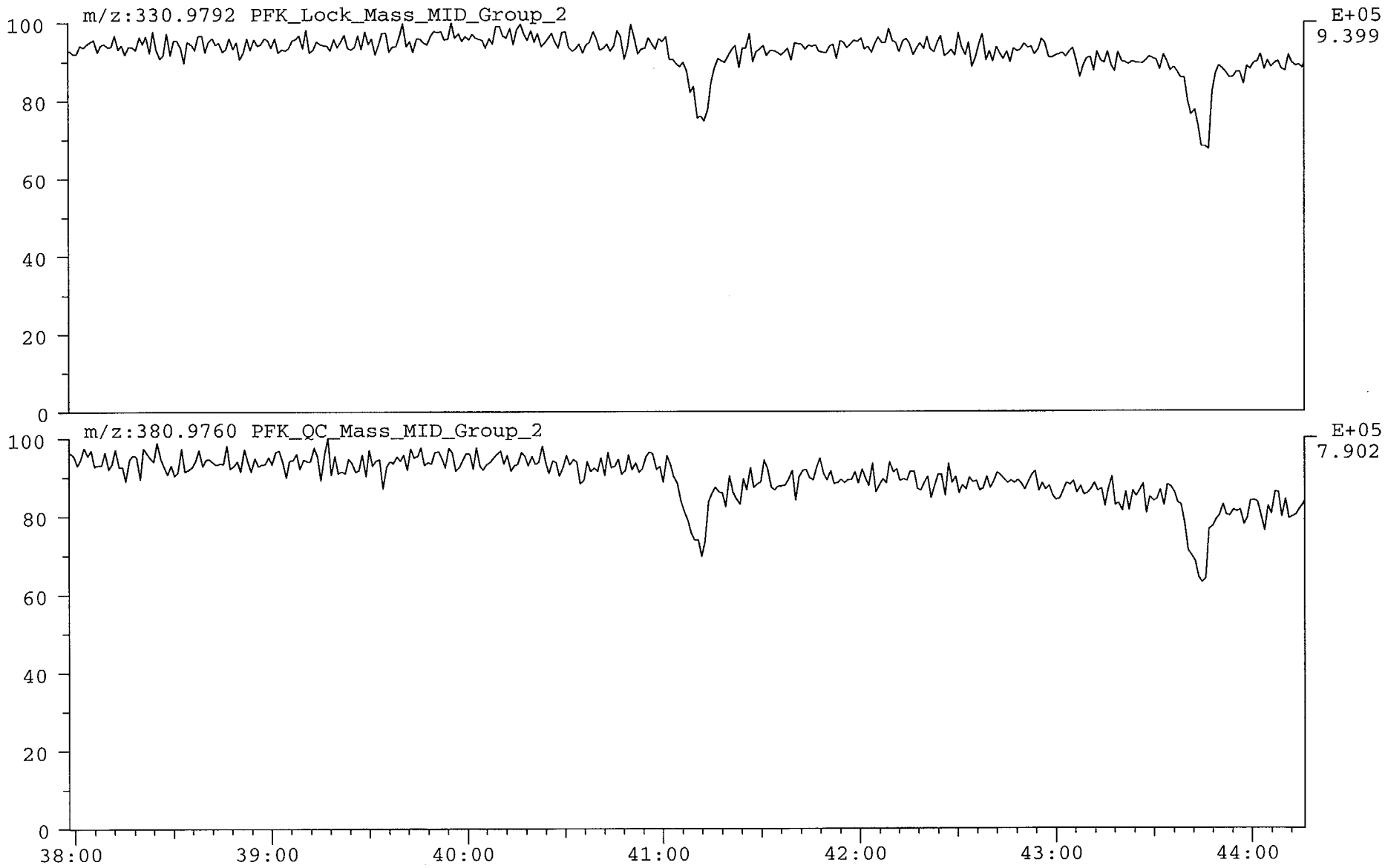
CHRO: bth2h1k 04-May-06 Elapse: 56:42 2704
Samp: Vial 6 WO=h2h1k1aa Meth=X8 Dil=1 Start : 18:16:37 2890
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-005 Inlet : GC Vial 6
Peak: 100.00 ppm Label wndw: 1754 > 1798 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -3, 3.0
Disp: Height Area



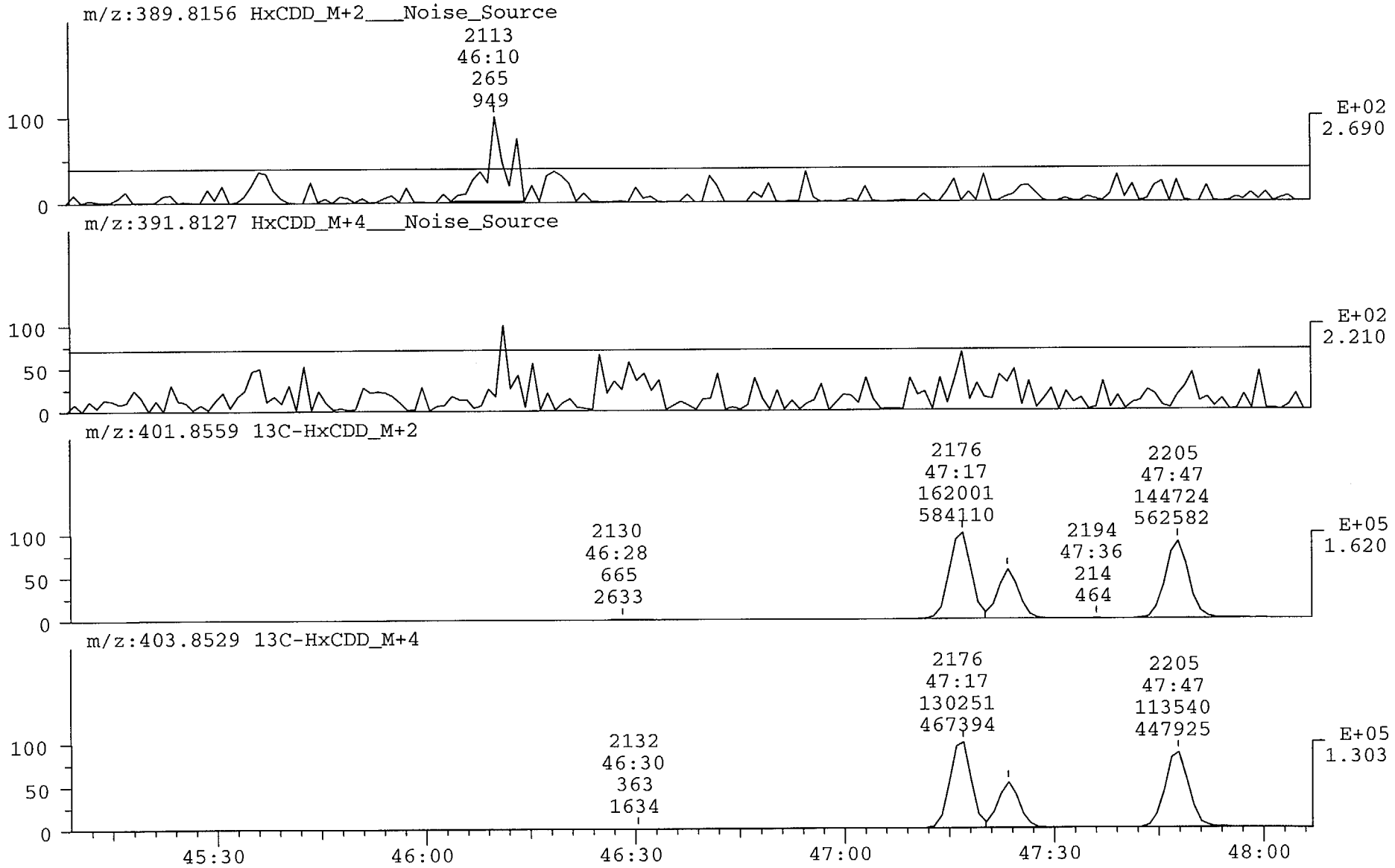
CHRO: bth2h1k 04-May-06 Elapse: 41:58 1878
Samp: Vial 6 WO=h2h1k1aa Meth=X8 Dil=1 Start : 18:16:37 2890
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-005 Inlet : GC Vial 6
Peak: 100.00 ppm Label wndw: 1652 > 2008 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  bth2h1k                                04-May-06   Elapse:  41:58      1878
Samp:  Vial 6 WO=h2h1k1aa Meth=X8 Dil=1                   Start :  18:16:37   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-005              Inlet :  GC     Vial   6
Peak:  100.00  ppm      Label wndw:   1652 > 2008         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



CHRO: bth2h1k 04-May-06 Elapse: 41:58 1878
Samp: Vial 6 WO=h2h1k1aa Meth=X8 Dil=1 Start : 18:16:37 2890
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-005 Inlet : GC Vial 6
Peak: 100.00 ppm Label wndw: 2055 > 2223 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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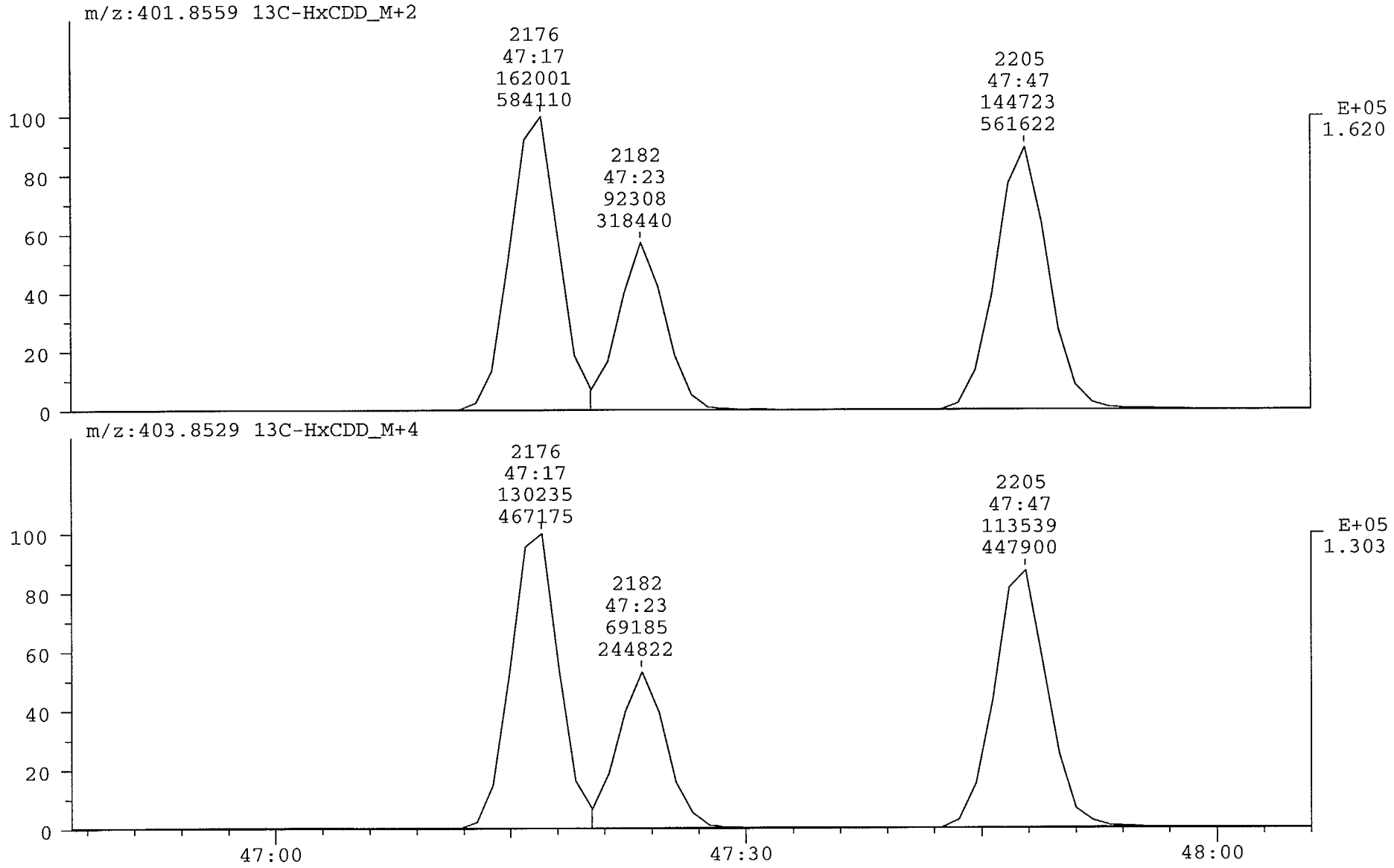
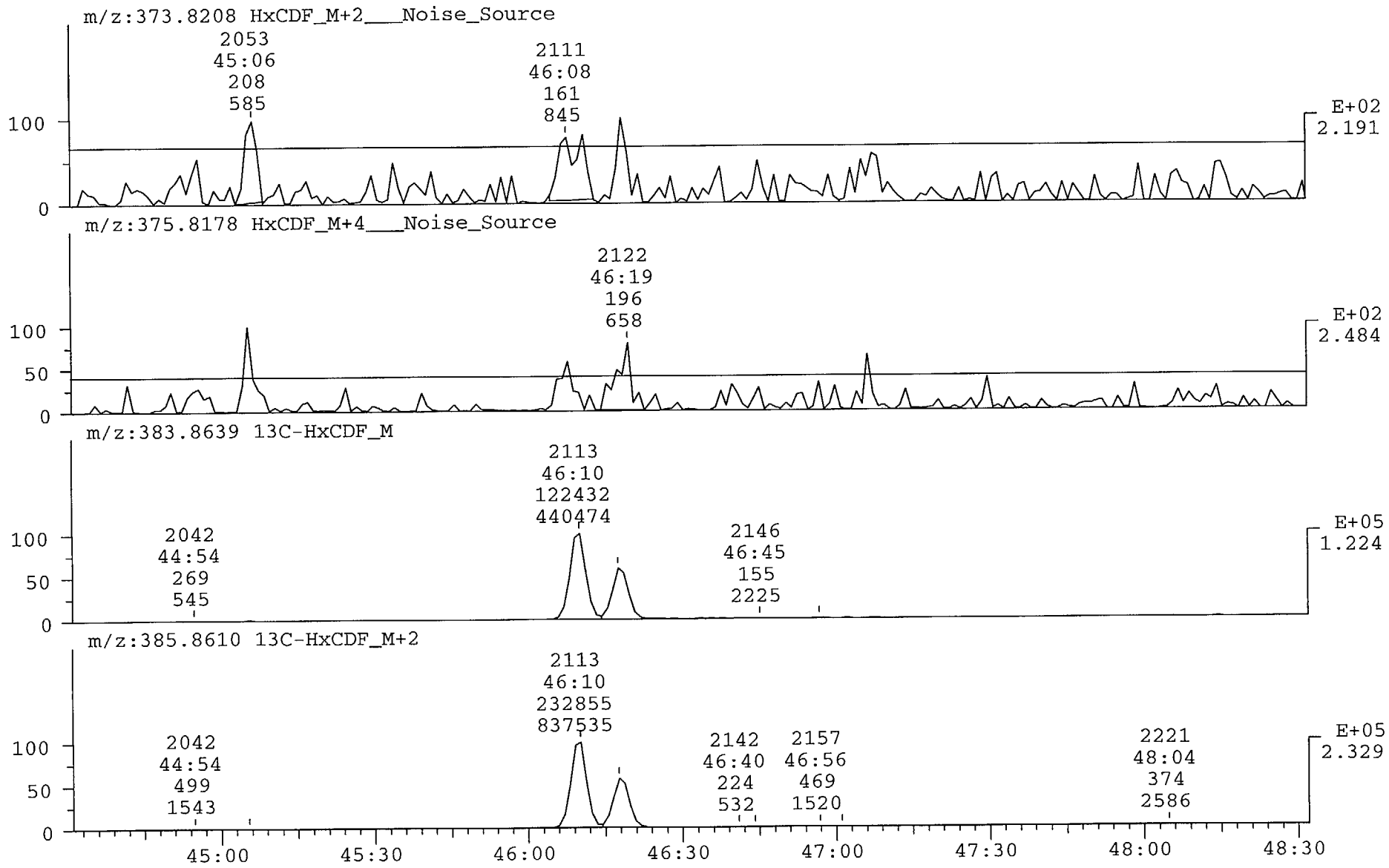
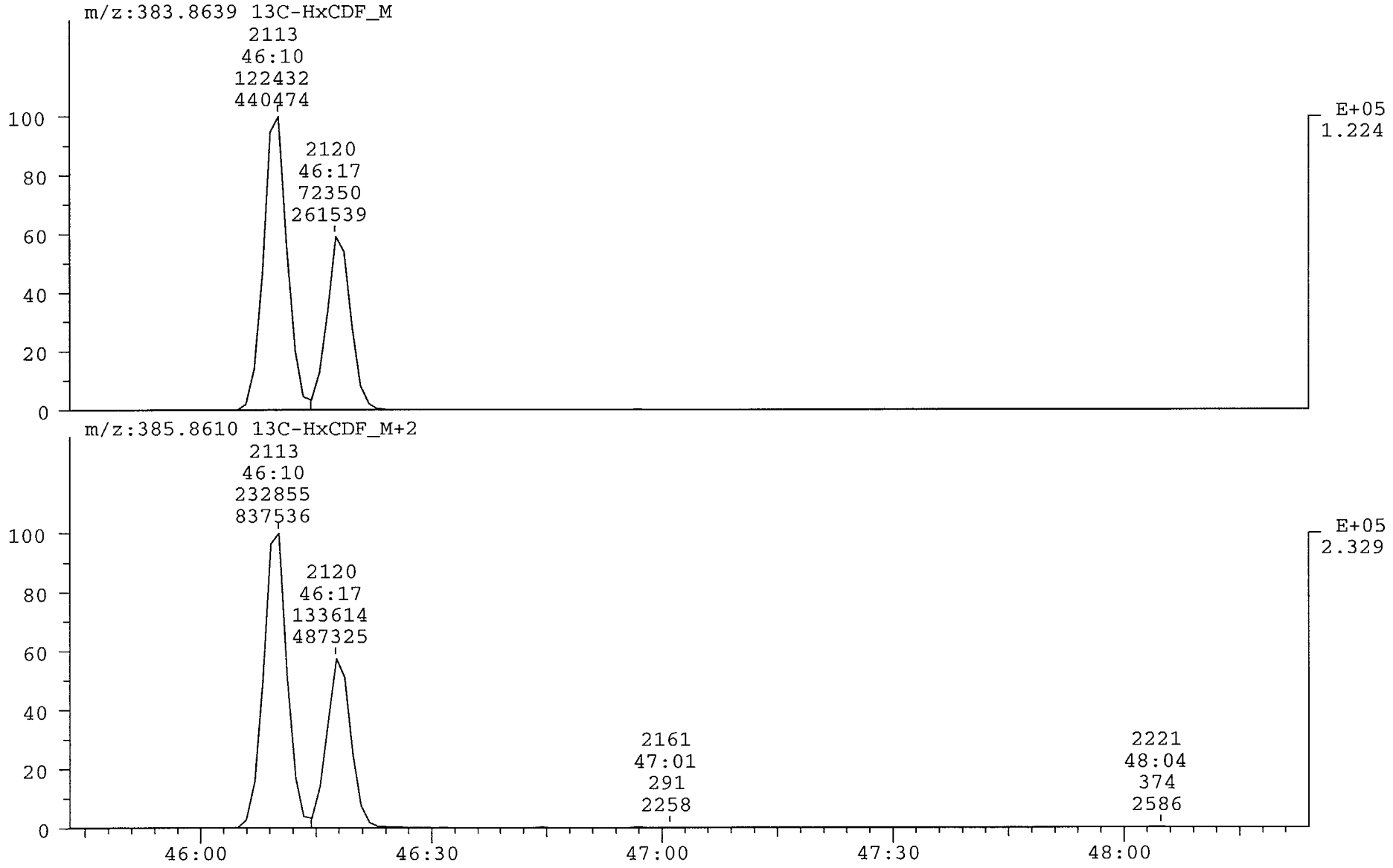
CHRO:  bth2h1k                                  04-May-06   Elapse:  47:25      2184
Samp:  Vial 6 WO=h2h1k1aa Meth=X8 Dil=1                     Start :  18:16:37   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-005                Inlet :  GC     Vial   6
Peak:  100.00  ppm      Label wndw:   2148 > 2222           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: bth2h1k 04-May-06 Elapse: 47:25 2184
Samp: Vial 6 WO=h2h1k1aa Meth=X8 Dil=1 Start : 18:16:37 2890
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-005 Inlet : GC Vial 6
Peak: 100.00 ppm Label wndw: 2020 > 2247 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  bth2h1k                                  04-May-06   Elapse:  47:03      2163
Samp:  Vial 6 WO=h2h1k1aa Meth=X8 Dil=1                     Start :  18:16:37   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW           Client:  H6D030236-005                 Inlet :  GC     Vial   6
Peak:  100.00  ppm     Label wndw:   2087 > 2239            Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



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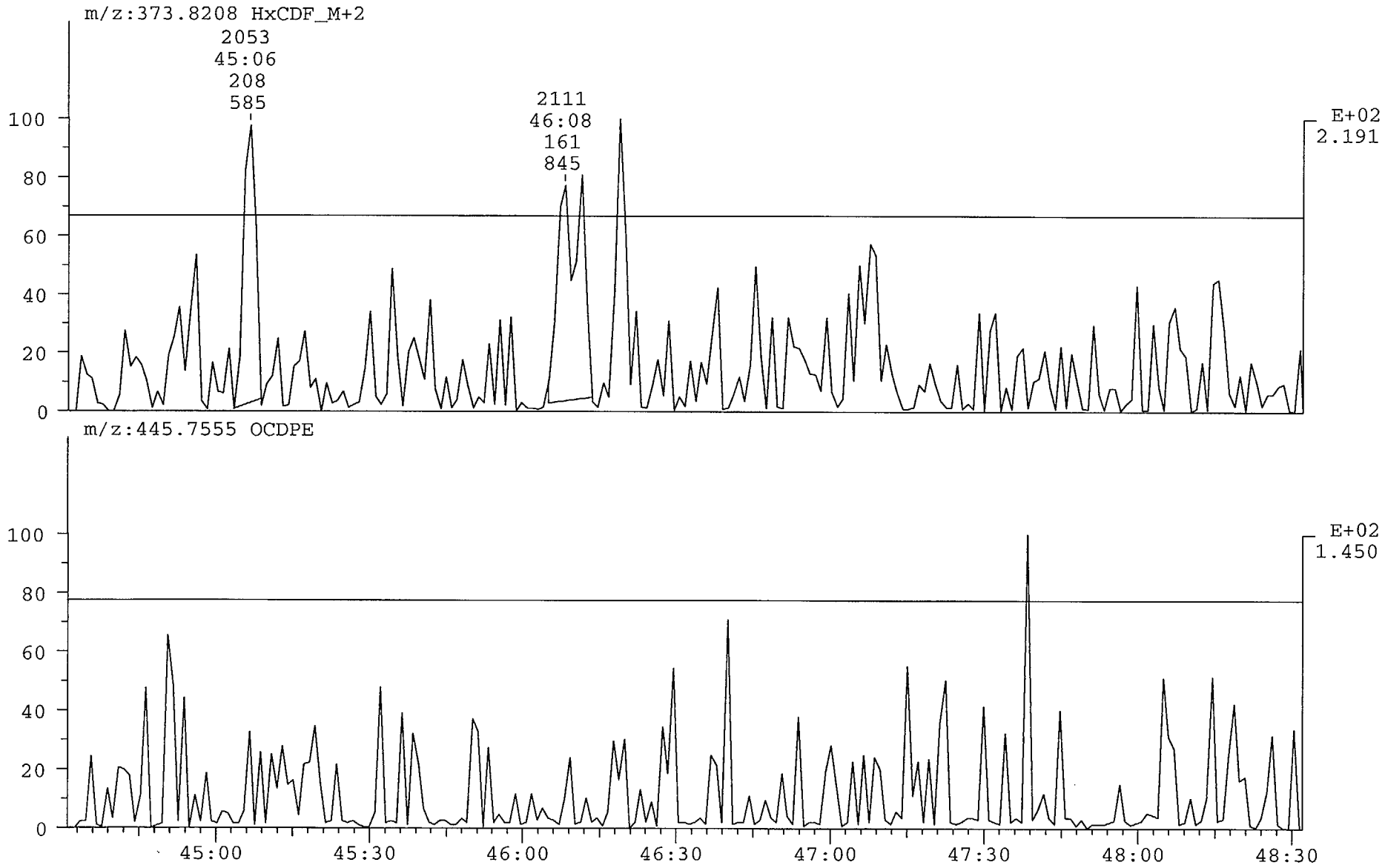
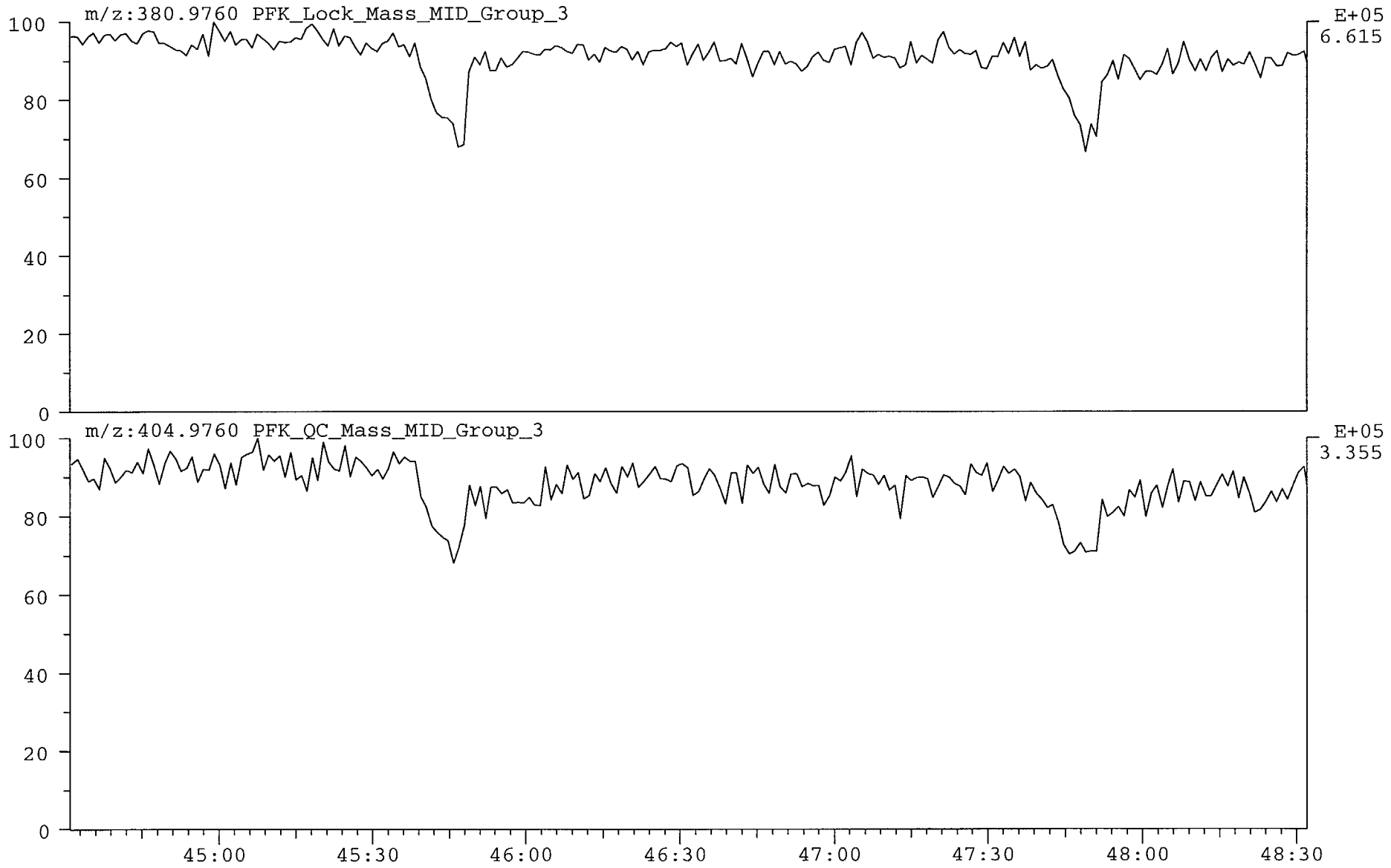
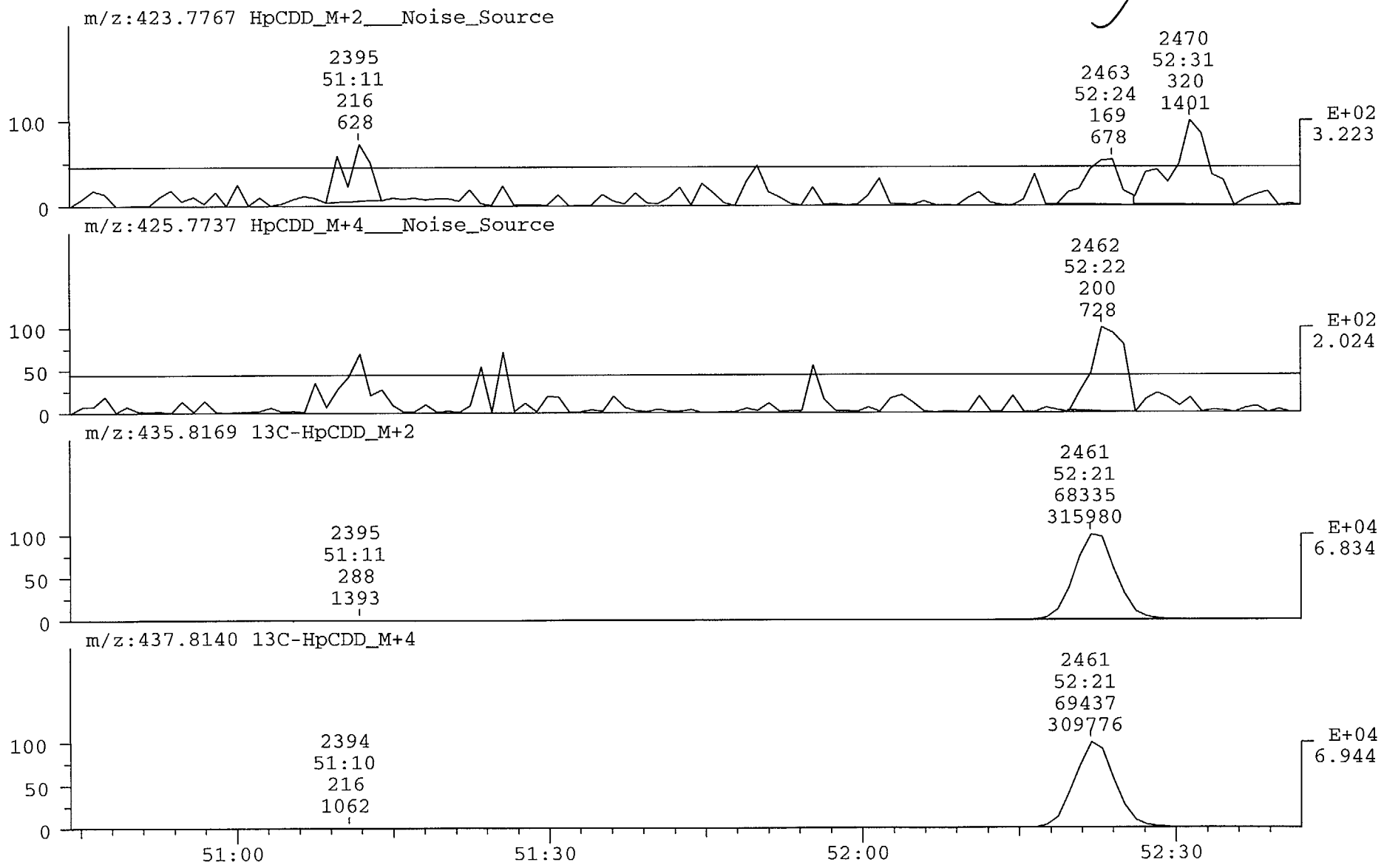
CHRO:  bth2h1k                                  04-May-06   Elapse:  46:12      2115
Samp:  Vial 6 WO=h2h1k1aa Meth=X8 Dil=1                     Start :  18:16:37   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-005                Inlet :  GC     Vial   6
Peak:  100.00  ppm      Label wndw:   2020 > 2247           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



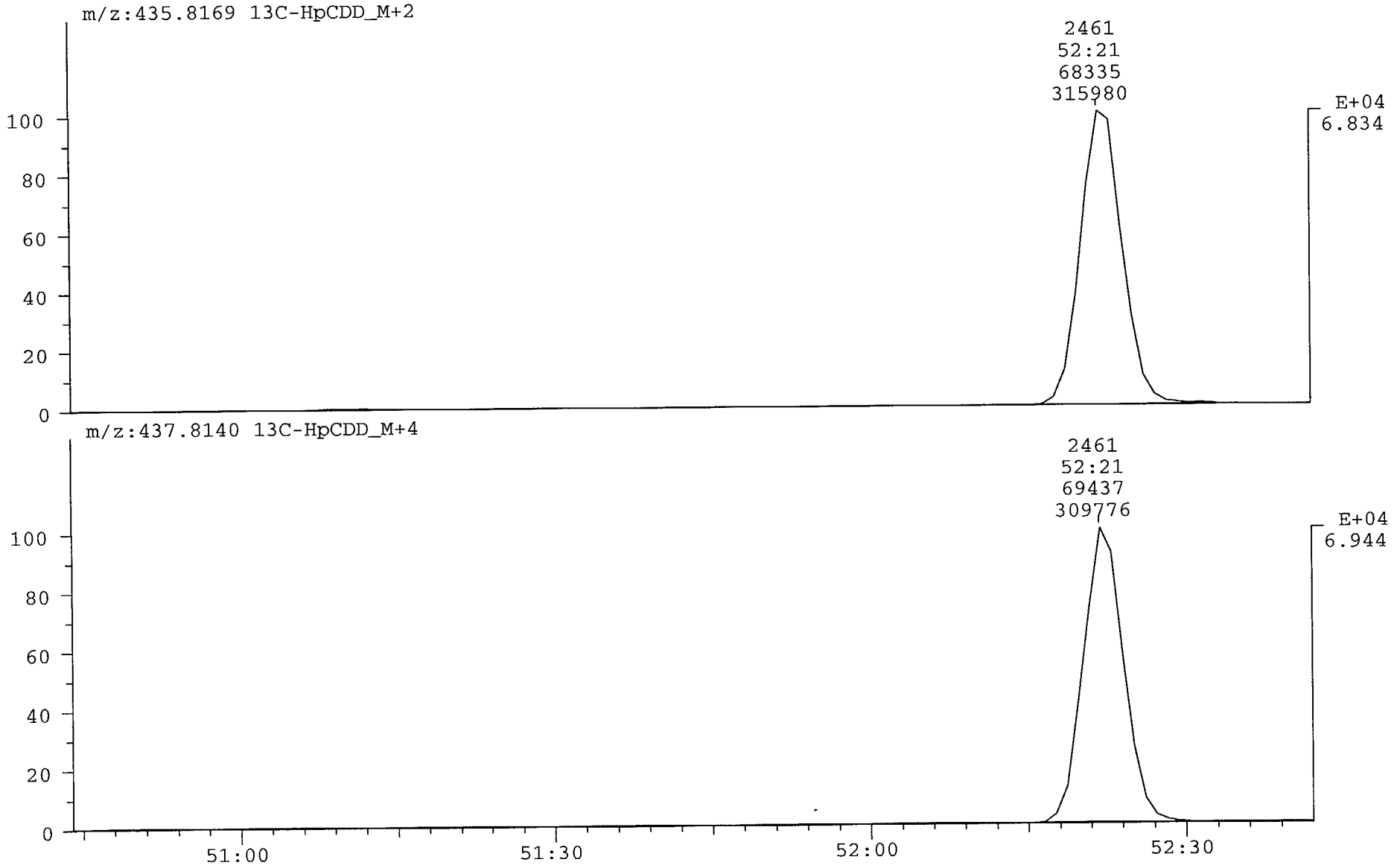
```
CHRO:  bth2h1k                                04-May-06  Elapse:  46:12      2115
Samp:  Vial 6 WO=h2h1k1aa Meth=X8 Dil=1                  Start :  18:16:37   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-005             Inlet :  GC     Vial   6
Peak:  100.00  ppm      Label wndw:   2020 > 2247        Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  0, 0.0
Disp:  Height  Area
```



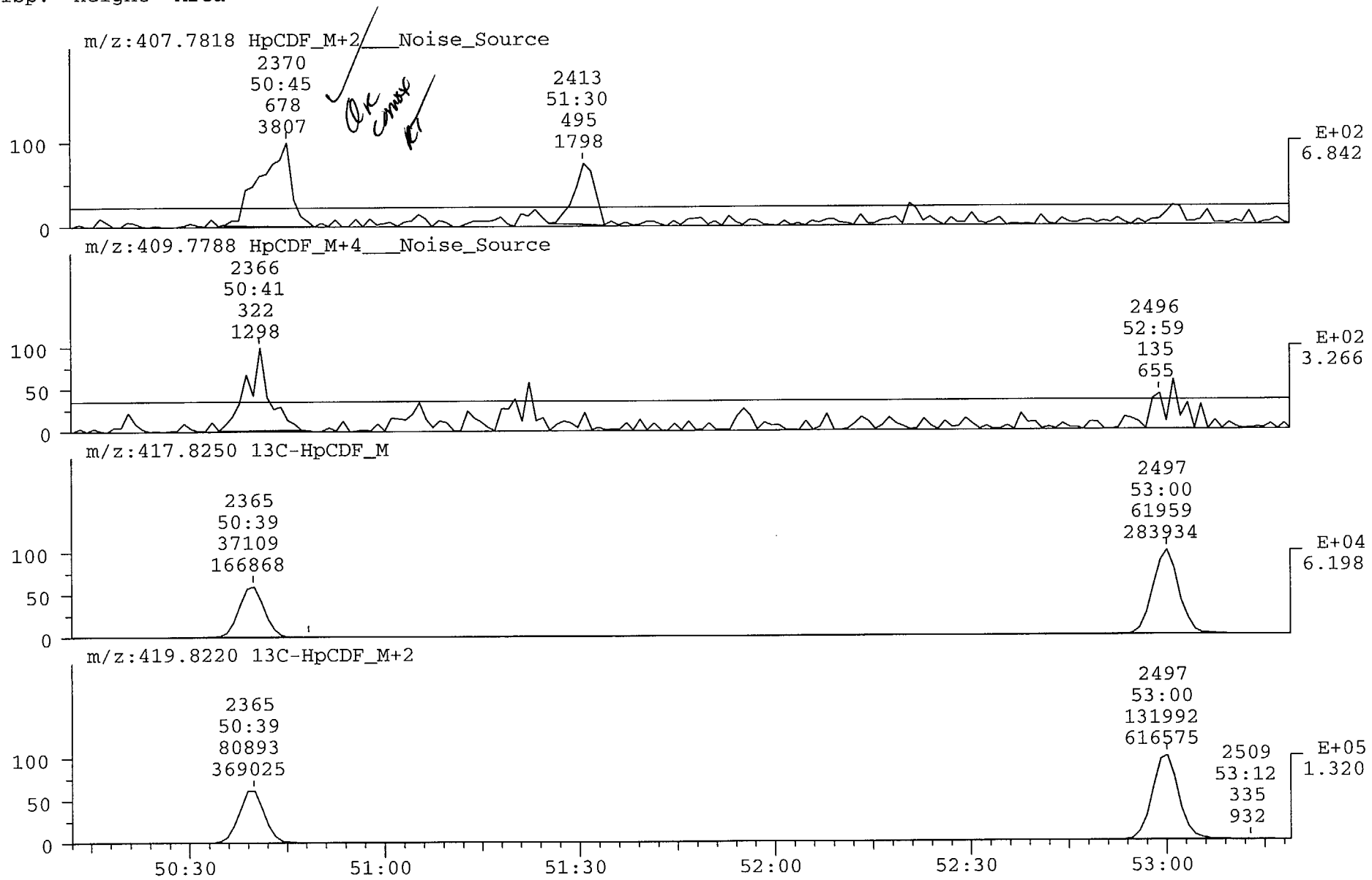
CHRO: bth2h1k 04-May-06 Elapse: 46:12 2115
Samp: Vial 6 WO=h2h1k1aa Meth=X8 Dil=1 Start : 18:16:37 2890
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-005 Inlet : GC Vial 6
Peak: 100.00 ppm Label wndw: 2369 > 2480 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



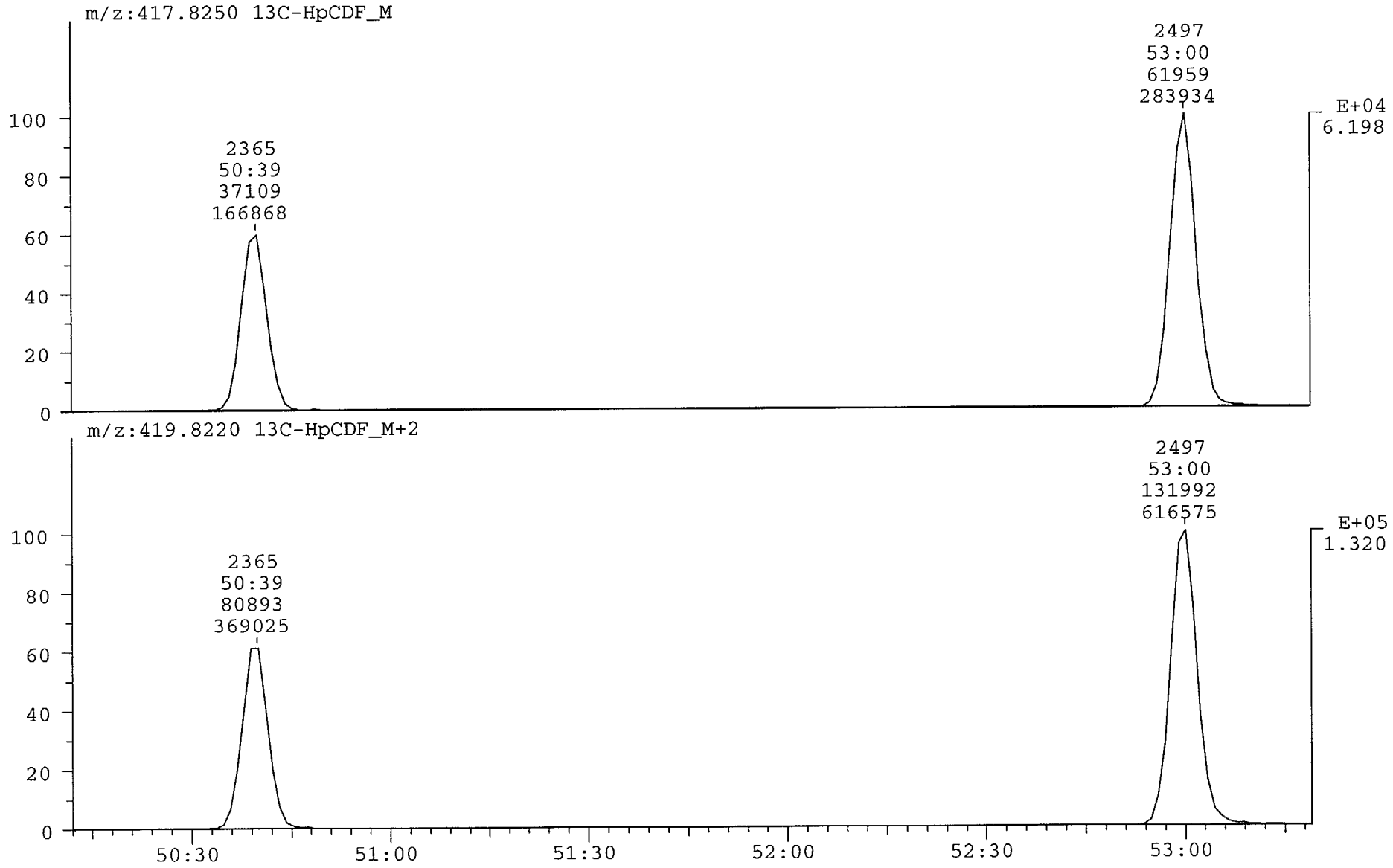
```
CHRO:  bth2h1k                                  04-May-06   Elapse:  46:12      2115
Samp:  Vial 6 WO=h2h1k1aa Meth=X8 Dil=1                     Start :  18:16:37   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-005                Inlet :  GC     Vial   6
Peak:  100.00  ppm      Label wndw:   2369 > 2480           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



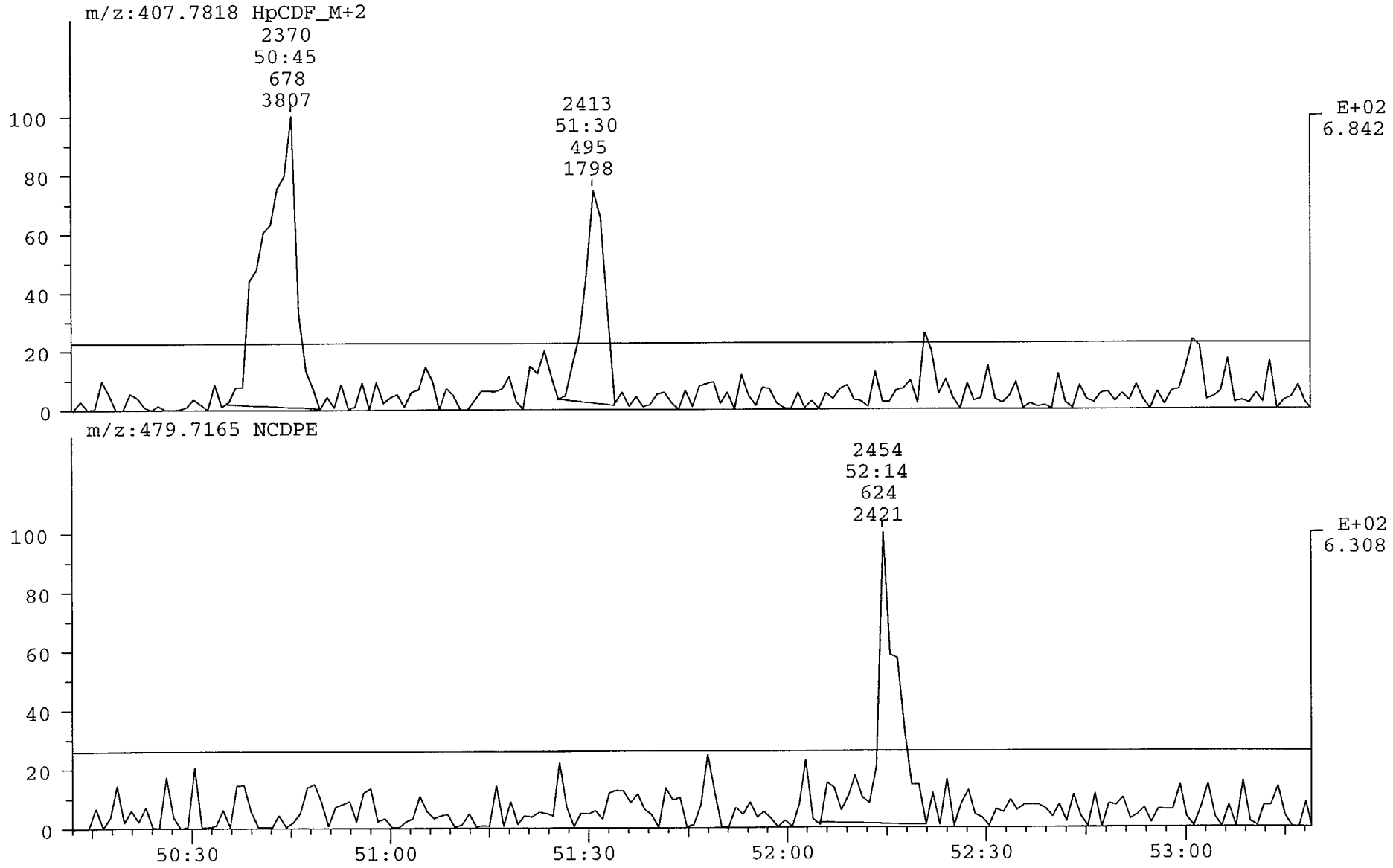
CHRO: bth2h1k 04-May-06 Elapse: 46:12 2115
Samp: Vial 6 WO=h2h1k1aa Meth=X8 Dil=1 Start : 18:16:37 2890
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-005 Inlet : GC Vial 6
Peak: 100.00 ppm Label wndw: 2339 > 2515 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



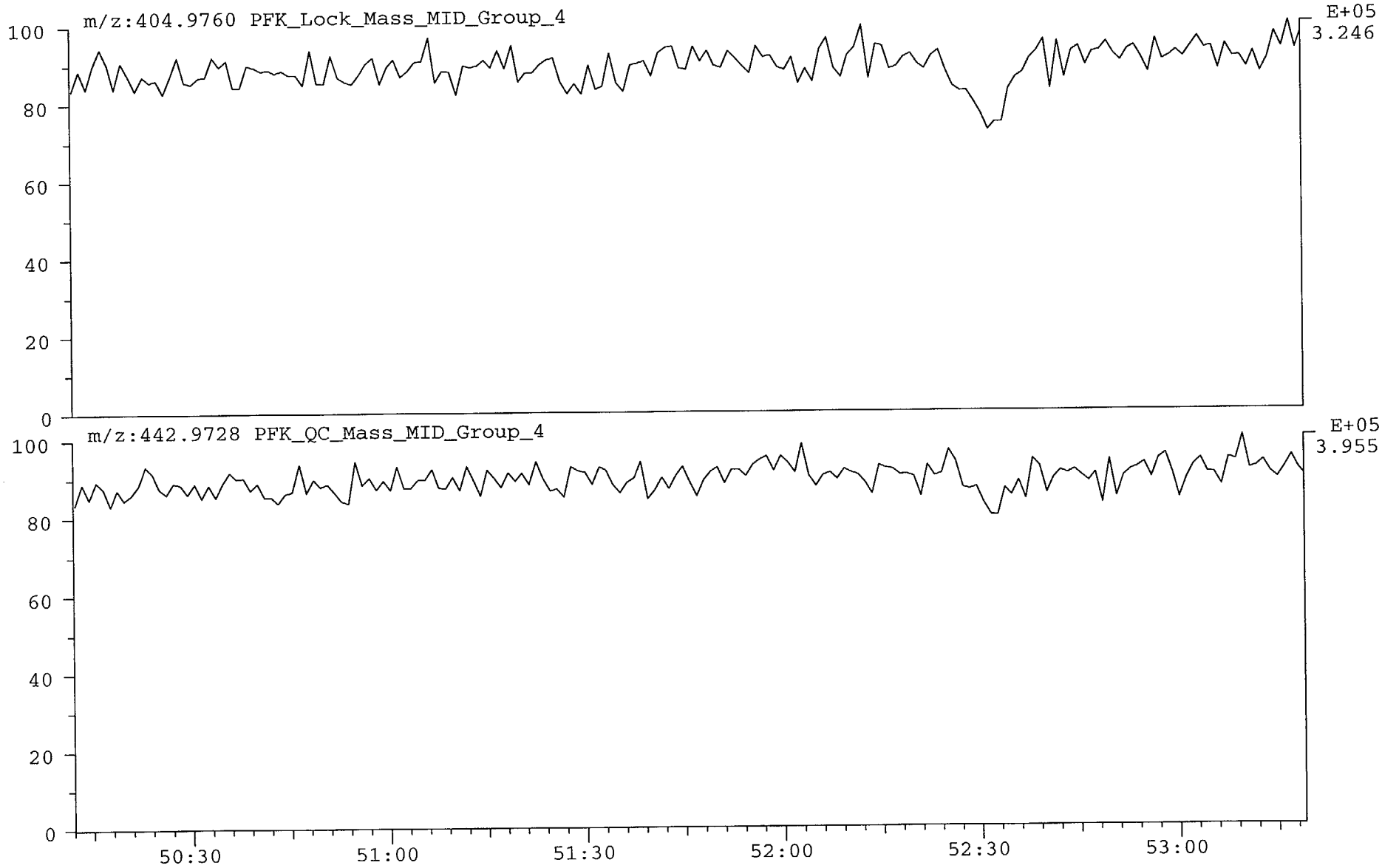
CHRO: bth2h1k 04-May-06 Elapse: 46:12 2115
Samp: Vial 6 WO=h2h1k1aa Meth=X8 Dil=1 Start : 18:16:37 2890
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-005 Inlet : GC Vial 6
Peak: 100.00 ppm Label wndw: 2339 > 2515 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



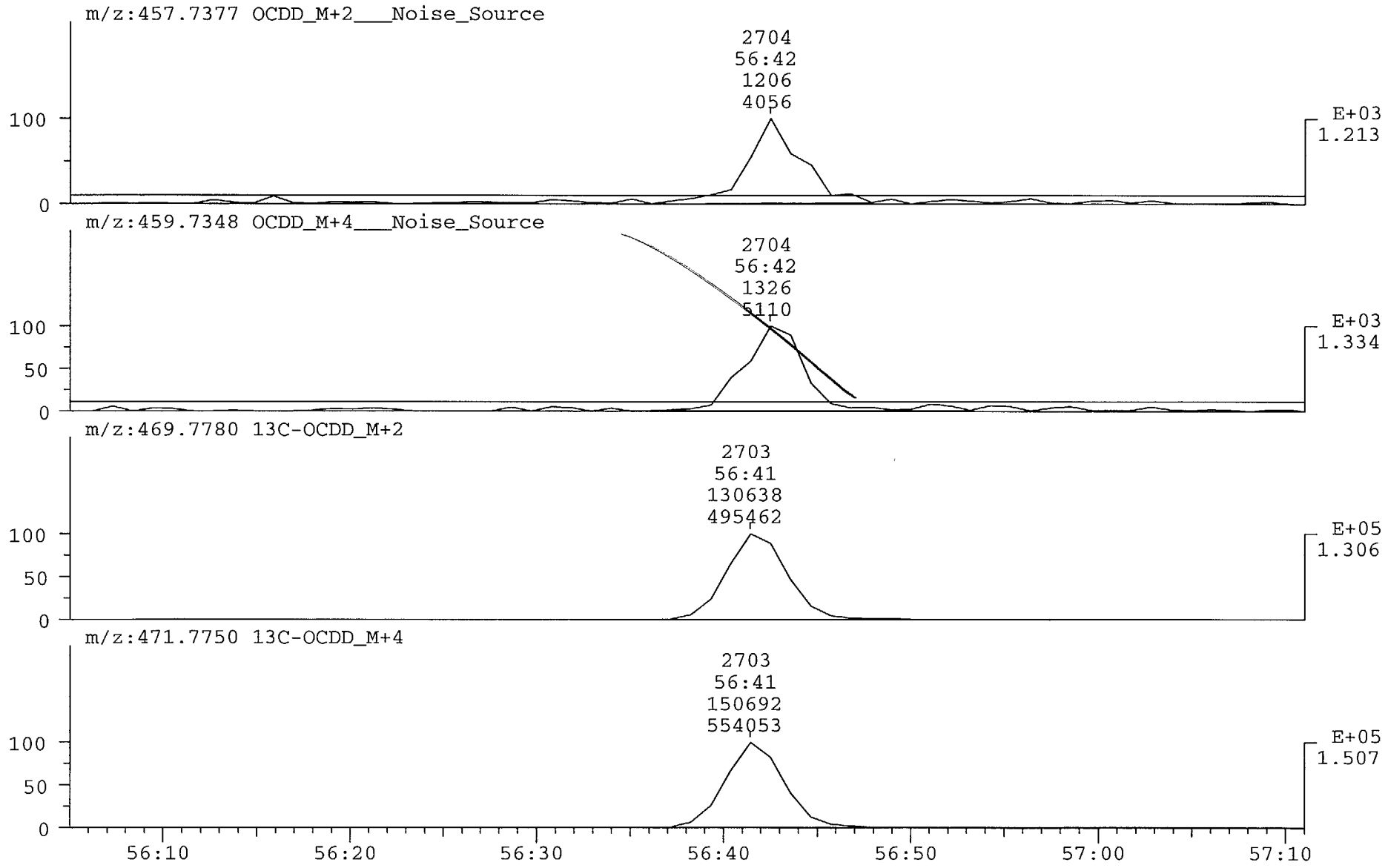
CHRO: bth2h1k 04-May-06 Elapse: 46:12 2115
Samp: Vial 6 WO=h2h1k1aa Meth=X8 Dil=1 Start : 18:16:37 2890
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-005 Inlet : GC Vial 6
Peak: 100.00 ppm Label wndw: 2339 > 2515 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



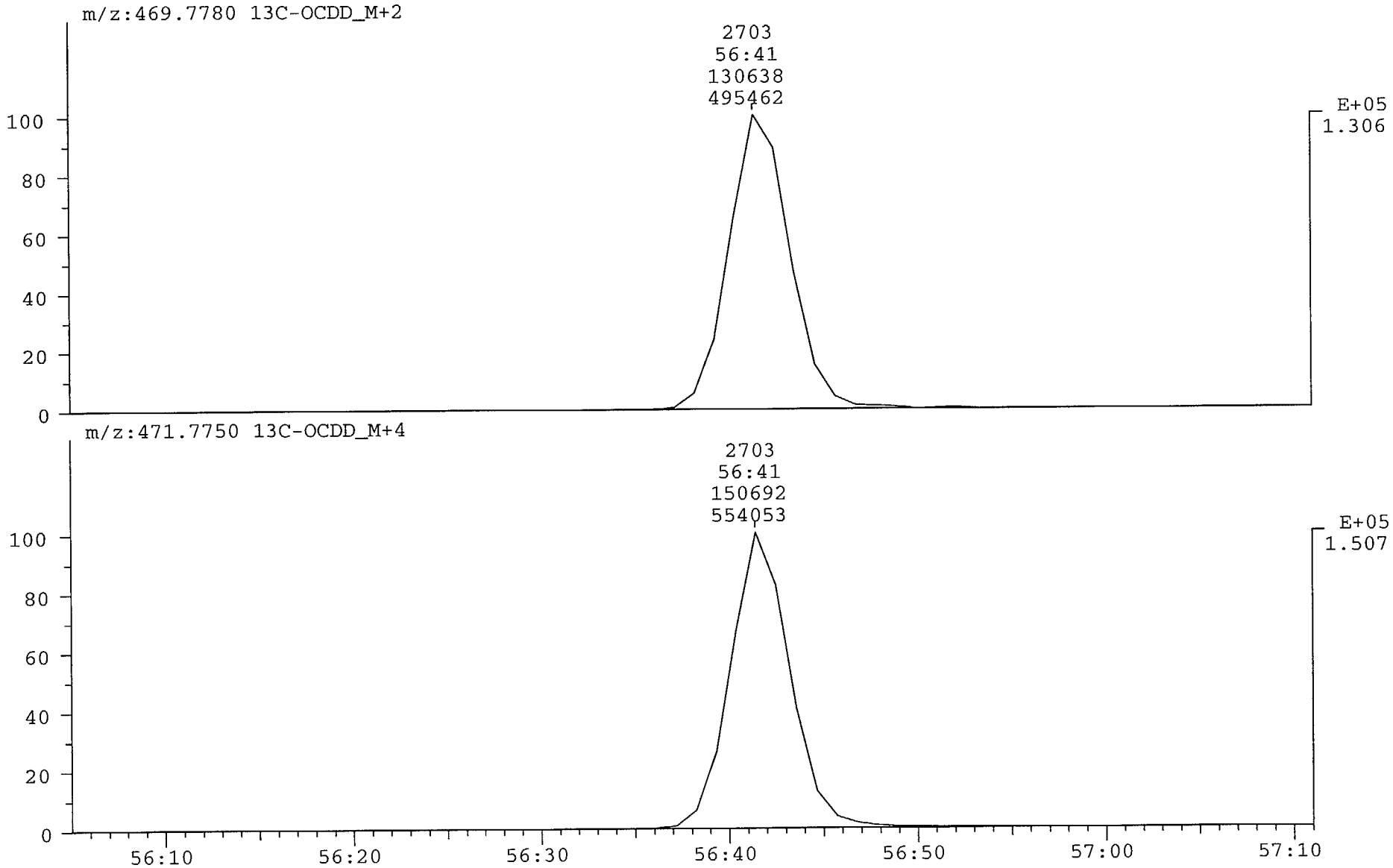
CHRO: bth2h1k 04-May-06 Elapse: 46:12 2115
Samp: Vial 6 WO=h2h1k1aa Meth=X8 Dil=1 Start : 18:16:37 2890
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-005 Inlet : GC Vial 6
Peak: 100.00 ppm Label wndw: 2339 > 2515 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



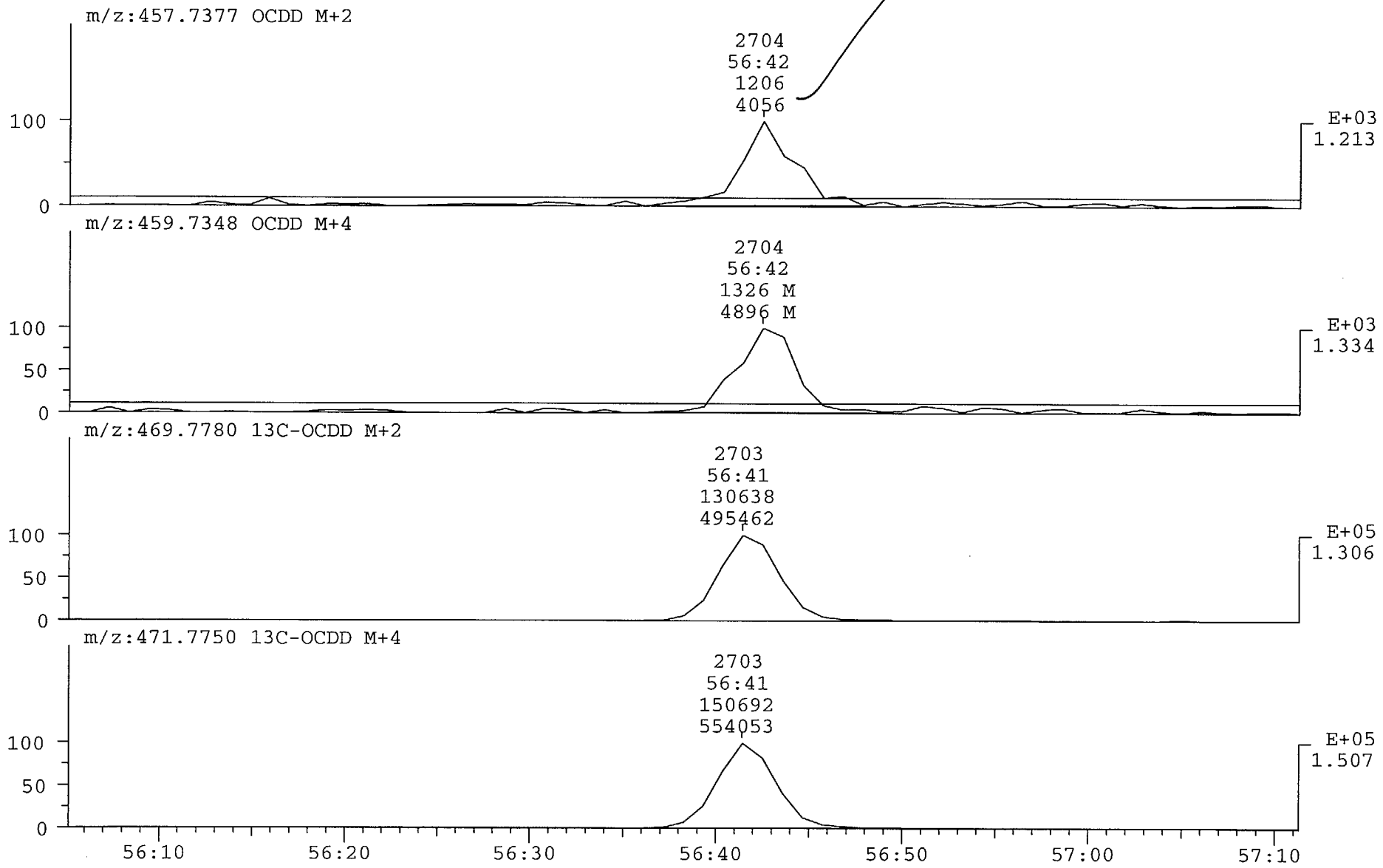
```
CHRO:  bth2h1k                                04-May-06   Elapse:  56:35      2697
Samp:  Vial 6 WO=h2h1k1aa Meth=X8 Dil=1                   Start :  18:16:37   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-005              Inlet :  GC     Vial   6
Peak:  100.00  ppm      Label wndw:   2669 > 2731         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



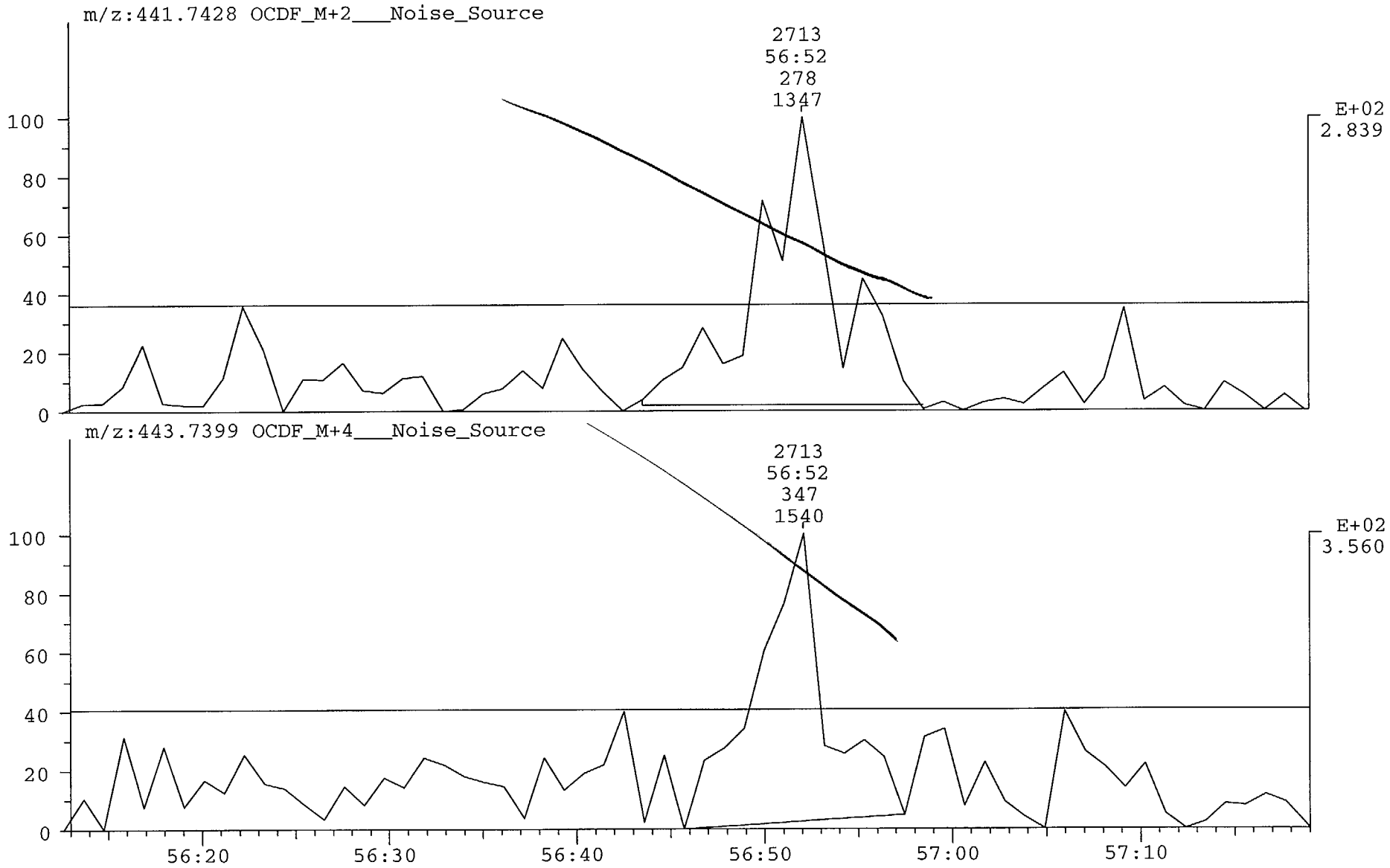
```
CHRO:  bth2h1k                                  04-May-06   Elapse:  56:35      2697
Samp:  Vial 6 WO=h2h1k1aa Meth=X8 Dil=1                     Start :  18:16:37   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-005                Inlet :  GC     Vial   6
Peak:  100.00  ppm      Label wndw:   2669 > 2731           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



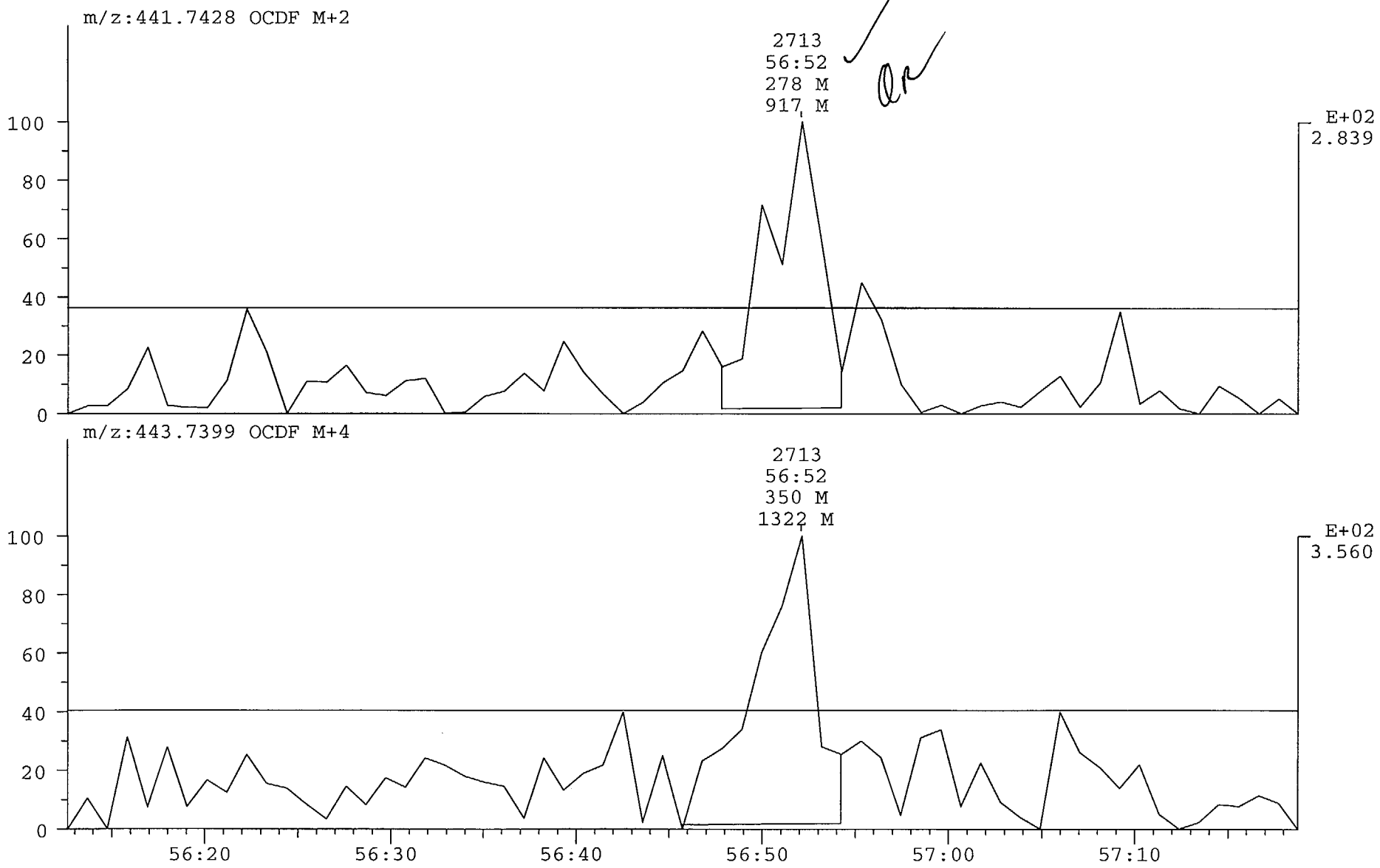
```
CHRO:  bth2h1k                                  04-May-06   Elapse:  56:42      2704
Samp:  Vial 6 WO=h2h1k1aa Meth=X8 Dil=1                     Start :  18:16:37   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-005                Inlet :  GC     Vial   6
Peak:  100.00  ppm      Label wndw:   2669 > 2731           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



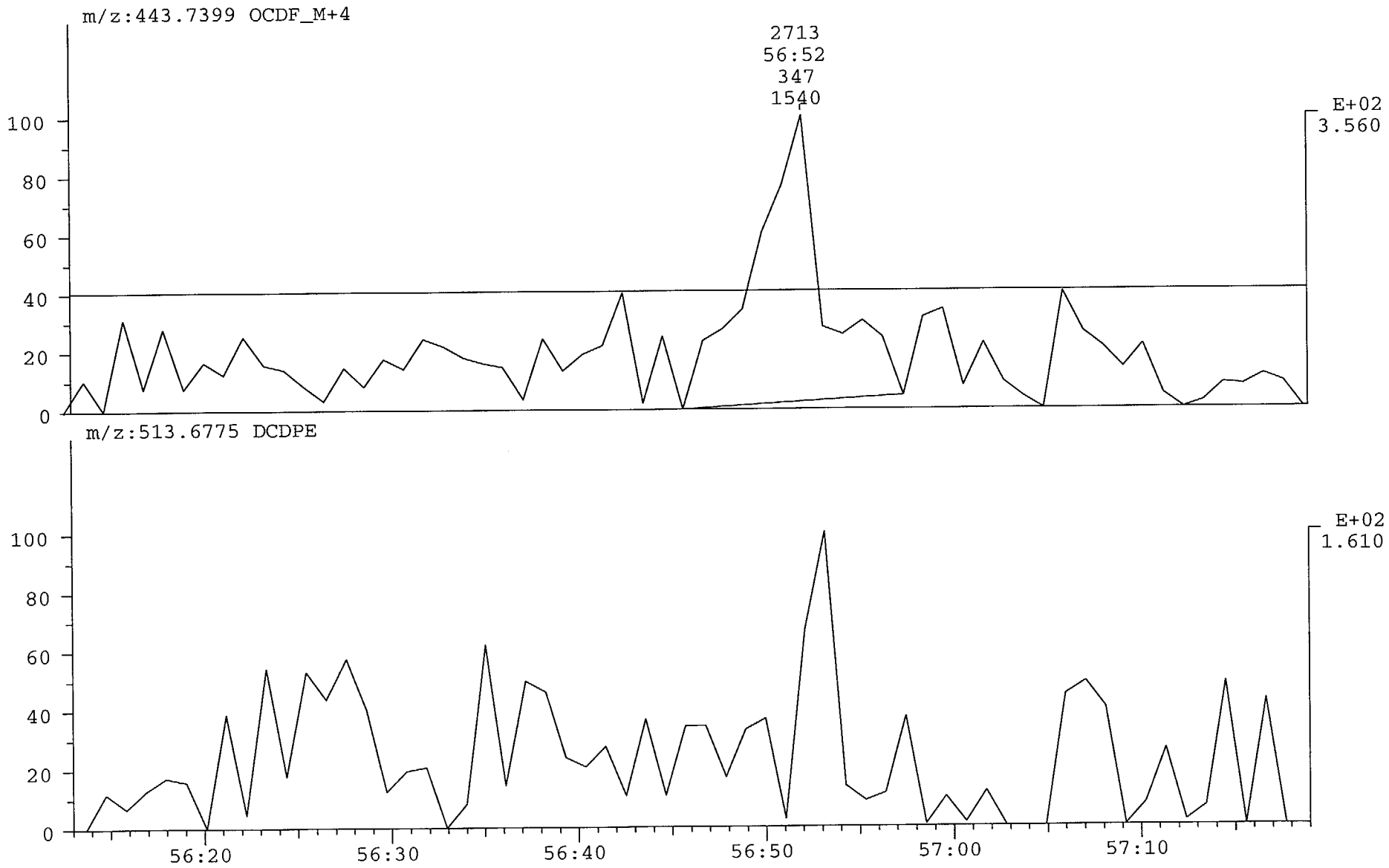
```
CHRO:  bth2h1k                                04-May-06  Elapse:  56:42      2704
Samp:  Vial 6 WO=h2h1k1aa Meth=X8 Dil=1                  Start :  18:16:37   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (Air)
Oper:  BFW           Client:  H6D030236-005              Inlet :  GC     Vial   6
Peak:  100.00  ppm     Label wndw:   2676 > 2738         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



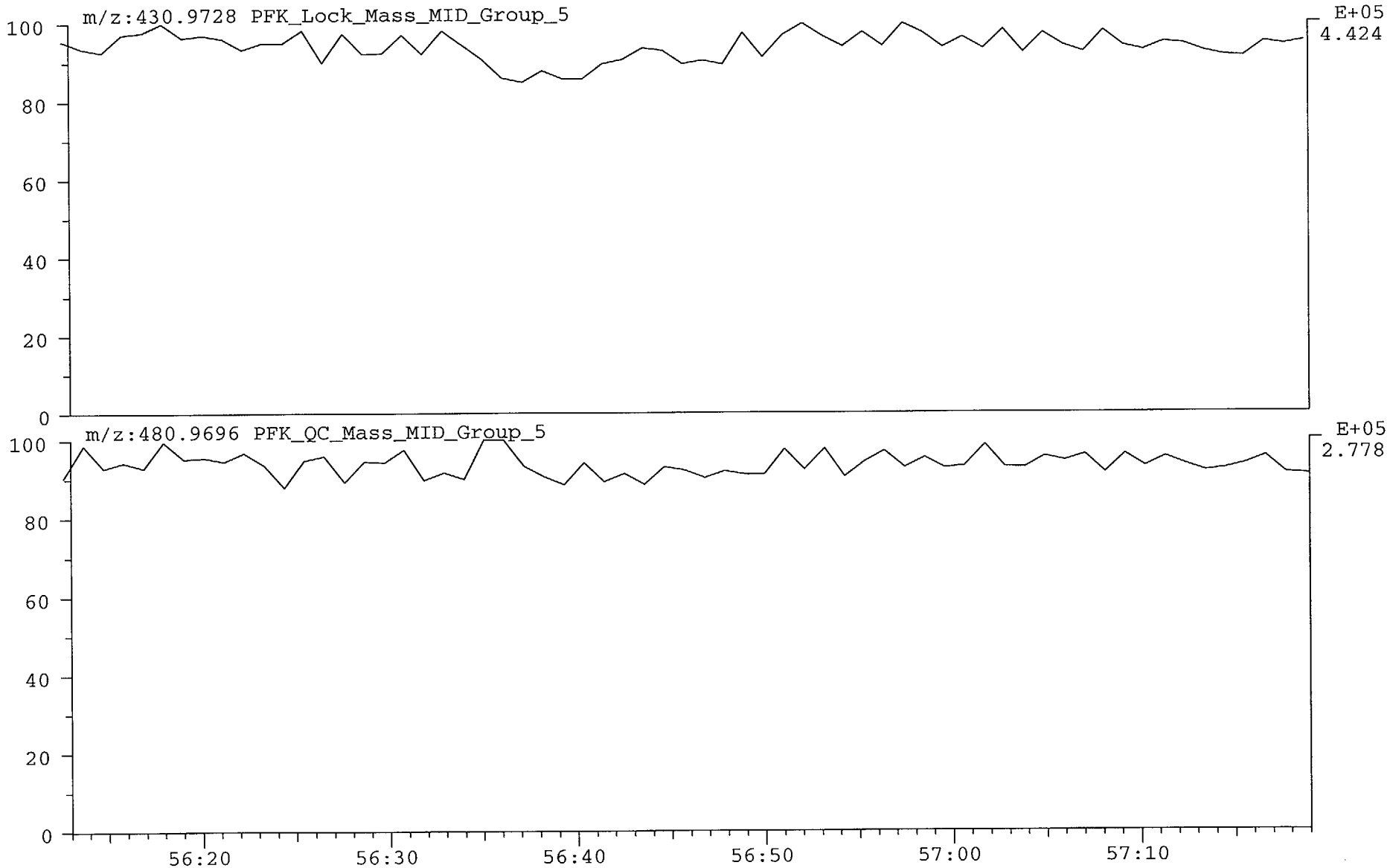
```
CHRO:  bth2h1k                                04-May-06  Elapse:  56:42      2704
Samp:  Vial 6 WO=h2h1k1aa Meth=X8 Dil=1                  Start :  18:16:37   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (Air)
Oper:  BFW          Client:  H6D030236-005               Inlet :  GC     Vial   6
Peak:  100.00  ppm     Label wndw:   2676 > 2738         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: bth2h1k 04-May-06 Elapse: 56:42 2704
Samp: Vial 6 WO=h2h1k1aa Meth=X8 Dil=1 Start : 18:16:37 2890
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (Air)
Oper: BFW Client: H6D030236-005 Inlet : GC Vial 6
Peak: 100.00 ppm Label wndw: 2676 > 2738 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  bth2h1k                                  04-May-06   Elapse:  56:42       2704
Samp:  Vial 6 WO=h2h1k1aa Meth=X8 Dil=1                     Start :  18:16:37    2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (Air)
Oper:  BFW            Client:  H6D030236-005                Inlet :  GC     Vial   6
Peak:  100.00  ppm      Label wndw:   2676 > 2738           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: bth2h1k
Study: 6107079 (Air)
Sample: WO=h2h1k1aa Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: BFW
Client: H6D030236-005
Comments: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Injected volume: 2.0
Sample from Vial 6
Analysis will stop when MID run finishes
Tune file name: tune2
File 6 of list 060504
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	TRUE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	140 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	29:52 min	37:52 min	1.00 sec
# 2	37:52 min	6:32 min	44:25 min	1.00 sec
# 3	44:25 min	5:05 min	49:30 min	1.00 sec
# 4	49:30 min	5:15 min	54:45 min	1.00 sec
# 5	54:45 min	5:15 min	60:00 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

```
 351.9000        1   1      91.48
 353.8970        1   1      91.48
 355.8546        1   1      91.48
 357.8516        1   1      91.48
 367.8949        1   1      91.48
 369.8919        1   1      91.48
 380.9760 c     10   1       8.19
 409.7974        1   1      91.48
Window # 3
     mass F  int  gr  time (ms)
 373.8208        1   1      91.48
 375.8178        1   1      91.48
 380.9760 1     10   1       8.19
 383.8639        1   1      91.48
 385.8610        1   1      91.48
 389.8156        1   1      91.48
 391.8127        1   1      91.48
 401.8559        1   1      91.48
 403.8529        1   1      91.48
 404.9760 c     10   1       8.19
 445.7555        1   1      91.48
Window # 4
     mass F  int  gr  time (ms)
 404.9760 1     10   1       8.19
 407.7818        1   1      91.48
 409.7788        1   1      91.48
 417.8250        1   1      91.48
 419.8220        1   1      91.48
 423.7767        1   1      91.48
 425.7737        1   1      91.48
 435.8169        1   1      91.48
 437.8140        1   1      91.48
 442.9728 c     10   1       8.19
 479.7165        1   1      91.48
Window # 5
     mass F  int  gr  time (ms)
 430.9728 1     10   1      10.92
 441.7428        1   1     120.15
 443.7399        1   1     120.15
 457.7377        1   1     120.15
 459.7348        1   1     120.15
 469.7780        1   1     120.15
 471.7750        1   1     120.15
 480.9696 c     10   1      10.92
 513.6775        1   1     120.15

Auto Sampler descriptor: pcdd2ul
 Injector A
 Normal Injection
 Slvnt A cln before inj(K):      3 times
 Slvnt B cln before inj(L):      0 times
 Sample rinse cycles   (R):      0 times
 Syringe filling volume(F):    1.0 ul
 Pullup delay time     (D):      4 sec
 Sample pullup speed   (E):    5.0 ul/sec
 Slvnt aftr pre inj cln(U):    0.0 ul
 Air after pre inj cln (G):    2.0 ul
 Sample volume         (V):    2.0 ul
 Sample air volume     (A):    2.0 ul
 Sample pullup count   (P):      2 times
 Injection speed       (S):   10.0 ul/sec
 Injection wait time   (W):     10 sec
 Injection hold time   (H):      3 sec
 Solvent A clean cycles(C):     15 times
 Solvent B clean cycles(B):     20 times
 Loop clean w slvnt A (LC):      0 times
```

```
Loop clean w slvnt B (LB):      0 times
Standard sample volume(X):    0.0 ul
Standard air volume   (Y):    0.0 ul
2nd Injection volume  (I):    0.0 ul
Air volume of 2nd inj (J):    0.0 ul
Time btwn 2 injections(T):      0 sec

GC descriptor :  epa1613
  Injector:        270 deg                        300 deg max
  Transfer Line:   290 deg                        300 deg max
  Column:          140 deg at   0.0 minutes       330 deg max
                   140 deg at   3.0 minutes
                   210 deg at   6.5 minutes
                   210 deg at  34.5 minutes
                   280 deg at  44.5 minutes
                   280 deg at  51.0 minutes
                   325 deg at  60.0 minutes
  Inlet    :
  Pressure       18.0 psi
  Splitless mode
  Purge time      1.5 min
  Purge flow     40.0 mL/min

   Gas saver is on
   Saver time      3.0 min
   Saver flow     15.0 mL/min

  Stabilize time   0.5 minutes
```

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8403.0000
BDEV	8284.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.5861	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9996
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-738.5000	ELEN	61.7750
EMULT	1.8000	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	188.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	539.0000	FVINLET	607.0000
FVSRC	987.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.6078	HVANAL	1581.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4759.4580	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	430.9728
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	2893.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10100.2910	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.7700	TCURR	0.8594	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 04-May-06 18:16:37.3

Autosampler has injected sample from vial 6
Analysis stopped at: 04-May-06 19:16:39.1 (run time 60.02 minutes)
Analysis stopped because MID run finished

STL Knoxville - ACS

Sample ID: G-3130/3131-R3-M23A BACK HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 006	Work Order #....:	H2H1L1AA	Matrix....:	AIR
Date Sampled....:	03/30/06	Date Received....:	04/02/06	Dilution Factor:	1
Prep Date....:	04/17/06	Analysis Date....:	05/05/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	Instrument ID....:	M2A	Method:	SW846 0023A/8290
Analyst ID....:	Bruce F. Wagner				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	12	Q	10	2.7	pg/sampl
Total TCDD	410	Q	10	2.7	pg/sampl
1,2,3,7,8-PeCDD	22	J	50	1.3	pg/sampl
Total PeCDD	250	Q	50	1.3	pg/sampl
1,2,3,4,7,8-HxCDD	7.3	Q J	50	1.0	pg/sampl
1,2,3,6,7,8-HxCDD	9.7	Q J	50	1.0	pg/sampl
1,2,3,7,8,9-HxCDD	16	J	50	0.95	pg/sampl
Total HxCDD	130	Q J	50	1.0	pg/sampl
1,2,3,4,6,7,8-HpCDD	26	B J	50	1.4	pg/sampl
Total HpCDD	50	J B	50	1.4	pg/sampl
OCDD	26	B J	100	0.91	pg/sampl
Total TCDF	4000	Q	10	4.4	pg/sampl
1,2,3,7,8-PeCDF	190		50	1.5	pg/sampl
2,3,4,7,8-PeCDF	180		50	1.4	pg/sampl
Total PeCDF	2600		50	1.5	pg/sampl
1,2,3,4,7,8-HxCDF	230		50	0.97	pg/sampl
1,2,3,6,7,8-HxCDF	130		50	0.90	pg/sampl
2,3,4,6,7,8-HxCDF	56	B	50	1.0	pg/sampl
1,2,3,7,8,9-HxCDF	8.4	B J	50	1.1	pg/sampl
Total HxCDF	1100	B	50	0.99	pg/sampl
1,2,3,4,6,7,8-HpCDF	190	B	50	1.1	pg/sampl
1,2,3,4,7,8,9-HpCDF	21	J	50	1.3	pg/sampl
Total HpCDF	280	B	50	1.2	pg/sampl
OCDF	22	B J	100	1.1	pg/sampl

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	90	40 - 135
13C-1,2,3,7,8-PeCDD	102	40 - 135
13C-1,2,3,6,7,8-HxCDD	91	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	97	40 - 135
13C-OCDD	91	40 - 135
13C-2,3,7,8-TCDF	86	40 - 135
13C-1,2,3,7,8-PeCDF	98	40 - 135
13C-1,2,3,6,7,8-HxCDF	94	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	86	40 - 135

STL Knoxville - ACS

Sample ID: G-3130/3131-R3-M23A BACK HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 006	**Work Order #....:**	H2H1L1AA	**Matrix....:**	AIR
Date Sampled....:	03/30/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/05/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Bruce F. Wagner				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	87	70 - 130
13C-1,2,3,4,7,8-HxCDD	101	70 - 130
13C-2,3,4,7,8-PeCDF	96	70 - 130
13C-1,2,3,4,7,8-HxCDF	82	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	84	70 - 130

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

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IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1L1AA	Prep Batch	6107092	Lot No	H6D030236-006
Data File	/20060505s1/bth2h11.d	Prep Date	04/17/06	SDG No	
Analysis ID	90551	Prep Exp Date	04/29/06	Date Received	04/02/06
Analysis Date	5/5/2006	Matrix	AIR	Date Sampled	03/30/06
Analysis Time	12:26	Initial Wt/Vol	1	Lims Test Code	XXSIOX801
Anal Exp Date	06/01/06	Extract Vol	20	Method	0023/8290
Instrument	M2A	Dil Factor	1.0	Code	X8
Analyst	BFW				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (pg/sample		DL (pg/samp
2,3,7,8-TCDD	35:18	13151	1968	1.060		11.562505		11.562505	Q	2.75
Total TCDD		449747	55044	1.060		406.989268		406.989268	Q	2.75
2,3,7,8-TCDF	33:06	691889	49441	1.064		481.599829		~~481.599829~~	~~Q~~ NA	4.39
Total TCDF		5028381	551216	1.064		3981.68097		3981.68097	Q MSD 5/8/06	4.39
1,2,3,7,8-PeCDD	43:03	21185	5865	0.977		21.766508		21.766508	J	1.29
Total PeCDD		220033	53893	0.977		247.839616		247.839616	Q	1.29
1,2,3,7,8-PeCDF	41:29	232833	52584	0.955		188.227869		188.227869		1.51
2,3,4,7,8-PeCDF	42:33	241864	55646	1.018		183.527697		183.527697		1.42
Total PeCDF		2852467	520733	0.987		2604.75053		2604.75053		1.47
1,2,3,4,7,8-HxCDD	47:14	6881	2029	1.047		7.279359		7.279359	QJ	1.04
1,2,3,6,7,8-HxCDD	47:22	9236	2825	1.055		9.700728		9.700728	QJ	1.03
1,2,3,7,8,9-HxCDD	47:45	16615	3263	1.146		16.065547		16.065547	J	0.951
Total HxCDD		98651	27417	1.083		134.002458		134.002458	QJ	1.01
1,2,3,4,7,8-HxCDF	46:09	323044	54573	1.101		232.415748		232.415748		0.969
1,2,3,6,7,8-HxCDF	46:18	194004	53576	1.184		129.757611		129.757611		0.901
2,3,4,6,7,8-HxCDF	47:03	73748	20816	1.052		55.502247		55.502247	B	1.01
1,2,3,7,8,9-HxCDF	48:03	10438	2787	0.982		8.419133		8.419133	BJ	1.09
Total HxCDF		872615	249222	1.080		1066.12329		1066.12329	B	0.988
1,2,3,4,6,7,8-HpCDD	52:21	24990	5994	1.018		26.120795		26.120795	BJ	1.36
Total HpCDD		22453	5283	1.018		49.589791		49.589791	JB	1.36
1,2,3,4,6,7,8-HpCDF	50:37	223461	48053	1.403		191.385704		191.385704	B	1.13
1,2,3,4,7,8,9-HpCDF	52:58	21066	5500	1.197		21.157598		21.157598	J	1.32
Total HpCDF		68115	15805	1.300		275.517535		275.517535	B	1.22
OCDD	56:40	20374	5612	0.965		25.973933		25.973933	BJ	0.908
OCDF	56:50	19906	4587	1.103		22.188517		22.188517	BJ	1.09
13C-2,3,7,8-TCDD	35:13	1072589	119197	1.068	1000	903.193794	90.32	903.193794		4.88
13C-2,3,7,8-TCDF	33:01	1350535	140866	1.413	1000	859.304035	85.93	859.304035		2.99
13C-1,2,3,7,8-PeCDD	43:02	996500	265454	0.882	1000	1016.16676	101.62	1016.16676		3.22
13C-1,2,3,7,8-PeCDF	41:28	1294881	298890	1.188	1000	980.124438	98.01	980.124438		2.59
13C-1,2,3,6,7,8-HxCDD	47:20	902630	249970	0.943	1000	905.270559	90.53	905.270559		1.35
13C-1,2,3,6,7,8-HxCDF	46:16	1262574	349099	1.272	1000	939.004646	93.90	939.004646		1.08
13C-1,2,3,4,6,7,8-HpCDD	52:20	940187	199959	0.918	1000	968.572849	96.86	968.572849		1.21
13C-1,2,3,4,6,7,8-HpCDF	50:36	832036	181831	0.916	1000	859.228664	85.92	859.228664		1.24
13C-OCDD	56:39	1626126	416708	0.850	2000	1810.24015	90.51	1810.24015		1.44
37Cl4-2,3,7,8-TCDD	35:17	1943160	220199	1.046	2000	1732.08482	86.60	1732.08482		2.13
13C-2,3,4,7,8-PeCDF	42:32	2510206	648345	1.010	2000	1918.91624	95.95	1918.91624		1.16
13C-1,2,3,4,7,8-HxCDD	47:13	1645347	470638	0.902	2000	2020.39156	101.02	2020.39156		1.47
13C-1,2,3,4,7,8-HxCDF	46:08	2035230	577182	0.988	2000	1631.25794	81.56	1631.25794		1.04
13C-1,2,3,7,8,9-HxCDF				1.113				ND		1.24
13C-1,2,3,4,7,8,9-HpCDF	52:57	1268708	289614	0.912	2000	1671.68621	83.58	1671.68621		1.79
13C-1,2,3,4-TCDD	34:41	2223911	227275	1.000	2000	2000.00000	100.00	2000.00000		5.21
13C-1,2,3,7,8,9-HxCDD	47:45	2114109	523617	1.000	2000	2000.00000	100.00	2000.00000		1.27

VMK 5/8/06
MSD 5/8/06

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IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1L1AA	Prep Batch	6107092	Lot No	H6D030236-006
Data File	/20060505s1/bth2h11.d	Prep Date	04/17/06	SDG No	
Analysis ID	90551	Prep Exp Date	04/29/06	Date Received	04/02/06
Analysis Date	05/05/06 12:26	Matrix	AIR	Date Sampled	03/30/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSIOX801
Instrument	M2A	Extract Vol	20 uL	Method	0023/8290
Analyst	BFW	Diluton Factor	1.00	Code	X8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					303.9016	305.8987	303.9016	305.8987	0.65-0.89		
	Noise	00:00	00:00	0	310	348	124	139	0.89 *	/	
	Unidentified	25:56	00:00	0	172658	223764	25475	33008	0.77	ABB/ABB	
	Unidentified	26:54	00:00	0	69971	87262	9144	10877	0.80	ABV/AVV	
	Unidentified	27:26	00:00	0	60325	78856	8593	10413	0.77	ABB/ABB	
	Unidentified	28:01	00:00	0	433493	553679	50017	65195	0.78	ABV/ABV	
	Unidentified	28:14	00:00	0	46879	77637	5148	7066	0.60 *	AVV/AVV	RT
	Unidentified	28:33	00:00	0	122519	185163	15966	19713	0.66	AVV/AVV	
	Unidentified	28:43	00:00	0	169036	183268	11026	15213	0.92 *	AVV/AVV	R
	Unidentified	29:37	00:00	0	248821	317681	17858	24316	0.78	AVB/AVV	
	Unidentified	30:09	00:00	0	100518	135168	11465	15307	0.74	ABV/ABV	
	Unidentified	30:23	00:00	0	136776	173417	15683	19947	0.79	AVB/AVB	
	Unidentified	31:00	00:00	0	177993	225492	17841	24409	0.79	ABV/ABV	
	Unidentified	31:14	00:00	0	80312	104211	8450	11535	0.77	AVB/AVB	
	Unidentified	31:48	00:00	0	121456	159189	13119	17173	0.76	ABV/ABV	
	Unidentified	32:16	00:00	0	16749	17138	1584	2109	0.98 *	AVV/AVV	R
	Unidentified	32:30	00:00	0	55244	75914	6386	7711	0.73	AVB/AVB	
	2,3,7,8-TCDF	33:06	33:05	1	301096	390793	21574	27867	0.77	ABV/AVV	D
	Unidentified	34:24	00:00	0	116676	147008	12019	15269	0.79	ABB/ABV	
	Unidentified	35:03	00:00	0	71726	90653	6782	9134	0.79	AVV/ABV	
	Unidentified	35:32	00:00	0	11372	14334	1511	1767	0.79	AVB/AVB	T
	Unidentified	37:35	00:00	0	6714	7537	1273	1366	0.89 *	ABB/MVV	
316					315.9419	317.9389	315.9419	317.9389	0.65-0.89		
	Noise	00:00	00:00	0	213	268	85	107	0.79	/	
	13C-2,3,7,8-TCDF	33:01	33:02	-1	595071	755464	62650	78216	0.79	ABV/ABV	
320					319.8965	321.8936	319.8965	321.8936	0.65-0.89		
	Noise	00:00	00:00	0	173	175	69	70	0.99 *	/	
	Unidentified	28:40	00:00	0	45233	58488	5942	7074	0.77	ABB/ABB	
	Unidentified	29:28	00:00	0	32635	43361	3834	6330	0.75	ABB/ABB	
	Unidentified	30:12	00:00	0	3452	4889	454	592	0.71	ABB/ABB	
	Unidentified	31:53	00:00	0	42863	57272	5093	6405	0.75	ABB/ABV	
	Unidentified	32:25	00:00	0	3213	5327	408	561	0.60 *	MVV/AVV	RT
	Unidentified	32:41	00:00	0	6184	8748	825	1436	0.71	MVV/MVV	
	Unidentified	33:02	00:00	0	2385	2938	376	452	0.81	MVV/MVV	T
	Unidentified	33:45	00:00	0	8439	8966	885	1021	0.94 *	ABB/ABB	R
	Unidentified	34:42	00:00	0	12551	17086	1710	1706	0.73	ABV/ABV	T
	Unidentified	35:01	00:00	0	31803	39688	3242	4157	0.80	AVV/AVV	
	2,3,7,8-TCDD	35:18	35:16	2	5721	9809	856	1170	0.58 *	AVB/AVB	RD
	Unidentified	35:43	00:00	0	2939	3018	605	591	0.97 *	MVV/ABB	R
	Unidentified	36:14	00:00	0	5035	7902	707	1156	0.64 *	ABB/ABB	R
328					327.8847		327.8847				
	Noise	00:00	00:00	0	265		106				
	37Cl4-2,3,7,8-TCDD	35:17	35:18	-1	1943160		220199			ABV	
332					331.9368	333.9338	331.9368	333.9338	0.65-0.89		

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1L1AA	**Prep Batch**	6107092	**Lot No**	H6D030236-006
Data File	/20060505s1/bth2h11.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90551	**Prep Exp Date**	04/29/06	**Date Received**	04/02/06
Analysis Date	05/05/06 12:26	**Matrix**	AIR	**Date Sampled**	03/30/06
Anal Exp Date	06/01/06	**Initial Wt/Vol**	1 Sample	**Lims Test Code**	XXSIOX801
Instrument	M2A	**Extract Vol**	20 uL	**Method**	0023/8290
Analyst	BFW	**Diluton Factor**	1.00	**Code**	X8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	278	315	111	126	0.88	/	
	13C-1,2,3,4-TCDD	34:41	34:41	0	978888	1245023	100031	127244	0.79	AVV/AVV	
	13C-2,3,7,8-TCDD	35:13	35:14	-1	476772	595817	52163	67034	0.80	AVV/AVV	
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**		
	Noise	00:00	00:00	0	213	220	85	88	0.97 *	/	
	Unidentified	38:11	00:00	0	235148	151496	37278	22608	1.55	ABB/ABV	
	Unidentified	39:55	00:00	0	147020	94493	30188	19318	1.56	ABV/ABV	
	Unidentified	40:10	00:00	0	607728	394773	89724	59923	1.54	AVV/AVV	
	Unidentified	40:27	00:00	0	115379	73377	16091	9848	1.57	AVV/AVB	
	Unidentified	40:42	00:00	0	28177	16495	6126	4004	1.71	AVV/ABV	
	Unidentified	40:48	00:00	0	24690	14856	5808	3583	1.66	AVV/AVB	
	Unidentified	41:02	00:00	0	200637	126998	37954	23433	1.58	AVB/ABB	
	Unidentified	41:22	00:00	0	42430	28339	11480	7309	1.50	ABV/ABV	
	1,2,3,7,8-PeCDF	41:29	41:28	1	140482	92351	30956	21628	1.52	AVV/AVV	
	Unidentified	41:44	00:00	0	84069	53667	20976	13559	1.57	AVV/AVV	
	Unidentified	41:55	00:00	0	110427	69692	27853	17485	1.58	AVB/AVB	
	2,3,4,7,8-PeCDF	42:33	42:34	-1	147653	94211	34230	21416	1.57	ABV/ABV	
	Unidentified	42:45	00:00	0	119620	76521	28651	18115	1.56	AVV/AVV	
	Unidentified	43:05	00:00	0	9591	6092	2456	1595	1.57	AVB/AVB	
	Unidentified	43:46	00:00	0	12174	8578	3236	2132	1.42	ABB/ABB	
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**		
	Noise	00:00	00:00	0	185	165	74	66	1.12 *	/	
	13C-1,2,3,7,8-PeCDF	41:28	41:27	1	793876	501005	182181	116709	1.58	ABV/ABV	
	13C-2,3,4,7,8-PeCDF	42:32	42:33	-1	1530313	979893	392216	256129	1.56	ABV/ABV	
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**		
	Noise	00:00	00:00	0	188	148	75	59	1.27 *	/	
	Unidentified	40:28	00:00	0	35148	21984	7068	4274	1.60	ABB/ABV	
	Unidentified	41:11	00:00	0	3130	1523	726	497	2.06 *	ABB/ABB	R
	Unidentified	41:34	00:00	0	27825	18145	6679	4393	1.53	ABB/ABB	
	Unidentified	41:47	00:00	0	11056	7247	2659	1847	1.53	ABB/ABB	
	Unidentified	41:59	00:00	0	19194	12441	5109	3492	1.54	ABB/ABB	
	Unidentified	42:14	00:00	0	2165	1440	512	433	1.50	ABB/ABV	
	Unidentified	42:23	00:00	0	6957	4588	1424	968	1.52	ABB/AVB	
	Unidentified	42:39	00:00	0	18881	10990	5166	3145	1.72	ABV/ABV	
	Unidentified	42:47	00:00	0	2966	1496	858	481	1.98 *	AVB/AVB	R
	1,2,3,7,8-PeCDD	43:03	43:02	1	12934	8251	3347	2518	1.57	ABV/AVB	
	Unidentified	43:15	00:00	0	5028	2749	1346	846	1.83 *	ABB/ABB	R
	Unidentified	43:39	00:00	0	4423	2841	1191	882	1.56	ABB/ABB	
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**		
	Noise	00:00	00:00	0	200	123	80	49	1.63	/	
	13C-1,2,3,7,8-PeCDD	43:02	43:01	1	605022	391478	162809	102645	1.55	ABV/ABV	
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	Noise	00:00	00:00	0	188	185	75	74	1.01 *	/	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1L1AA	**Prep Batch**	6107092	**Lot No**	H6D030236-006
Data File	/20060505s1/bth2h11.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90551	**Prep Exp Date**	04/29/06	**Date Received**	04/02/06
Analysis Date	05/05/06 12:26	**Matrix**	AIR	**Date Sampled**	03/30/06
Anal Exp Date	06/01/06	**Initial Wt/Vol**	1 Sample	**Lims Test Code**	XXSIOX801
Instrument	M2A	**Extract Vol**	20 uL	**Method**	0023/8290
Analyst	BFW	**Diluton Factor**	1.00	**Code**	X8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	Unidentified	44:54	00:00	0	80808	64744	25179	20092	1.25	ABV/ABV	
	Unidentified	45:04	00:00	0	263386	218543	77013	64020	1.21	AVV/AVV	
	Unidentified	45:15	00:00	0	24943	17807	7278	5305	1.40	AVV/AVV	
	Unidentified	45:27	00:00	0	26500	20576	7413	6452	1.29	AVB/AVB	
	Unidentified	45:39	00:00	0	8815	7360	2543	2088	1.20	ABB/ABB	
	1,2,3,4,7,8-HxCDF	46:09	46:08	1	181573	141471	29916	24657	1.28	ABV/ABV	
	1,2,3,6,7,8-HxCDF	46:18	46:17	1	107943	86061	30955	22621	1.25	AVV/AVV	
	Unidentified	46:25	00:00	0	19244	14753	4892	3836	1.30	AVB/AVB	
	Unidentified	46:43	00:00	0	35310	27796	7237	4806	1.27	ABV/ABB	
	Unidentified	46:56	00:00	0	13854	10265	3515	2827	1.35	AVV/ABV	
	2,3,4,6,7,8-HxCDF	47:03	47:02	1	40066	33682	11060	9756	1.19	AVB/AVB	
	1,2,3,7,8,9-HxCDF	48:03	48:03	0	5803	4635	1476	1311	1.25	ABV/ABV	
	Unidentified	48:11	00:00	0	10302	7609	2524	2202	1.35	AVB/AVB	
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**		
	Noise	00:00	00:00	0	168	193	67	77	0.87 *	/	
	13C-1,2,3,4,7,8-HxCDF	46:08	46:07	1	704342	1330888	200399	376783	0.53	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDF	46:16	46:16	0	440358	822216	124027	225072	0.54	AVV/AVV	
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	Noise	00:00	00:00	0	130	143	52	57	0.91 *	/	
	Unidentified	45:34	00:00	0	8781	5822	2469	1839	1.51 *	ABB/ABB	R
	Unidentified	46:10	00:00	0	26144	21230	6689	6564	1.23	ABB/ABB	
	Unidentified	46:29	00:00	0	19844	16144	4526	4624	1.23	ABB/ABB	
	Unidentified	46:40	00:00	0	1152	1096	564	331	1.05	ABB/ABB	
	1,2,3,4,7,8-HxCDD	47:14	47:13	1	3809	4208	1123	1297	0.91 *	ABV/ABB	R
	1,2,3,6,7,8-HxCDD	47:22	47:21	1	6032	4123	1553	1261	1.46 *	AVB/ABB	R
	1,2,3,7,8,9-HxCDD	47:45	47:46	-1	9638	6977	1911	1352	1.38	ABB/ABB	
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**		
	Noise	00:00	00:00	0	140	193	56	77	0.73 *	/	
	13C-1,2,3,4,7,8-HxCDD	47:13	47:12	1	923432	721915	265573	205065	1.28	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDD	47:20	47:19	1	504159	398471	139554	110416	1.27	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDD	47:45	47:45	0	1179536	934573	292591	231026	1.26	AVV/AVV	
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**		
	Noise	00:00	00:00	0	138	150	55	60	0.92	/	
	1,2,3,4,6,7,8-HpCDF	50:37	50:37	0	112924	110537	24308	23745	1.02	ABB/ABV	
	Unidentified	51:02	00:00	0	20998	21003	5329	4628	1.00	ABB/AVV	
	Unidentified	51:18	00:00	0	13342	12772	3002	2846	1.04	ABB/AVB	
	1,2,3,4,7,8,9-HpCDF	52:58	52:57	1	10851	10215	2636	2864	1.06	ABB/ABB	
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	Noise	00:00	00:00	0	148	150	59	60	0.98 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	50:36	50:36	0	260661	571375	57321	124510	0.46	ABV/ABV	
	13C-1,2,3,4,7,8,9-HpCDF	52:57	52:56	1	396297	872411	89434	200180	0.45	ABV/ABV	
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**		
	Noise	00:00	00:00	0	153	125	61	50	1.22 *	/	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1L1AA	Prep Batch	6107092	Lot No	H6D030236-006
Data File	/20060505s1/bth2h11.d	Prep Date	04/17/06	SDG No	
Analysis ID	90551	Prep Exp Date	04/29/06	Date Received	04/02/06
Analysis Date	05/05/06 12:26	Matrix	AIR	Date Sampled	03/30/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSIOX801
Instrument	M2A	Extract Vol	20 uL	Method	0023/8290
Analyst	BFW	Diluton Factor	1.00	Code	X8

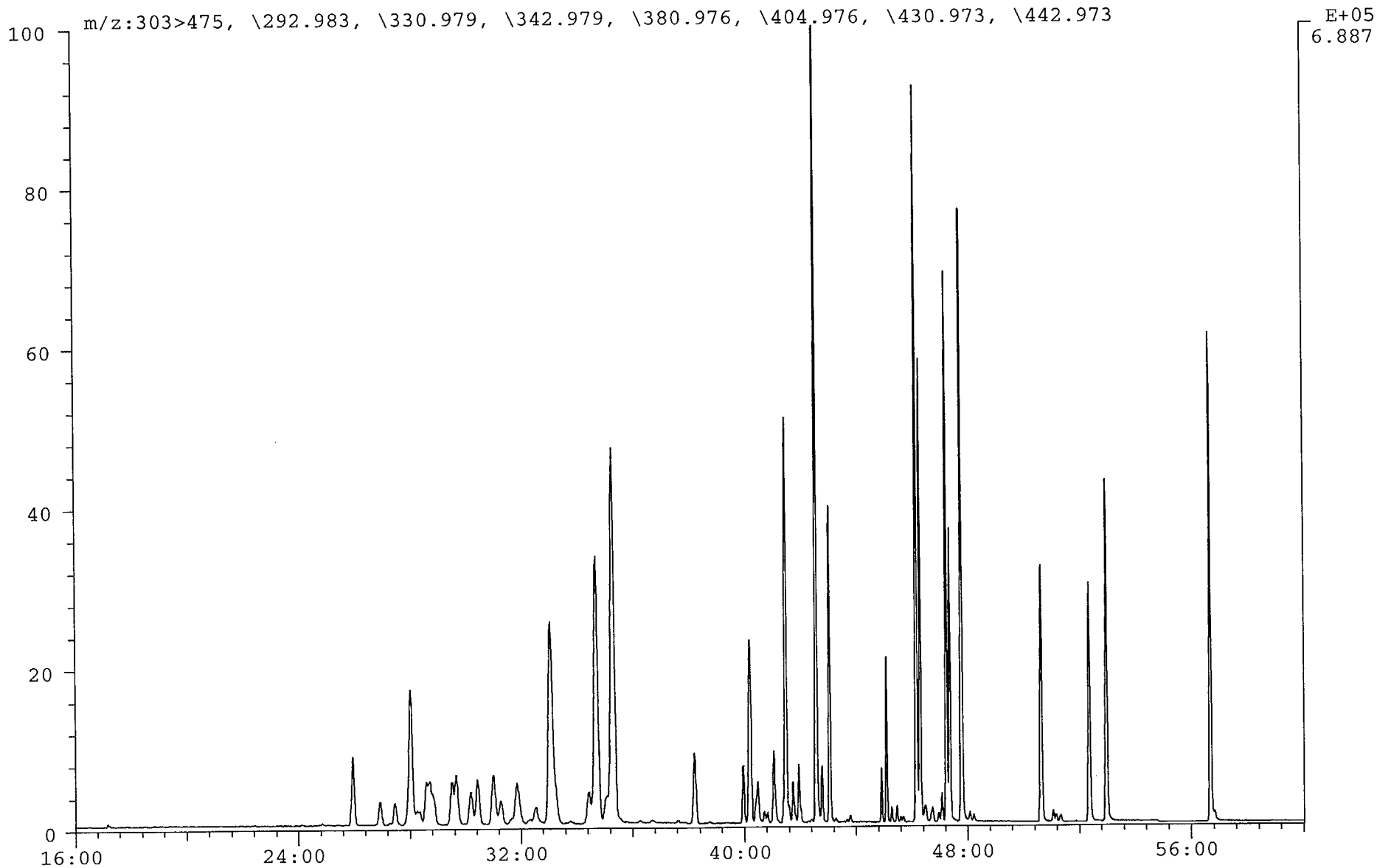
View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration Flags
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**	
	Unidentified	51:08	00:00	0	11437	11016	2492	2791	1.04	ABB/ABB
	1,2,3,4,6,7,8-HpCDD	52:21	52:20	1	13579	11411	3059	2935	1.19	ABB/ABB
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**	
	Noise	00:00	00:00	0	168	123	67	49	1.37 *	/
	13C-1,2,3,4,6,7,8-HpCDD	52:20	52:19	1	484160	456027	102544	97415	1.06	ABV/ABV
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**	
	Noise	00:00	00:00	0	105	145	42	58	0.72 *	/
	OCDF	56:50	56:48	2	8912	10994	2014	2573	0.81	MBB/MVV
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**	
	Noise	00:00	00:00	0	88	95	35	38	0.92	/
	OCDD	56:40	56:40	0	8892	11482	2546	3066	0.77	MBB/MBB
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**	
	Noise	00:00	00:00	0	170	150	68	60	1.13 *	/
	13C-OCDD	56:39	56:40	-1	770744	855382	198004	218704	0.90	ABV/ABV

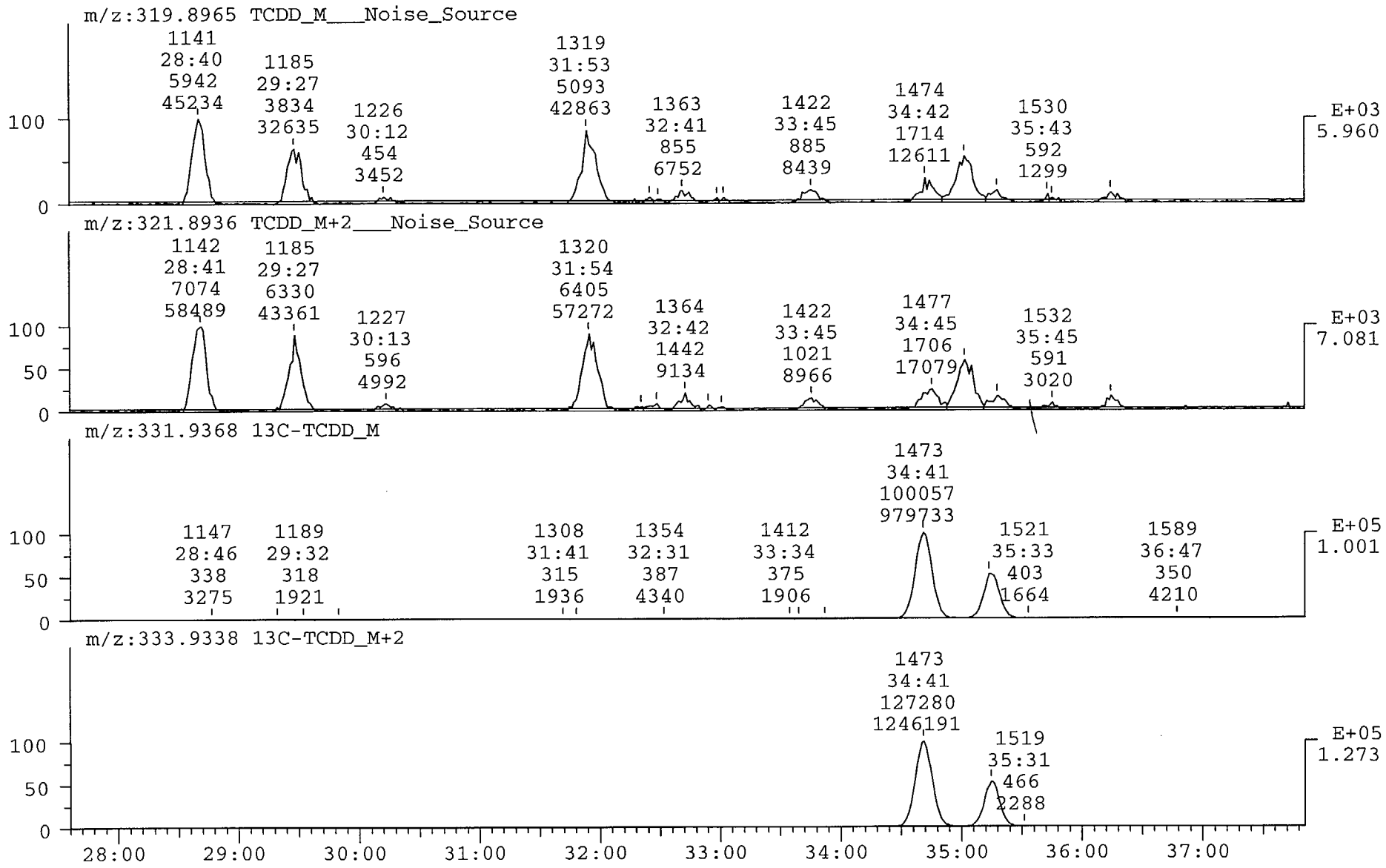
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

CHRO: bth2h11 05-May-06 Elapse: 56:48 2710
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 442 > 2891 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

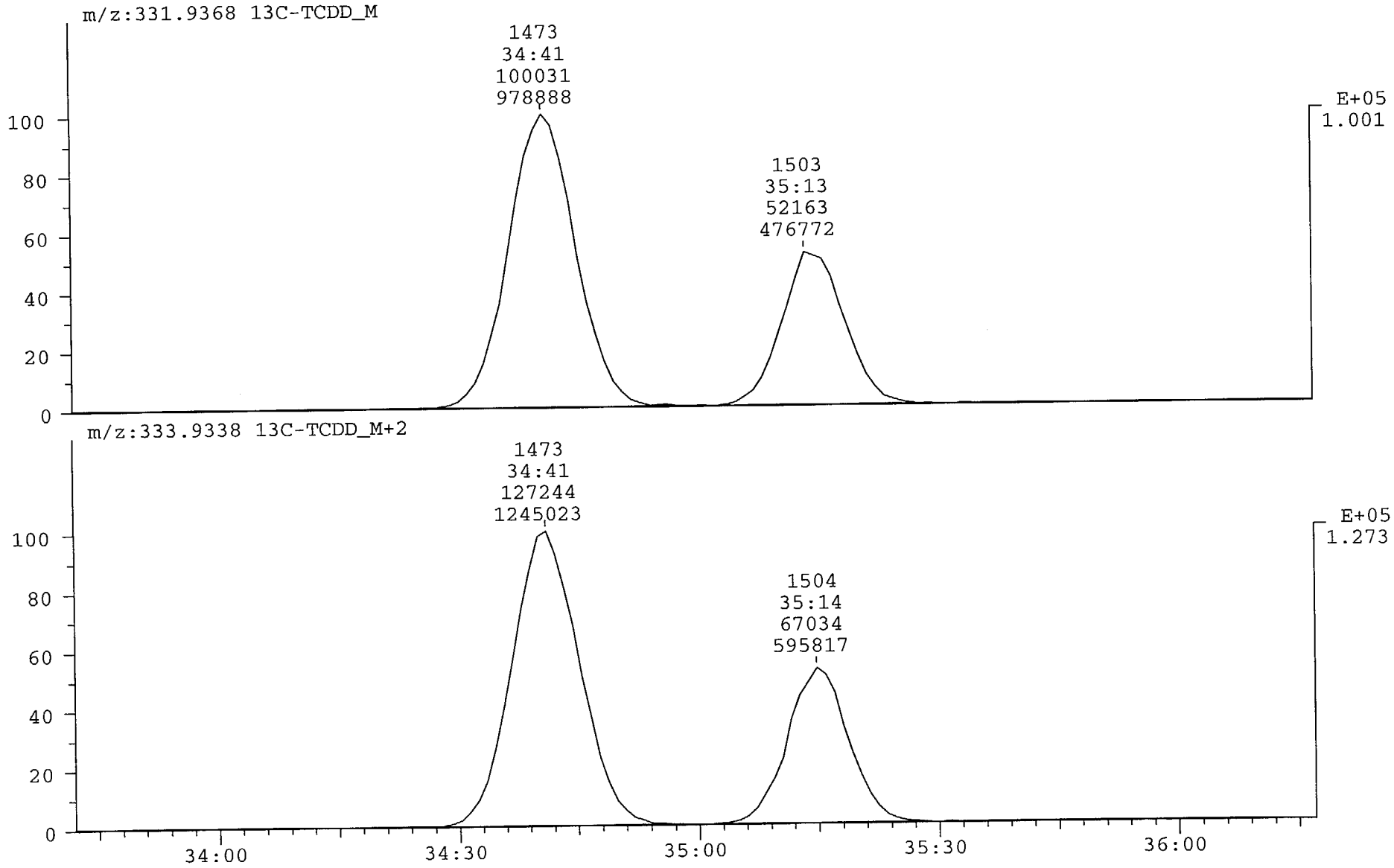
Int BFW 5/5/06
Calc MK 5/8/06
QC Rev WSO 5/8/06



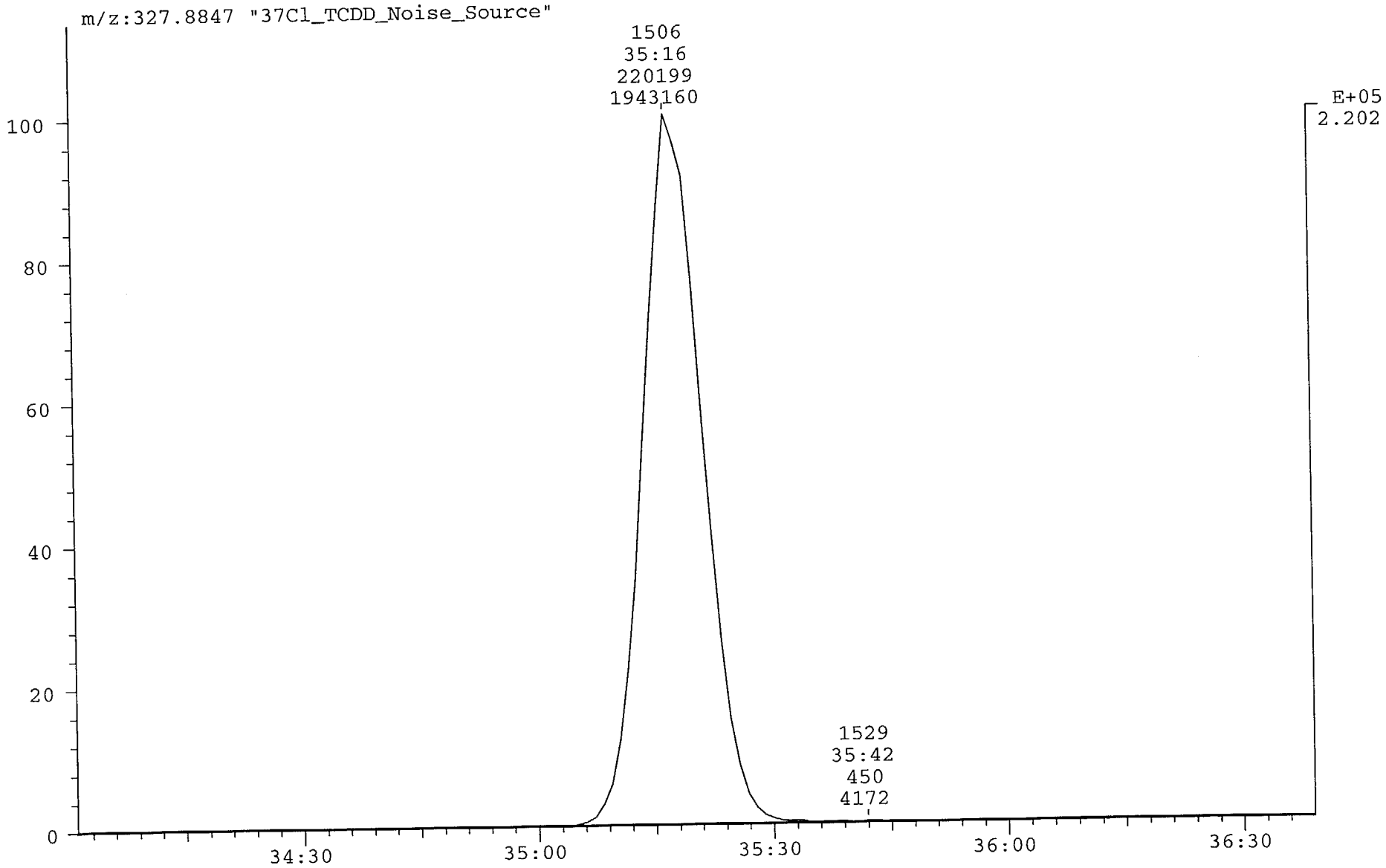
CHRO: bth2h11 05-May-06 Elapse: 56:48 2710
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1082 > 1648 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



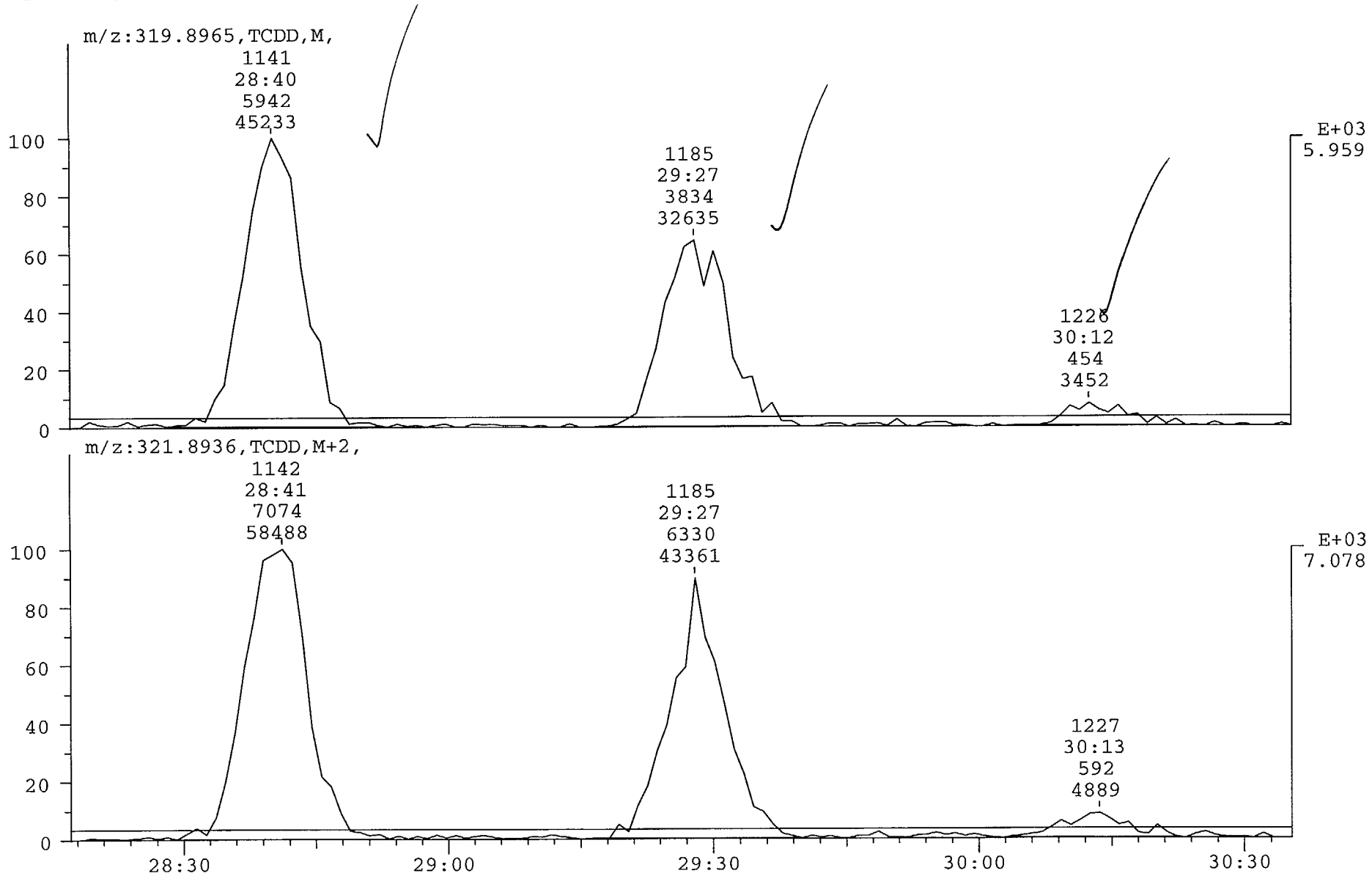
CHRO: bth2h11 05-May-06 Elapse: 34:59 1490
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1419 > 1561 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



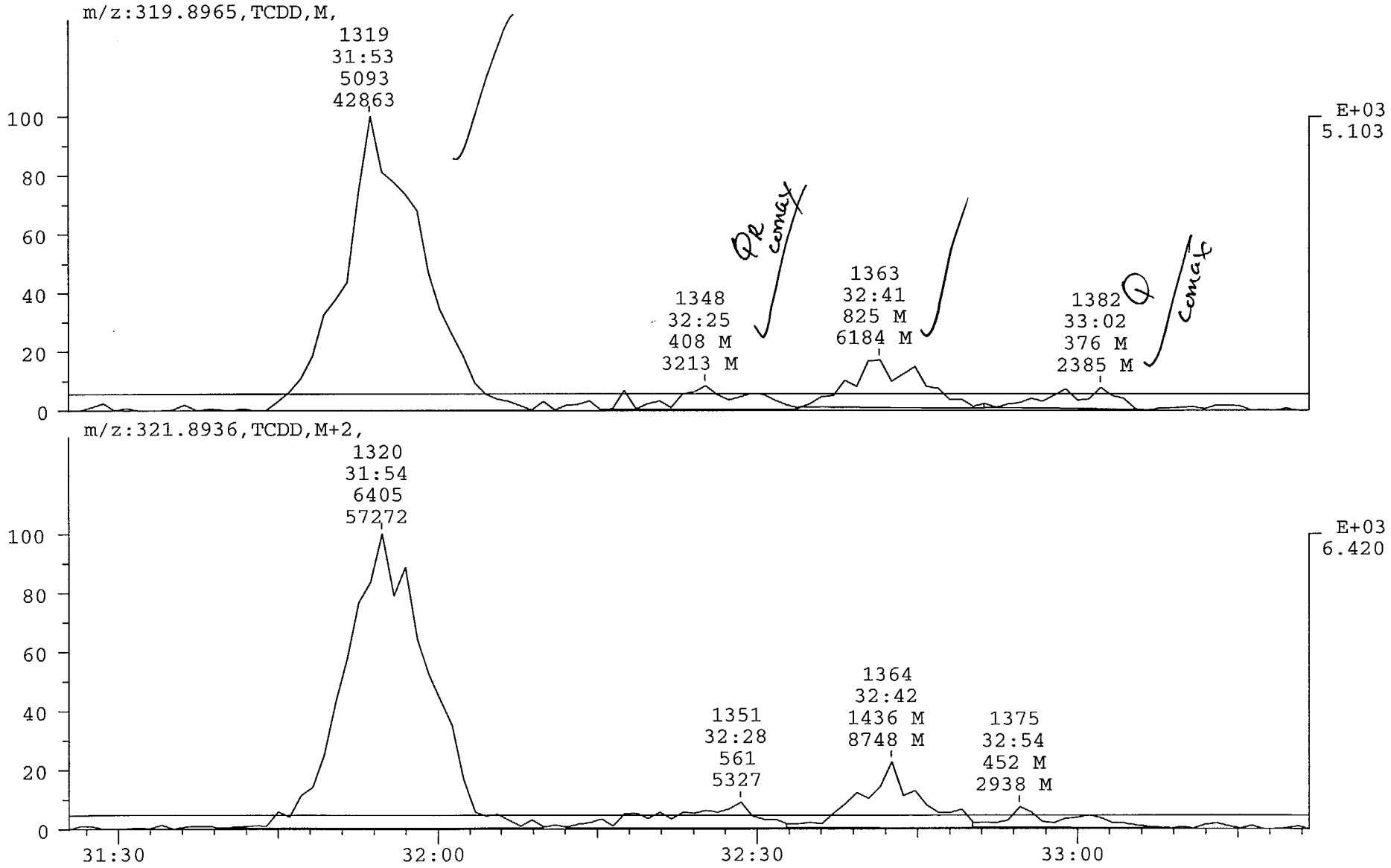
CHRO: bth2h1l 05-May-06 Elapse: 35:16 1506
Samp: Vial 14 WO=h2h1l1aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1436 > 1581 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



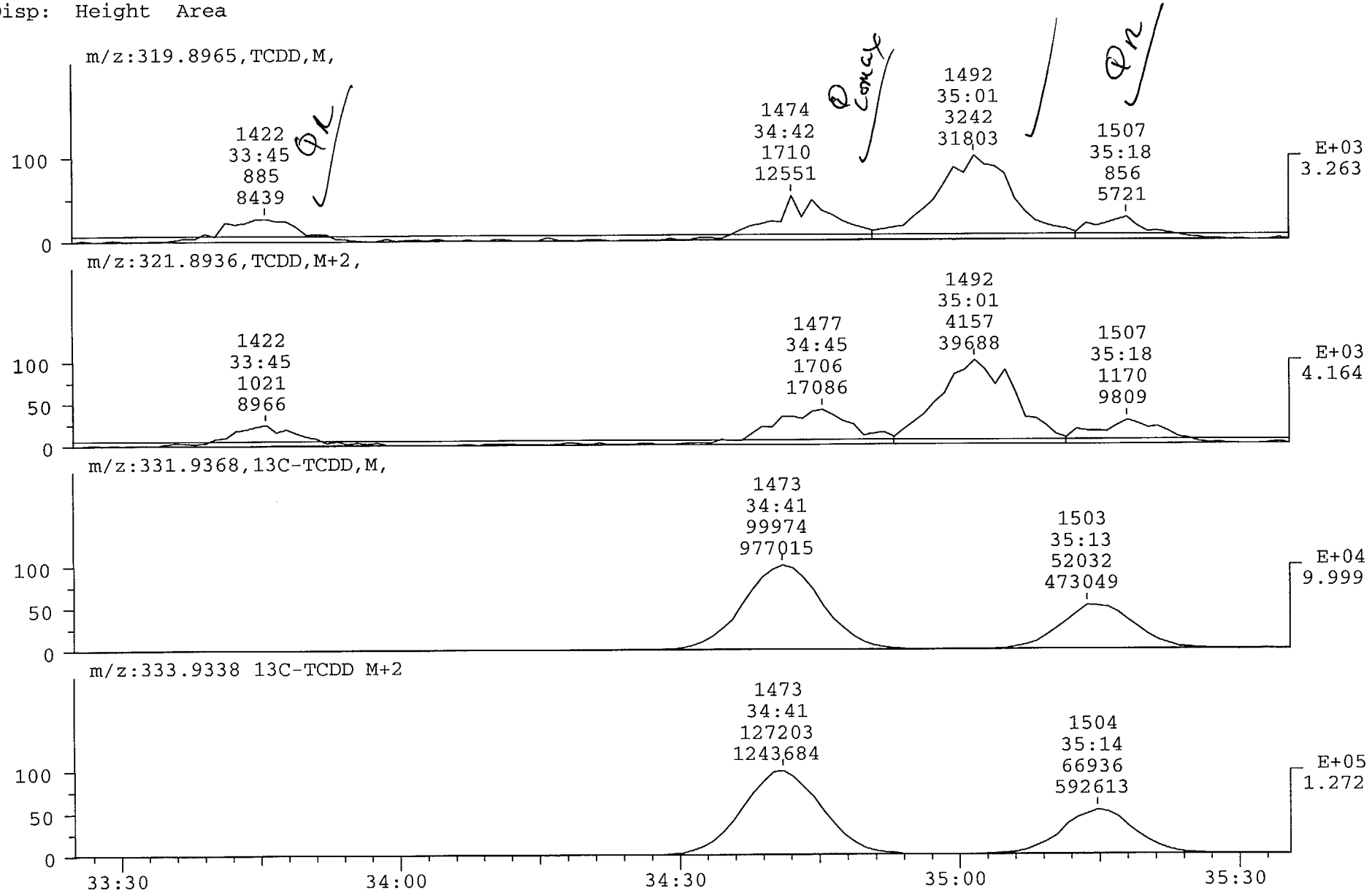
CHRO: bth2h11 05-May-06 Elapse: 56:48 2710
Samp: Vial 14 WO=h2h11aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1120 > 1247 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



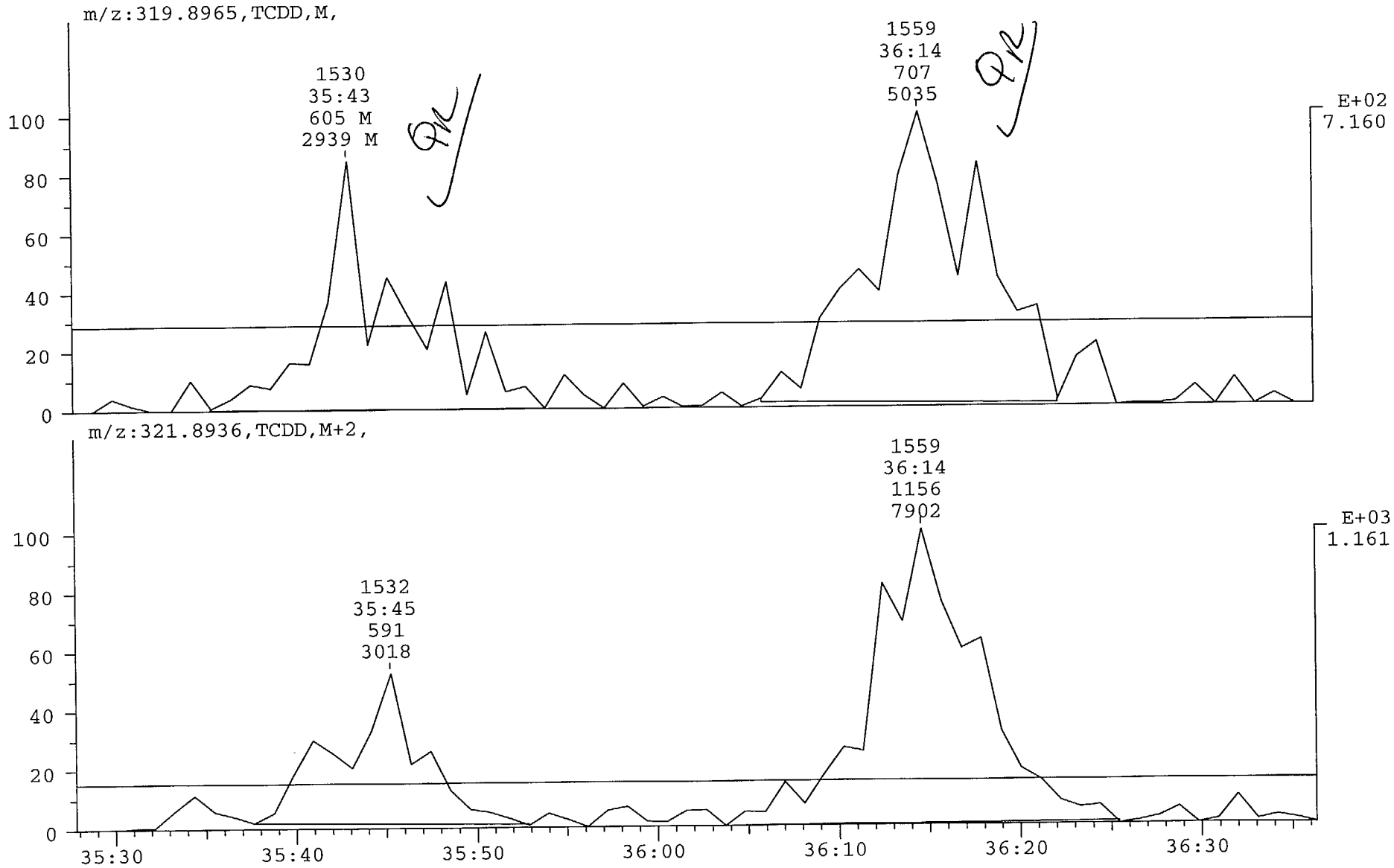
CHRO: bth2h11 05-May-06 Elapse: 56:48 2710
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1293 > 1400 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 4 Label : -4, 4.0
Disp: Height Area



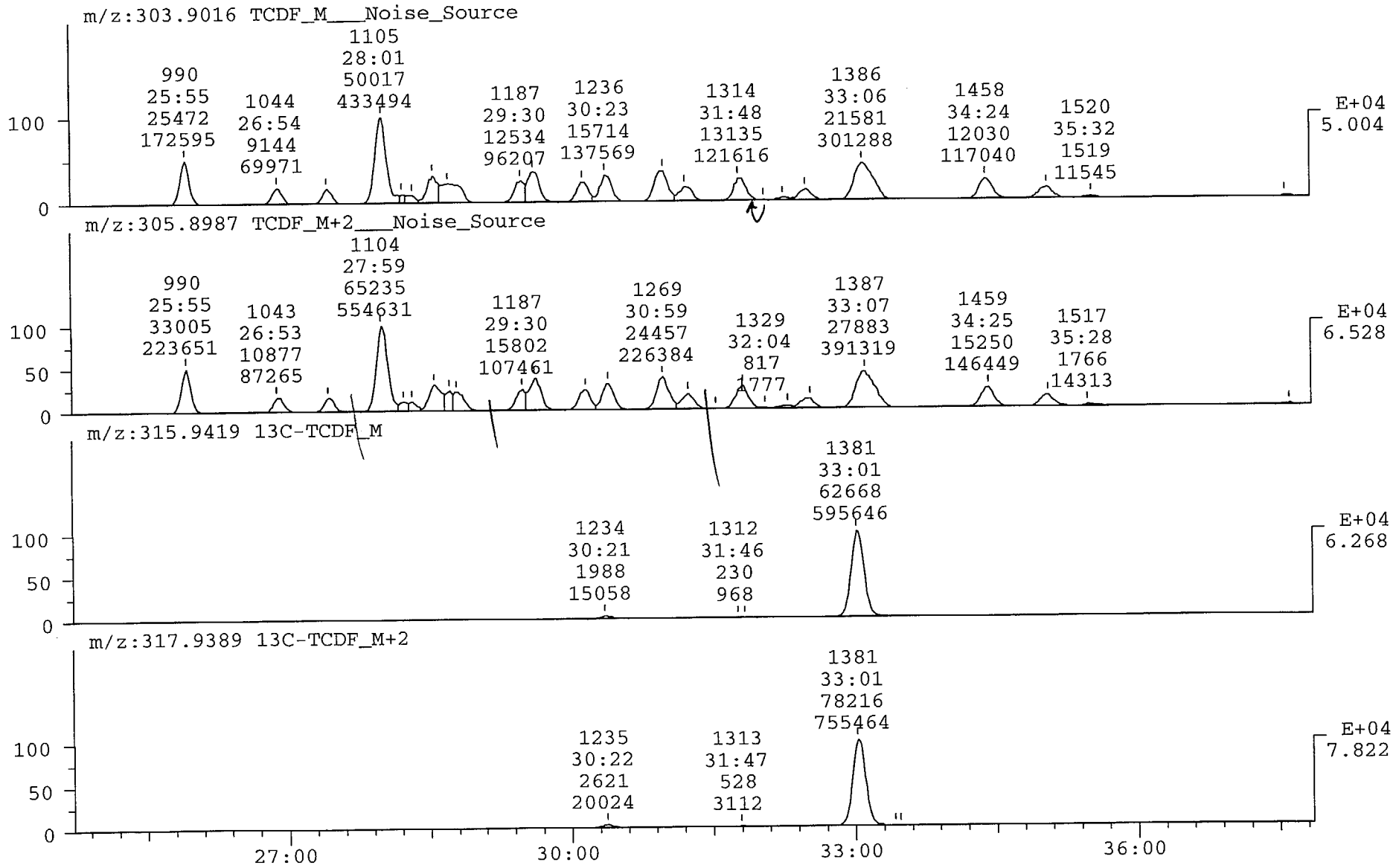
CHRO: bth2h11 05-May-06 Elapse: 56:48 2710
Samp: Vial 14 WO=h2h11aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1403 > 1523 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



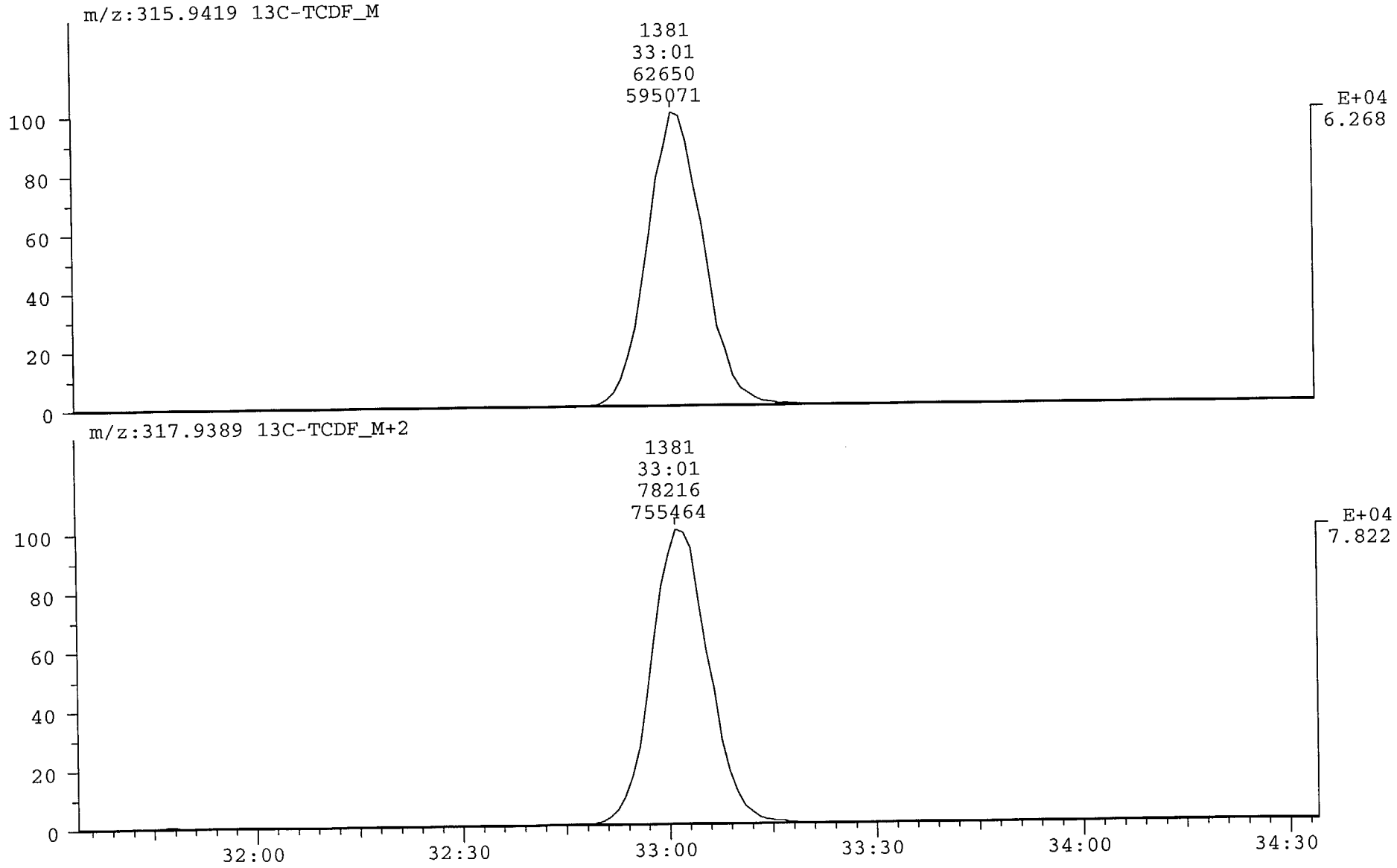
CHRO: bth2h11 05-May-06 Elapse: 56:48 2710
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1516 > 1579 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 4 Label : -3, 3.0
Disp: Height Area



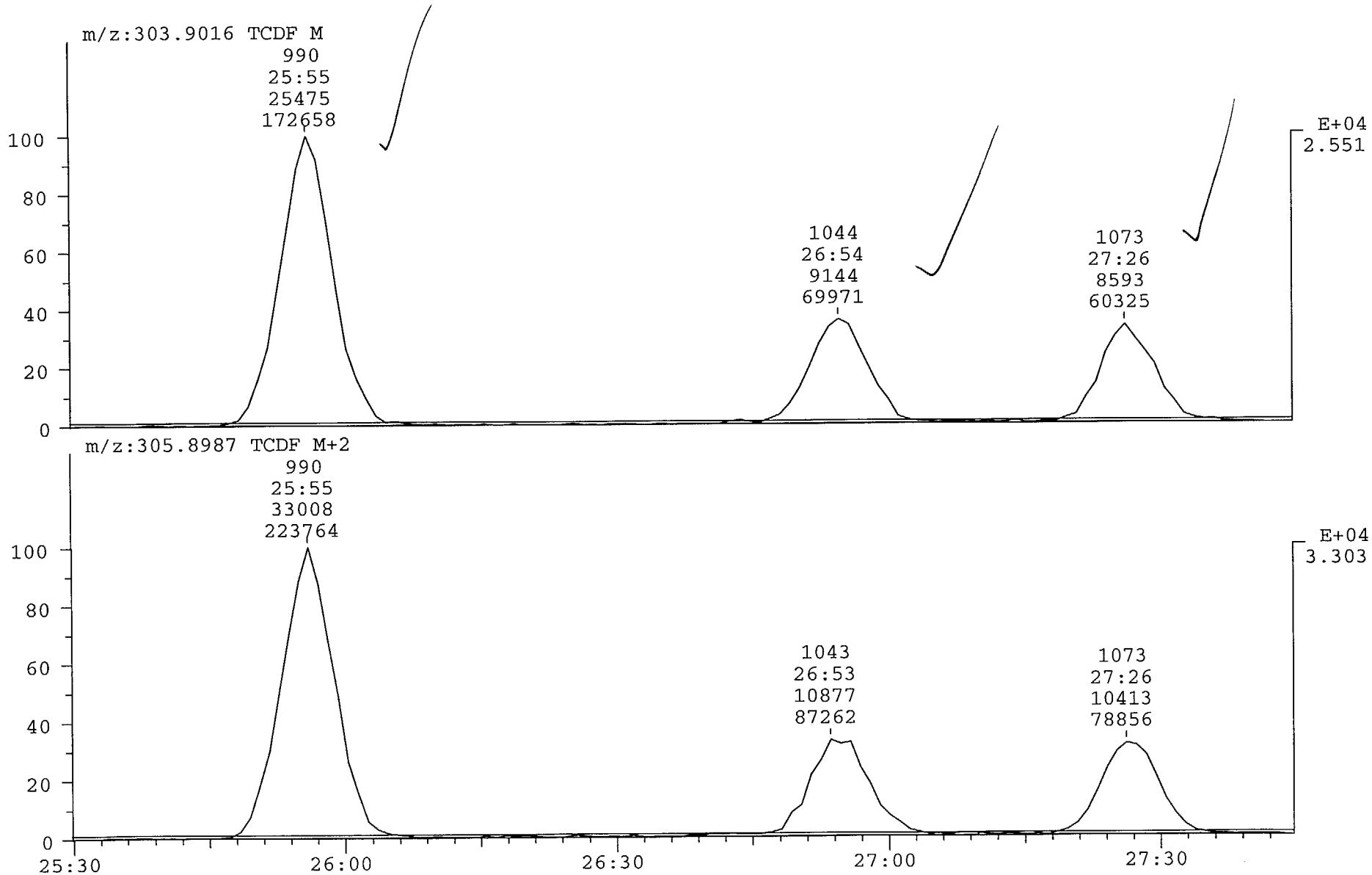
CHRO: bth2h11 05-May-06 Elapse: 35:16 1506
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 923 > 1648 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



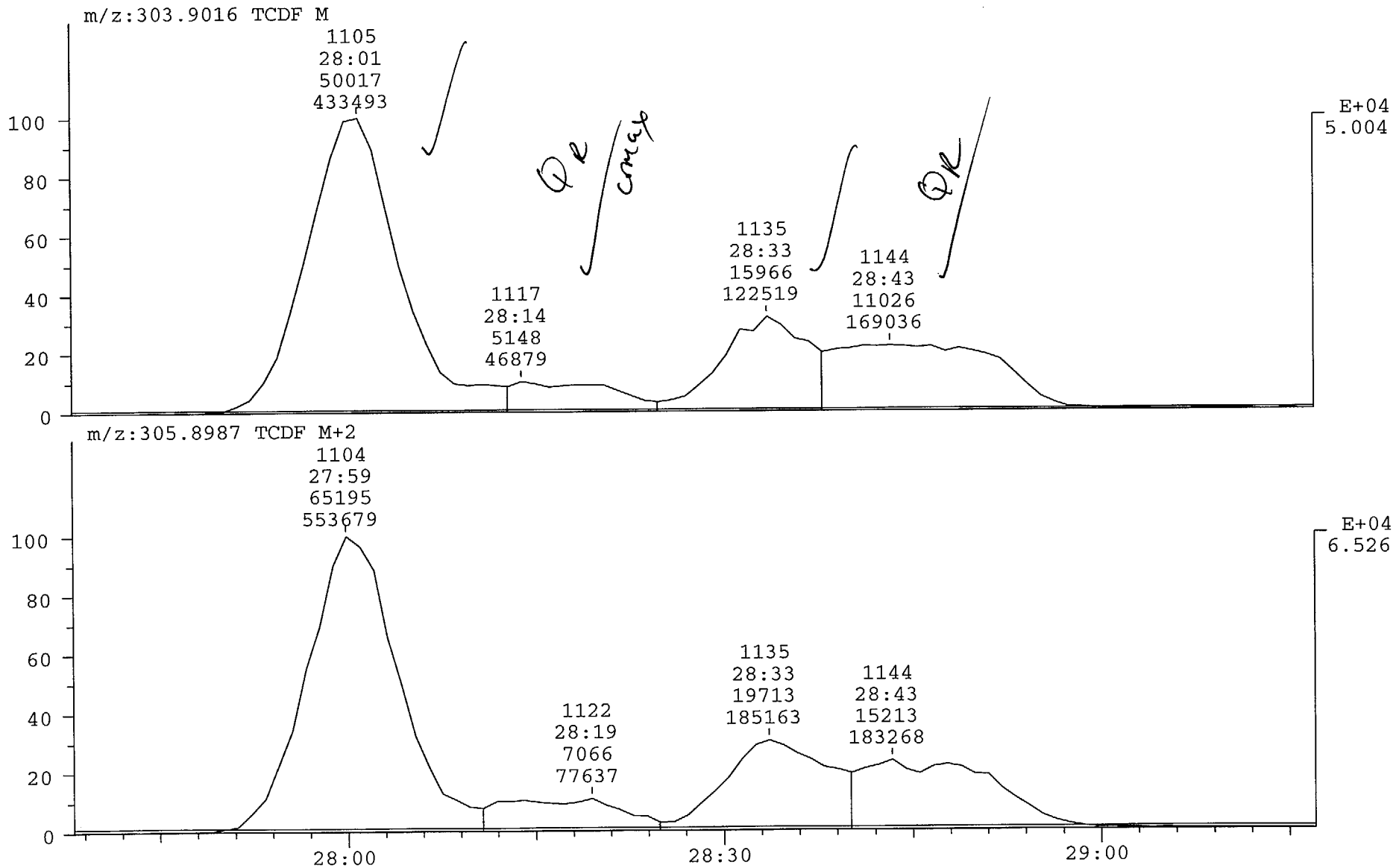
CHRO: bth2h11 05-May-06 Elapse: 33:01 1381
Samp: Vial 14 WO=h2h11aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1301 > 1467 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



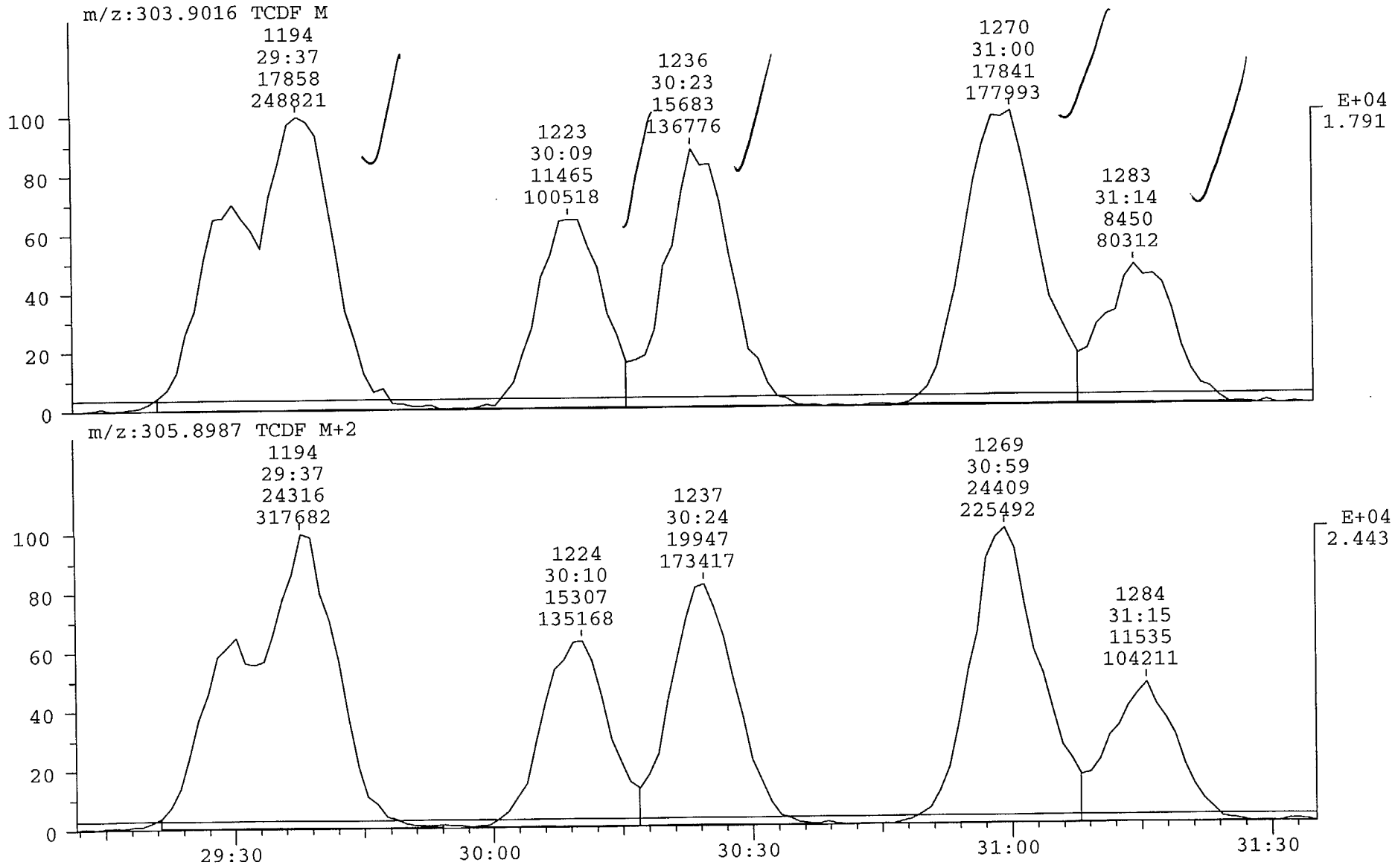
CHRO: bth2h11 05-May-06 Elapse: 56:48 2710
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 966 > 1090 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



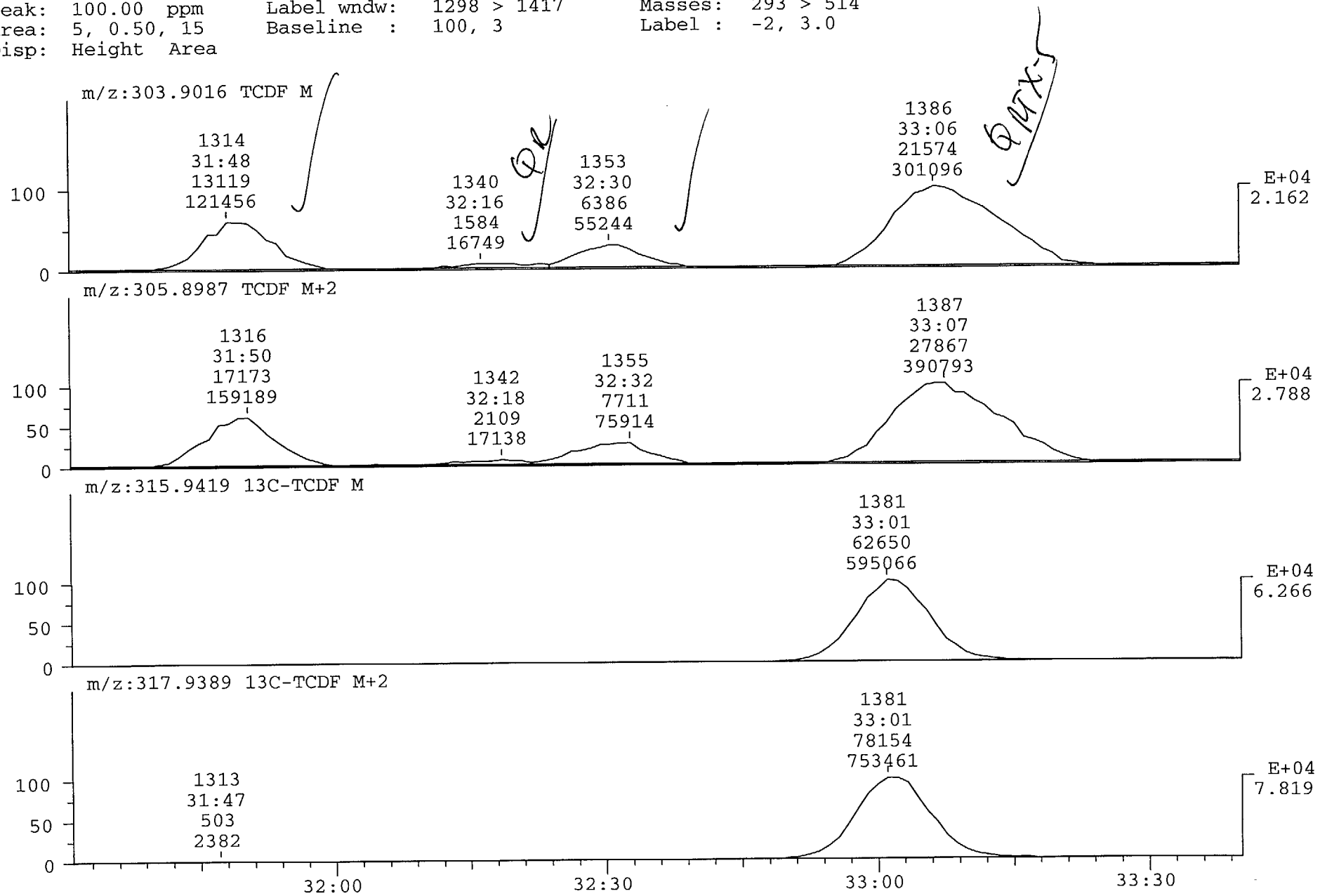
CHRO: bth2h11 05-May-06 Elapse: 56:48 2710
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1084 > 1175 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 5 Label : -2, 3.0
Disp: Height Area



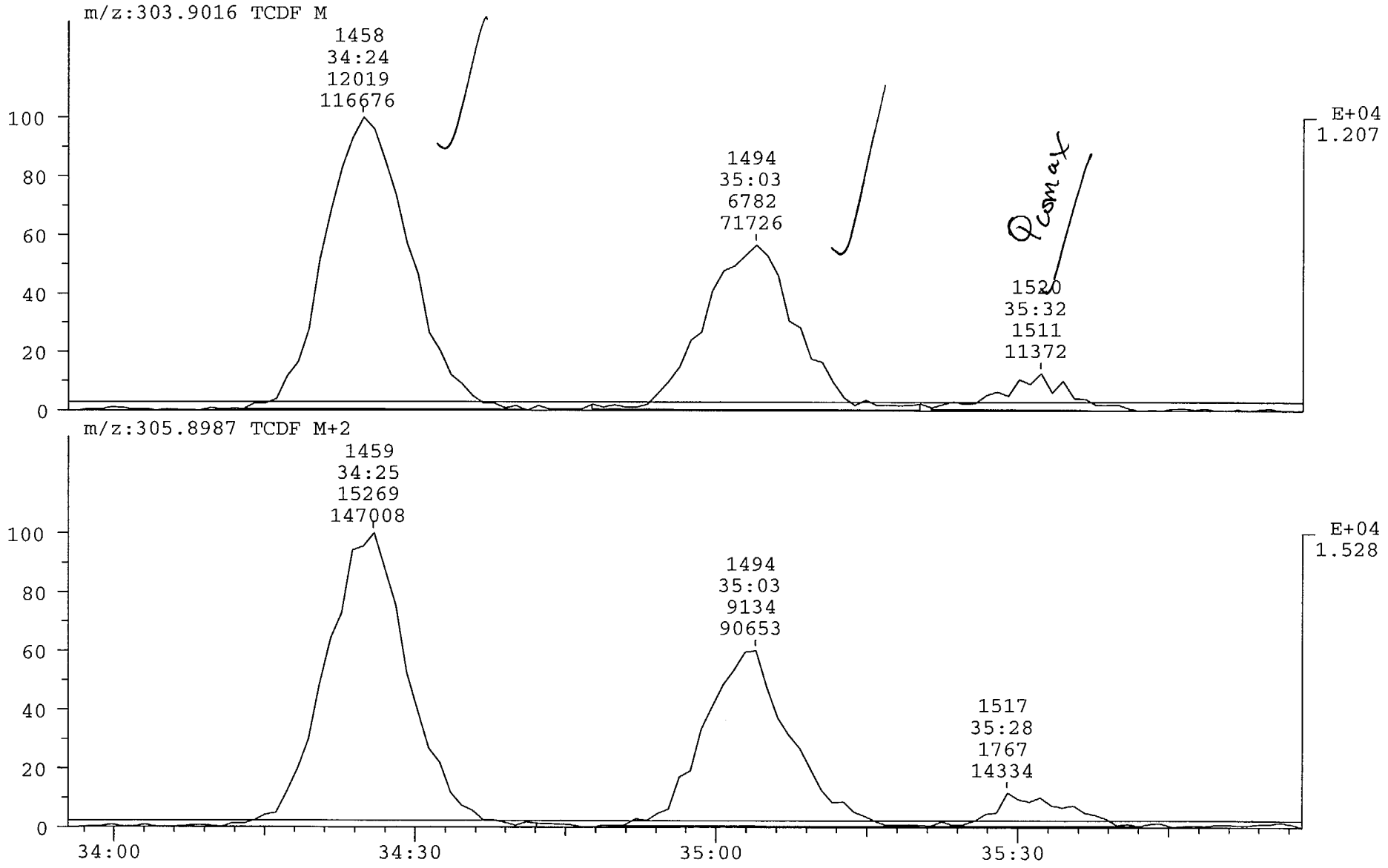
CHRO: bth2h11 05-May-06 Elapse: 56:48 2710
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1170 > 1302 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 5 Label : -2, 3.0
Disp: Height Area



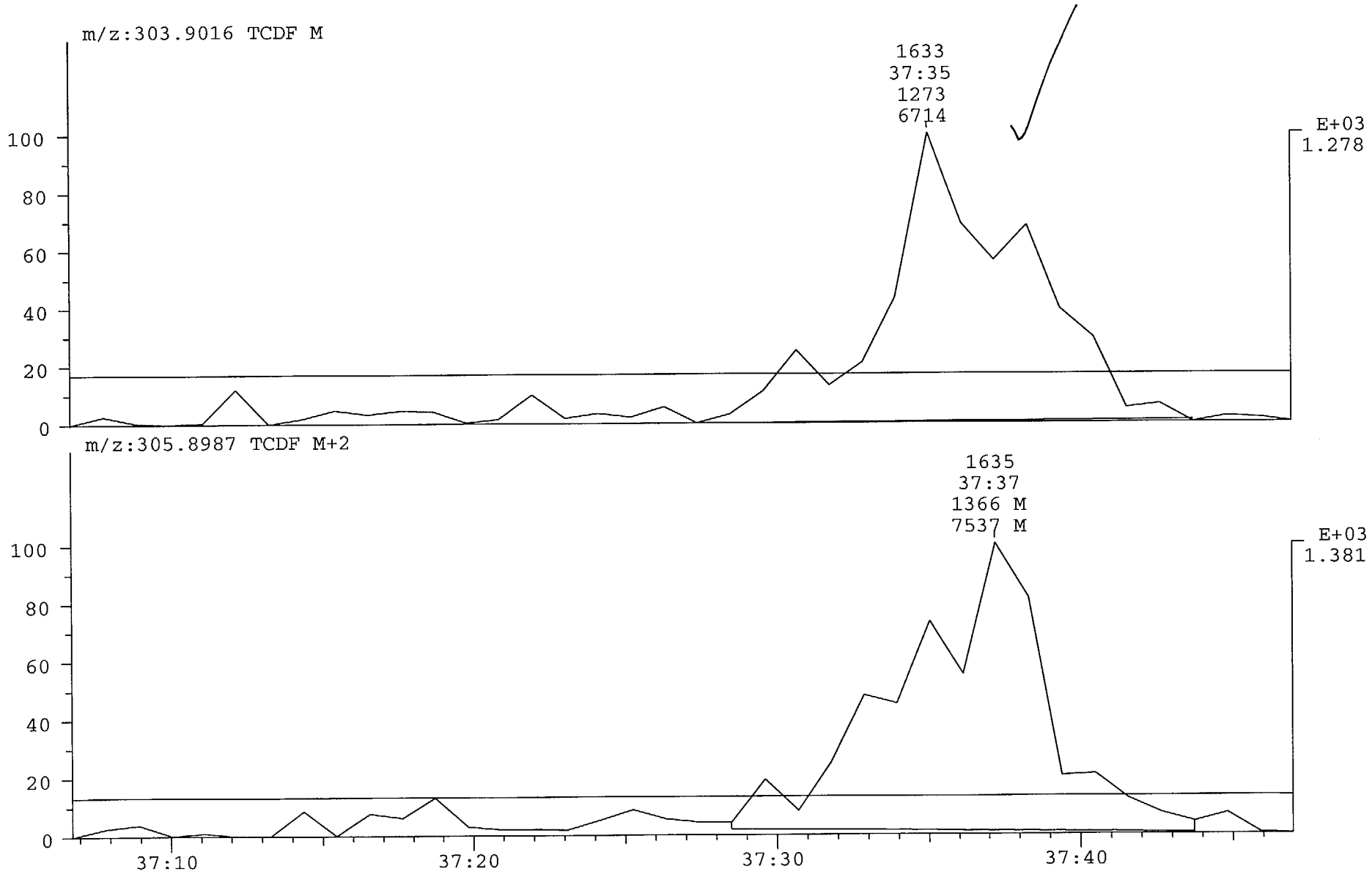
CHRO: bth2h11 05-May-06 Elapse: 56:48 2710
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1298 > 1417 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



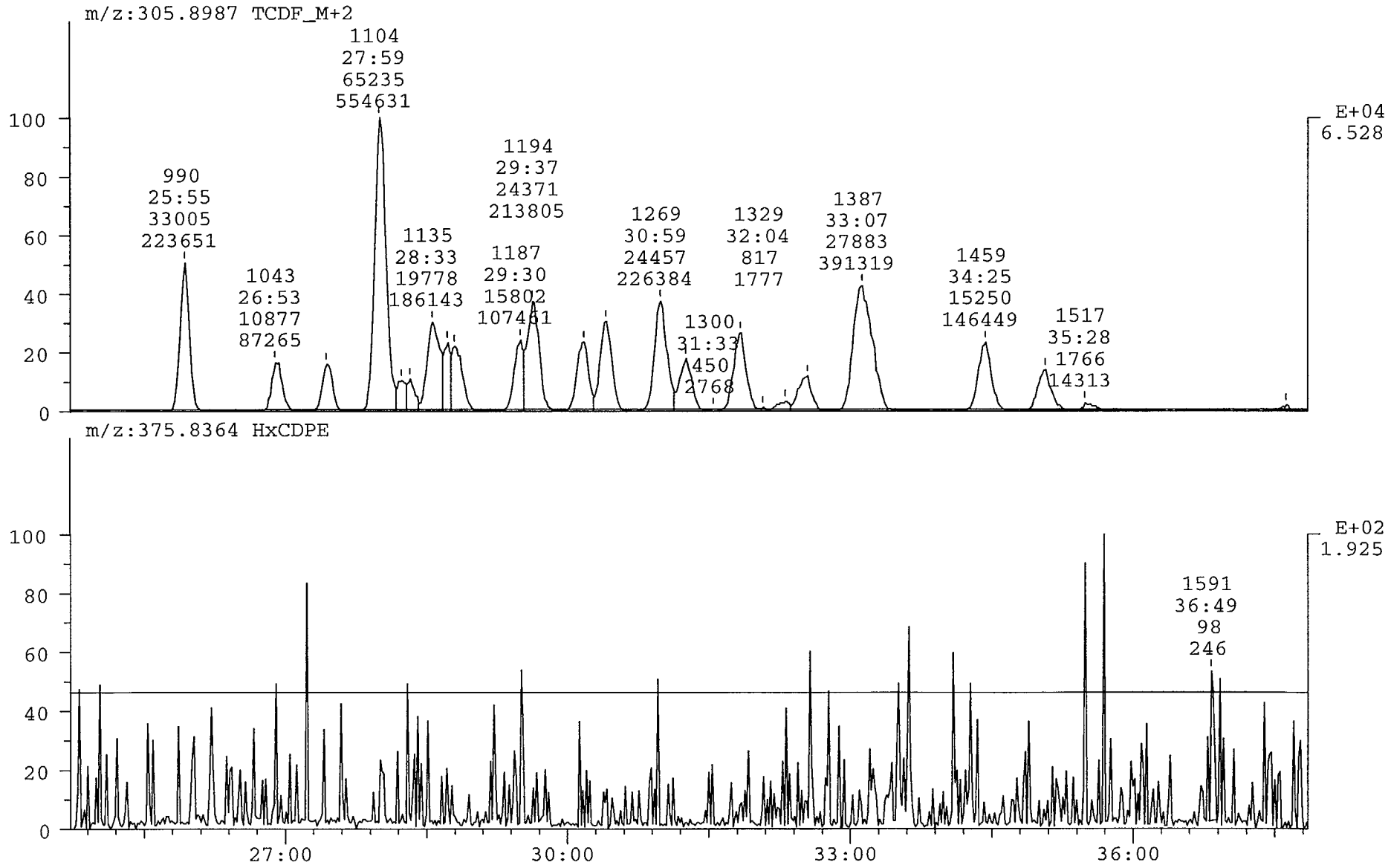
CHRO: bth2h11 05-May-06 Elapse: 56:48 2710
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1431 > 1544 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h11 05-May-06 Elapse: 56:48 2710
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1607 > 1644 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h11 05-May-06 Elapse: 33:01 1381
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 923 > 1648 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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CHRO:  bth2h11                                05-May-06   Elapse:  33:01      1381
Samp:  Vial 14 WO=h2h11aa Meth=X8 Dil=1                   Start :  12:26:31   2891
Comm:  Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-006              Inlet :  GC     Vial  14
Peak:  100.00  ppm      Label wndw:   923 > 1648          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
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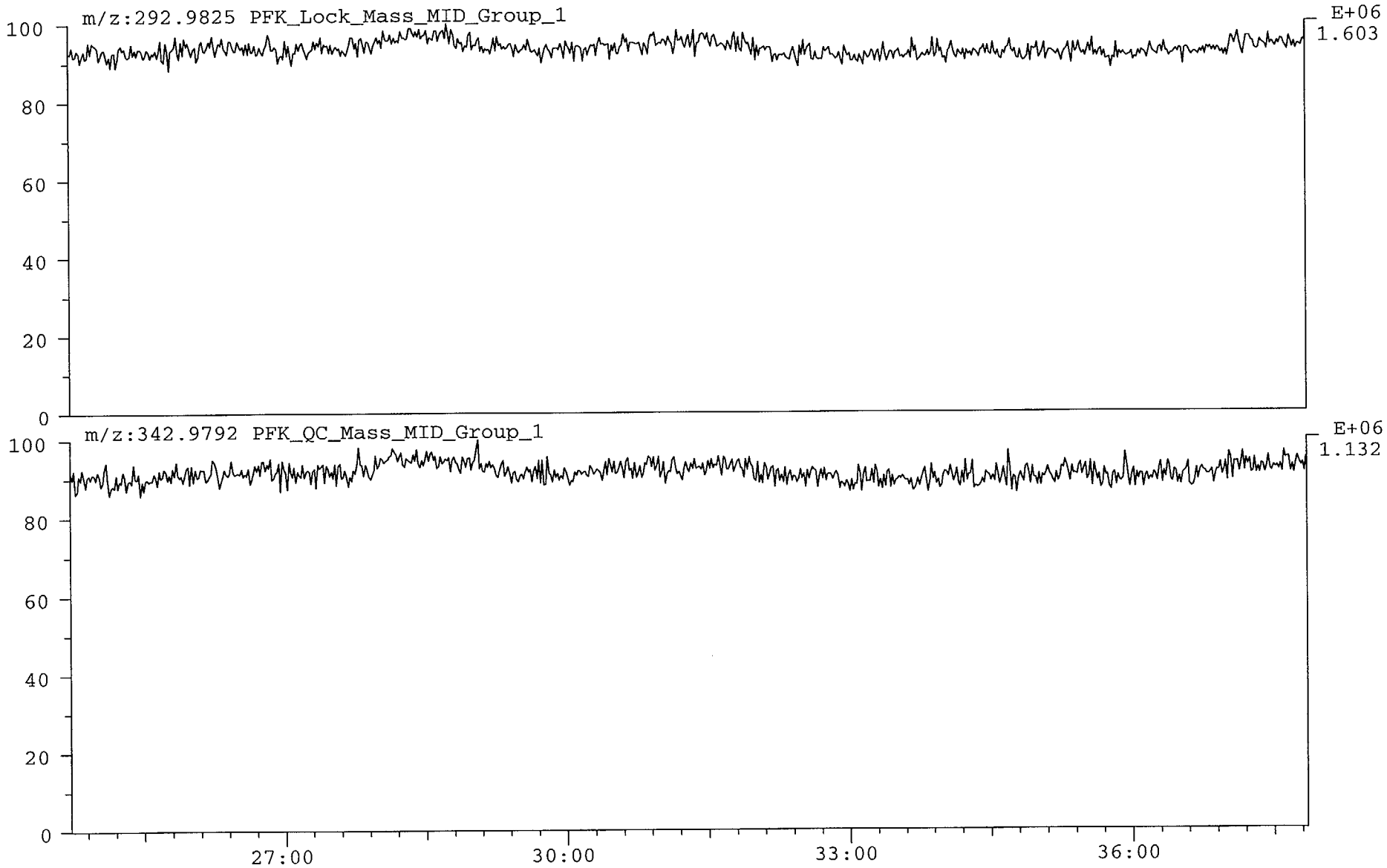
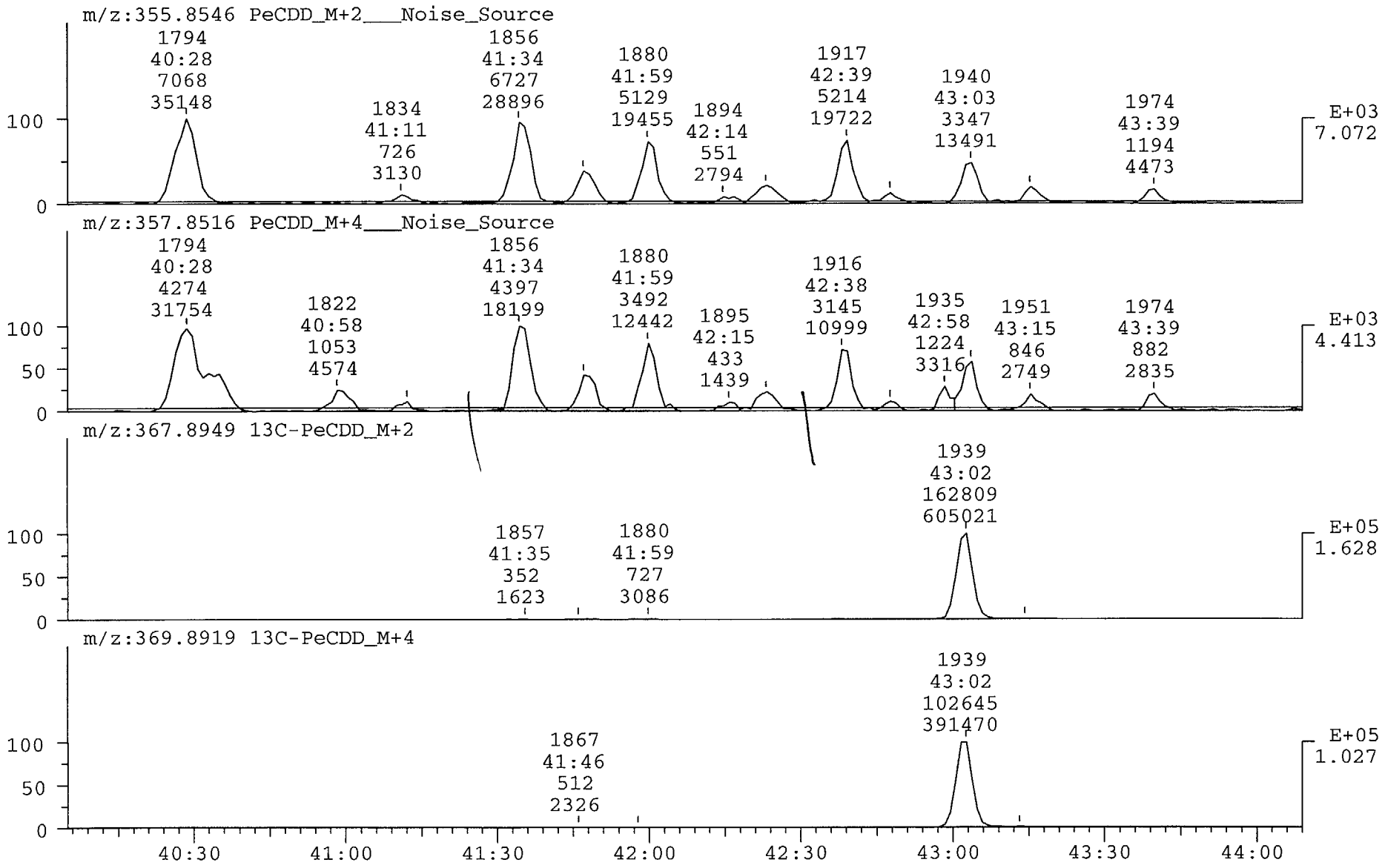
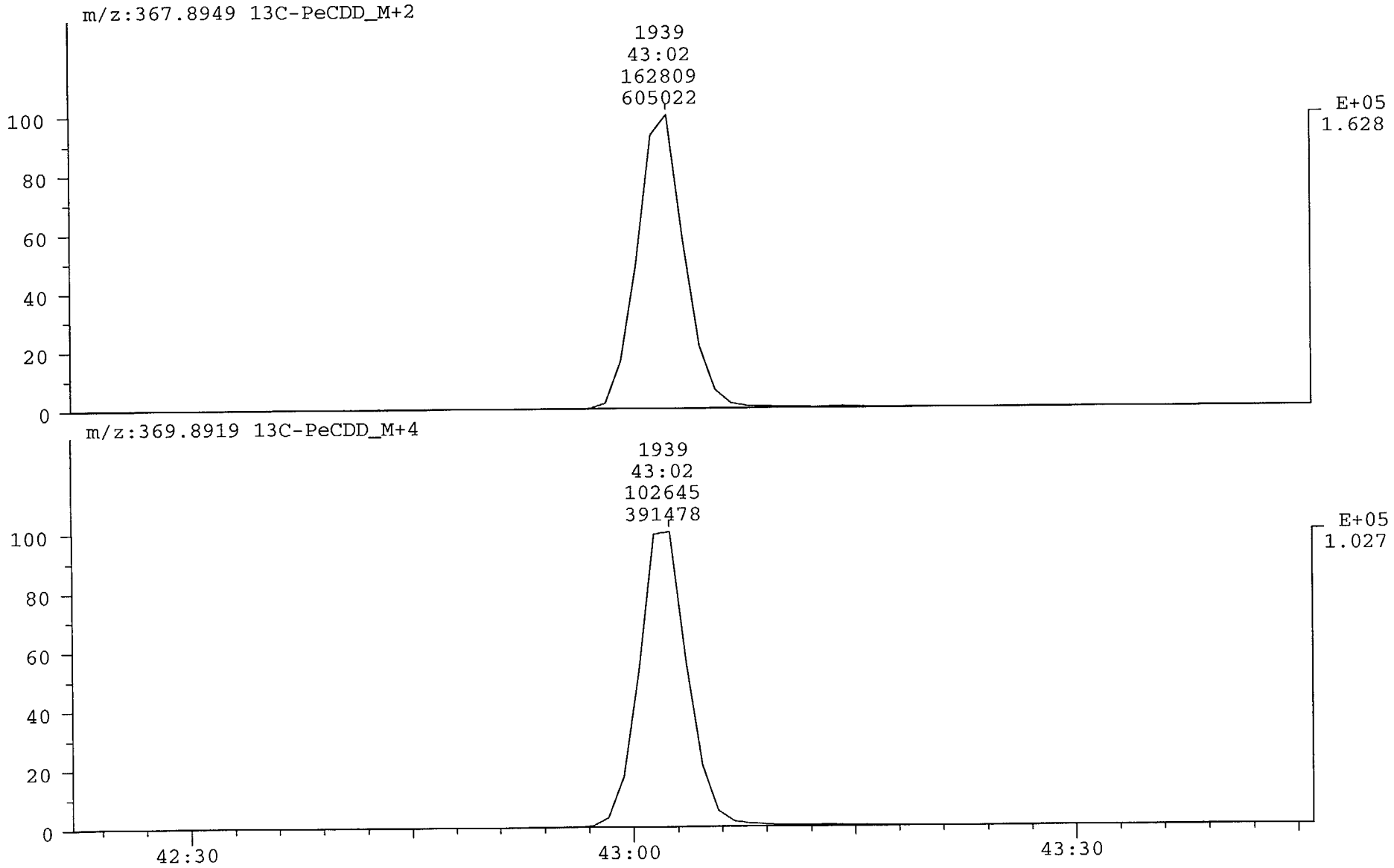


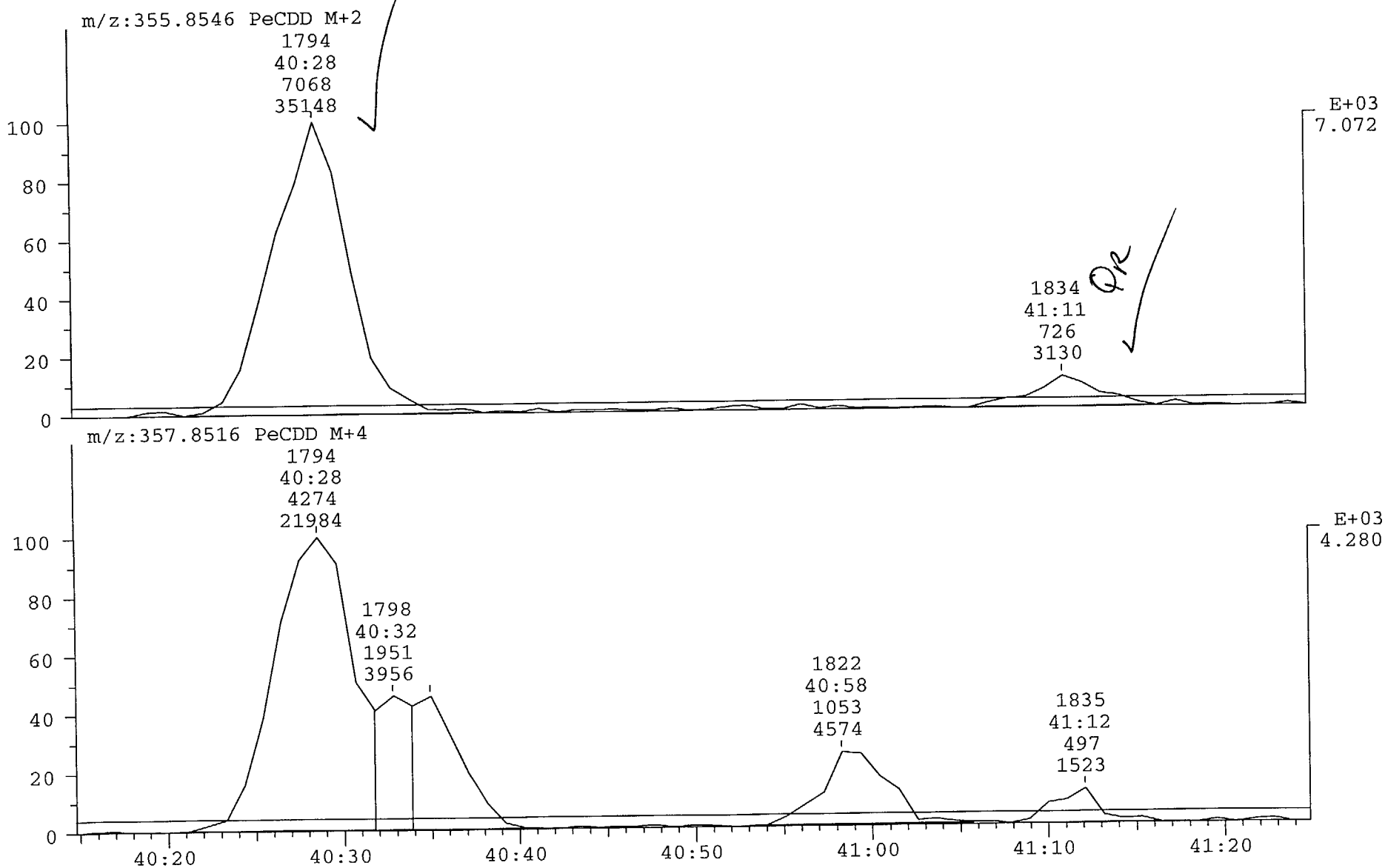
CHRO: bth2h11 05-May-06 Elapse: 33:01 1381
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1772 > 2002 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



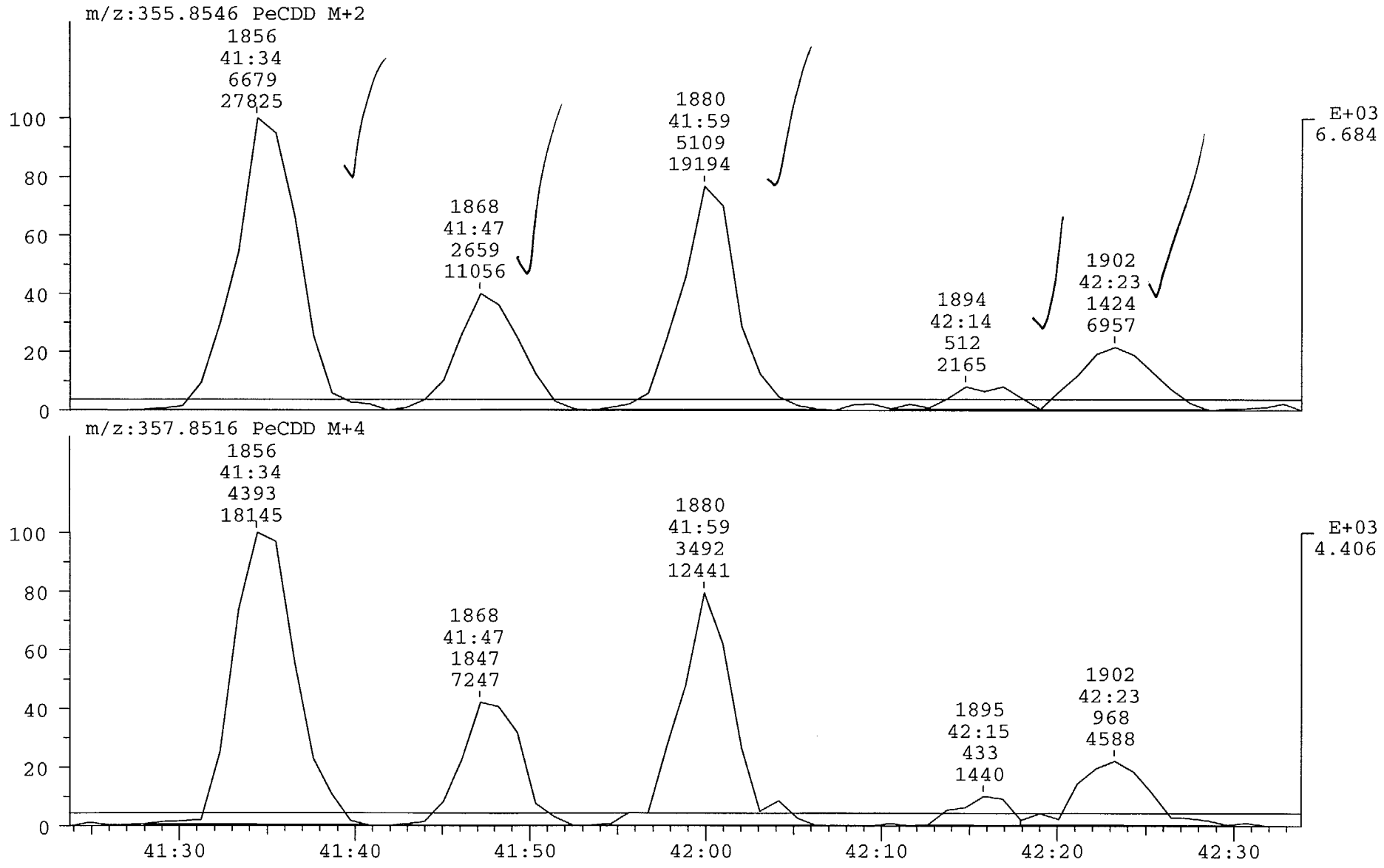
CHRO: bth2h11 05-May-06 Elapse: 43:01 1938
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1901 > 1980 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



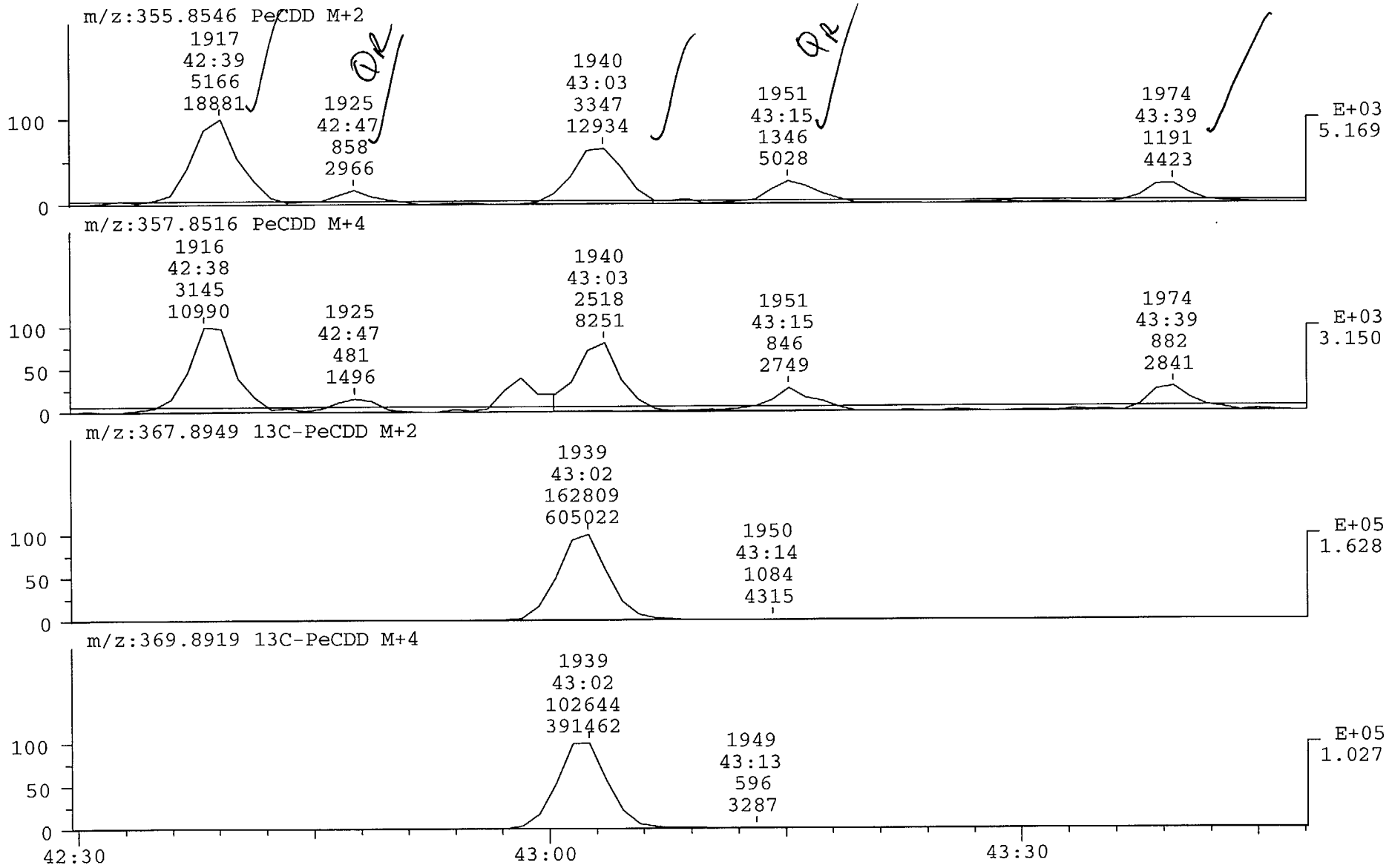
CHRO: bth2h11 05-May-06 Elapse: 56:48 2710
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1000 > 3500 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 1 Label : -2, 3.0
Disp: Height Area



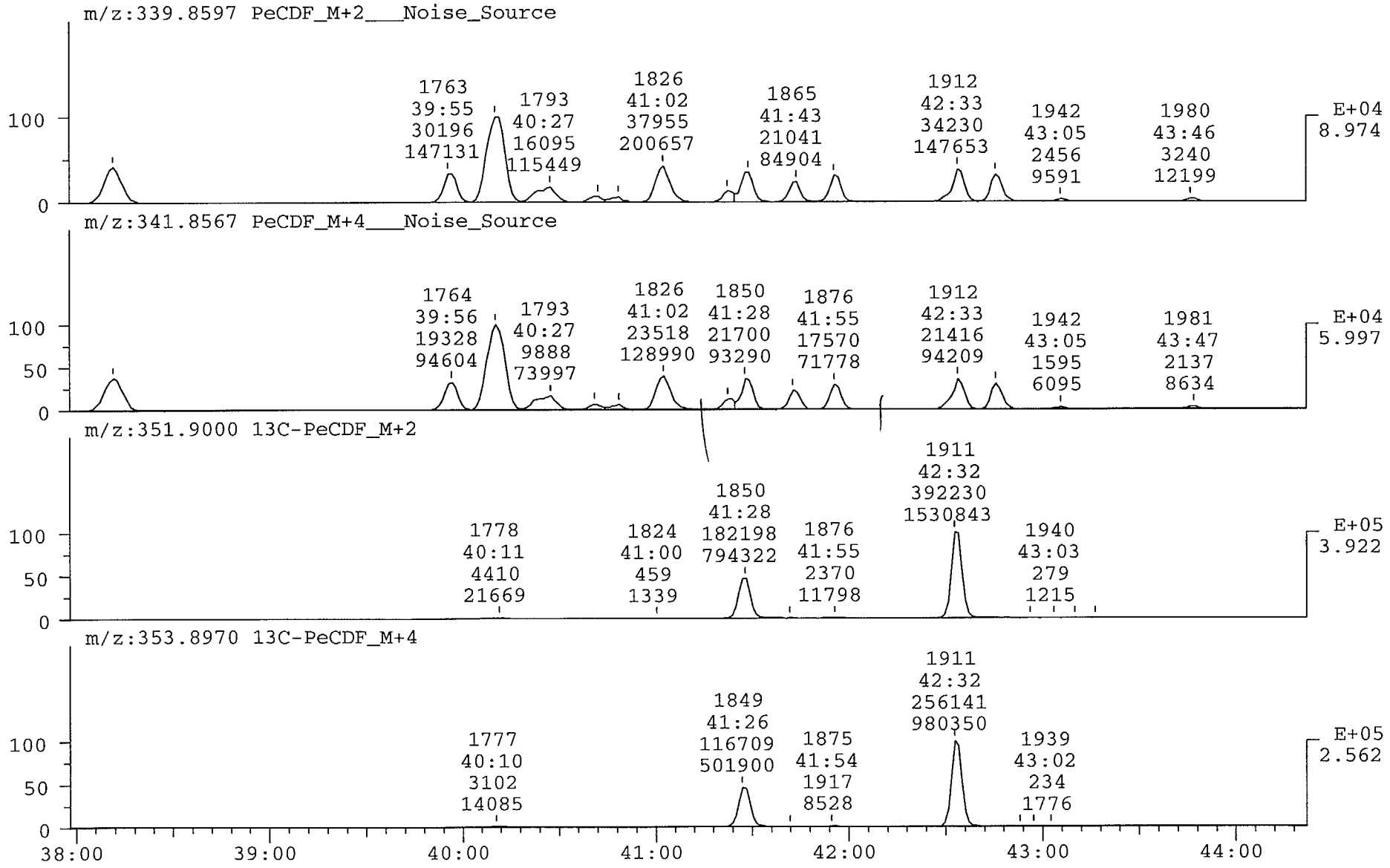
CHRO: bth2h11 05-May-06 Elapse: 56:48 2710
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1000 > 3500 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



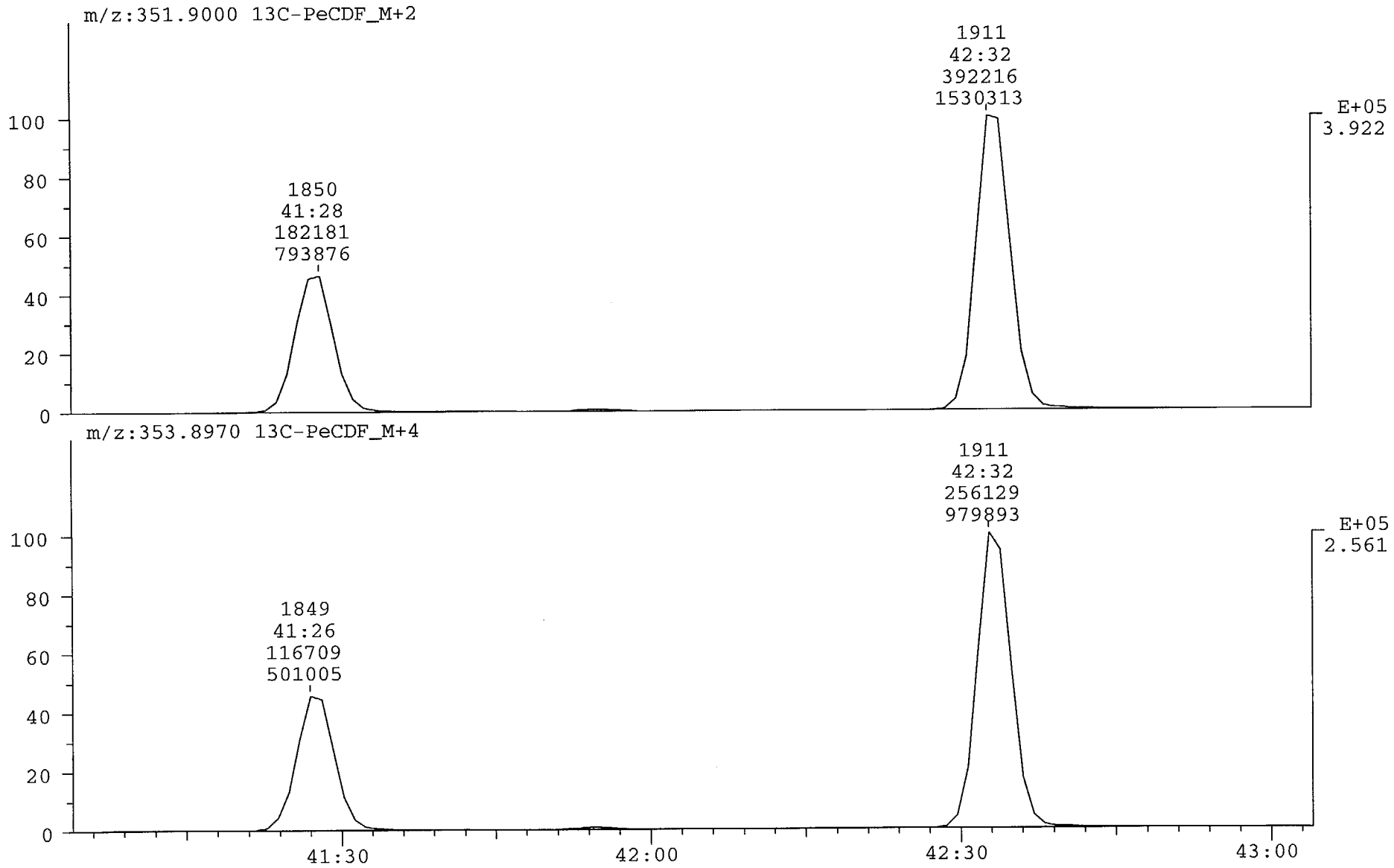
CHRO: bth2h11 05-May-06 Elapse: 56:48 2710
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1000 > 3500 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



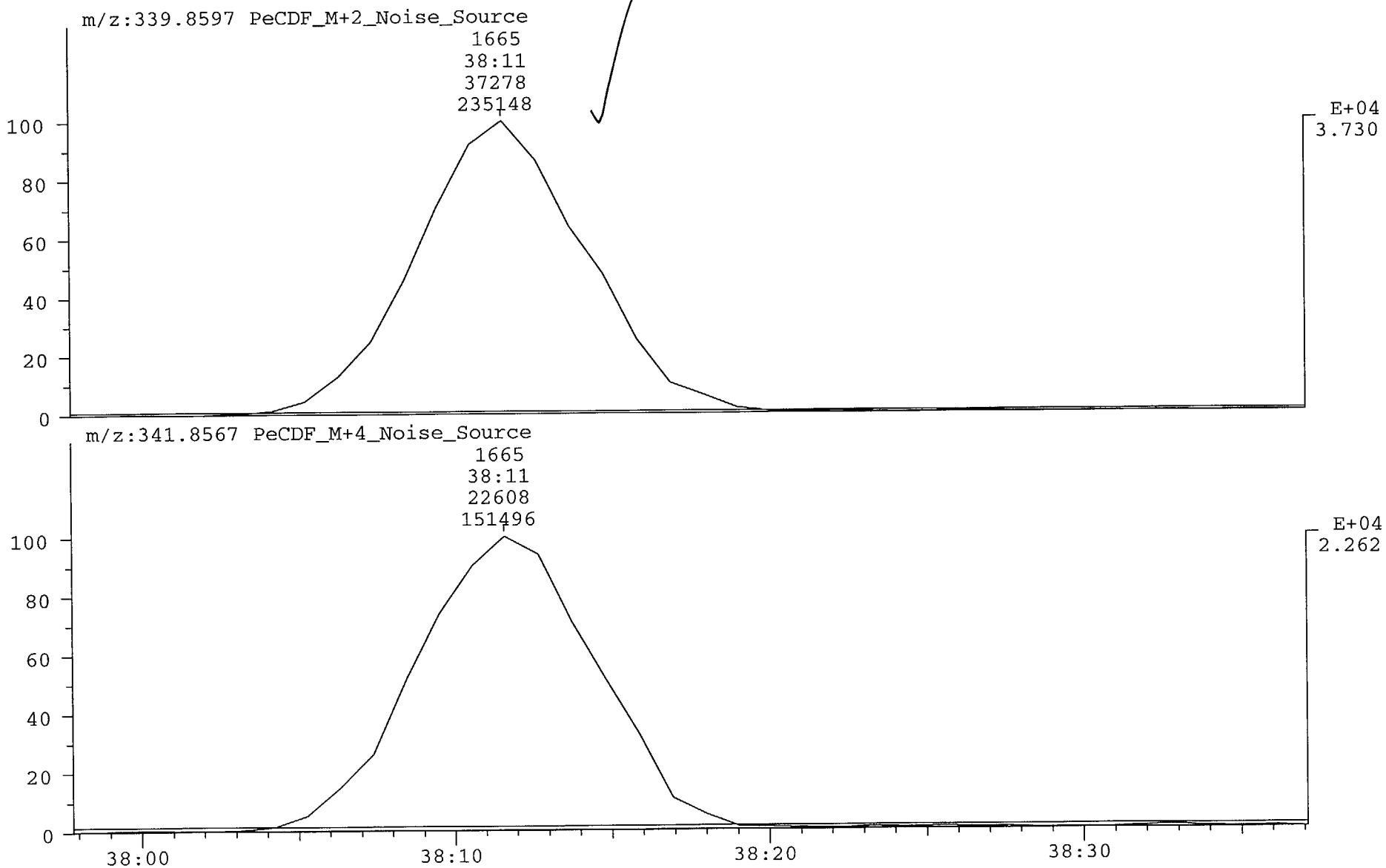
CHRO: bth2h11 05-May-06 Elapse: 43:01 1938
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1652 > 2014 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



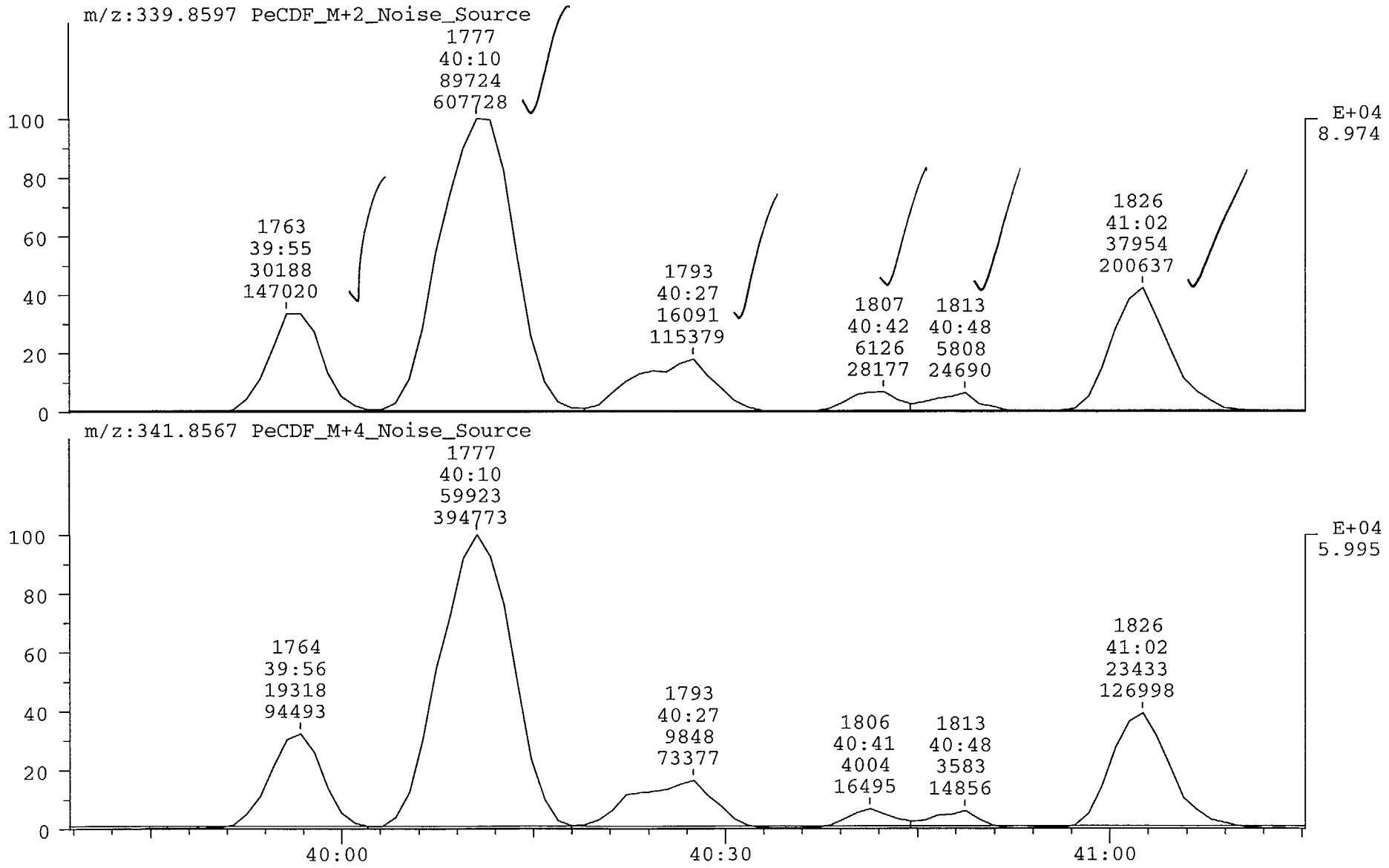
CHRO: bth2h11 05-May-06 Elapse: 42:04 1884
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1827 > 1940 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



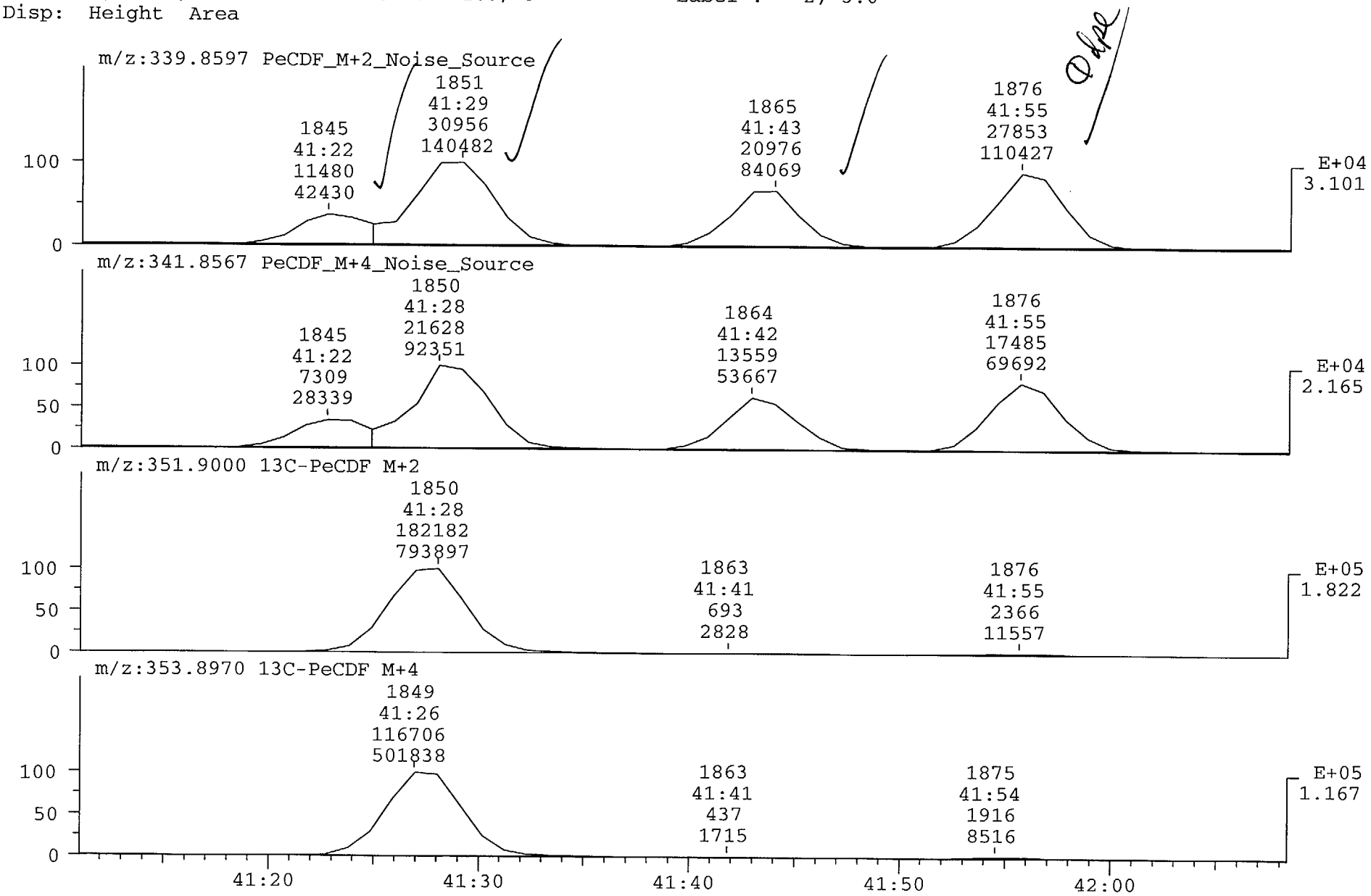
CHRO: bth2h11 05-May-06 Elapse: 56:48 2710
Samp: Vial 14 WO=h2h11aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1652 > 1689 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



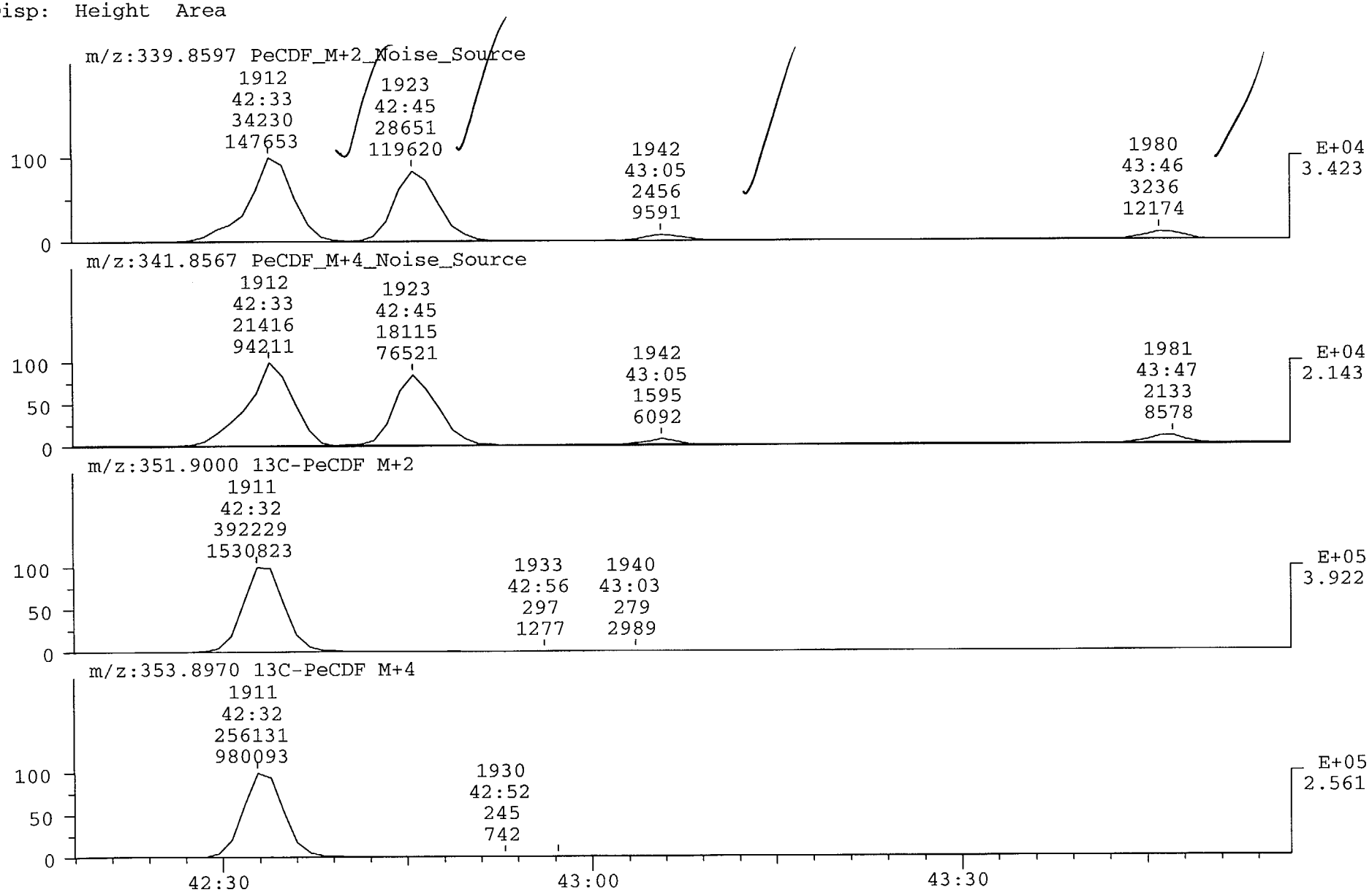
```
CHRO:  bth2h11                                05-May-06  Elapse:  56:48      2710
Samp:  Vial 14 WO=h2h111aa Meth=X8 Dil=1                 Start :  12:26:31   2891
Comm:  Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW          Client:  H6D030236-006               Inlet :  GC     Vial  14
Peak:  100.00  ppm     Label wndw:   1747 > 1838         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: bth2h11 05-May-06 Elapse: 56:48 2710
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1834 > 1888 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h11 05-May-06 Elapse: 56:48 2710
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1897 > 1990 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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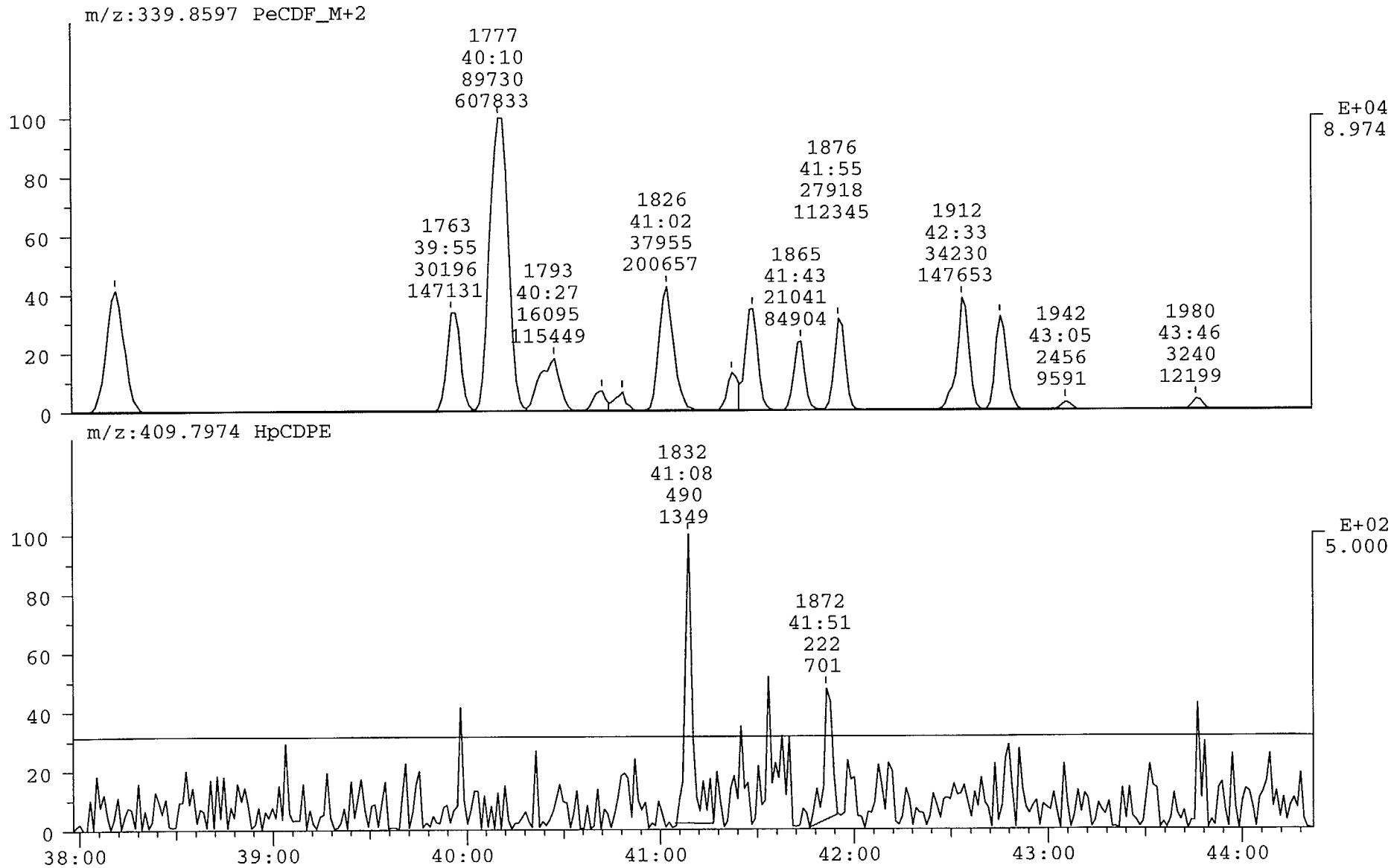
CHRO:  bth2h11                                  05-May-06  Elapse:  42:04      1884
Samp:  Vial 14 WO=h2h111aa Meth=X8 Dil=1                   Start :  12:26:31   2891
Comm:  Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-006               Inlet :  GC     Vial  14
Peak:  100.00  ppm      Label wndw:   1652 > 2014          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



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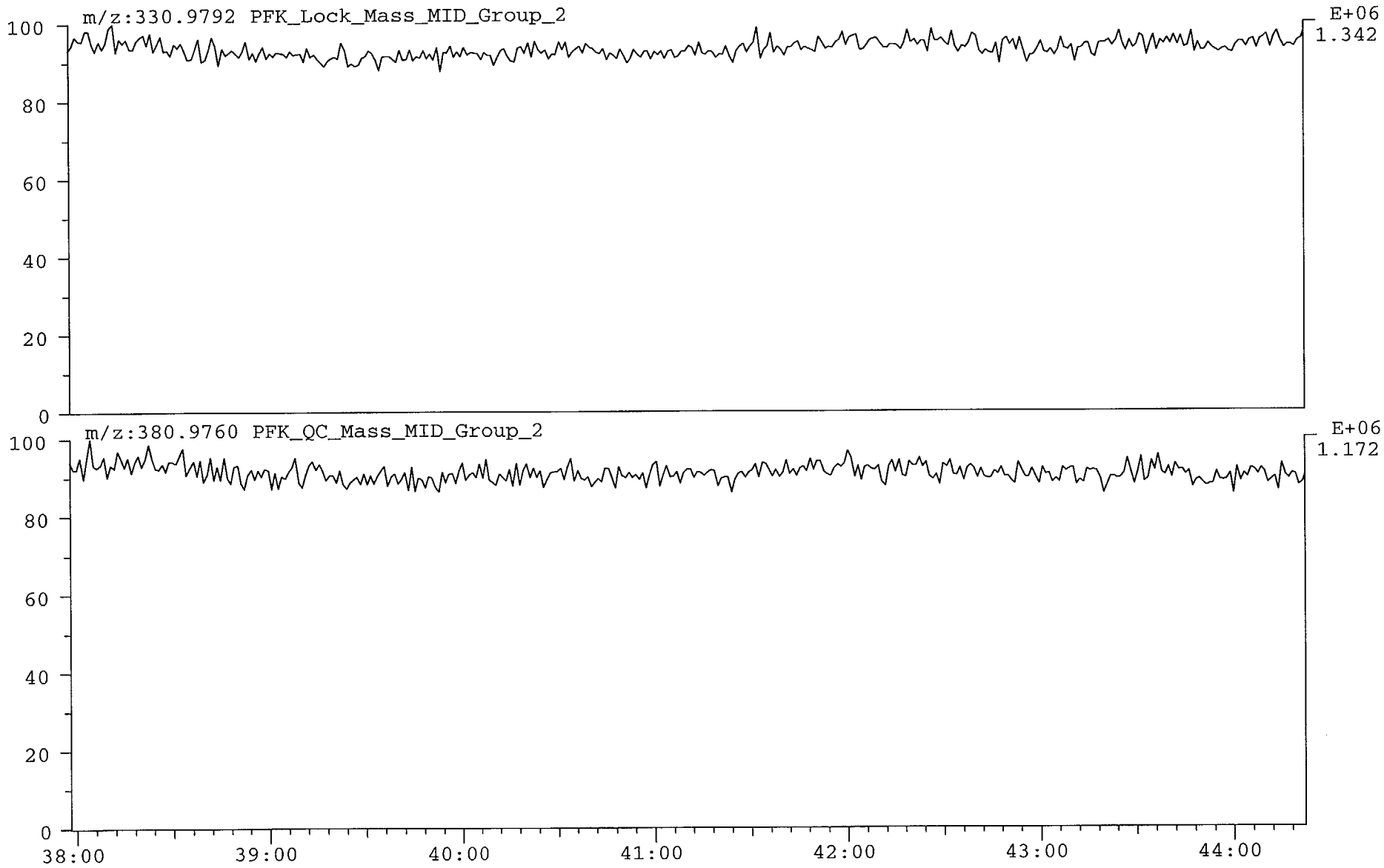
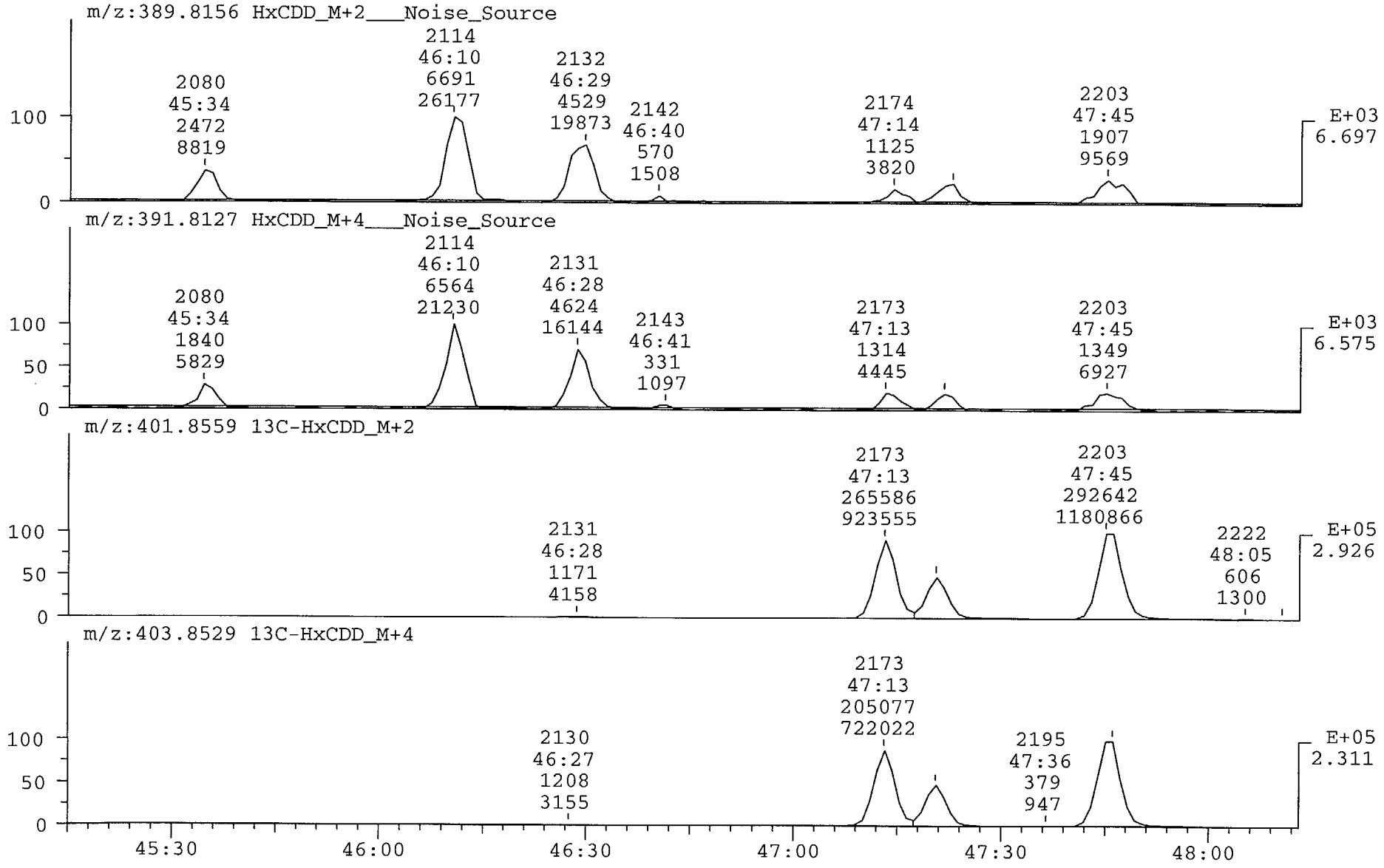
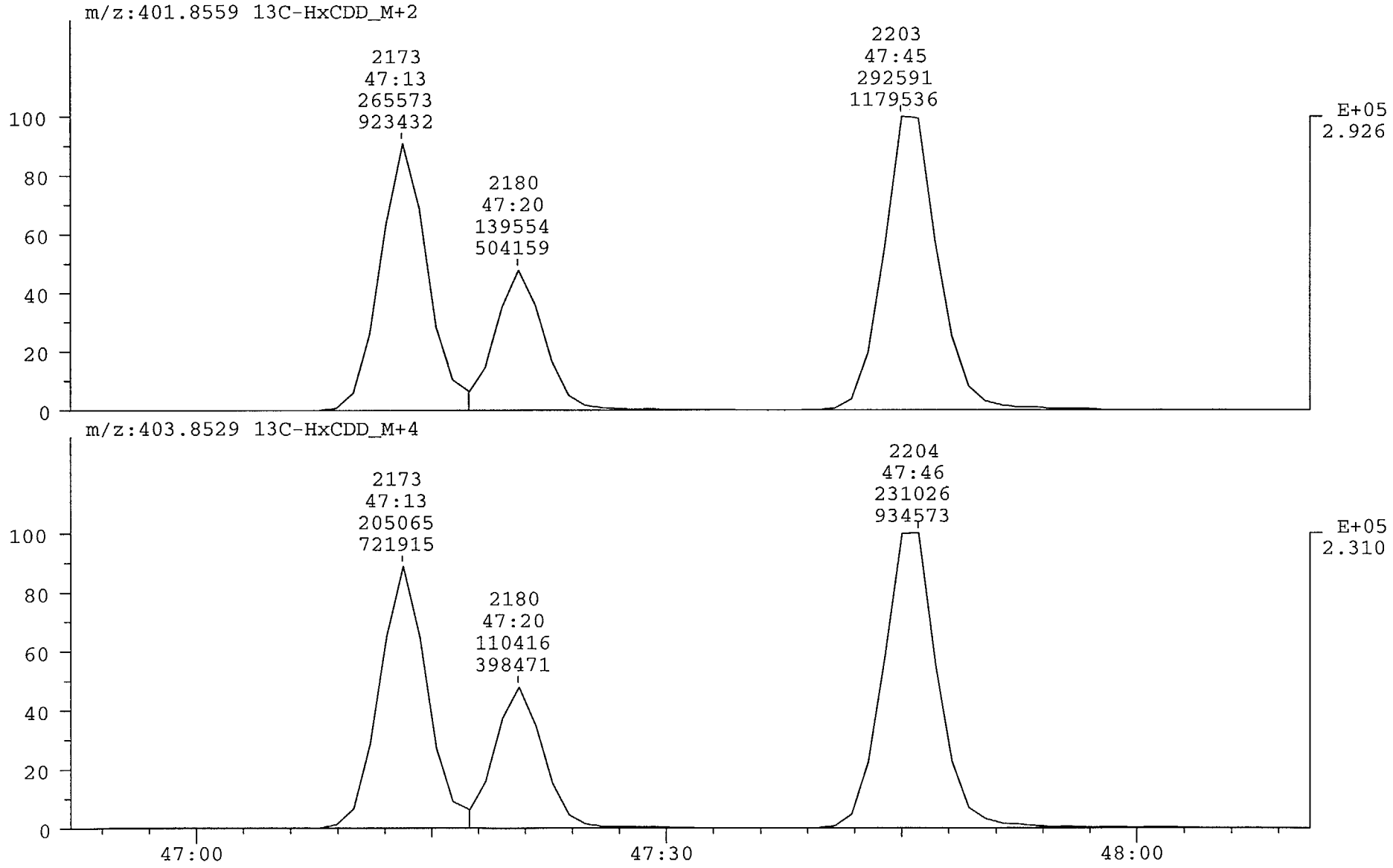
CHRO:  bth2h11                                05-May-06   Elapse:  42:04      1884
Samp:  Vial 14 WO=h2h111aa Meth=X8 Dil=1                  Start :  12:26:31   2891
Comm:  Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-006              Inlet :  GC     Vial  14
Peak:  100.00  ppm      Label wndw:   1652 > 2014         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
```



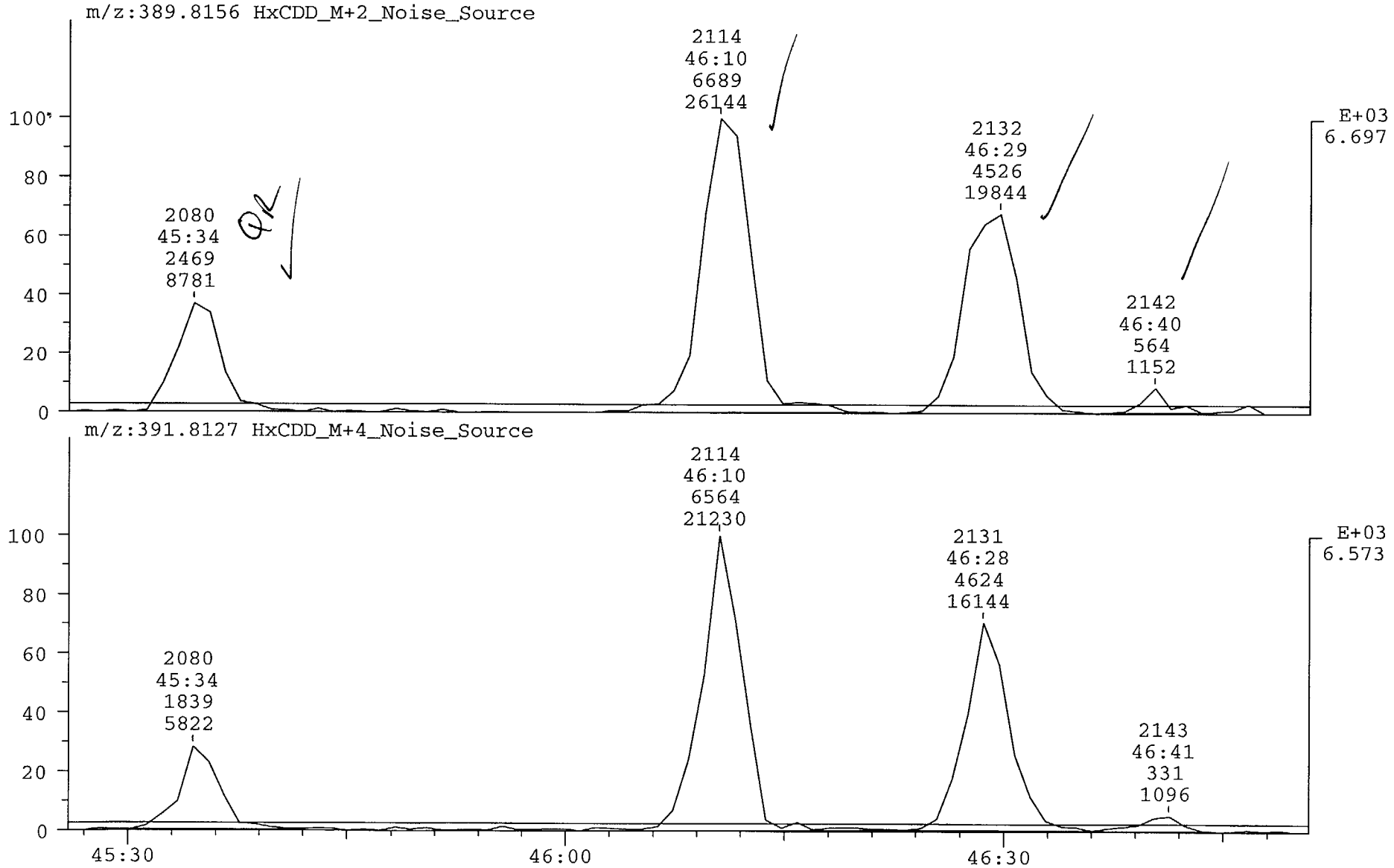
CHRO: bth2h11 05-May-06 Elapse: 42:04 1884
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 2062 > 2229 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



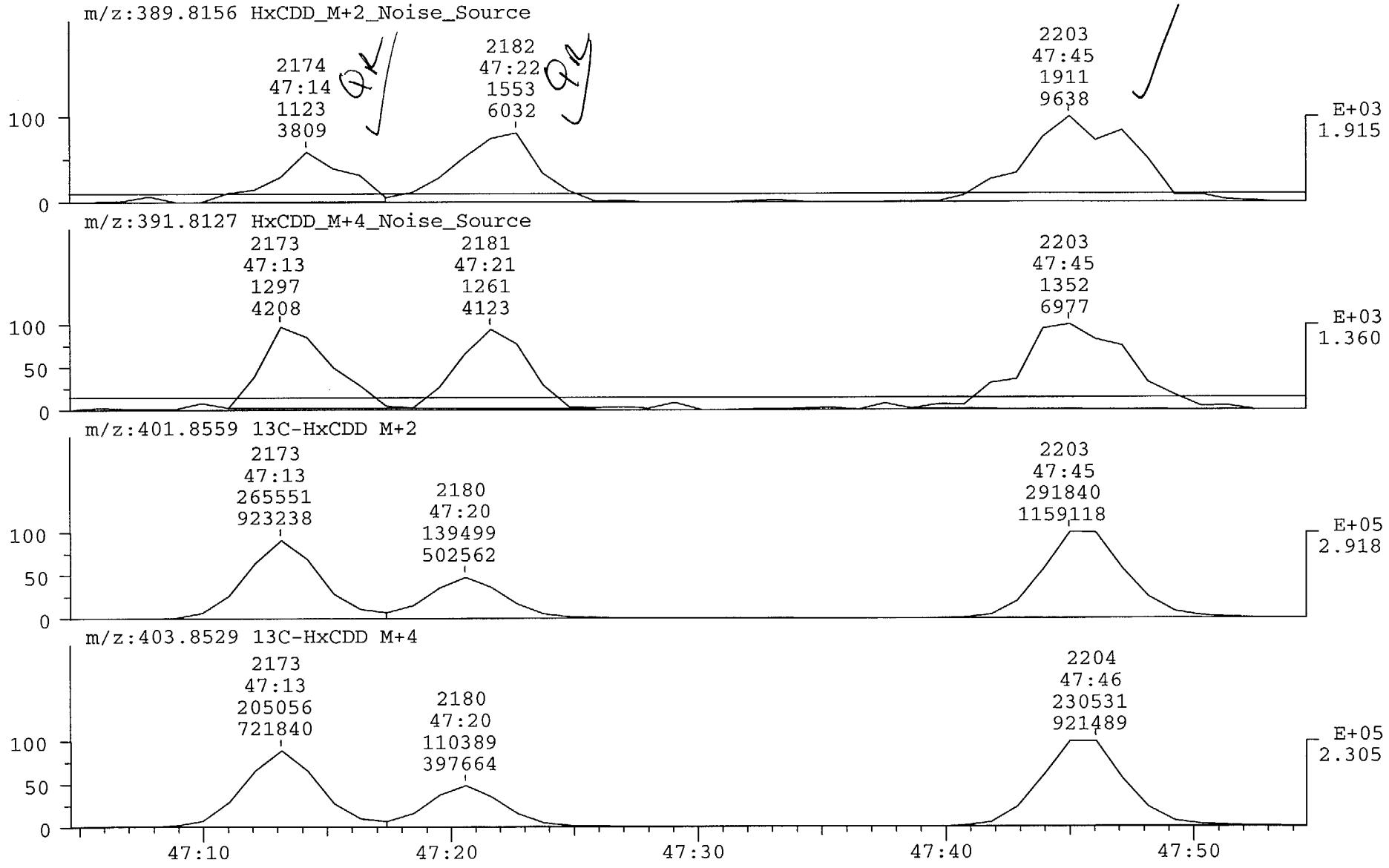
CHRO: bth2h11 05-May-06 Elapse: 47:31 2190
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 2153 > 2227 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



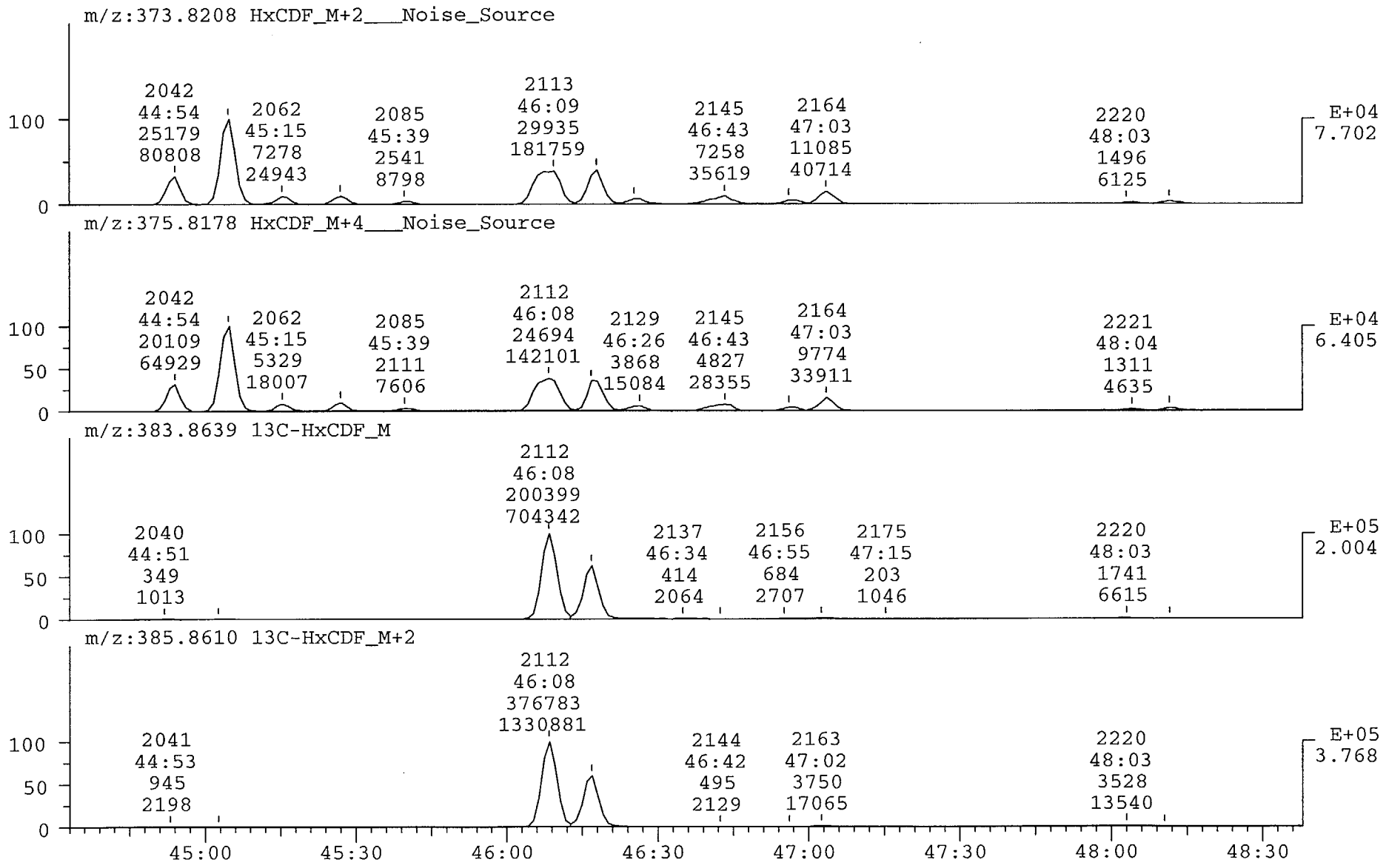
CHRO: bth2h11 05-May-06 Elapse: 56:48 2710
Samp: Vial 14 WO=h2h11aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 2072 > 2152 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



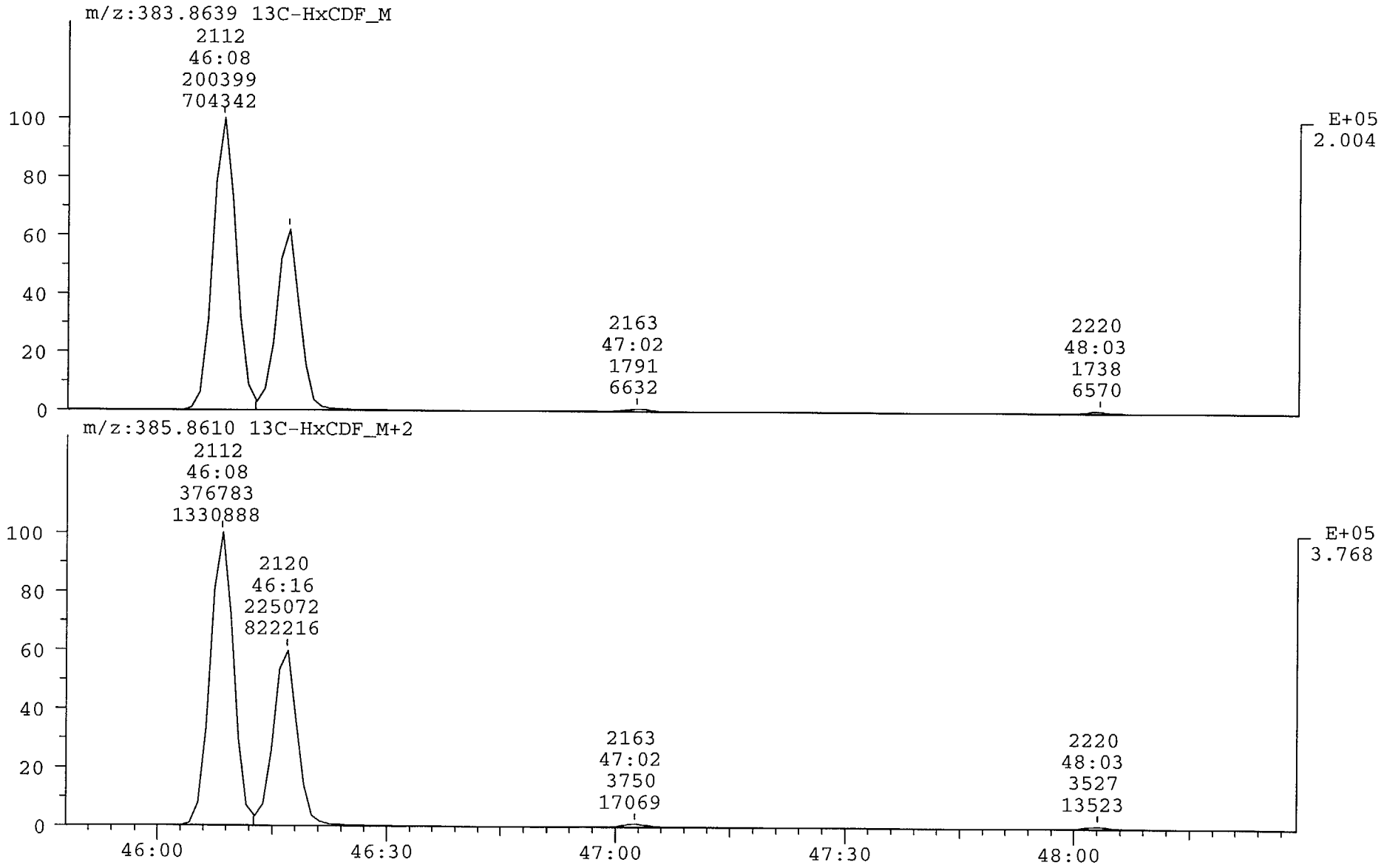
CHRO: bth2h11 05-May-06 Elapse: 56:48 2710
Samp: Vial 14 WO=h2h11aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 2165 > 2212 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



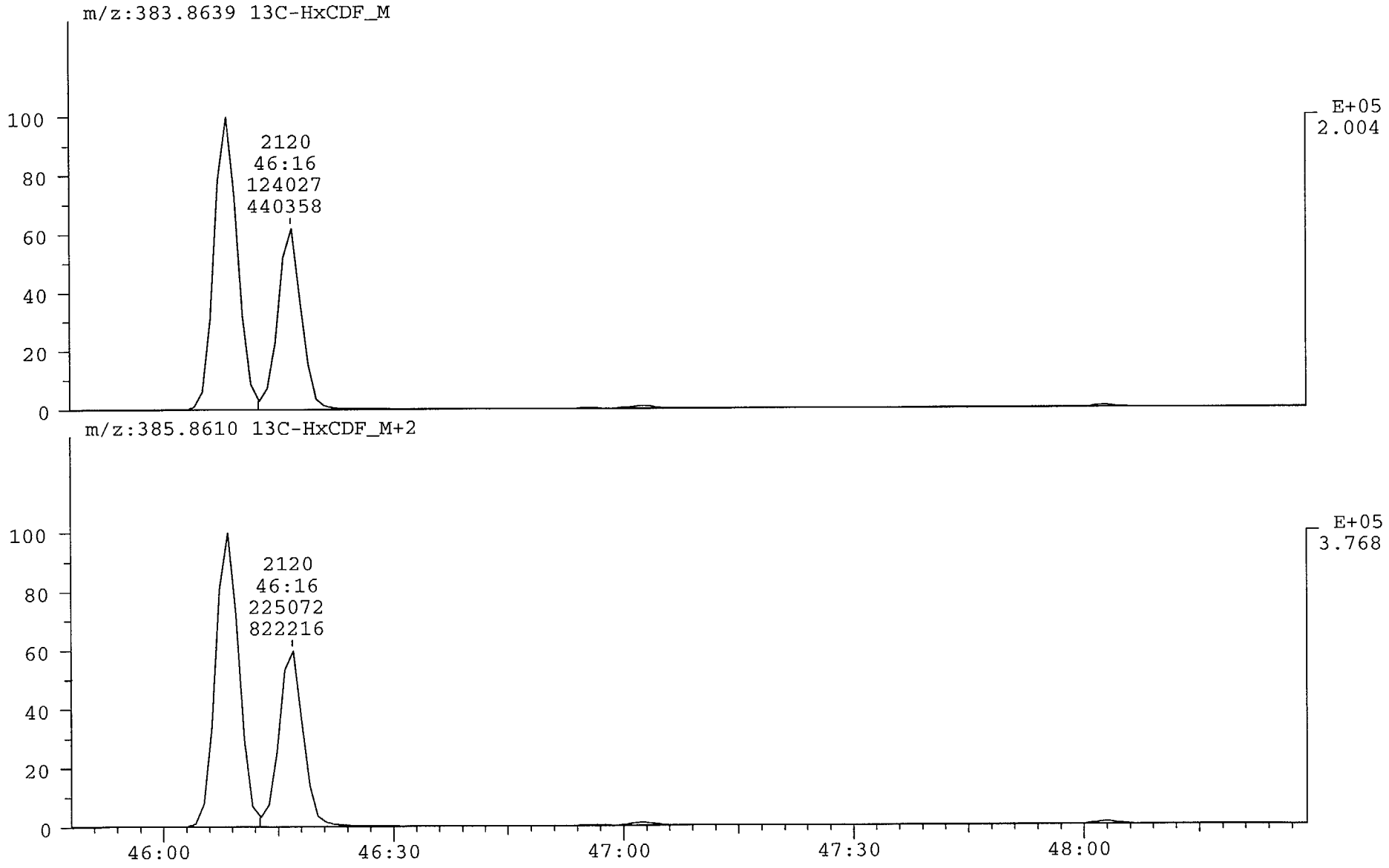
CHRO: bth2h11 05-May-06 Elapse: 47:31 2190
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 2022 > 2253 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



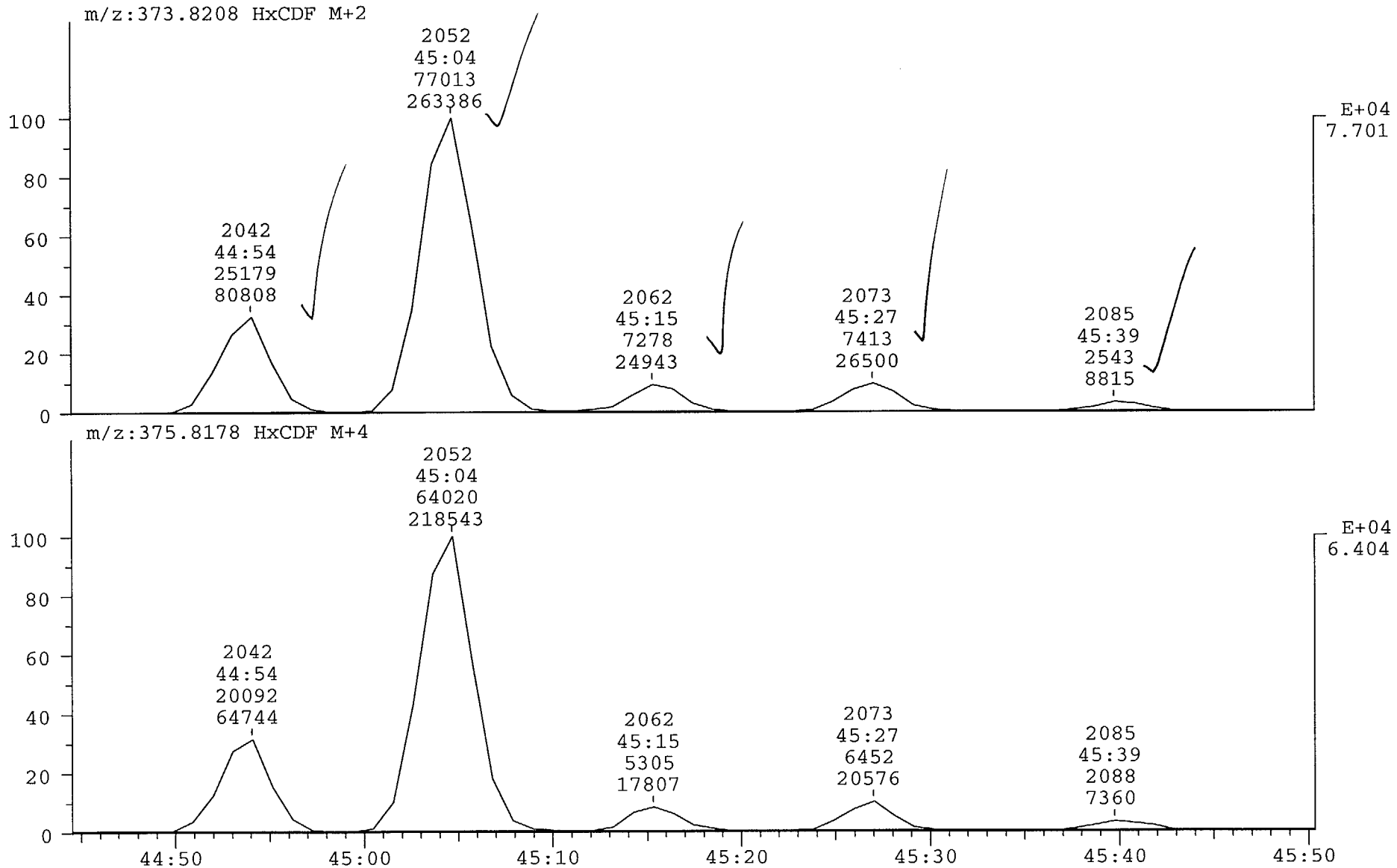
CHRO: bth2h11 05-May-06 Elapse: 47:07 2168
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 2093 > 2244 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



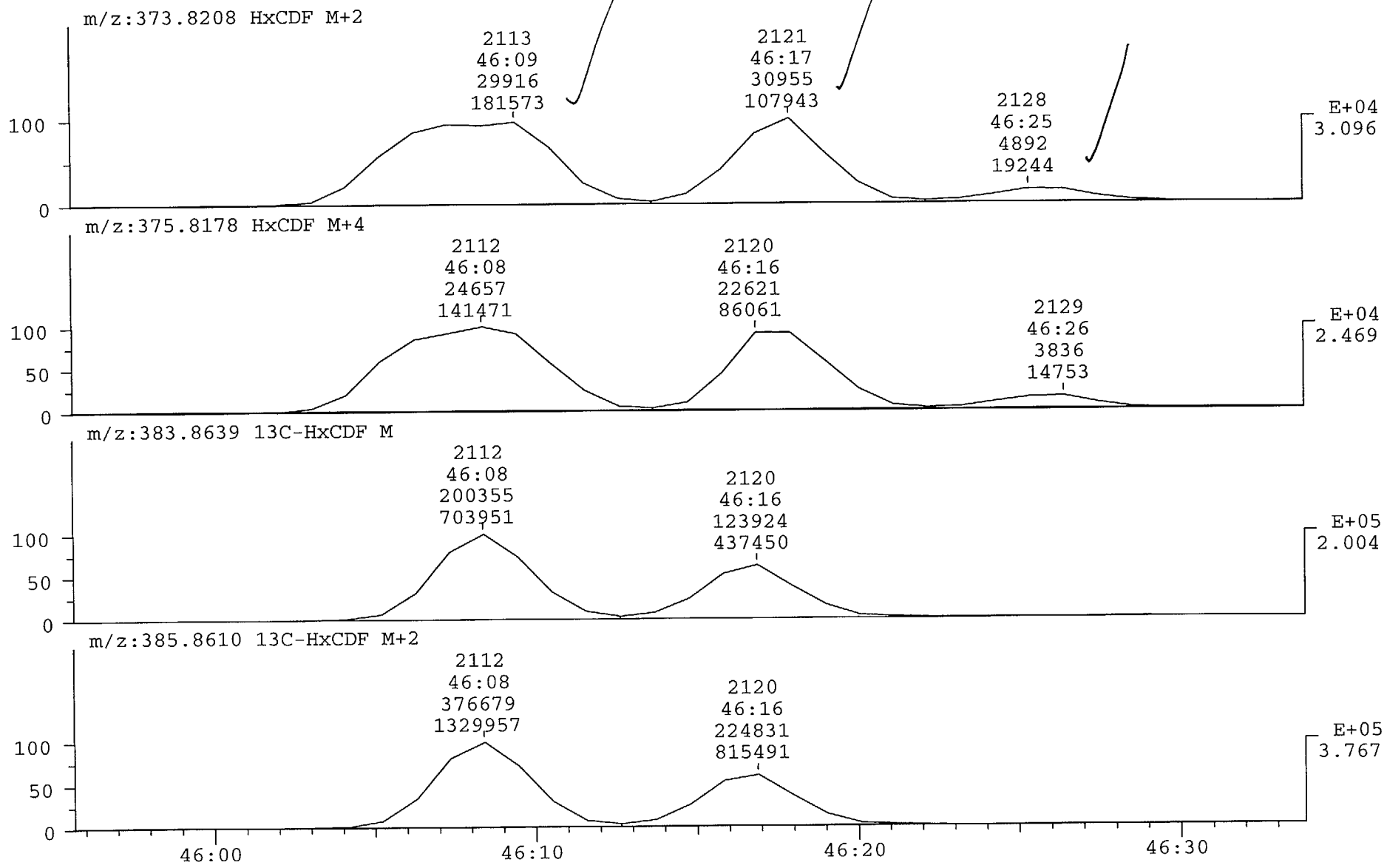
CHRO: bth2h11 05-May-06 Elapse: 46:16 2120
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 2116 > 2124 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



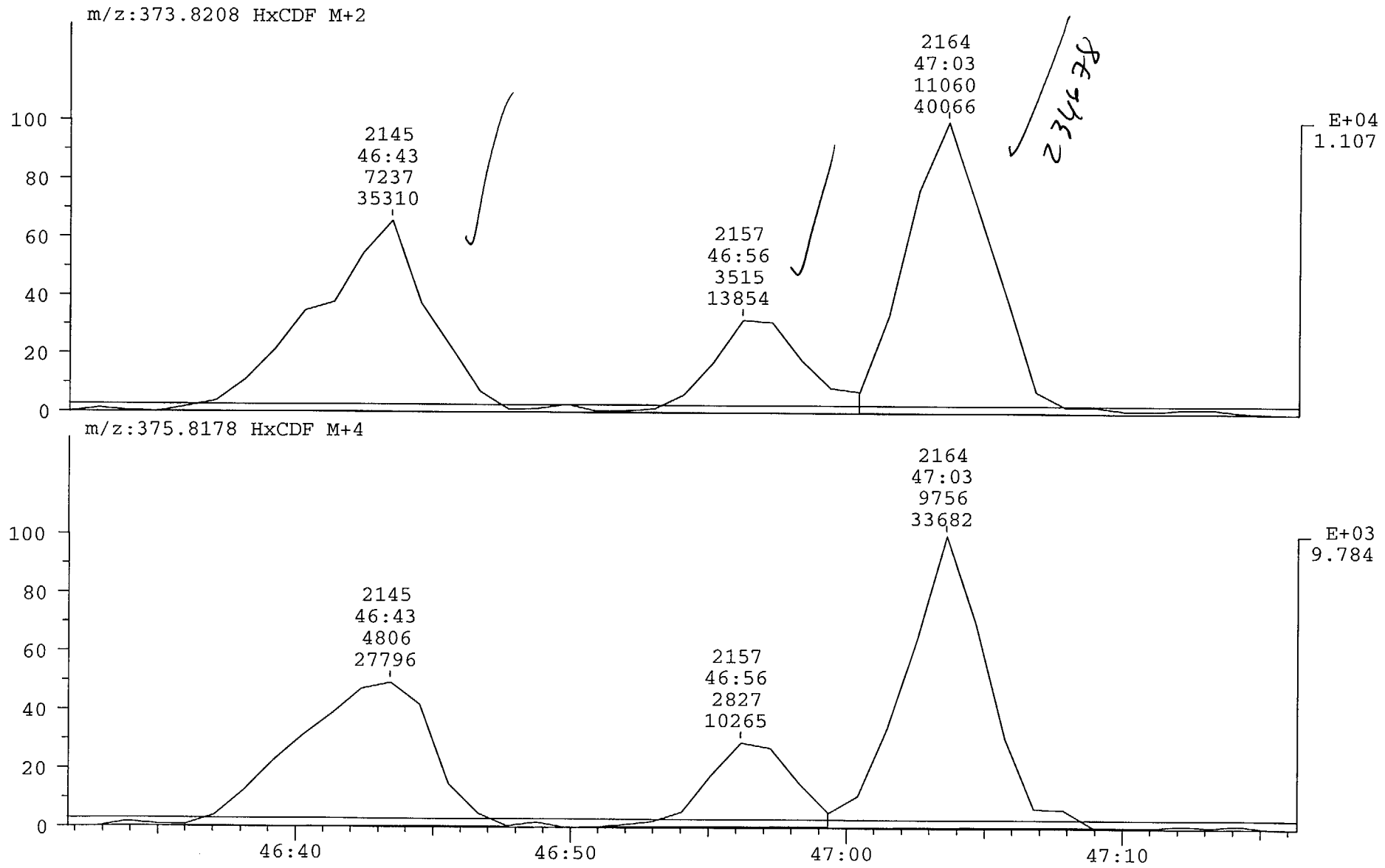
CHRO: bth2h11 05-May-06 Elapse: 56:48 2710
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 2033 > 2095 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



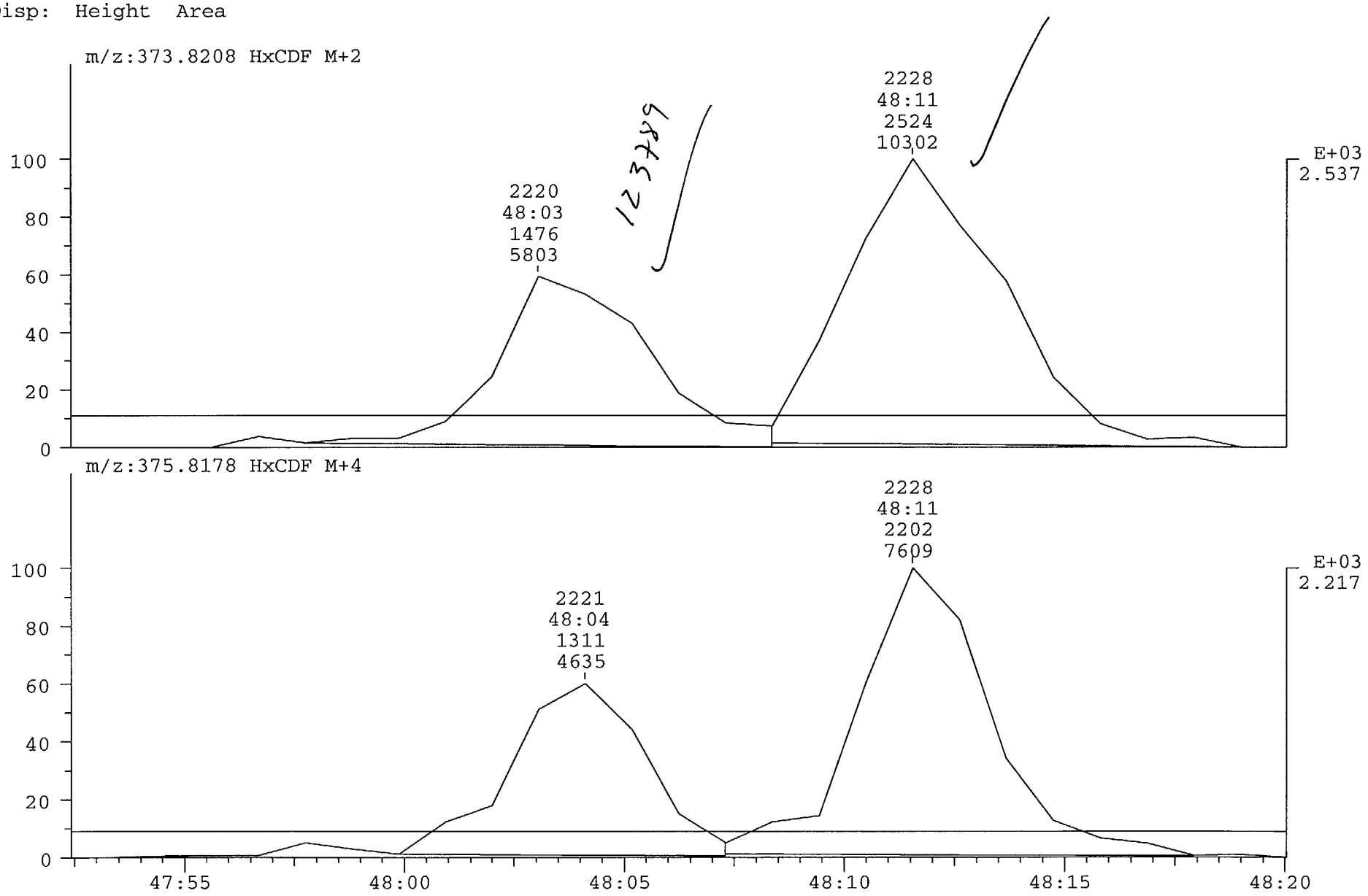
CHRO: bth2h11 05-May-06 Elapse: 56:48 2710
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 2100 > 2136 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



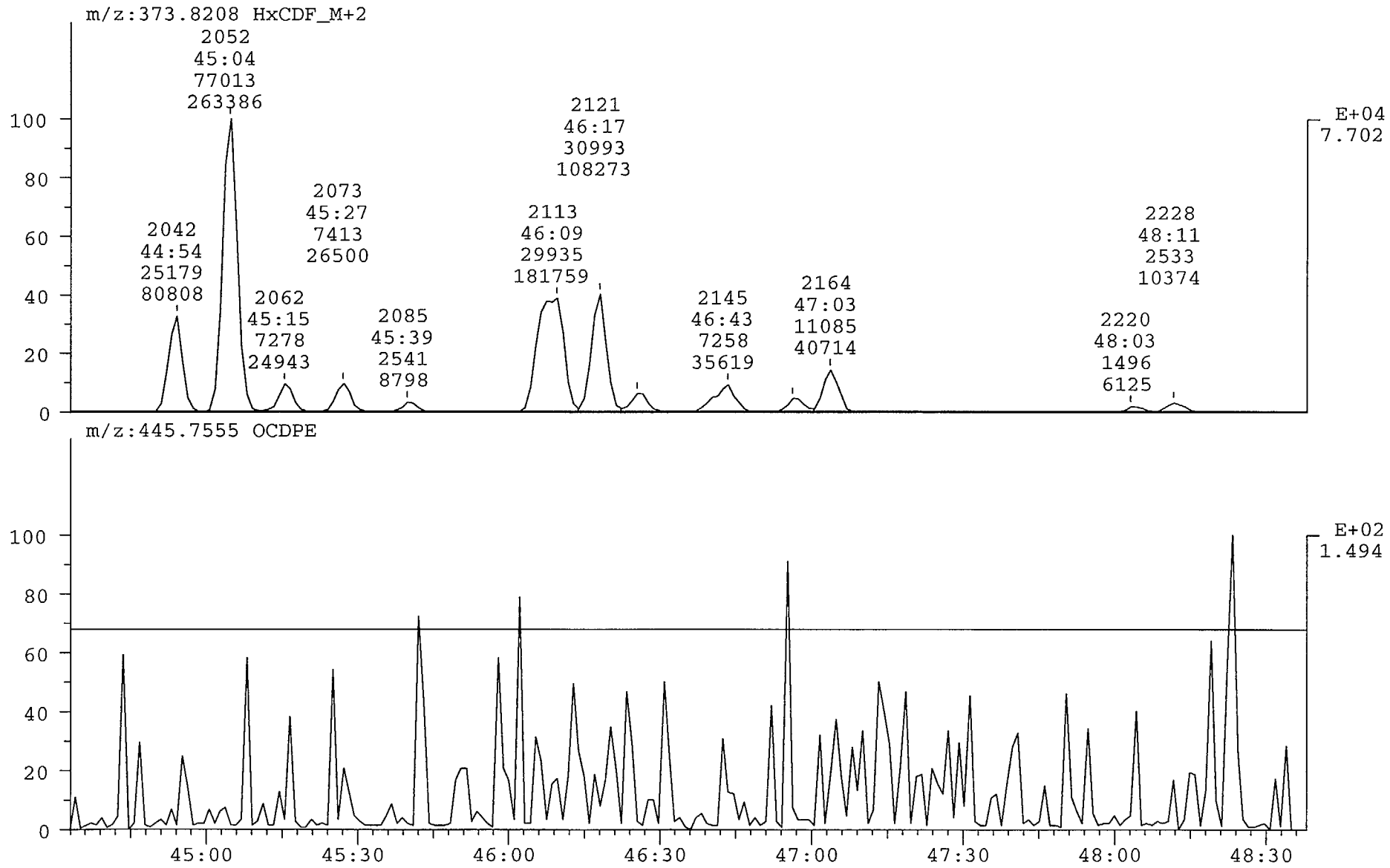
CHRO: bth2h11 05-May-06 Elapse: 56:48 2710
Samp: Vial 14 WO=h2h11aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 2134 > 2176 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



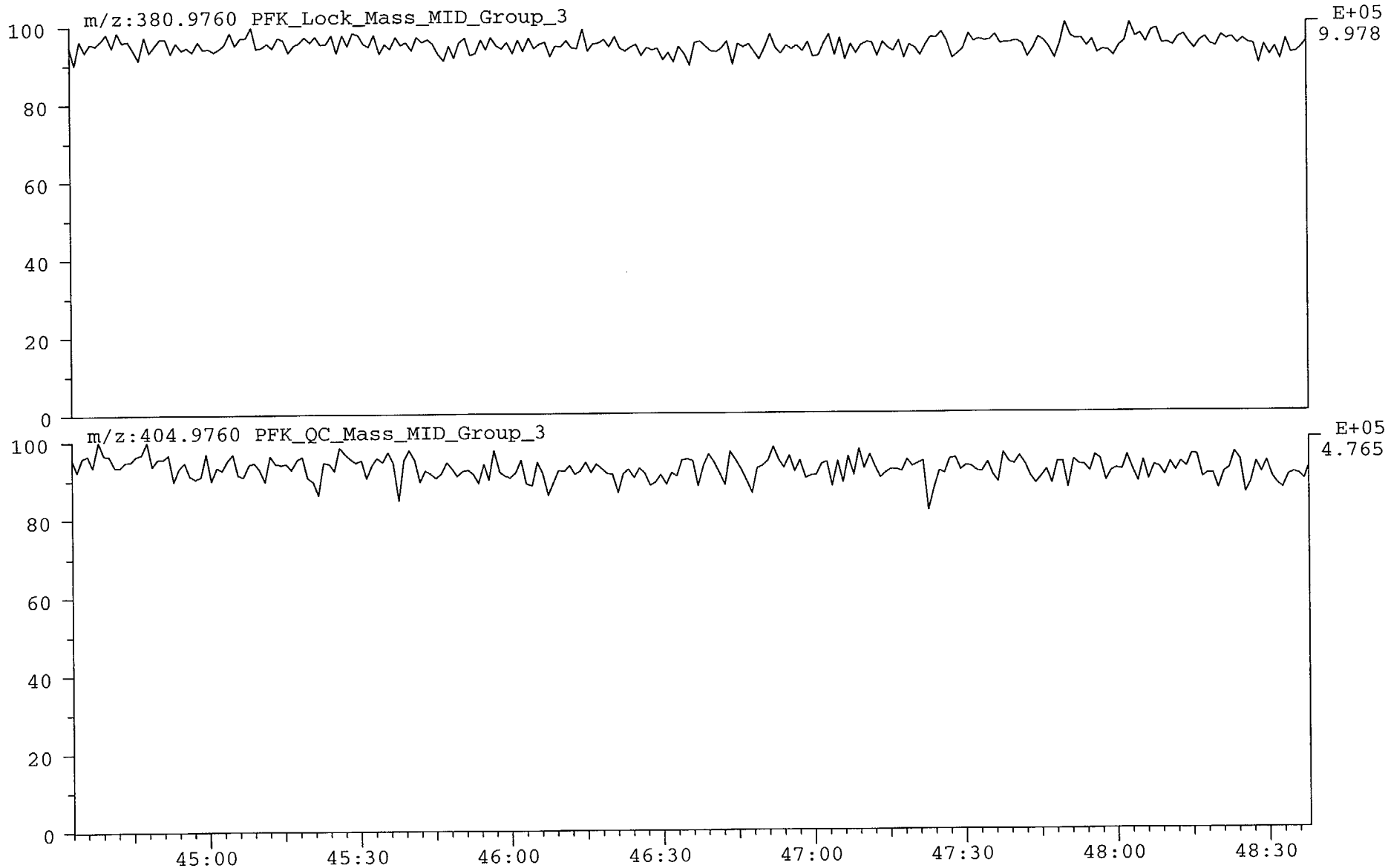
CHRO: bth2h11 05-May-06 Elapse: 56:48 2710
Samp: Vial 14 WO=h2h11aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 2210 > 2236 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



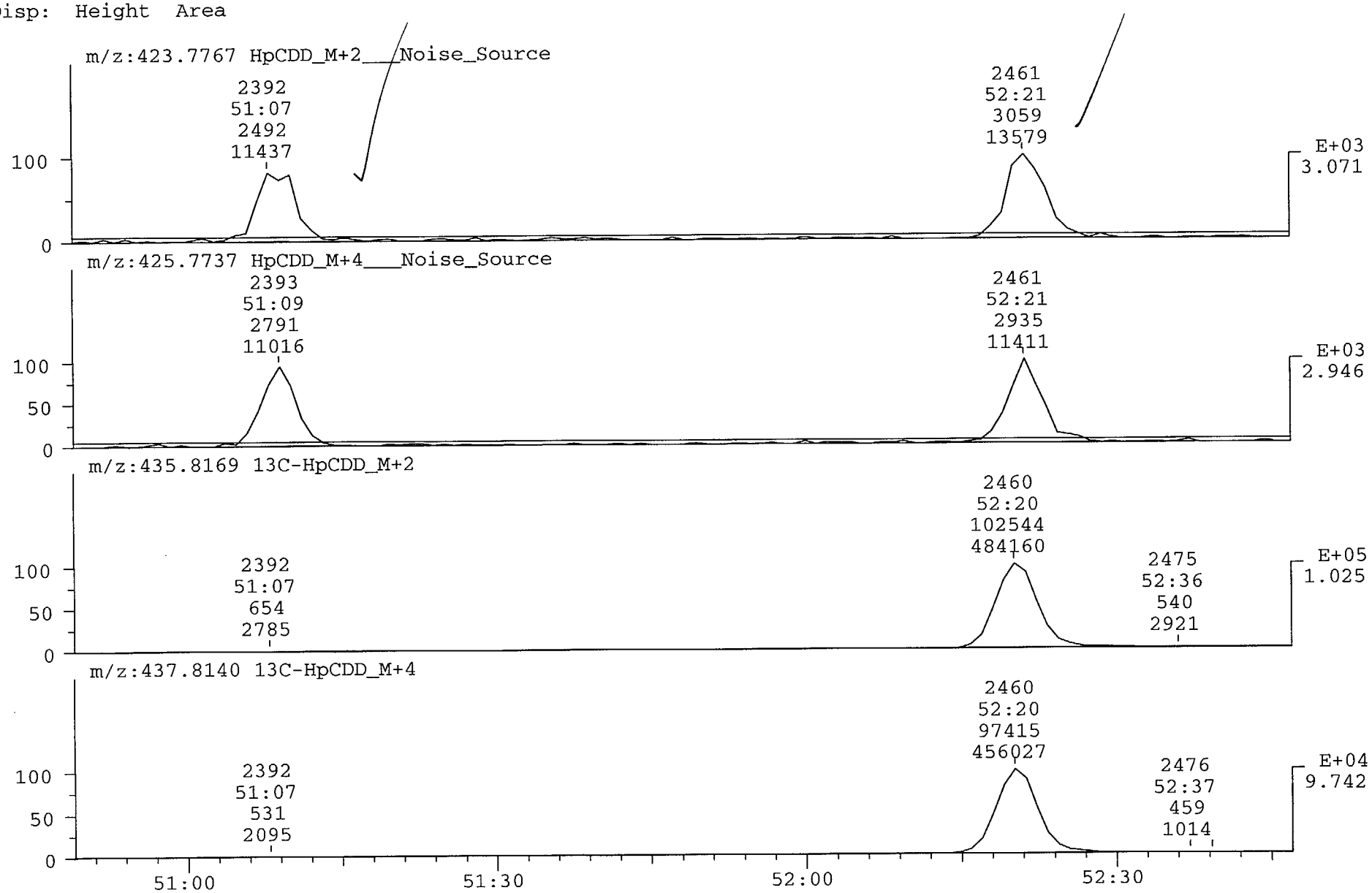
CHRO: bth2h11 05-May-06 Elapse: 46:16 2120
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 2022 > 2253 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



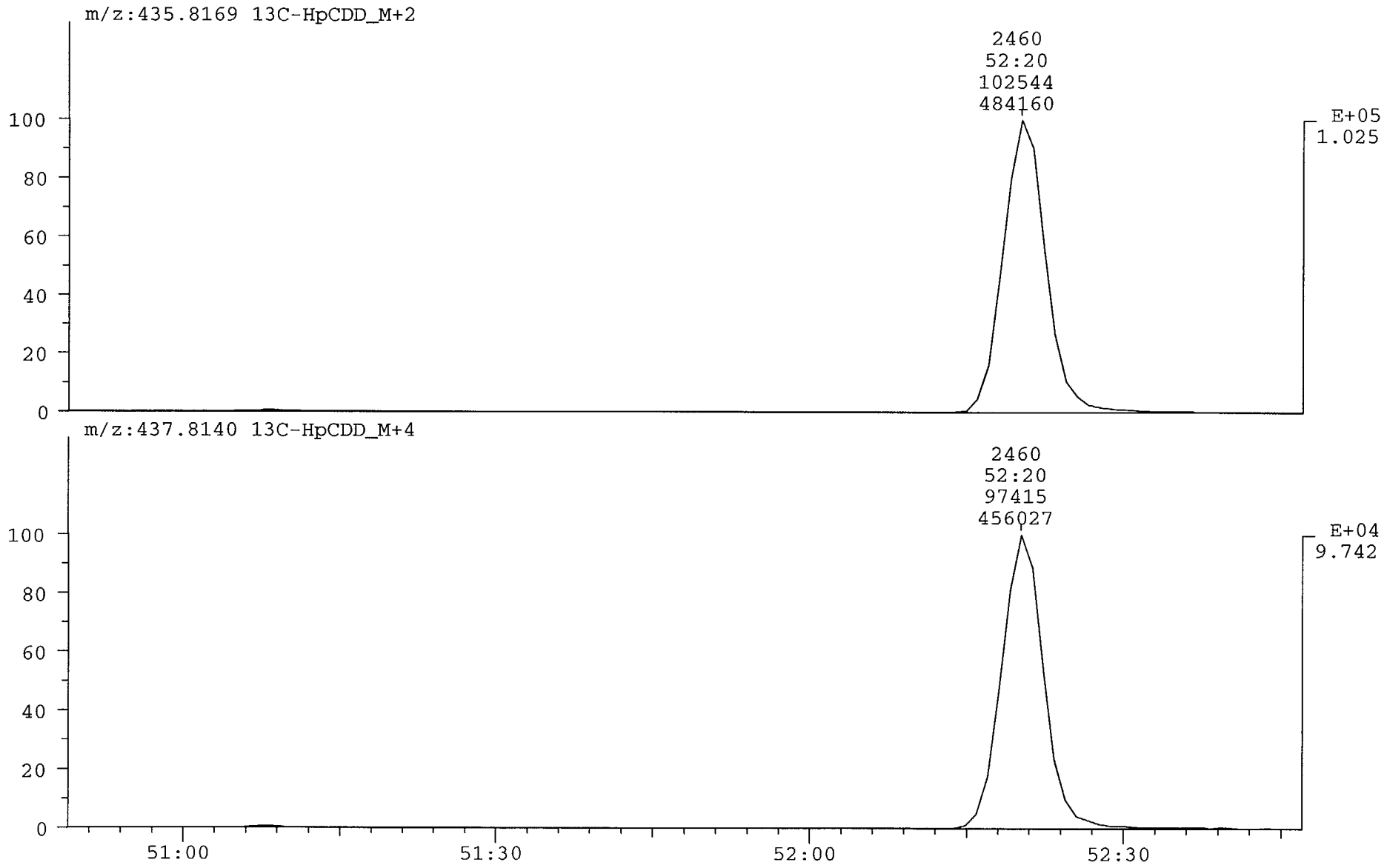
CHRO: bth2h11 05-May-06 Elapse: 46:16 2120
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 2022 > 2253 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



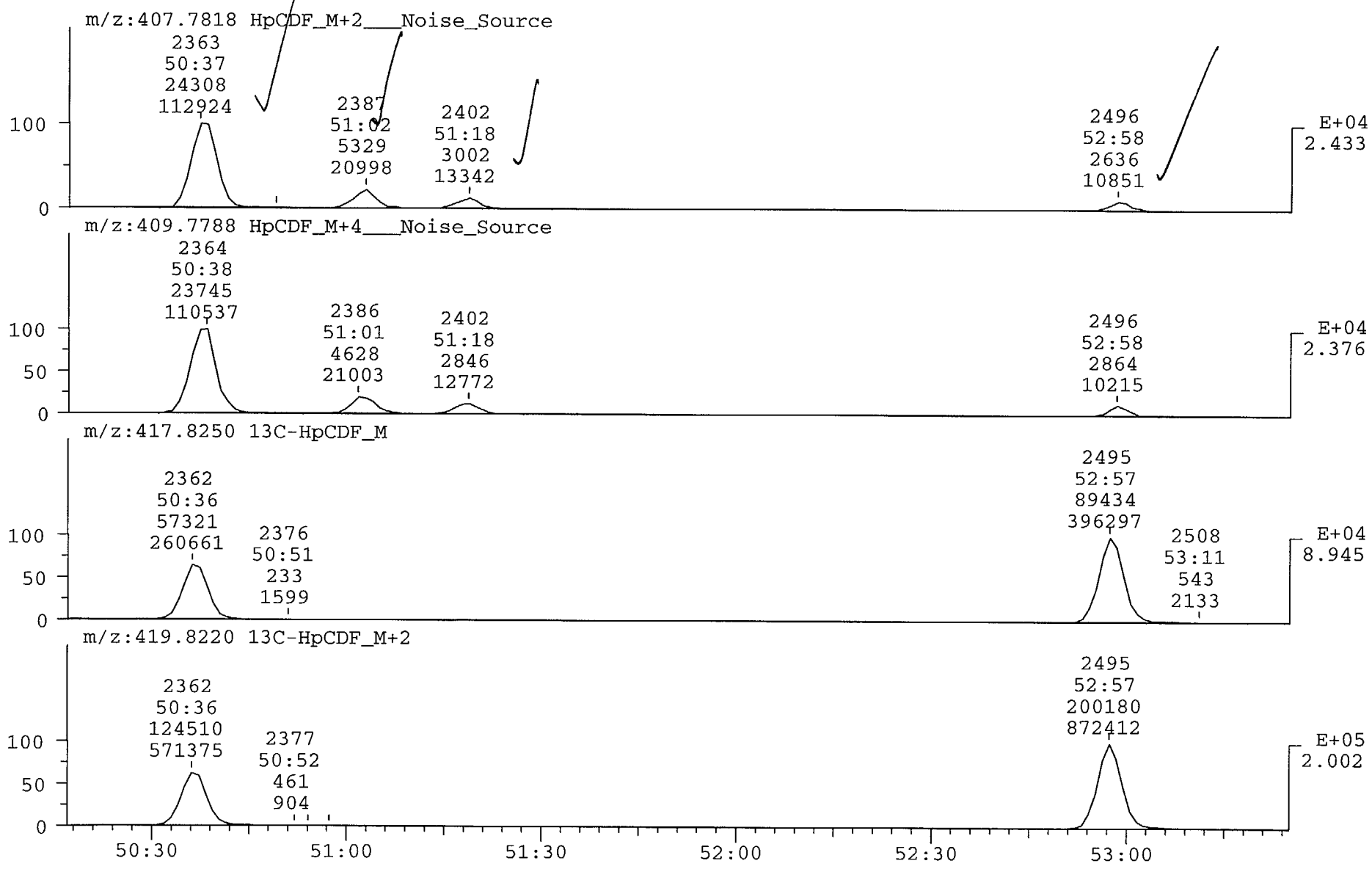
CHRO: bth2h11 05-May-06 Elapse: 46:16 2120
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 2374 > 2485 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



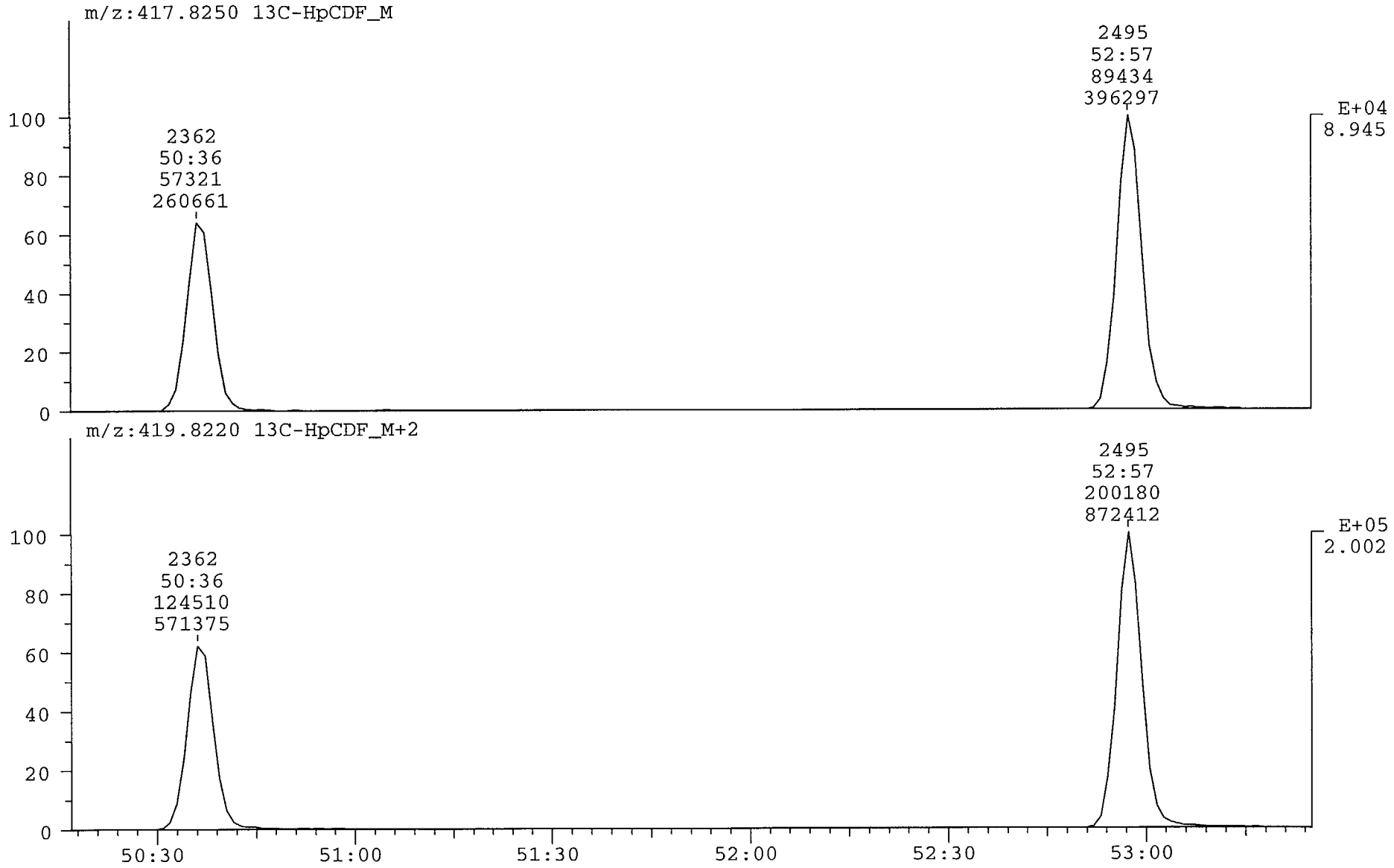
```
CHRO:  bth2h11                                05-May-06   Elapse:  46:16      2120
Samp:  Vial 14 WO=h2h111aa Meth=X8 Dil=1                  Start :  12:26:31   2891
Comm:  Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  BFW          Client:  H6D030236-006                Inlet :  GC     Vial  14
Peak:  100.00  ppm     Label wndw:   2374 > 2485          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



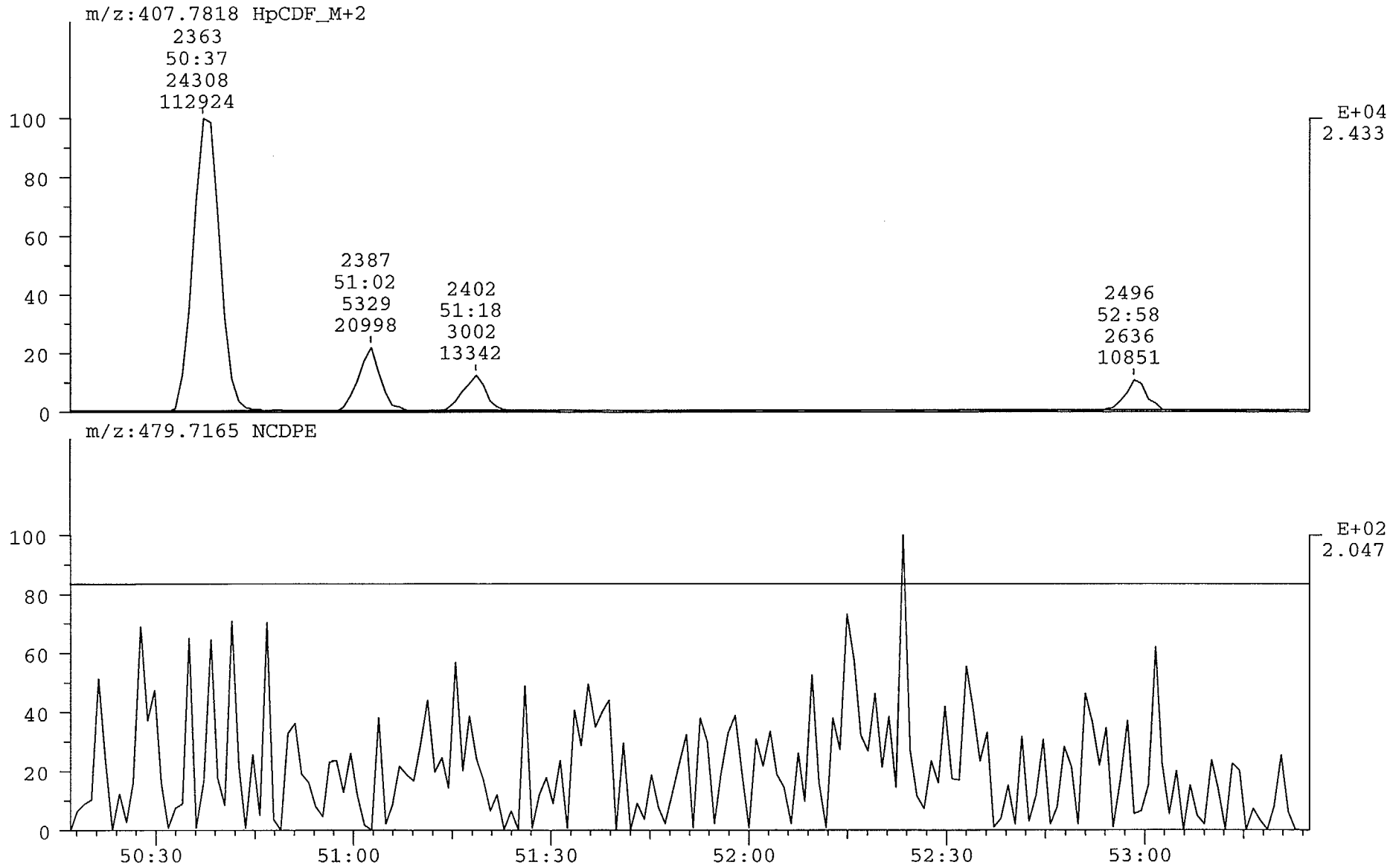
CHRO: bth2h11 05-May-06 Elapse: 46:16 2120
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 2344 > 2521 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



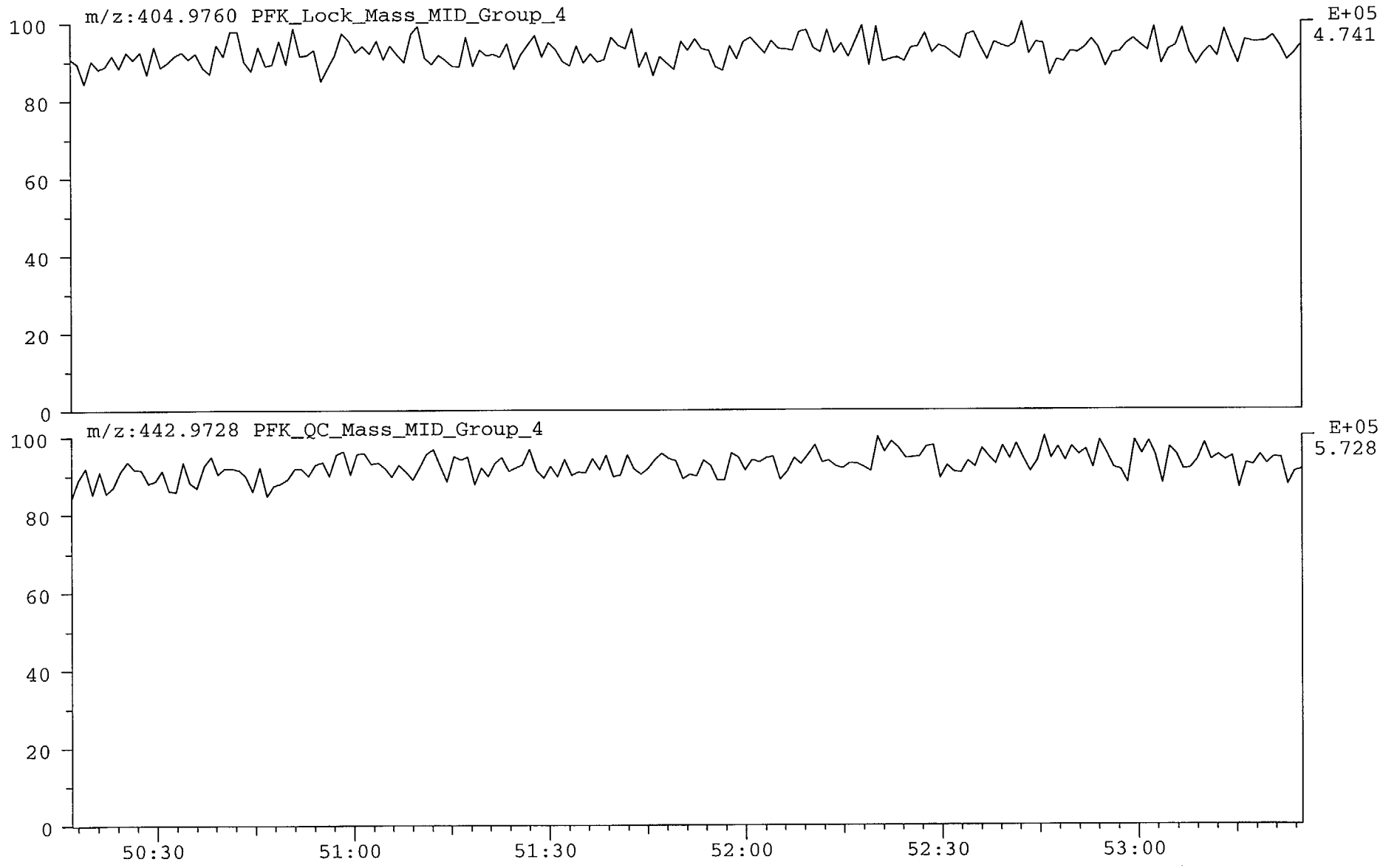
CHRO: bth2h11 05-May-06 Elapse: 46:16 2120
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 2344 > 2521 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



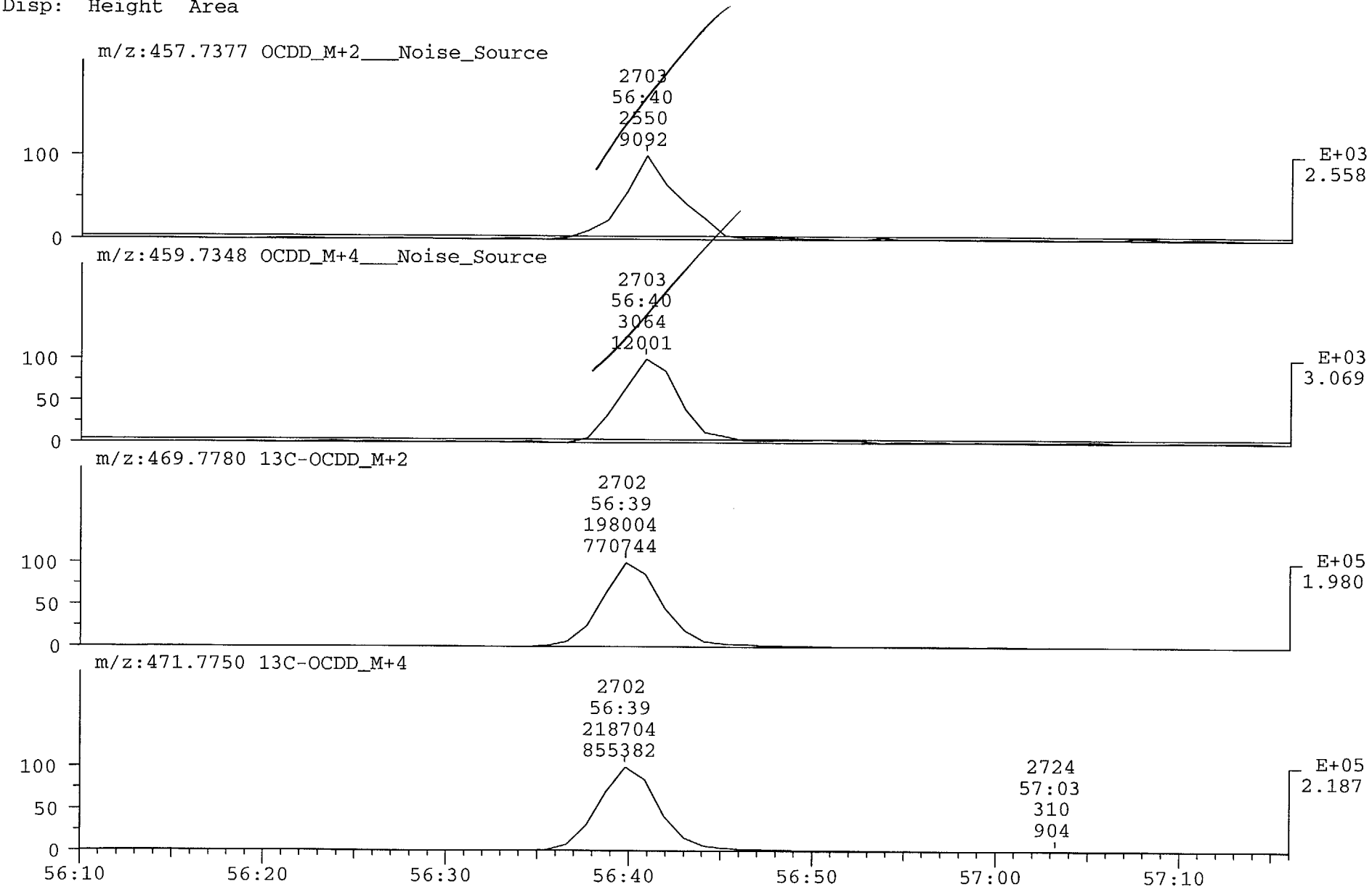
```
CHRO:  bth2h11                              05-May-06   Elapse:  46:16      2120
Samp:  Vial 14 WO=h2h111aa Meth=X8 Dil=1                Start :  12:26:31   2891
Comm:  Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                        Study :  6107092 (Air)
Oper:  BFW          Client:  H6D030236-006              Inlet :  GC     Vial  14
Peak:  100.00  ppm     Label wndw:   2344 > 2521        Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3             Label :  -2, 3.0
Disp:  Height  Area
```



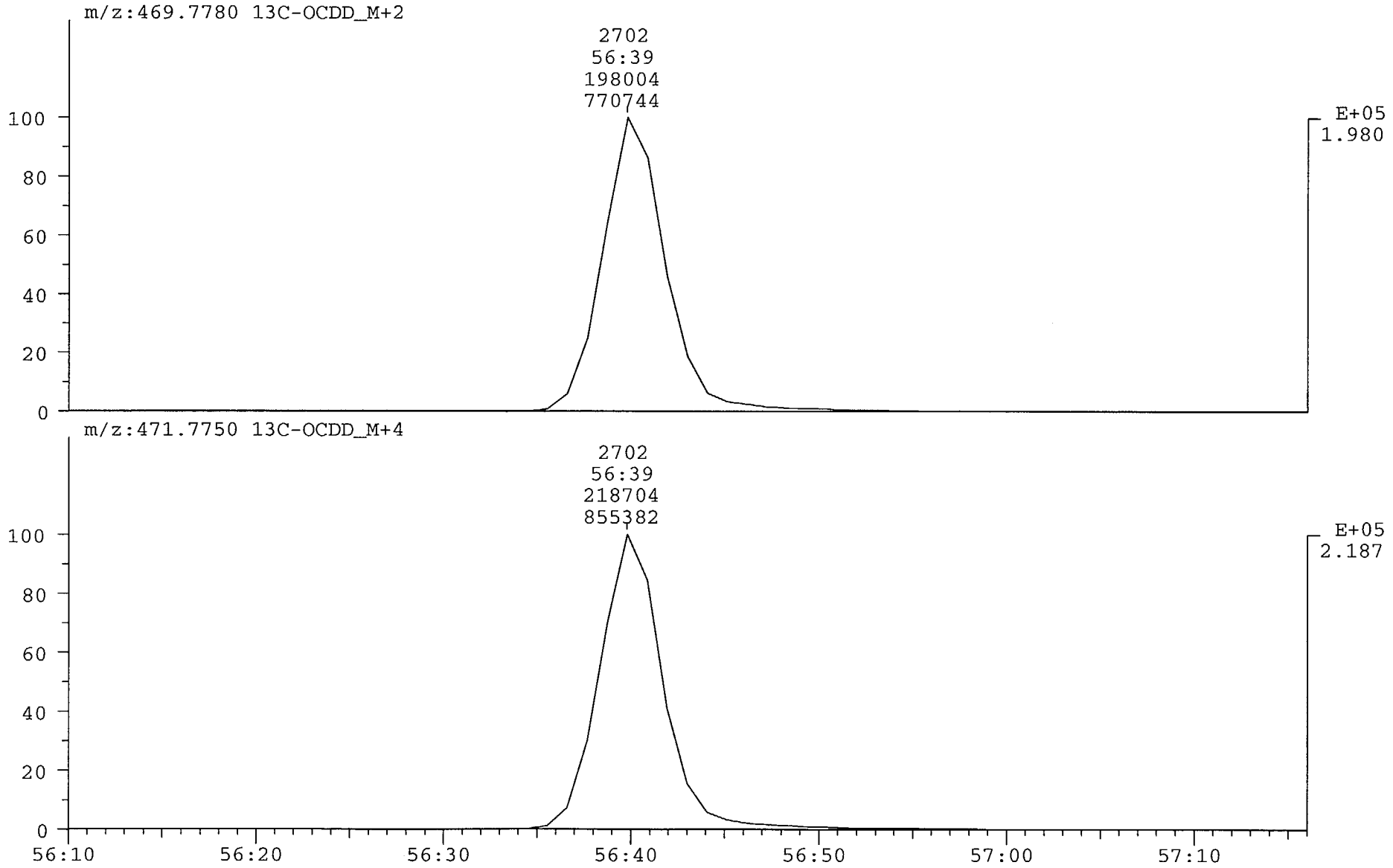
```
CHRO:  bth2h11                                05-May-06  Elapse:  46:16      2120
Samp:  Vial 14 WO=h2h11aa Meth=X8 Dil=1                  Start :  12:26:31   2891
Comm:  Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW          Client:  H6D030236-006               Inlet :  GC     Vial  14
Peak:  100.00  ppm     Label wndw:   2344 > 2521         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



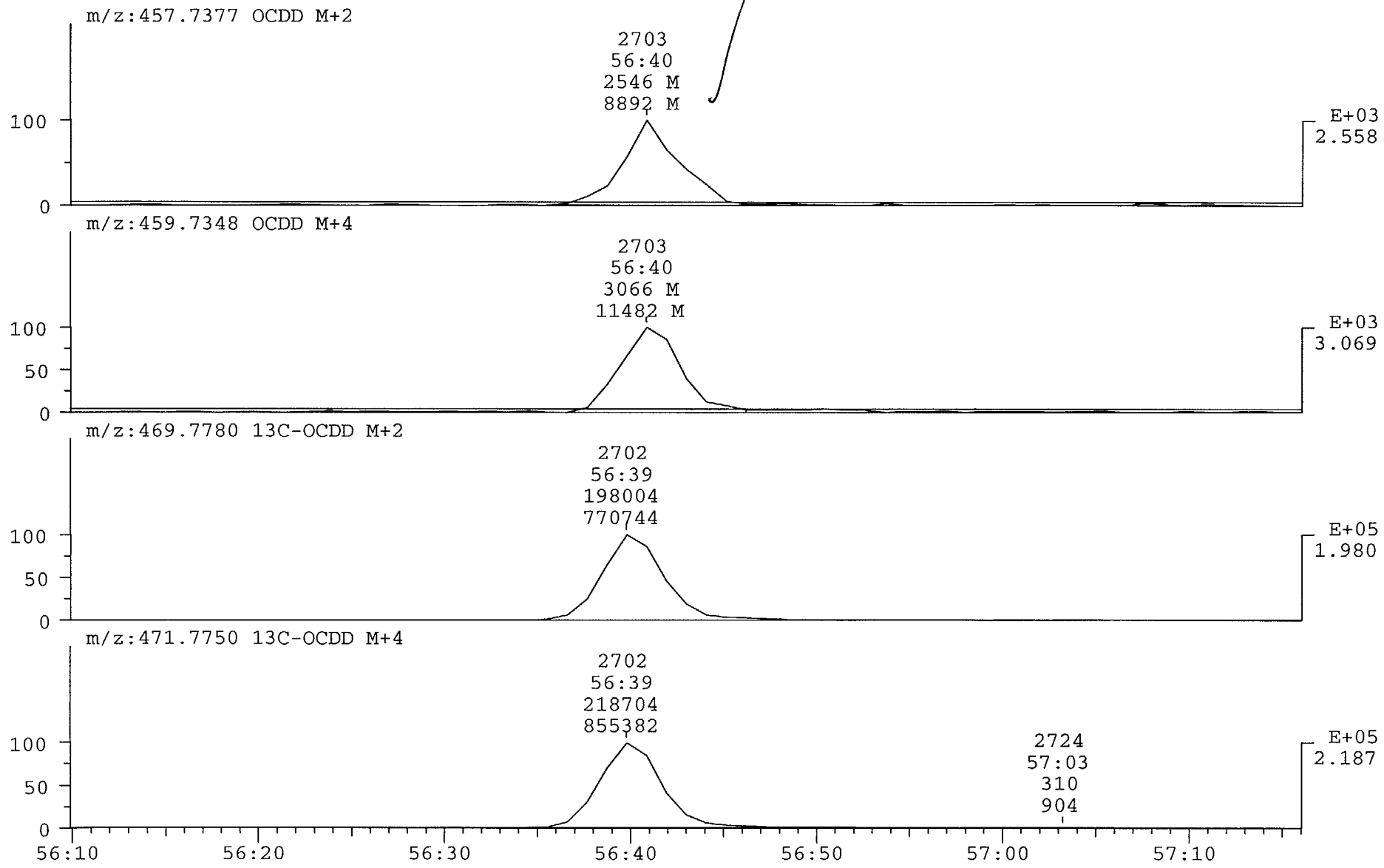
CHRO: bth2h11 05-May-06 Elapse: 56:39 2702
Samp: Vial 14 WO=h2h111aa Meth=X8 Dil=1 Start : 12:26:31 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-006 Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 2674 > 2736 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



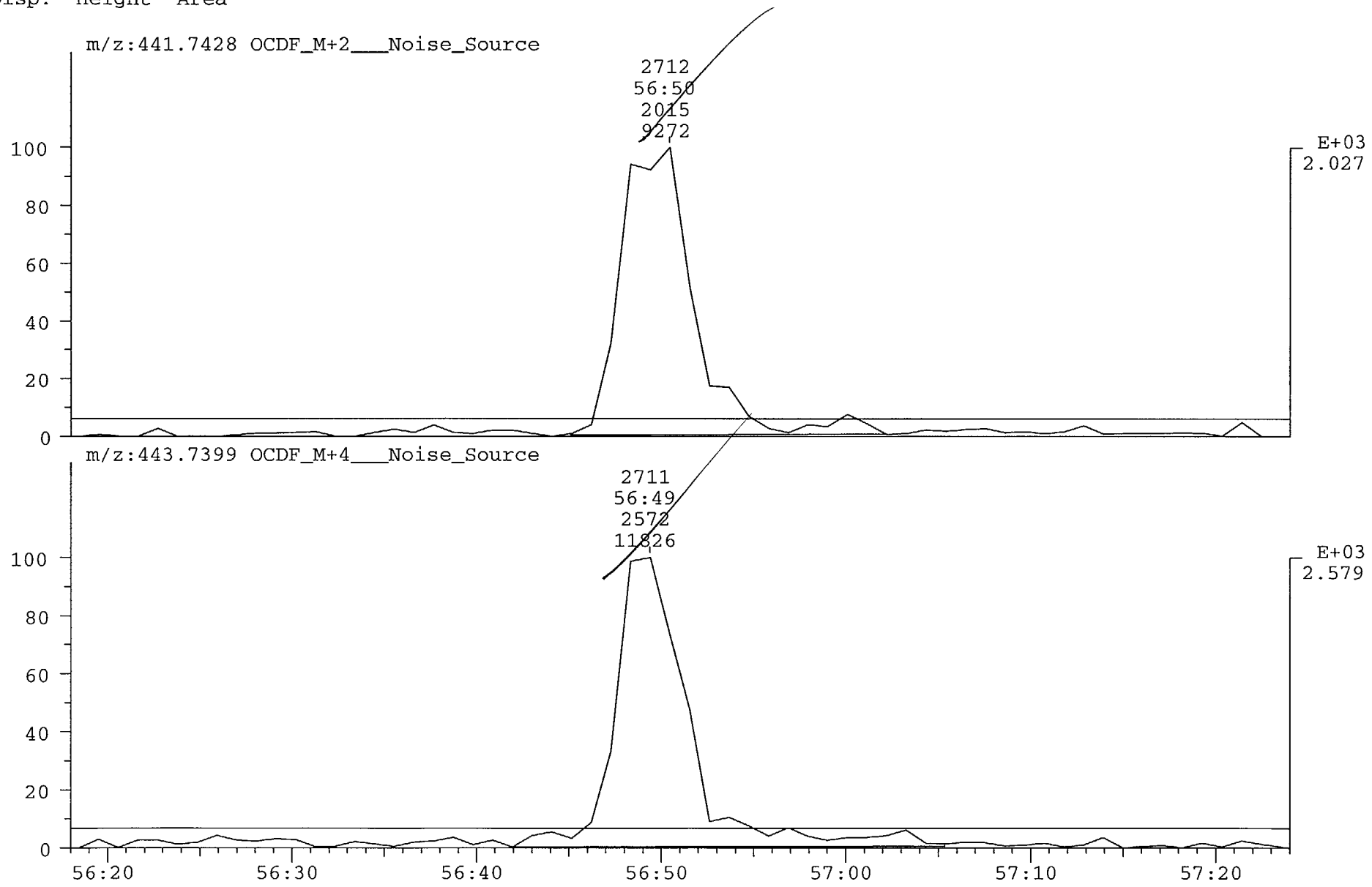
```
CHRO:  bth2h11                                05-May-06   Elapse:  56:39      2702
Samp:  Vial 14 WO=h2h111aa Meth=X8 Dil=1                  Start :  12:26:31   2891
Comm:  Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-006              Inlet :  GC     Vial  14
Peak:  100.00  ppm      Label wndw:   2674 > 2736         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



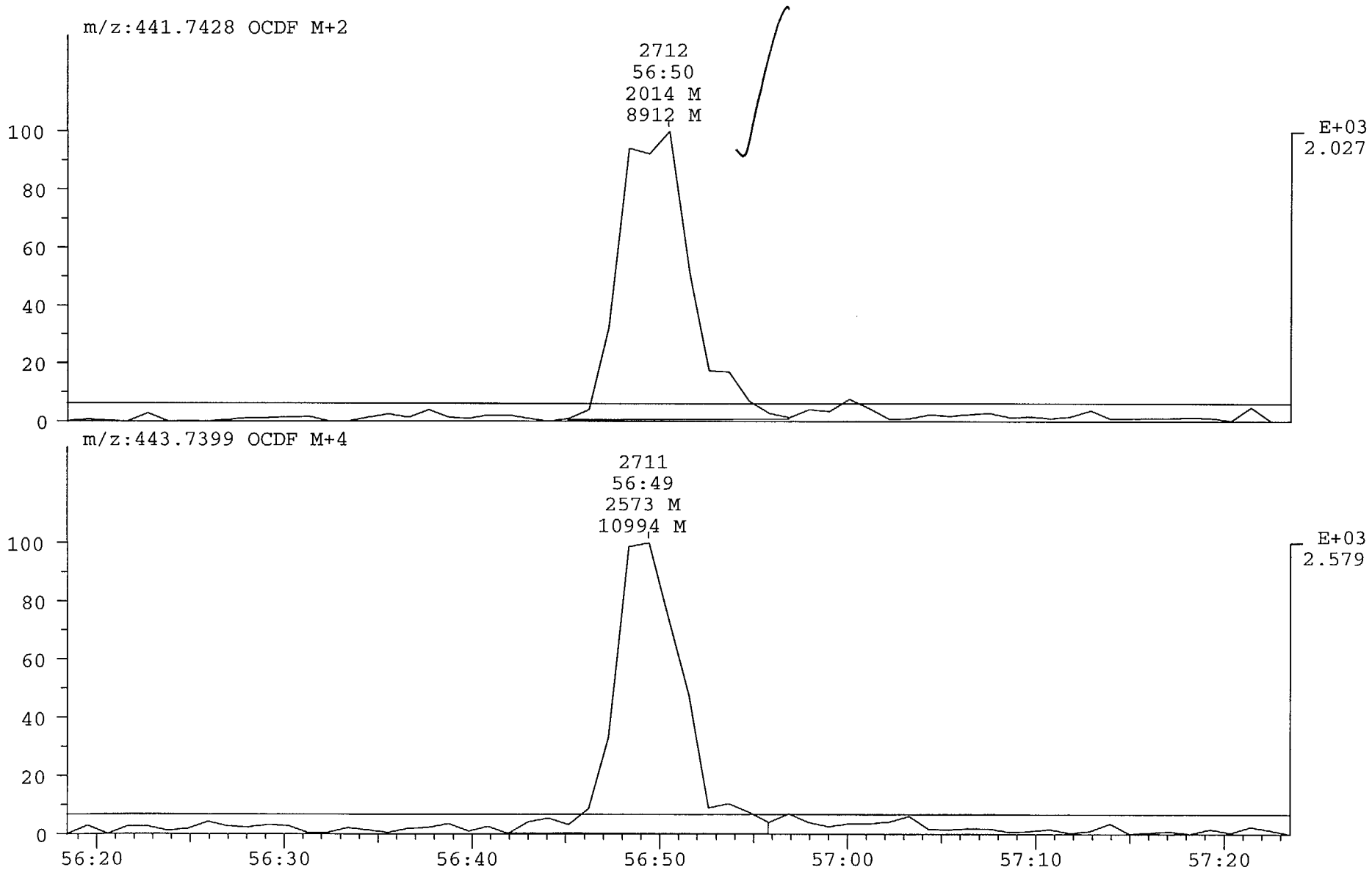
```
CHRO:  bth2h11                                05-May-06   Elapse:  56:48      2710
Samp:  Vial 14 WO=h2h111aa Meth=X8 Dil=1                  Start :  12:26:31   2891
Comm:  Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-006              Inlet :  GC     Vial  14
Peak:  100.00  ppm      Label wndw:   2674 > 2736         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



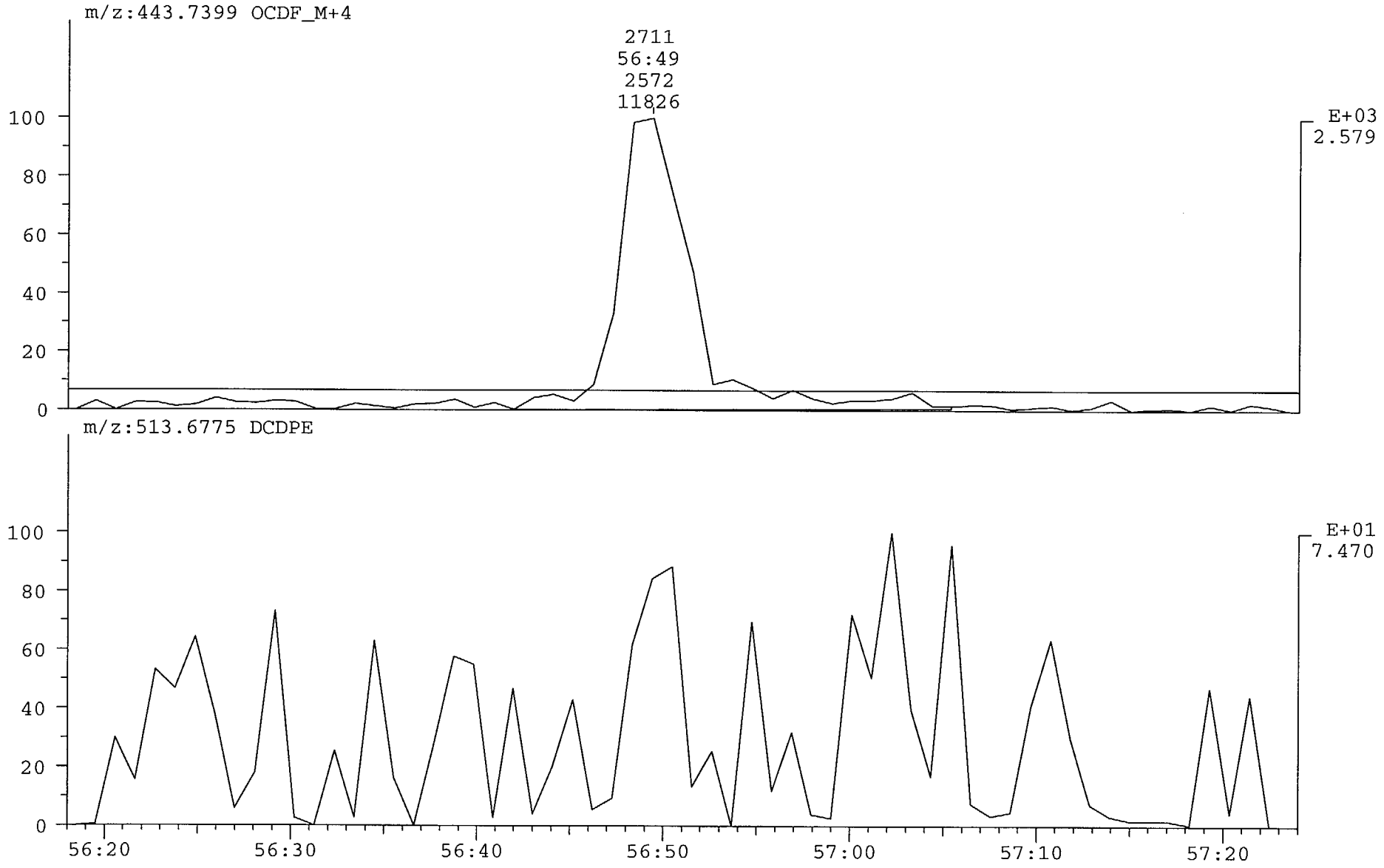
```
CHRO:  bth2h11                              05-May-06   Elapse:  56:48      2710
Samp:  Vial 14 WO=h2h111aa Meth=X8 Dil=1                Start :  12:26:31   2891
Comm:  Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                        Study :  6107092 (Air)
Oper:  BFW          Client:  H6D030236-006              Inlet :  GC     Vial  14
Peak:  100.00  ppm     Label wndw:   2682 > 2743        Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3             Label :  -2, 3.0
Disp:  Height  Area
```



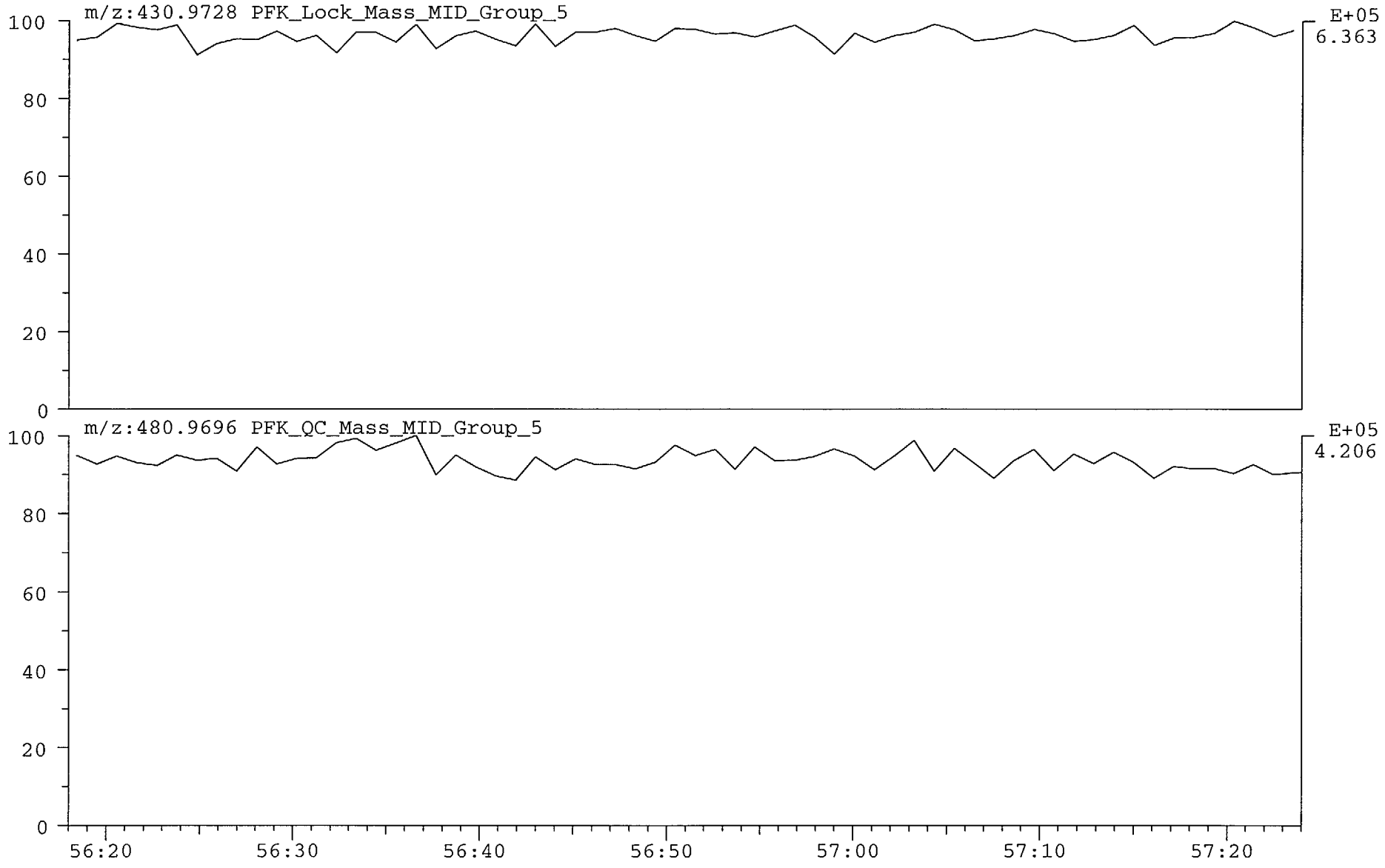
```
CHRO:  bth2h11                                05-May-06  Elapse:  56:48      2710
Samp:  Vial 14 WO=h2h11aa Meth=X8 Dil=1                  Start :  12:26:31   2891
Comm:  Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW          Client:  H6D030236-006               Inlet :  GC     Vial  14
Peak:  100.00  ppm     Label wndw:   2682 > 2743         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  bth2h11                                05-May-06  Elapse:  56:48      2710
Samp:  Vial 14 WO=h2h111aa Meth=X8 Dil=1                 Start :  12:26:31   2891
Comm:  Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW          Client:  H6D030236-006               Inlet :  GC     Vial  14
Peak:  100.00  ppm     Label wndw:   2682 > 2743         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  bth2h11                              05-May-06   Elapse:  56:48      2710
Samp:  Vial 14 WO=h2h11aa Meth=X8 Dil=1                 Start :  12:26:31   2891
Comm:  Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                        Study :  6107092 (Air)
Oper:  BFW          Client:  H6D030236-006              Inlet :  GC     Vial  14
Peak:  100.00  ppm     Label wndw:   2682 > 2743        Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3             Label :  0, 0.0
Disp:  Height  Area
```



```
Instrument internet name  -  mat95s
Instrument model          -  MAT 95
Instrument serial number  -  000000
Workstation internet name -  icis2ms
ICIS Version 8.2.1


ICL Version: 10.500
File name: bth2h11
Study: 6107092 (Air)
Sample: WO=h2h111aa Meth=X8 Dil=1
Amount:   0.0
Volume:   0.0
Operator: BFW
Client: H6D030236-006
Comments: Inst=m2a/718320 Batch=20060505s1 Ccal=B060505S1
Injected volume:   2.0
Sample from Vial 14
Analysis will stop when MID run finishes
Tune file name: tune2
File 2 of list 060505
  ICL procedure: sleep6x
  MID procedure: epa1613

  MID Remarks:  Tetra-Octa PCDD/F EPA Method 8290/1613B

  Mid Set Up Parameter:
   Measure/lock ratio        1
   Damping Relay          TRUE
   Width first lock       0.55 amu
   Electric jump time       10 ms
   Magnetic jump time       60 ms
   Offset                  140 cts
   Electric range          300 %
   Sweep peak width       3.00
   MID mode              Lock mode
   Acq mode              Cent mode

  Mid Time Windows:
        Start        Measure      End        Cycletime
  # 1    8:00 min   29:52 min   37:52 min    1.00 sec
  # 2   37:52 min    6:32 min   44:25 min    1.00 sec
  # 3   44:25 min    5:05 min   49:30 min    1.00 sec
  # 4   49:30 min    5:15 min   54:45 min    1.00 sec
  # 5   54:45 min    5:15 min   60:00 min    1.00 sec

  Mid Masses:
   Window # 1
        mass F  int  gr  time (ms)
    292.9825 1   10   1      8.19
    303.9016      1   1     81.92
    305.8987      1   1     81.92
    315.9419      1   1     81.92
    317.9389      1   1     81.92
    319.8965      1   1     81.92
    321.8936      1   1     81.92
    327.8847      1   1     81.92
    331.9368      1   1     81.92
    333.9338      1   1     81.92
    342.9792 c   10   1      8.19
    375.8364      1   1     81.92
   Window # 2
        mass F  int  gr  time (ms)
    330.9792 1   10   1      8.19
    339.8597      1   1     91.48
    341.8567      1   1     91.48
```

```
  351.9000       1   1      91.48
  353.8970       1   1      91.48
  355.8546       1   1      91.48
  357.8516       1   1      91.48
  367.8949       1   1      91.48
  369.8919       1   1      91.48
  380.9760 c    10   1       8.19
  409.7974       1   1      91.48
 Window # 3
      mass F  int  gr  time (ms)
  373.8208       1   1      91.48
  375.8178       1   1      91.48
  380.9760 1    10   1       8.19
  383.8639       1   1      91.48
  385.8610       1   1      91.48
  389.8156       1   1      91.48
  391.8127       1   1      91.48
  401.8559       1   1      91.48
  403.8529       1   1      91.48
  404.9760 c    10   1       8.19
  445.7555       1   1      91.48
 Window # 4
      mass F  int  gr  time (ms)
  404.9760 1    10   1       8.19
  407.7818       1   1      91.48
  409.7788       1   1      91.48
  417.8250       1   1      91.48
  419.8220       1   1      91.48
  423.7767       1   1      91.48
  425.7737       1   1      91.48
  435.8169       1   1      91.48
  437.8140       1   1      91.48
  442.9728 c    10   1       8.19
  479.7165       1   1      91.48
 Window # 5
      mass F  int  gr  time (ms)
  430.9728 1    10   1      10.92
  441.7428       1   1     120.15
  443.7399       1   1     120.15
  457.7377       1   1     120.15
  459.7348       1   1     120.15
  469.7780       1   1     120.15
  471.7750       1   1     120.15
  480.9696 c    10   1      10.92
  513.6775       1   1     120.15

Auto Sampler descriptor: pcdd2ul
 Injector A
 Normal Injection
 Slvnt A cln before inj(K):     3 times
 Slvnt B cln before inj(L):     0 times
 Sample rinse cycles   (R):     0 times
 Syringe filling volume(F):   1.0 ul
 Pullup delay time     (D):     4 sec
 Sample pullup speed   (E):   5.0 ul/sec
 Slvnt aftr pre inj cln(U):   0.0 ul
 Air after pre inj cln (G):   2.0 ul
 Sample volume         (V):   2.0 ul
 Sample air volume     (A):   2.0 ul
 Sample pullup count   (P):     2 times
 Injection speed       (S):  10.0 ul/sec
 Injection wait time   (W):    10 sec
 Injection hold time   (H):     3 sec
 Solvent A clean cycles(C):    15 times
 Solvent B clean cycles(B):    20 times
 Loop clean w slvnt A (LC):     0 times
```

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8408.0000
BDEV	8286.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.7814	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9996
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-705.0000	ELEN	61.7750
EMULT	1.8200	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	186.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	532.0000	FVINLET	653.0000
FVSRC	994.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.6471	HVANAL	1575.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4759.4580	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	430.9728
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	2896.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10531.8778	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.7400	TCURR	0.8984	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 05-May-06 12:26:31.8

Autosampler has injected sample from vial 14
Analysis stopped at: 05-May-06 13:26:34.1 (run time 60.03 minutes)
Analysis stopped because MID run finished

STL Knoxville - ACS

Sample ID: G-3132/3133-R3-M23A FRONT HALF COMPOSITE BLANK TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 007	**Work Order #....:**	H2H1N1AA	**Matrix....:**	AIR
Date Sampled....:	03/30/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107079				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	2.0	pg/sampl
Total TCDD	ND		10	2.0	pg/sampl
1,2,3,7,8-PeCDD	ND		50	0.91	pg/sampl
Total PeCDD	ND		50	0.91	pg/sampl
1,2,3,4,7,8-HxCDD	ND		50	1.1	pg/sampl
1,2,3,6,7,8-HxCDD	ND		50	1.1	pg/sampl
1,2,3,7,8,9-HxCDD	ND		50	1.0	pg/sampl
Total HxCDD	ND		50	1.1	pg/sampl
1,2,3,4,6,7,8-HpCDD	ND		50	1.4	pg/sampl
Total HpCDD	ND		50	1.4	pg/sampl
OCDD	**20**	**B J**	**100**	**1.6**	**pg/sampl**
2,3,7,8-TCDF	ND		10	1.4	pg/sampl
Total TCDF	ND		10	1.4	pg/sampl
1,2,3,7,8-PeCDF	ND		50	0.68	pg/sampl
2,3,4,7,8-PeCDF	ND		50	0.63	pg/sampl
Total PeCDF	ND		50	0.65	pg/sampl
1,2,3,4,7,8-HxCDF	ND		50	0.55	pg/sampl
1,2,3,6,7,8-HxCDF	ND		50	0.51	pg/sampl
2,3,4,6,7,8-HxCDF	ND		50	0.58	pg/sampl
1,2,3,7,8,9-HxCDF	ND		50	0.62	pg/sampl
Total HxCDF	ND		50	0.56	pg/sampl
1,2,3,4,6,7,8-HpCDF	ND		50	1.1	pg/sampl
1,2,3,4,7,8,9-HpCDF	ND		50	1.3	pg/sampl
Total HpCDF	ND		50	1.2	pg/sampl
OCDF	**2.4**	**Q B J**	**100**	**1.7**	**pg/sampl**

STL Knoxville - ACS

Sample ID: G-3132/3133-R3-M23A FRONT HALF COMPOSITE BLANK TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 007	**Work Order #....:**	H2H1N1AA	**Matrix....:**	AIR
Date Sampled....:	03/30/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107079				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	94	40 - 135
13C-1,2,3,7,8-PeCDD	113	40 - 135
13C-1,2,3,6,7,8-HxCDD	109	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	113	40 - 135
13C-OCDD	88	40 - 135
13C-2,3,7,8-TCDF	95	40 - 135
13C-1,2,3,7,8-PeCDF	107	40 - 135
13C-1,2,3,6,7,8-HxCDF	134	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	97	40 - 135

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	85	70 - 130
13C-1,2,3,4,7,8-HxCDD	97	70 - 130
13C-2,3,4,7,8-PeCDF	89	70 - 130
13C-1,2,3,4,7,8-HxCDF	80	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	75	70 - 130

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

STL - Knoxville

IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1N1AA	**Prep Batch**	6107079	**Lot No**	H6D030236-007
Data File	/20060503s3/bth2h1n.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90485	**Prep Exp Date**	04/29/06	**Date Received**	04/02/06
Analysis Date	5/4/2006	**Matrix**	AIR	**Date Sampled**	03/30/06
Analysis Time	06:13	**Initial Wt/Vol**	1	**Lims Test Code**	XXSINX801
Anal Exp Date	06/01/06	**Extract Vol**	20	**Method**	0023/8290
Instrument	M2A	**Dil Factor**	1.0	**Code**	X8
Analyst	PMP				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (pg/sample		DL (pg/samp
2,3,7,8-TCDD				1.060				ND		1.95
Total TCDD				1.060				ND		1.95
2,3,7,8-TCDF				1.064				ND		1.42
Total TCDF				1.064				ND		1.42
1,2,3,7,8-PeCDD				0.977				ND		0.914
Total PeCDD				0.977				ND		0.914
1,2,3,7,8-PeCDF				0.955				ND		0.676
2,3,4,7,8-PeCDF				1.018				ND		0.634
Total PeCDF				0.987				ND		0.654
1,2,3,4,7,8-HxCDD				1.047				ND		1.09
1,2,3,6,7,8-HxCDD				1.055				ND		1.09
1,2,3,7,8,9-HxCDD				1.146				ND		1.00
Total HxCDD				1.083				ND		1.06
1,2,3,4,7,8-HxCDF				1.101				ND		0.552
1,2,3,6,7,8-HxCDF				1.184				ND		0.513
2,3,4,6,7,8-HxCDF				1.052				ND		0.578
1,2,3,7,8,9-HxCDF				0.982				ND		0.619
Total HxCDF				1.080				ND		0.563
1,2,3,4,6,7,8-HpCDD				1.018				ND		1.43
Total HpCDD				1.018				ND		1.43
1,2,3,4,6,7,8-HpCDF				1.403				ND		1.11
1,2,3,4,7,8,9-HpCDF				1.197				ND		1.30
Total HpCDF				1.300				ND		1.20
OCDD	56:43	11780	2885	0.965		19.917443		19.917443	BJ	1.61
OCDF	56:51	1595	478	1.103		2.357669		2.357669	QBJ	1.66
13C-2,3,7,8-TCDD	35:17	1337620	143868	1.068	1000	936.295150	93.63	936.295150		5.40
13C-2,3,7,8-TCDF	33:04	1801834	186420	1.413	1000	952.989683	95.30	952.989683		3.24
13C-1,2,3,7,8-PeCDD	43:03	1332229	369620	0.882	1000	1129.27309	112.93	1129.27309		3.12
13C-1,2,3,7,8-PeCDF	41:29	1696601	402880	1.188	1000	1067.48920	106.75	1067.48920		2.95
13C-1,2,3,6,7,8-HxCDD	47:23	848775	237698	0.943	1000	1093.75021	109.38	1093.75021		1.96
13C-1,2,3,6,7,8-HxCDF	46:18	1406160	378377	1.272	1000	1343.70080	134.37	1343.70080		1.32
13C-1,2,3,4,6,7,8-HpCDD	52:22	853150	190441	0.918	1000	1129.27674	112.93	1129.27674		1.49
13C-1,2,3,4,6,7,8-HpCDF	50:39	727523	160362	0.916	1000	965.317779	96.53	965.317779		1.72
13C-OCDD	56:42	1226104	303413	0.850	2000	1753.74419	87.69	1753.74419		1.69
37Cl4-2,3,7,8-TCDD	35:19	2379747	259503	1.046	2000	1700.95164	85.05	1700.95164		2.72
13C-2,3,4,7,8-PeCDF	42:34	3036617	833120	1.010	2000	1771.68624	88.58	1771.68624		1.14
13C-1,2,3,4,7,8-HxCDD	47:16	1487639	428573	0.902	2000	1942.64204	97.13	1942.64204		1.74
13C-1,2,3,4,7,8-HxCDF	46:10	2230266	637575	0.988	2000	1605.04757	80.25	1605.04757		0.903
13C-1,2,3,7,8,9-HxCDF				1.113				ND		1.51
13C-1,2,3,4,7,8,9-HpCDF	52:59	996111	221460	0.912	2000	1501.05362	75.05	1501.05362		2.17
13C-1,2,3,4-TCDD	34:43	2675377	265093	1.000	2000	2000.00000	100.00	2000.00000		5.77
13C-1,2,3,7,8,9-HxCDD	47:47	1645396	402918	1.000	2000	2000.00000	100.00	2000.00000		1.85

BYW 5/4/06
PMP 5-6-06

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1N1AA	Prep Batch	6107079	Lot No	H6D030236-007
Data File	/20060503s3/bth2h1n.d	Prep Date	04/17/06	SDG No	
Analysis ID	90485	Prep Exp Date	04/29/06	Date Received	04/02/06
Analysis Date	05/04/06 06:13	Matrix	AIR	Date Sampled	03/30/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSINX801
Instrument	M2A	Extract Vol	20 uL	Method	0023/8290
Analyst	PMP	Diluton Factor	1.00	Code	X8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration Flags
304					303.9016	305.8987	303.9016	305.8987	0.65-0.89	
	Noise	00:00	00:00	0	118	165	47	66	0.71	/
316					315.9419	317.9389	315.9419	317.9389	0.65-0.89	
	Noise	00:00	00:00	0	253	355	101	142	0.71	/
	13C-2,3,7,8-TCDF	33:04	33:05	-1	797696	1004138	83963	102457	0.79	ABV/ABV
320					319.8965	321.8936	319.8965	321.8936	0.65-0.89	
	Noise	00:00	00:00	0	140	158	56	63	0.89	/
328					327.8847		327.8847			
	Noise	00:00	00:00	0	410		164			
	37Cl4-2,3,7,8-TCDD	35:19	35:18	1	2379747		259503			AVV
332					331.9368	333.9338	331.9368	333.9338	0.65-0.89	
	Noise	00:00	00:00	0	543	223	217	89	2.44 *	/
	13C-1,2,3,4-TCDD	34:43	34:43	0	1188729	1486648	115893	149200	0.80	AVV/AVV
	13C-2,3,7,8-TCDD	35:17	35:16	1	596279	741341	63845	80023	0.80	AVV/AVV
340					339.8597	341.8567	339.8597	341.8567	1.32-1.78	
	Noise	00:00	00:00	0	98	163	39	65	0.60 *	/
352					351.9000	353.8970	351.9000	353.8970	1.32-1.78	
	Noise	00:00	00:00	0	235	230	94	92	1.02 *	/
	13C-1,2,3,7,8-PeCDF	41:29	41:27	2	1037837	658764	248647	154233	1.58	ABV/ABV
	13C-2,3,4,7,8-PeCDF	42:34	42:33	1	1839851	1196766	507780	325340	1.54	ABV/ABV
356					355.8546	357.8516	355.8546	357.8516	1.32-1.78	
	Noise	00:00	00:00	0	180	150	72	60	1.20 *	/
368					367.8949	369.8919	367.8949	369.8919	1.32-1.78	
	Noise	00:00	00:00	0	213	153	85	61	1.39	/
	13C-1,2,3,7,8-PeCDD	43:03	43:02	1	805041	527188	223954	145666	1.53	ABV/ABV
374					373.8208	375.8178	373.8208	375.8178	1.05-1.43	
	Noise	00:00	00:00	0	143	88	57	35	1.63 *	/
384					383.8639	385.8610	383.8639	385.8610	0.43-0.59	
	Noise	00:00	00:00	0	165	173	66	69	0.96 *	/
	13C-1,2,3,4,7,8-HxCDF	46:10	46:09	1	767230	1463036	221350	416225	0.52	ABV/ABV
	13C-1,2,3,6,7,8-HxCDF	46:18	46:16	2	485656	920504	134075	244302	0.53	AVV/AVV
390					389.8156	391.8127	389.8156	391.8127	1.05-1.43	
	Noise	00:00	00:00	0	115	158	46	63	0.73 *	/
402					401.8559	403.8529	401.8559	403.8529	1.05-1.43	
	Noise	00:00	00:00	0	168	205	67	82	0.82 *	/
	13C-1,2,3,4,7,8-HxCDD	47:16	47:15	1	832592	655047	240246	188327	1.27	ABV/ABV
	13C-1,2,3,6,7,8-HxCDD	47:23	47:22	1	474079	374696	132986	104712	1.27	AVV/AVV
	13C-1,2,3,7,8,9-HxCDD	47:47	47:47	0	917406	727990	226410	176508	1.26	ABV/AVV
408					407.7818	409.7788	407.7818	409.7788	0.88-1.20	
	Noise	00:00	00:00	0	113	138	45	55	0.82 *	/
418					417.8250	419.8220	417.8250	419.8220	0.37-0.51	
	Noise	00:00	00:00	0	160	158	64	63	1.02 *	/
	13C-1,2,3,4,6,7,8-HpCDF	50:39	50:38	1	229731	497792	52246	108116	0.46	ABV/ABV

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1N1AA	Prep Batch	6107079	Lot No	H6D030236-007
Data File	/20060503s3/bth2h1n.d	Prep Date	04/17/06	SDG No	
Analysis ID	90485	Prep Exp Date	04/29/06	Date Received	04/02/06
Analysis Date	05/04/06 06:13	Matrix	AIR	Date Sampled	03/30/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSINX801
Instrument	M2A	Extract Vol	20 uL	Method	0023/8290
Analyst	PMP	Diluton Factor	1.00	Code	X8

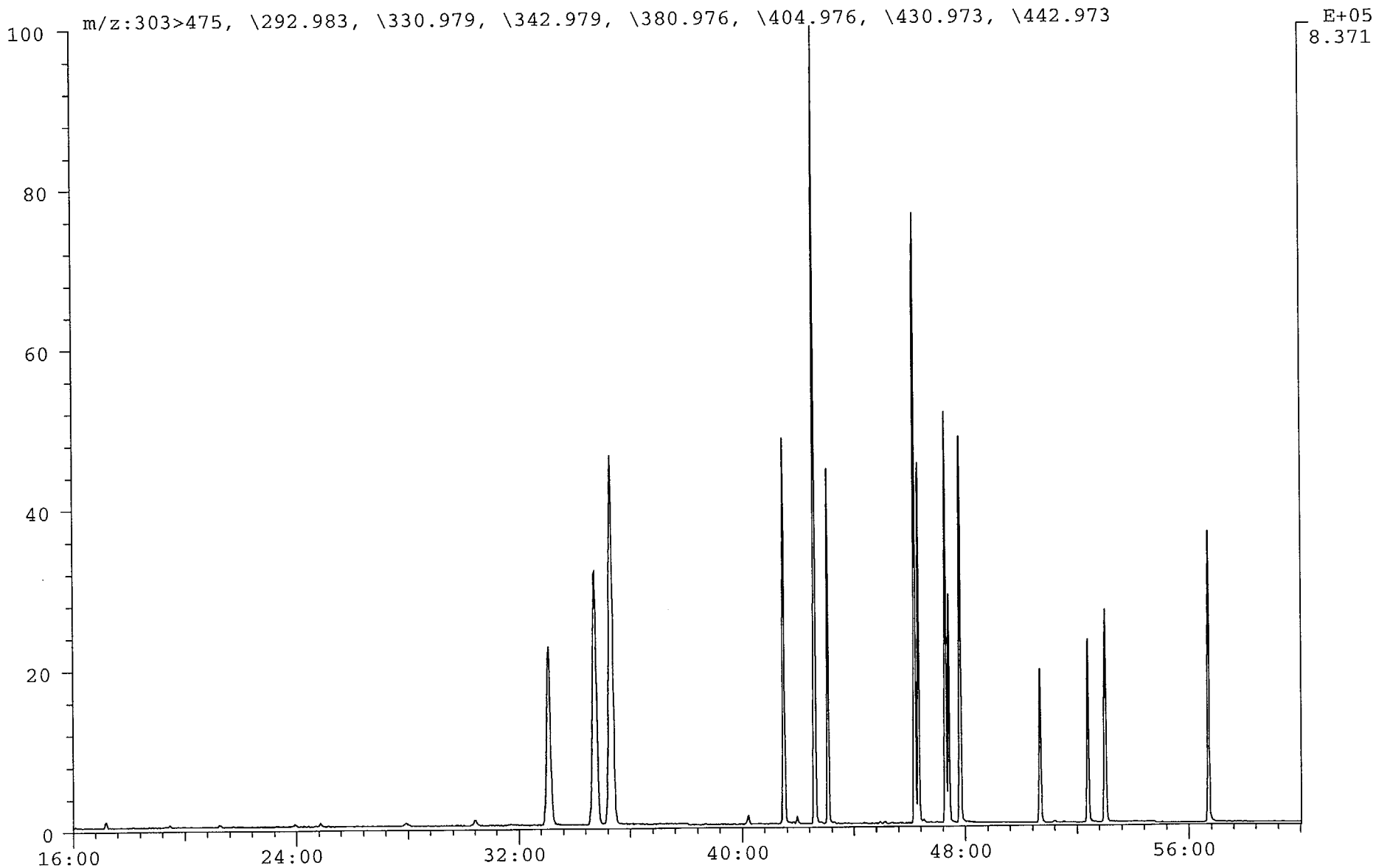
View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	13C-1,2,3,4,7,8,9-HpCDF	52:59	53:00	-1	310815	685296	69879	151581	0.45	ABV/ABV	
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**		
	Noise	00:00	00:00	0	160	118	64	47	1.36 *	/	
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**		
	Noise	00:00	00:00	0	163	113	65	45	1.44 *	/	
	13C-1,2,3,4,6,7,8-HpCDD	52:22	52:22	0	433774	419376	96162	94279	1.03	ABV/ABV	
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**		
	Noise	00:00	00:00	0	120	158	48	63	0.76	/	
	OCDF	56:51	56:52	-1	751	1137	225	296	0.66 *	ABB/ABB	R
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**		
	Noise	00:00	00:00	0	108	128	43	51	0.84	/	
	OCDD	56:43	56:43	0	5379	6401	1382	1503	0.84	MBB/MBB	
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**		
	Noise	00:00	00:00	0	118	173	47	69	0.68 *	/	
	13C-OCDD	56:42	56:42	0	583196	642908	145694	157719	0.91	ABV/ABV	

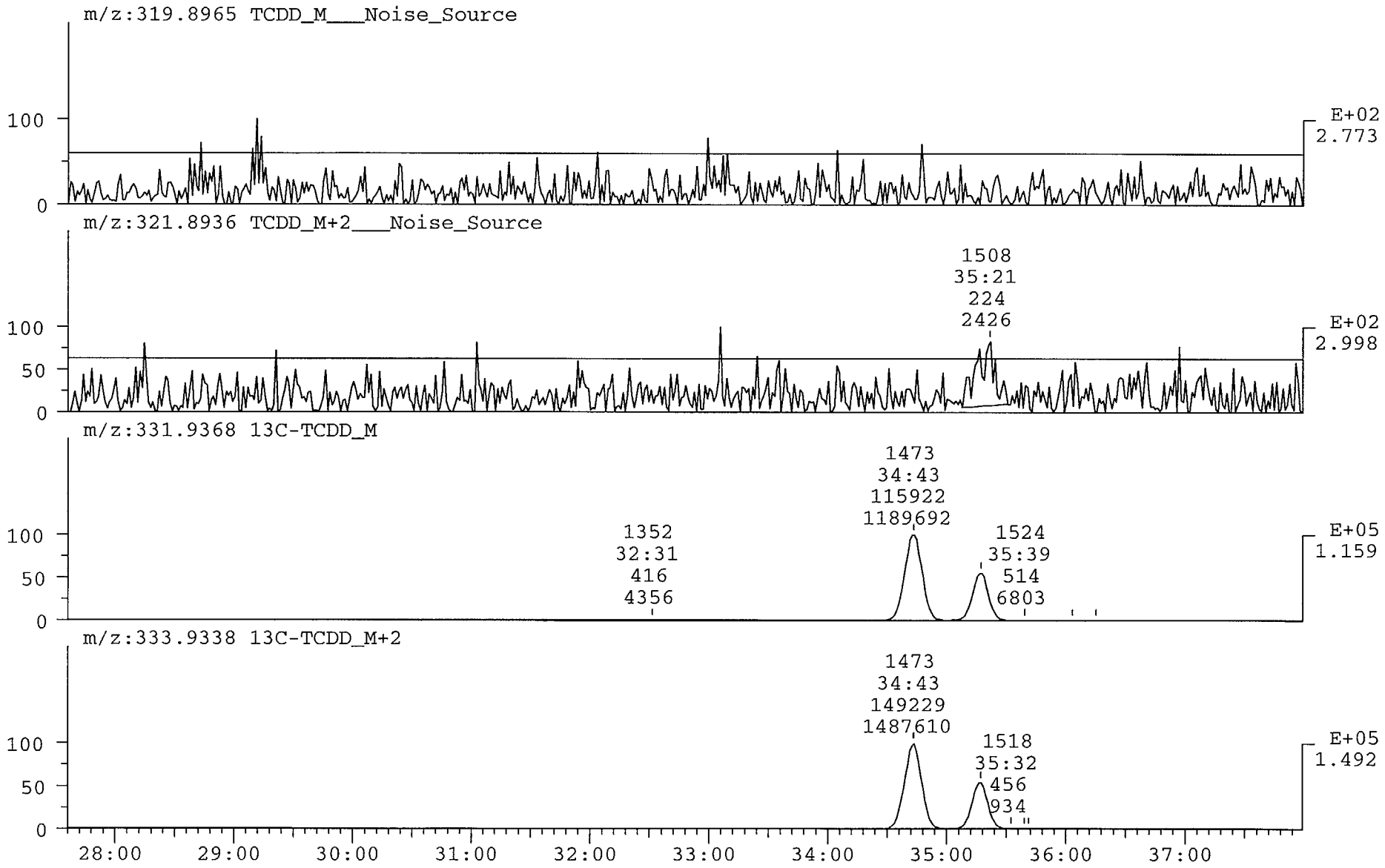
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

CHRO: bth2h1n 04-May-06 Elapse: 56:43 2703
Samp: Vial 7 WO=h2h1n1aa Meth=X8 Dil=1 Start : 06:13:08 2889
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D030236-007 Inlet : GC Vial 7
Peak: 100.00 ppm Label wndw: 442 > 2889 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

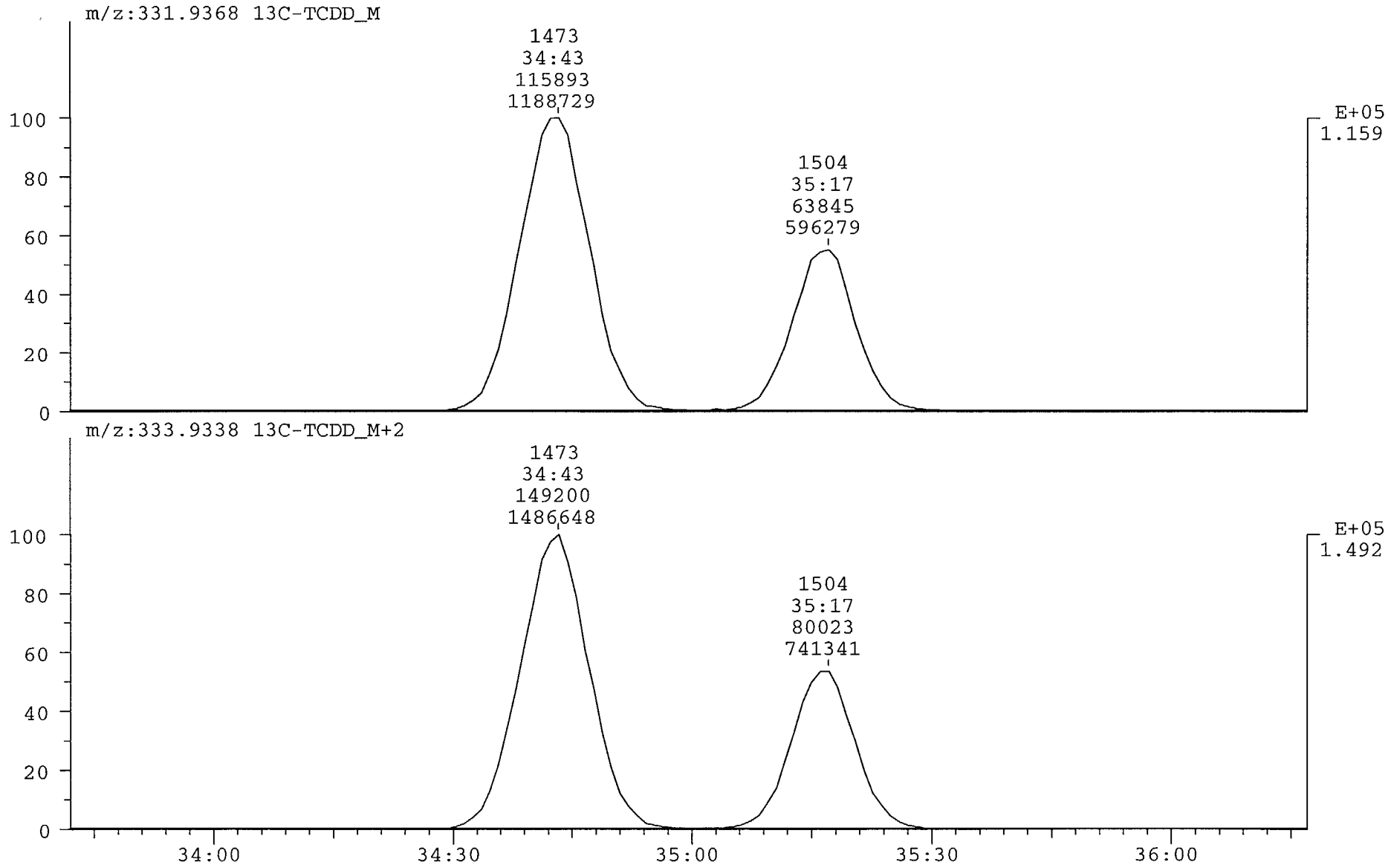
Int BKW 5/4/06
Calc BKW 5/4/06
QC/Rev PMP 5-6-06



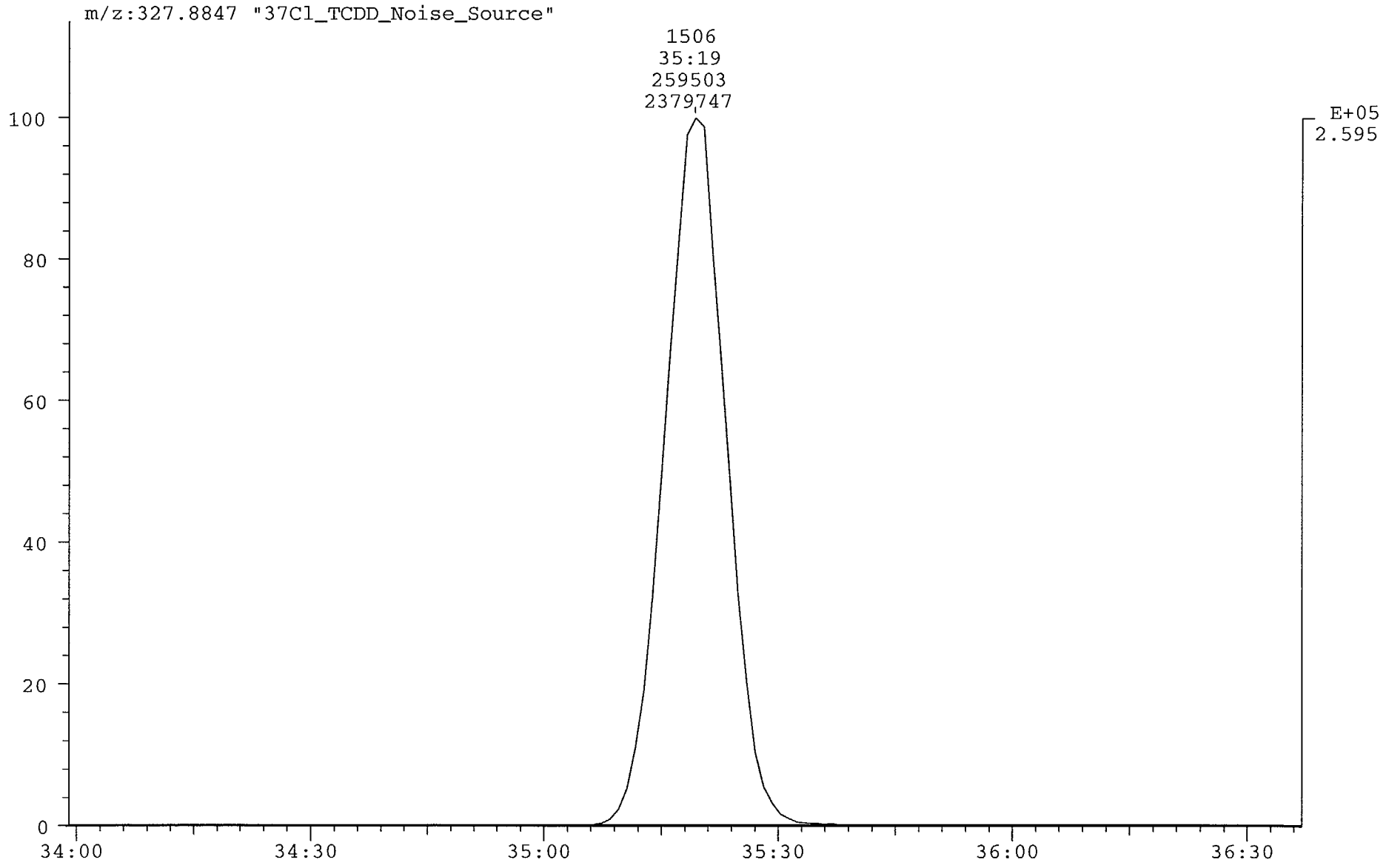
```
CHRO:  bth2h1n                                  04-May-06   Elapse:  56:43      2703
Samp:  Vial 7 WO=h2h1n1aa Meth=X8 Dil=1                     Start :  06:13:08   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-007                Inlet :  GC     Vial   7
Peak:  100.00  ppm      Label wndw:   1081 > 1652           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



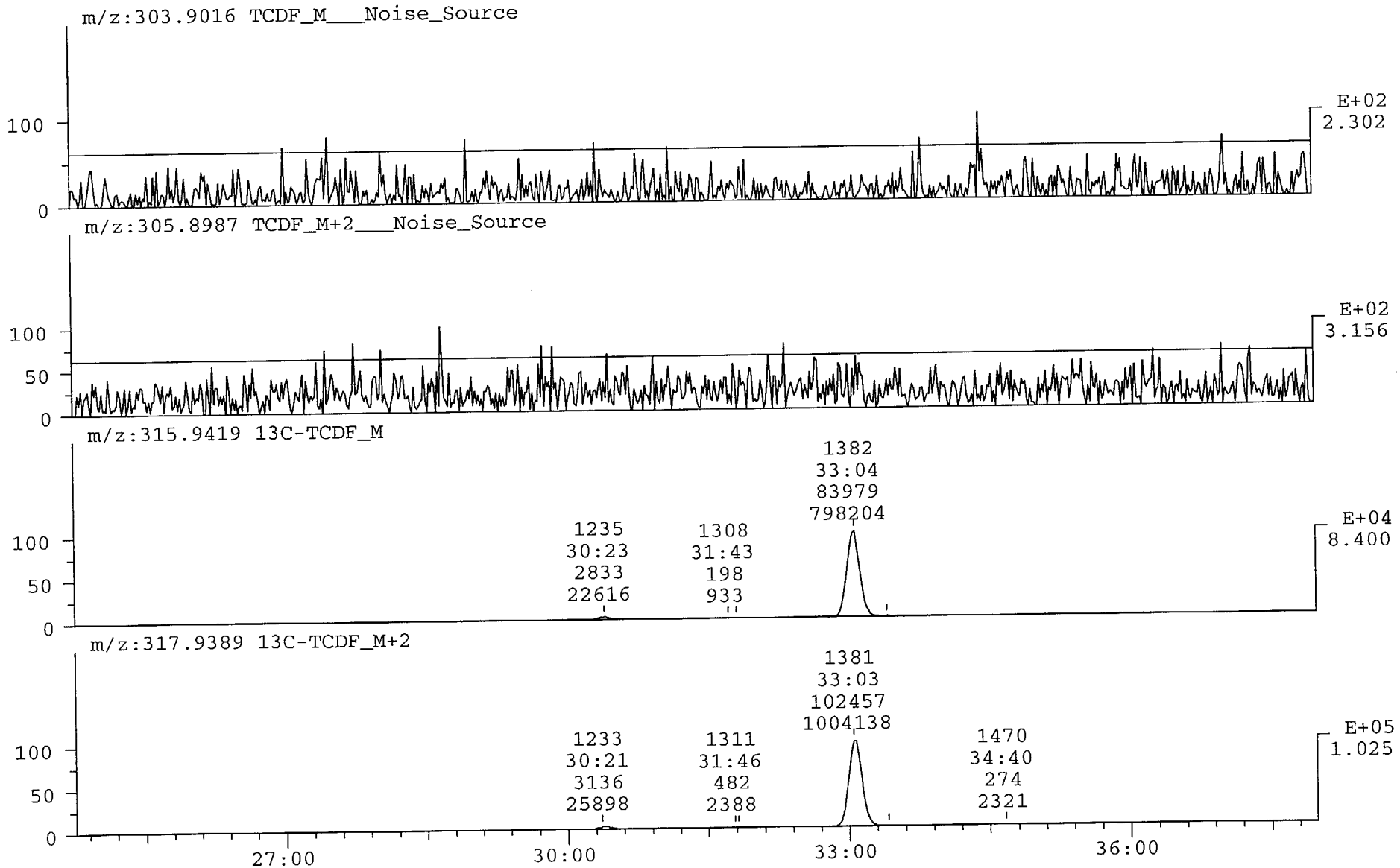
```
CHRO:  bth2h1n                                  04-May-06   Elapse:  34:58      1487
Samp:  Vial 7 WO=h2h1n1aa Meth=X8 Dil=1                     Start :  06:13:08   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-007                Inlet :  GC     Vial   7
Peak:  100.00  ppm      Label wndw:   1417 > 1559           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



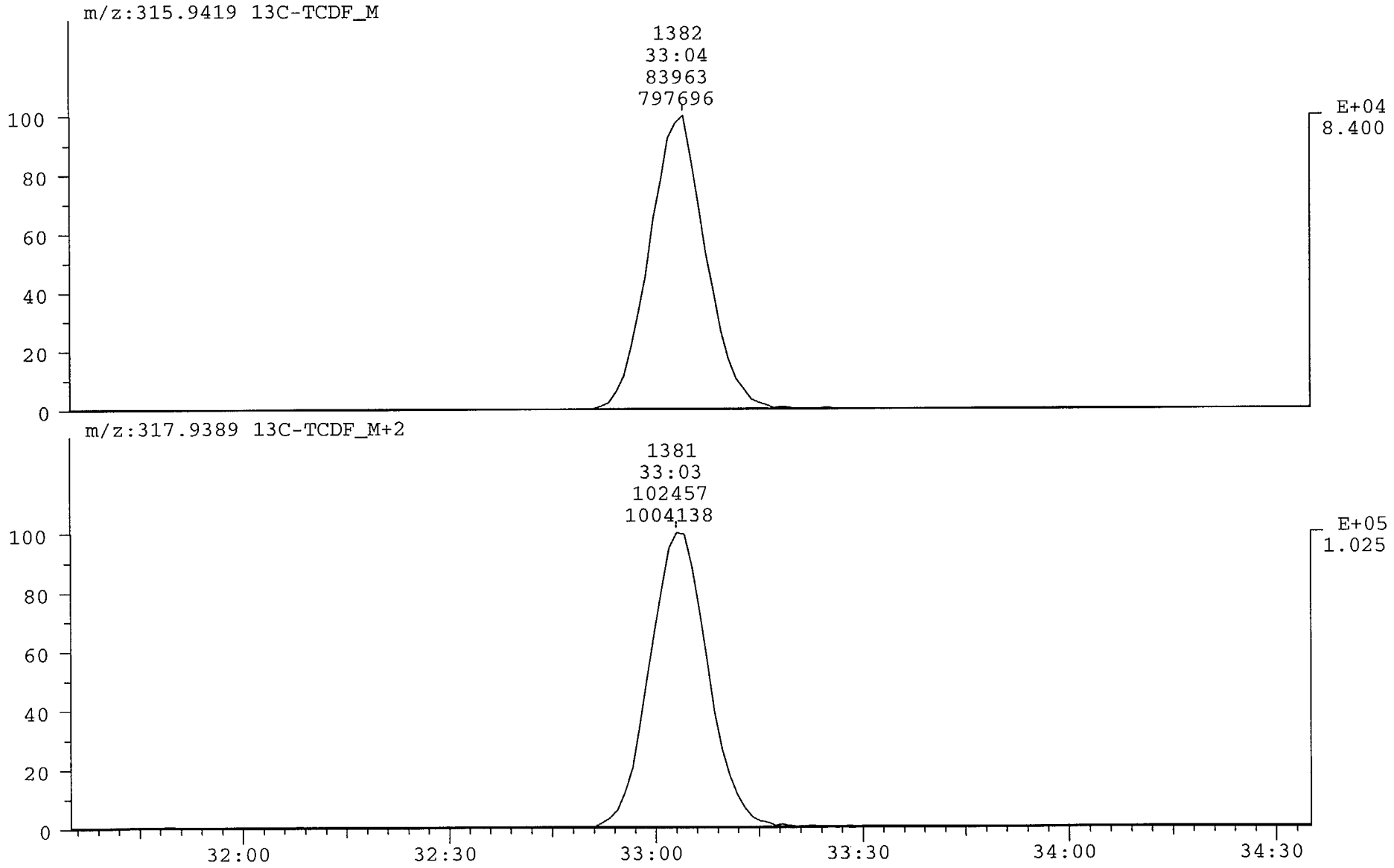
```
CHRO:  bth2h1n                                04-May-06  Elapse:  35:14      1502
Samp:  Vial 7 WO=h2h1n1aa Meth=X8 Dil=1                  Start :  06:13:08   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (air)
Oper:  PMP          Client:  H6D030236-007               Inlet :  GC     Vial   7
Peak:  100.00  ppm     Label wndw:   1432 > 1577         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



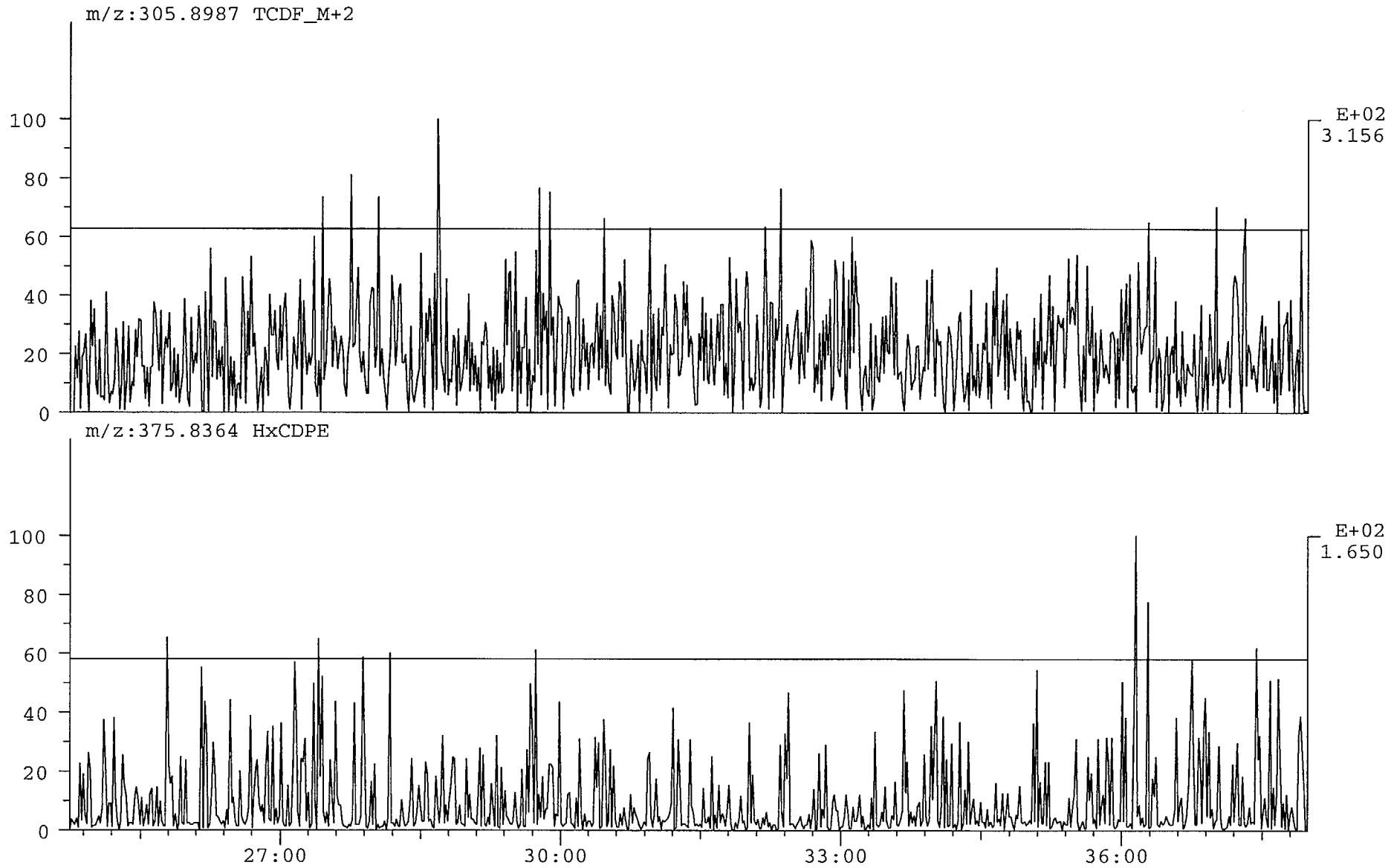
```
CHRO:  bth2h1n                                  04-May-06   Elapse:  35:14      1502
Samp:  Vial 7 WO=h2h1n1aa Meth=X8 Dil=1                     Start :  06:13:08   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-007                Inlet :  GC     Vial   7
Peak:  100.00  ppm      Label wndw:   924 > 1652            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



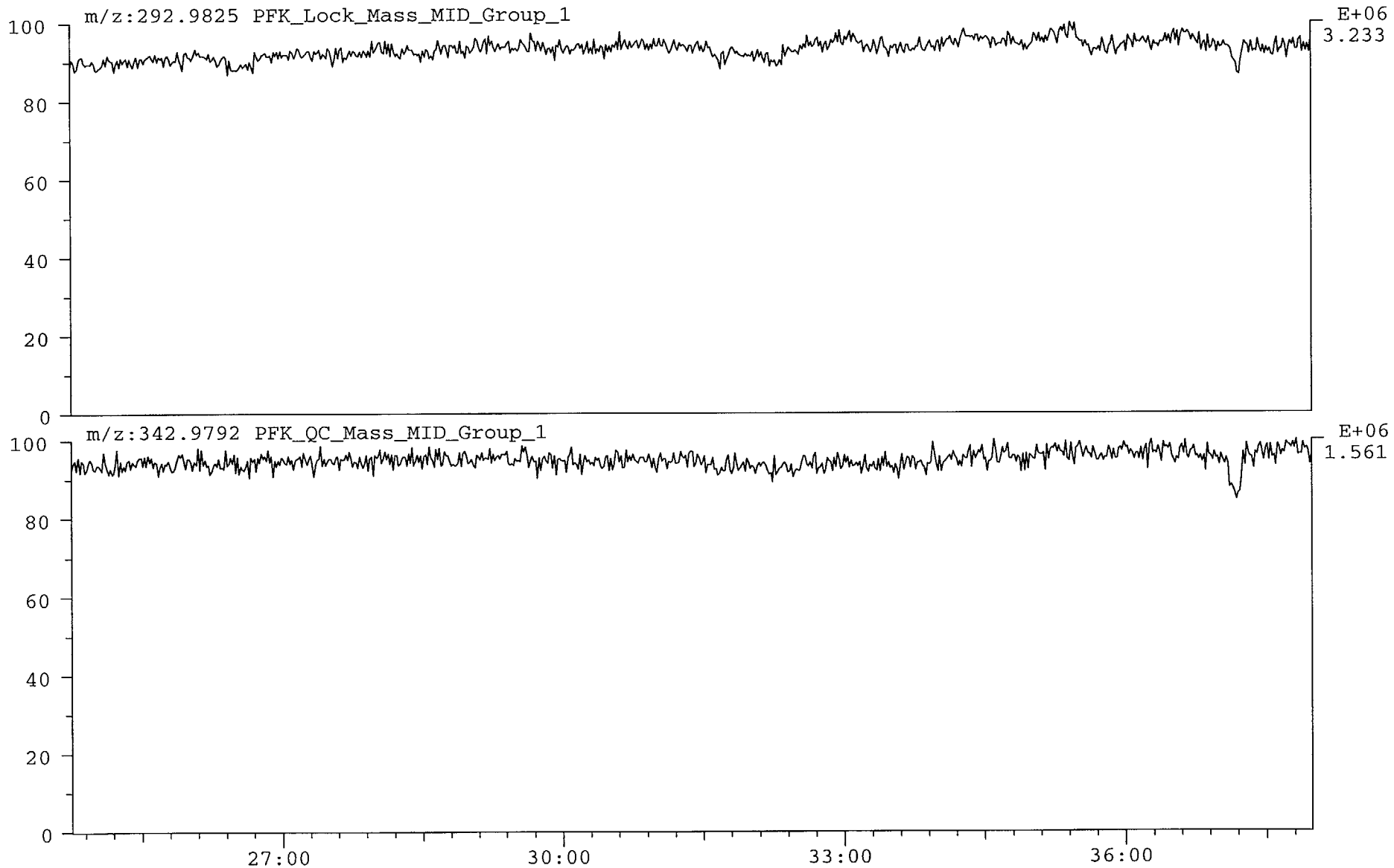
```
CHRO:  bth2h1n                                  04-May-06   Elapse:  33:01      1380
Samp:  Vial 7 WO=h2h1n1aa Meth=X8 Dil=1                     Start :  06:13:08   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-007                Inlet :  GC     Vial   7
Peak:  100.00  ppm      Label wndw:   1300 > 1465           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



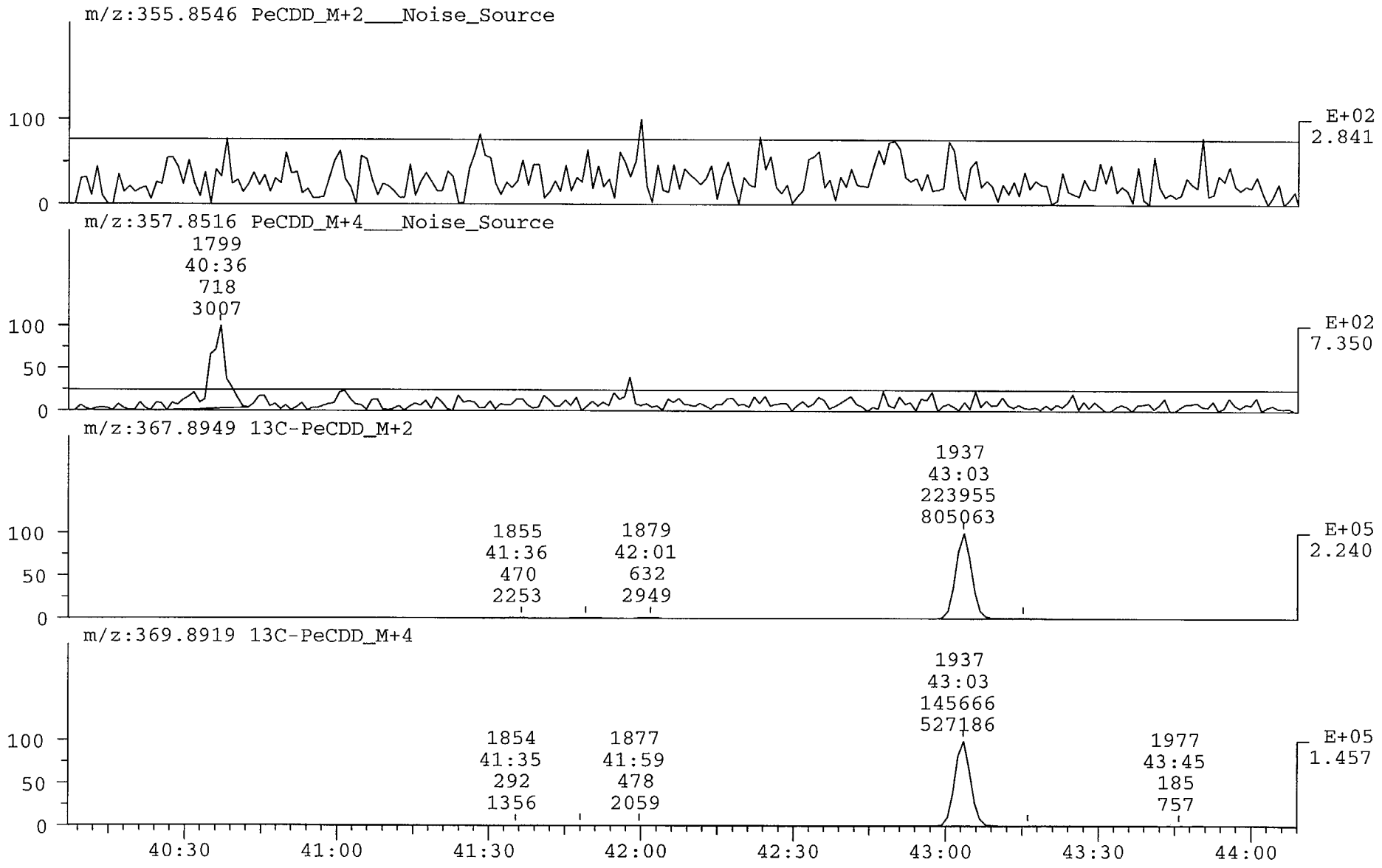
```
CHRO:  bth2h1n                                04-May-06  Elapse:  33:01      1380
Samp:  Vial 7 WO=h2h1n1aa Meth=X8 Dil=1                  Start :  06:13:08   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (air)
Oper:  PMP          Client:  H6D030236-007               Inlet :  GC     Vial  7
Peak:  100.00  ppm     Label wndw:   924 > 1652          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



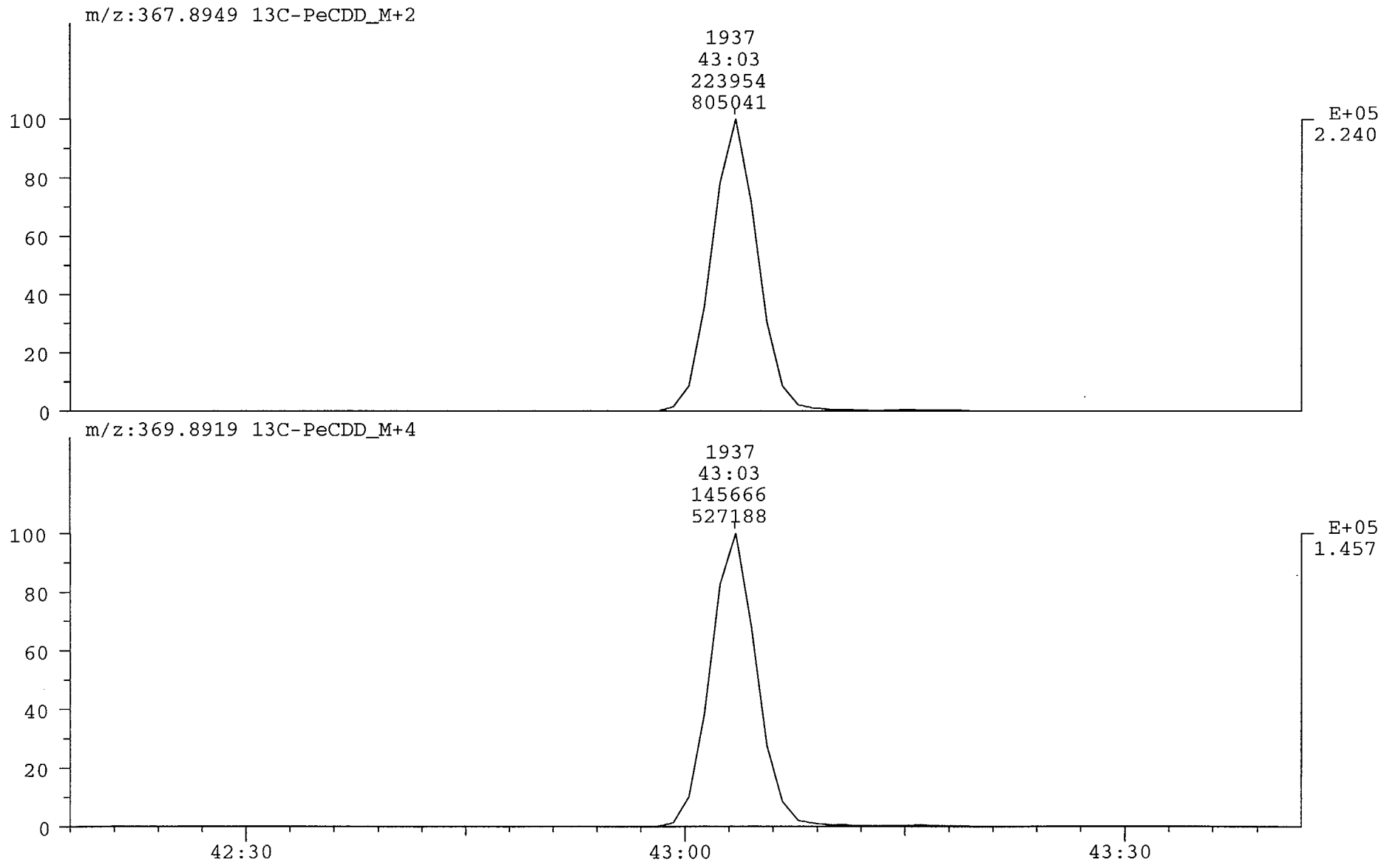
CHRO: bth2h1n 04-May-06 Elapse: 33:01 1380
Samp: Vial 7 WO=h2h1n1aa Meth=X8 Dil=1 Start : 06:13:08 2889
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D030236-007 Inlet : GC Vial 7
Peak: 100.00 ppm Label wndw: 924 > 1652 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



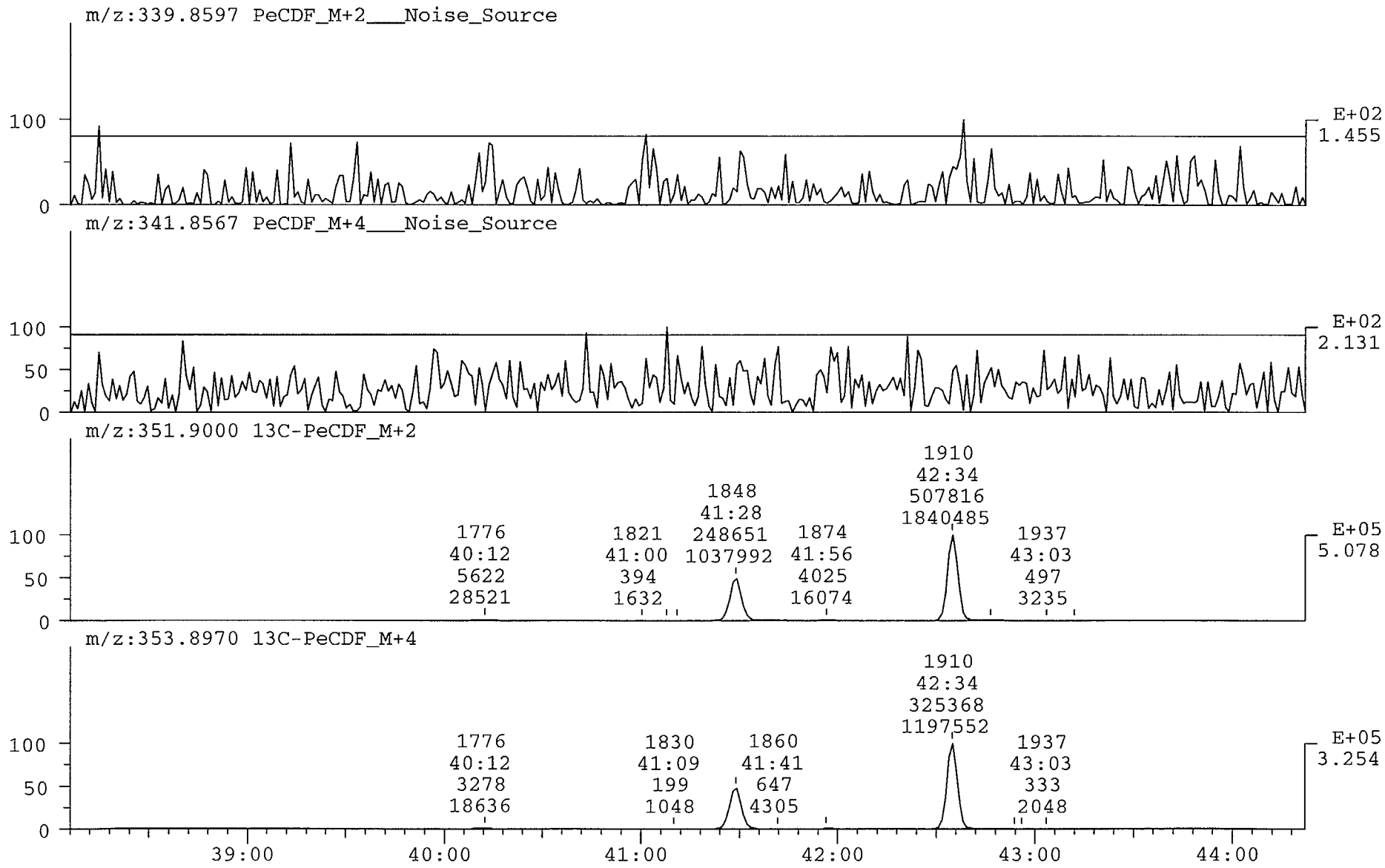
```
CHRO:  bth2h1n                                  04-May-06   Elapse:  33:01      1380
Samp:  Vial 7 WO=h2h1n1aa Meth=X8 Dil=1                     Start :  06:13:08   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-007                Inlet :  GC     Vial   7
Peak:  100.00  ppm      Label wndw:   1771 > 1999           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



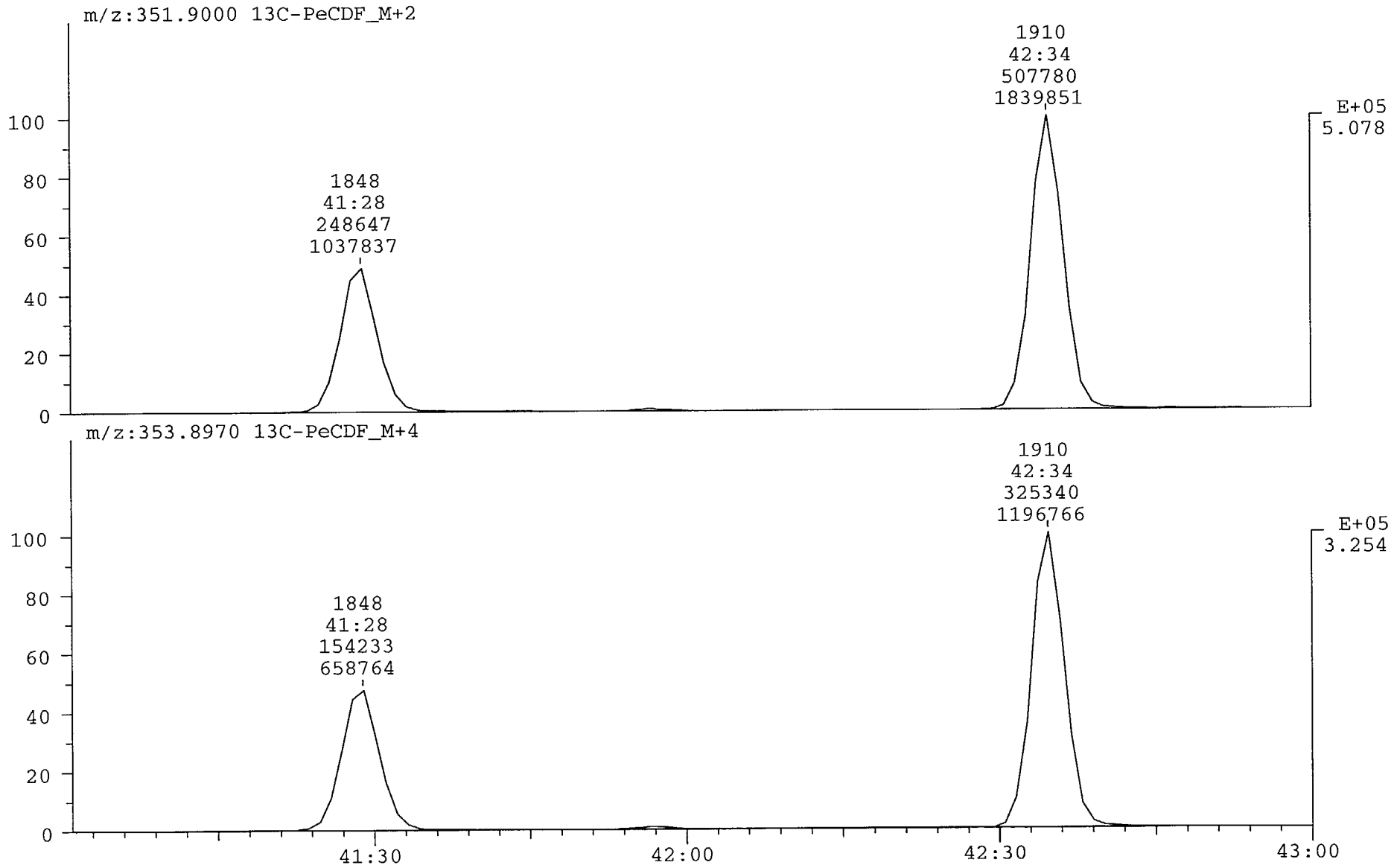
```
CHRO:  bth2h1n                                  04-May-06   Elapse:  42:57      1931
Samp:  Vial 7 WO=h2h1n1aa Meth=X8 Dil=1                     Start :  06:13:08   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-007                Inlet :  GC     Vial   7
Peak:  100.00  ppm      Label wndw:   1894 > 1973           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



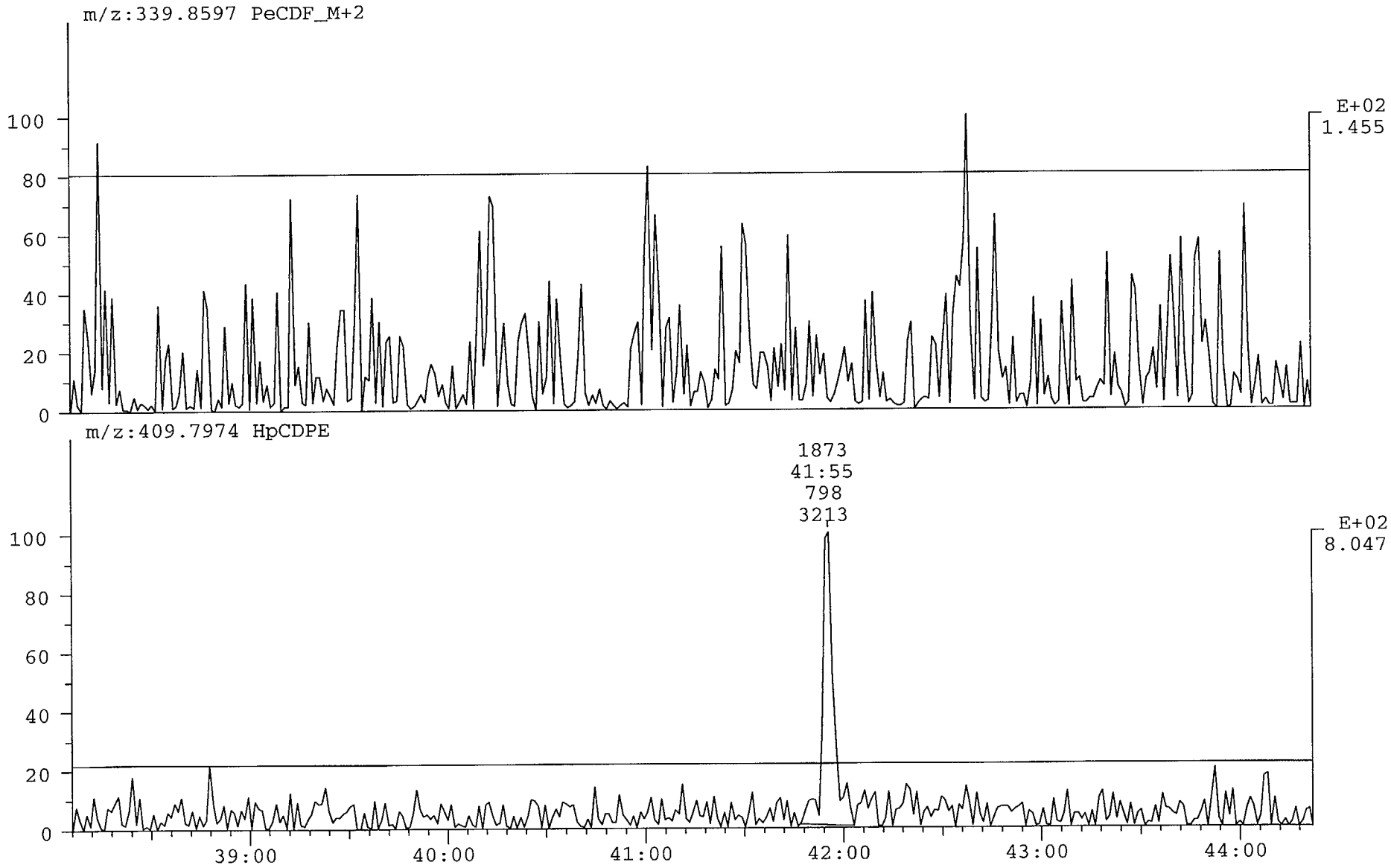
```
CHRO:  bth2h1n                                  04-May-06   Elapse:  42:57      1931
Samp:  Vial 7 WO=h2h1n1aa Meth=X8 Dil=1                     Start :  06:13:08   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-007                Inlet :  GC     Vial   7
Peak:  100.00  ppm      Label wndw:   1657 > 2011           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  bth2h1n                                  04-May-06   Elapse:  41:59      1877
Samp:  Vial 7 WO=h2h1n1aa Meth=X8 Dil=1                     Start :  06:13:08   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-007                Inlet :  GC     Vial   7
Peak:  100.00  ppm      Label wndw:   1822 > 1934           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: bth2h1n 04-May-06 Elapse: 41:59 1877
Samp: Vial 7 WO=h2h1n1aa Meth=X8 Dil=1 Start : 06:13:08 2889
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D030236-007 Inlet : GC Vial 7
Peak: 100.00 ppm Label wndw: 1657 > 2011 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  bth2h1n                                04-May-06  Elapse:  41:59      1877
Samp:  Vial 7 WO=h2h1n1aa Meth=X8 Dil=1                  Start :  06:13:08   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (air)
Oper:  PMP           Client:  H6D030236-007              Inlet :  GC     Vial   7
Peak:  100.00  ppm     Label wndw:   1657 > 2011         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
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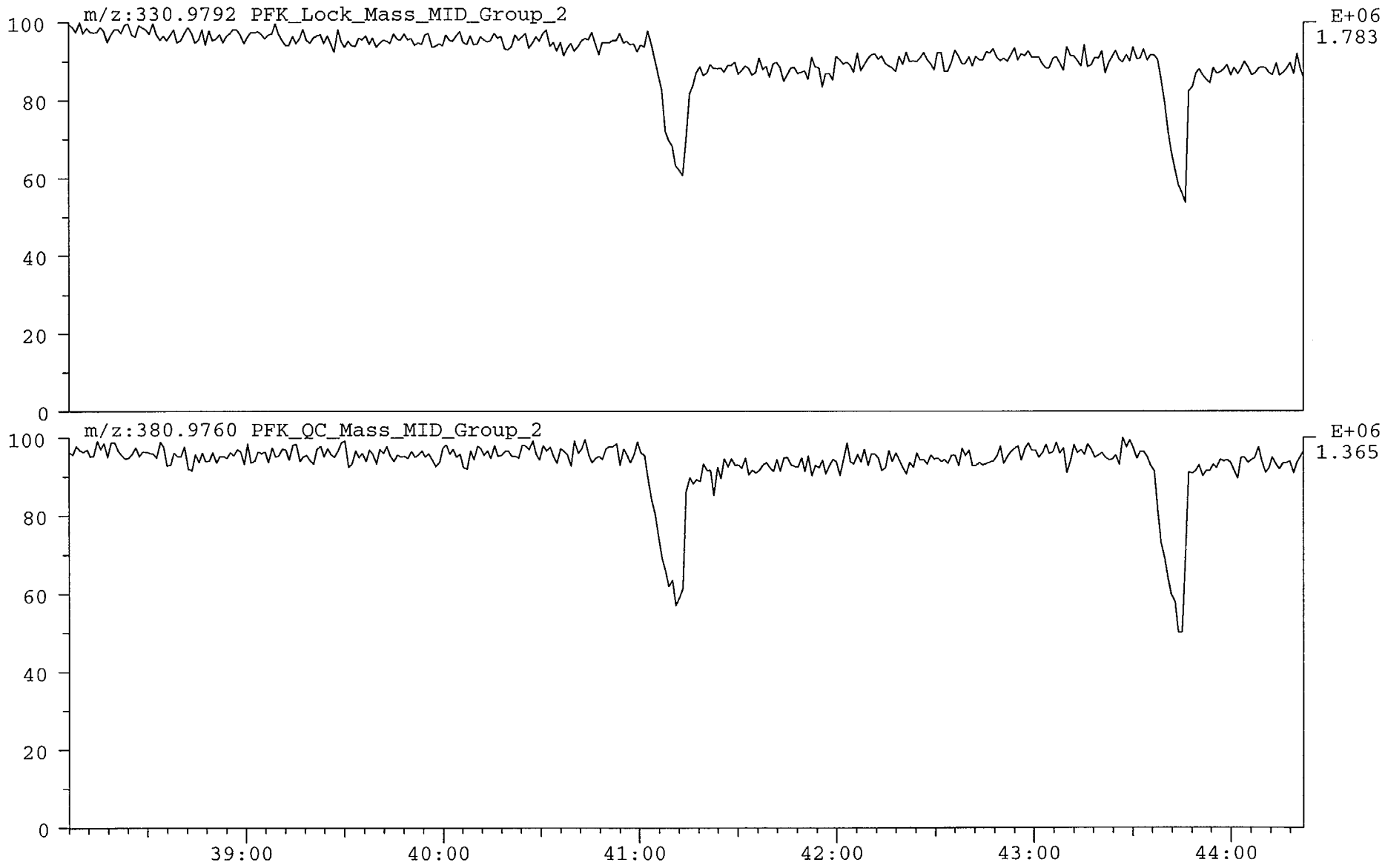
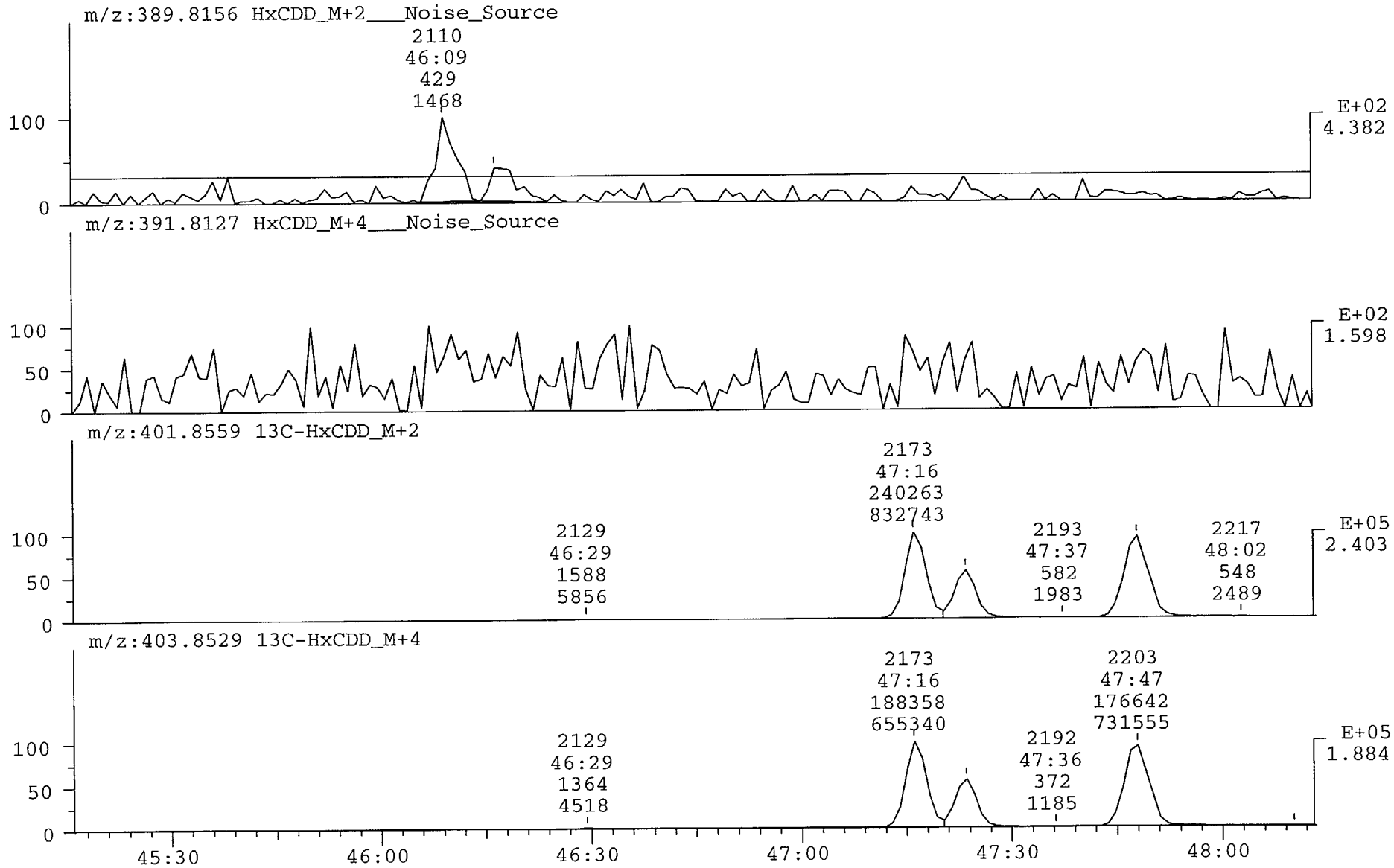
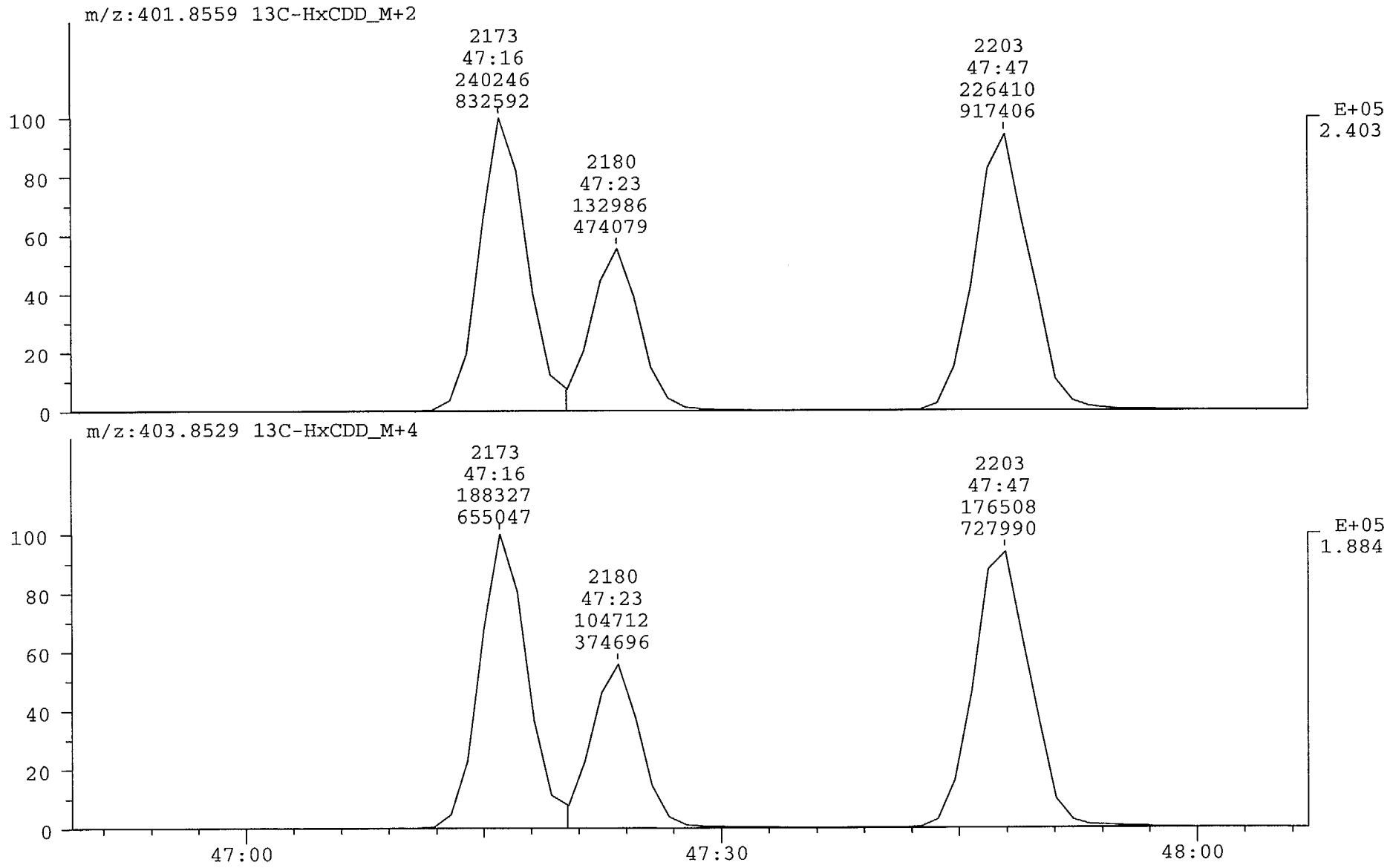


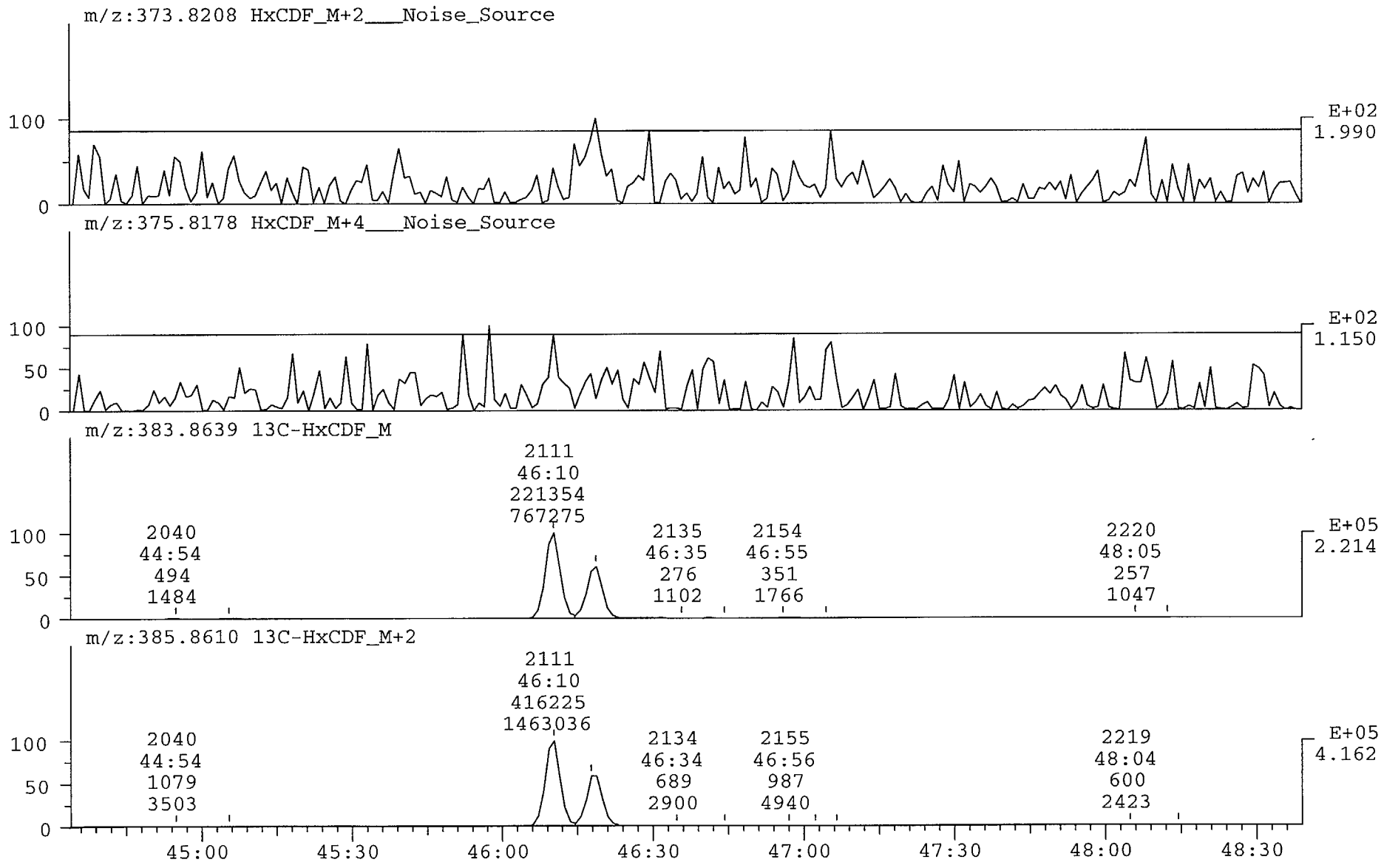
```
CHRO:  bth2h1n                                  04-May-06   Elapse:  41:59      1877
Samp:  Vial 7 WO=h2h1n1aa Meth=X8 Dil=1                     Start :  06:13:08   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-007                Inlet :  GC     Vial   7
Peak:  100.00  ppm      Label wndw:   2060 > 2227           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



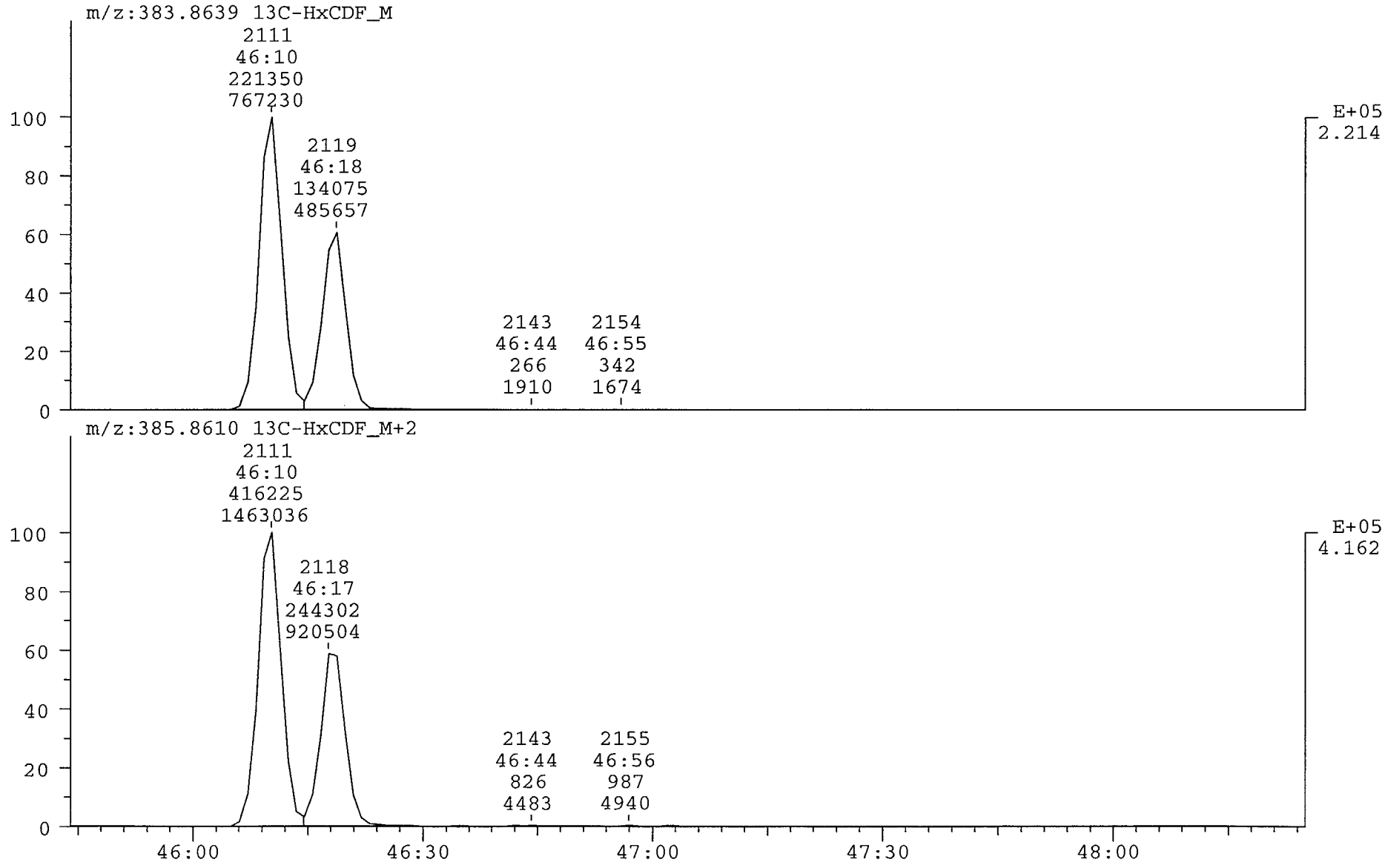
CHRO: bth2h1n 04-May-06 Elapse: 47:27 2184
Samp: Vial 7 WO=h2h1n1aa Meth=X8 Dil=1 Start : 06:13:08 2889
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D030236-007 Inlet : GC Vial 7
Peak: 100.00 ppm Label wndw: 2148 > 2221 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



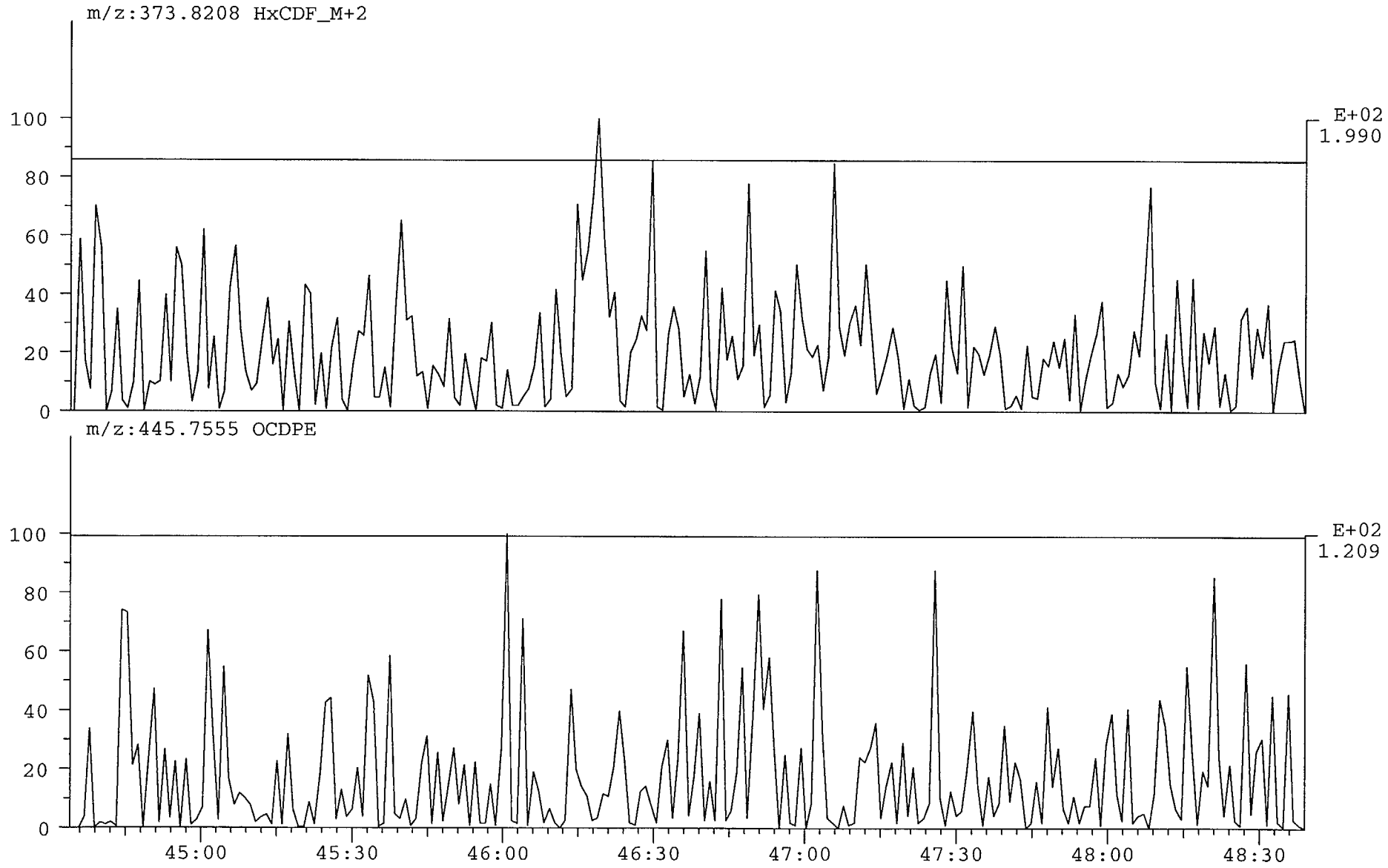
CHRO: bth2h1n 04-May-06 Elapse: 47:27 2184
Samp: Vial 7 WO=h2h1n1aa Meth=X8 Dil=1 Start : 06:13:08 2889
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D030236-007 Inlet : GC Vial 7
Peak: 100.00 ppm Label wndw: 2020 > 2251 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  bth2h1n                                  04-May-06   Elapse:  47:04      2162
Samp:  Vial 7 WO=h2h1n1aa Meth=X8 Dil=1                     Start :  06:13:08   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-007                Inlet :  GC     Vial   7
Peak:  100.00  ppm      Label wndw:   2086 > 2238           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  bth2h1n                                  04-May-06   Elapse:  46:13      2114
Samp:  Vial 7 WO=h2h1n1aa Meth=X8 Dil=1                     Start :  06:13:08   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-007                Inlet :  GC     Vial   7
Peak:  100.00  ppm      Label wndw:   2020 > 2251           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



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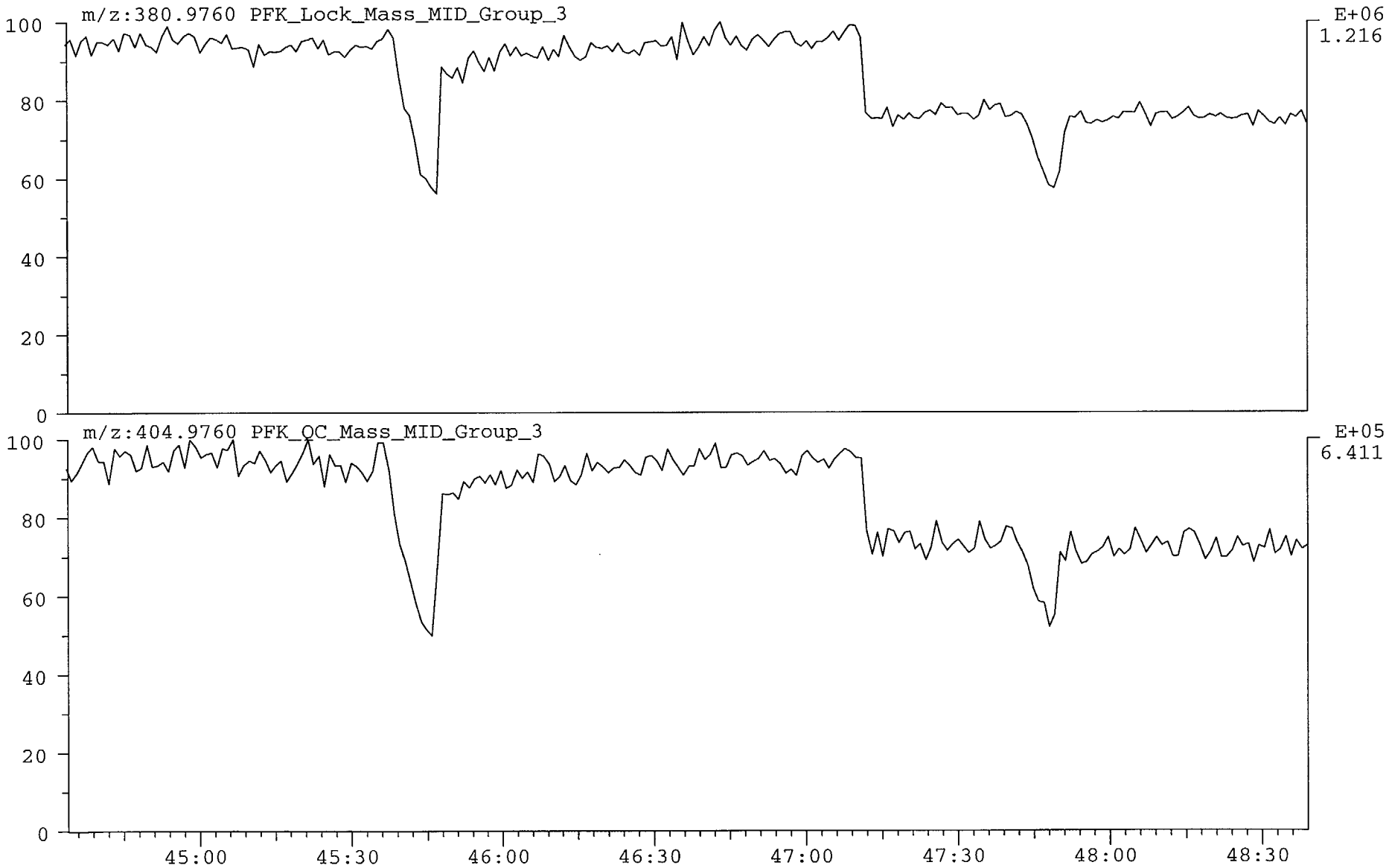
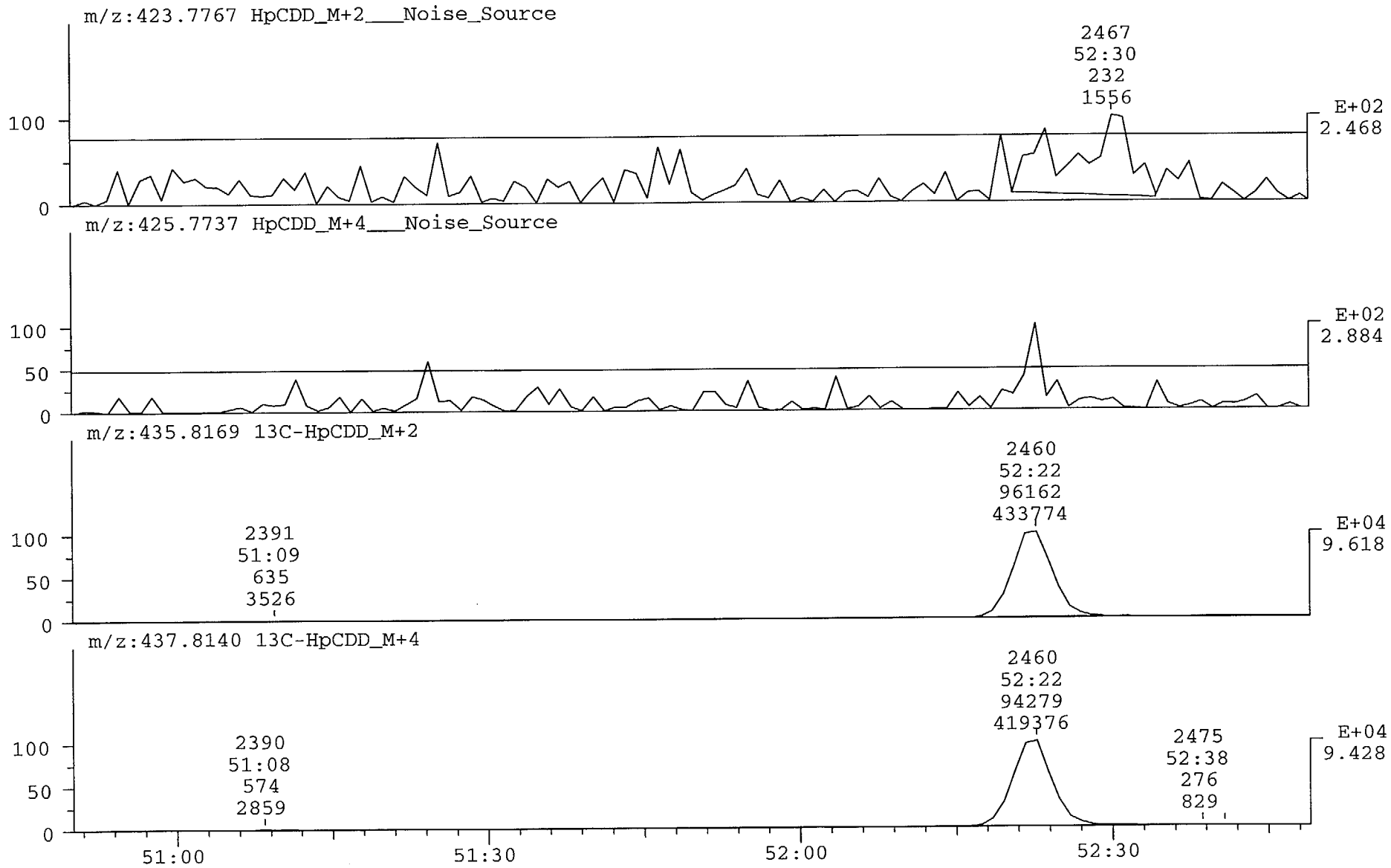
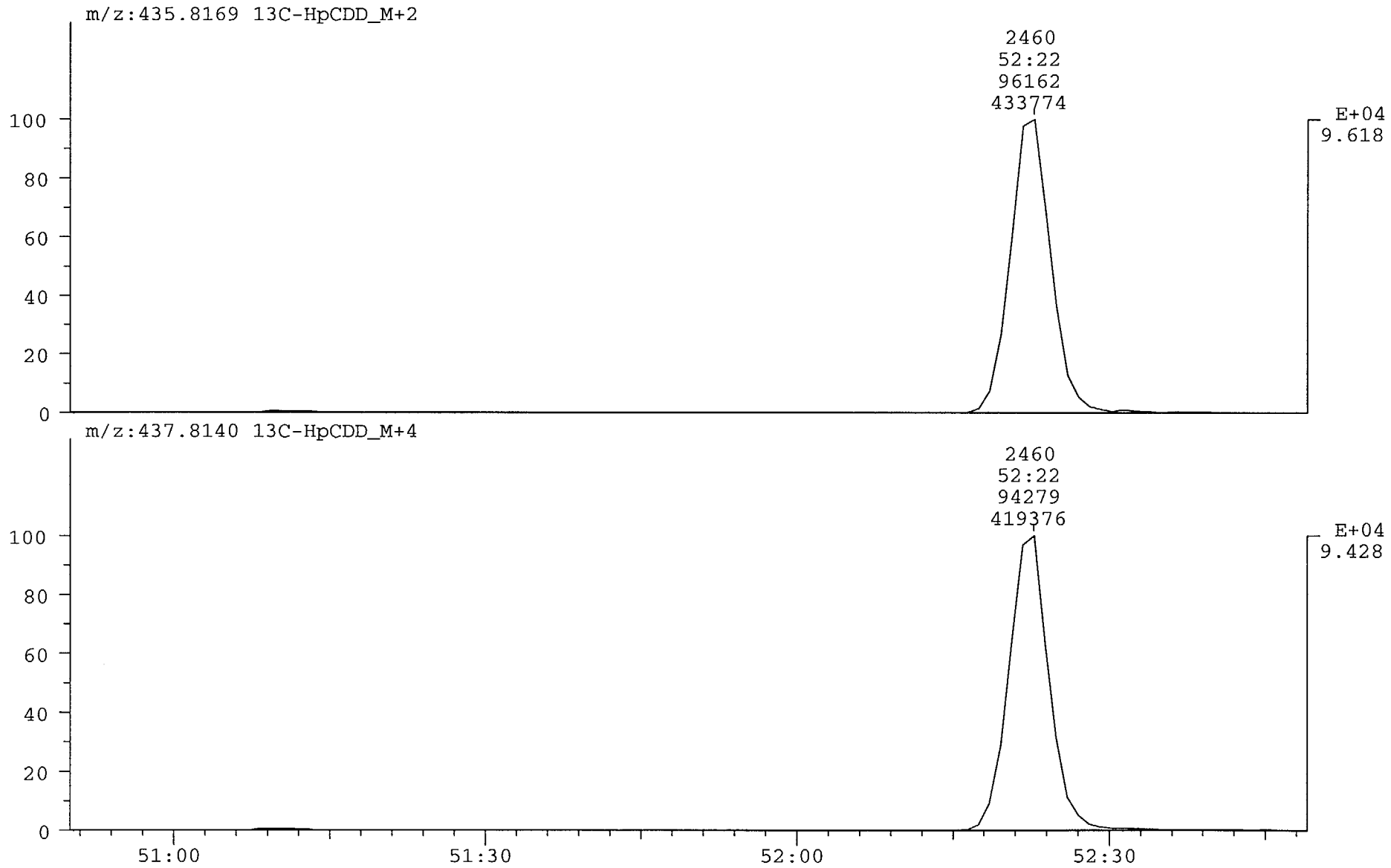
CHRO:  bth2h1n                                  04-May-06   Elapse:  46:13      2114
Samp:  Vial 7 WO=h2h1n1aa Meth=X8 Dil=1                     Start :  06:13:08   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-007                Inlet :  GC     Vial   7
Peak:  100.00  ppm      Label wndw:   2020 > 2251           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```



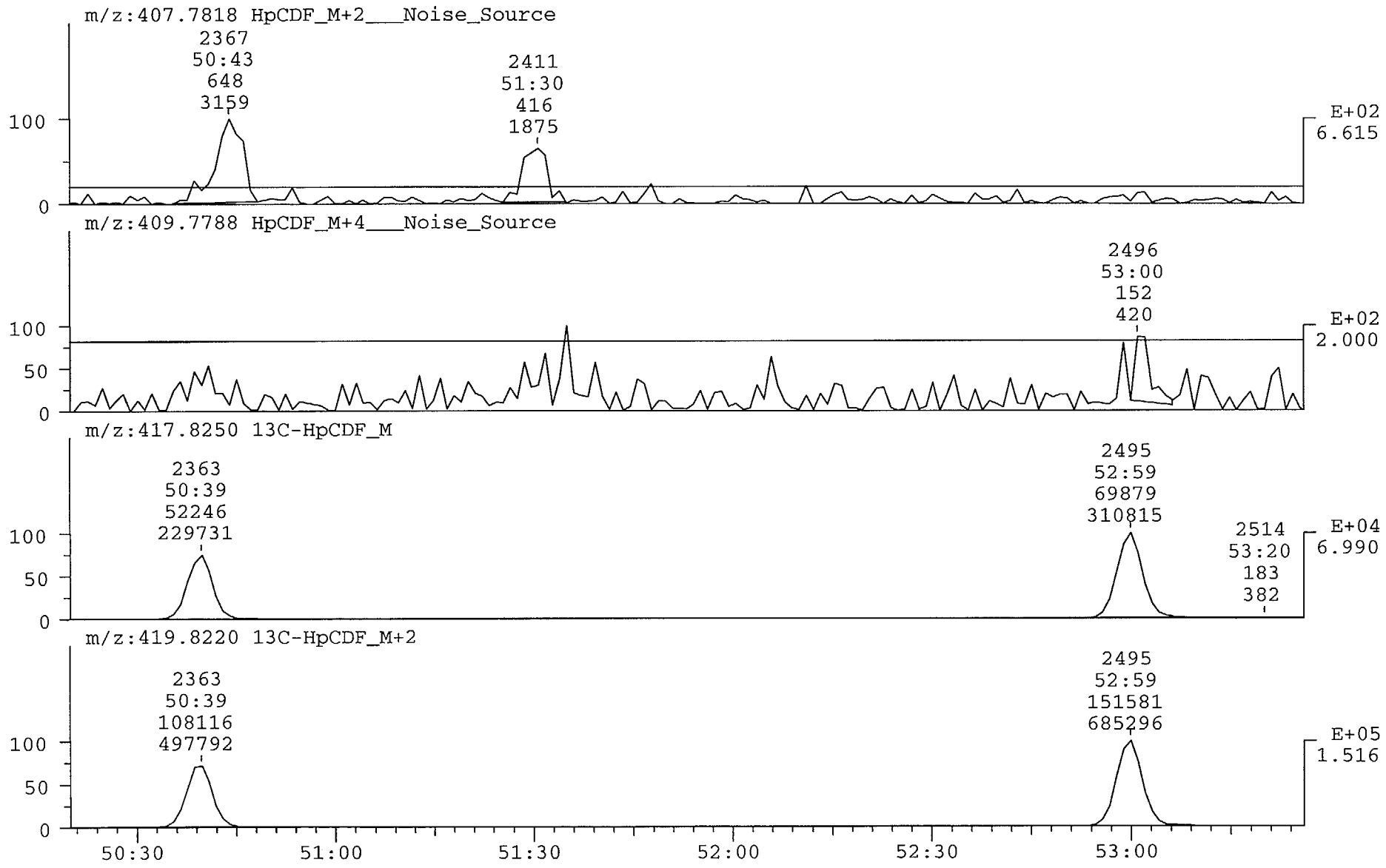
CHRO: bth2h1n 04-May-06 Elapse: 46:13 2114
Samp: Vial 7 WO=h2h1n1aa Meth=X8 Dil=1 Start : 06:13:08 2889
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D030236-007 Inlet : GC Vial 7
Peak: 100.00 ppm Label wndw: 2373 > 2485 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1n 04-May-06 Elapse: 46:13 2114
Samp: Vial 7 WO=h2h1n1aa Meth=X8 Dil=1 Start : 06:13:08 2889
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D030236-007 Inlet : GC Vial 7
Peak: 100.00 ppm Label wndw: 2373 > 2485 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth2h1n 04-May-06 Elapse: 46:13 2114
Samp: Vial 7 WO=h2h1n1aa Meth=X8 Dil=1 Start : 06:13:08 2889
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D030236-007 Inlet : GC Vial 7
Peak: 100.00 ppm Label wndw: 2344 > 2520 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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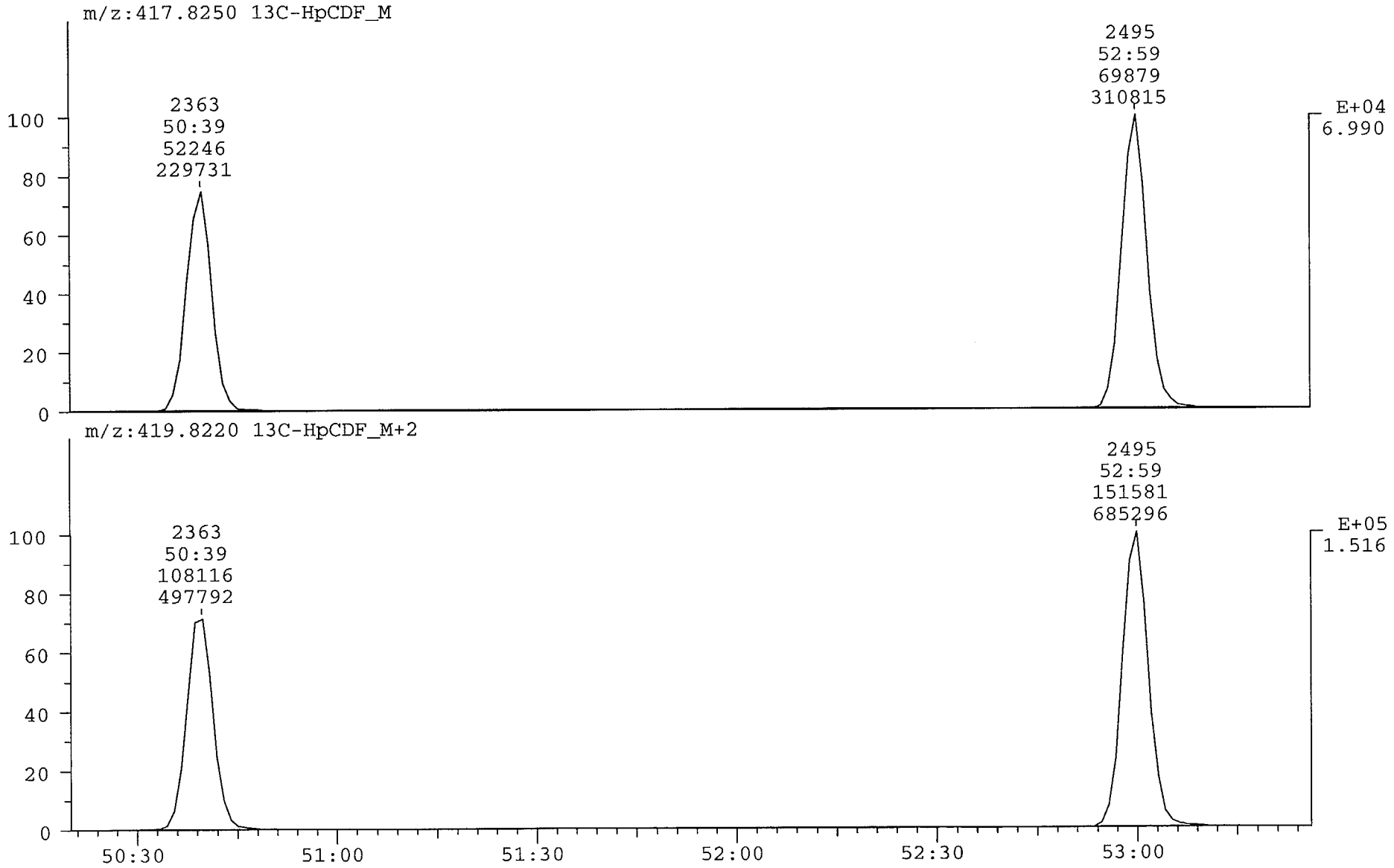
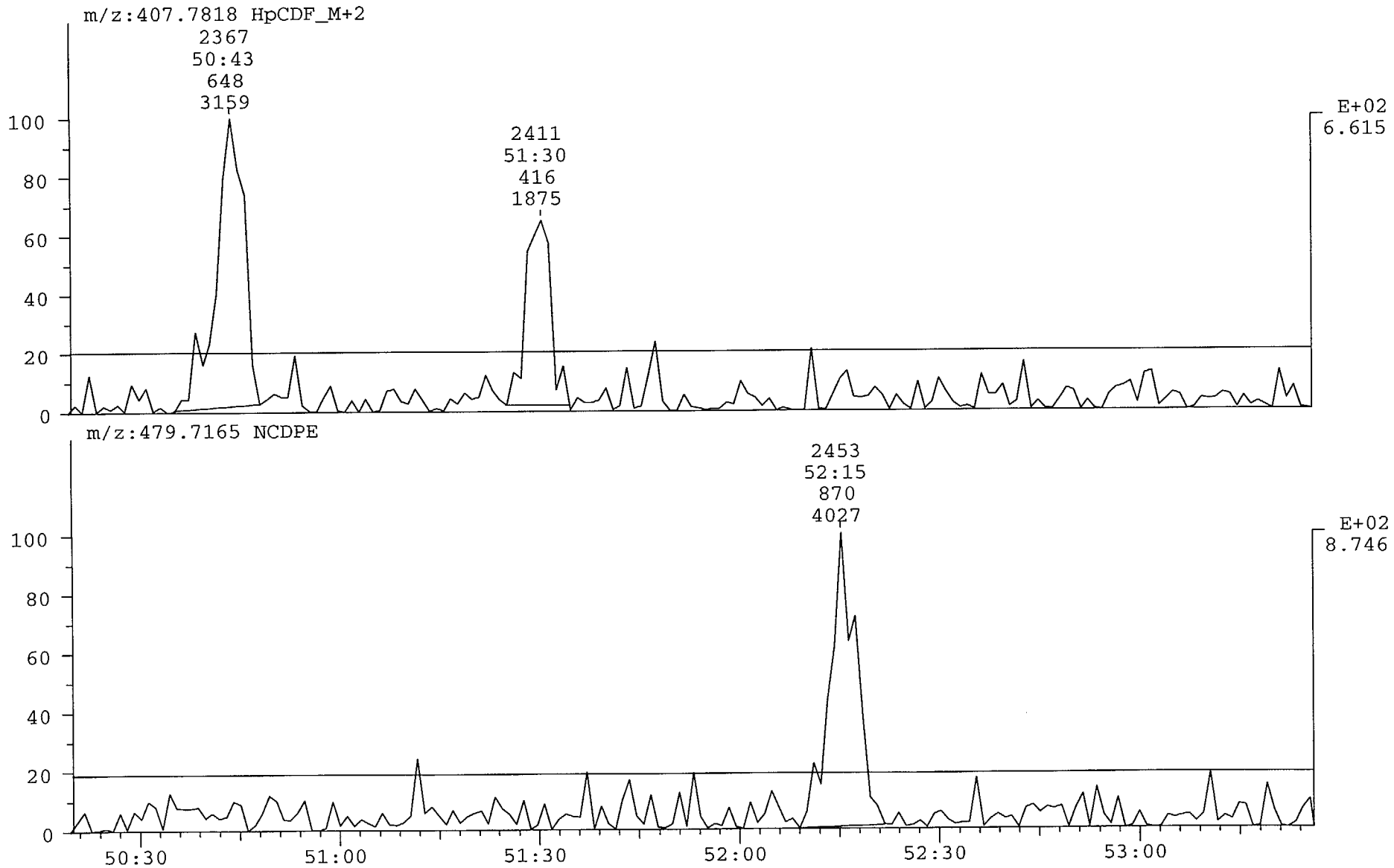
CHRO:  bth2h1n                                  04-May-06   Elapse:  46:13      2114
Samp:  Vial 7 WO=h2h1n1aa Meth=X8 Dil=1                     Start :  06:13:08   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-007                Inlet :  GC     Vial   7
Peak:  100.00  ppm      Label wndw:   2344 > 2520           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: bth2h1n 04-May-06 Elapse: 46:13 2114
Samp: Vial 7 WO=h2h1n1aa Meth=X8 Dil=1 Start : 06:13:08 2889
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D030236-007 Inlet : GC Vial 7
Peak: 100.00 ppm Label wndw: 2344 > 2520 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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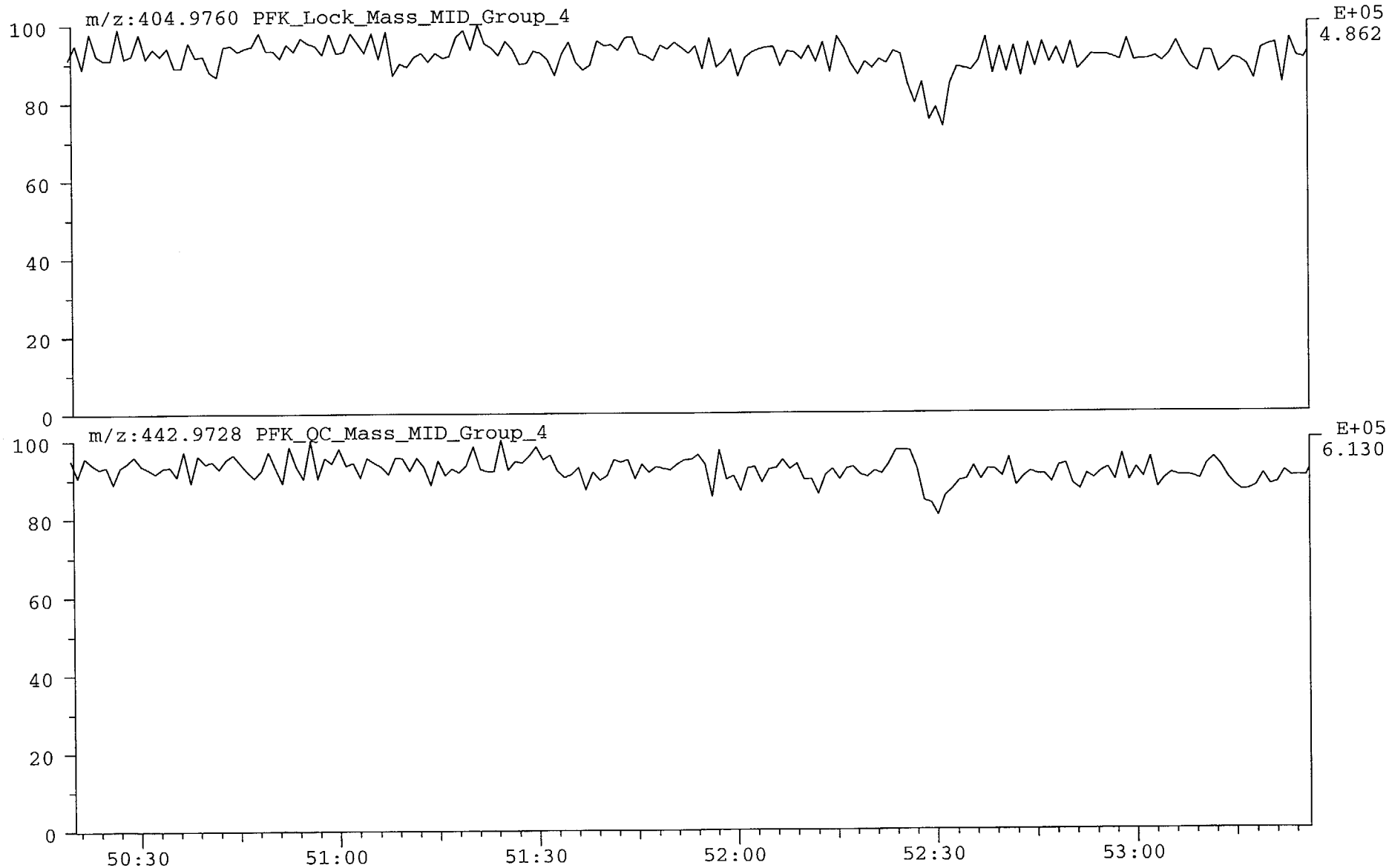
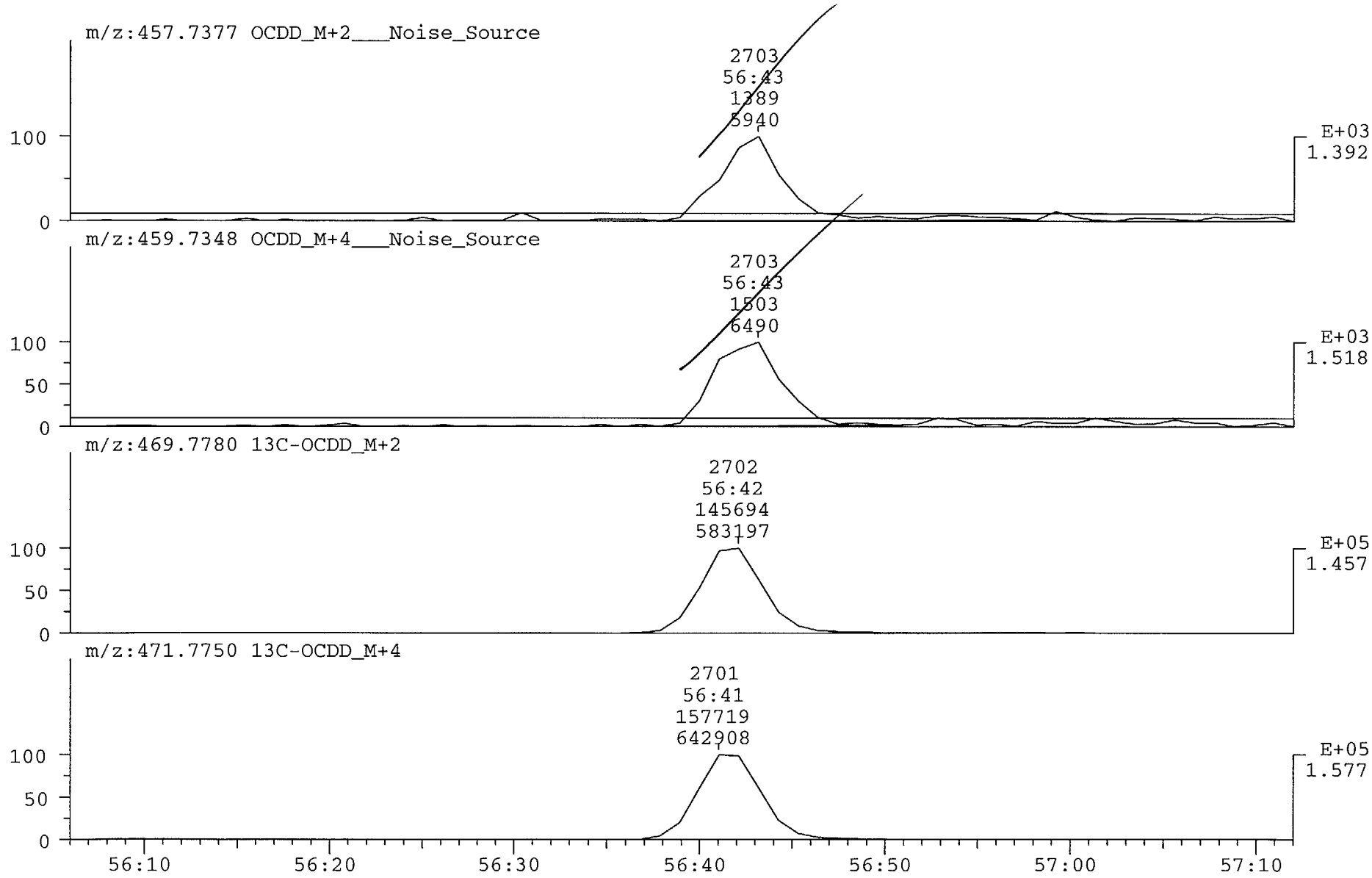
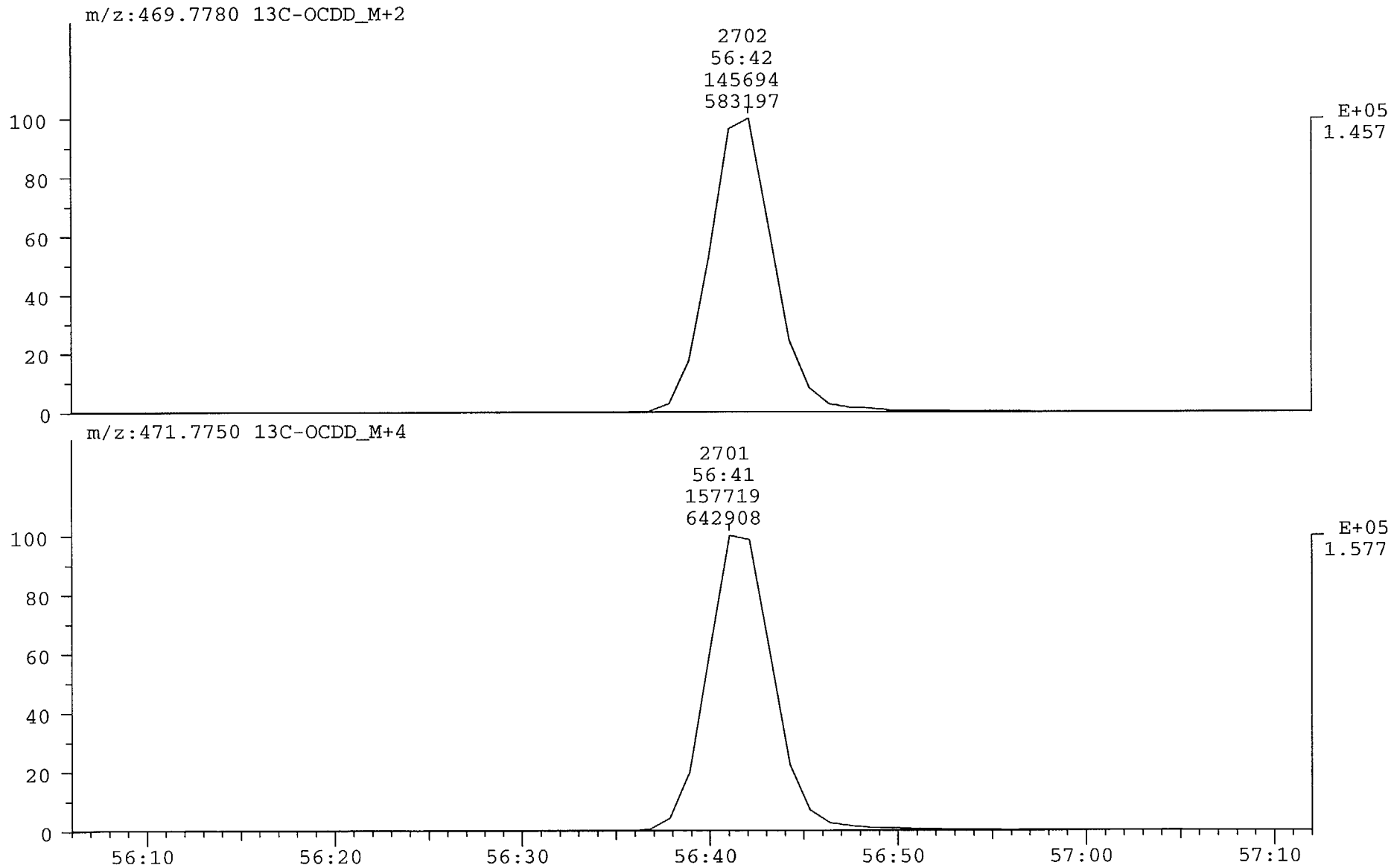
CHRO:  bth2h1n                                  04-May-06   Elapse:  46:13      2114
Samp:  Vial 7 WO=h2h1n1aa Meth=X8 Dil=1                     Start :  06:13:08   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-007                Inlet :  GC     Vial   7
Peak:  100.00  ppm      Label wndw:   2344 > 2520           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```



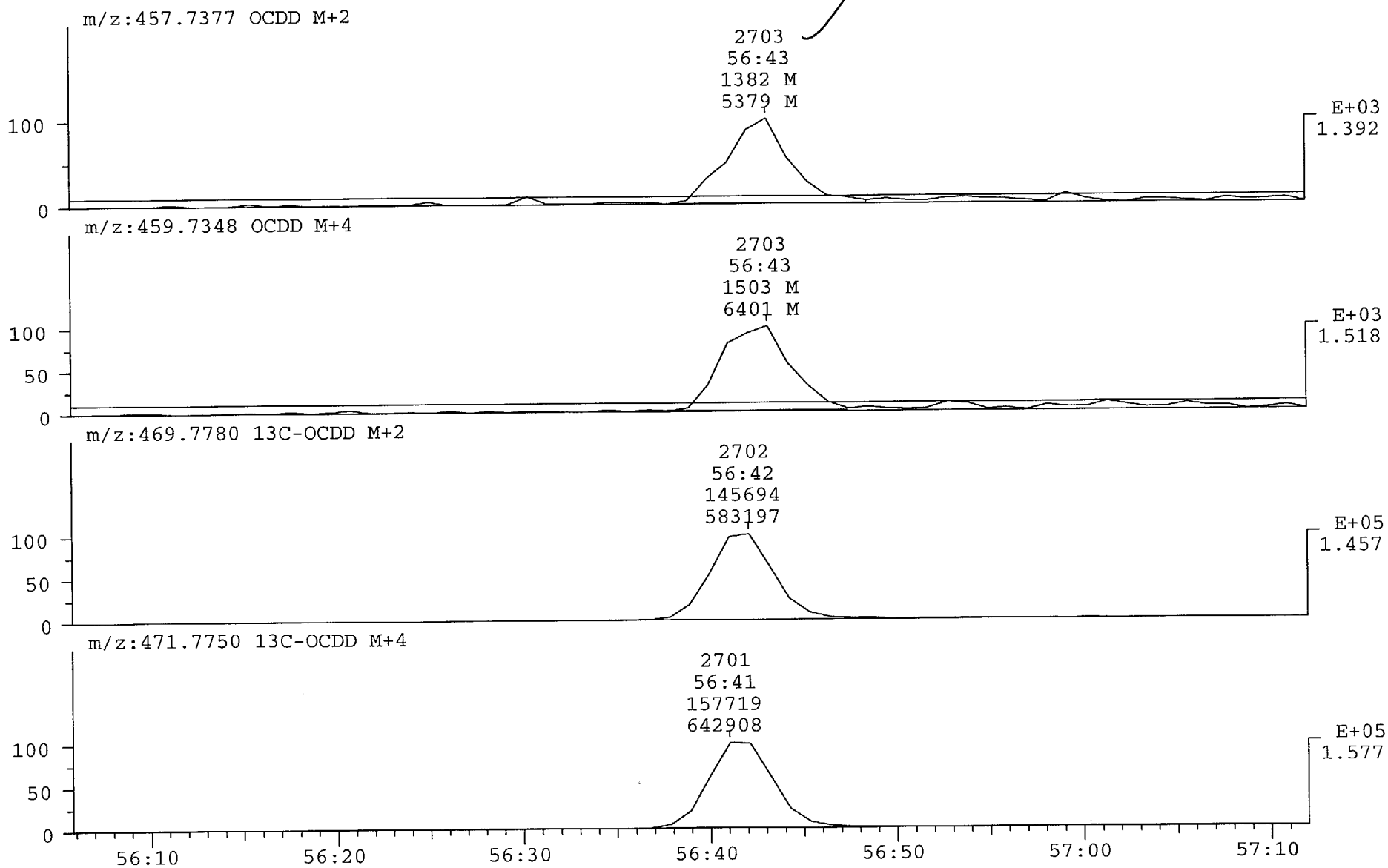
```
CHRO:  bth2h1n                                04-May-06  Elapse:  56:35      2696
Samp:  Vial 7 WO=h2h1n1aa Meth=X8 Dil=1                  Start :  06:13:08   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-007             Inlet :  GC     Vial   7
Peak:  100.00  ppm      Label wndw:   2668 > 2730        Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  -2, 3.0
Disp:  Height  Area
```



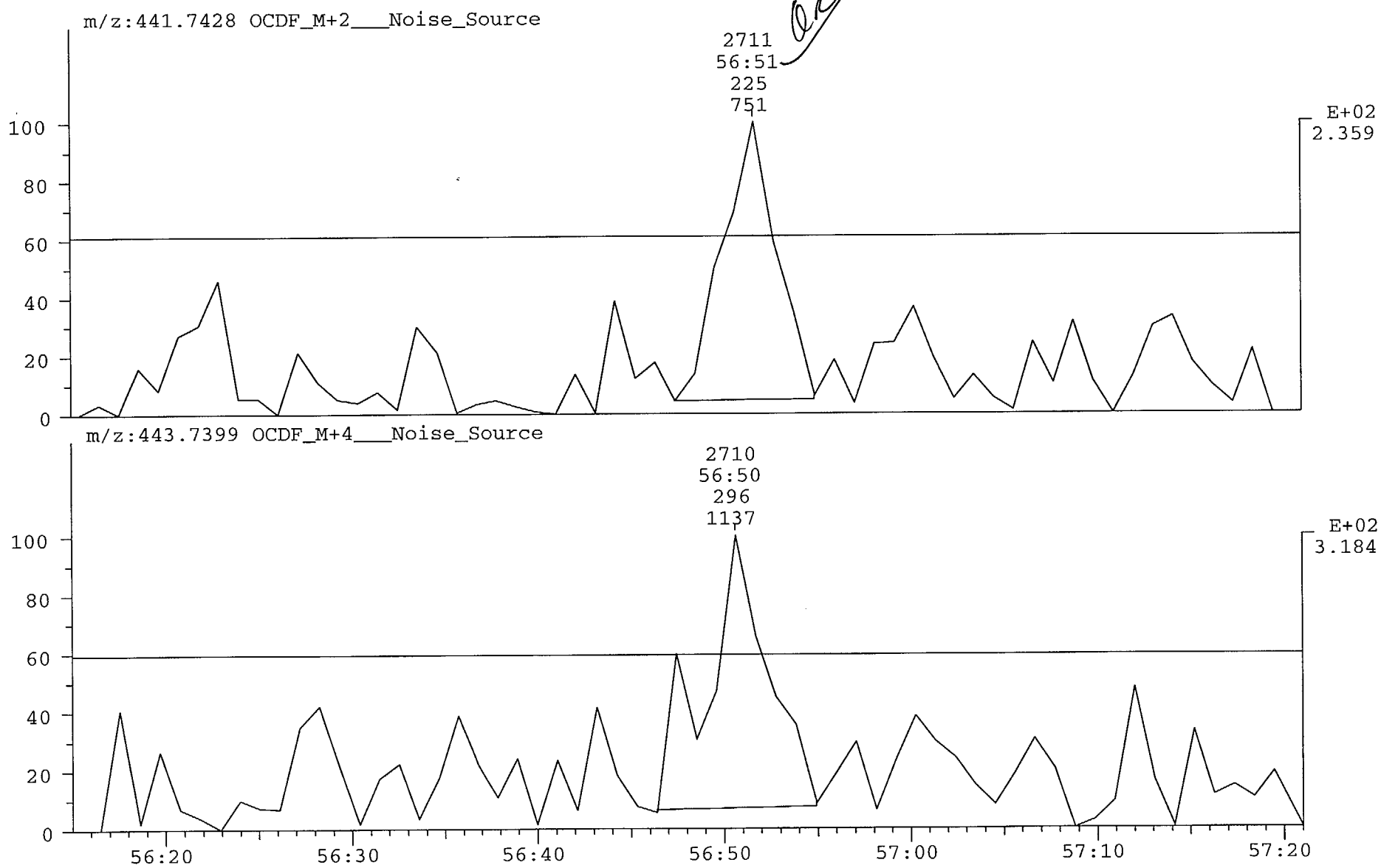
```
CHRO:  bth2h1n                                  04-May-06   Elapse:  56:35      2696
Samp:  Vial 7 WO=h2h1n1aa Meth=X8 Dil=1                     Start :  06:13:08   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-007                Inlet :  GC     Vial   7
Peak:  100.00  ppm      Label wndw:   2668 > 2730           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



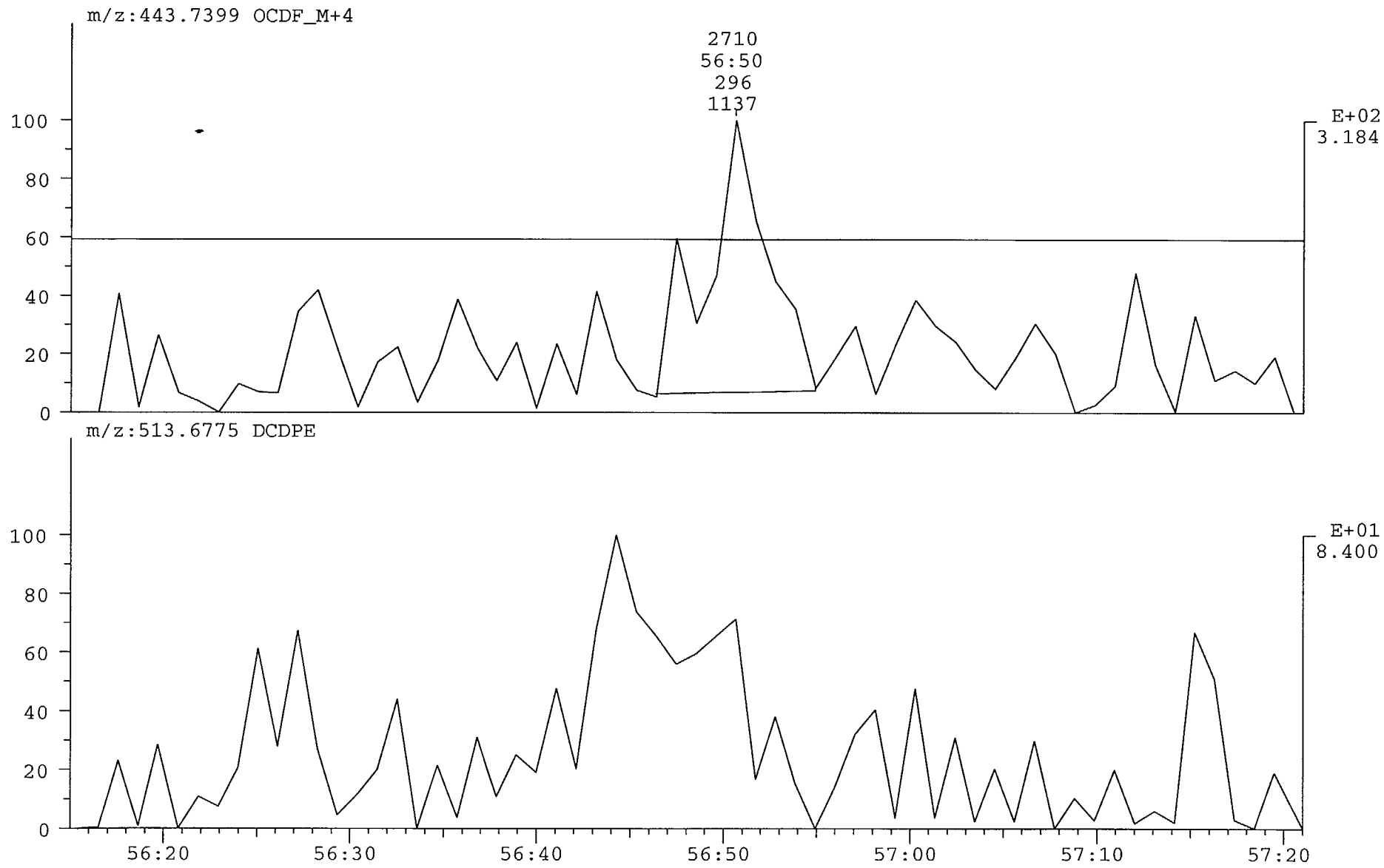
CHRO: bth2h1n 04-May-06 Elapse: 56:46 2706
Samp: Vial 7 WO=h2h1n1aa Meth=X8 Dil=1 Start : 06:13:08 2889
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D030236-007 Inlet : GC Vial 7
Peak: 100.00 ppm Label wndw: 2668 > 2730 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



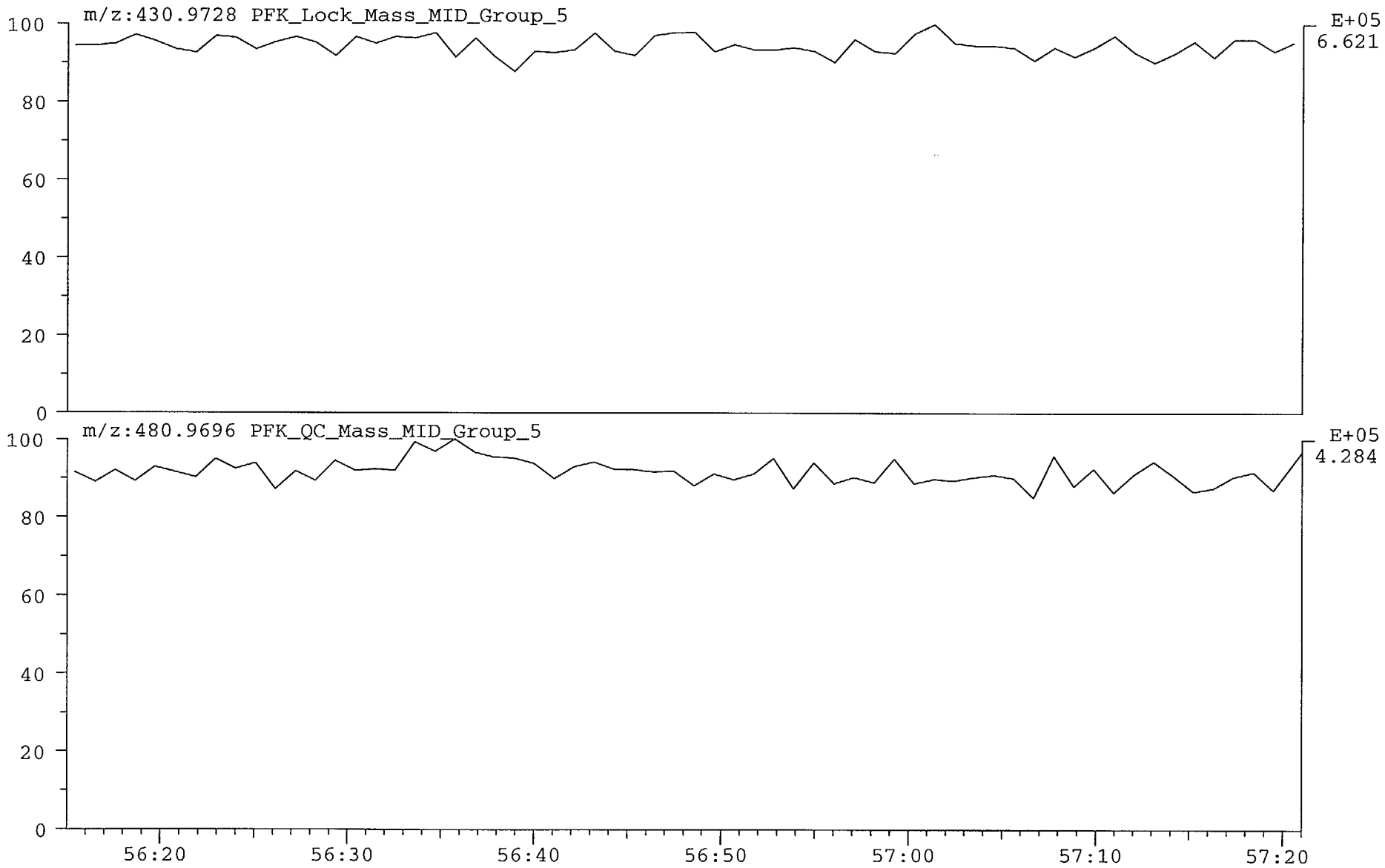
CHRO: bth2h1n 04-May-06 Elapse: 56:45 2705
Samp: Vial 7 WO=h2h1n1aa Meth=X8 Dil=1 Start : 06:13:08 2889
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D030236-007 Inlet : GC Vial 7
Peak: 100.00 ppm Label wndw: 2677 > 2738 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  bth2h1n                                  04-May-06   Elapse:  56:45      2705
Samp:  Vial 7 WO=h2h1n1aa Meth=X8 Dil=1                     Start :  06:13:08   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-007                Inlet :  GC     Vial   7
Peak:  100.00  ppm      Label wndw:   2677 > 2738           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  bth2h1n                                04-May-06  Elapse:  56:45      2705
Samp:  Vial 7 WO=h2h1n1aa Meth=X8 Dil=1                  Start :  06:13:08   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (air)
Oper:  PMP           Client:  H6D030236-007              Inlet :  GC     Vial   7
Peak:  100.00  ppm     Label wndw:   2677 > 2738         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



```
Instrument internet name  -  mat95s
Instrument model          -  MAT 95
Instrument serial number  -  000000
Workstation internet name -  icis2ms
ICIS Version 8.2.1


ICL Version: 10.500
File name: bth2h1n
Study: 6107079 (air)
Sample: WO=h2h1n1aa Meth=X8 Dil=1
Amount:   0.0
Volume:   0.0
Operator: PMP
Client: H6D030236-007
Comments: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Injected volume:   2.0
Sample from Vial 7
Analysis will stop when MID run finishes
Tune file name: tune2
File 8 of list 060503
  ICL procedure: sleep6x
  MID procedure: epa1613

  MID Remarks:  Tetra-Octa PCDD/F EPA Method 8290/1613B

  Mid Set Up Parameter:
   Measure/lock ratio        1
   Damping Relay          TRUE
   Width first lock       0.55 amu
   Electric jump time       10 ms
   Magnetic jump time       60 ms
   Offset                  140 cts
   Electric range          300 %
   Sweep peak width       3.00
   MID mode              Lock mode
   Acq mode              Cent mode

  Mid Time Windows:
        Start        Measure      End        Cycletime
  # 1    8:00 min   30:00 min   38:00 min    1.00 sec
  # 2   38:00 min    6:25 min   44:25 min    1.00 sec
  # 3   44:25 min    5:05 min   49:30 min    1.00 sec
  # 4   49:30 min    5:15 min   54:45 min    1.00 sec
  # 5   54:45 min    5:15 min   60:00 min    1.00 sec

  Mid Masses:
   Window # 1
        mass F  int  gr  time (ms)
    292.9825 1   10   1      8.19
    303.9016      1   1     81.92
    305.8987      1   1     81.92
    315.9419      1   1     81.92
    317.9389      1   1     81.92
    319.8965      1   1     81.92
    321.8936      1   1     81.92
    327.8847      1   1     81.92
    331.9368      1   1     81.92
    333.9338      1   1     81.92
    342.9792 c   10   1      8.19
    375.8364      1   1     81.92
   Window # 2
        mass F  int  gr  time (ms)
    330.9792 1   10   1      8.19
    339.8597      1   1     91.48
    341.8567      1   1     91.48
```

351.9000		1	1	91.48
353.8970		1	1	91.48
355.8546		1	1	91.48
357.8516		1	1	91.48
367.8949		1	1	91.48
369.8919		1	1	91.48
380.9760	c	10	1	8.19
409.7974		1	1	91.48

Window # 3

mass	F	int	gr	time (ms)
373.8208		1	1	91.48
375.8178		1	1	91.48
380.9760	l	10	1	8.19
383.8639		1	1	91.48
385.8610		1	1	91.48
389.8156		1	1	91.48
391.8127		1	1	91.48
401.8559		1	1	91.48
403.8529		1	1	91.48
404.9760	c	10	1	8.19
445.7555		1	1	91.48

Window # 4

mass	F	int	gr	time (ms)
404.9760	l	10	1	8.19
407.7818		1	1	91.48
409.7788		1	1	91.48
417.8250		1	1	91.48
419.8220		1	1	91.48
423.7767		1	1	91.48
425.7737		1	1	91.48
435.8169		1	1	91.48
437.8140		1	1	91.48
442.9728	c	10	1	8.19
479.7165		1	1	91.48

Window # 5

mass	F	int	gr	time (ms)
430.9728	l	10	1	10.92
441.7428		1	1	120.15
443.7399		1	1	120.15
457.7377		1	1	120.15
459.7348		1	1	120.15
469.7780		1	1	120.15
471.7750		1	1	120.15
480.9696	c	10	1	10.92
513.6775		1	1	120.15

Auto Sampler descriptor: pcdd2ul

Injector A

Normal Injection

Slvnt A cln before inj	(K):	3	times
Slvnt B cln before inj	(L):	0	times
Sample rinse cycles	(R):	0	times
Syringe filling volume	(F):	1.0	ul
Pullup delay time	(D):	4	sec
Sample pullup speed	(E):	5.0	ul/sec
Slvnt aftr pre inj cln	(U):	0.0	ul
Air after pre inj cln	(G):	2.0	ul
Sample volume	(V):	2.0	ul
Sample air volume	(A):	2.0	ul
Sample pullup count	(P):	2	times
Injection speed	(S):	10.0	ul/sec
Injection wait time	(W):	10	sec
Injection hold time	(H):	3	sec
Solvent A clean cycles	(C):	15	times
Solvent B clean cycles	(B):	20	times
Loop clean w slvnt A	(LC):	0	times

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8408.0000
BDEV	8288.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.7814	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9992
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-738.5000	ELEN	61.7750
EMULT	1.8000	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	189.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	543.0000	FVINLET	583.0000
FVSRC	988.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.5980	HVANAL	1572.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4757.0160	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	430.9728
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	2893.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10643.8407	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.8000	TCURR	0.8984	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 04-May-06 06:13:08.3

Autosampler has injected sample from vial 7
Analysis stopped at: 04-May-06 07:13:10.8 (run time 60.03 minutes)
Analysis stopped because MID run finished

STL Knoxville - ACS

Sample ID: G-3134/3135-R3-M23A BACK HALF COMPOSITE BLANK TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 008	**Work Order #....:**	H2H1P1AA	**Matrix....:**	AIR
Date Sampled....:	03/30/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/05/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	1.9	pg/sampl
Total TCDD	ND		10	1.9	pg/sampl
1,2,3,7,8-PeCDD	ND		50	0.78	pg/sampl
Total PeCDD	ND		50	0.78	pg/sampl
1,2,3,4,7,8-HxCDD	ND		50	0.65	pg/sampl
1,2,3,6,7,8-HxCDD	ND		50	0.64	pg/sampl
1,2,3,7,8,9-HxCDD	ND		50	0.59	pg/sampl
Total HxCDD	ND		50	0.63	pg/sampl
1,2,3,4,6,7,8-HpCDD	ND		50	0.76	pg/sampl
Total HpCDD	ND		50	0.76	pg/sampl
OCDD	**7.0**	**B J**	**100**	**0.68**	**pg/sampl**
2,3,7,8-TCDF	ND		10	1.4	pg/sampl
Total TCDF	ND		10	1.4	pg/sampl
1,2,3,7,8-PeCDF	ND		50	0.67	pg/sampl
2,3,4,7,8-PeCDF	ND		50	0.63	pg/sampl
Total PeCDF	ND		50	0.65	pg/sampl
1,2,3,4,7,8-HxCDF	ND		50	0.48	pg/sampl
1,2,3,6,7,8-HxCDF	ND		50	0.44	pg/sampl
2,3,4,6,7,8-HxCDF	ND		50	0.50	pg/sampl
1,2,3,7,8,9-HxCDF	ND		50	0.53	pg/sampl
Total HxCDF	ND		50	0.49	pg/sampl
1,2,3,4,6,7,8-HpCDF	ND		50	0.53	pg/sampl
1,2,3,4,7,8,9-HpCDF	ND		50	0.62	pg/sampl
Total HpCDF	ND		50	0.57	pg/sampl
OCDF	ND		100	0.92	pg/sampl

STL Knoxville - ACS

Sample ID: G-3134/3135-R3-M23A BACK HALF COMPOSITE BLANK TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 008	**Work Order #....:**	H2H1P1AA	**Matrix....:**	AIR
Date Sampled....:	03/30/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/05/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	90	40 - 135
13C-1,2,3,7,8-PeCDD	101	40 - 135
13C-1,2,3,6,7,8-HxCDD	88	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	102	40 - 135
13C-OCDD	97	40 - 135
13C-2,3,7,8-TCDF	85	40 - 135
13C-1,2,3,7,8-PeCDF	97	40 - 135
13C-1,2,3,6,7,8-HxCDF	91	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	87	40 - 135

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	83	70 - 130
13C-1,2,3,4,7,8-HxCDD	97	70 - 130
13C-2,3,4,7,8-PeCDF	93	70 - 130
13C-1,2,3,4,7,8-HxCDF	81	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	82	70 - 130

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

STL - Knoxville

IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1P1AA	**Prep Batch**	6107092	**Lot No**	H6D030236-008
Data File	/20060504s2/bth2h1p.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90544	**Prep Exp Date**	04/29/06	**Date Received**	04/02/06
Analysis Date	5/5/2006	**Matrix**	AIR	**Date Sampled**	03/30/06
Analysis Time	04:12	**Initial Wt/Vol**	1	**Lims Test Code**	XXSIOX801
Anal Exp Date	06/01/06	**Extract Vol**	20	**Method**	0023/8290
Instrument	M2A	**Dil Factor**	1.0	**Code**	X8
Analyst	PMP				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (pg/sample		DL (pg/samp
2,3,7,8-TCDD				1.060				ND		1.91
Total TCDD				1.060				ND		1.91
2,3,7,8-TCDF				1.064				ND		1.36
Total TCDF				1.064				ND		1.36
1,2,3,7,8-PeCDD				0.977				ND		0.781
Total PeCDD				0.977				ND		0.781
1,2,3,7,8-PeCDF				0.955				ND		0.674
2,3,4,7,8-PeCDF				1.018				ND		0.632
Total PeCDF				0.987				ND		0.652
1,2,3,4,7,8-HxCDD				1.047				ND		0.648
1,2,3,6,7,8-HxCDD				1.055				ND		0.643
1,2,3,7,8,9-HxCDD				1.146				ND		0.592
Total HxCDD				1.083				ND		0.627
1,2,3,4,7,8-HxCDF				1.101				ND		0.476
1,2,3,6,7,8-HxCDF				1.184				ND		0.442
2,3,4,6,7,8-HxCDF				1.052				ND		0.498
1,2,3,7,8,9-HxCDF				0.982				ND		0.533
Total HxCDF				1.080				ND		0.485
1,2,3,4,6,7,8-HpCDD				1.018				ND		0.758
Total HpCDD				1.018				ND		0.758
1,2,3,4,6,7,8-HpCDF				1.403				ND		0.532
1,2,3,4,7,8,9-HpCDF				1.197				ND		0.623
Total HpCDF				1.300				ND		0.574
OCDD	56:41	6021	1685	0.965		6.986354		6.986354	BJ	0.678
OCDF				1.103				ND		0.923
13C-2,3,7,8-TCDD	35:15	1090851	121992	1.068	1000	897.438238	89.74	897.438238		5.09
13C-2,3,7,8-TCDF	33:02	1360214	145285	1.413	1000	845.550941	84.56	845.550941		2.28
13C-1,2,3,7,8-PeCDD	43:01	1013547	285121	0.882	1000	1009.77149	100.98	1009.77149		3.67
13C-1,2,3,7,8-PeCDF	41:27	1305253	322469	1.188	1000	965.245063	96.52	965.245063		2.29
13C-1,2,3,6,7,8-HxCDD	47:20	901045	243126	0.943	1000	883.796525	88.38	883.796525		1.11
13C-1,2,3,6,7,8-HxCDF	46:16	1254325	334123	1.272	1000	912.343020	91.23	912.343020		1.01
13C-1,2,3,4,6,7,8-HpCDD	52:20	1007882	223516	0.918	1000	1015.46489	101.55	1015.46489		0.947
13C-1,2,3,4,6,7,8-HpCDF	50:37	858038	180984	0.916	1000	866.583344	86.66	866.583344		1.22
13C-OCDD	56:39	1786626	466294	0.850	2000	1945.14878	97.26	1945.14878		1.10
37Cl4-2,3,7,8-TCDD	35:17	1891151	210589	1.046	2000	1657.50446	82.88	1657.50446		1.53
13C-2,3,4,7,8-PeCDF	42:33	2442833	671953	1.010	2000	1852.57411	92.63	1852.57411		0.959
13C-1,2,3,4,7,8-HxCDD	47:13	1569720	433227	0.902	2000	1930.91660	96.55	1930.91660		1.32
13C-1,2,3,4,7,8-HxCDF	46:08	2012362	584814	0.988	2000	1623.53634	81.18	1623.53634		1.08
13C-1,2,3,7,8,9-HxCDF				1.113				ND		1.16
13C-1,2,3,4,7,8,9-HpCDF	52:57	1282014	291952	0.912	2000	1638.02847	81.90	1638.02847		1.86
13C-1,2,3,4-TCDD	34:41	2276281	229942	1.000	2000	2000.00000	100.00	2000.00000		5.44
13C-1,2,3,7,8,9-HxCDD	47:45	2161674	551681	1.000	2000	2000.00000	100.00	2000.00000		1.05

VMK 5/5/06
MSD 5/8/06

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1P1AA	Prep Batch	6107092	Lot No	H6D030236-008
Data File	/20060504s2/bth2h1p.d	Prep Date	04/17/06	SDG No	
Analysis ID	90544	Prep Exp Date	04/29/06	Date Received	04/02/06
Analysis Date	05/05/06 04:12	Matrix	AIR	Date Sampled	03/30/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSIOX801
Instrument	M2A	Extract Vol	20 uL	Method	0023/8290
Analyst	PMP	Diluton Factor	1.00	Code	X8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**	
	Noise	00:00	00:00	0	85	125	34	50	0.68	/
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**	
	Noise	00:00	00:00	0	143	228	57	91	0.63 *	/
	13C-2,3,7,8-TCDF	33:02	33:02	0	593199	767015	61897	83388	0.77	ABV/AVV
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**	
	Noise	00:00	00:00	0	113	135	45	54	0.83	/
328					**327.8847**		**327.8847**			
	Noise	00:00	00:00	0	195		78			
	37Cl4-2,3,7,8-TCDD	35:17	35:19	-2	1891151		210589			ABV
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**	
	Noise	00:00	00:00	0	393	233	157	93	1.69 *	/
	13C-1,2,3,4-TCDD	34:41	34:41	0	1004838	1271443	103851	126091	0.79	AVV/ABV
	13C-2,3,7,8-TCDD	35:15	35:15	0	481681	609170	53641	68351	0.79	AVV/AVV
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**	
	Noise	00:00	00:00	0	73	135	29	54	0.54 *	/
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**	
	Noise	00:00	00:00	0	145	168	58	67	0.87 *	/
	13C-1,2,3,7,8-PeCDF	41:27	41:28	-1	799631	505622	200160	122309	1.58	ABV/ABV
	13C-2,3,4,7,8-PeCDF	42:33	42:32	1	1486655	956178	408255	263698	1.55	ABV/ABV
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**	
	Noise	00:00	00:00	0	133	85	53	34	1.56	/
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**	
	Noise	00:00	00:00	0	238	135	95	54	1.76	/
	13C-1,2,3,7,8-PeCDD	43:01	43:02	-1	618678	394869	172580	112541	1.57	ABV/ABV
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**	
	Noise	00:00	00:00	0	103	73	41	29	1.41	/
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**	
	Noise	00:00	00:00	0	155	200	62	80	0.78 *	/
	13C-1,2,3,4,7,8-HxCDF	46:08	46:08	0	697686	1314676	202586	382228	0.53	ABV/ABV
	13C-1,2,3,6,7,8-HxCDF	46:16	46:16	0	427823	826502	114822	219301	0.52	AVV/AVV
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**	
	Noise	00:00	00:00	0	65	100	26	40	0.65 *	/
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**	
	Noise	00:00	00:00	0	145	145	58	58	1.00 *	/
	13C-1,2,3,4,7,8-HxCDD	47:13	47:13	0	871246	698474	241868	191359	1.25	ABV/ABV
	13C-1,2,3,6,7,8-HxCDD	47:20	47:20	0	500031	401014	134297	108829	1.25	AVV/AVV
	13C-1,2,3,7,8,9-HxCDD	47:45	47:45	0	1203496	958178	306817	244864	1.26	ABV/ABV
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**	
	Noise	00:00	00:00	0	58	78	23	31	0.74 *	/
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**	
	Noise	00:00	00:00	0	165	143	66	57	1.16 *	/
	13C-1,2,3,4,6,7,8-HpCDF	50:37	50:36	1	266607	591431	54836	126148	0.45	ABV/ABV

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1P1AA	**Prep Batch**	6107092	**Lot No**	H6D030236-008
Data File	/20060504s2/bth2h1p.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90544	**Prep Exp Date**	04/29/06	**Date Received**	04/02/06
Analysis Date	05/05/06 04:12	**Matrix**	AIR	**Date Sampled**	03/30/06
Anal Exp Date	06/01/06	**Initial Wt/Vol**	1 Sample	**Lims Test Code**	XXSIOX801
Instrument	M2A	**Extract Vol**	20 uL	**Method**	0023/8290
Analyst	PMP	**Diluton Factor**	1.00	**Code**	X8

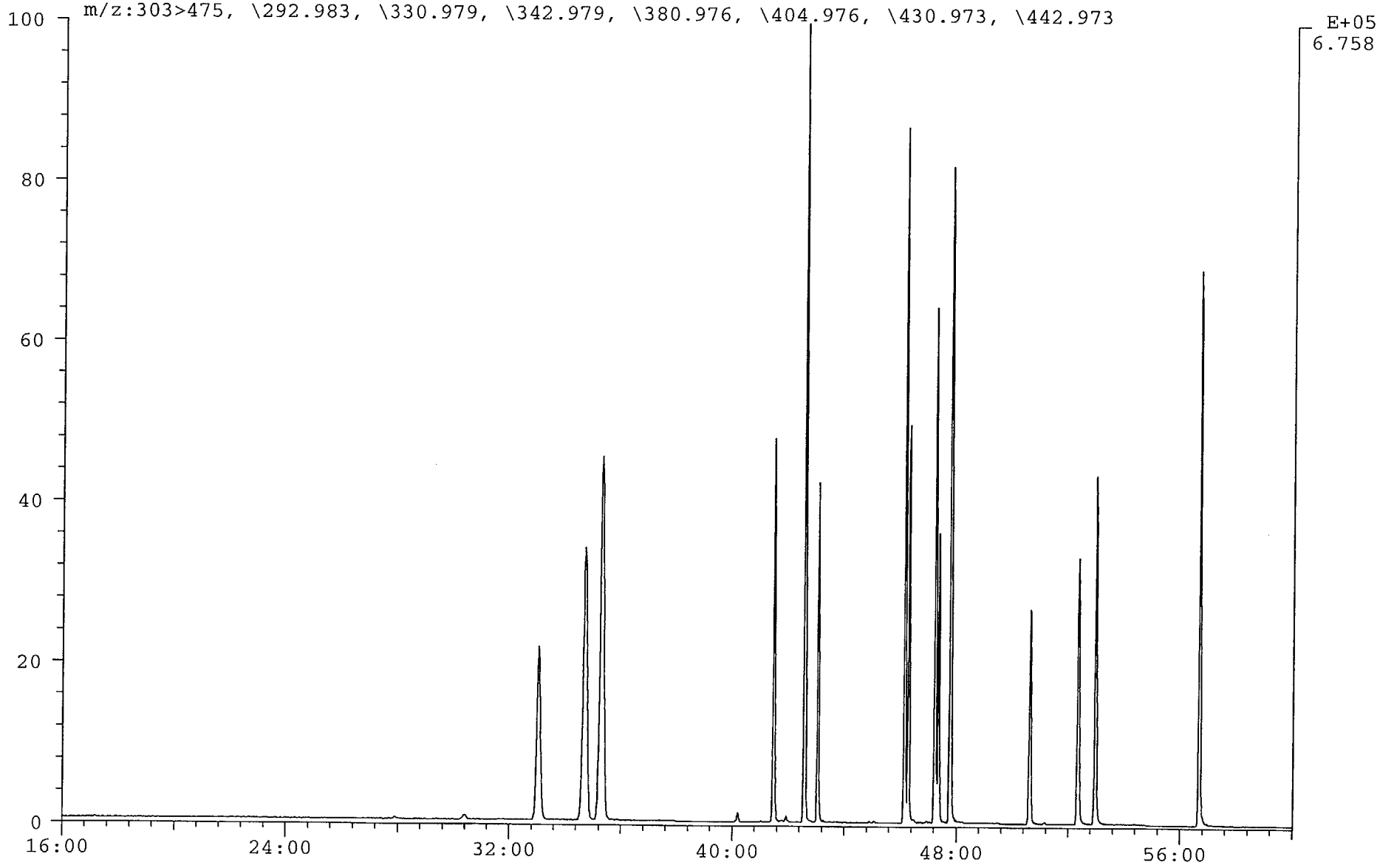
View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration Flags
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**	
	13C-1,2,3,4,7,8,9-HpCDF	52:57	52:56	1	398431	883583	89326	202626	0.45	ABV/ABV
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**	
	Noise	00:00	00:00	0	93	80	37	32	1.16	/
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**	
	Noise	00:00	00:00	0	148	93	59	37	1.59 *	/
	13C-1,2,3,4,6,7,8-HpCDD	52:20	52:19	1	511957	495925	113649	109867	1.03	ABV/ABV
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**	
	Noise	00:00	00:00	0	110	128	44	51	0.86	/
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**	
	Noise	00:00	00:00	0	85	68	34	27	1.26 *	/
	OCDD	56:41	56:40	1	2956	3065	874	811	0.96	ABB/MBB
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**	
	Noise	00:00	00:00	0	123	135	49	54	0.91	/
	13C-OCDD	56:39	56:40	-1	848543	938083	222097	244197	0.90	ABV/ABV

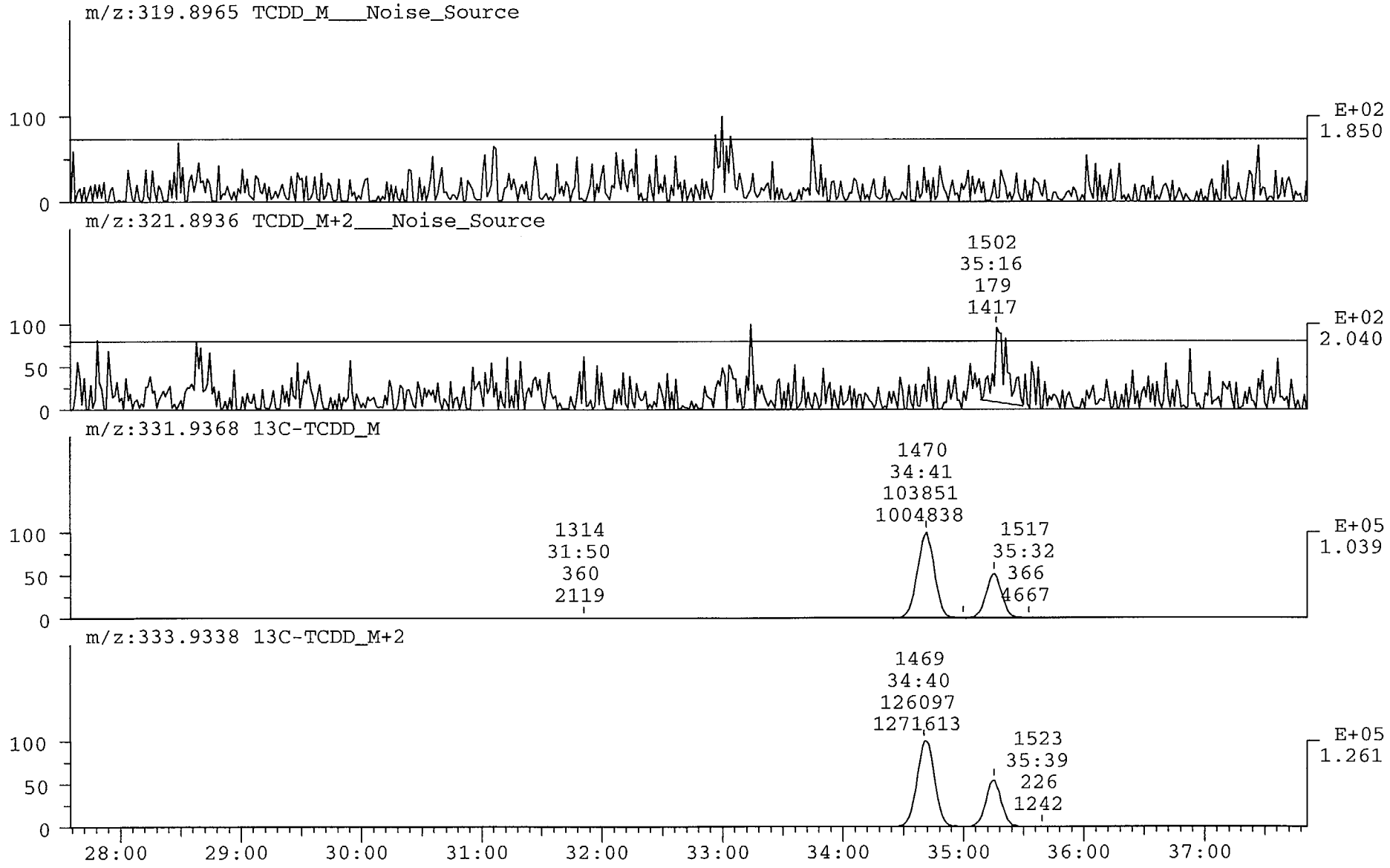
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

Int BFW 5/5/06
Calc VMK 5/5/06
QC Rev WSD 5/8/06

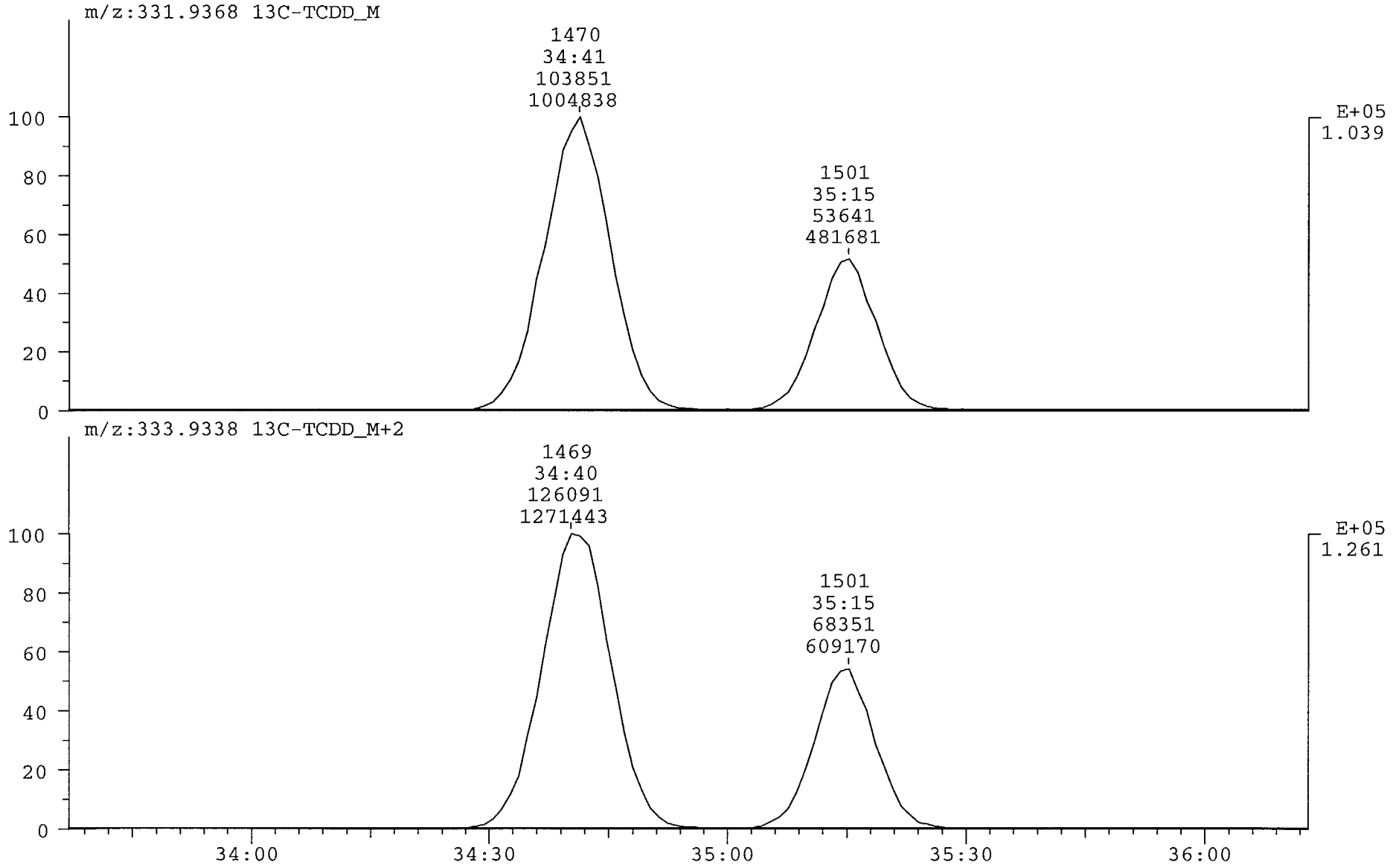
```
CHRO:  bth2h1p                                  05-May-06   Elapse:  56:47      2705
Samp:  Vial 15 WO=h2h1p1aa Meth=X8 Dil=1                    Start :  04:12:44   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-008                Inlet :  GC     Vial  15
Peak:  100.00  ppm      Label wndw:   441 > 2887            Masses:  293 > 514
Area:  5, 0.50, 0       Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```



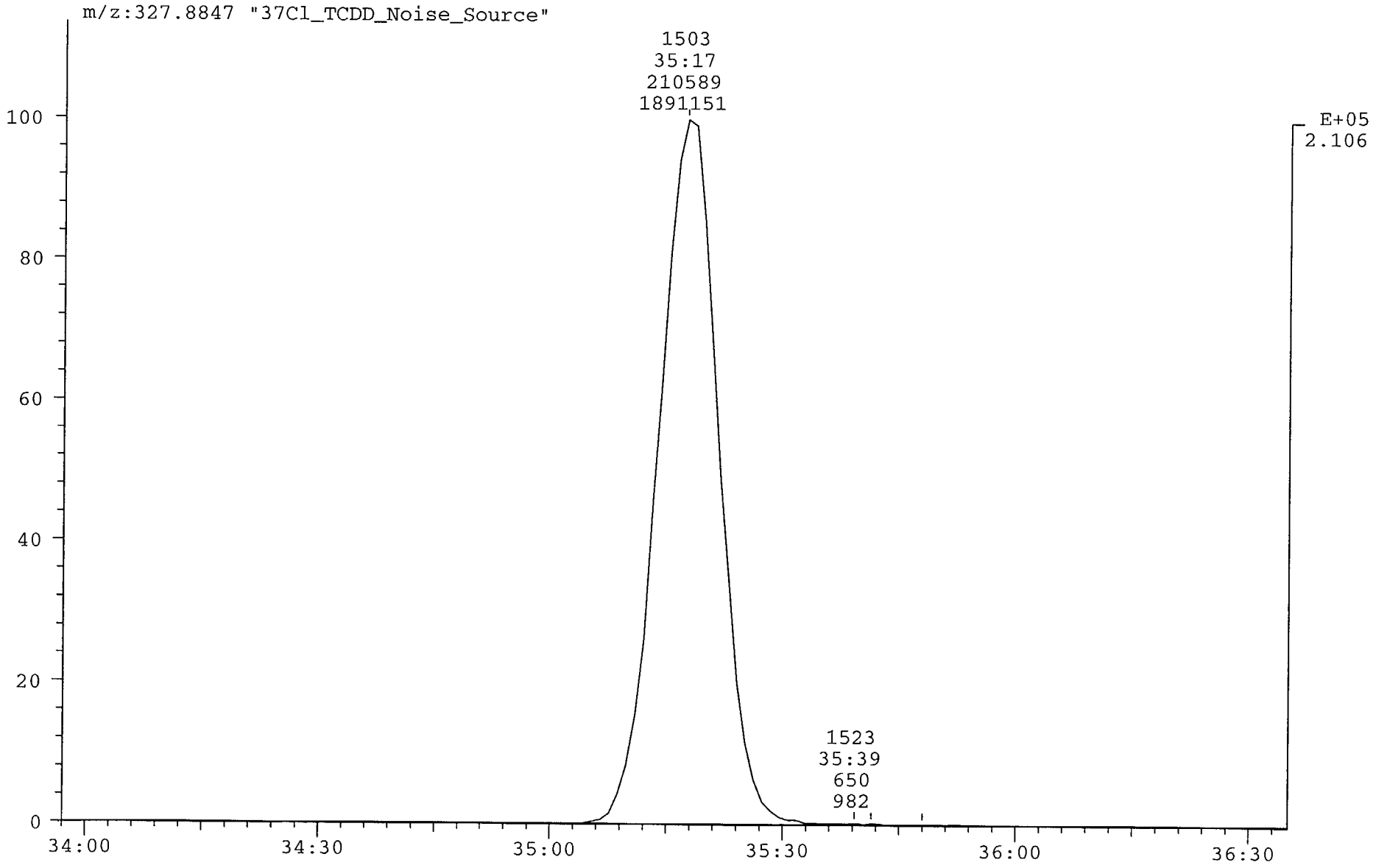
```
CHRO:  bth2h1p                                05-May-06   Elapse:  56:47      2705
Samp:  Vial 15 WO=h2h1p1aa Meth=X8 Dil=1                  Start :  04:12:44   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-008              Inlet :  GC     Vial  15
Peak:  100.00  ppm      Label wndw:   1080 > 1644         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



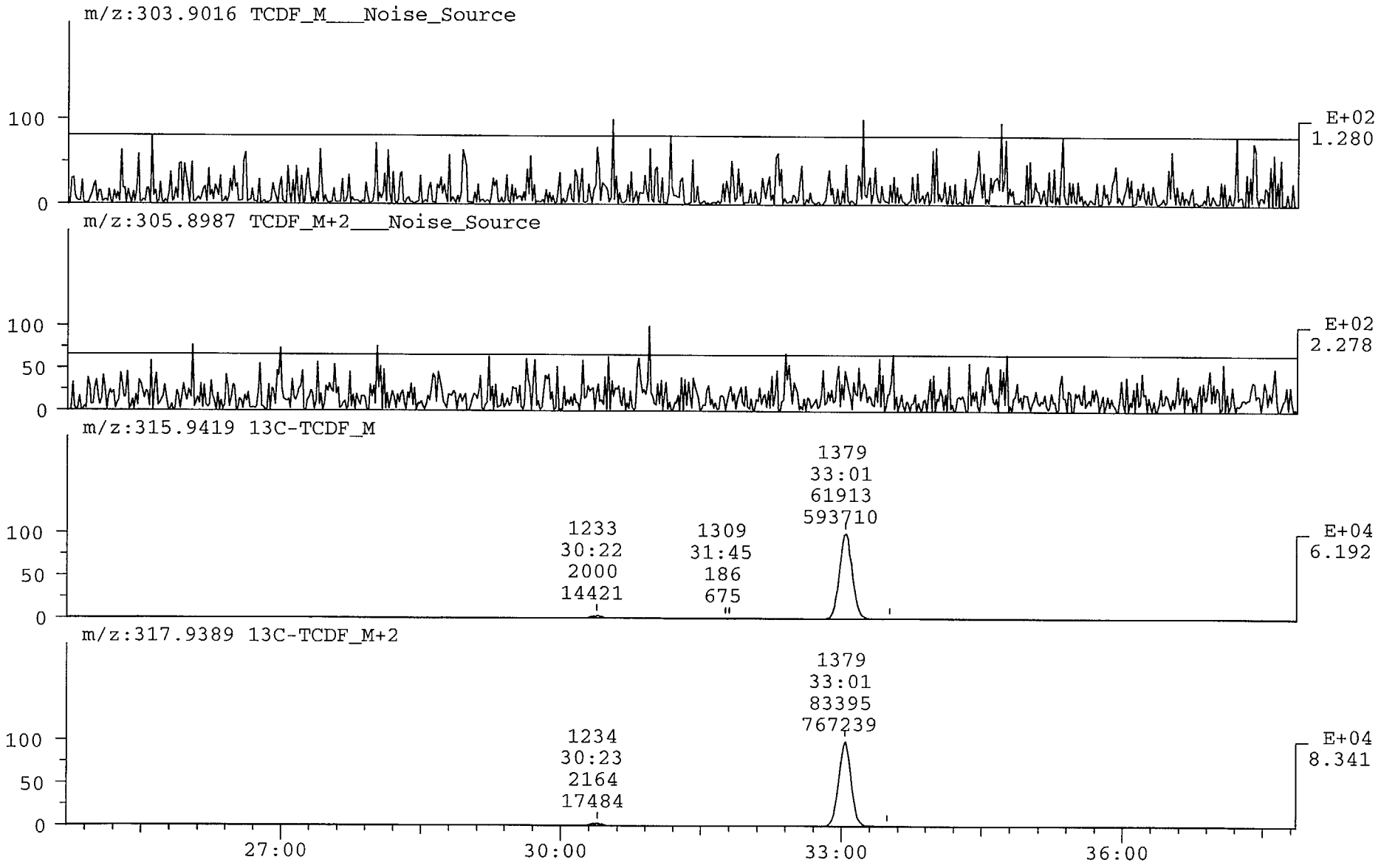
```
CHRO:  bth2h1p                                05-May-06   Elapse:  34:55      1483
Samp:  Vial 15 WO=h2h1p1aa Meth=X8 Dil=1                  Start :  04:12:44   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-008                Inlet :  GC     Vial  15
Peak:  100.00  ppm     Label wndw:   1411 > 1554          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



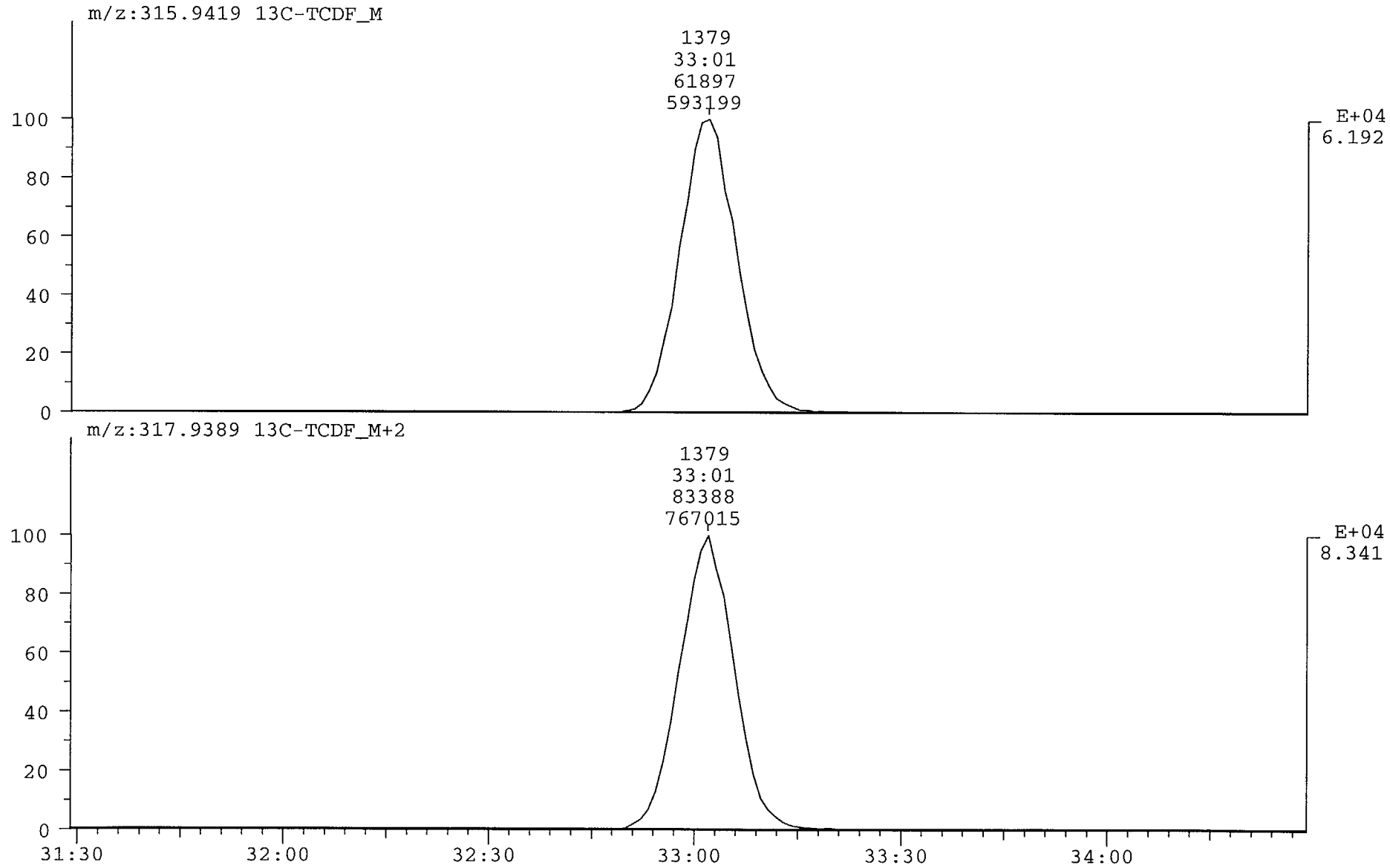
```
CHRO:  bth2h1p                                  05-May-06   Elapse:  35:13      1499
Samp:  Vial 15 WO=h2h1p1aa Meth=X8 Dil=1                    Start :  04:12:44   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-008                Inlet :  GC     Vial  15
Peak:  100.00  ppm      Label wndw:   1429 > 1574           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



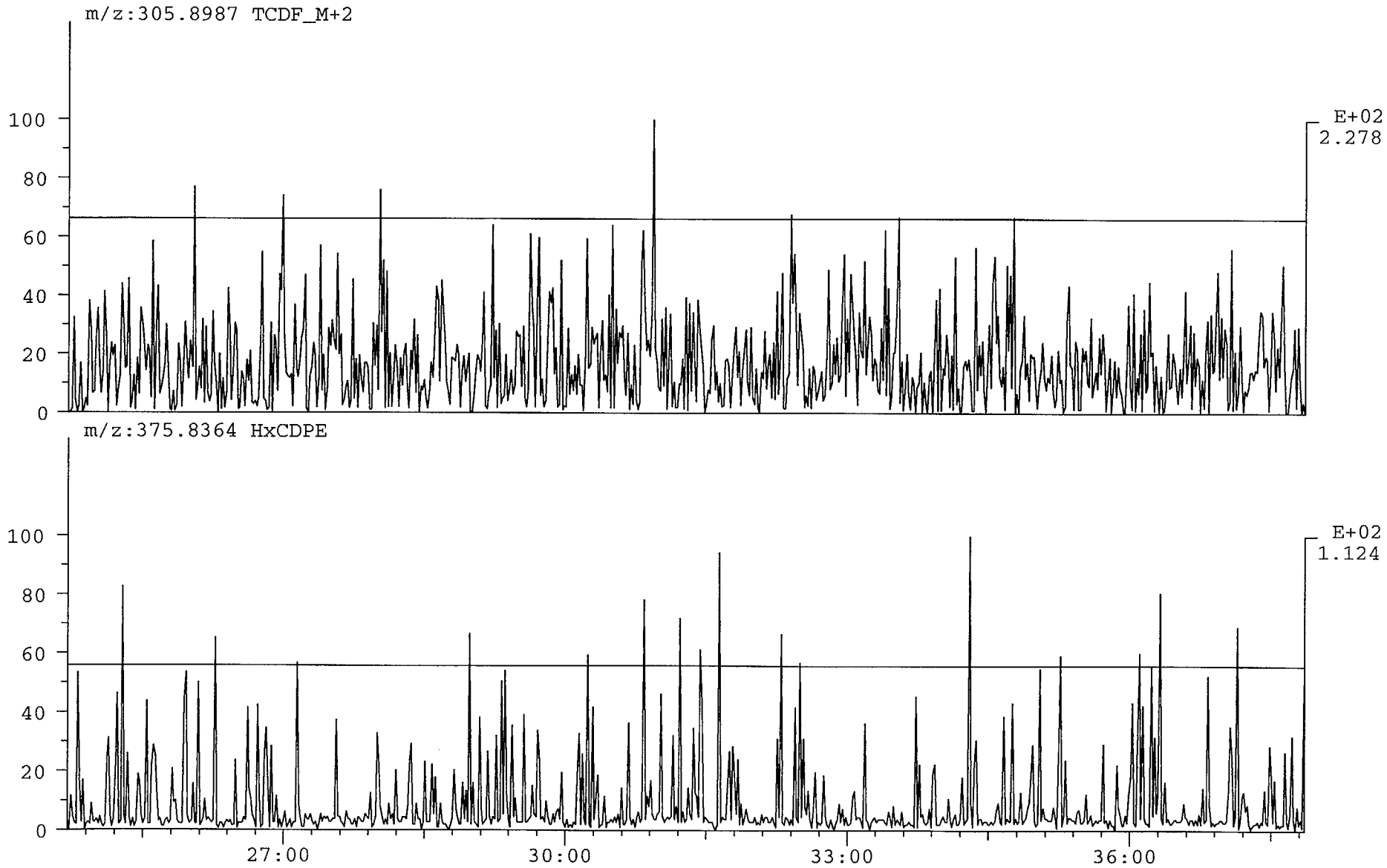
CHRO: bth2h1p 05-May-06 Elapse: 35:13 1499
Samp: Vial 15 WO=h2h1p1aa Meth=X8 Dil=1 Start : 04:12:44 2887
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-008 Inlet : GC Vial 15
Peak: 100.00 ppm Label wndw: 921 > 1644 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



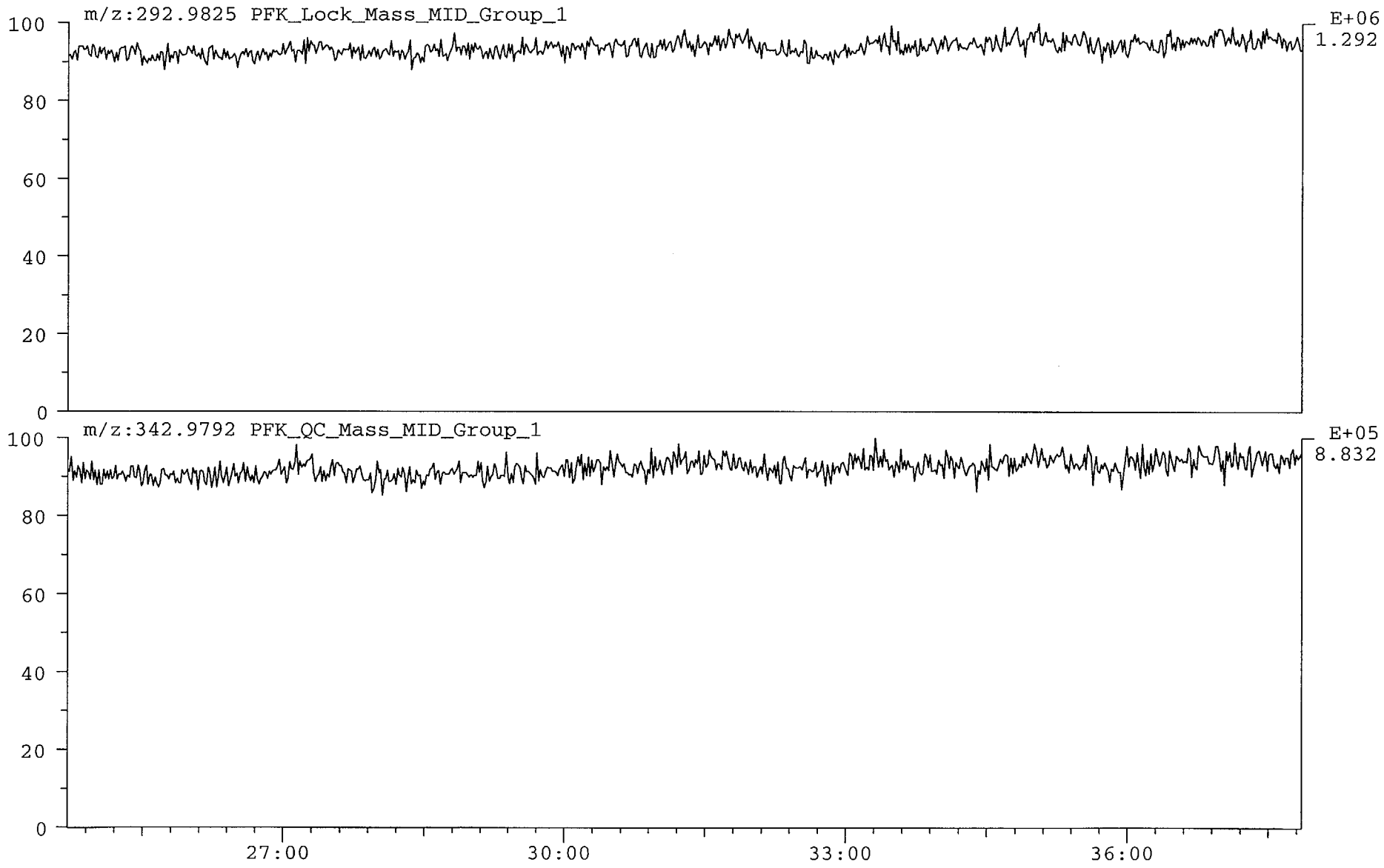
```
CHRO:  bth2h1p                                05-May-06   Elapse:  32:56      1374
Samp:  Vial 15 WO=h2h1p1aa Meth=X8 Dil=1                  Start :  04:12:44   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-008              Inlet :  GC     Vial  15
Peak:  100.00  ppm      Label wndw:   1294 > 1459         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



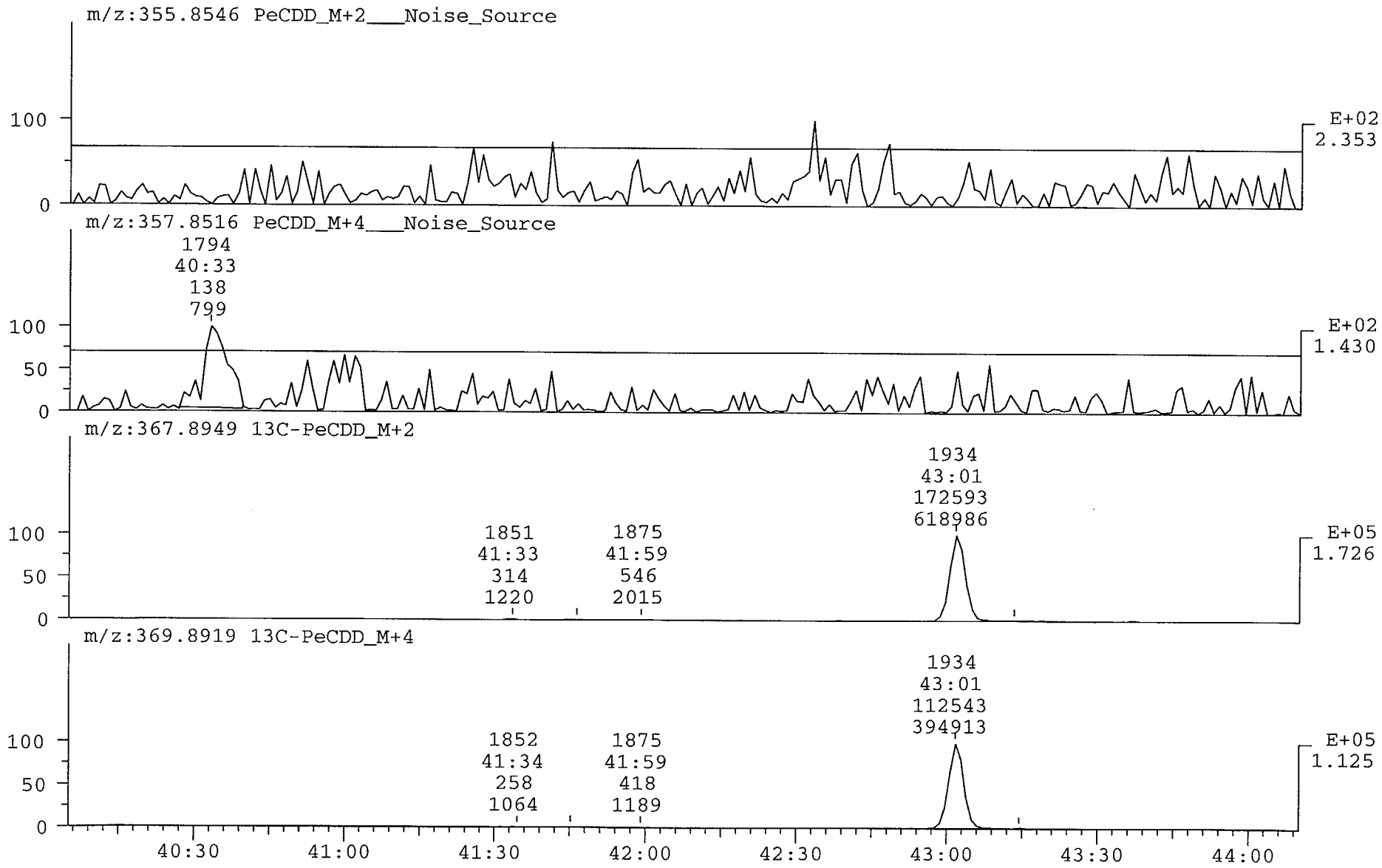
CHRO: bth2h1p 05-May-06 Elapse: 32:56 1374
Samp: Vial 15 WO=h2h1p1aa Meth=X8 Dil=1 Start : 04:12:44 2887
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-008 Inlet : GC Vial 15
Peak: 100.00 ppm Label wndw: 921 > 1644 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



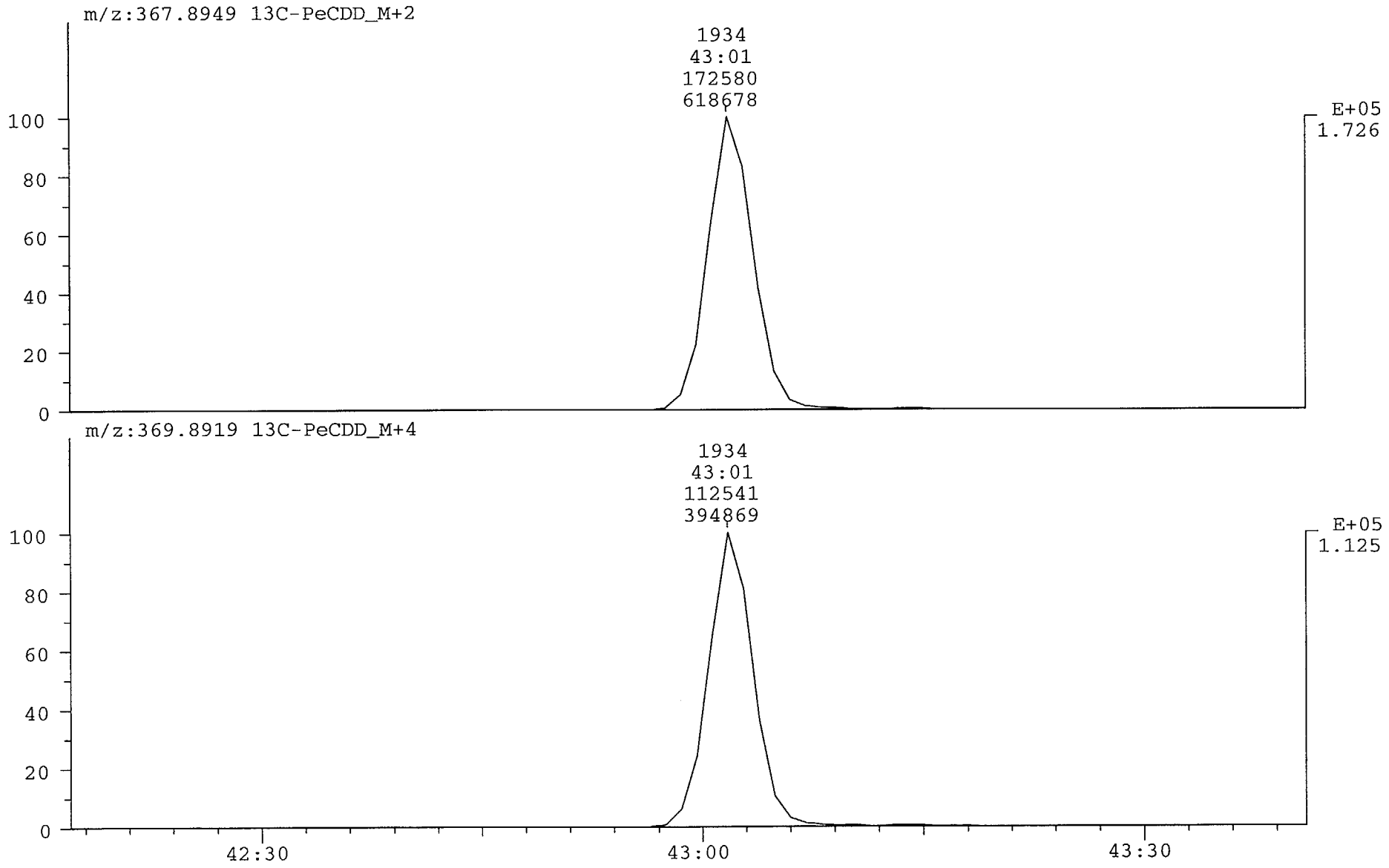
```
CHRO:  bth2h1p                                05-May-06  Elapse:  32:56      1374
Samp:  Vial 15 WO=h2h1p1aa Meth=X8 Dil=1                 Start :  04:12:44   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP           Client:  H6D030236-008              Inlet :  GC     Vial  15
Peak:  100.00  ppm     Label wndw:   921 > 1644          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



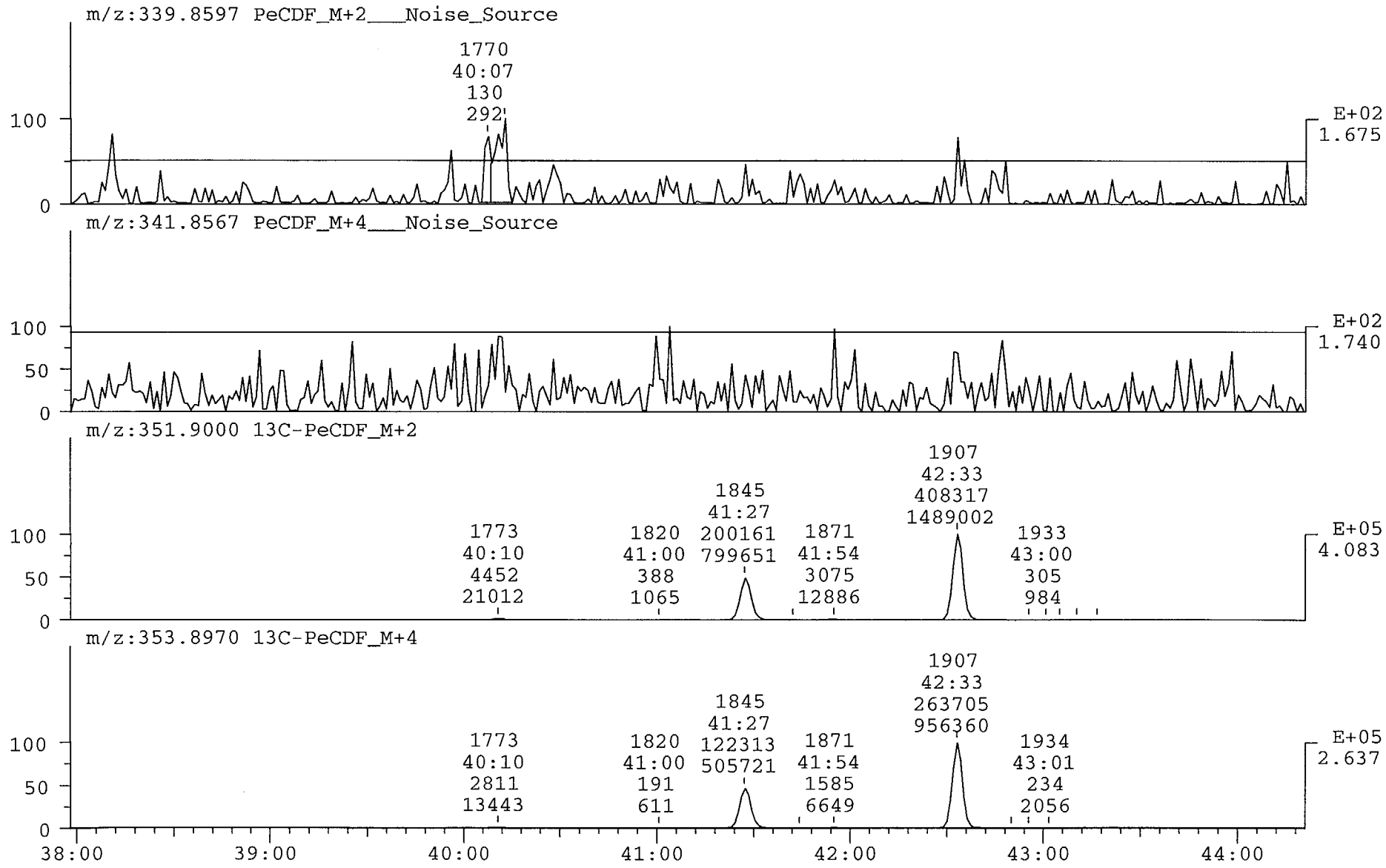
CHRO: bth2h1p 05-May-06 Elapse: 32:56 1374
Samp: Vial 15 WO=h2h1p1aa Meth=X8 Dil=1 Start : 04:12:44 2887
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-008 Inlet : GC Vial 15
Peak: 100.00 ppm Label wndw: 1768 > 1998 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



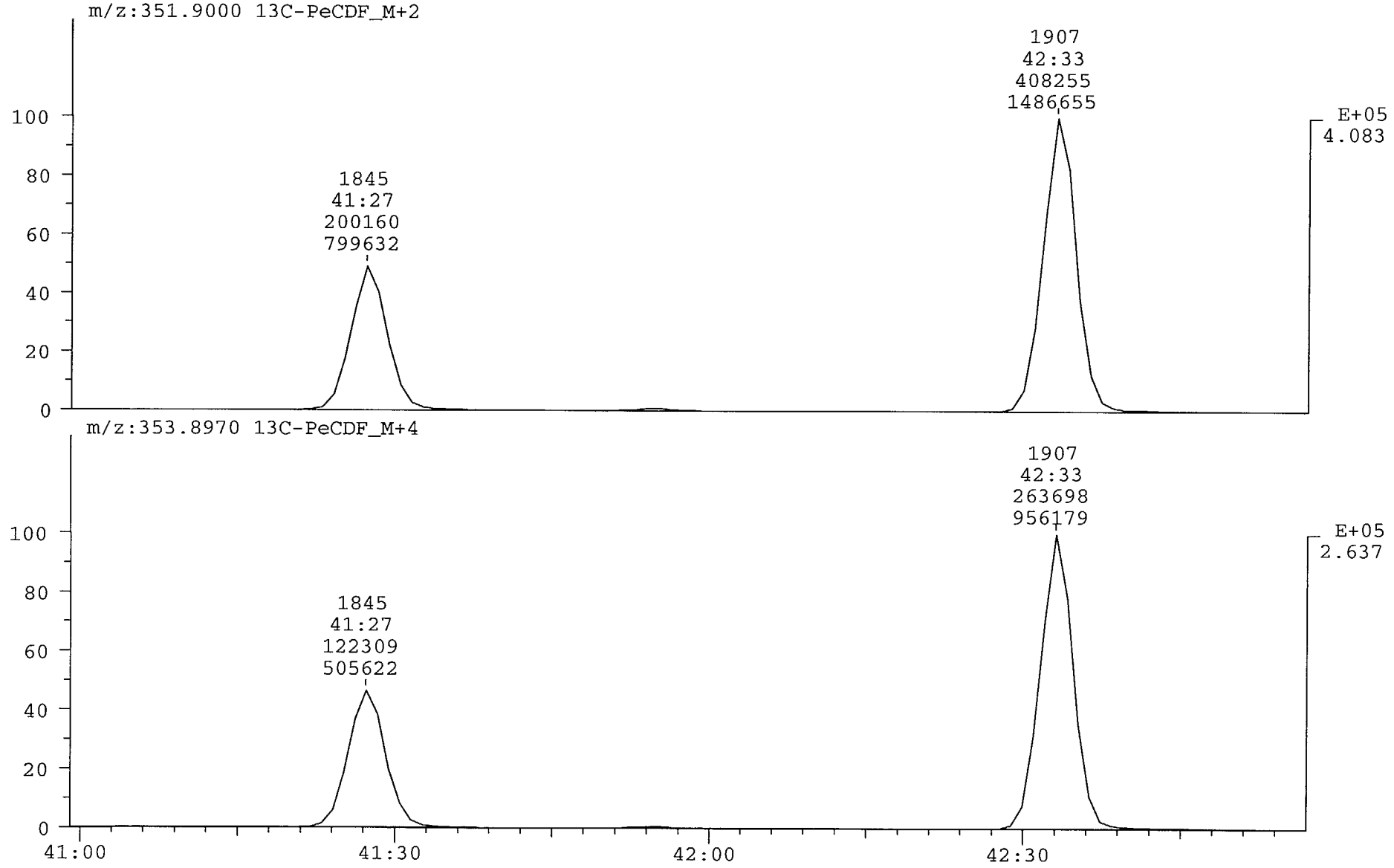
```
CHRO:  bth2h1p                                05-May-06  Elapse:  42:56      1929
Samp:  Vial 15 WO=h2h1p1aa Meth=X8 Dil=1                 Start :  04:12:44   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-008               Inlet :  GC     Vial  15
Peak:  100.00  ppm     Label wndw:   1892 > 1971         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



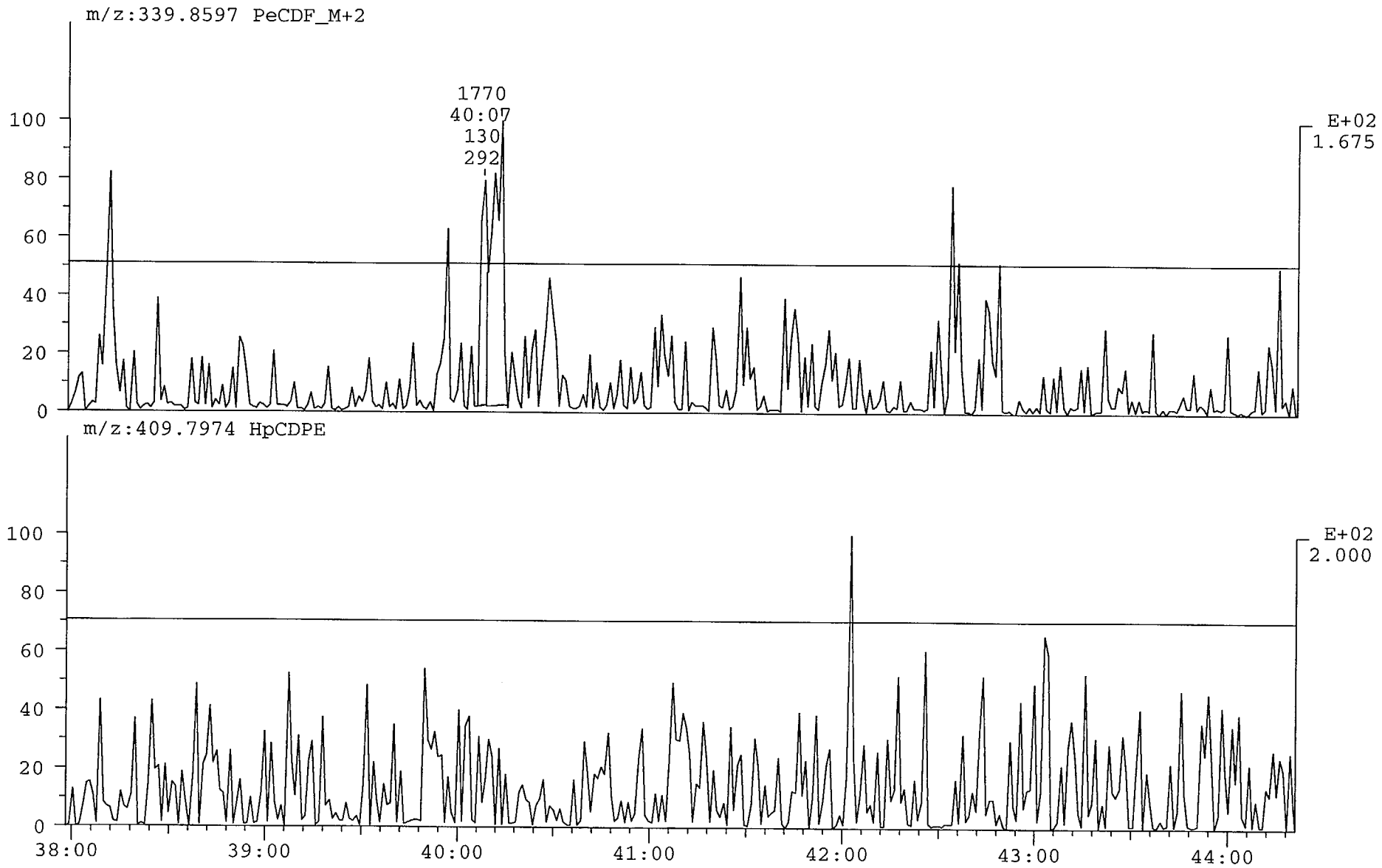
```
CHRO:  bth2h1p                                05-May-06  Elapse:  42:56      1929
Samp:  Vial 15 WO=h2h1p1aa Meth=X8 Dil=1                 Start :  04:12:44   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-008             Inlet :  GC     Vial  15
Peak:  100.00  ppm      Label wndw:   1648 > 2009        Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  -2, 3.0
Disp:  Height  Area
```



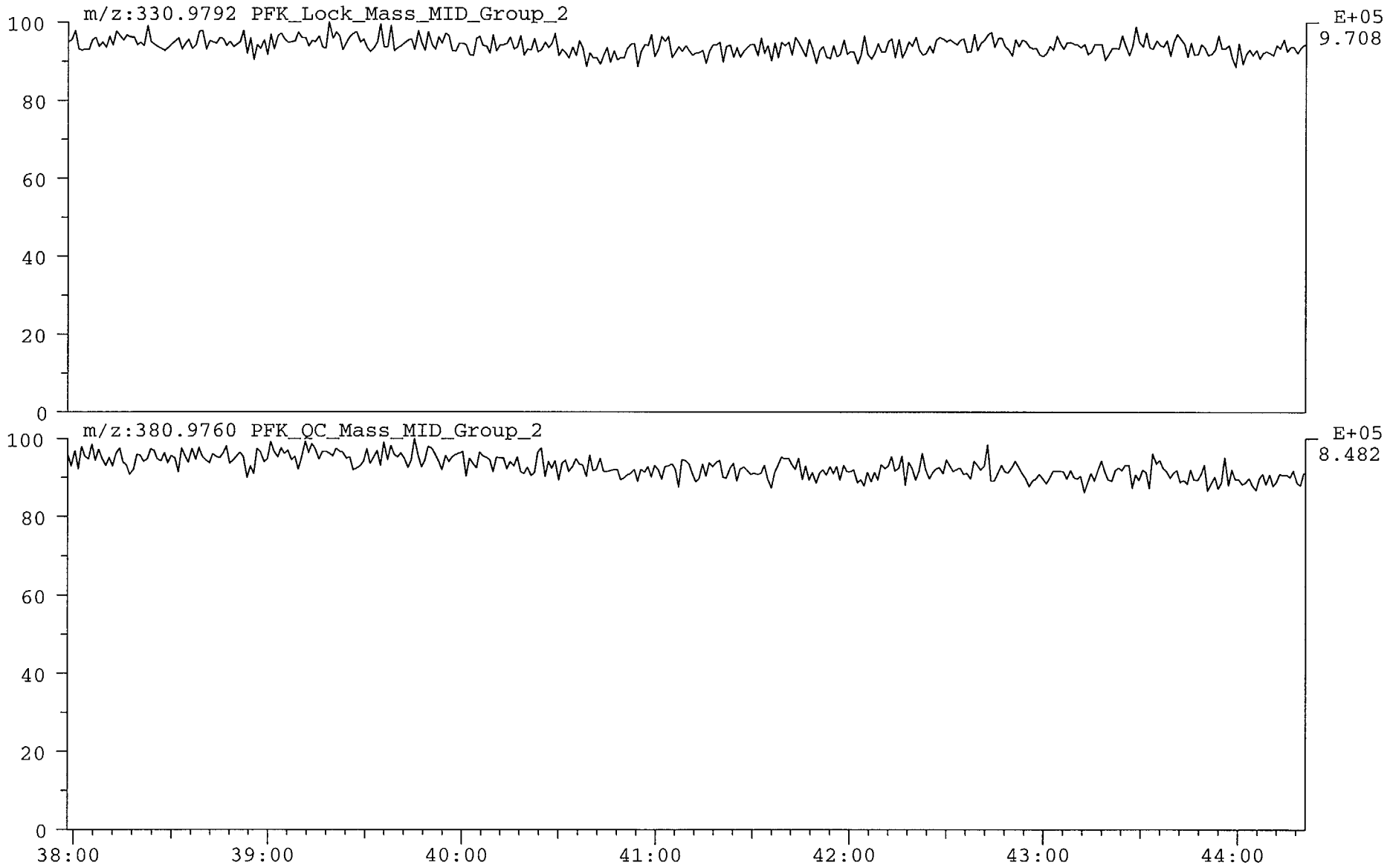
```
CHRO:  bth2h1p                                05-May-06   Elapse:  41:58      1874
Samp:  Vial 15 WO=h2h1p1aa Meth=X8 Dil=1                  Start :  04:12:44   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-008                Inlet :  GC     Vial  15
Peak:  100.00  ppm     Label wndw:   1818 > 1930          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



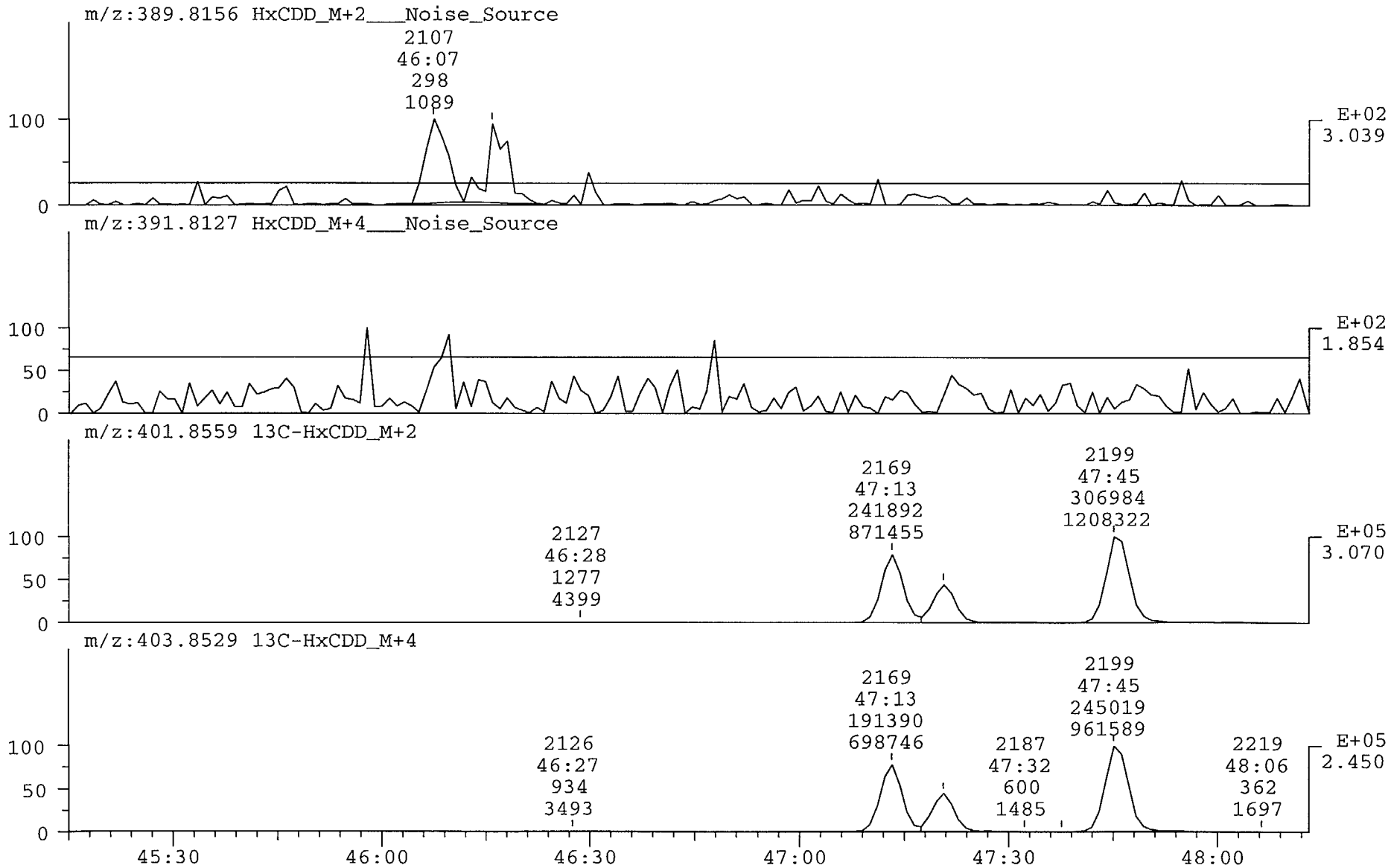
CHRO: bth2h1p 05-May-06 Elapse: 41:58 1874
Samp: Vial 15 WO=h2h1p1aa Meth=X8 Dil=1 Start : 04:12:44 2887
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-008 Inlet : GC Vial 15
Peak: 100.00 ppm Label wndw: 1648 > 2009 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



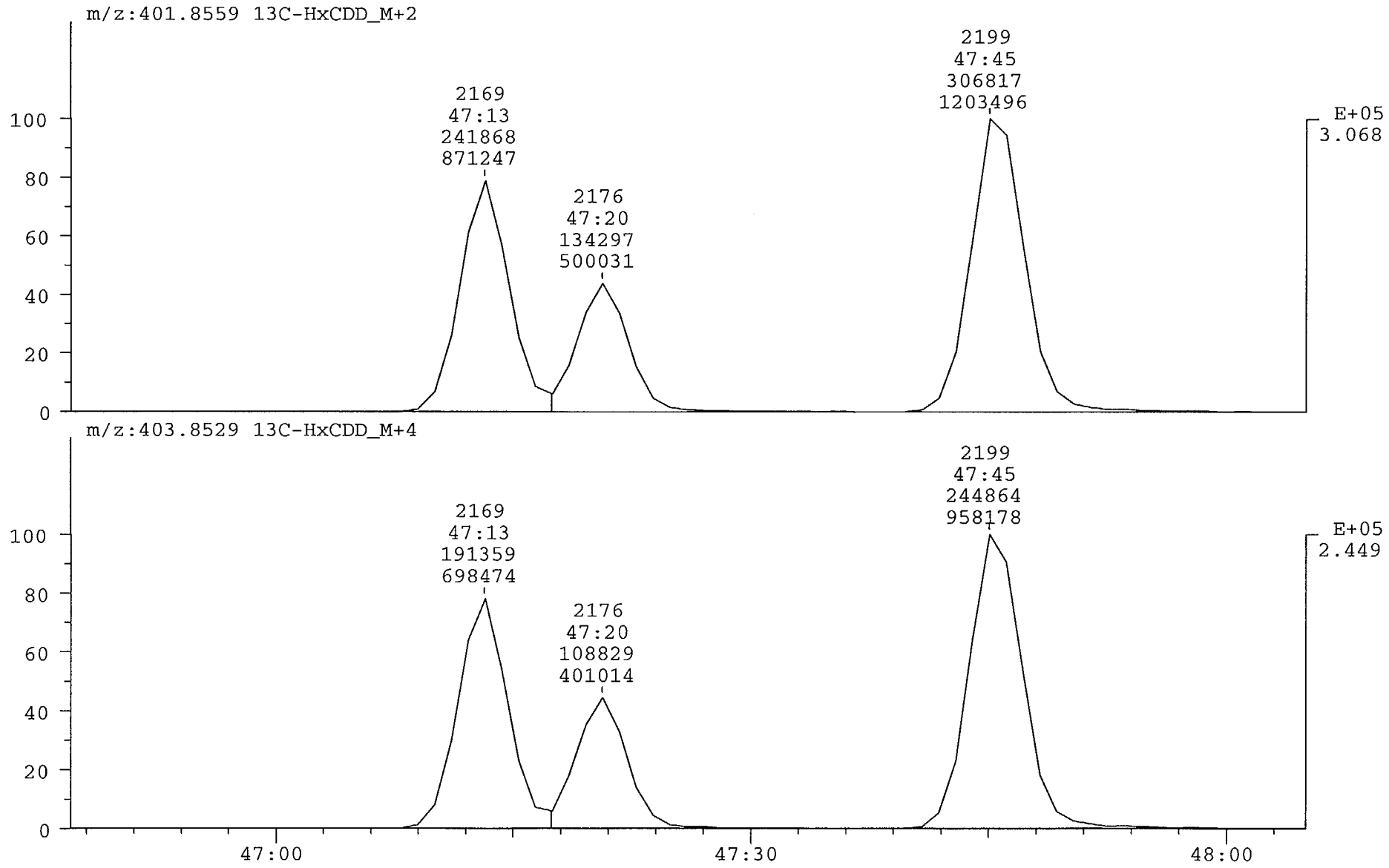
```
CHRO:  bth2h1p                                05-May-06  Elapse:  41:58      1874
Samp:  Vial 15 WO=h2h1p1aa Meth=X8 Dil=1                 Start :  04:12:44   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP           Client:  H6D030236-008              Inlet :  GC     Vial  15
Peak:  100.00  ppm     Label wndw:   1648 > 2009         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



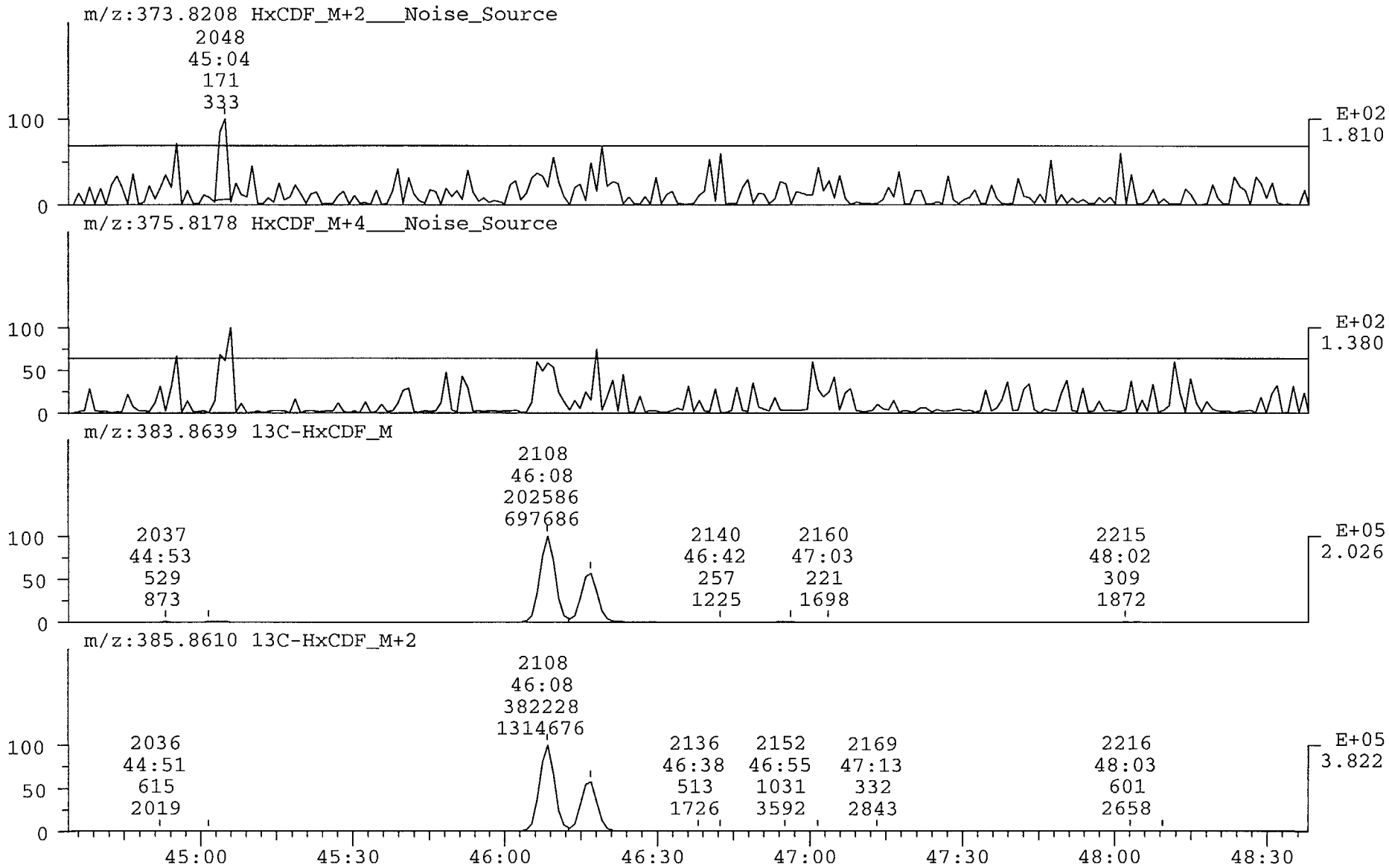
```
CHRO:  bth2h1p                                05-May-06  Elapse:  41:58      1874
Samp:  Vial 15 WO=h2h1p1aa Meth=X8 Dil=1                 Start :  04:12:44   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-008             Inlet :  GC     Vial  15
Peak:  100.00  ppm      Label wndw:   2058 > 2225        Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



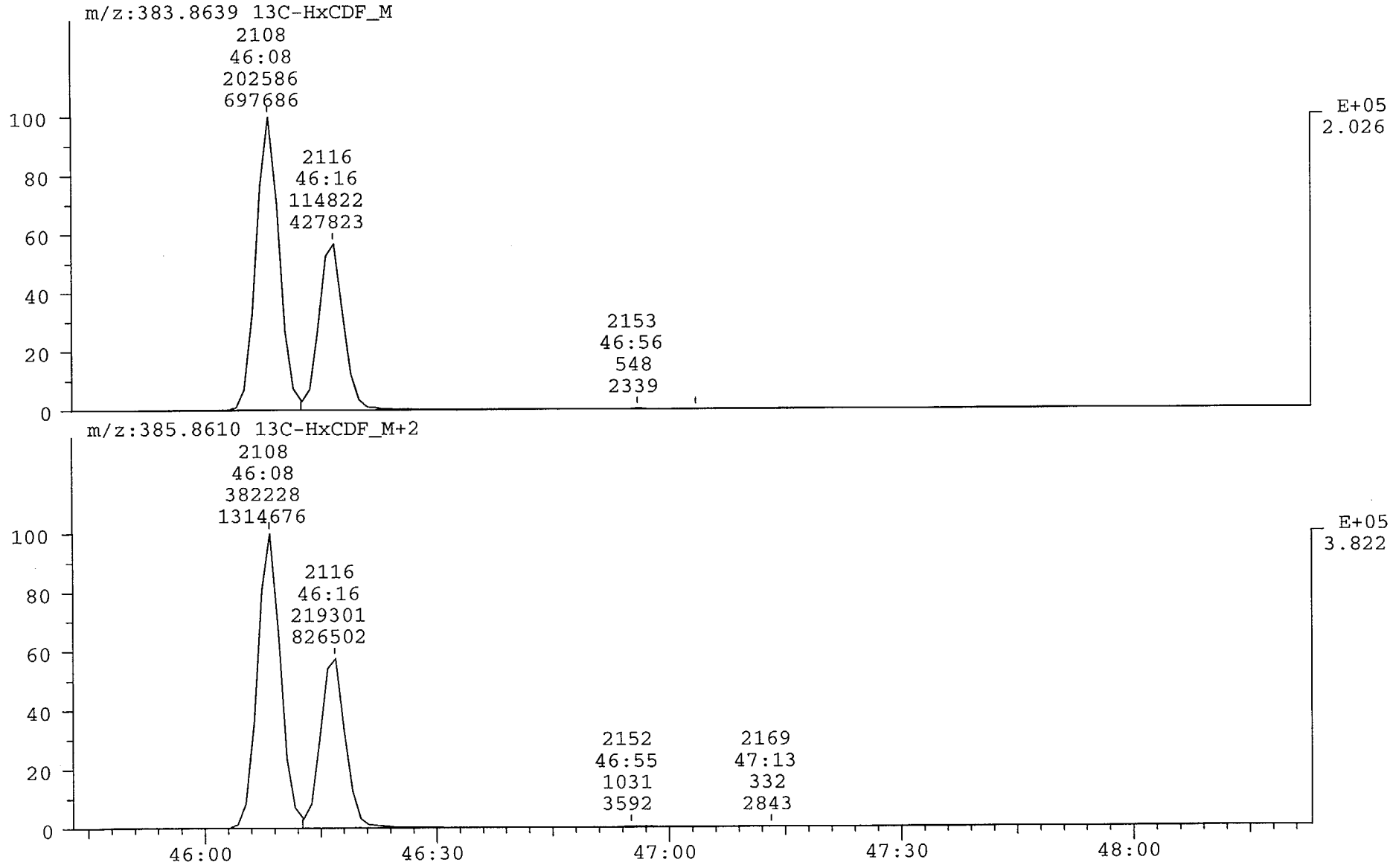
```
CHRO:  bth2h1p                                05-May-06  Elapse:  47:25      2181
Samp:  Vial 15 WO=h2h1p1aa Meth=X8 Dil=1                 Start :  04:12:44   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP           Client:  H6D030236-008              Inlet :  GC     Vial  15
Peak:  100.00  ppm     Label wndw:   2144 > 2218         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



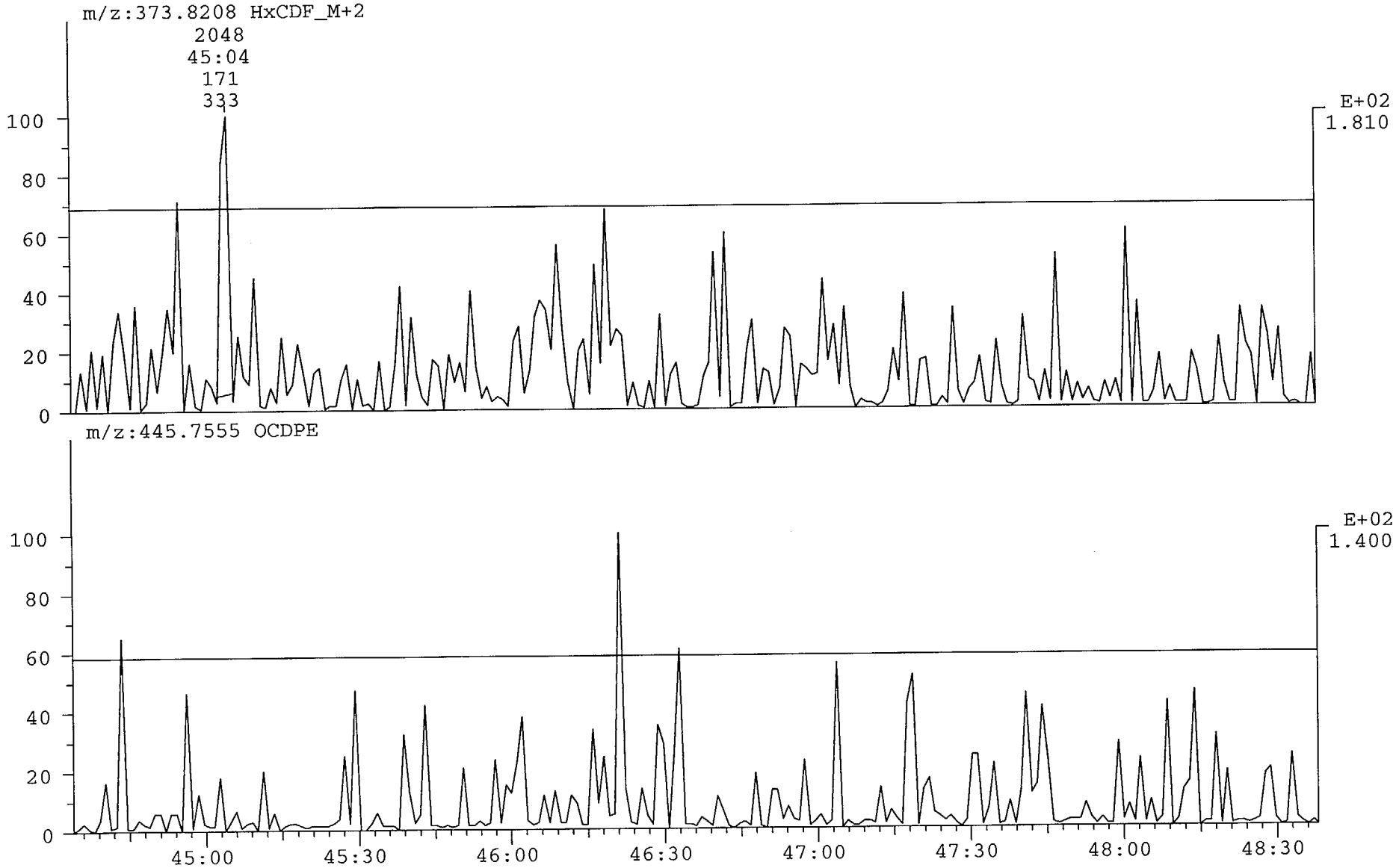
```
CHRO:  bth2h1p                                05-May-06   Elapse:  47:25      2181
Samp:  Vial 15 WO=h2h1p1aa Meth=X8 Dil=1                  Start :  04:12:44   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-008              Inlet :  GC     Vial  15
Peak:  100.00  ppm      Label wndw:   2019 > 2249         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



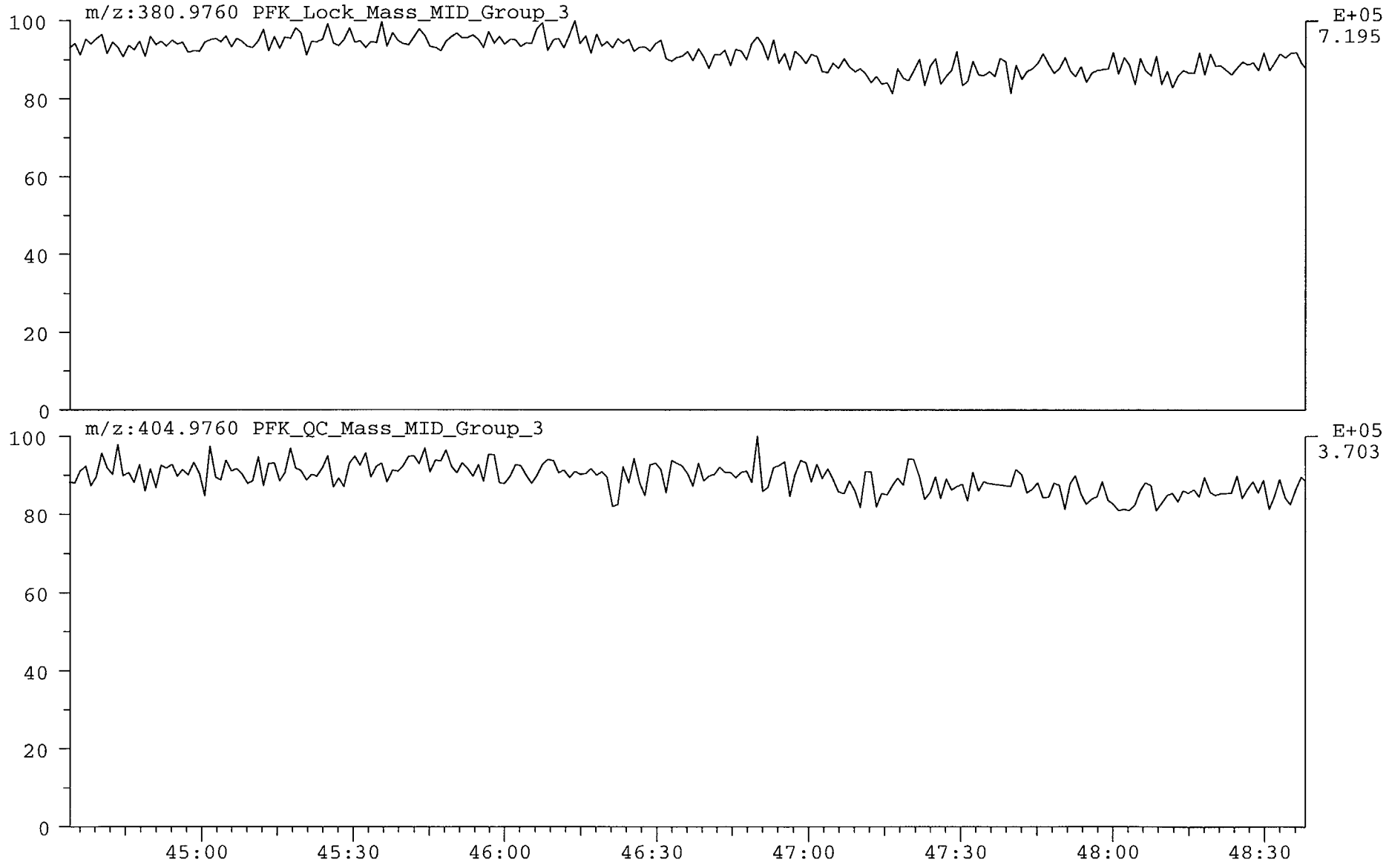
```
CHRO:  bth2h1p                                  05-May-06   Elapse:  47:02       2159
Samp:  Vial 15 WO=h2h1p1aa Meth=X8 Dil=1                    Start :  04:12:44    2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-008                Inlet :  GC     Vial  15
Peak:  100.00  ppm      Label wndw:   2084 > 2235           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



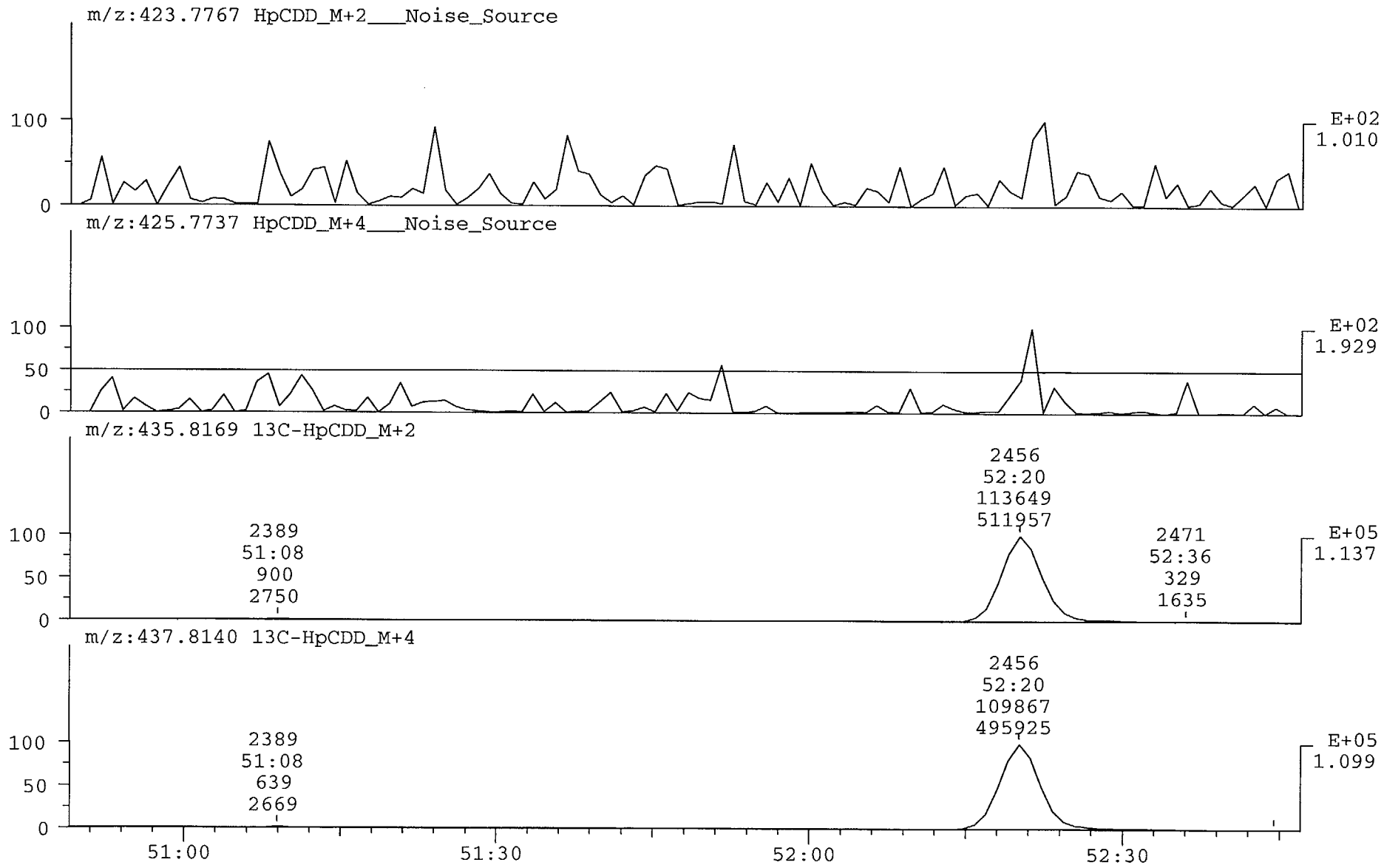
CHRO: bth2h1p 05-May-06 Elapse: 46:10 2110
Samp: Vial 15 WO=h2h1p1aa Meth=X8 Dil=1 Start : 04:12:44 2887
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-008 Inlet : GC Vial 15
Peak: 100.00 ppm Label wndw: 2019 > 2249 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



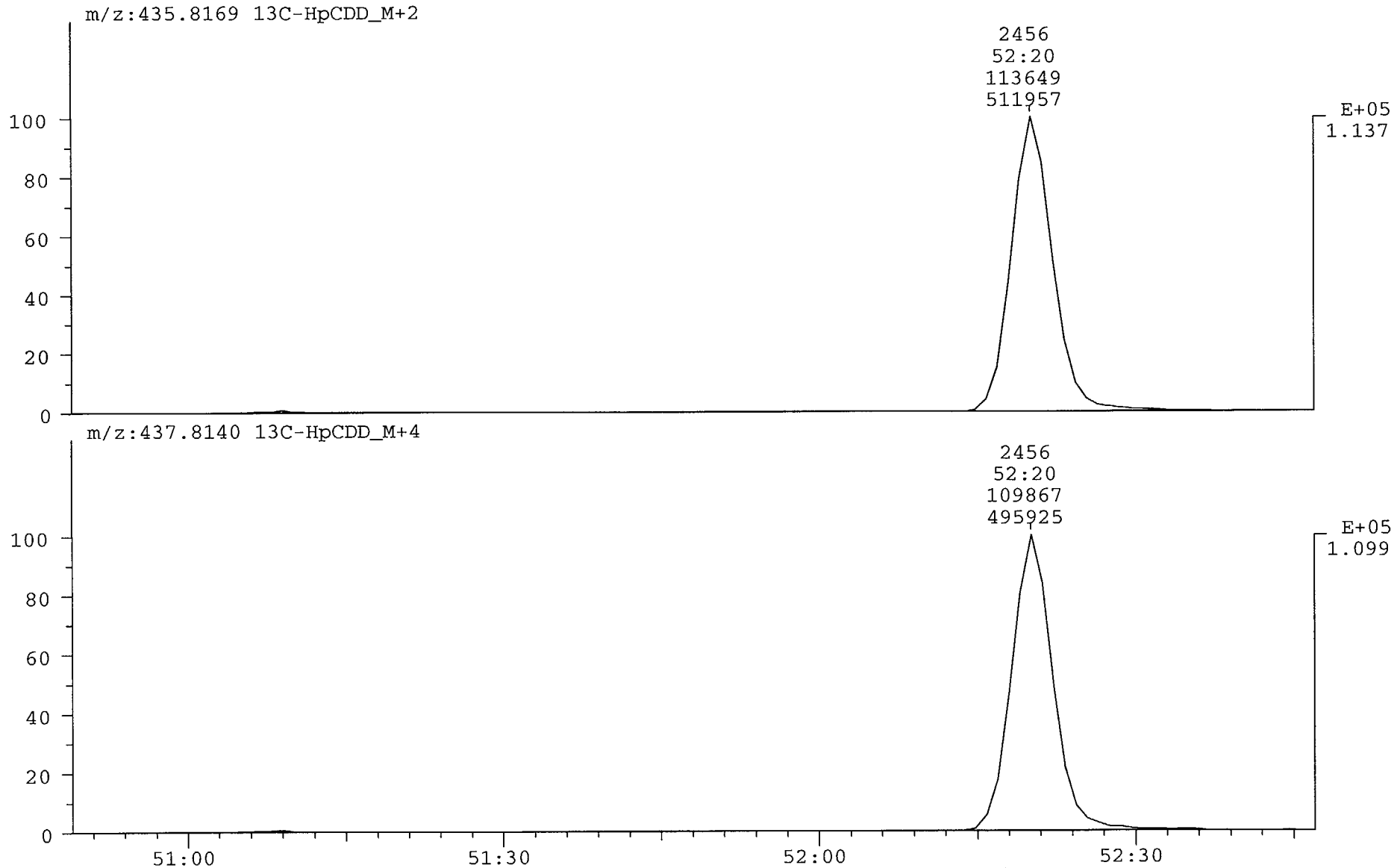
```
CHRO:  bth2h1p                                05-May-06   Elapse:  46:10      2110
Samp:  Vial 15 WO=h2h1p1aa Meth=X8 Dil=1                  Start :  04:12:44   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-008              Inlet :  GC     Vial  15
Peak:  100.00  ppm      Label wndw:   2019 > 2249         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
```



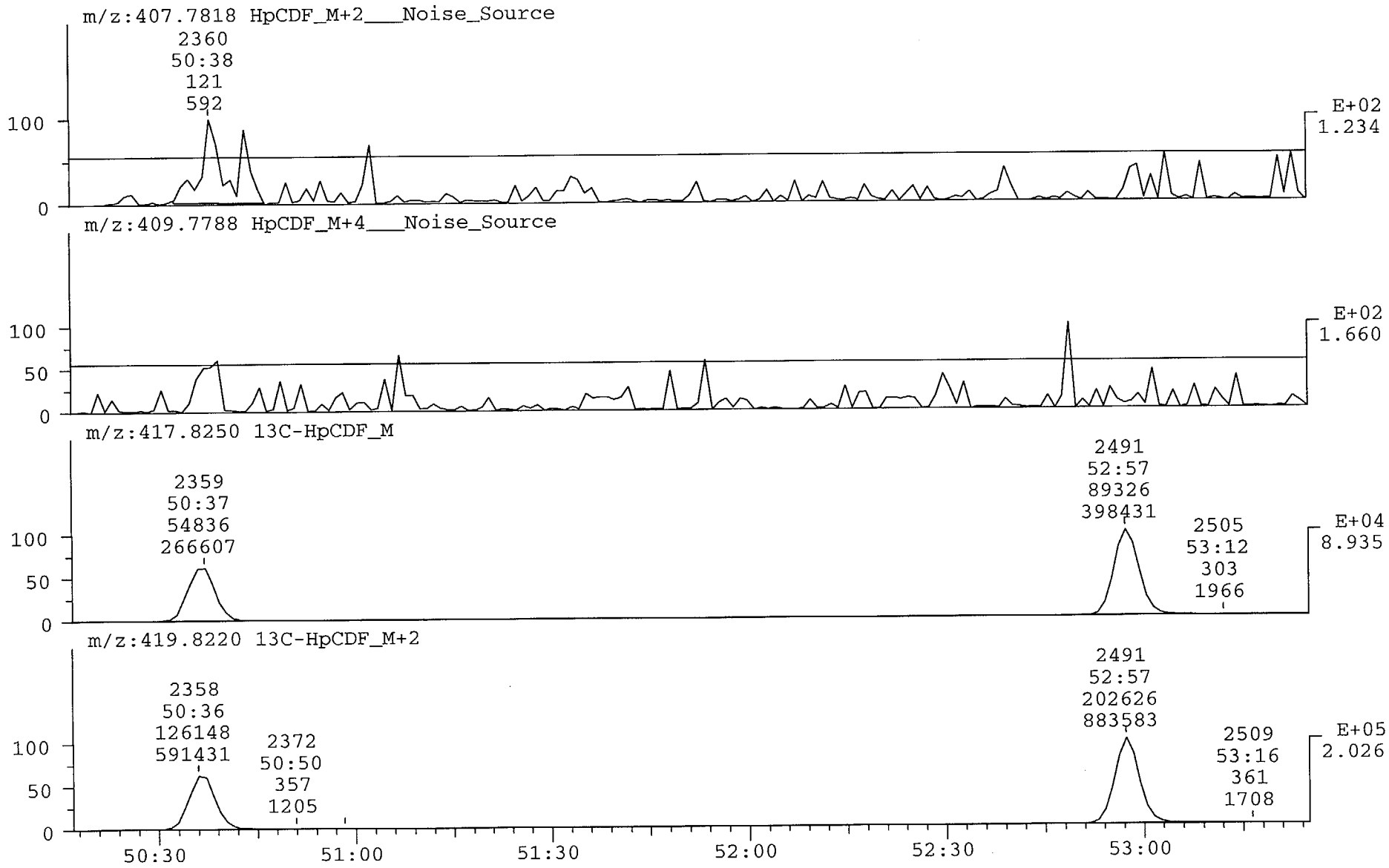
```
CHRO:  bth2h1p                                05-May-06   Elapse:  46:10      2110
Samp:  Vial 15 WO=h2h1p1aa Meth=X8 Dil=1                  Start :  04:12:44   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-008              Inlet :  GC     Vial  15
Peak:  100.00  ppm      Label wndw:   2370 > 2481         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



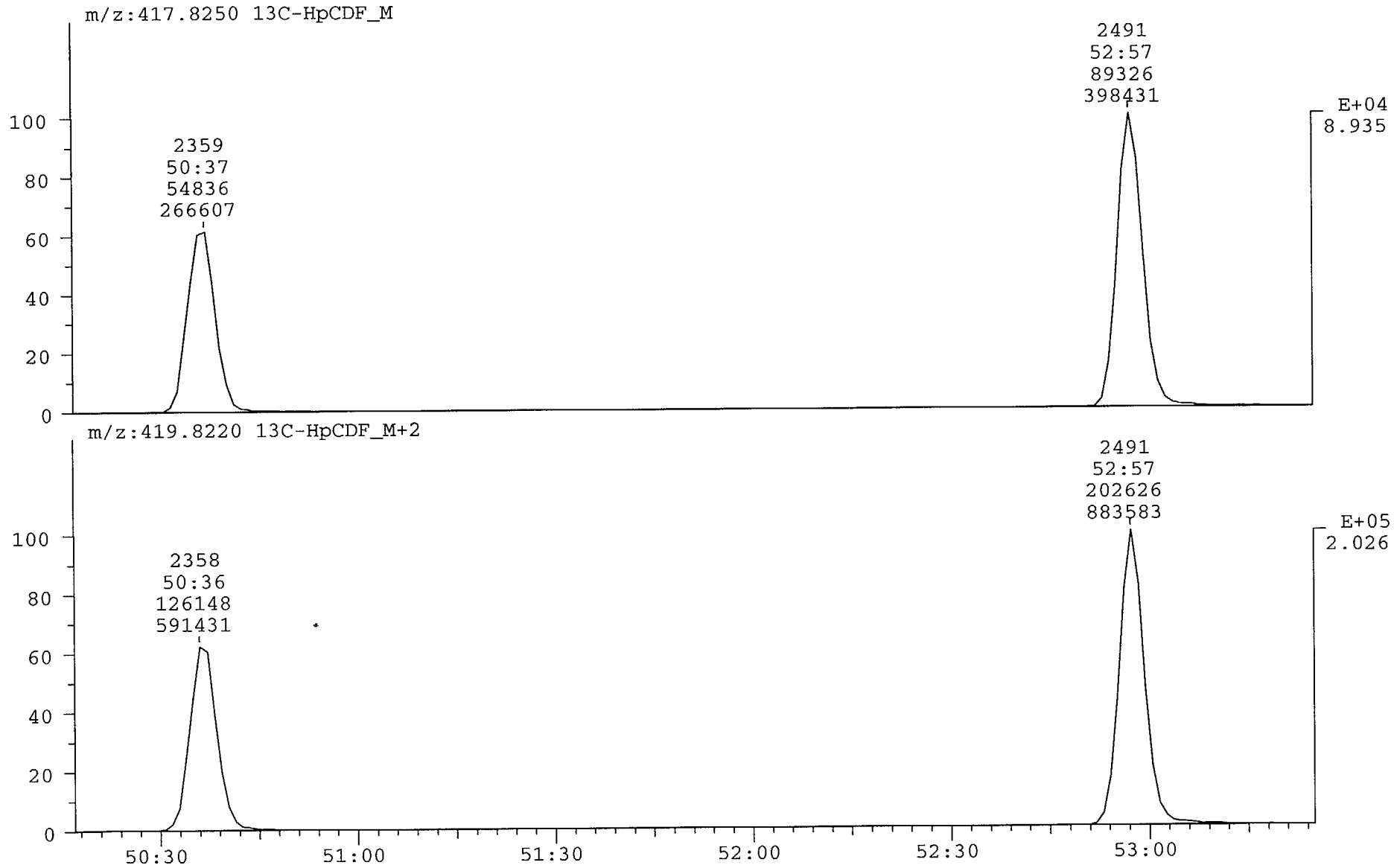
```
CHRO:  bth2h1p                                05-May-06  Elapse:  46:10      2110
Samp:  Vial 15 WO=h2h1p1aa Meth=X8 Dil=1                 Start :  04:12:44   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-008               Inlet :  GC     Vial  15
Peak:  100.00  ppm     Label wndw:   2370 > 2481         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



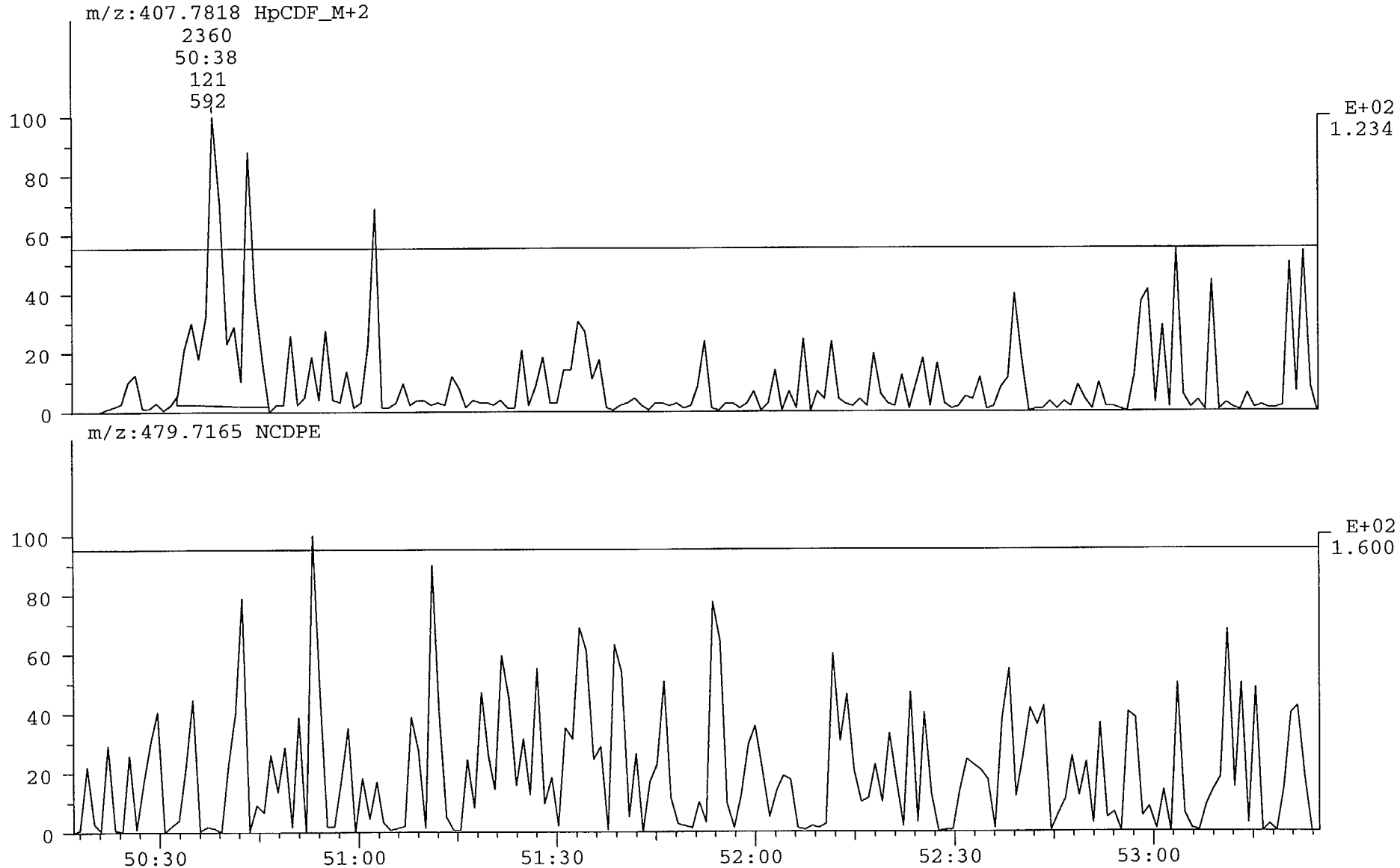
CHRO: bth2h1p 05-May-06 Elapse: 46:10 2110
Samp: Vial 15 WO=h2h1p1aa Meth=X8 Dil=1 Start : 04:12:44 2887
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-008 Inlet : GC Vial 15
Peak: 100.00 ppm Label wndw: 2340 > 2517 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



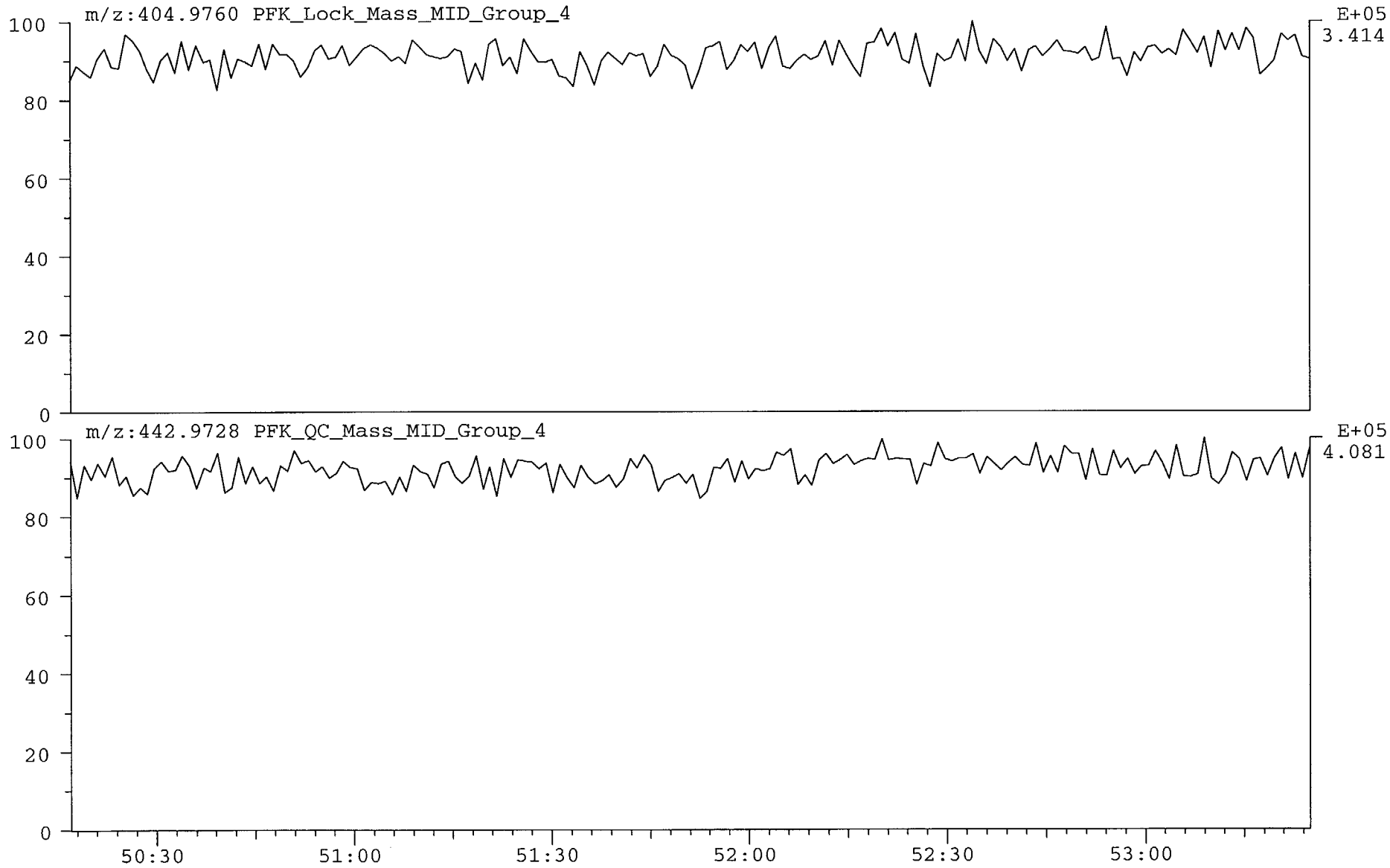
```
CHRO:  bth2h1p                                  05-May-06   Elapse:  46:10      2110
Samp:  Vial 15 WO=h2h1p1aa Meth=X8 Dil=1                    Start :  04:12:44   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-008                Inlet :  GC     Vial  15
Peak:  100.00  ppm      Label wndw:   2340 > 2517           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



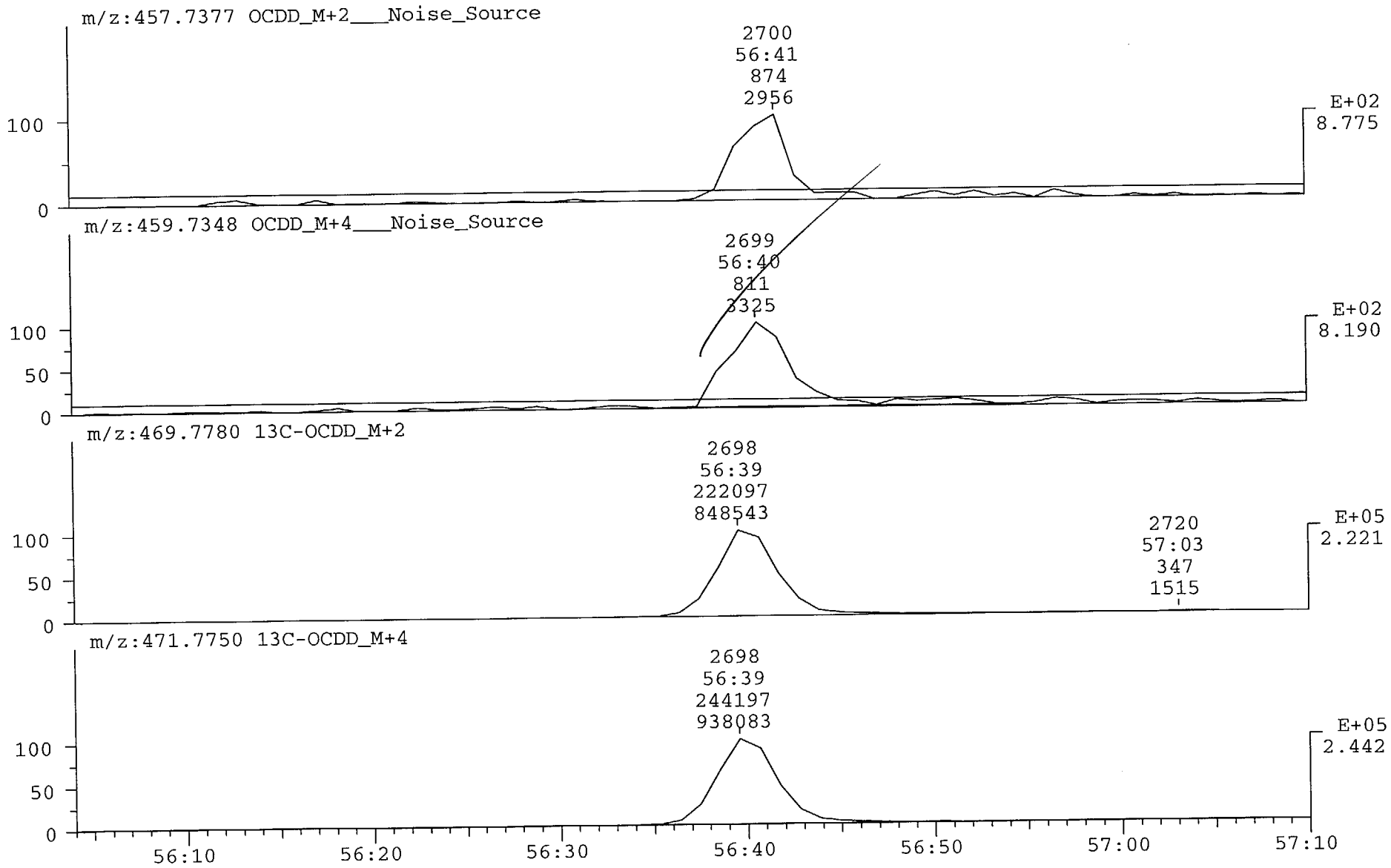
```
CHRO:  bth2h1p                                05-May-06   Elapse:  46:10      2110
Samp:  Vial 15 WO=h2h1p1aa Meth=X8 Dil=1                  Start :  04:12:44   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-008              Inlet :  GC     Vial  15
Peak:  100.00  ppm      Label wndw:   2340 > 2517         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



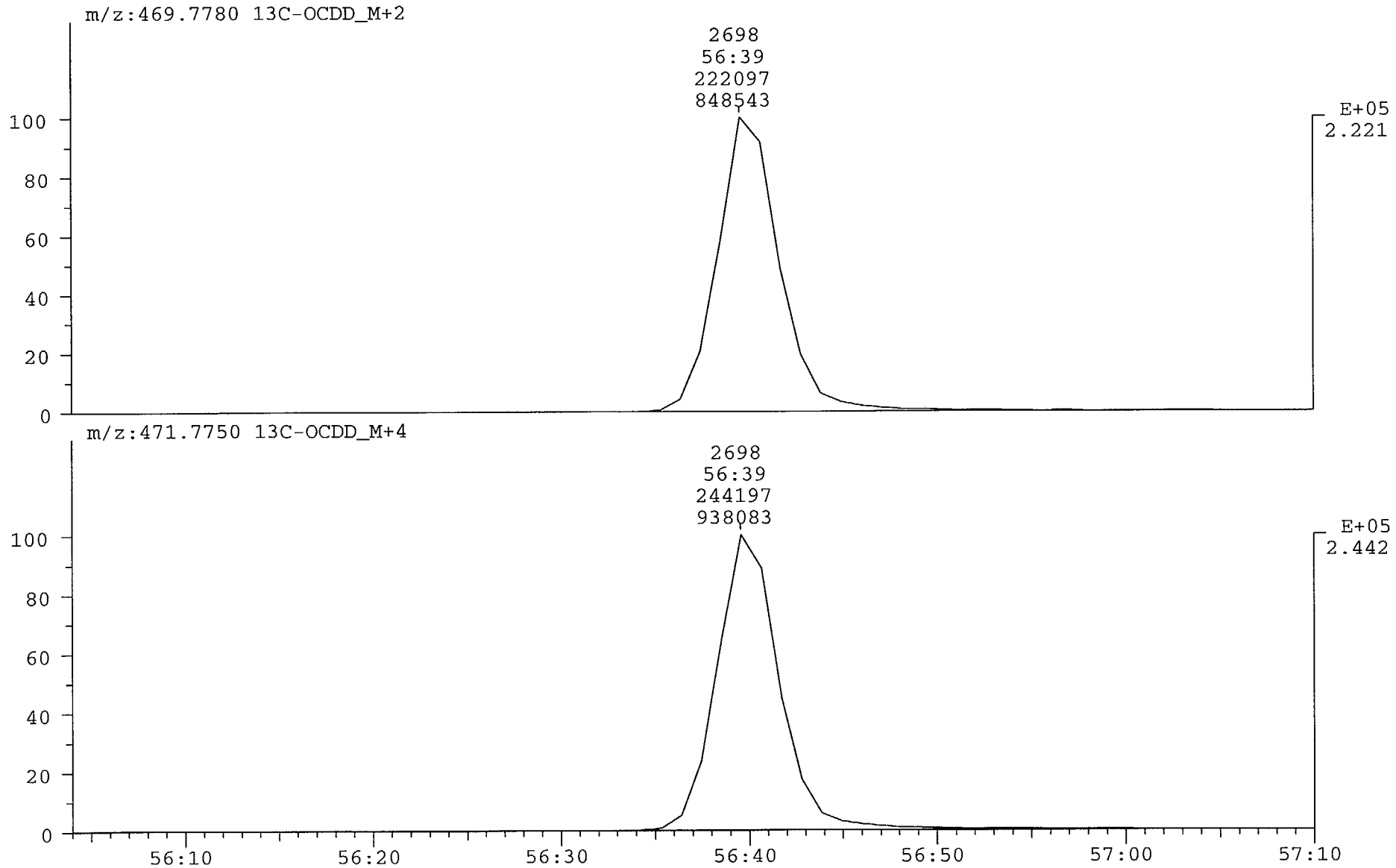
```
CHRO:  bth2h1p                                05-May-06   Elapse:  46:10      2110
Samp:  Vial 15 WO=h2h1p1aa Meth=X8 Dil=1                  Start :  04:12:44   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP           Client:  H6D030236-008               Inlet :  GC     Vial  15
Peak:  100.00  ppm     Label wndw:   2340 > 2517          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
```



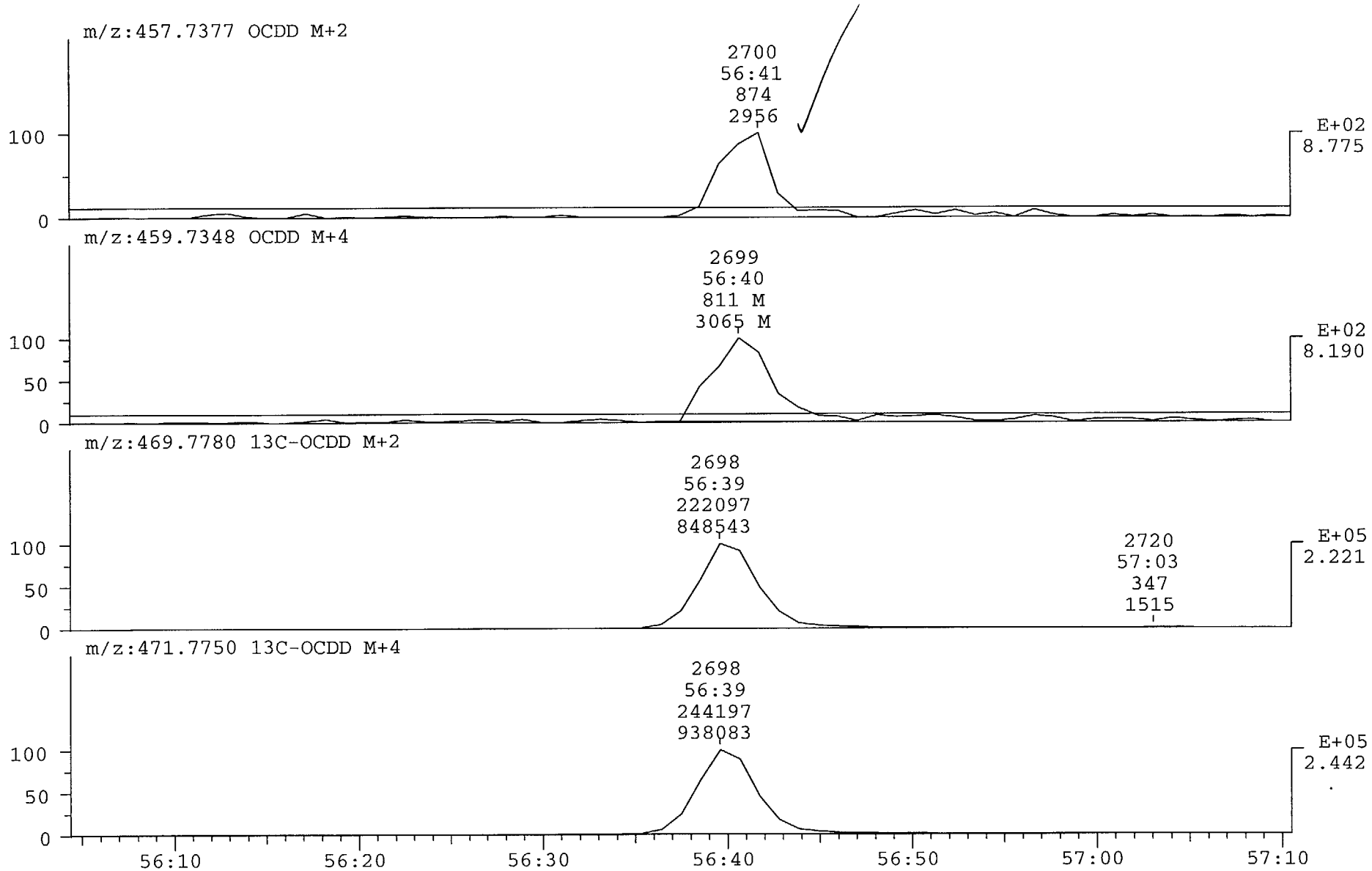
CHRO: bth2h1p 05-May-06 Elapse: 56:34 2693
Samp: Vial 15 WO=h2h1p1aa Meth=X8 Dil=1 Start : 04:12:44 2887
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-008 Inlet : GC Vial 15
Peak: 100.00 ppm Label wndw: 2665 > 2727 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



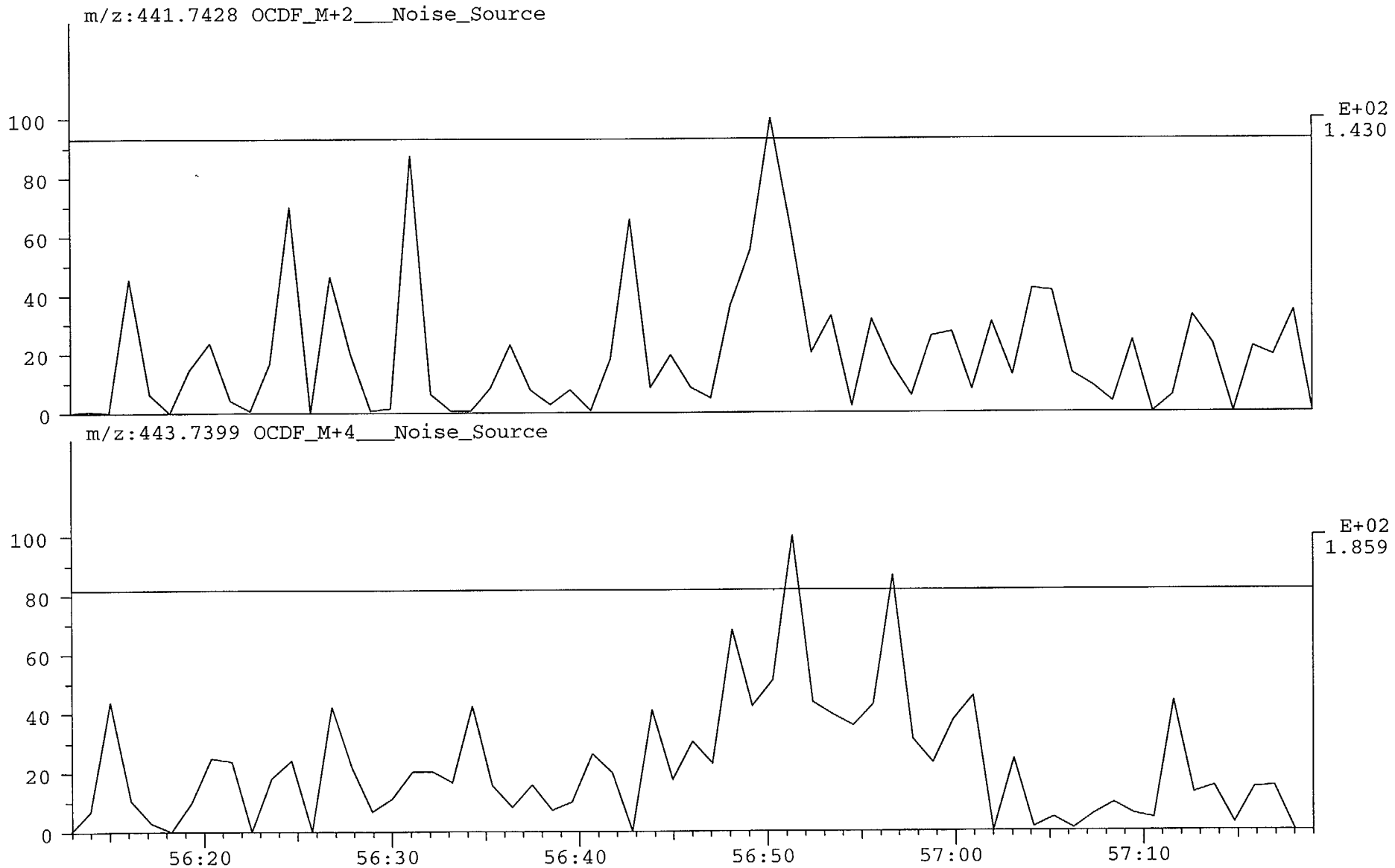
```
CHRO:  bth2h1p                                05-May-06   Elapse:  56:34      2693
Samp:  Vial 15 WO=h2h1p1aa Meth=X8 Dil=1                  Start :  04:12:44   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-008                Inlet :  GC     Vial  15
Peak:  100.00  ppm     Label wndw:   2665 > 2727          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



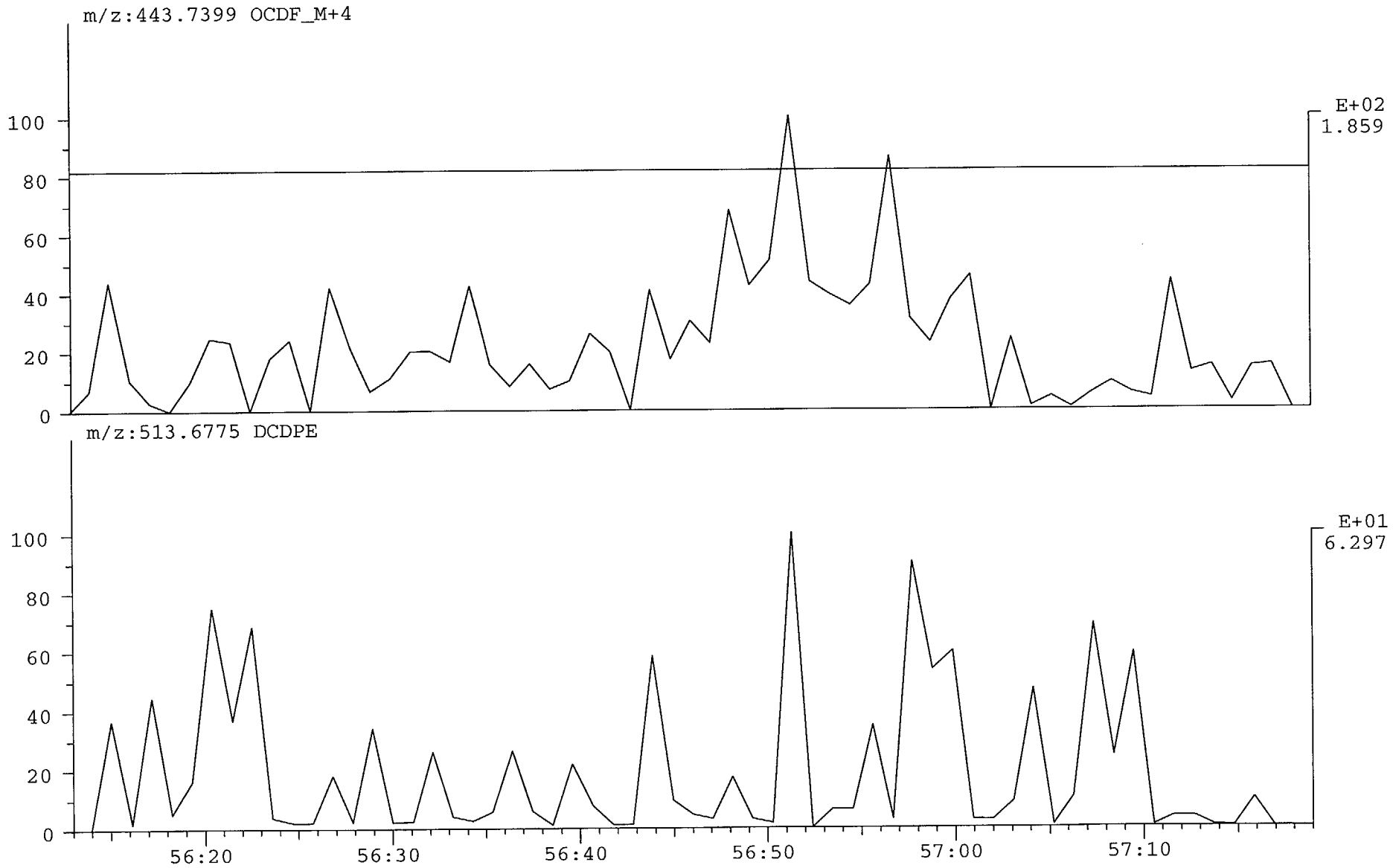
```
CHRO:  bth2h1p                                05-May-06   Elapse:  56:47      2705
Samp:  Vial 15 WO=h2h1p1aa Meth=X8 Dil=1                  Start :  04:12:44   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-008              Inlet :  GC     Vial  15
Peak:  100.00  ppm      Label wndw:   2665 > 2727         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



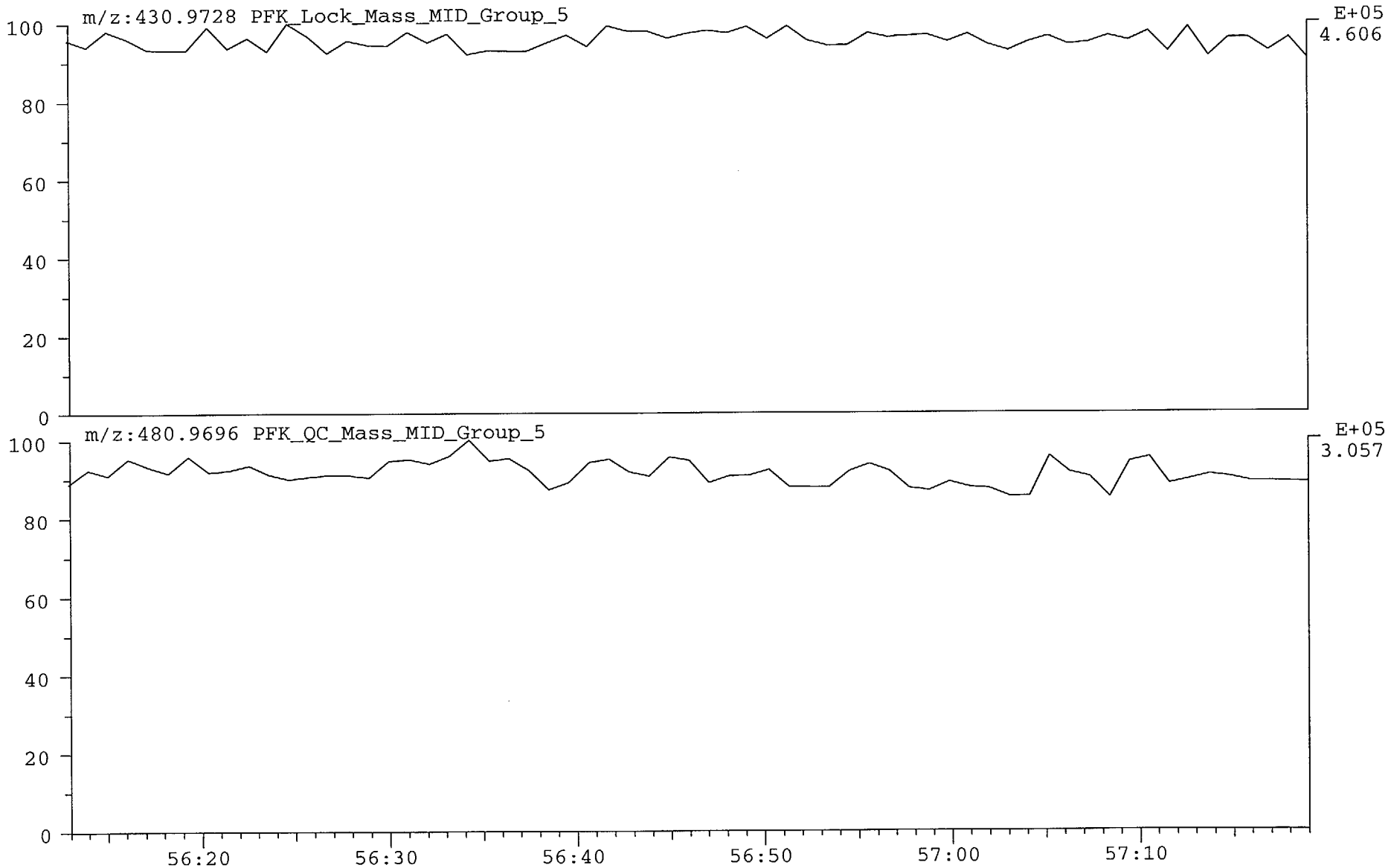
```
CHRO:  bth2h1p                                05-May-06   Elapse:  56:42      2701
Samp:  Vial 15 WO=h2h1p1aa Meth=X8 Dil=1                  Start :  04:12:44   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-008                Inlet :  GC     Vial  15
Peak:  100.00  ppm     Label wndw:   2673 > 2735          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: bth2h1p 05-May-06 Elapse: 56:42 2701
Samp: Vial 15 WO=h2h1p1aa Meth=X8 Dil=1 Start : 04:12:44 2887
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-008 Inlet : GC Vial 15
Peak: 100.00 ppm Label wndw: 2673 > 2735 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  bth2h1p                                05-May-06   Elapse:  56:42      2701
Samp:  Vial 15 WO=h2h1p1aa Meth=X8 Dil=1                  Start :  04:12:44   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-008              Inlet :  GC     Vial  15
Peak:  100.00  ppm      Label wndw:   2673 > 2735         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
```



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: bth2h1p
Study: 6107092 (Air)
Sample: WO=h2h1p1aa Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: PMP
Client: H6D030236-008
Comments: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Injected volume: 2.0
Sample from Vial 15
Analysis will stop when MID run finishes
Tune file name: tune2
File 2 of list 060504
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	TRUE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	140 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	29:52 min	37:52 min	1.00 sec
# 2	37:52 min	6:32 min	44:25 min	1.00 sec
# 3	44:25 min	5:05 min	49:30 min	1.00 sec
# 4	49:30 min	5:15 min	54:45 min	1.00 sec
# 5	54:45 min	5:15 min	60:00 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	l	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	l	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

```
  351.9000       1   1      91.48
  353.8970       1   1      91.48
  355.8546       1   1      91.48
  357.8516       1   1      91.48
  367.8949       1   1      91.48
  369.8919       1   1      91.48
  380.9760 c    10   1       8.19
  409.7974       1   1      91.48
 Window # 3
      mass F  int  gr  time (ms)
  373.8208       1   1      91.48
  375.8178       1   1      91.48
  380.9760 l    10   1       8.19
  383.8639       1   1      91.48
  385.8610       1   1      91.48
  389.8156       1   1      91.48
  391.8127       1   1      91.48
  401.8559       1   1      91.48
  403.8529       1   1      91.48
  404.9760 c    10   1       8.19
  445.7555       1   1      91.48
 Window # 4
      mass F  int  gr  time (ms)
  404.9760 l    10   1       8.19
  407.7818       1   1      91.48
  409.7788       1   1      91.48
  417.8250       1   1      91.48
  419.8220       1   1      91.48
  423.7767       1   1      91.48
  425.7737       1   1      91.48
  435.8169       1   1      91.48
  437.8140       1   1      91.48
  442.9728 c    10   1       8.19
  479.7165       1   1      91.48
 Window # 5
      mass F  int  gr  time (ms)
  430.9728 l    10   1      10.92
  441.7428       1   1     120.15
  443.7399       1   1     120.15
  457.7377       1   1     120.15
  459.7348       1   1     120.15
  469.7780       1   1     120.15
  471.7750       1   1     120.15
  480.9696 c    10   1      10.92
  513.6775       1   1     120.15

Auto Sampler descriptor: pcdd2ul
 Injector A
 Normal Injection
 Slvnt A cln before inj(K):      3 times
 Slvnt B cln before inj(L):      0 times
 Sample rinse cycles   (R):      0 times
 Syringe filling volume(F):    1.0 ul
 Pullup delay time     (D):      4 sec
 Sample pullup speed   (E):    5.0 ul/sec
 Slvnt aftr pre inj cln(U):    0.0 ul
 Air after pre inj cln (G):    2.0 ul
 Sample volume         (V):    2.0 ul
 Sample air volume     (A):    2.0 ul
 Sample pullup count   (P):      2 times
 Injection speed       (S):   10.0 ul/sec
 Injection wait time   (W):     10 sec
 Injection hold time   (H):      3 sec
 Solvent A clean cycles(C):     15 times
 Solvent B clean cycles(B):     20 times
 Loop clean w slvnt A (LC):      0 times
```

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8414.0000
BDEV	8288.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.7814	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9990
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-705.0000	ELEN	61.7750
EMULT	1.8000	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	188.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	538.0000	FVINLET	647.0000
FVSRC	992.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.5686	HVANAL	1572.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4754.5740	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	430.9728
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	2896.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10314.7005	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.8000	TCURR	0.8984	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 05-May-06 04:12:44.7

Autosampler has injected sample from vial 15
Analysis stopped at: 05-May-06 05:12:46.9 (run time 60.03 minutes)
Analysis stopped because MID run finished

STL Knoxville - ACS

Sample ID: G-3136-R3-M23A TRAIN D XAD-2 RESIN TUBE TB/RB

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 009	**Work Order #....:**	H2H1Q1AA	**Matrix....:**	AIR
Date Sampled....:	03/30/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/05/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	2.2	pg/sampl
Total TCDD	ND		10	2.2	pg/sampl
1,2,3,7,8-PeCDD	ND		50	1.0	pg/sampl
Total PeCDD	ND		50	1.0	pg/sampl
1,2,3,4,7,8-HxCDD	ND		50	0.98	pg/sampl
1,2,3,6,7,8-HxCDD	ND		50	0.97	pg/sampl
1,2,3,7,8,9-HxCDD	ND		50	0.89	pg/sampl
Total HxCDD	**1.4**	**J**	**50**	**0.95**	**pg/sampl**
1,2,3,4,6,7,8-HpCDD	ND		50	0.98	pg/sampl
Total HpCDD	ND		50	0.98	pg/sampl
OCDD	**6.5**	**B J**	**100**	**1.0**	**pg/sampl**
2,3,7,8-TCDF	ND		10	1.9	pg/sampl
Total TCDF	ND		10	1.9	pg/sampl
1,2,3,7,8-PeCDF	ND		50	0.79	pg/sampl
2,3,4,7,8-PeCDF	ND		50	0.74	pg/sampl
Total PeCDF	ND		50	0.77	pg/sampl
1,2,3,4,7,8-HxCDF	ND		50	0.54	pg/sampl
1,2,3,6,7,8-HxCDF	ND		50	0.50	pg/sampl
2,3,4,6,7,8-HxCDF	ND		50	0.57	pg/sampl
1,2,3,7,8,9-HxCDF	ND		50	0.61	pg/sampl
Total HxCDF	ND		50	0.55	pg/sampl
1,2,3,4,6,7,8-HpCDF	ND		50	0.80	pg/sampl
1,2,3,4,7,8,9-HpCDF	ND		50	0.94	pg/sampl
Total HpCDF	ND		50	0.86	pg/sampl
OCDF	ND		100	1.2	pg/sampl

STL Knoxville - ACS

Sample ID: G-3136-R3-M23A TRAIN D XAD-2 RESIN TUBE TB/RB

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 009	**Work Order #....:**	H2H1Q1AA	**Matrix....:**	AIR
Date Sampled....:	03/30/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/05/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	95	40 - 135
13C-1,2,3,7,8-PeCDD	109	40 - 135
13C-1,2,3,6,7,8-HxCDD	92	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	109	40 - 135
13C-OCDD	112	40 - 135
13C-2,3,7,8-TCDF	86	40 - 135
13C-1,2,3,7,8-PeCDF	100	40 - 135
13C-1,2,3,6,7,8-HxCDF	95	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	94	40 - 135

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	83	70 - 130
13C-1,2,3,4,7,8-HxCDD	100	70 - 130
13C-2,3,4,7,8-PeCDF	94	70 - 130
13C-1,2,3,4,7,8-HxCDF	80	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	87	70 - 130

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

STL - Knoxville

IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1Q1AA	**Prep Batch**	6107092	**Lot No**	H6D030236-009
Data File	/20060504s2/bth2h1q.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90545	**Prep Exp Date**	04/29/06	**Date Received**	04/02/06
Analysis Date	5/5/2006	**Matrix**	AIR	**Date Sampled**	03/30/06
Analysis Time	03:08	**Initial Wt/Vol**	1	**Lims Test Code**	XXSIOX801
Anal Exp Date	06/01/06	**Extract Vol**	20	**Method**	0023/8290
Instrument	M2A	**Dil Factor**	1.0	**Code**	X8
Analyst	PMP				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (pg/sample		DL (pg/samp
2,3,7,8-TCDD				1.060				ND		2.16
Total TCDD				1.060				ND		2.16
2,3,7,8-TCDF				1.064				ND		1.93
Total TCDF				1.064				ND		1.93
1,2,3,7,8-PeCDD				0.977				ND		1.02
Total PeCDD				0.977				ND		1.02
1,2,3,7,8-PeCDF				0.955				ND		0.793
2,3,4,7,8-PeCDF				1.018				ND		0.744
Total PeCDF				0.987				ND		0.768
1,2,3,4,7,8-HxCDD				1.047				ND		0.979
1,2,3,6,7,8-HxCDD				1.055				ND		0.972
1,2,3,7,8,9-HxCDD				1.146				ND		0.895
Total HxCDD		1049	379	1.083		1.355015		1.355015	J	0.947
1,2,3,4,7,8-HxCDF				1.101				ND		0.543
1,2,3,6,7,8-HxCDF				1.184				ND		0.505
2,3,4,6,7,8-HxCDF				1.052				ND		0.568
1,2,3,7,8,9-HxCDF				0.982				ND		0.609
Total HxCDF				1.080				ND		0.554
1,2,3,4,6,7,8-HpCDD				1.018				ND		0.976
Total HpCDD				1.018				ND		0.976
1,2,3,4,6,7,8-HpCDF				1.403				ND		0.800
1,2,3,4,7,8,9-HpCDF				1.197				ND		0.938
Total HpCDF				1.300				ND		0.864
OCDD	56:40	4892	1466	0.965		6.473257		6.473257	BJ	1.05
OCDF				1.103				ND		1.18
13C-2,3,7,8-TCDD	35:16	855374	98075	1.068	1000	946.674493	94.67	946.674493		7.37
13C-2,3,7,8-TCDF	33:02	1027116	105789	1.413	1000	858.929514	85.89	858.929514		3.17
13C-1,2,3,7,8-PeCDD	43:02	811813	227657	0.882	1000	1088.02959	108.80	1088.02959		4.30
13C-1,2,3,7,8-PeCDF	41:27	1003798	240891	1.188	1000	998.607238	99.86	998.607238		3.48
13C-1,2,3,6,7,8-HxCDD	47:19	715112	187742	0.943	1000	923.434674	92.34	923.434674		2.44
13C-1,2,3,6,7,8-HxCDF	46:16	991536	271863	1.272	1000	949.473539	94.95	949.473539		1.46
13C-1,2,3,4,6,7,8-HpCDD	52:19	824709	171114	0.918	1000	1093.91169	109.39	1093.91169		1.37
13C-1,2,3,4,6,7,8-HpCDF	50:36	708019	151392	0.916	1000	941.401815	94.14	941.401815		1.78
13C-OCDD	56:39	1566676	400570	0.850	2000	2245.56002	112.28	2245.56002		1.88
37Cl4-2,3,7,8-TCDD	35:17	1492807	166103	1.046	2000	1668.55893	83.43	1668.55893		2.10
13C-2,3,4,7,8-PeCDF	42:33	1901972	501225	1.010	2000	1875.57444	93.78	1875.57444		1.48
13C-1,2,3,4,7,8-HxCDD	47:12	1293457	358256	0.902	2000	2004.77545	100.24	2004.77545		2.80
13C-1,2,3,4,7,8-HxCDF	46:07	1575712	447252	0.988	2000	1608.17883	80.41	1608.17883		1.42
13C-1,2,3,7,8,9-HxCDF				1.113				ND		1.67
13C-1,2,3,4,7,8,9-HpCDF	52:56	1129330	257870	0.912	2000	1748.68326	87.43	1748.68326		2.43
13C-1,2,3,4-TCDD	34:42	1692078	174094	1.000	2000	2000.00000	100.00	2000.00000		7.87
13C-1,2,3,7,8,9-HxCDD	47:45	1641965	412021	1.000	2000	2000.00000	100.00	2000.00000		2.31

VMK 5/5/06

WSD 5/8/06

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1Q1AA	**Prep Batch**	6107092	**Lot No**	H6D030236-009
Data File	/20060504s2/bth2h1q.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90545	**Prep Exp Date**	04/29/06	**Date Received**	04/02/06
Analysis Date	05/05/06 03:08	**Matrix**	AIR	**Date Sampled**	03/30/06
Anal Exp Date	06/01/06	**Initial Wt/Vol**	1 Sample	**Lims Test Code**	XXSIOX801
Instrument	M2A	**Extract Vol**	20 uL	**Method**	0023/8290
Analyst	PMP	**Diluton Factor**	1.00	**Code**	X8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**	
	Noise	00:00	00:00	0	88	130	35	52	0.67	/
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**	
	Noise	00:00	00:00	0	180	210	72	84	0.86	/
	13C-2,3,7,8-TCDF	33:02	33:03	-1	452338	574778	47954	57835	0.79	ABV/ABV
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**	
	Noise	00:00	00:00	0	105	120	42	48	0.88	/
328					**327.8847**		**327.8847**			
	Noise	00:00	00:00	0	215		86			
	37Cl4-2,3,7,8-TCDD	35:17	35:20	-3	1492807		166103			ABV
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**	
	Noise	00:00	00:00	0	403	283	161	113	1.42 *	/
	13C-1,2,3,4-TCDD	34:42	34:42	0	750052	942026	78528	95566	0.80	AVV/ABV
	13C-2,3,7,8-TCDD	35:16	35:16	0	375819	479555	42651	55424	0.78	AVV/AVV
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**	
	Noise	00:00	00:00	0	63	120	25	48	0.52 *	/
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**	
	Noise	00:00	00:00	0	155	205	62	82	0.76 *	/
	13C-1,2,3,7,8-PeCDF	41:27	41:28	-1	612025	391773	147440	93451	1.56	ABV/ABV
	13C-2,3,4,7,8-PeCDF	42:33	42:32	1	1155319	746653	303866	197359	1.55	ABV/ABB
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**	
	Noise	00:00	00:00	0	138	90	55	36	1.53	/
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**	
	Noise	00:00	00:00	0	158	173	63	69	0.91 *	/
	13C-1,2,3,7,8-PeCDD	43:02	43:02	0	492729	319084	138093	89564	1.54	ABV/ABV
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**	
	Noise	00:00	00:00	0	95	68	38	27	1.41	/
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**	
	Noise	00:00	00:00	0	190	193	76	77	0.99 *	/
	13C-1,2,3,4,7,8-HxCDF	46:07	46:08	-1	544120	1031592	154968	292284	0.53	ABV/ABV
	13C-1,2,3,6,7,8-HxCDF	46:16	46:16	0	344812	646724	93808	178055	0.53	AVV/AVV
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**	
	Noise	00:00	00:00	0	73	120	29	48	0.60 *	/
	Unidentified	46:07	00:00	0	563	486	173	206	1.16	ABB/MBB
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**	
	Noise	00:00	00:00	0	295	180	118	72	1.64 *	/
	13C-1,2,3,4,7,8-HxCDD	47:12	47:13	-1	720823	572634	199454	158802	1.26	ABV/ABV
	13C-1,2,3,6,7,8-HxCDD	47:19	47:20	-1	391674	323438	102591	85151	1.21	AVB/AVV
	13C-1,2,3,7,8,9-HxCDD	47:45	47:45	0	915044	726921	231530	180491	1.26	ABV/ABV
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**	
	Noise	00:00	00:00	0	85	85	34	34	1.00	/
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**	
	Noise	00:00	00:00	0	160	175	64	70	0.91 *	/

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1Q1AA	**Prep Batch**	6107092	**Lot No**	H6D030236-009
Data File	/20060504s2/bth2h1q.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90545	**Prep Exp Date**	04/29/06	**Date Received**	04/02/06
Analysis Date	05/05/06 03:08	**Matrix**	AIR	**Date Sampled**	03/30/06
Anal Exp Date	06/01/06	**Initial Wt/Vol**	1 Sample	**Lims Test Code**	XXSIOX801
Instrument	M2A	**Extract Vol**	20 uL	**Method**	0023/8290
Analyst	PMP	**Diluton Factor**	1.00	**Code**	X8

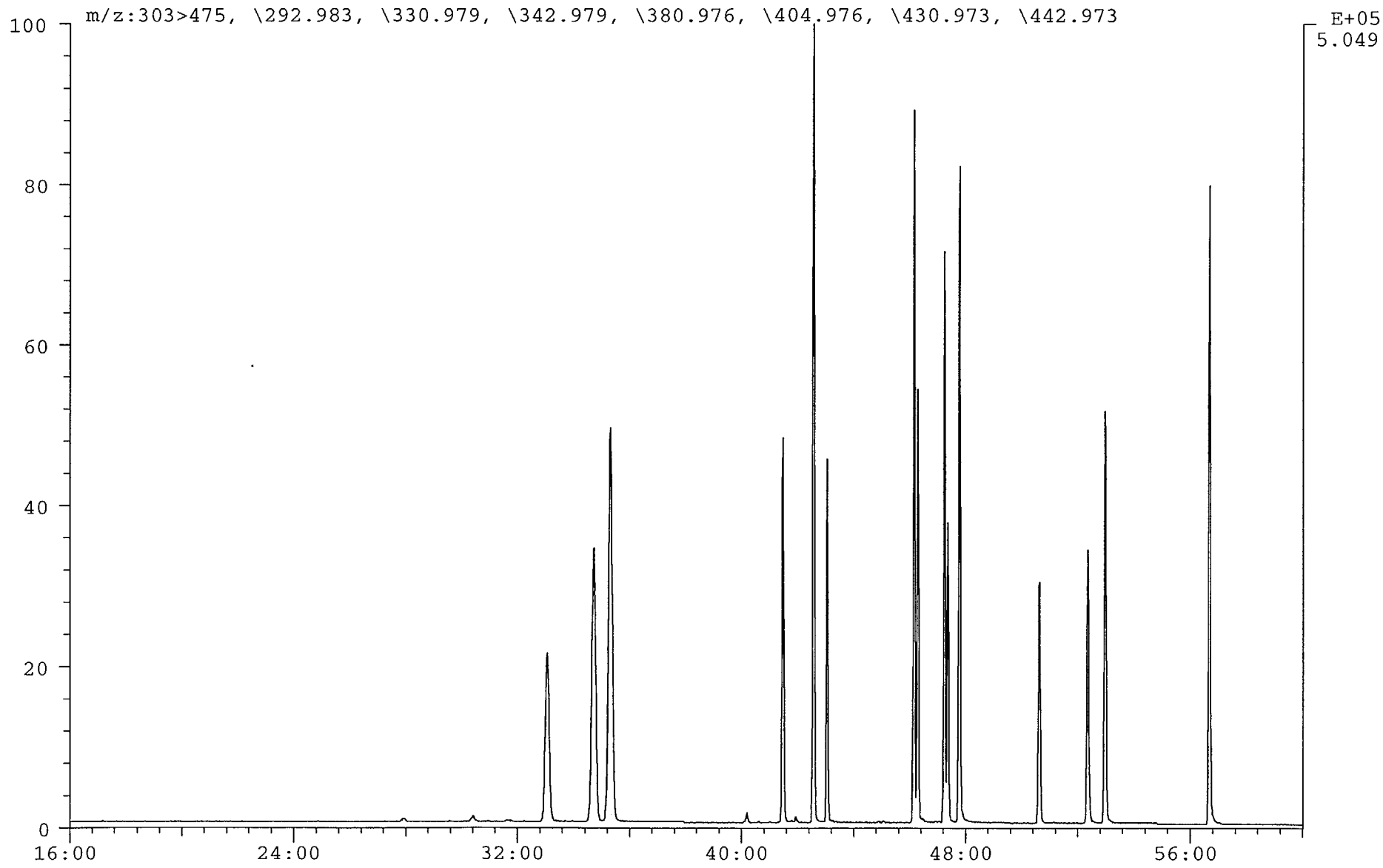
View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration Flags
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**	
	13C-1,2,3,4,6,7,8-HpCDF	50:36	50:36	0	223389	484630	48639	102753	0.46	ABV/ABV
	13C-1,2,3,4,7,8,9-HpCDF	52:56	52:56	0	350948	778382	80953	176917	0.45	ABV/ABV
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**	
	Noise	00:00	00:00	0	103	68	41	27	1.52 *	/
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**	
	Noise	00:00	00:00	0	138	123	55	49	1.12	/
	13C-1,2,3,4,6,7,8-HpCDD	52:19	52:19	0	416042	408667	85847	85267	1.02	ABV/ABV
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**	
	Noise	00:00	00:00	0	113	148	45	59	0.76	/
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**	
	Noise	00:00	00:00	0	98	105	39	42	0.93	/
	OCDD	56:40	56:39	1	2425	2467	699	767	0.98	MBB/ABB
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**	
	Noise	00:00	00:00	0	170	160	68	64	1.06 *	/
	13C-OCDD	56:39	56:39	0	745679	820997	189568	211002	0.91	ABV/ABV

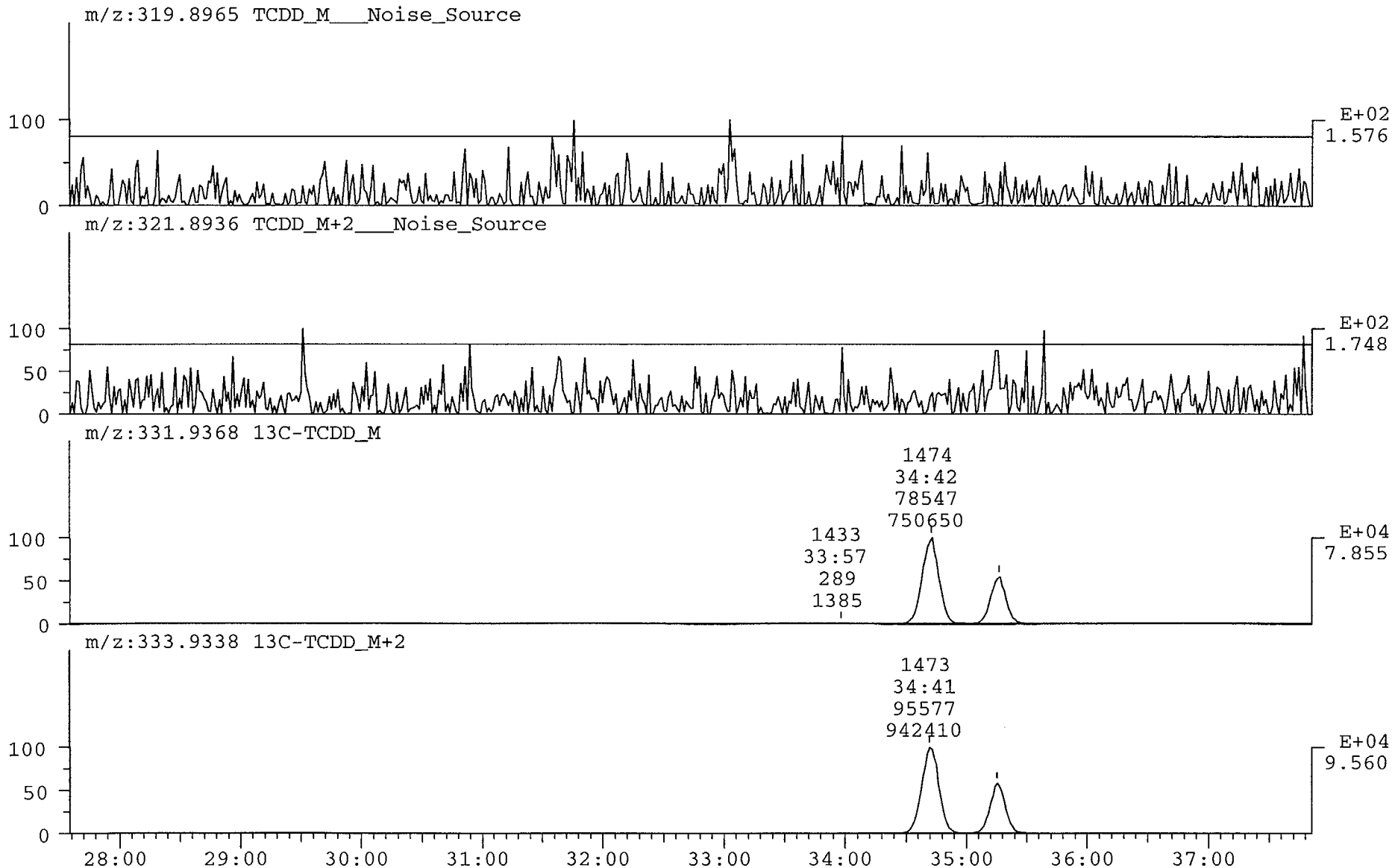
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

```
CHRO:  bth2h1q                                05-May-06  Elapse:  46:17      2120
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                 Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-009             Inlet :  GC     Vial  16
Peak:  100.00  ppm      Label wndw:   442 > 2890         Masses:  293 > 514
Area:  5, 0.50, 0       Baseline  :   100, 3             Label :  0, 0.0
Disp:  Height  Area
```

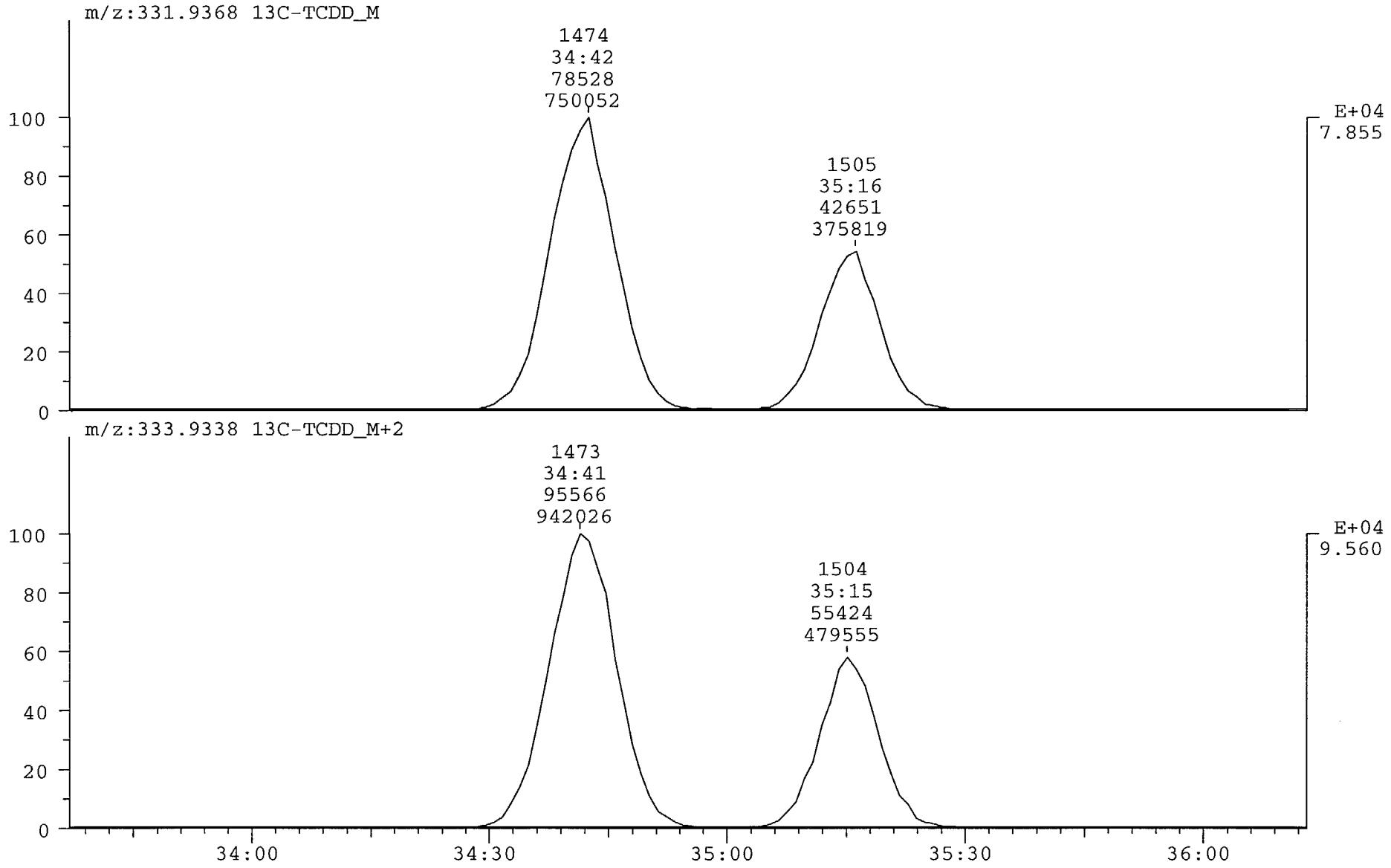
Int BFW 5/5/06
Calc MMK 5/5/06
QC1 Rev MSD 5/8/06



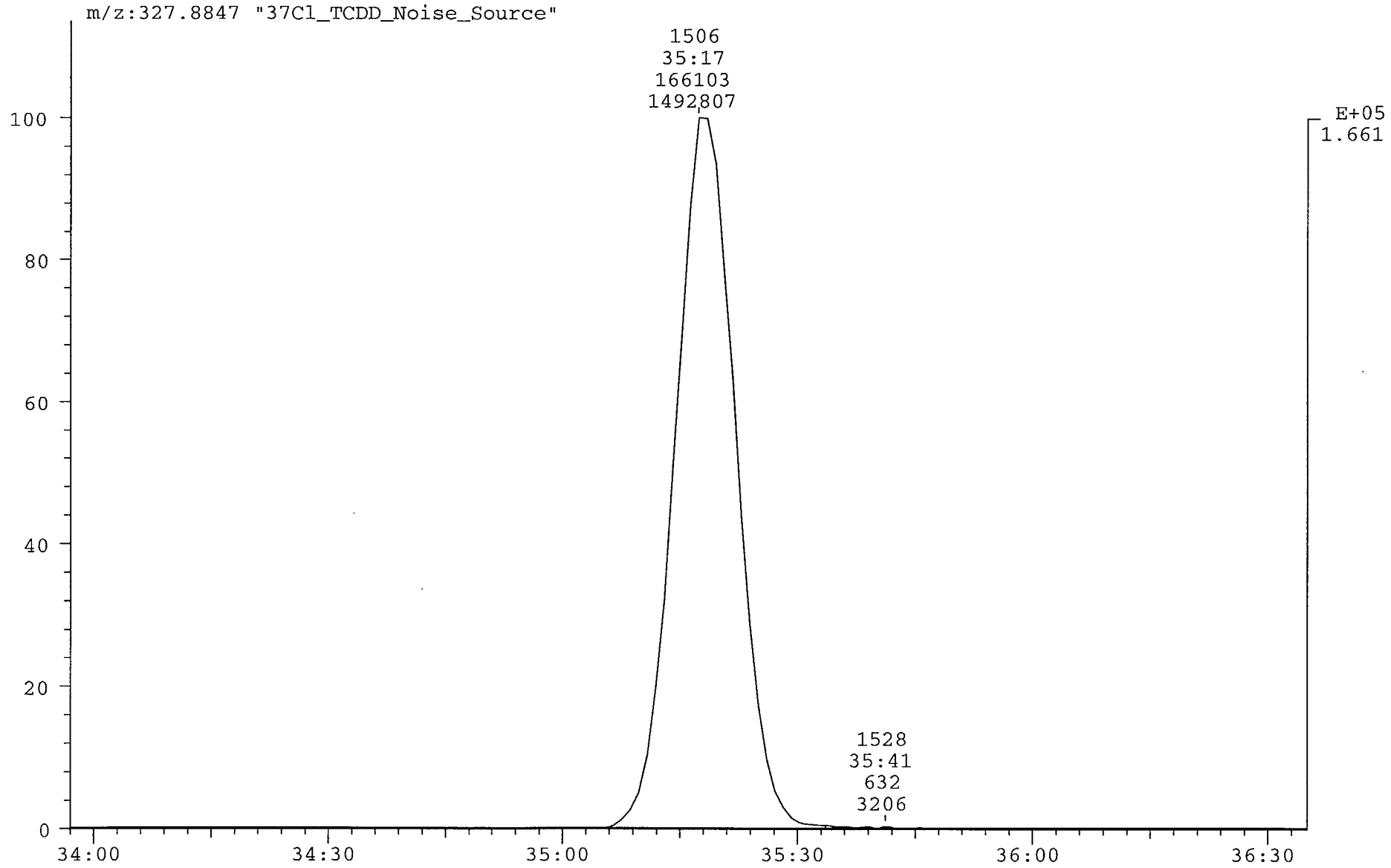
```
CHRO:  bth2h1q                                05-May-06  Elapse:  46:17      2120
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                 Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP           Client:  H6D030236-009              Inlet :  GC     Vial  16
Peak:  100.00  ppm     Label wndw:   1081 > 1647         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



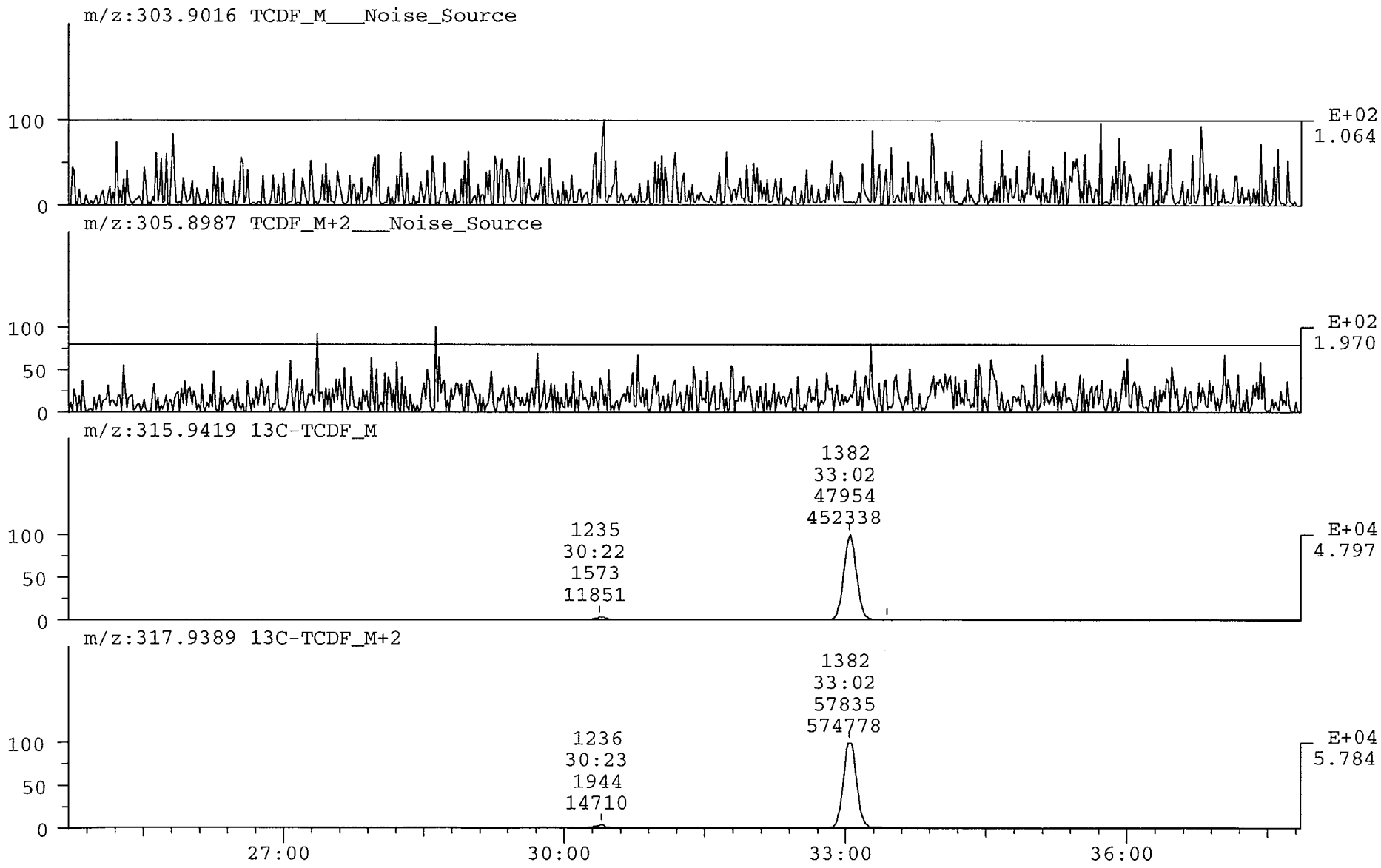
```
CHRO:  bth2h1q                                05-May-06  Elapse:  34:55      1486
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                 Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-009               Inlet :  GC     Vial  16
Peak:  100.00  ppm     Label wndw:   1414 > 1557         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



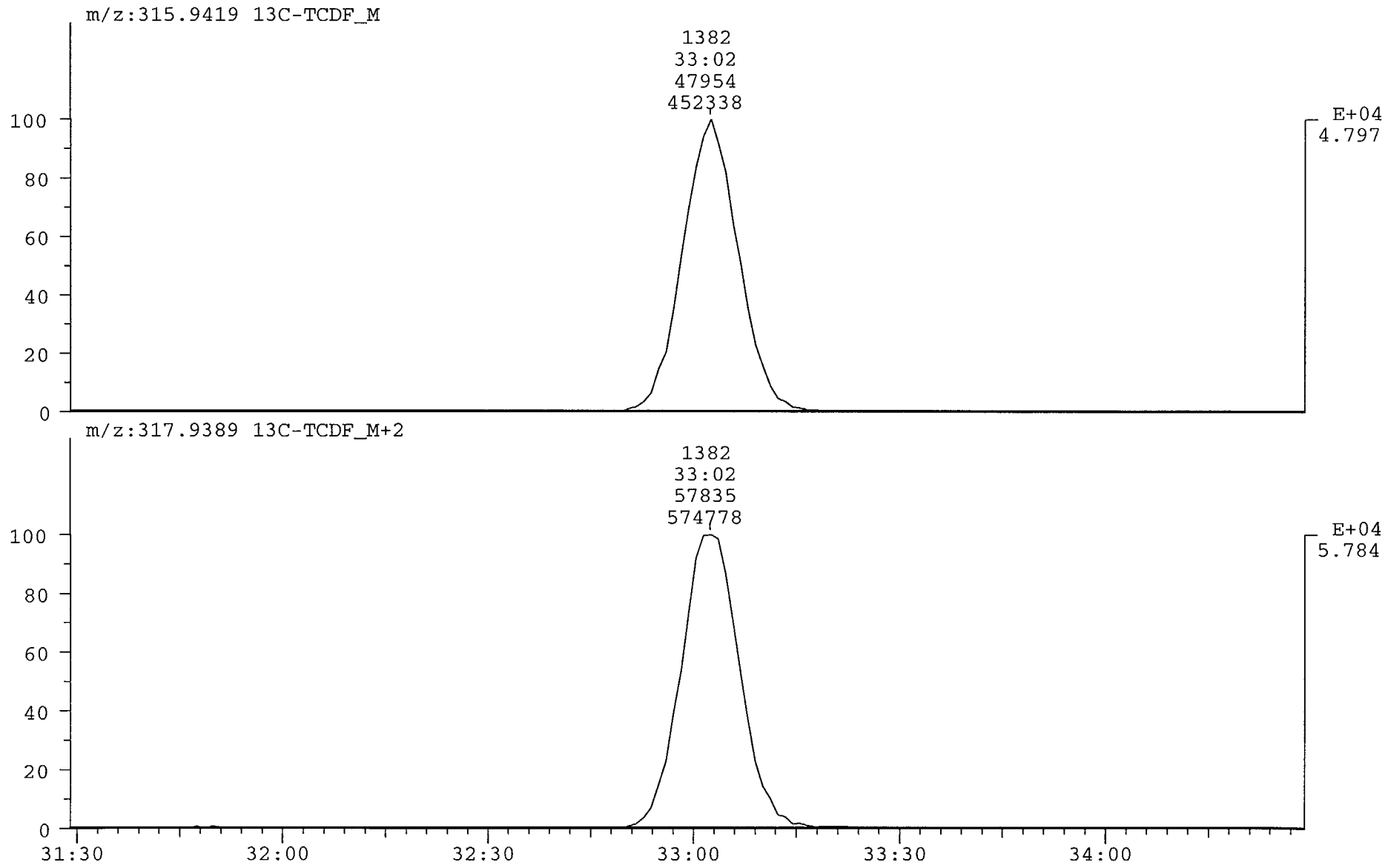
```
CHRO:  bth2h1q                                05-May-06  Elapse:  35:12      1502
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                 Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-009               Inlet :  GC     Vial 16
Peak:  100.00  ppm     Label wndw:   1432 > 1577         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



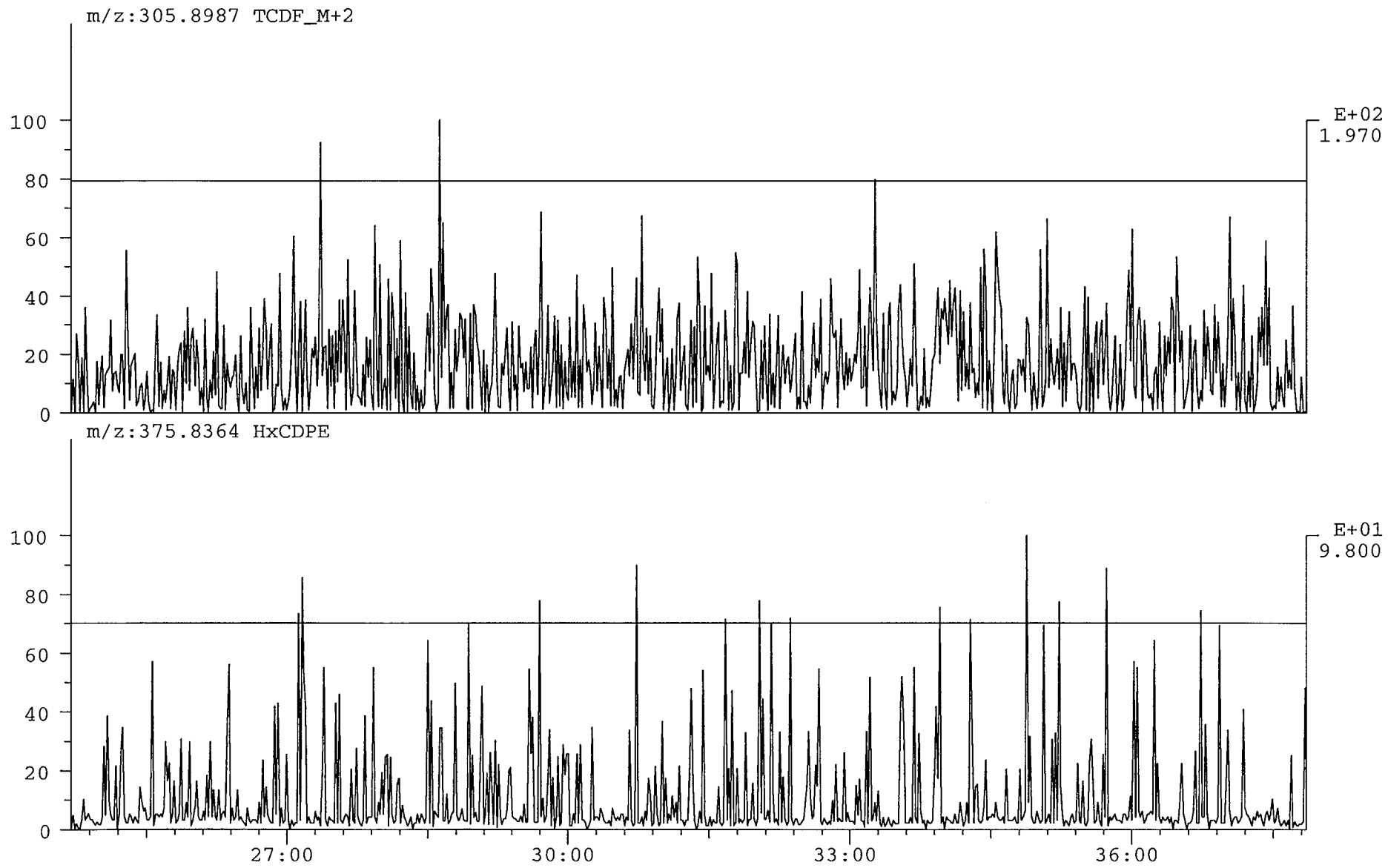
```
CHRO:  bth2h1q                                05-May-06  Elapse:  35:12      1502
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                 Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-009             Inlet :  GC     Vial  16
Peak:  100.00  ppm      Label wndw:   922 > 1647         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



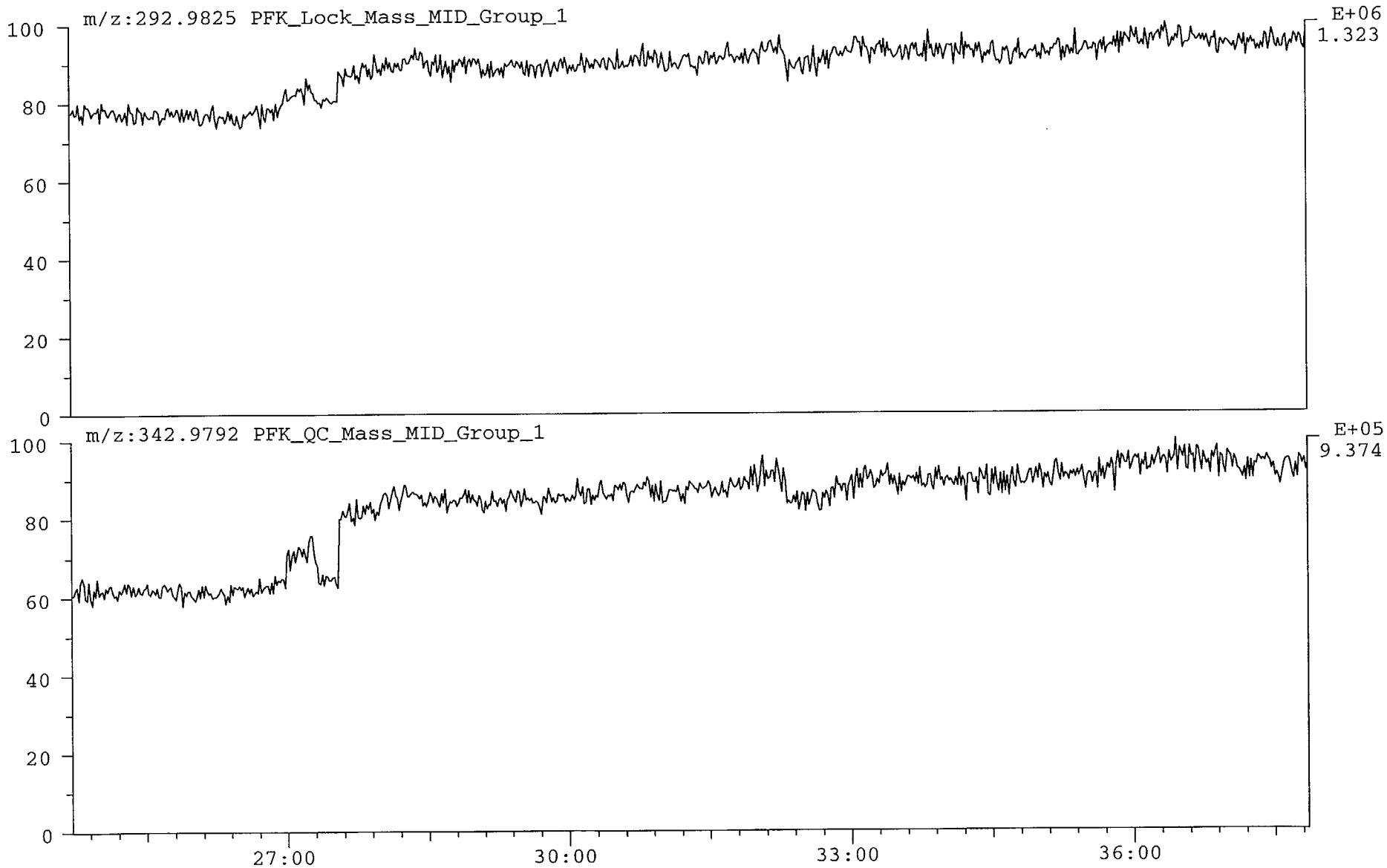
```
CHRO:  bth2h1q                                05-May-06   Elapse:  32:55      1376
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                  Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-009              Inlet :  GC     Vial  16
Peak:  100.00  ppm      Label wndw:   1296 > 1462         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



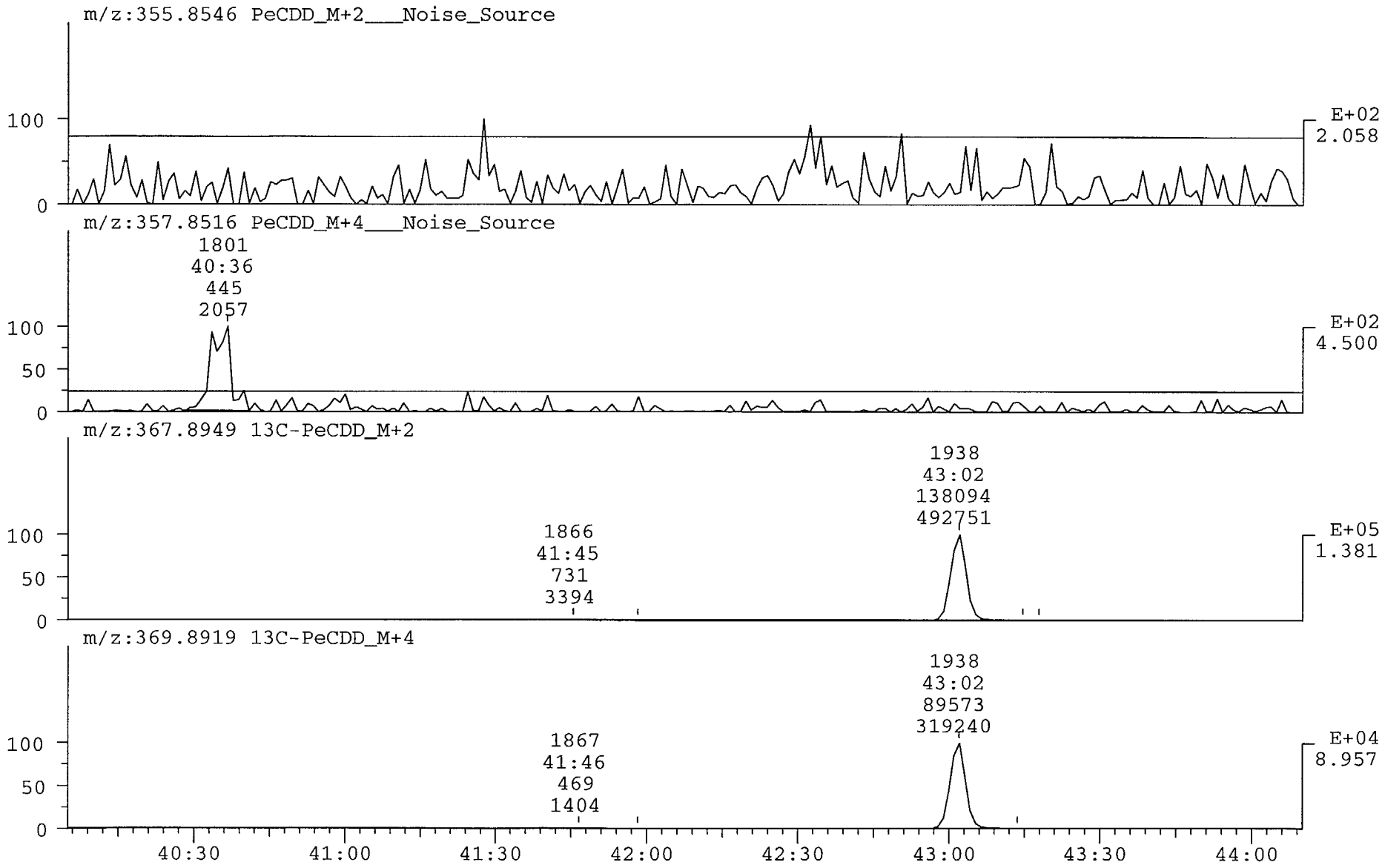
```
CHRO:  bth2h1q                                05-May-06  Elapse:  32:55      1376
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                 Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-009               Inlet :  GC     Vial  16
Peak:  100.00  ppm     Label wndw:   922 > 1647          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



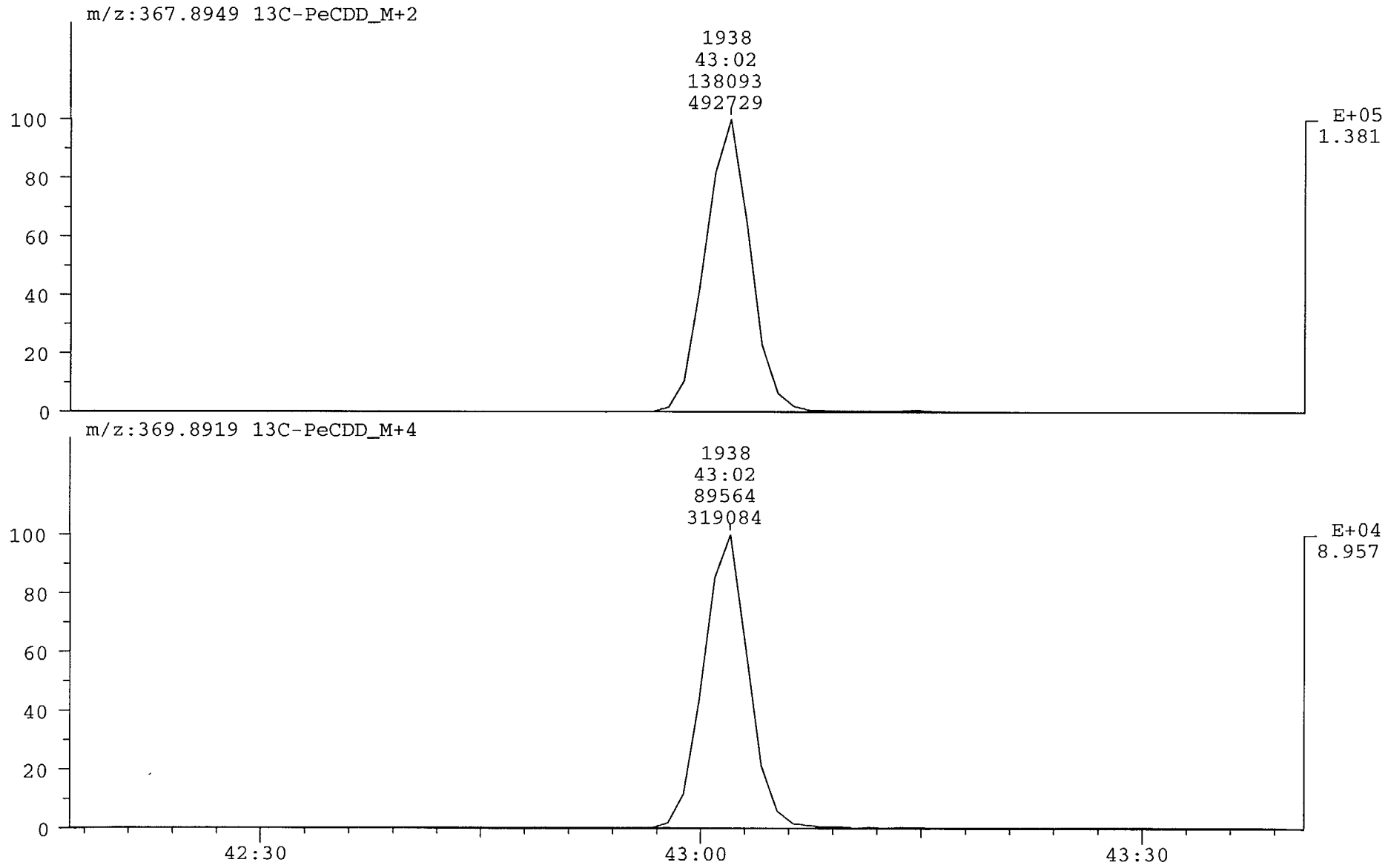
CHRO: bth2h1q 05-May-06 Elapse: 32:55 1376
Samp: Vial 16 WO=h2h1q1aa Meth=X8 Dil=1 Start : 03:08:54 2890
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-009 Inlet : GC Vial 16
Peak: 100.00 ppm Label wndw: 922 > 1647 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



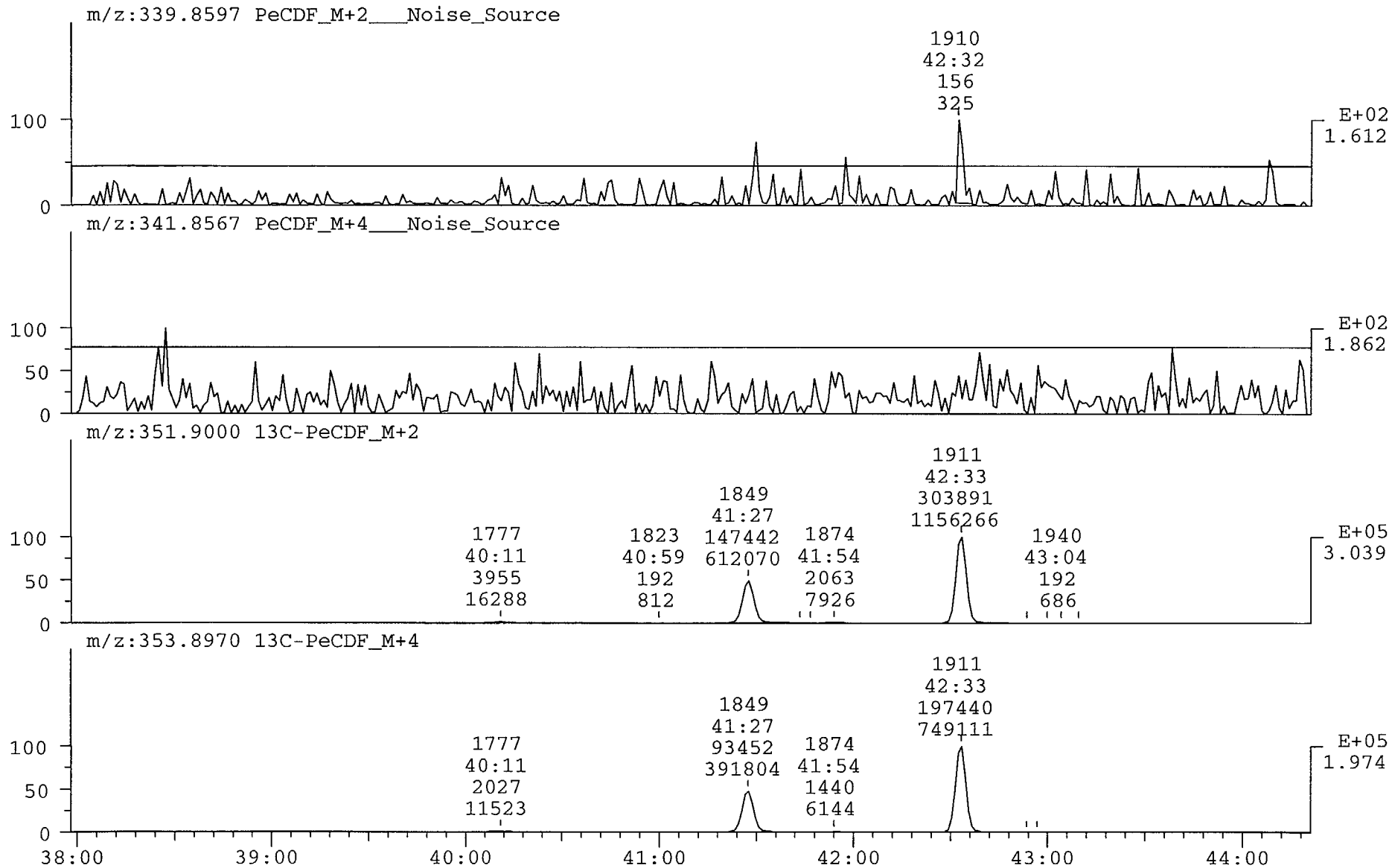
```
CHRO:  bth2h1q                                05-May-06   Elapse:  32:55      1376
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                  Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-009              Inlet :  GC     Vial  16
Peak:  100.00  ppm      Label wndw:   1771 > 2002         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



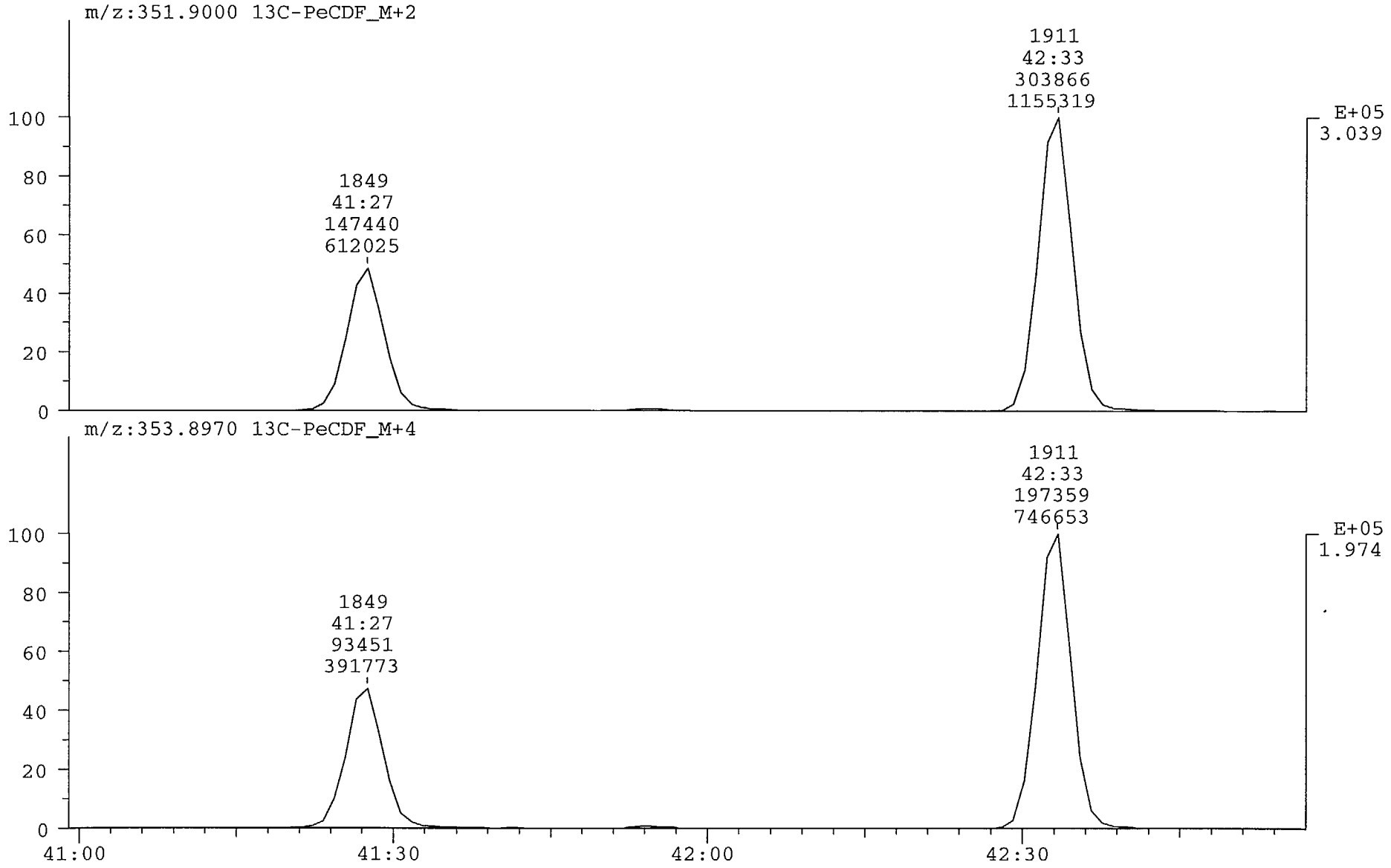
```
CHRO:  bth2h1q                                05-May-06   Elapse:  42:55      1932
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                  Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-009                Inlet :  GC     Vial  16
Peak:  100.00  ppm     Label wndw:   1896 > 1975          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



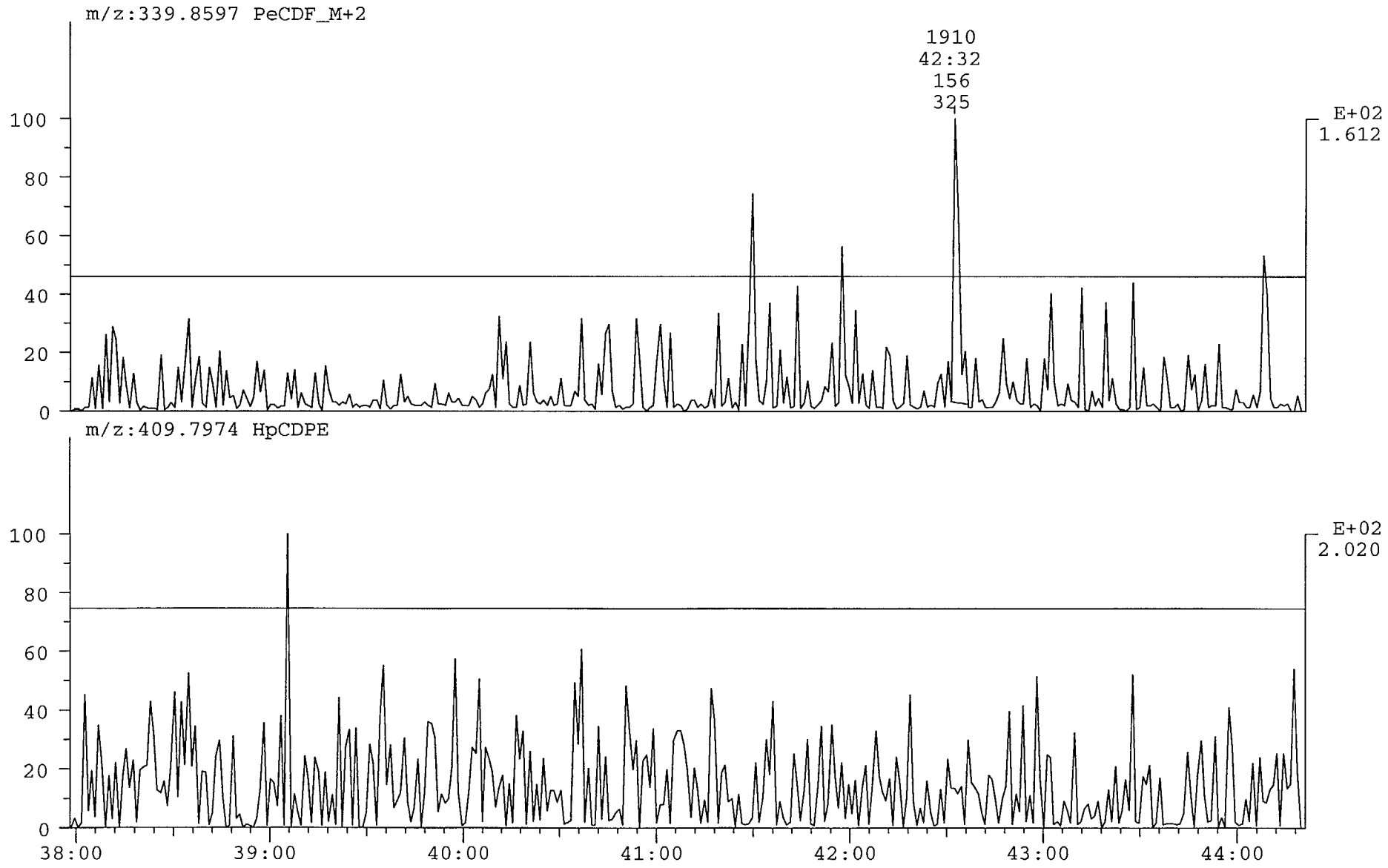
```
CHRO:  bth2h1q                                05-May-06   Elapse:  42:55      1932
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                  Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-009              Inlet :  GC     Vial  16
Peak:  100.00  ppm      Label wndw:   1652 > 2012         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



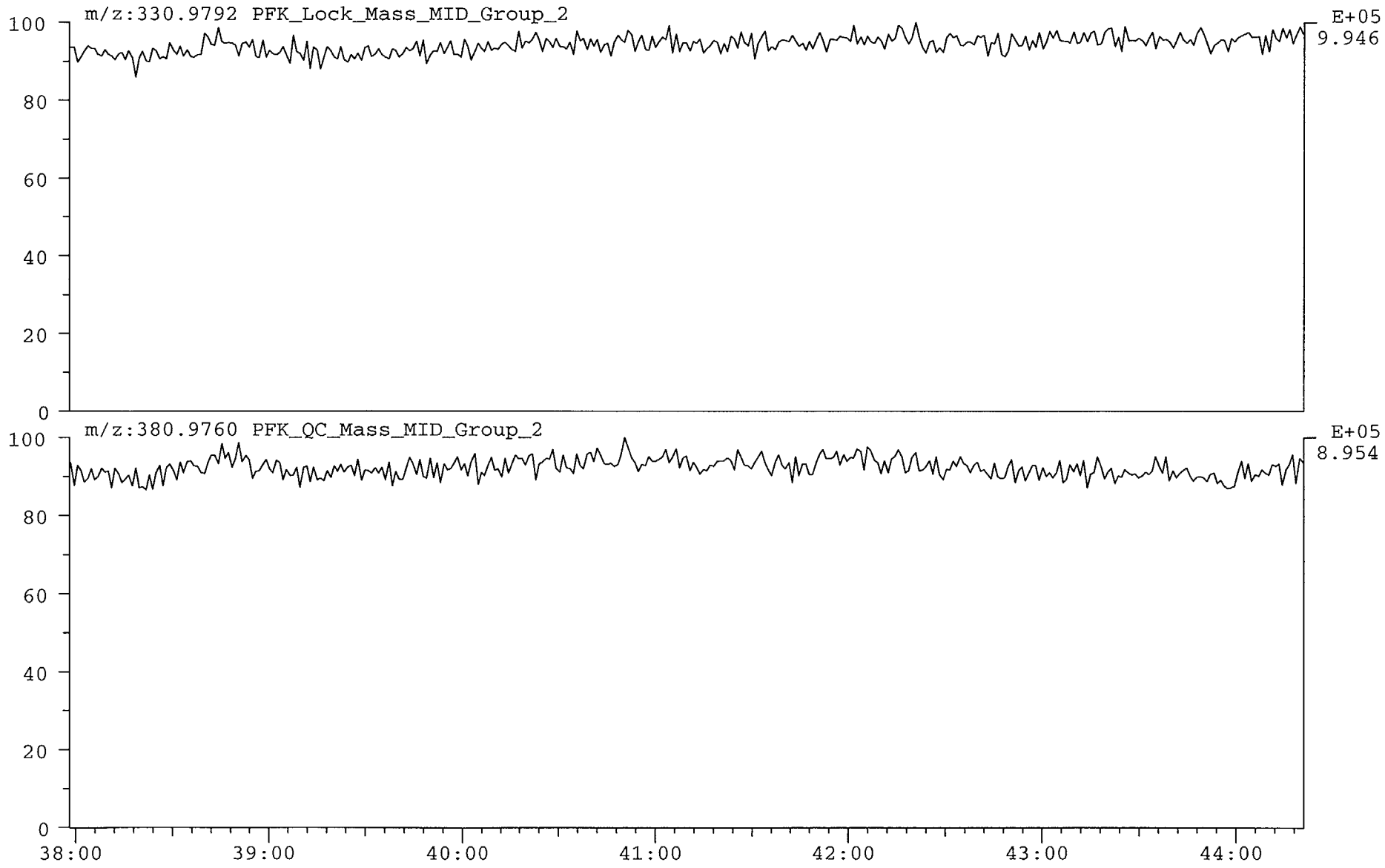
```
CHRO:  bth2h1q                                05-May-06  Elapse:  41:58      1878
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                 Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-009               Inlet :  GC     Vial  16
Peak:  100.00  ppm     Label wndw:   1822 > 1933         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



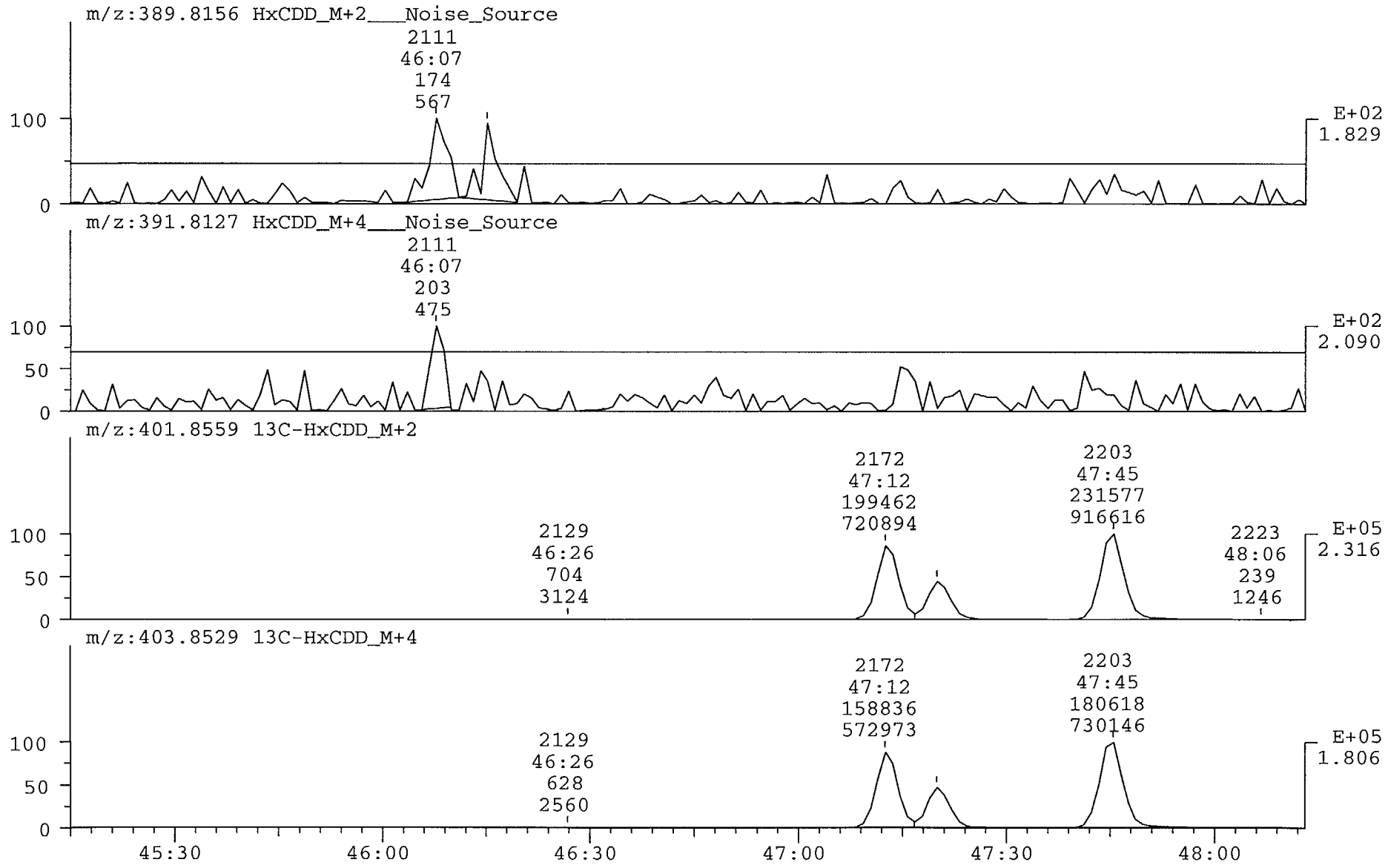
```
CHRO:  bth2h1q                                05-May-06  Elapse:  41:58      1878
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                 Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-009             Inlet :  GC     Vial  16
Peak:  100.00  ppm      Label wndw:   1652 > 2012        Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  -2, 3.0
Disp:  Height  Area
```



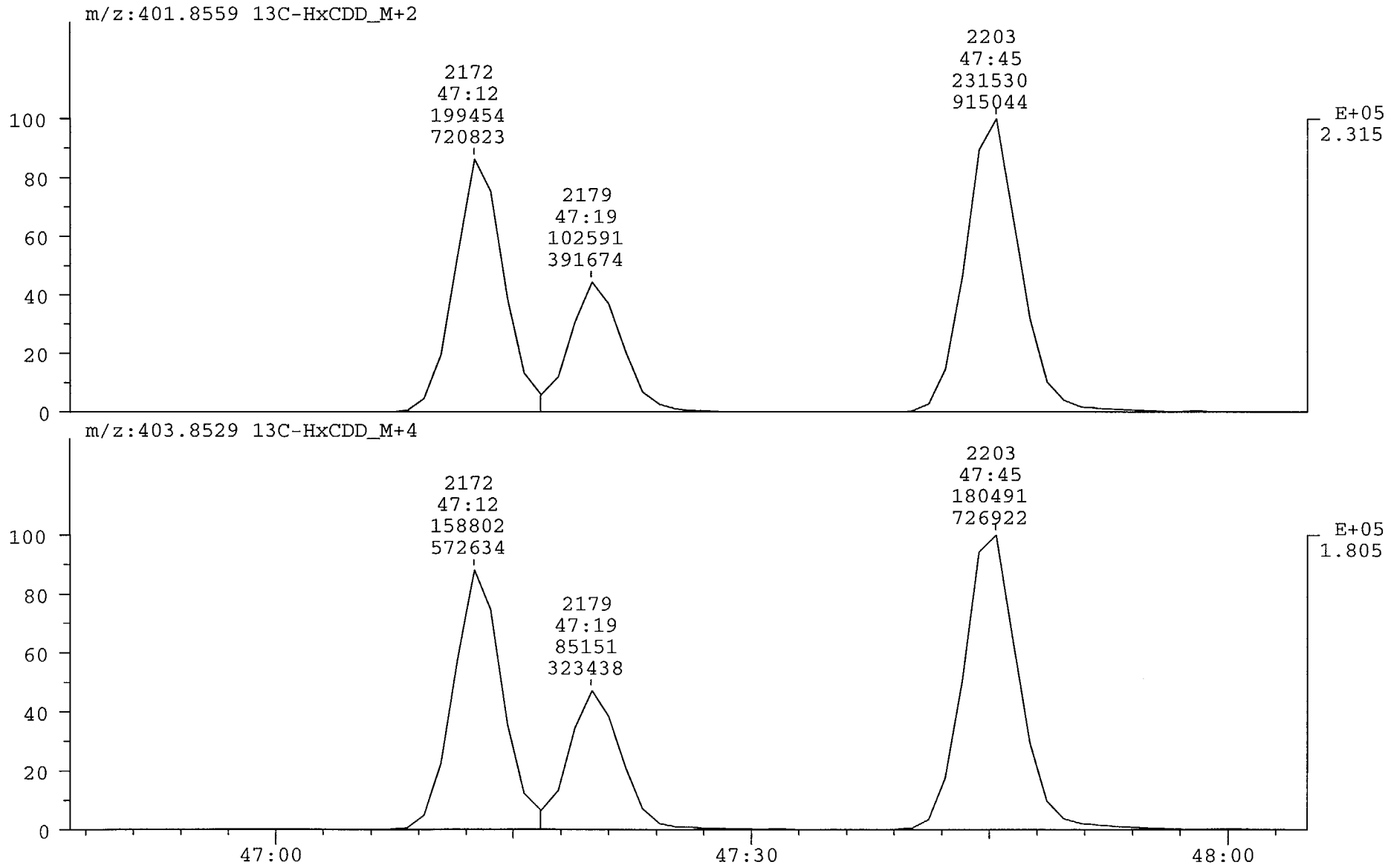
```
CHRO:  bth2h1q                                05-May-06  Elapse:  41:58      1878
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                 Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-009               Inlet :  GC     Vial  16
Peak:  100.00  ppm     Label wndw:   1652 > 2012         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



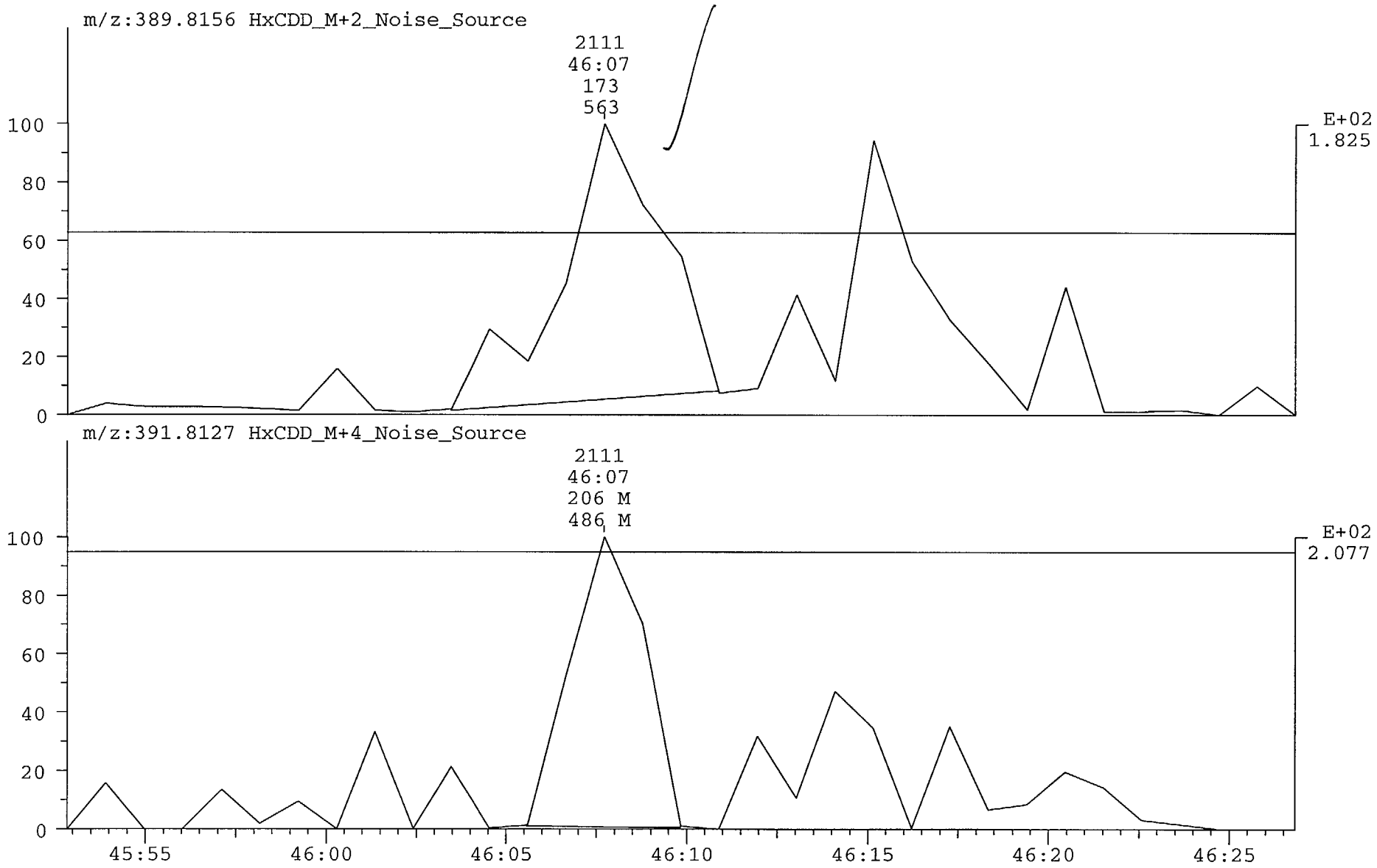
```
CHRO:  bth2h1q                                05-May-06  Elapse:  41:58      1878
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                 Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-009             Inlet :  GC     Vial  16
Peak:  100.00  ppm      Label wndw:   2061 > 2229        Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  -2, 3.0
Disp:  Height  Area
```



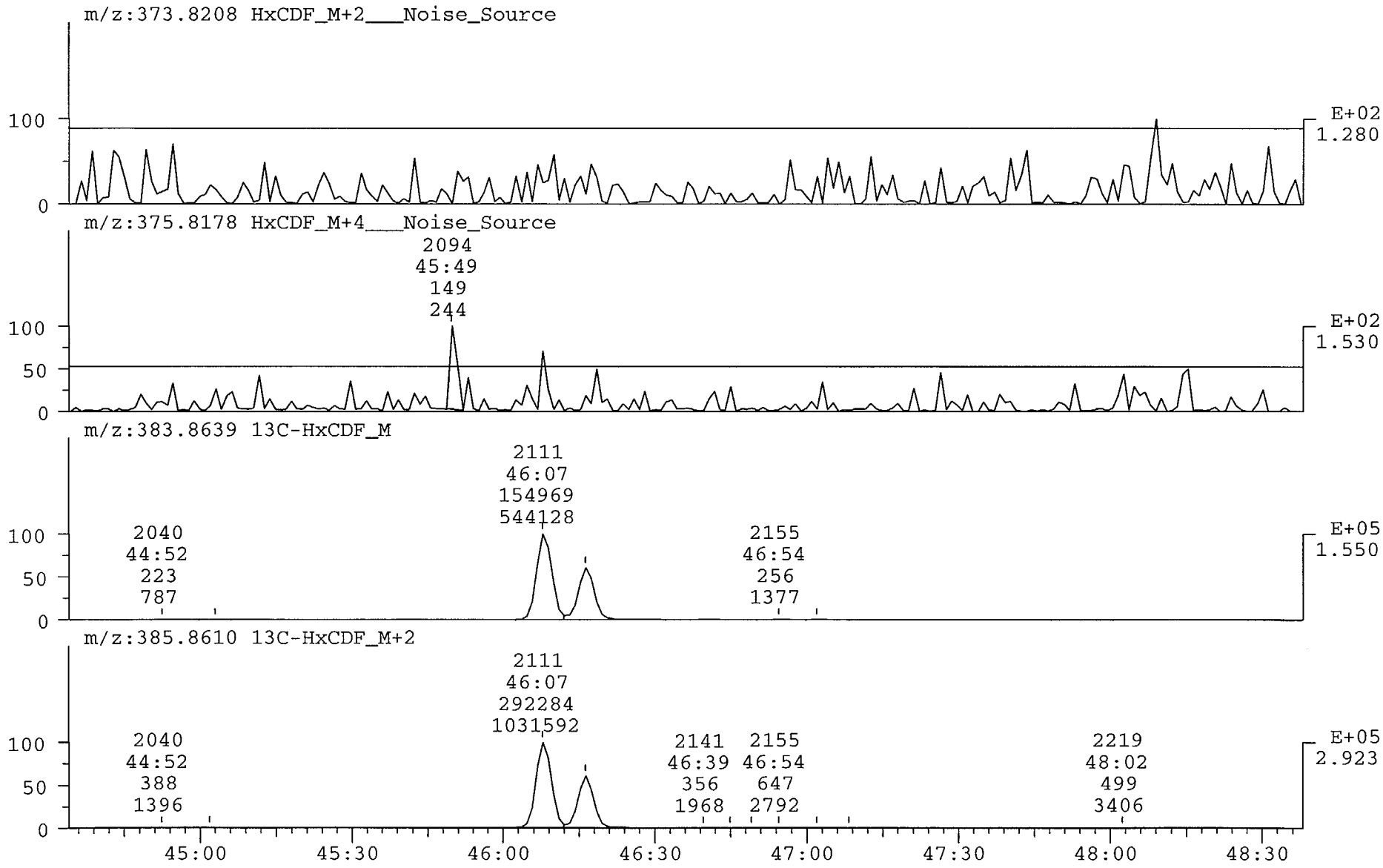
```
CHRO:  bth2h1q                                05-May-06  Elapse:  47:26      2185
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                 Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-009               Inlet :  GC     Vial  16
Peak:  100.00  ppm     Label wndw:   2148 > 2221         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



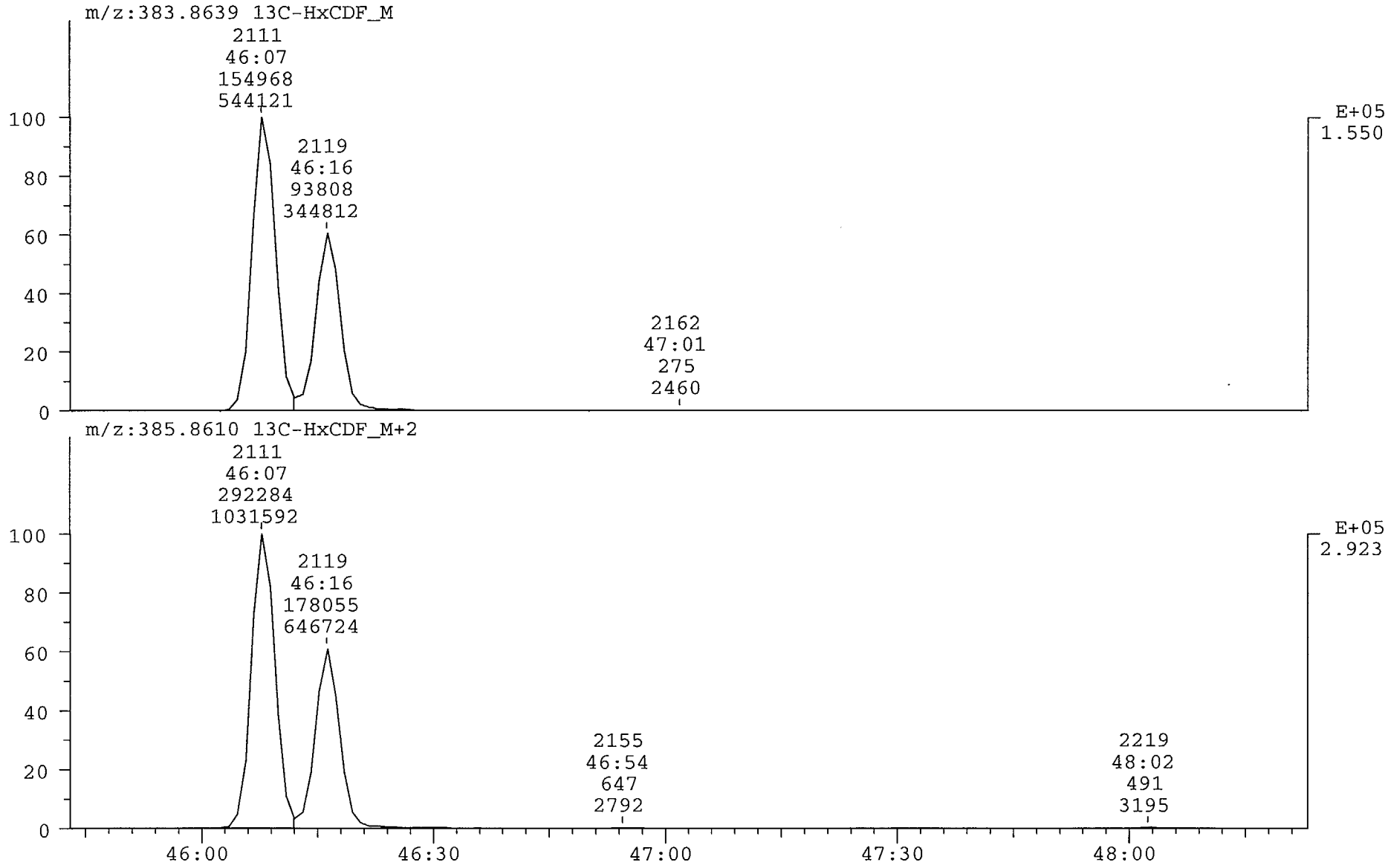
```
CHRO:  bth2h1q                                05-May-06   Elapse:  56:43      2705
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                  Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-009              Inlet :  GC     Vial  16
Peak:  100.00  ppm      Label wndw:   2097 > 2129         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



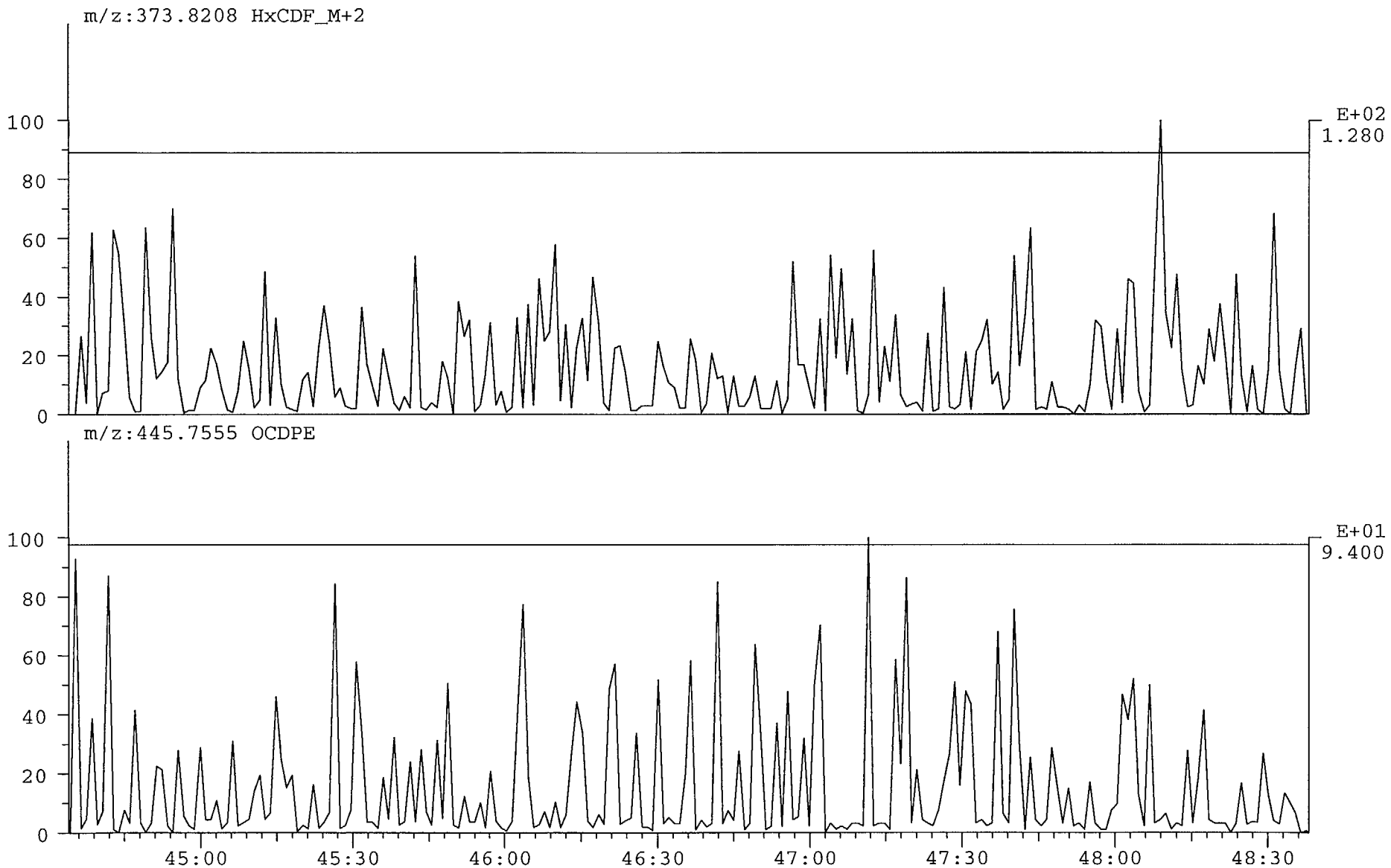
```
CHRO:  bth2h1q                                05-May-06  Elapse:  47:26      2185
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                 Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-009               Inlet :  GC     Vial  16
Peak:  100.00  ppm     Label wndw:   2023 > 2253         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



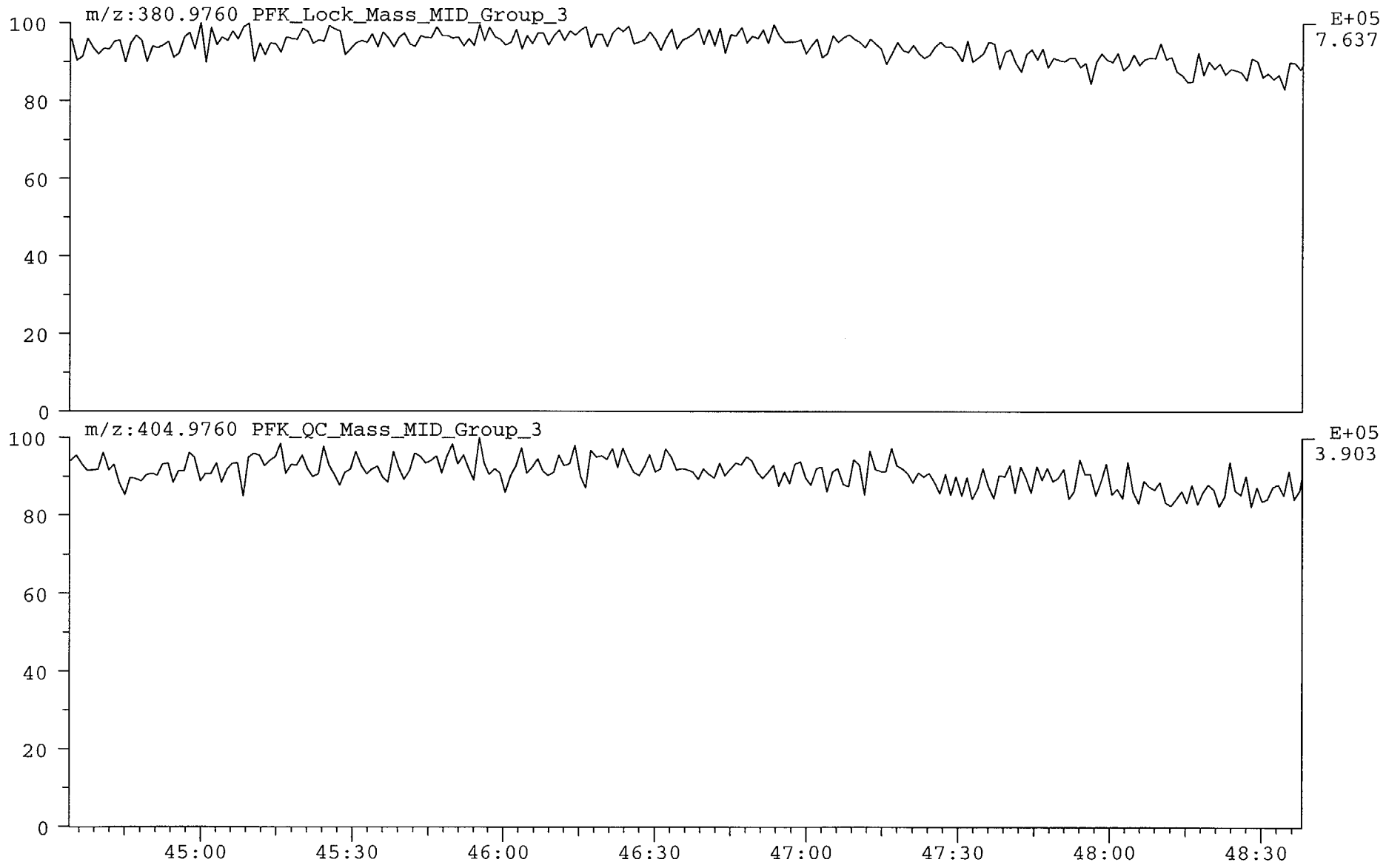
```
CHRO:  bth2h1q                                05-May-06  Elapse:  47:02      2163
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                 Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-009               Inlet :  GC     Vial  16
Peak:  100.00  ppm     Label wndw:   2088 > 2238         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



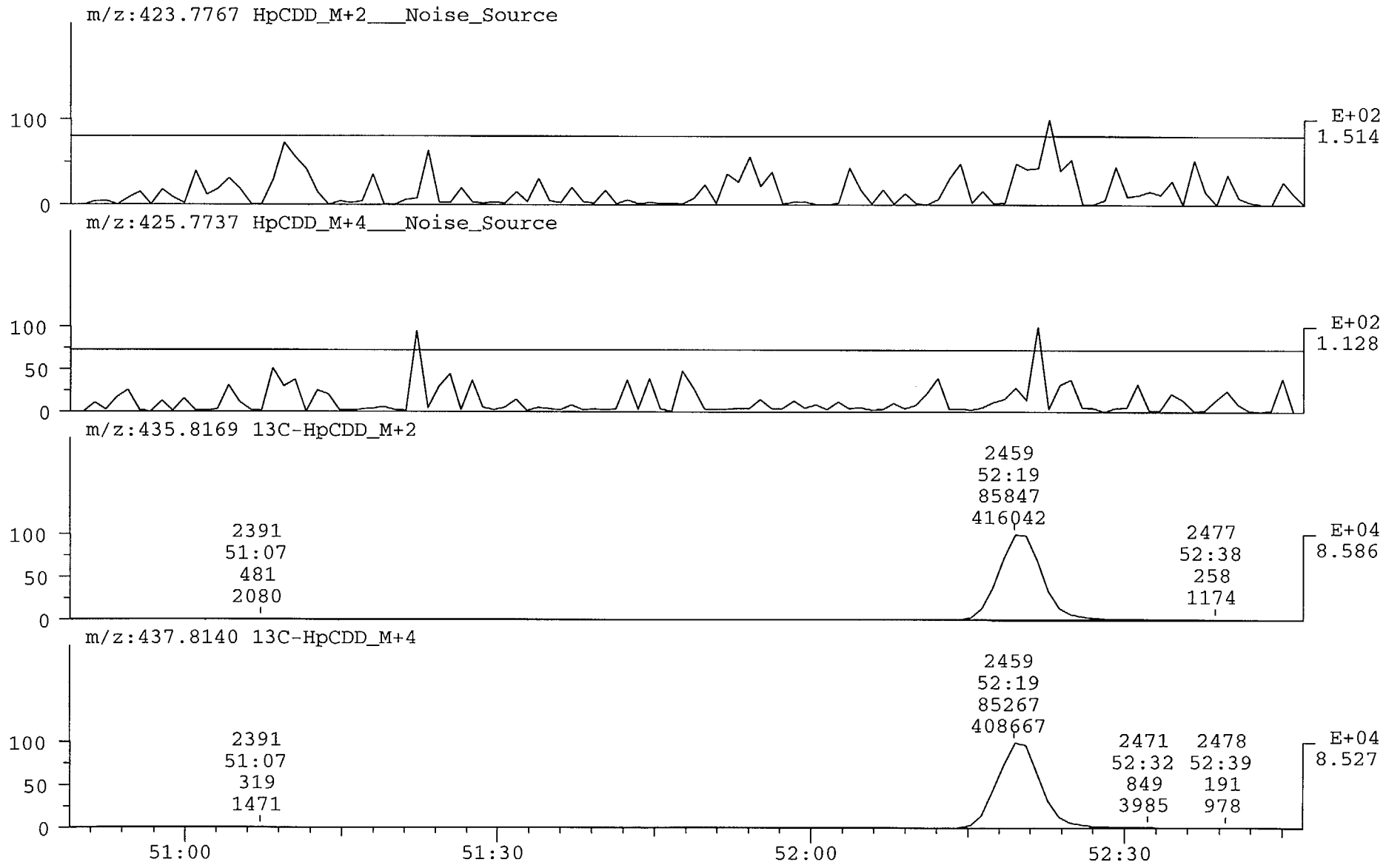
```
CHRO:  bth2h1q                                05-May-06   Elapse:  46:10      2114
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                  Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-009              Inlet :  GC     Vial  16
Peak:  100.00  ppm      Label wndw:   2023 > 2253         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



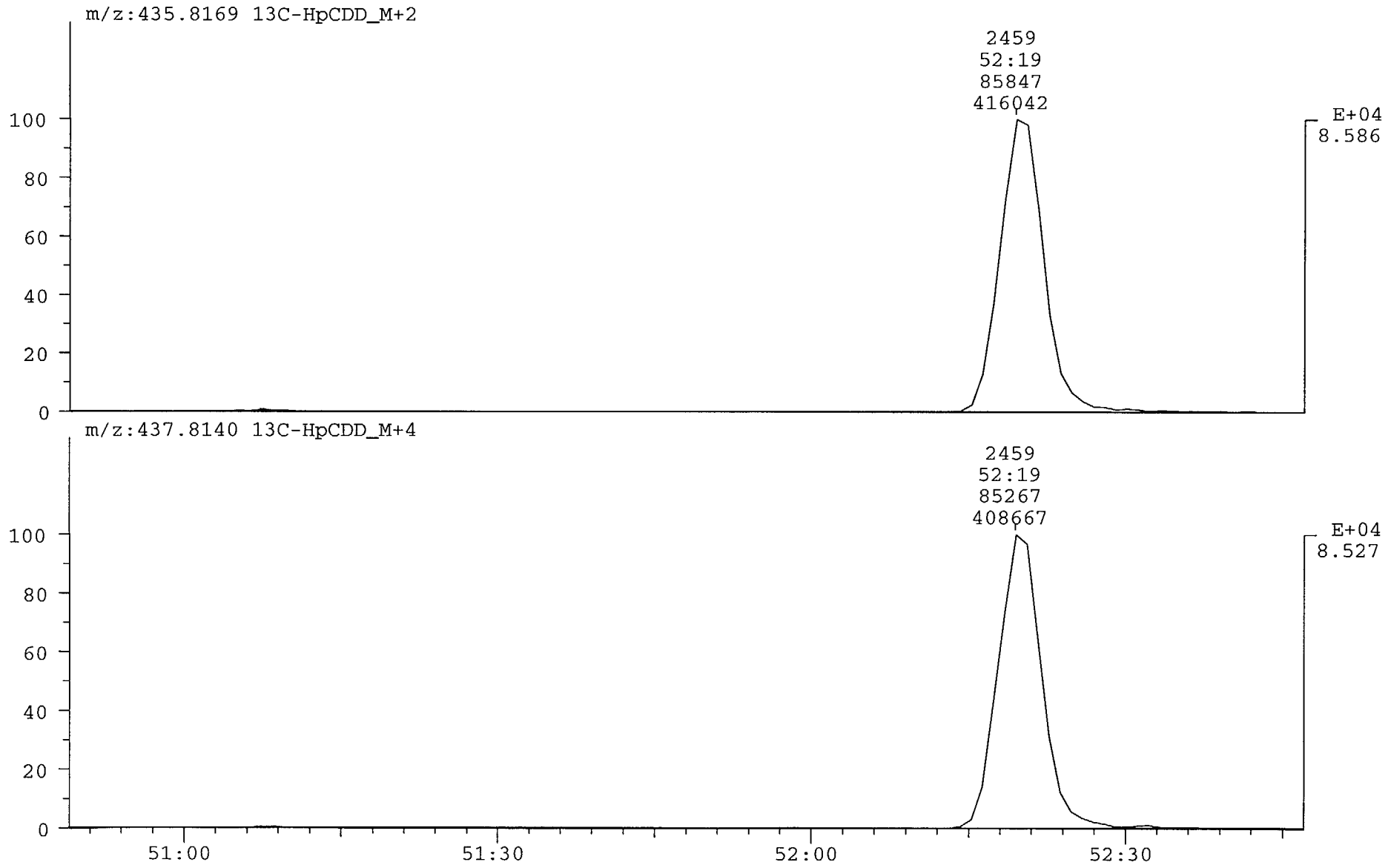
```
CHRO:  bth2h1q                                05-May-06   Elapse:  46:10      2114
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                  Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-009              Inlet :  GC     Vial  16
Peak:  100.00  ppm      Label wndw:   2023 > 2253         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
```



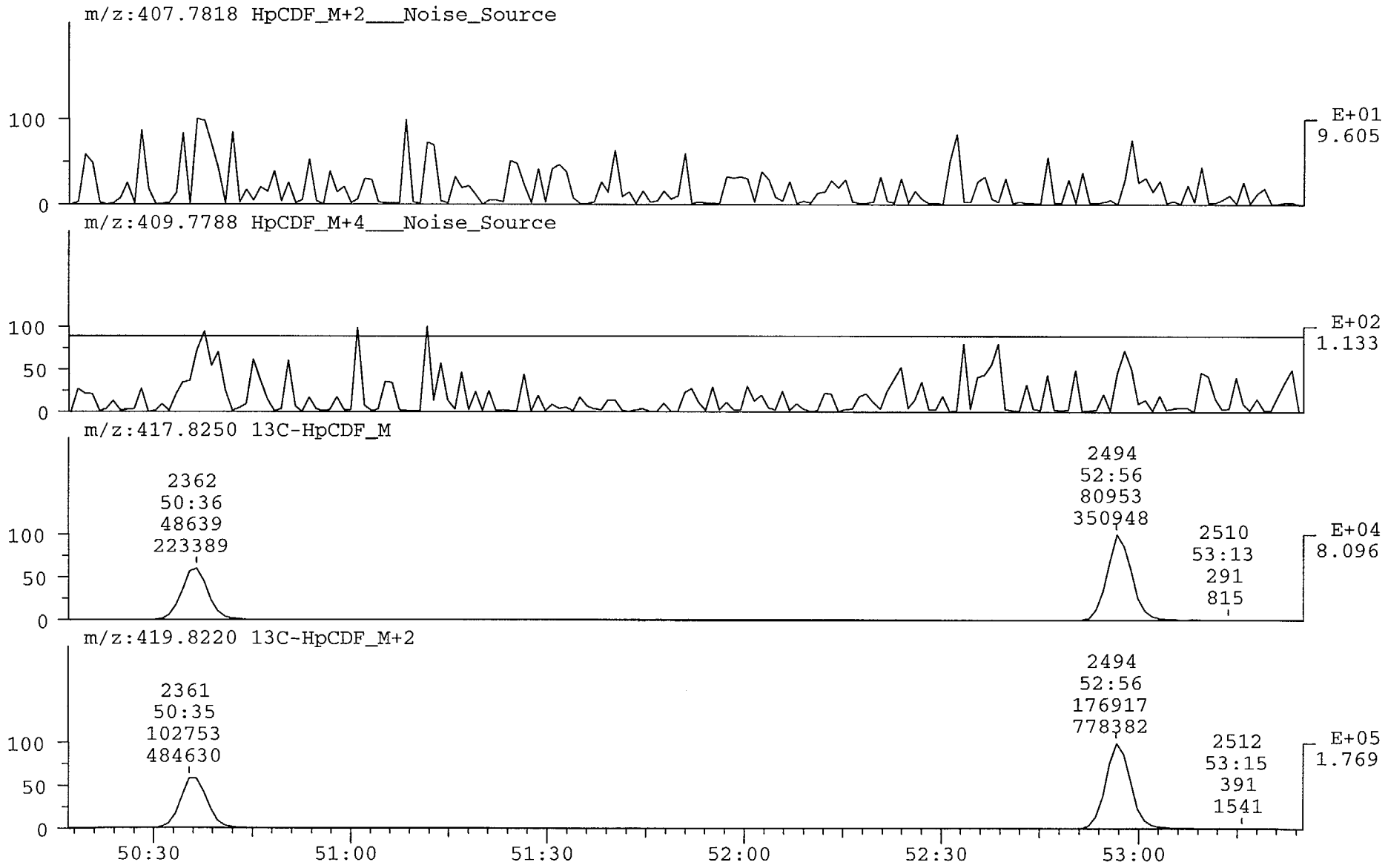
```
CHRO:  bth2h1q                                05-May-06   Elapse:  46:10      2114
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                  Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-009              Inlet :  GC     Vial  16
Peak:  100.00  ppm      Label wndw:   2374 > 2485         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



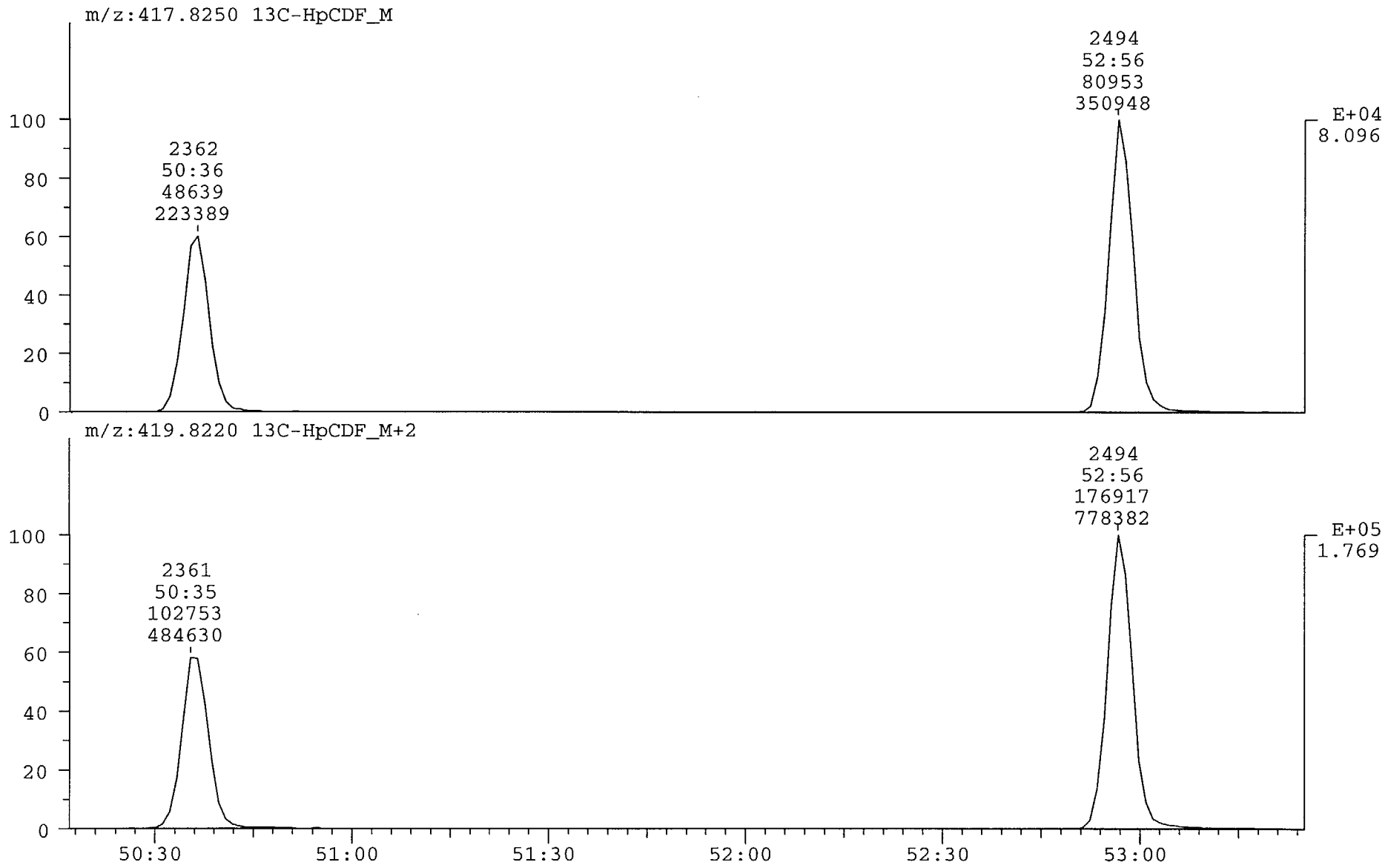
```
CHRO:  bth2h1q                                05-May-06   Elapse:  46:10      2114
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                  Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-009              Inlet :  GC     Vial  16
Peak:  100.00  ppm      Label wndw:   2374 > 2485         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



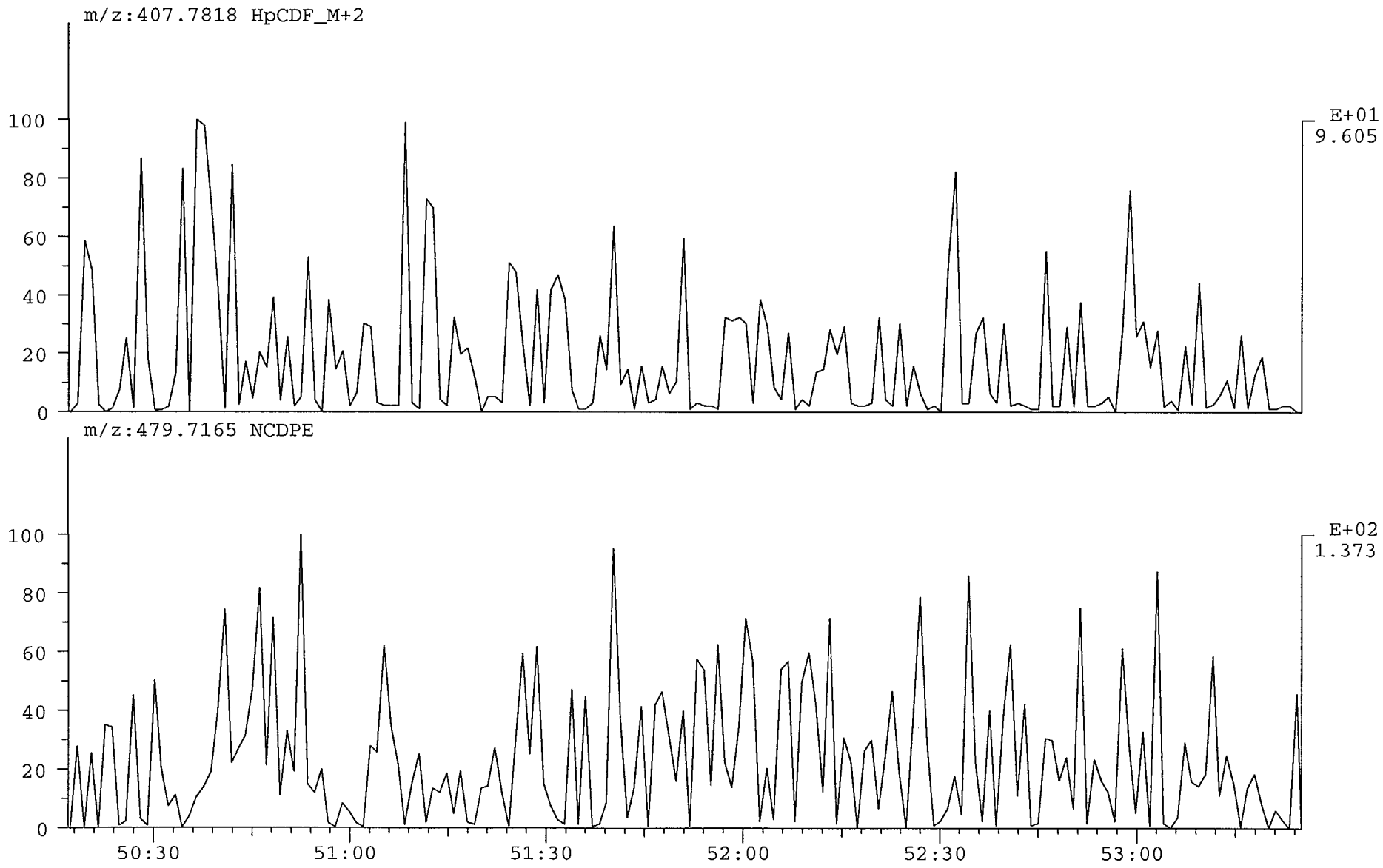
```
CHRO:  bth2h1q                                05-May-06  Elapse:  46:10      2114
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                 Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-009               Inlet :  GC     Vial  16
Peak:  100.00  ppm     Label wndw:   2344 > 2521         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



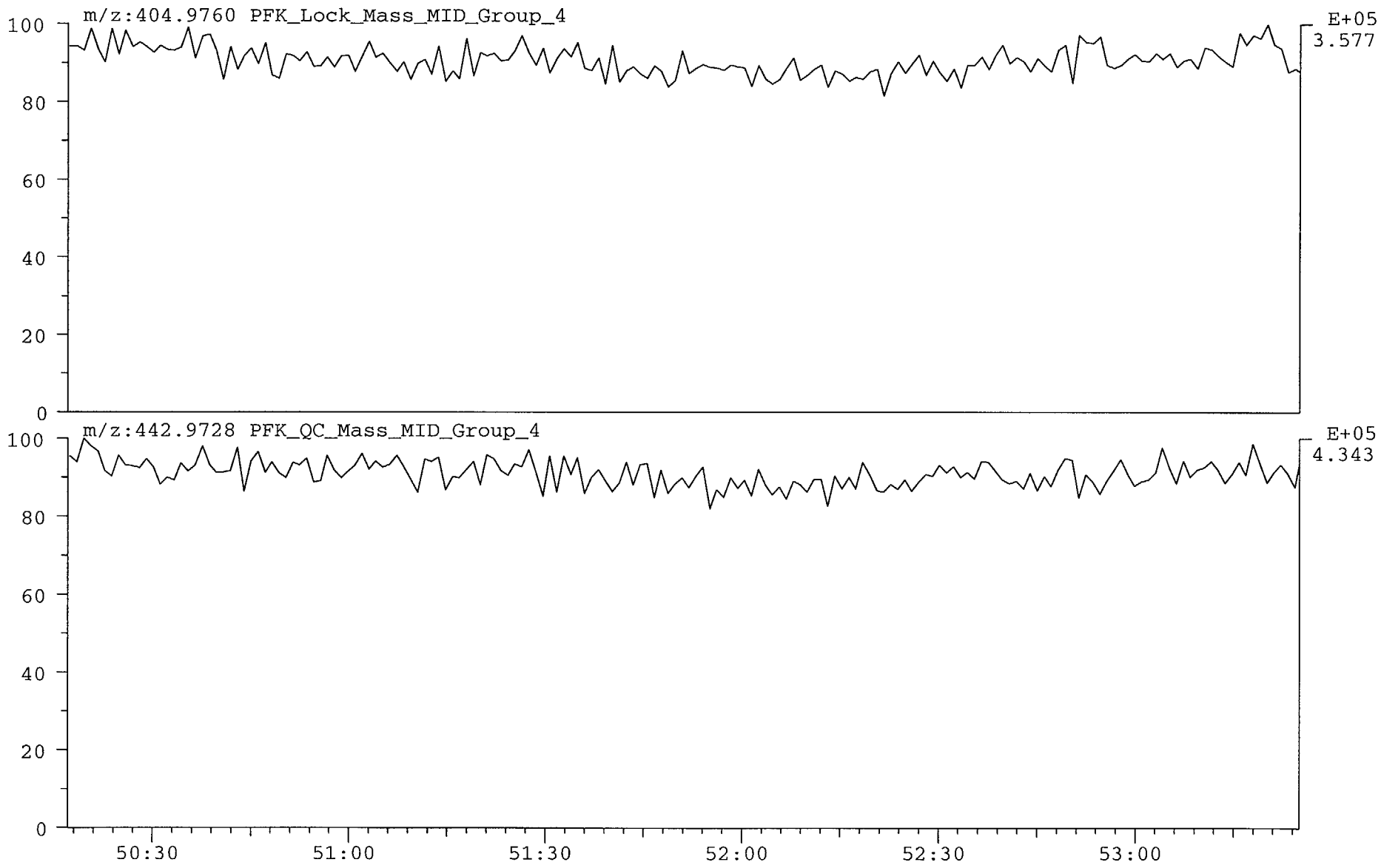
```
CHRO:  bth2h1q                                05-May-06   Elapse:  46:10      2114
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                  Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-009              Inlet :  GC     Vial  16
Peak:  100.00  ppm      Label wndw:   2344 > 2521         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



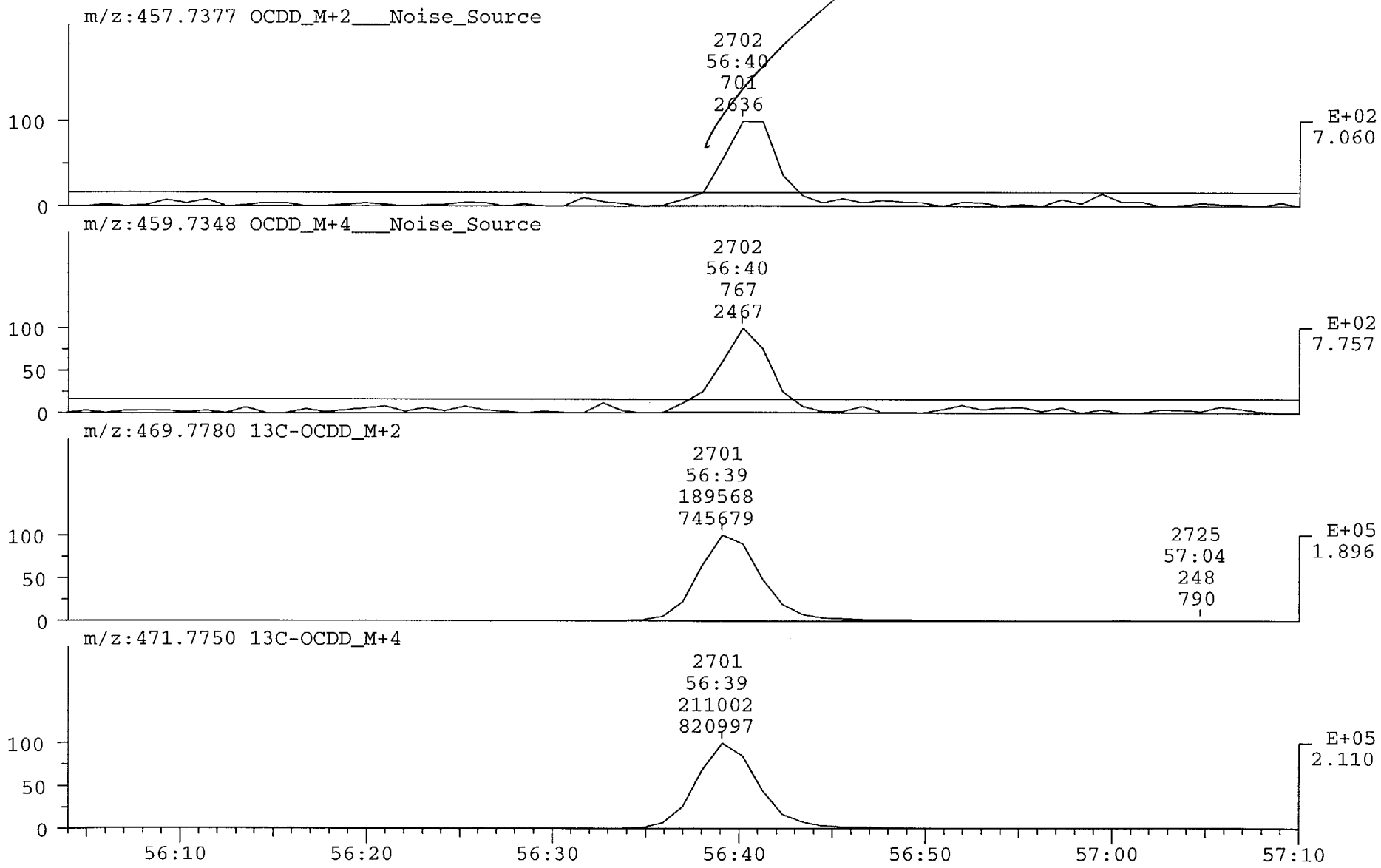
```
CHRO:  bth2h1q                                05-May-06  Elapse:  46:10      2114
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                 Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-009               Inlet :  GC     Vial  16
Peak:  100.00  ppm     Label wndw:   2344 > 2521         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



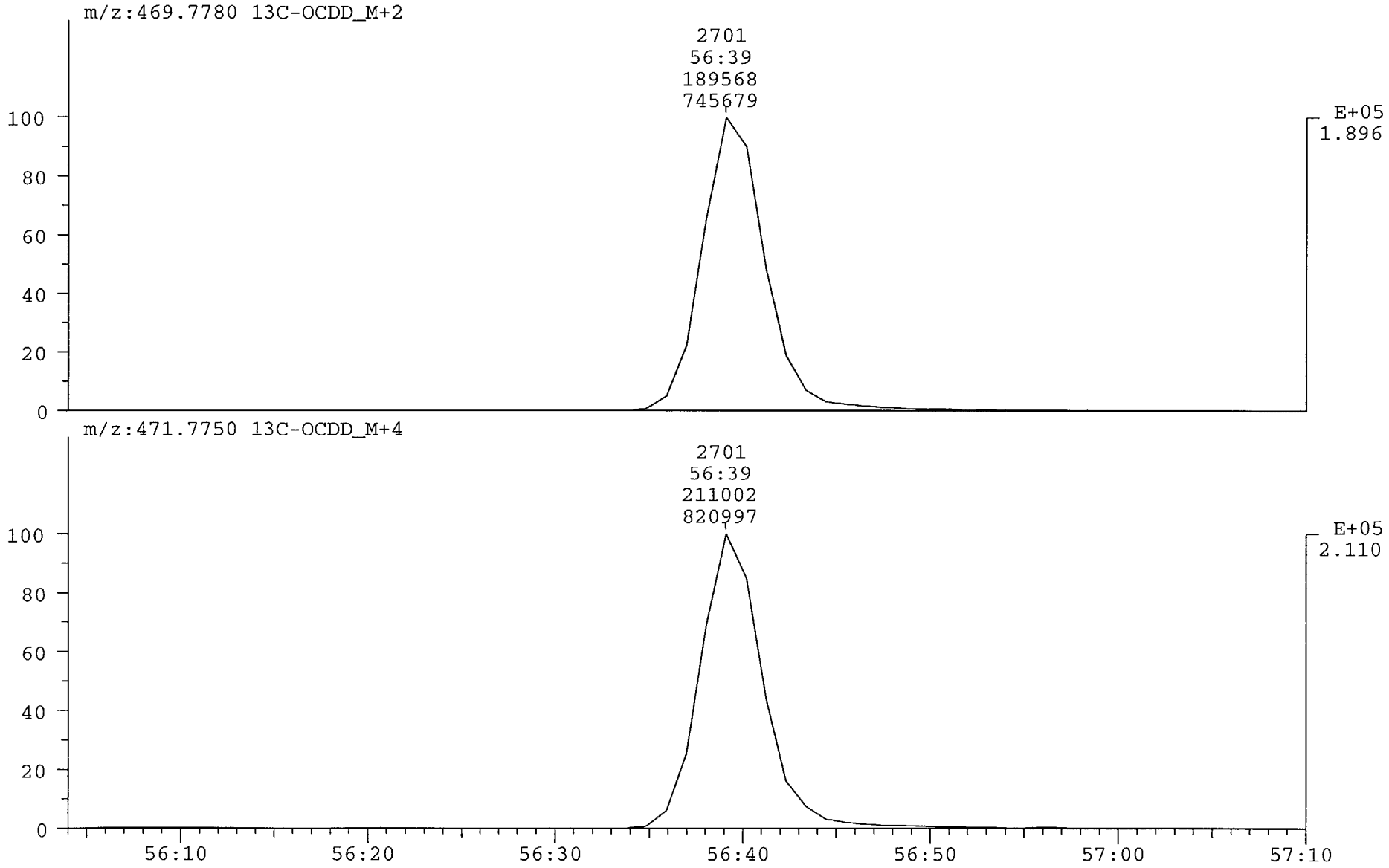
```
CHRO:  bth2h1q                                05-May-06  Elapse:  46:10      2114
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                 Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-009               Inlet :  GC     Vial  16
Peak:  100.00  ppm     Label wndw:   2344 > 2521         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



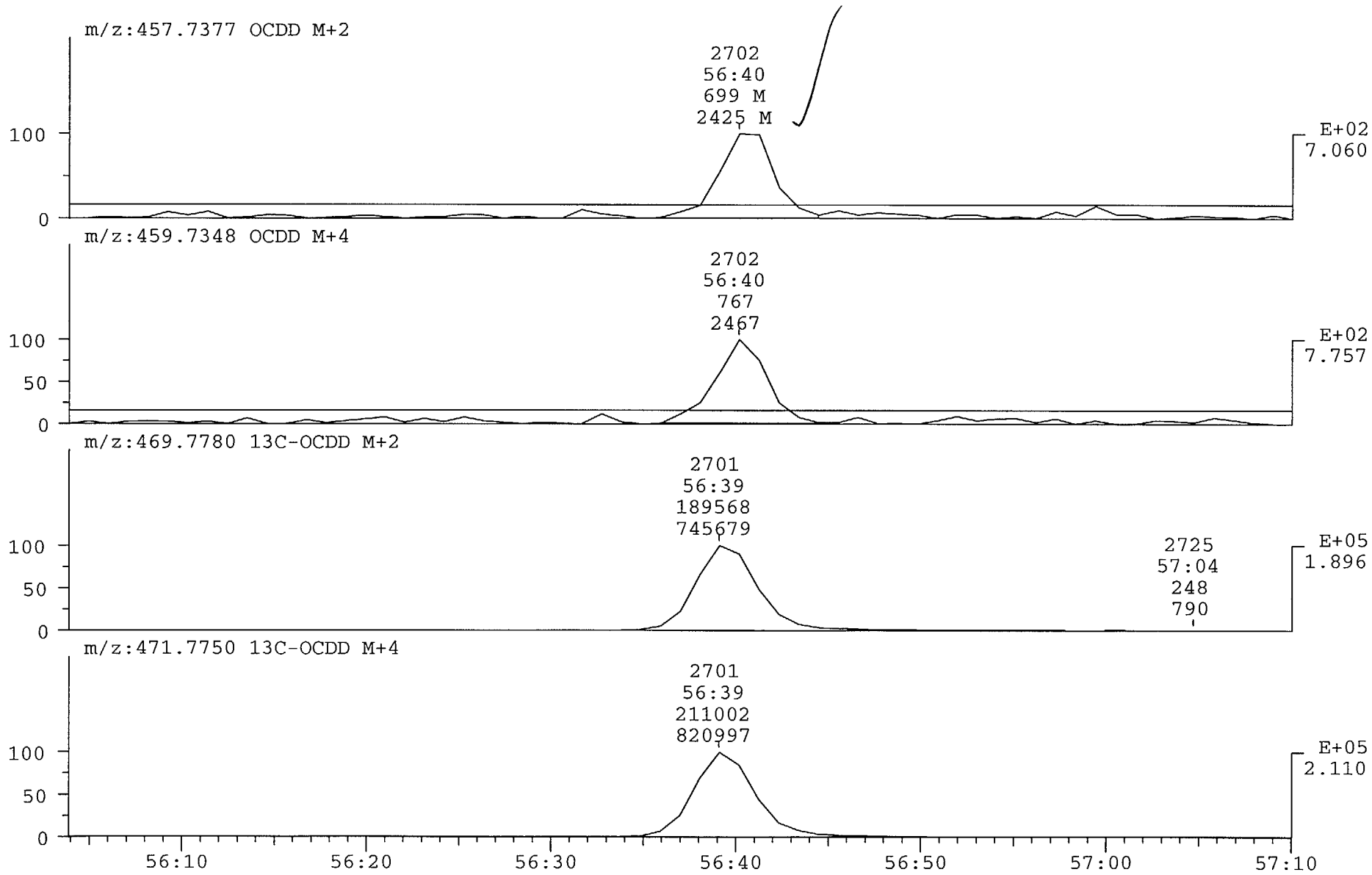
```
CHRO:  bth2h1q                                05-May-06  Elapse:  56:33      2696
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                 Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-009               Inlet :  GC     Vial  16
Peak:  100.00  ppm     Label wndw:   2668 > 2730         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



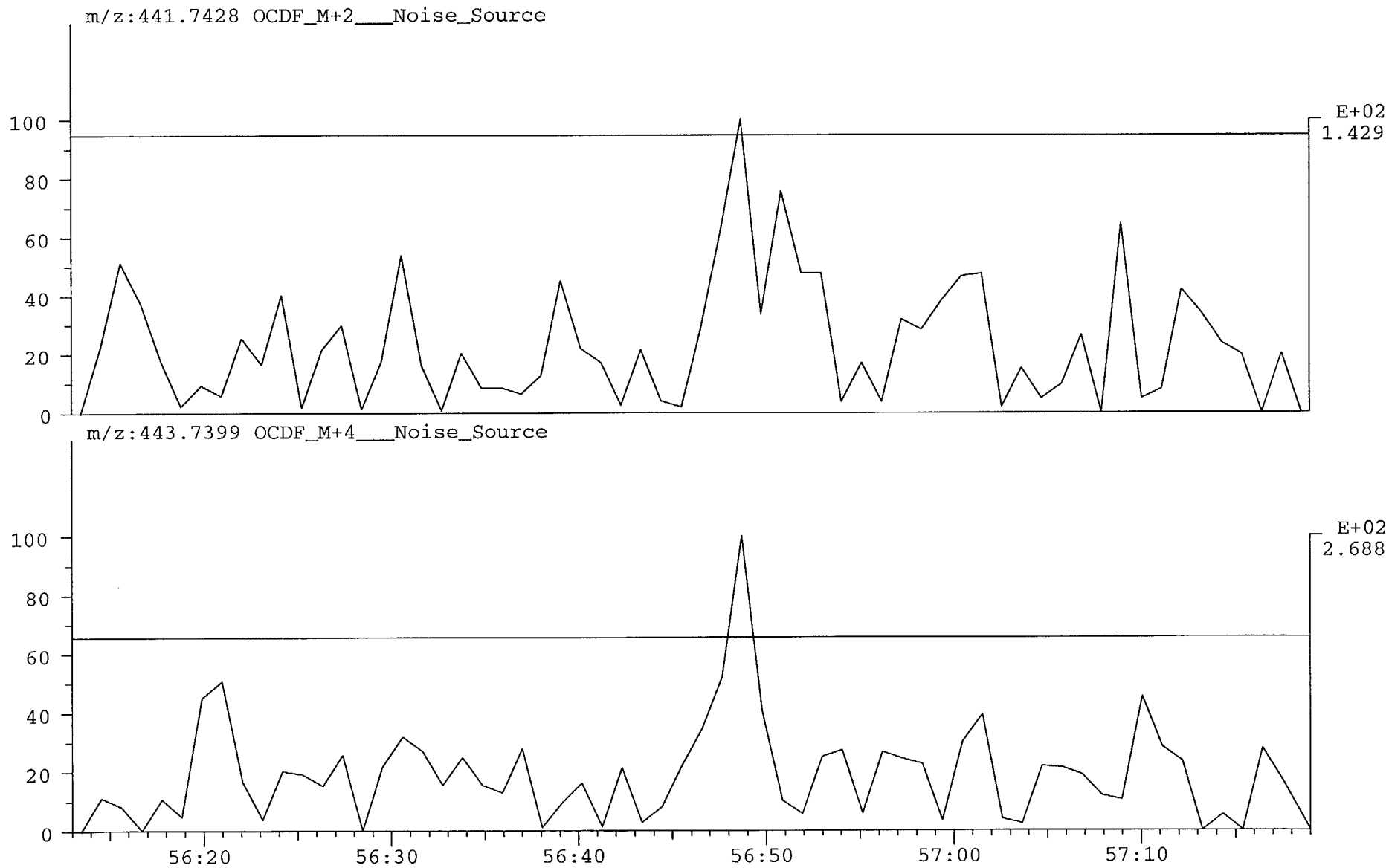
```
CHRO:  bth2h1q                                05-May-06   Elapse:  56:33      2696
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                  Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-009              Inlet :  GC     Vial  16
Peak:  100.00  ppm      Label wndw:   2668 > 2730         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



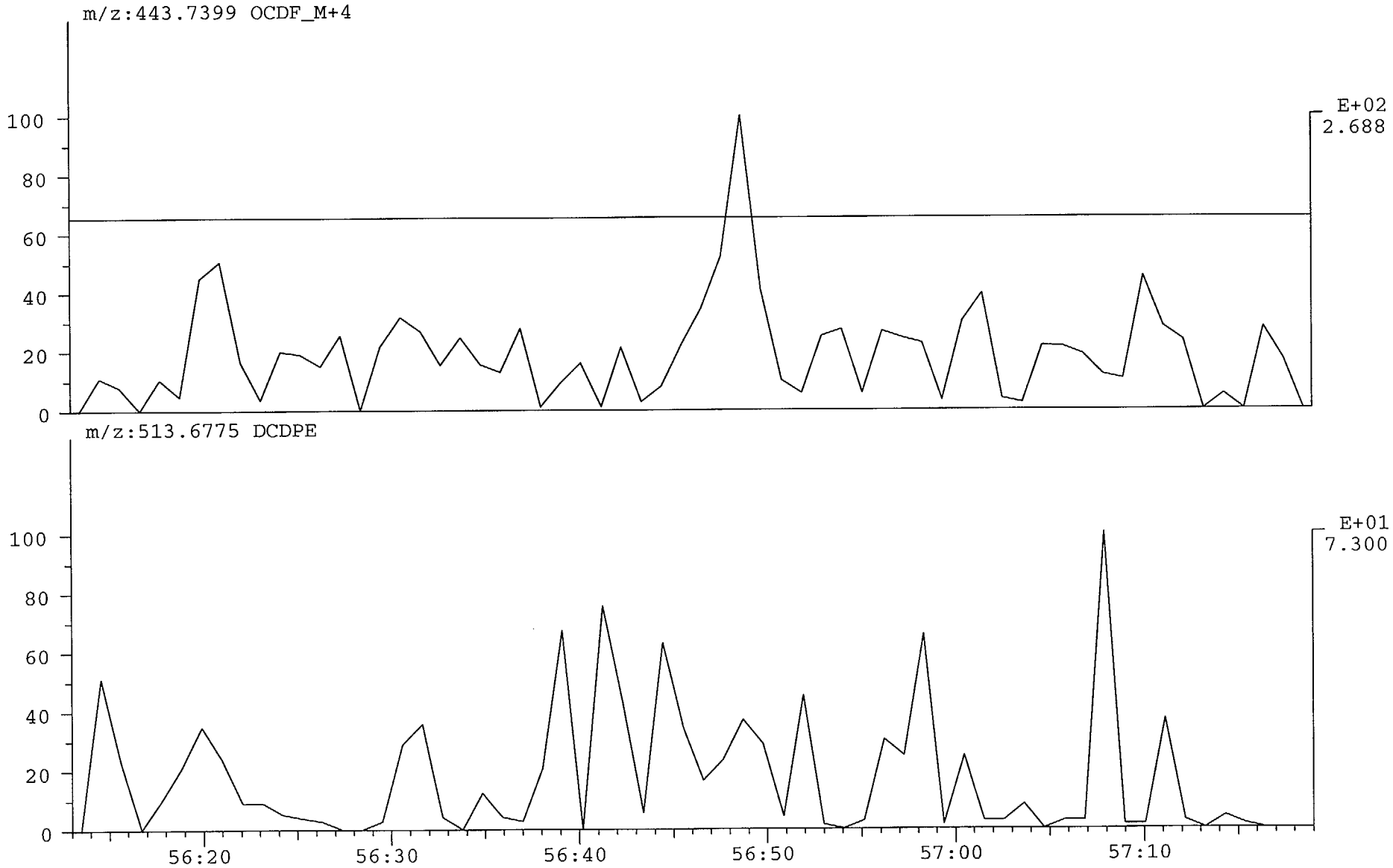
```
CHRO:  bth2h1q                                05-May-06  Elapse:  56:43      2705
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                 Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP          Client:  H6D030236-009               Inlet :  GC     Vial  16
Peak:  100.00  ppm     Label wndw:   2668 > 2730         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



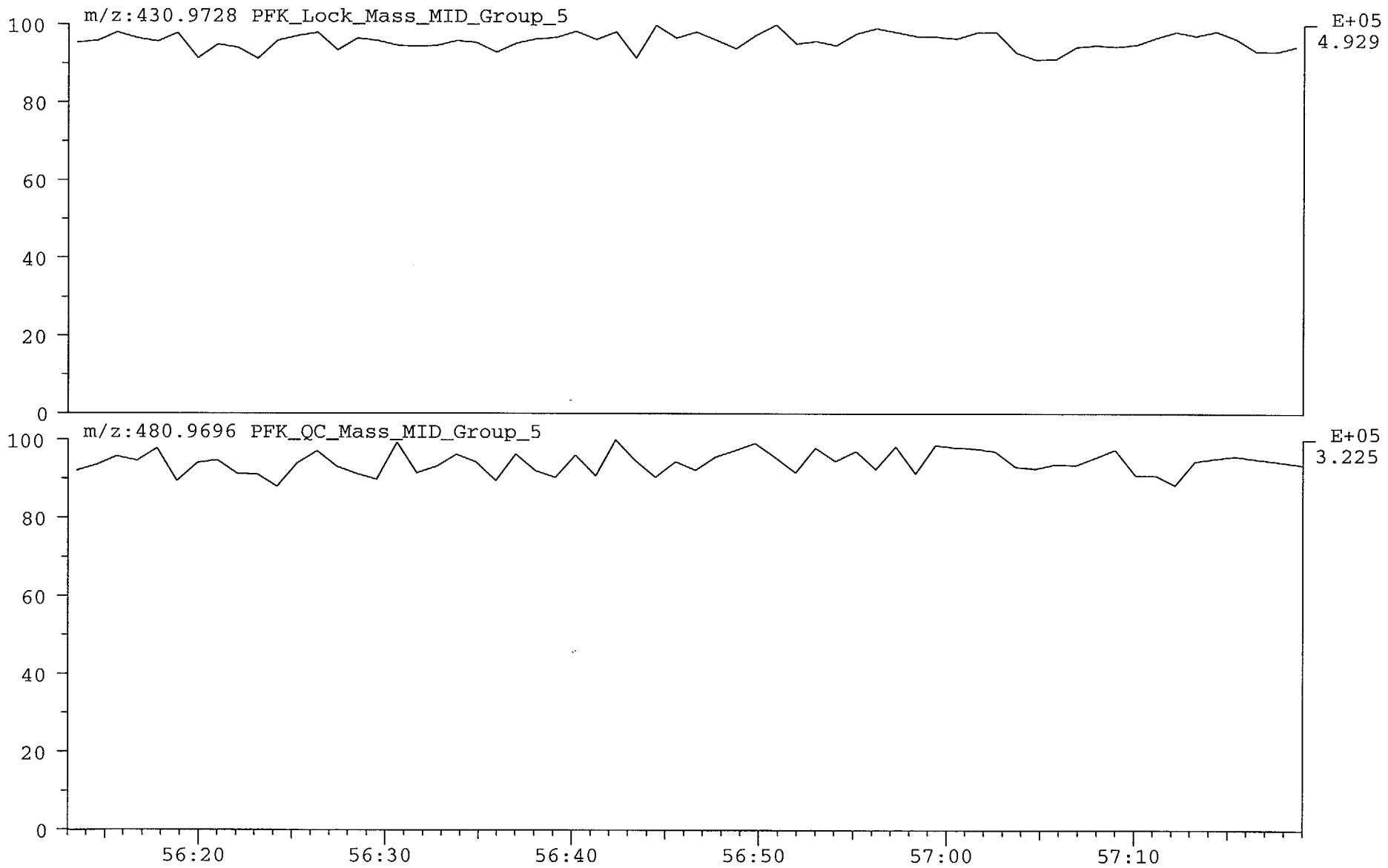
```
CHRO:  bth2h1q                                05-May-06   Elapse:  56:43      2705
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                  Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-009              Inlet :  GC     Vial  16
Peak:  100.00  ppm      Label wndw:   2677 > 2738         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: bth2h1q 05-May-06 Elapse: 56:43 2705
Samp: Vial 16 WO=h2h1q1aa Meth=X8 Dil=1 Start : 03:08:54 2890
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: PMP Client: H6D030236-009 Inlet : GC Vial 16
Peak: 100.00 ppm Label wndw: 2677 > 2738 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  bth2h1q                                05-May-06  Elapse:  56:43      2705
Samp:  Vial 16 WO=h2h1q1aa Meth=X8 Dil=1                 Start :  03:08:54   2890
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  PMP            Client:  H6D030236-009             Inlet :  GC     Vial  16
Peak:  100.00  ppm      Label wndw:   2677 > 2738        Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  0, 0.0
Disp:  Height  Area
```



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: bth2h1q
Study: 6107092 (Air)
Sample: WO=h2h1q1aa Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: PMP
Client: H6D030236-009
Comments: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S2
Injected volume: 2.0
Sample from Vial 16
Analysis will stop when MID run finishes
Tune file name: tune2
File 1 of list 060504
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	TRUE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	140 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	29:52 min	37:52 min	1.00 sec
# 2	37:52 min	6:32 min	44:25 min	1.00 sec
# 3	44:25 min	5:05 min	49:30 min	1.00 sec
# 4	49:30 min	5:15 min	54:45 min	1.00 sec
# 5	54:45 min	5:15 min	60:00 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

351.9000		1	1	91.48
353.8970		1	1	91.48
355.8546		1	1	91.48
357.8516		1	1	91.48
367.8949		1	1	91.48
369.8919		1	1	91.48
380.9760	c	10	1	8.19
409.7974		1	1	91.48

Window # 3

mass	F	int	gr	time (ms)
373.8208		1	1	91.48
375.8178		1	1	91.48
380.9760	1	10	1	8.19
383.8639		1	1	91.48
385.8610		1	1	91.48
389.8156		1	1	91.48
391.8127		1	1	91.48
401.8559		1	1	91.48
403.8529		1	1	91.48
404.9760	c	10	1	8.19
445.7555		1	1	91.48

Window # 4

mass	F	int	gr	time (ms)
404.9760	1	10	1	8.19
407.7818		1	1	91.48
409.7788		1	1	91.48
417.8250		1	1	91.48
419.8220		1	1	91.48
423.7767		1	1	91.48
425.7737		1	1	91.48
435.8169		1	1	91.48
437.8140		1	1	91.48
442.9728	c	10	1	8.19
479.7165		1	1	91.48

Window # 5

mass	F	int	gr	time (ms)
430.9728	1	10	1	10.92
441.7428		1	1	120.15
443.7399		1	1	120.15
457.7377		1	1	120.15
459.7348		1	1	120.15
469.7780		1	1	120.15
471.7750		1	1	120.15
480.9696	c	10	1	10.92
513.6775		1	1	120.15

Auto Sampler descriptor: pcdd2ul

Injector A

Normal Injection

Slvnt A cln before inj	(K):	3	times
Slvnt B cln before inj	(L):	0	times
Sample rinse cycles	(R):	0	times
Syringe filling volume	(F):	1.0	ul
Pullup delay time	(D):	4	sec
Sample pullup speed	(E):	5.0	ul/sec
Slvnt aftr pre inj cln	(U):	0.0	ul
Air after pre inj cln	(G):	2.0	ul
Sample volume	(V):	2.0	ul
Sample air volume	(A):	2.0	ul
Sample pullup count	(P):	2	times
Injection speed	(S):	10.0	ul/sec
Injection wait time	(W):	10	sec
Injection hold time	(H):	3	sec
Solvent A clean cycles	(C):	15	times
Solvent B clean cycles	(B):	20	times
Loop clean w slvnt A	(LC):	0	times

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8501.0000
BDEV	8288.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.5861	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9990
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-705.0000	ELEN	61.7750
EMULT	1.8000	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	188.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	600.9615
FSLOPE	36000000.0000	FVANAL	534.0000	FVINLET	629.0000
FVSRC	993.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	156.0000
HCURR	1.6667	HVANAL	1573.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4757.0160	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	304.9824
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	200.0000	NSAM	200.0000	NSCAN	1012.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10314.7005	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	2.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	0.0000	TCURR	0.8984	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 05-May-06 03:08:54.9

Autosampler has injected sample from vial 16
Analysis stopped at: 05-May-06 04:08:56.7 (run time 60.02 minutes)
Analysis stopped because MID run finished

STL Knoxville - ACS

Sample ID: A-5379 MEDIA CHECK XAD

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 010	**Work Order #....:**	H2H1W1AA	**Matrix....:**	AIR
Date Sampled....:	03/28/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Bruce F. Wagner				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	2.3	pg/sampl
Total TCDD	ND		10	2.3	pg/sampl
1,2,3,7,8-PeCDD	ND		50	1.0	pg/sampl
Total PeCDD	ND		50	1.0	pg/sampl
1,2,3,4,7,8-HxCDD	ND		50	1.1	pg/sampl
1,2,3,6,7,8-HxCDD	ND		50	1.1	pg/sampl
1,2,3,7,8,9-HxCDD	ND		50	1.0	pg/sampl
Total HxCDD	ND		50	1.1	pg/sampl
1,2,3,4,6,7,8-HpCDD	ND		50	1.2	pg/sampl
Total HpCDD	ND		50	1.2	pg/sampl
OCDD	**13**	**B J**	**100**	**1.3**	**pg/sampl**
2,3,7,8-TCDF	ND		10	1.8	pg/sampl
Total TCDF	ND		10	1.8	pg/sampl
1,2,3,7,8-PeCDF	ND		50	0.77	pg/sampl
2,3,4,7,8-PeCDF	ND		50	0.72	pg/sampl
Total PeCDF	ND		50	0.75	pg/sampl
1,2,3,4,7,8-HxCDF	ND		50	0.74	pg/sampl
1,2,3,6,7,8-HxCDF	ND		50	0.69	pg/sampl
2,3,4,6,7,8-HxCDF	ND		50	0.77	pg/sampl
1,2,3,7,8,9-HxCDF	ND		50	0.83	pg/sampl
Total HxCDF	ND		50	0.75	pg/sampl
1,2,3,4,6,7,8-HpCDF	ND		50	0.79	pg/sampl
1,2,3,4,7,8,9-HpCDF	ND		50	0.93	pg/sampl
Total HpCDF	ND		50	0.86	pg/sampl
OCDF	**2.5**	**Q B J**	**100**	**1.4**	**pg/sampl**

STL Knoxville - ACS

Sample ID: A-5379 MEDIA CHECK XAD

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 010	**Work Order #....:**	H2H1W1AA	**Matrix....:**	AIR
Date Sampled....:	03/28/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Bruce F. Wagner				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	85	40 - 135
13C-1,2,3,7,8-PeCDD	95	40 - 135
13C-1,2,3,6,7,8-HxCDD	82	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	92	40 - 135
13C-OCDD	81	40 - 135
13C-2,3,7,8-TCDF	83	40 - 135
13C-1,2,3,7,8-PeCDF	91	40 - 135
13C-1,2,3,6,7,8-HxCDF	75	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	79	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

STL - Knoxville

IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1W1AA	**Prep Batch**	6107092	**Lot No**	H6D030236-010
Data File	/20060504s1/bth2h1w.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90541	**Prep Exp Date**	04/27/06	**Date Received**	04/02/06
Analysis Date	5/4/2006	**Matrix**	AIR	**Date Sampled**	03/28/06
Analysis Time	15:05	**Initial Wt/Vol**	1	**Lims Test Code**	XXSIOX801
Anal Exp Date	06/01/06	**Extract Vol**	20	**Method**	0023/8290
Instrument	M2A	**Dil Factor**	1.0	**Code**	X8
Analyst	BFW				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (pg/sample		DL (pg/samp
2,3,7,8-TCDD				1.060				ND		2.30
Total TCDD				1.060				ND		2.30
2,3,7,8-TCDF				1.064				ND		1.82
Total TCDF				1.064				ND		1.82
1,2,3,7,8-PeCDD				0.977				ND		1.04
Total PeCDD				0.977				ND		1.04
1,2,3,7,8-PeCDF				0.955				ND		0.769
2,3,4,7,8-PeCDF				1.018				ND		0.722
Total PeCDF				0.987				ND		0.745
1,2,3,4,7,8-HxCDD				1.047				ND		1.09
1,2,3,6,7,8-HxCDD				1.055				ND		1.08
1,2,3,7,8,9-HxCDD				1.146				ND		0.996
Total HxCDD				1.083				ND		1.05
1,2,3,4,7,8-HxCDF				1.101				ND		0.739
1,2,3,6,7,8-HxCDF				1.184				ND		0.687
2,3,4,6,7,8-HxCDF				1.052				ND		0.773
1,2,3,7,8,9-HxCDF				0.982				ND		0.828
Total HxCDF				1.080				ND		0.753
1,2,3,4,6,7,8-HpCDD				1.018				ND		1.19
Total HpCDD				1.018				ND		1.19
1,2,3,4,6,7,8-HpCDF				1.403				ND		0.793
1,2,3,4,7,8,9-HpCDF				1.197				ND		0.929
Total HpCDF				1.300				ND		0.855
OCDD	56:34	8451	1929	0.965		13.133591		13.133591	BJ	1.25
OCDF	56:43	1824	393	1.103		2.478696		2.478696	QBJ	1.40
13C-2,3,7,8-TCDD	35:10	956440	108868	1.068	1000	853.568530	85.36	853.568530		6.27
13C-2,3,7,8-TCDF	32:56	1232583	128909	1.413	1000	831.170726	83.12	831.170726		3.19
13C-1,2,3,7,8-PeCDD	42:55	875927	246073	0.882	1000	946.648288	94.66	946.648288		3.36
13C-1,2,3,7,8-PeCDF	41:20	1137237	282303	1.188	1000	912.295218	91.23	912.295218		2.20
13C-1,2,3,6,7,8-HxCDD	47:14	745966	197092	0.943	1000	819.341226	81.93	819.341226		1.40
13C-1,2,3,6,7,8-HxCDF	46:09	918577	255071	1.272	1000	748.175716	74.82	748.175716		0.938
13C-1,2,3,4,6,7,8-HpCDD	52:13	817004	176062	0.918	1000	921.763216	92.18	921.763216		1.15
13C-1,2,3,4,6,7,8-HpCDF	50:29	695000	152860	0.916	1000	786.010930	78.60	786.010930		1.19
13C-OCDD	56:33	1333952	339755	0.850	2000	1626.29506	81.31	1626.29506		1.39
37Cl4-2,3,7,8-TCDD				1.046	2000			ND		1.30
13C-2,3,4,7,8-PeCDF				1.010	2000			ND		0.973
13C-1,2,3,4,7,8-HxCDD				0.902	2000			ND		1.88
13C-1,2,3,4,7,8-HxCDF				0.988	2000			ND		1.20
13C-1,2,3,7,8,9-HxCDF				1.113				ND		1.07
13C-1,2,3,4,7,8,9-HpCDF				0.912	2000			ND		1.99
13C-1,2,3,4-TCDD	34:37	2098381	212793	1.000	2000	2000.00000	100.00	2000.00000		6.70
13C-1,2,3,7,8,9-HxCDD	47:38	1930413	507106	1.000	2000	2000.00000	100.00	2000.00000		1.32

VMK 5/5/06
WSD 5/8/06

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1W1AA	**Prep Batch**	6107092	**Lot No**	H6D030236-010
Data File	/20060504s1/bth2h1w.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90541	**Prep Exp Date**	04/27/06	**Date Received**	04/02/06
Analysis Date	05/04/06 15:05	**Matrix**	AIR	**Date Sampled**	03/28/06
Anal Exp Date	06/01/06	**Initial Wt/Vol**	1 Sample	**Lims Test Code**	XXSIOX801
Instrument	M2A	**Extract Vol**	20 uL	**Method**	0023/8290
Analyst	BFW	**Diluton Factor**	1.00	**Code**	X8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	98	153	39	61	0.64 *	/	
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	193	288	77	115	0.67	/	
	13C-2,3,7,8-TCDF	32:56	32:57	-1	545668	686915	57276	71633	0.79	ABV/ABV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	123	143	49	57	0.86	/	
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	148		59				
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	438	275	175	110	1.59 *	/	
	13C-1,2,3,4-TCDD	34:37	34:37	0	936188	1162193	94823	117970	0.81	AVV/AVV	
	13C-2,3,7,8-TCDD	35:10	35:10	0	425394	531046	47760	61108	0.80	AVV/AVV	
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**		
	Noise	00:00	00:00	0	70	138	28	55	0.51 *	/	
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**		
	Noise	00:00	00:00	0	140	138	56	55	1.02 *	/	
	13C-1,2,3,7,8-PeCDF	41:20	41:21	-1	695785	441452	171506	110797	1.58	ABV/ABV	
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**		
	Noise	00:00	00:00	0	150	100	60	40	1.50	/	
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**		
	Noise	00:00	00:00	0	168	148	67	59	1.14 *	/	
	13C-1,2,3,7,8-PeCDD	42:55	42:54	1	536602	339325	150480	95593	1.58	ABV/ABV	
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	Noise	00:00	00:00	0	110	98	44	39	1.13	/	
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**		
	Noise	00:00	00:00	0	138	165	55	66	0.83 *	/	
	13C-1,2,3,6,7,8-HxCDF	46:09	46:10	-1	320780	597797	88472	166599	0.54	AVV/AVV	
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	Noise	00:00	00:00	0	90	135	36	54	0.67 *	/	
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**		
	Noise	00:00	00:00	0	168	168	67	67	1.00 *	/	
	13C-1,2,3,6,7,8-HxCDD	47:14	47:13	1	413754	332212	110618	86474	1.25	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDD	47:38	47:39	-1	1067037	863376	283552	223554	1.24	ABV/AVV	
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**		
	Noise	00:00	00:00	0	75	95	30	38	0.79 *	/	
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	Noise	00:00	00:00	0	148	130	59	52	1.13 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	50:29	50:30	-1	222475	472525	47923	104937	0.47	ABV/ABV	
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**		
	Noise	00:00	00:00	0	133	80	53	32	1.66 *	/	
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**		
	Noise	00:00	00:00	0	155	113	62	45	1.38 *	/	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1W1AA	**Prep Batch**	6107092	**Lot No**	H6D030236-010
Data File	/20060504s1/bth2h1w.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90541	**Prep Exp Date**	04/27/06	**Date Received**	04/02/06
Analysis Date	05/04/06 15:05	**Matrix**	AIR	**Date Sampled**	03/28/06
Anal Exp Date	06/01/06	**Initial Wt/Vol**	1 Sample	**Lims Test Code**	XXSIOX801
Instrument	M2A	**Extract Vol**	20 uL	**Method**	0023/8290
Analyst	BFW	**Diluton Factor**	1.00	**Code**	X8

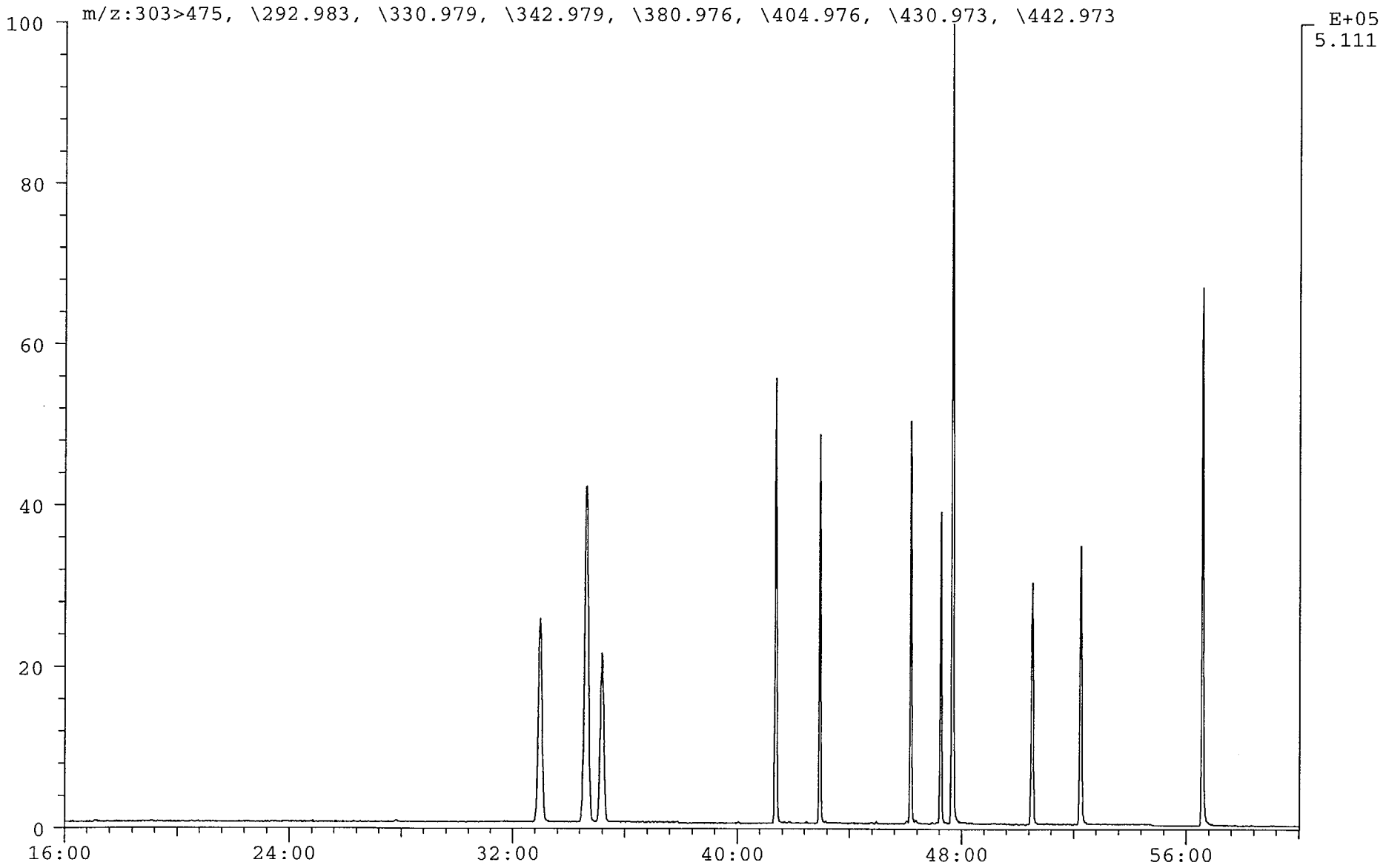
View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**		
	13C-1,2,3,4,6,7,8-HpCDD	52:13	52:13	0	415757	401247	88714	87348	1.04	ABV/ABV	
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**		
	Noise	00:00	00:00	0	110	153	44	61	0.72 *	/	
	OCDF	56:43	56:42	1	859	1505	185	376	0.57 *	MBB/MVV	R
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**		
	Noise	00:00	00:00	0	98	108	39	43	0.91	/	
	OCDD	56:34	56:34	0	4218	4233	890	1039	1.00	ABB/ABB	
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**		
	Noise	00:00	00:00	0	168	133	67	53	1.26 *	/	
	13C-OCDD	56:33	56:33	0	627364	706588	161150	178605	0.89	ABV/ABV	

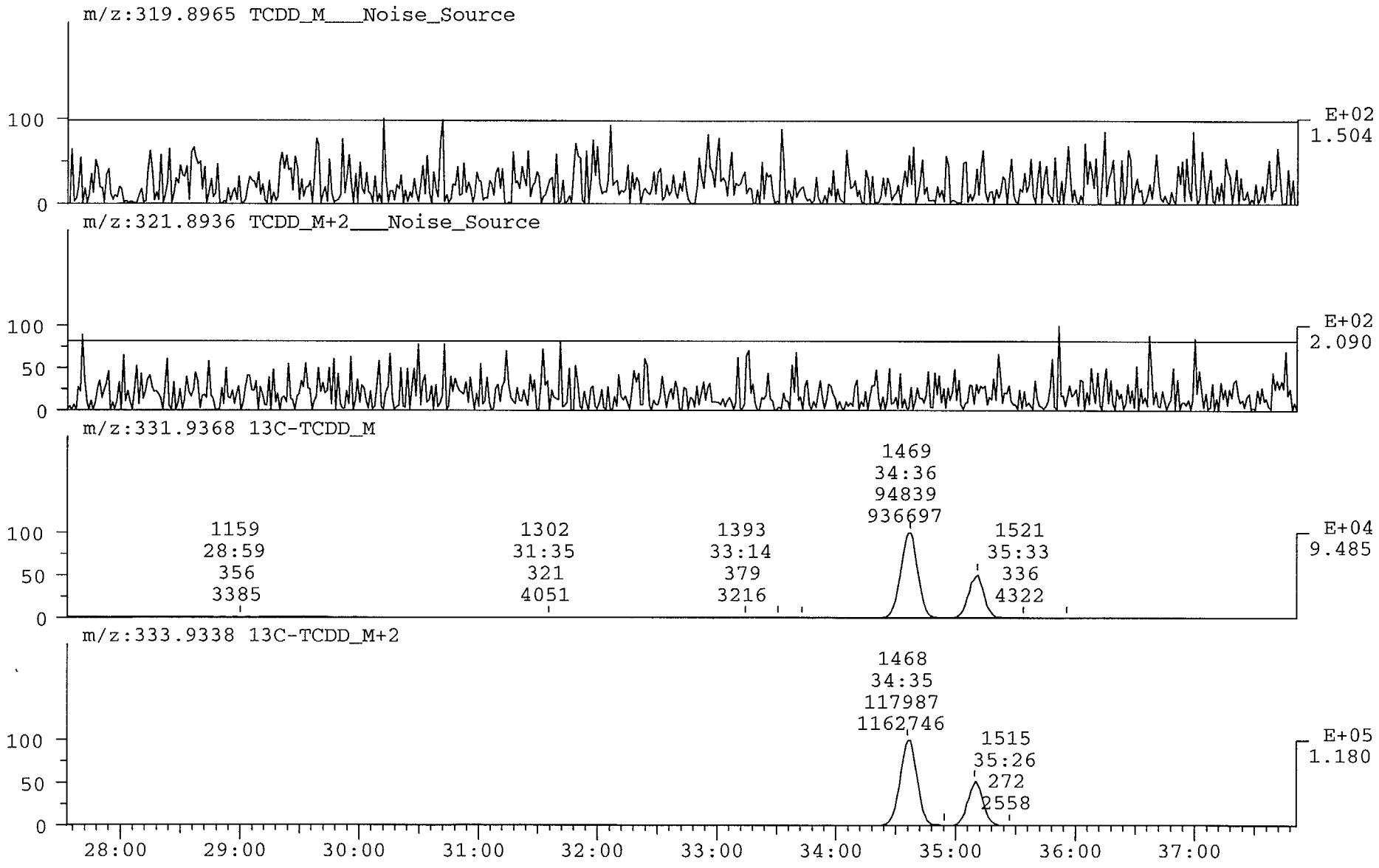
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

```
CHRO:  bth2h1w                                  04-May-06   Elapse:  56:43      2705
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                    Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-010                Inlet :  GC     Vial  17
Peak:  100.00  ppm      Label wndw:   442 > 2891            Masses:  293 > 514
Area:  5, 0.50, 0       Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```

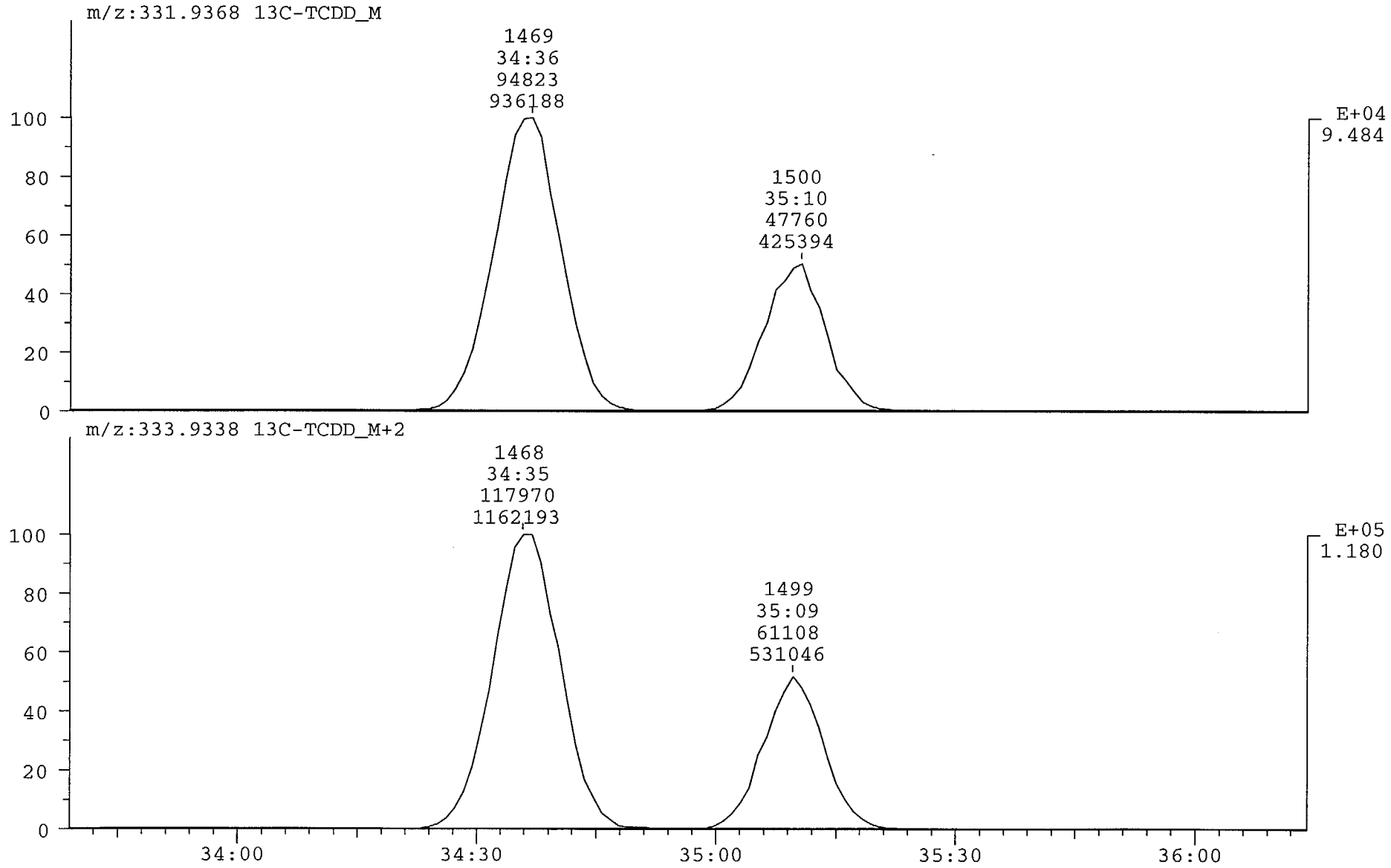
Int BFW 5/4/06
Calc UMK 5/5/06
QC Rev WSD 5/8/06



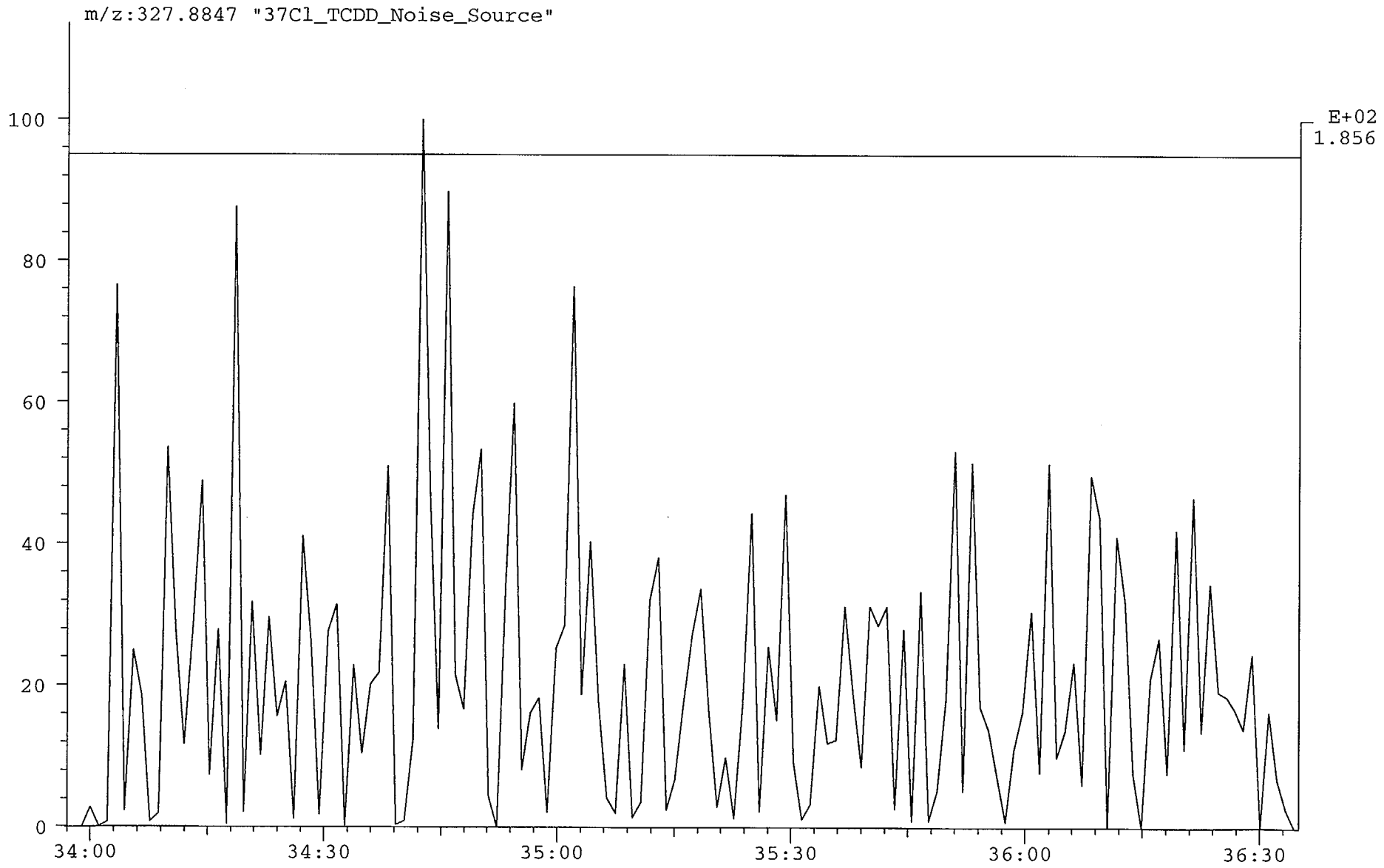
```
CHRO:  bth2h1w                                04-May-06  Elapse:  56:43      2705
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                 Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-010             Inlet :  GC     Vial  17
Peak:  100.00  ppm      Label wndw:   1079 > 1647        Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  -2, 3.0
Disp:  Height  Area
```



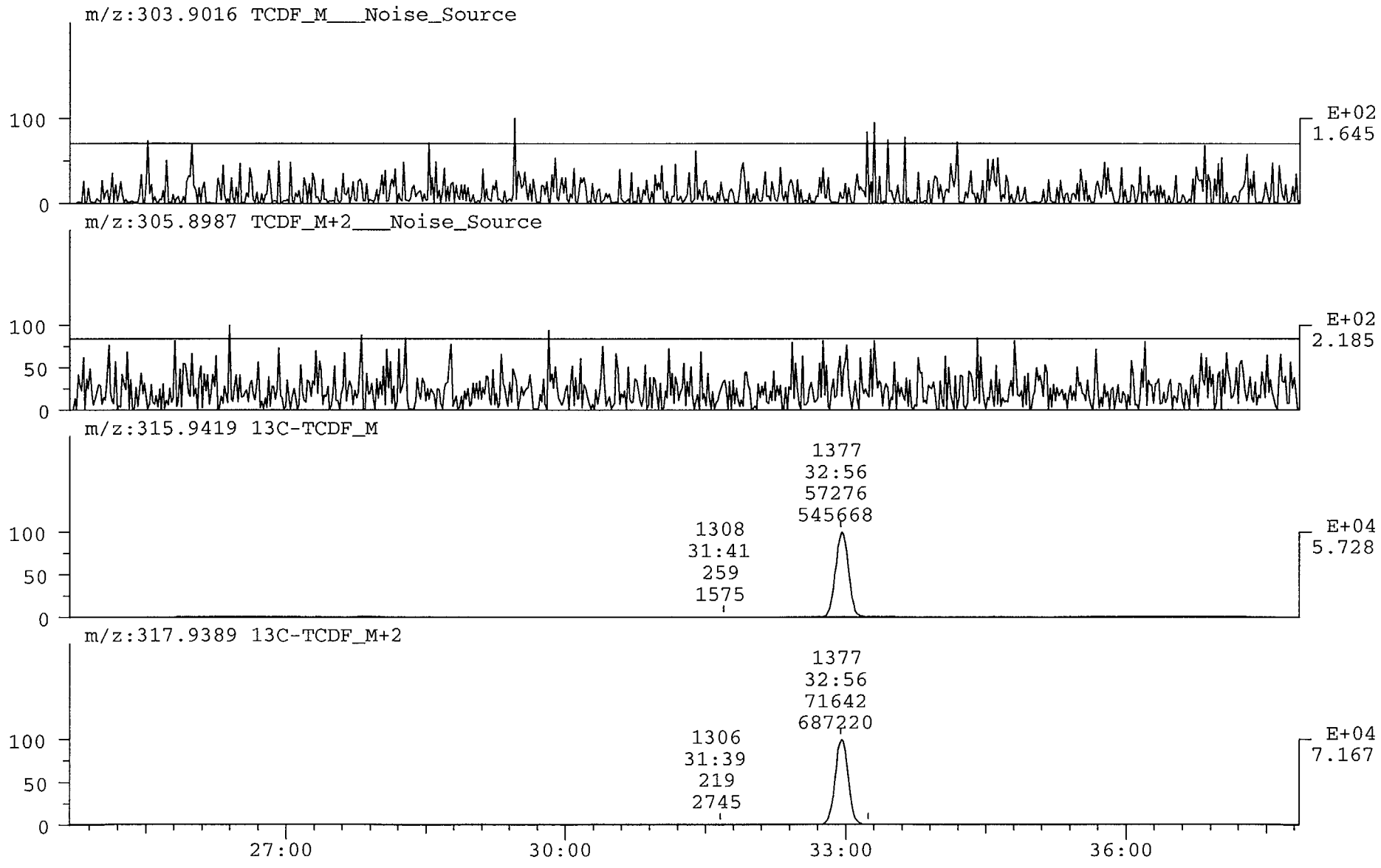
```
CHRO:  bth2h1w                                  04-May-06   Elapse:  34:56      1487
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                    Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-010                Inlet :  GC     Vial  17
Peak:  100.00  ppm      Label wndw:   1416 > 1558           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



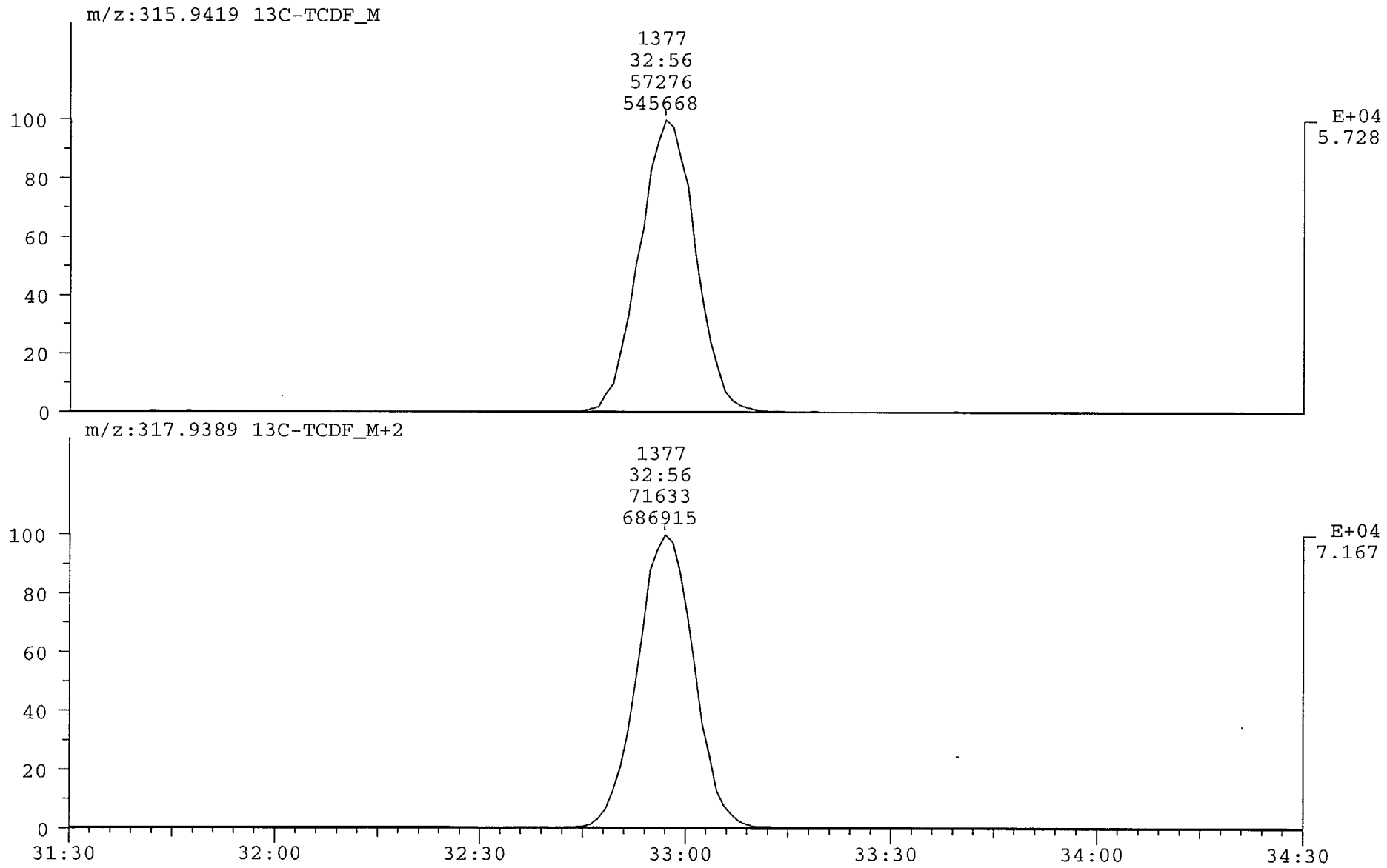
```
CHRO:  bth2h1w                                  04-May-06   Elapse:  35:12      1502
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                    Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-010                Inlet :  GC     Vial  17
Peak:  100.00  ppm      Label wndw:   1432 > 1578           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



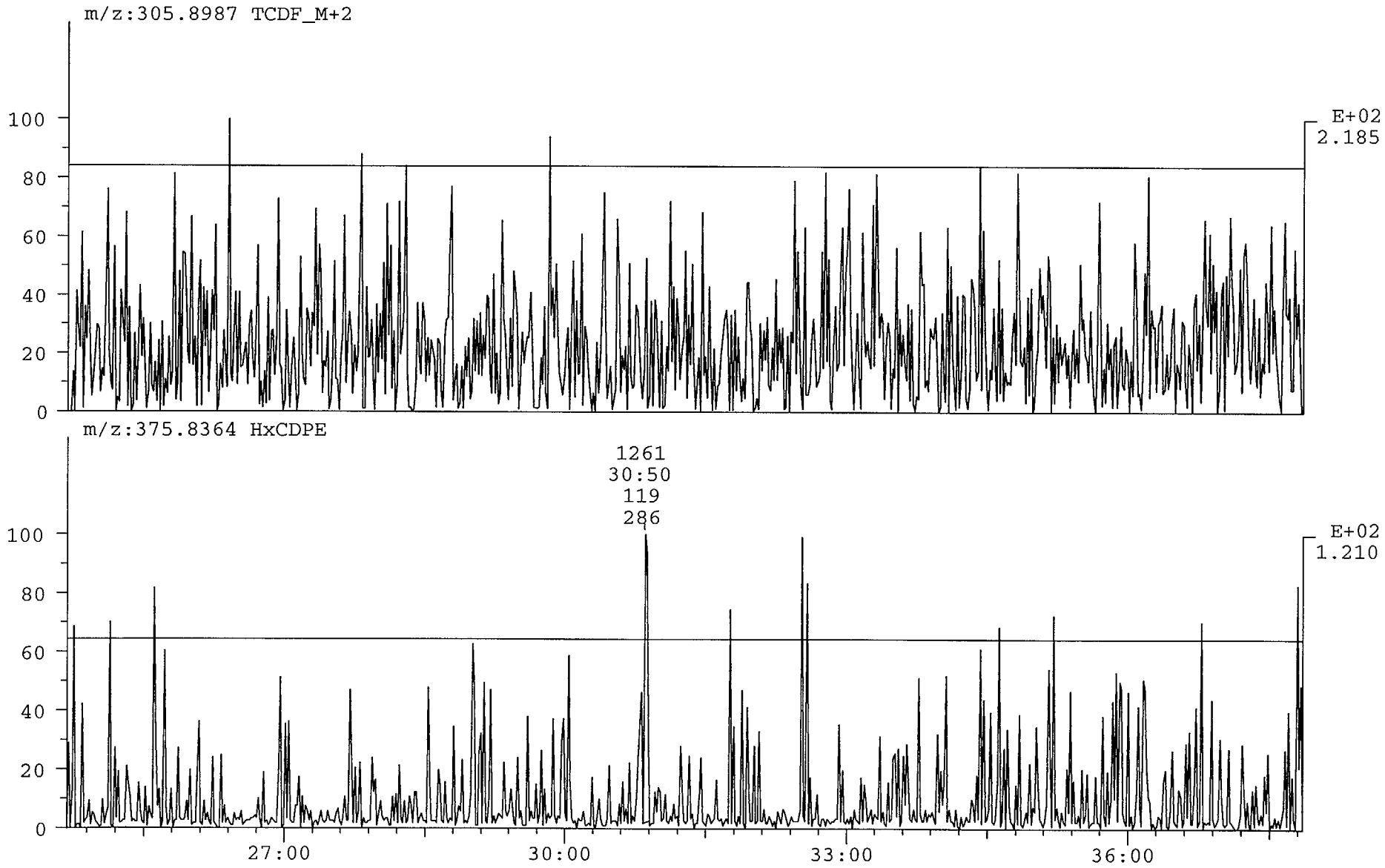
```
CHRO:  bth2h1w                                  04-May-06  Elapse:  35:12      1502
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                   Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-010               Inlet :  GC     Vial  17
Peak:  100.00  ppm      Label wndw:   921 > 1647           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



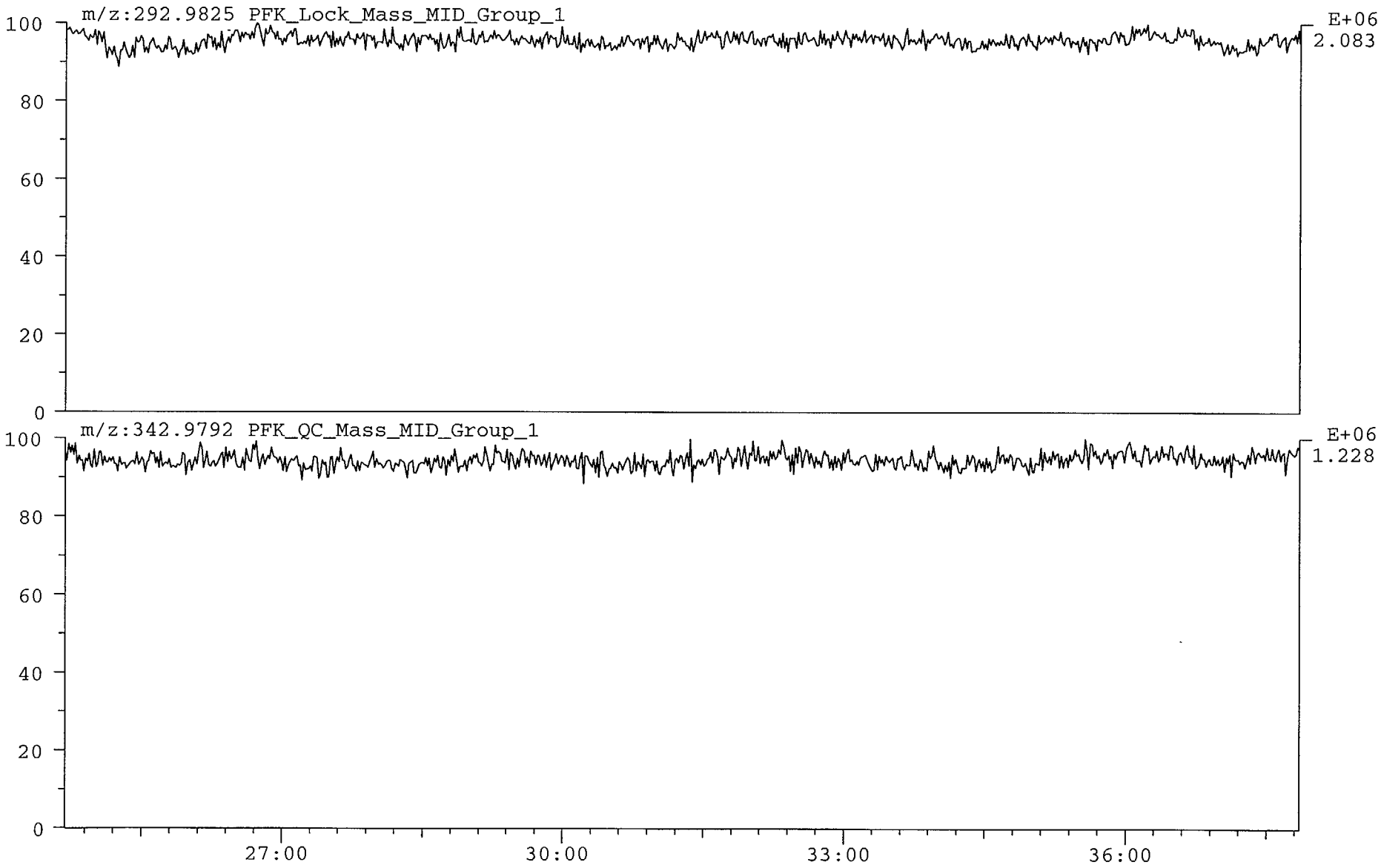
```
CHRO:  bth2h1w                                  04-May-06  Elapse:  32:56      1377
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                   Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-010               Inlet :  GC     Vial  17
Peak:  100.00  ppm      Label wndw:   1297 > 1463          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



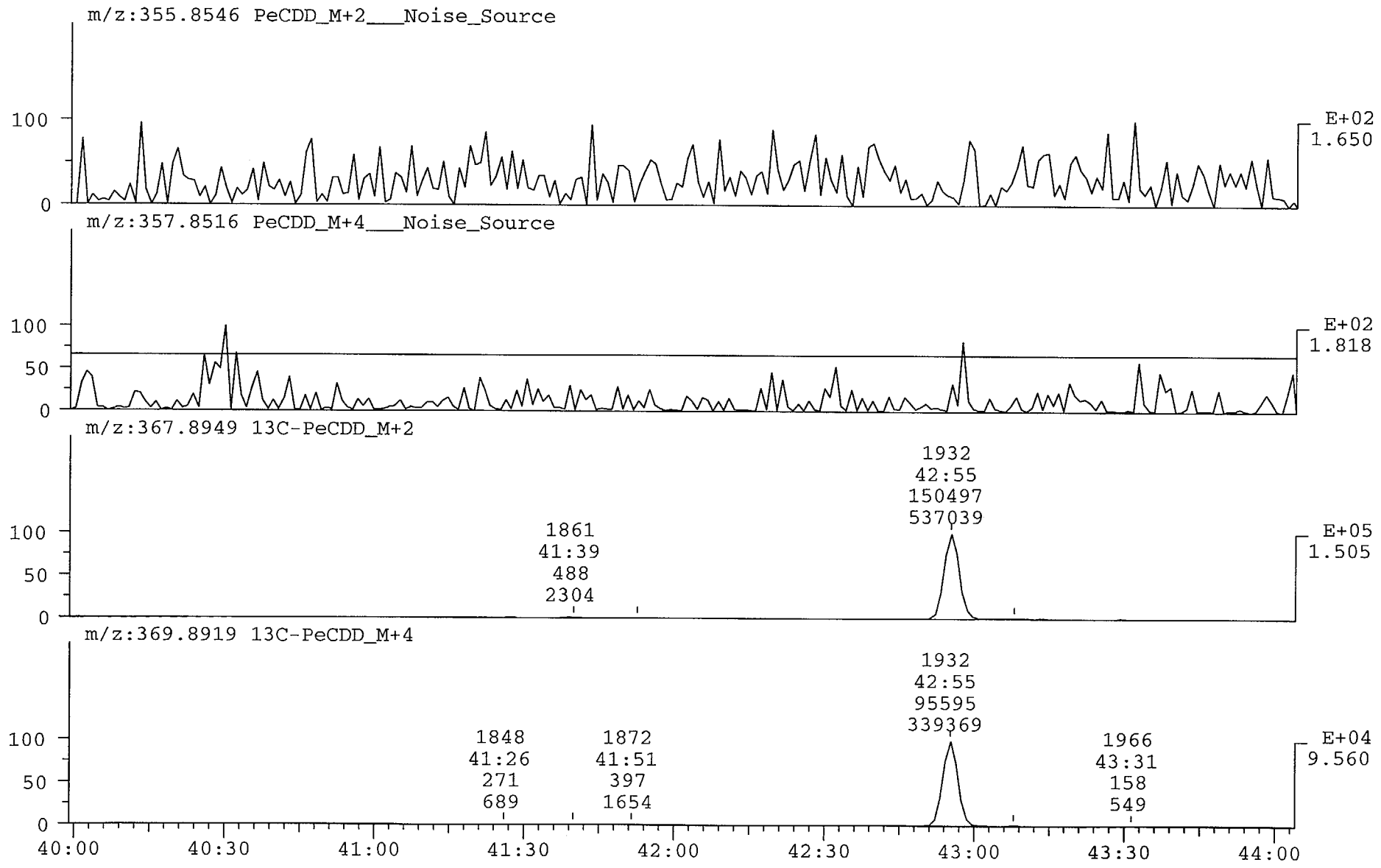
CHRO: bth2h1w 04-May-06 Elapse: 32:56 1377
Samp: Vial 17 WO=h2h1w1aa Meth=X8 Dil=1 Start : 15:05:06 2891
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D030236-010 Inlet : GC Vial 17
Peak: 100.00 ppm Label wndw: 921 > 1647 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



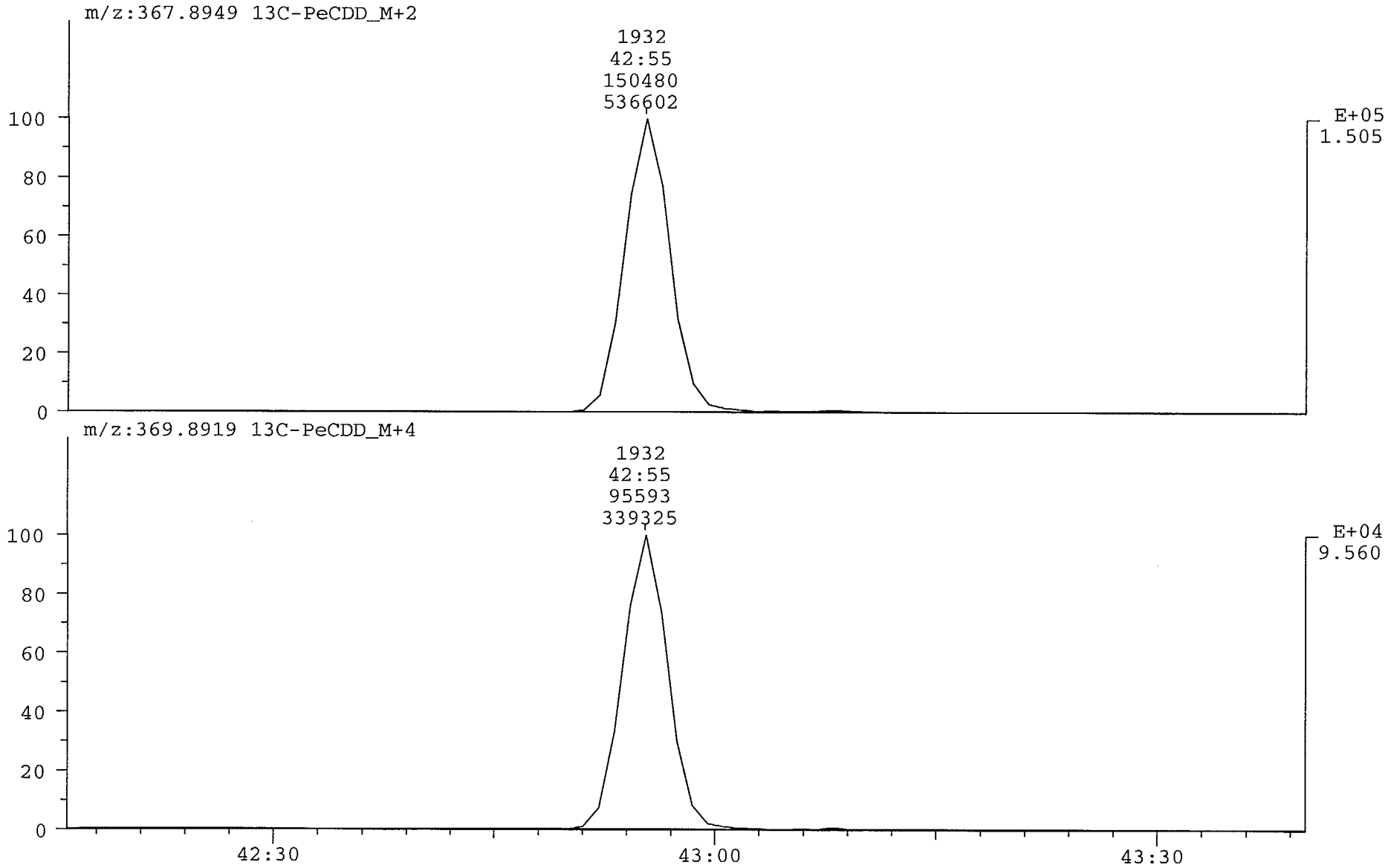
```
CHRO:  bth2h1w                                04-May-06  Elapse:  32:56      1377
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                 Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-010             Inlet :  GC     Vial  17
Peak:  100.00  ppm      Label wndw:   921 > 1647         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  0, 0.0
Disp:  Height  Area
```



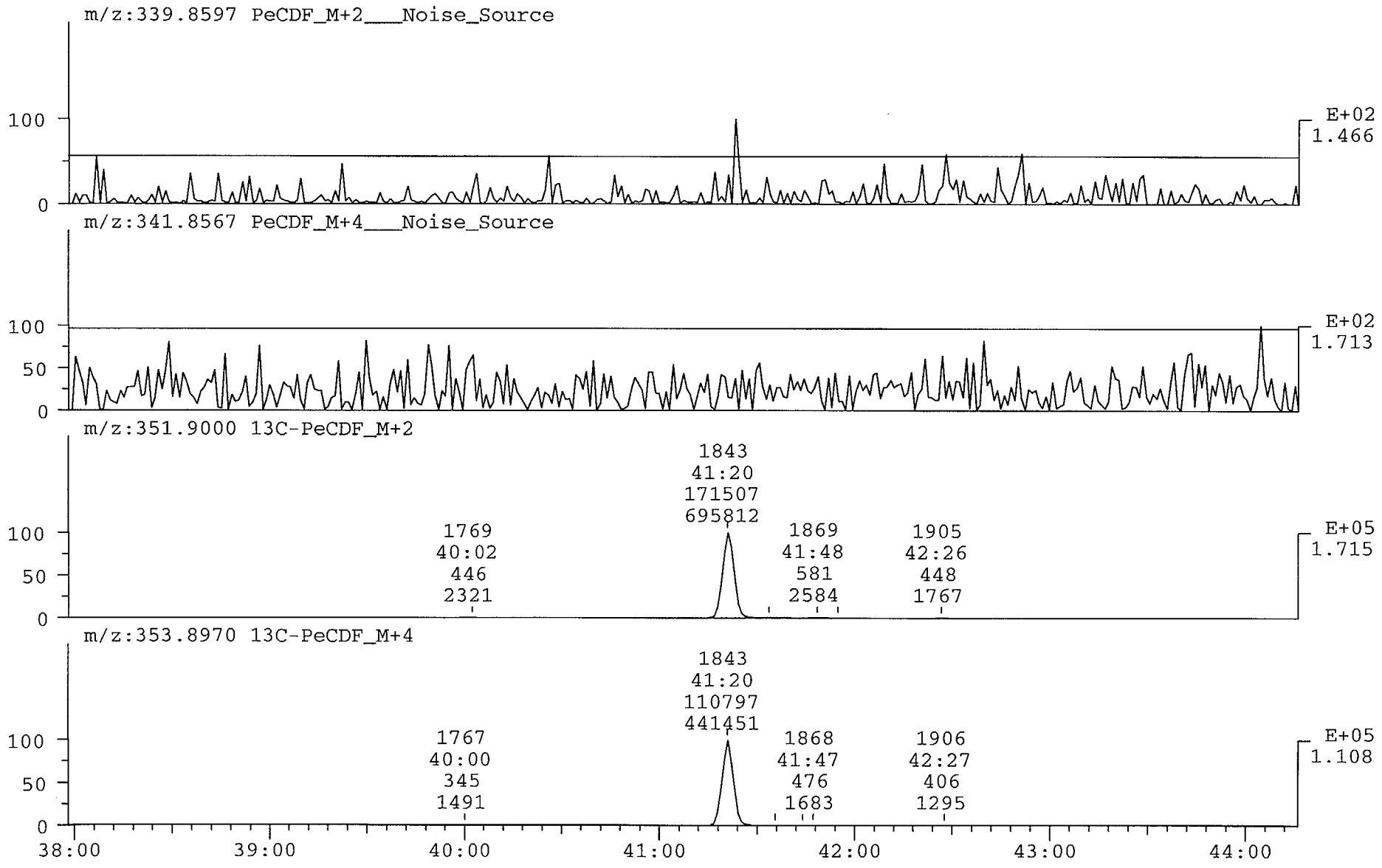
```
CHRO:  bth2h1w                                  04-May-06   Elapse:  32:56      1377
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                    Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-010                Inlet :  GC     Vial  17
Peak:  100.00  ppm      Label wndw:   1766 > 1997           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



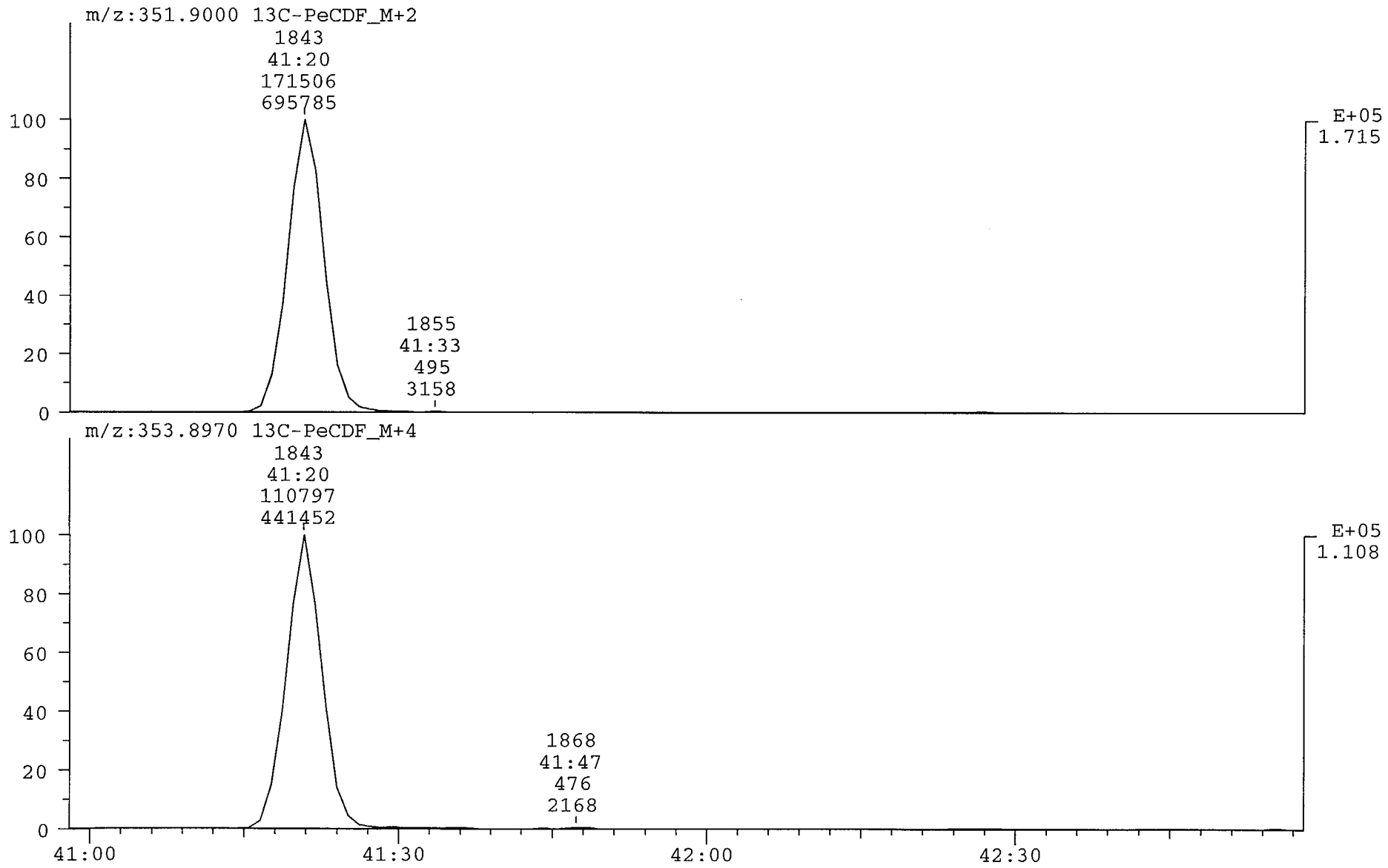
```
CHRO:  bth2h1w                                  04-May-06  Elapse:  42:55      1932
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                   Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-010               Inlet :  GC     Vial  17
Peak:  100.00  ppm      Label wndw:   1895 > 1974          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



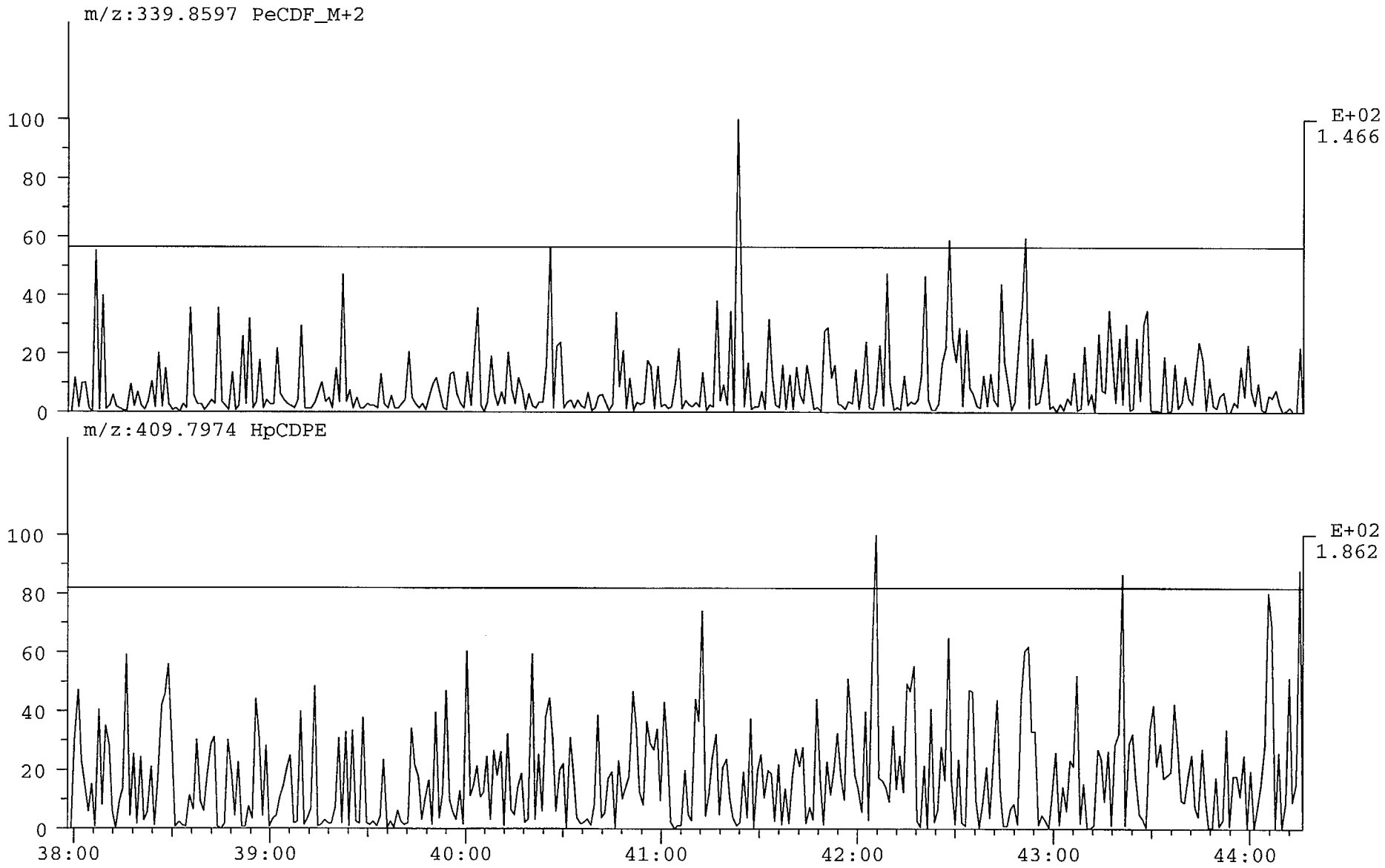
```
CHRO:  bth2h1w                                  04-May-06  Elapse:  42:55      1932
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                   Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-010               Inlet :  GC     Vial  17
Peak:  100.00  ppm      Label wndw:   1652 > 2008          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  bth2h1w                                  04-May-06   Elapse:  41:57      1878
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                    Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-010                Inlet :  GC     Vial  17
Peak:  100.00  ppm      Label wndw:   1822 > 1935           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  bth2h1w                                04-May-06  Elapse:  41:57      1878
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                 Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW          Client:  H6D030236-010               Inlet :  GC     Vial  17
Peak:  100.00  ppm     Label wndw:   1652 > 2008         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  bth2h1w                                04-May-06  Elapse:  41:57      1878
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                 Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW           Client:  H6D030236-010              Inlet :  GC     Vial  17
Peak:  100.00  ppm     Label wndw:   1652 > 2008         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
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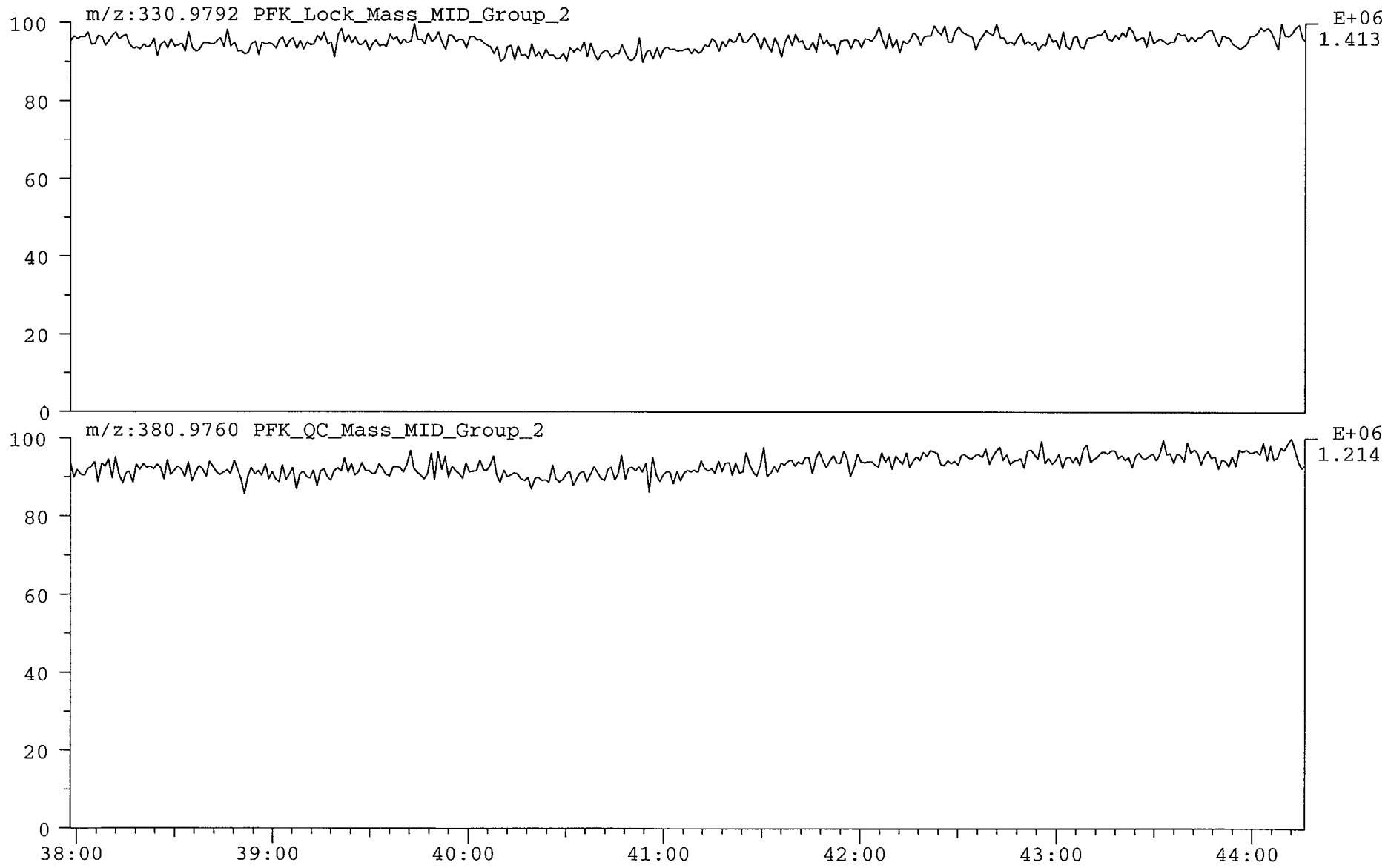
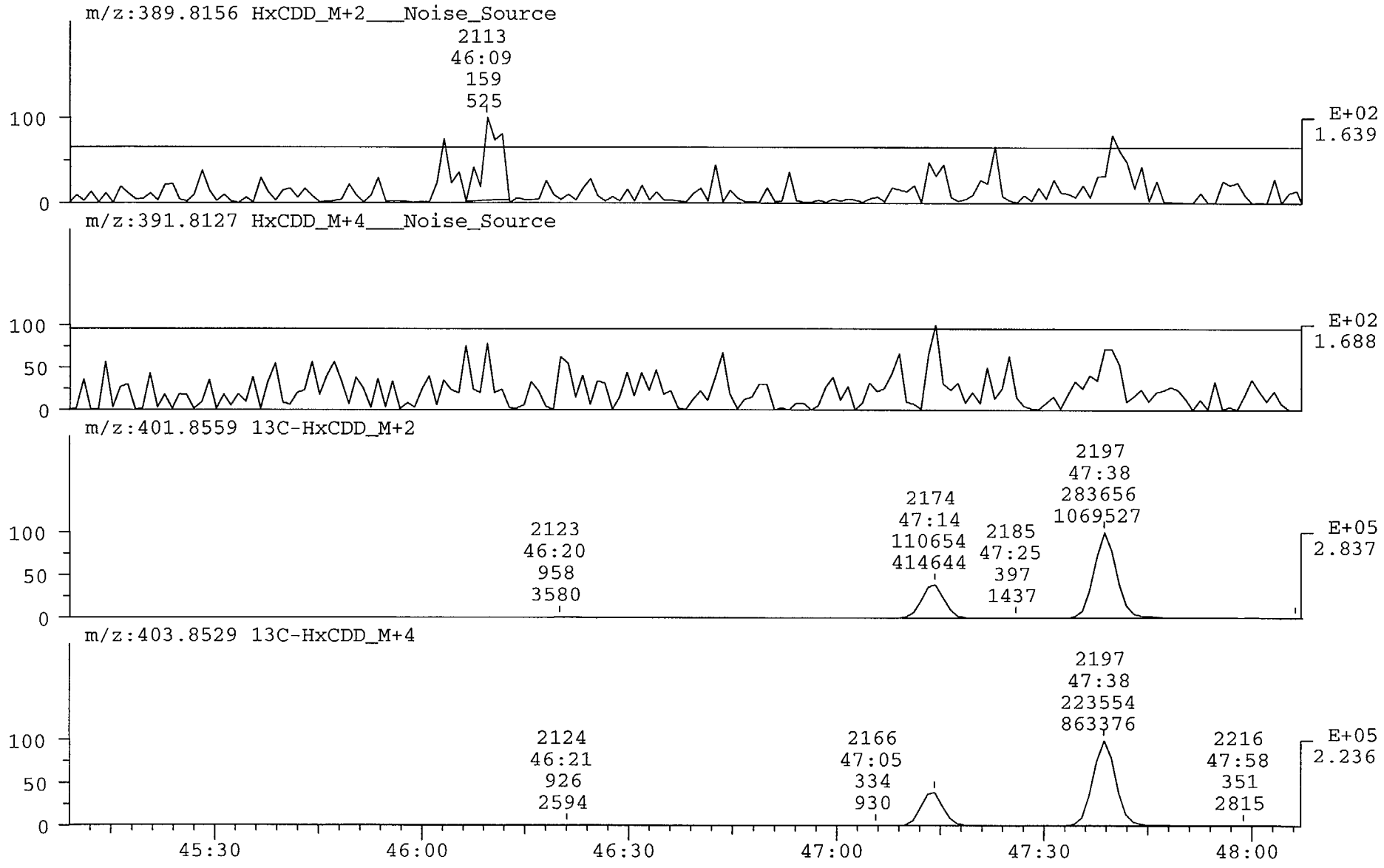
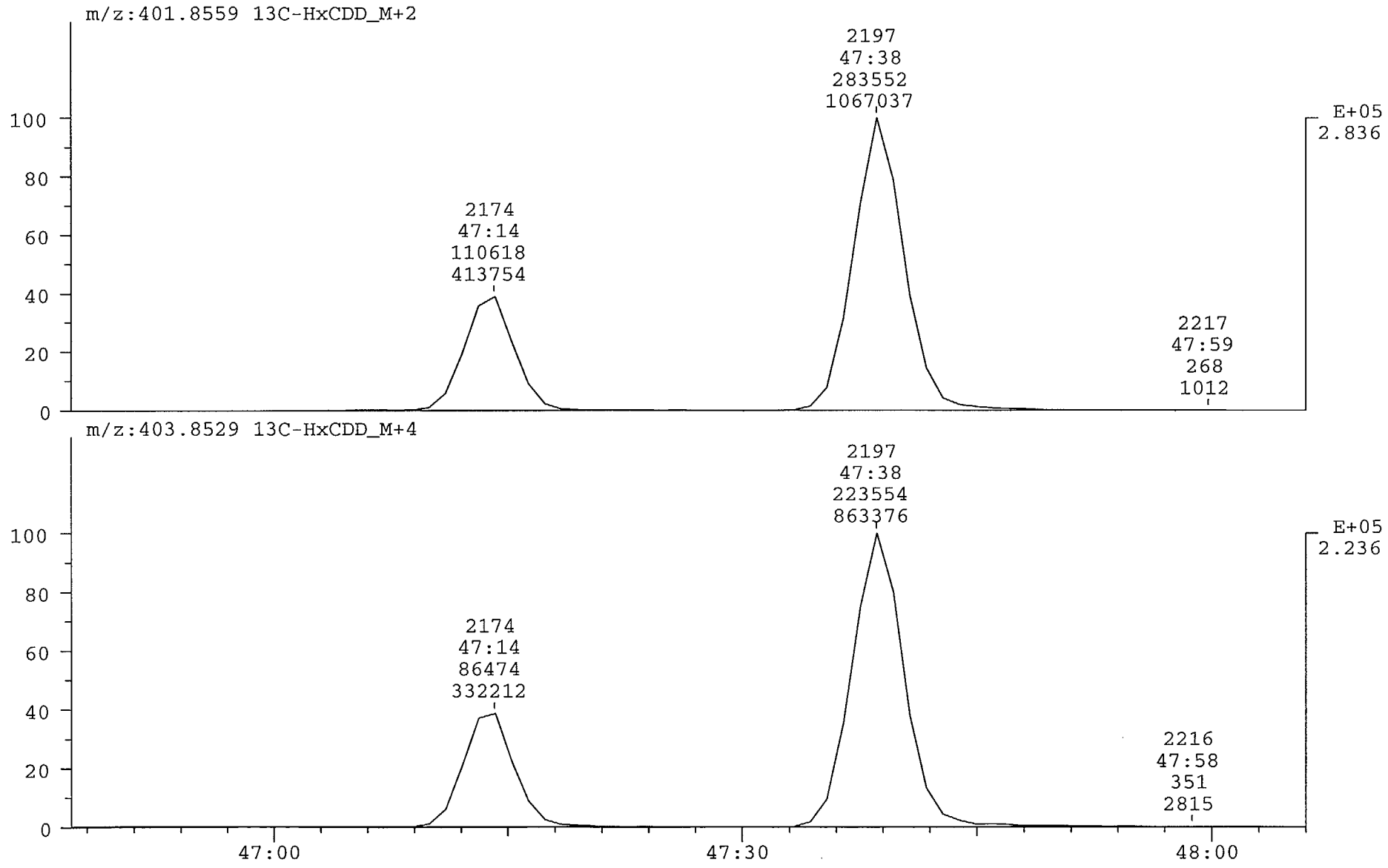


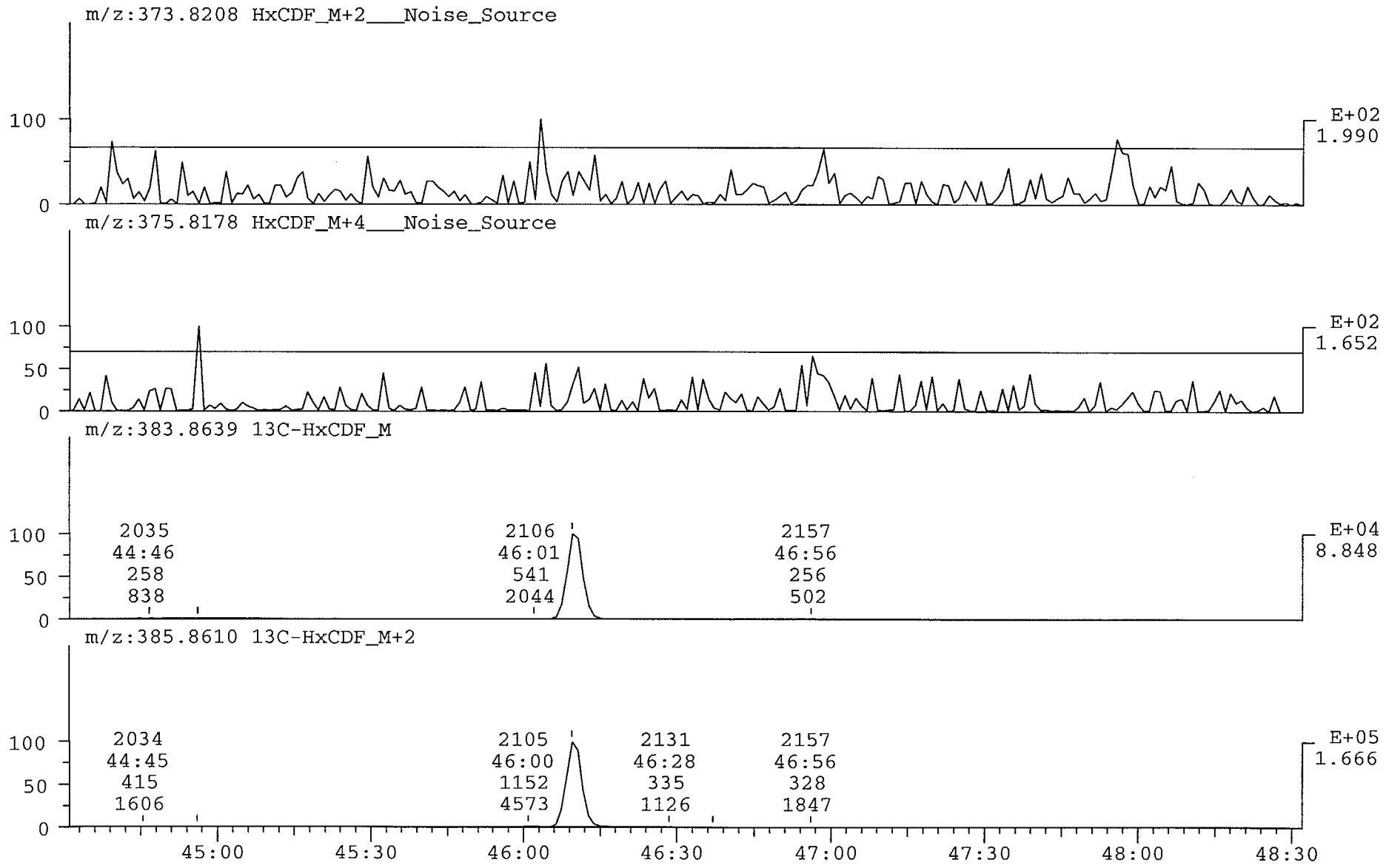
```
CHRO:  bth2h1w                                04-May-06  Elapse:  41:57      1878
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                 Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-010             Inlet :  GC     Vial  17
Peak:  100.00  ppm      Label wndw:   2056 > 2224        Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  -2, 3.0
Disp:  Height  Area
```



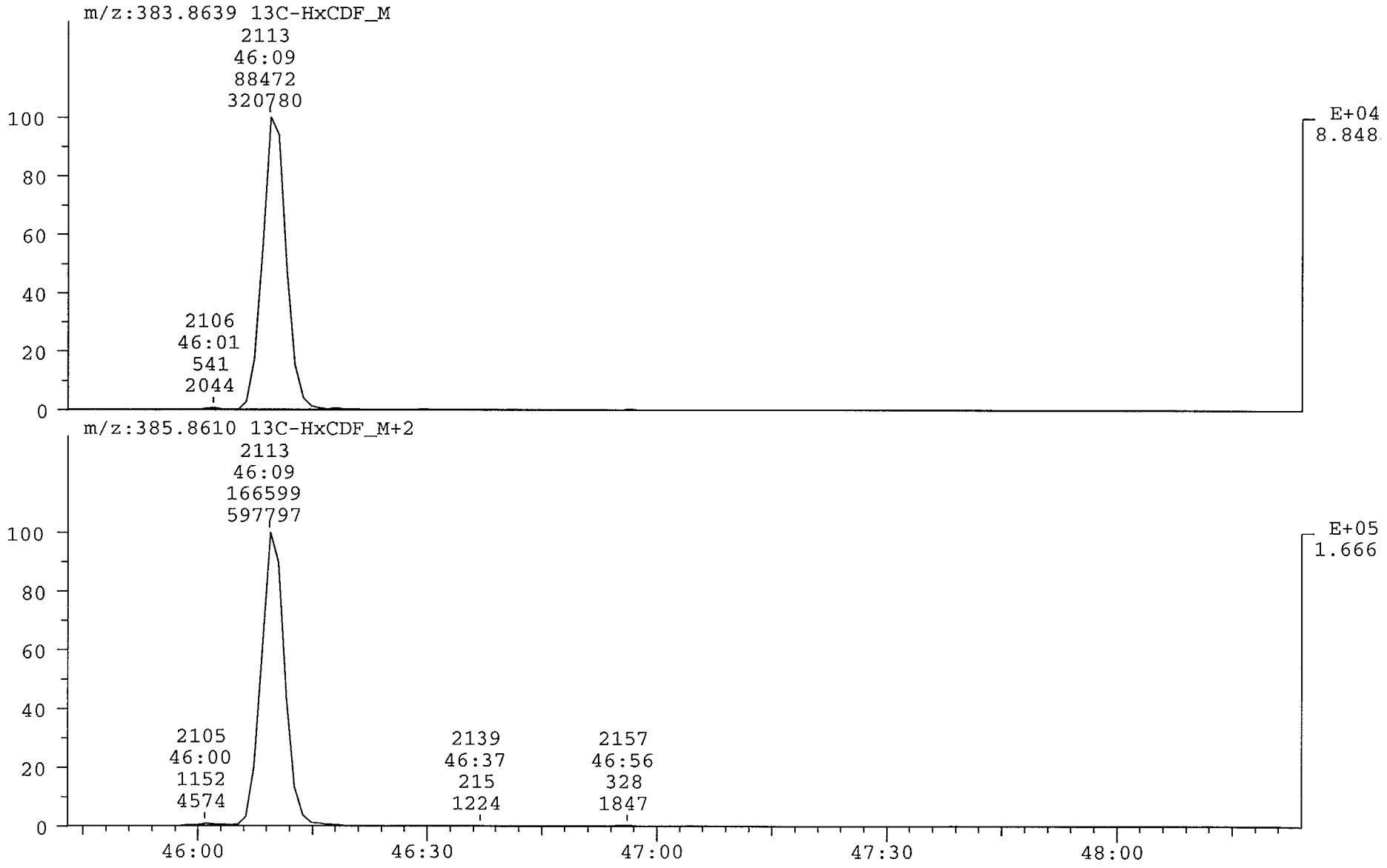
```
CHRO:  bth2h1w                                  04-May-06   Elapse:  47:25      2185
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                    Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-010                Inlet :  GC     Vial  17
Peak:  100.00  ppm      Label wndw:   2148 > 2223           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



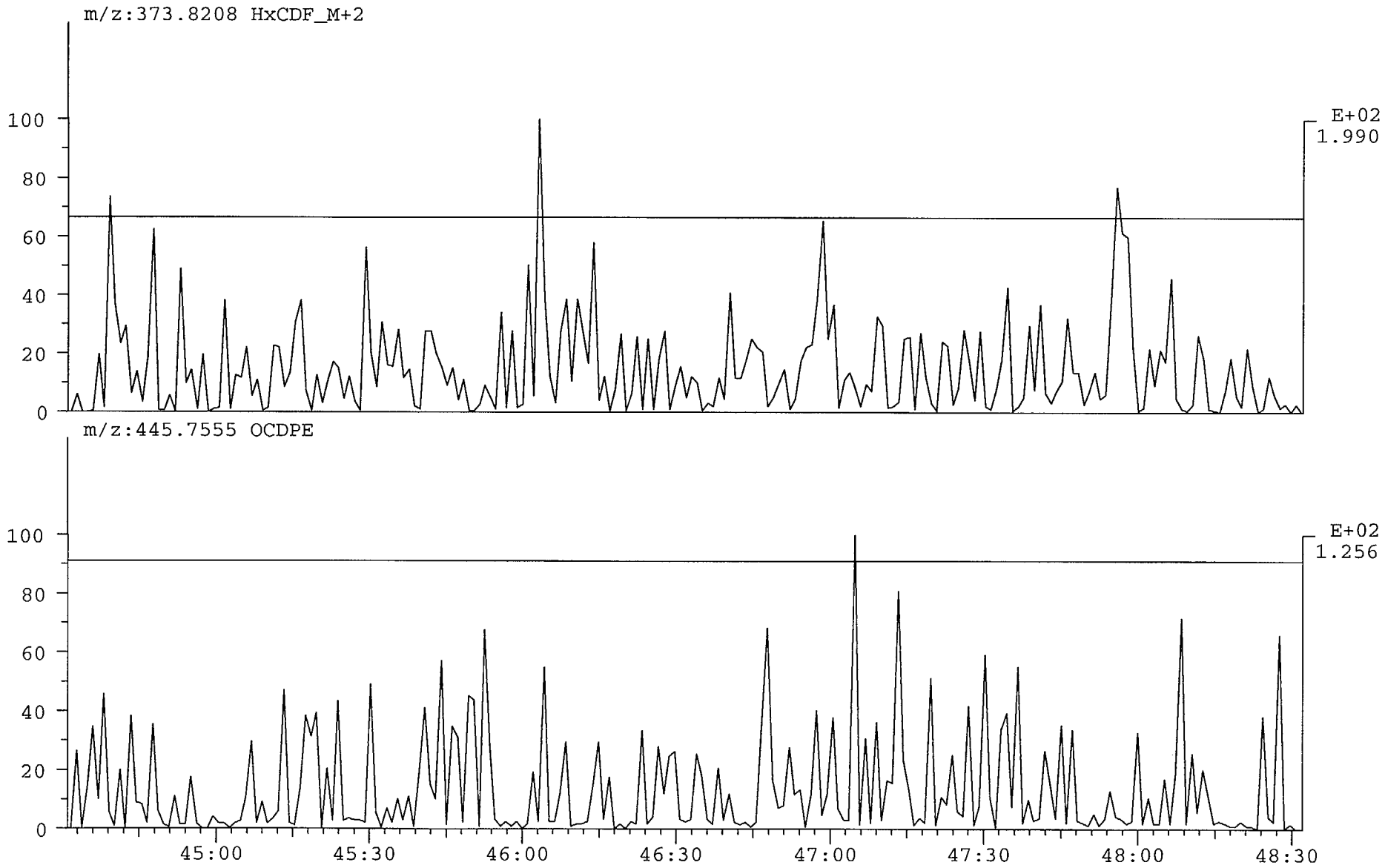
```
CHRO:  bth2h1w                                04-May-06  Elapse:  47:25      2185
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                 Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW          Client:  H6D030236-010               Inlet :  GC     Vial 17
Peak:  100.00  ppm     Label wndw:   2020 > 2247         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  bth2h1w                                  04-May-06  Elapse:  47:02      2163
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                   Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-010               Inlet :  GC     Vial  17
Peak:  100.00  ppm      Label wndw:   2088 > 2240          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  bth2h1w                                04-May-06  Elapse:  46:11      2115
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                 Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW          Client:  H6D030236-010               Inlet :  GC     Vial  17
Peak:  100.00  ppm     Label wndw:   2020 > 2247         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



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CHRO:  bth2h1w                                04-May-06  Elapse:  46:11      2115
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                 Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-010             Inlet :  GC     Vial  17
Peak:  100.00  ppm      Label wndw:   2020 > 2247        Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  0, 0.0
Disp:  Height  Area
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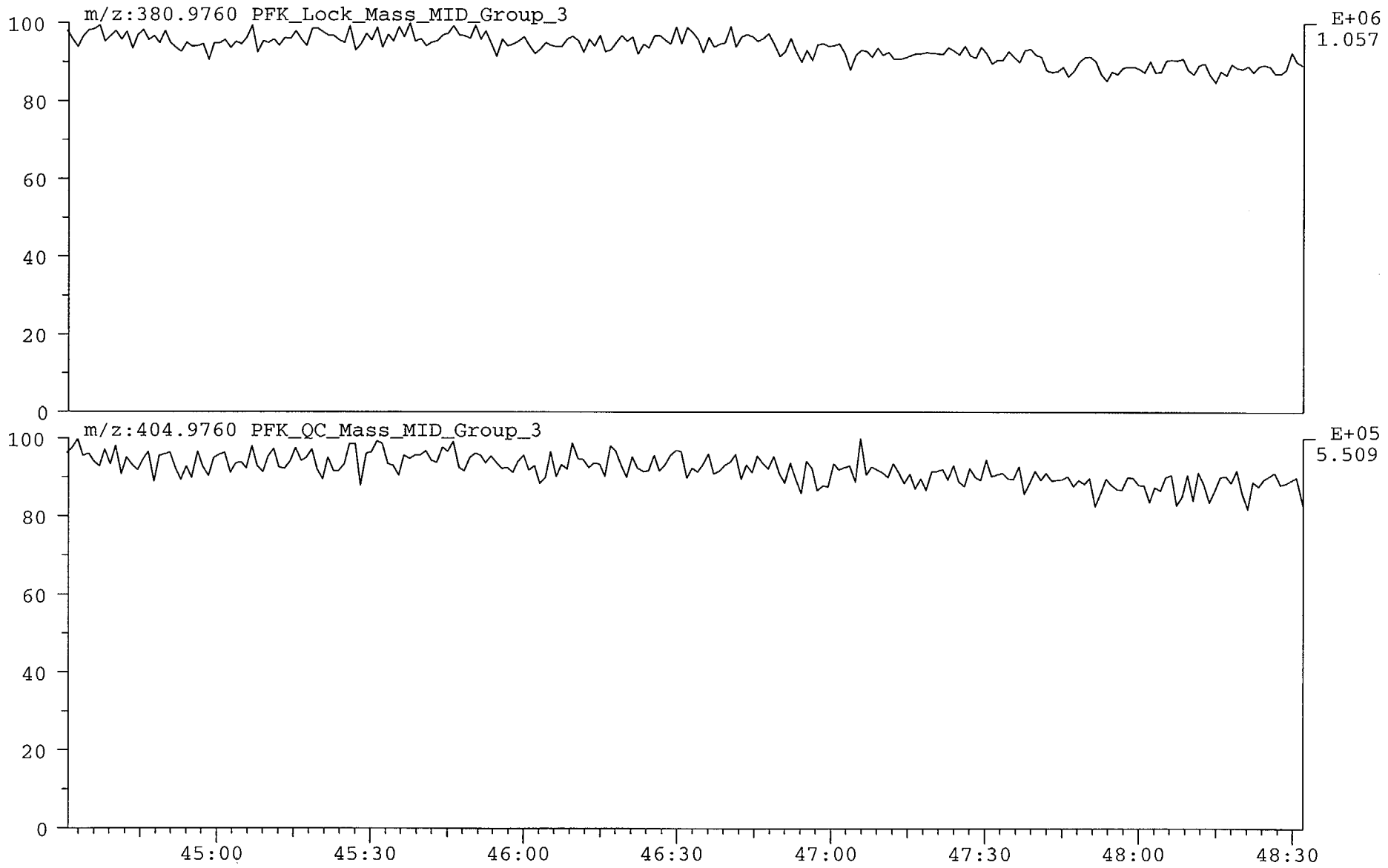

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CHRO:  bth2h1w                                  04-May-06  Elapse:  46:11      2115
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                   Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-010               Inlet :  GC     Vial  17
Peak:  100.00  ppm      Label wndw:   2370 > 2481          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
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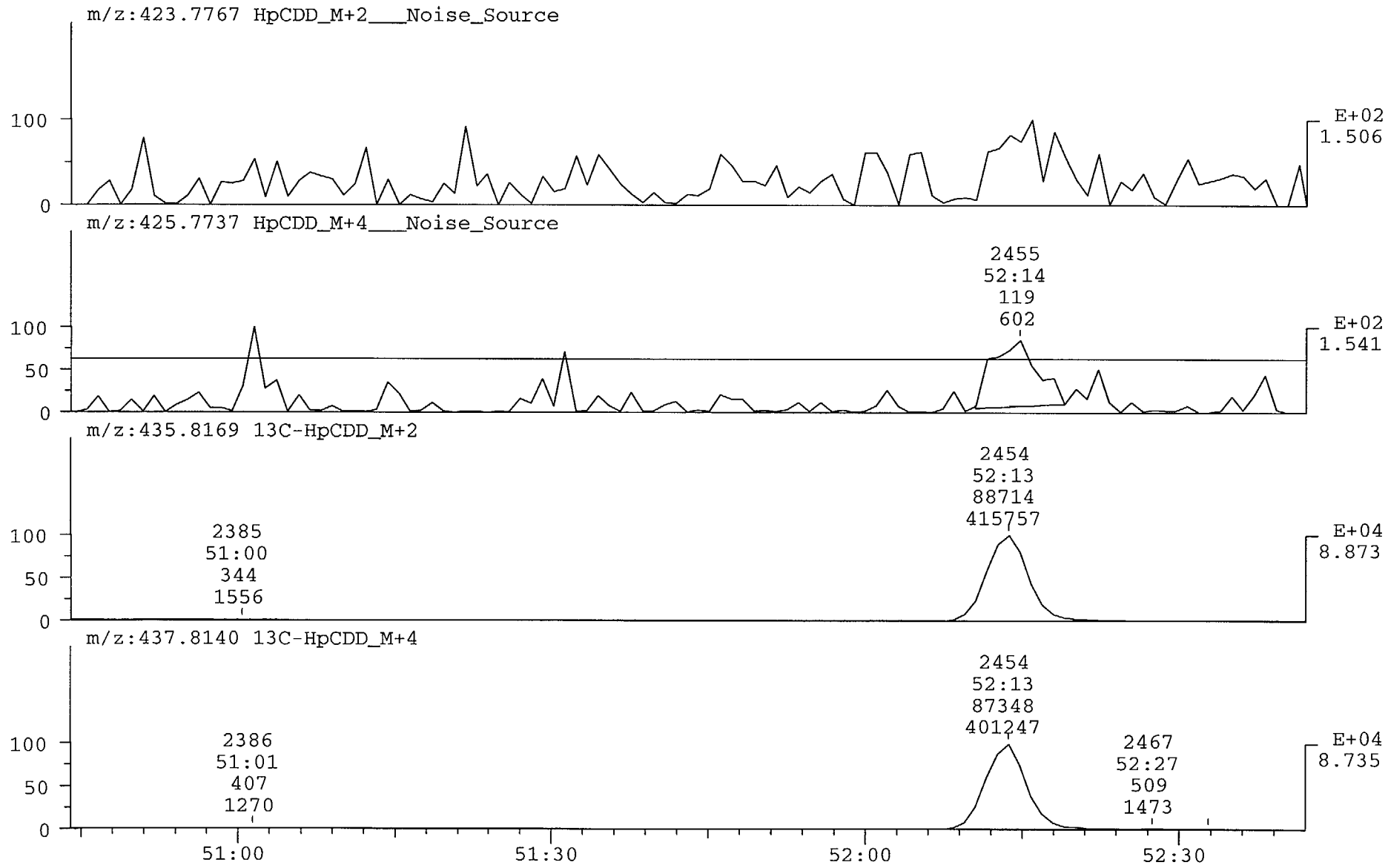

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CHRO:  bth2h1w                                04-May-06  Elapse:  46:11      2115
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                 Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW          Client:  H6D030236-010               Inlet :  GC     Vial  17
Peak:  100.00  ppm     Label wndw:   2370 > 2481         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
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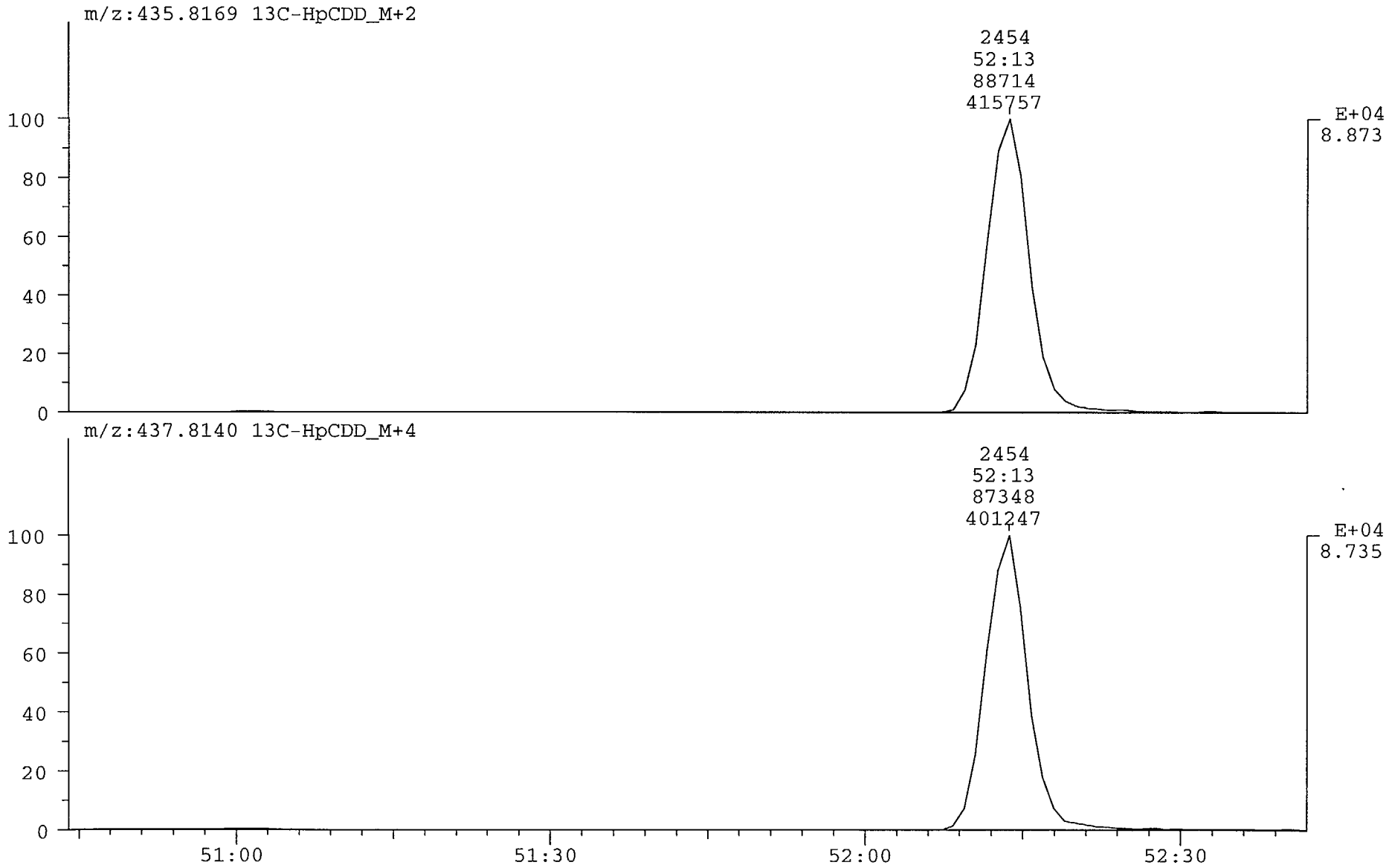

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CHRO:  bth2h1w                                  04-May-06  Elapse:  46:11      2115
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                   Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-010               Inlet :  GC     Vial  17
Peak:  100.00  ppm      Label wndw:   2339 > 2516          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
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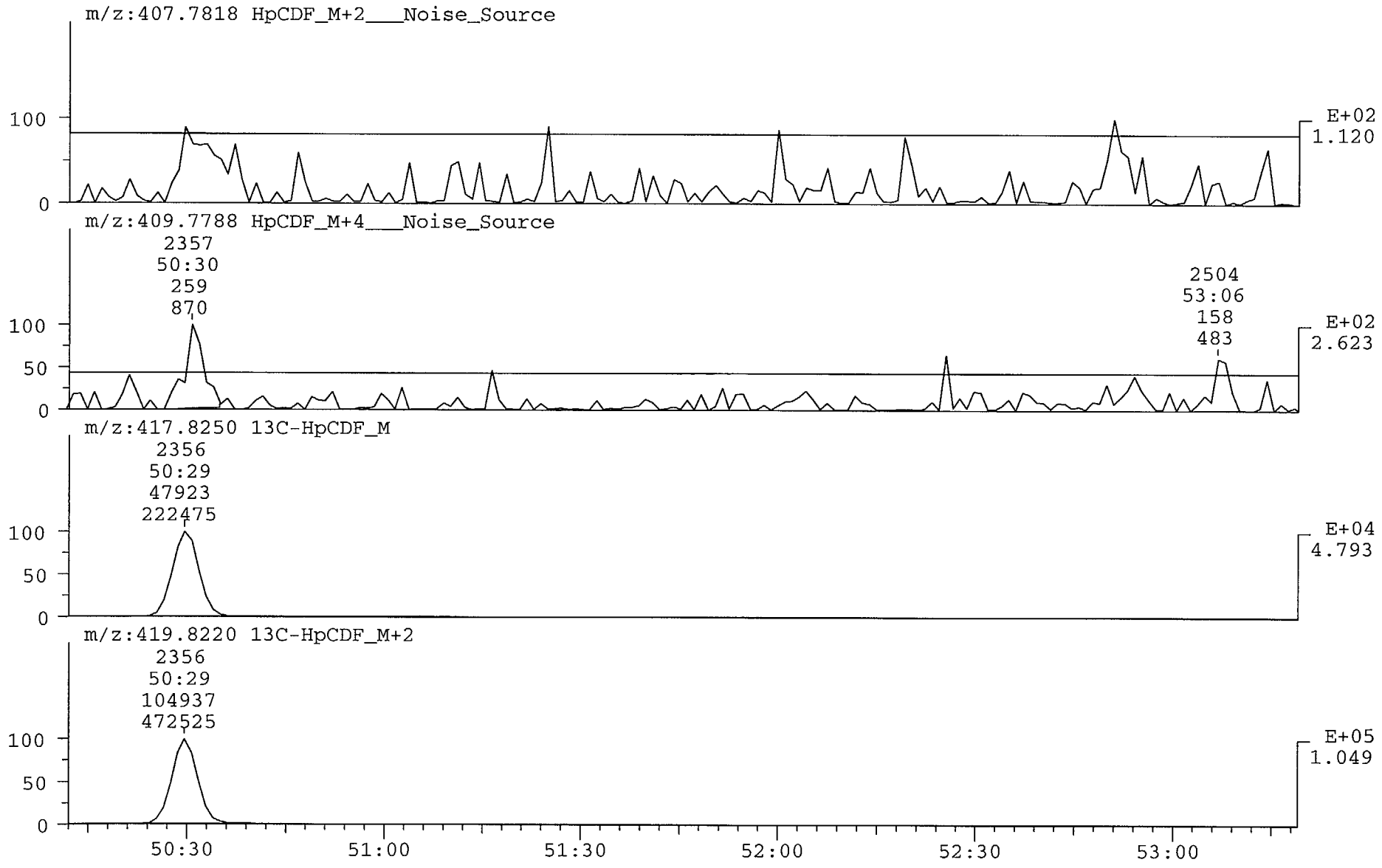

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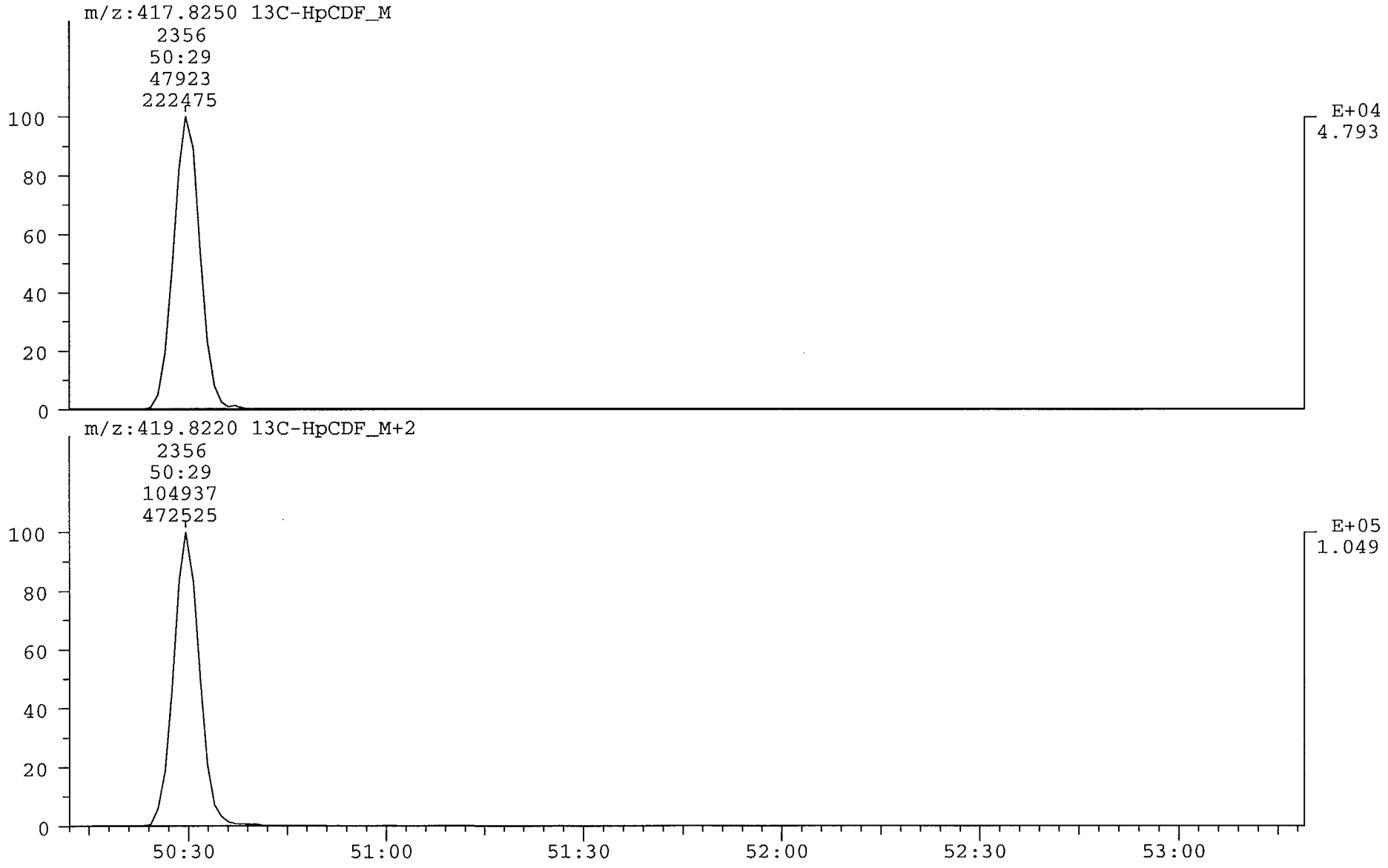
CHRO:  bth2h1w                                  04-May-06   Elapse:  46:11      2115
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                    Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-010                Inlet :  GC     Vial  17
Peak:  100.00  ppm      Label wndw:   2339 > 2516           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



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CHRO:  bth2h1w                                  04-May-06  Elapse:  46:11      2115
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                   Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-010               Inlet :  GC     Vial  17
Peak:  100.00  ppm      Label wndw:   2339 > 2516          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
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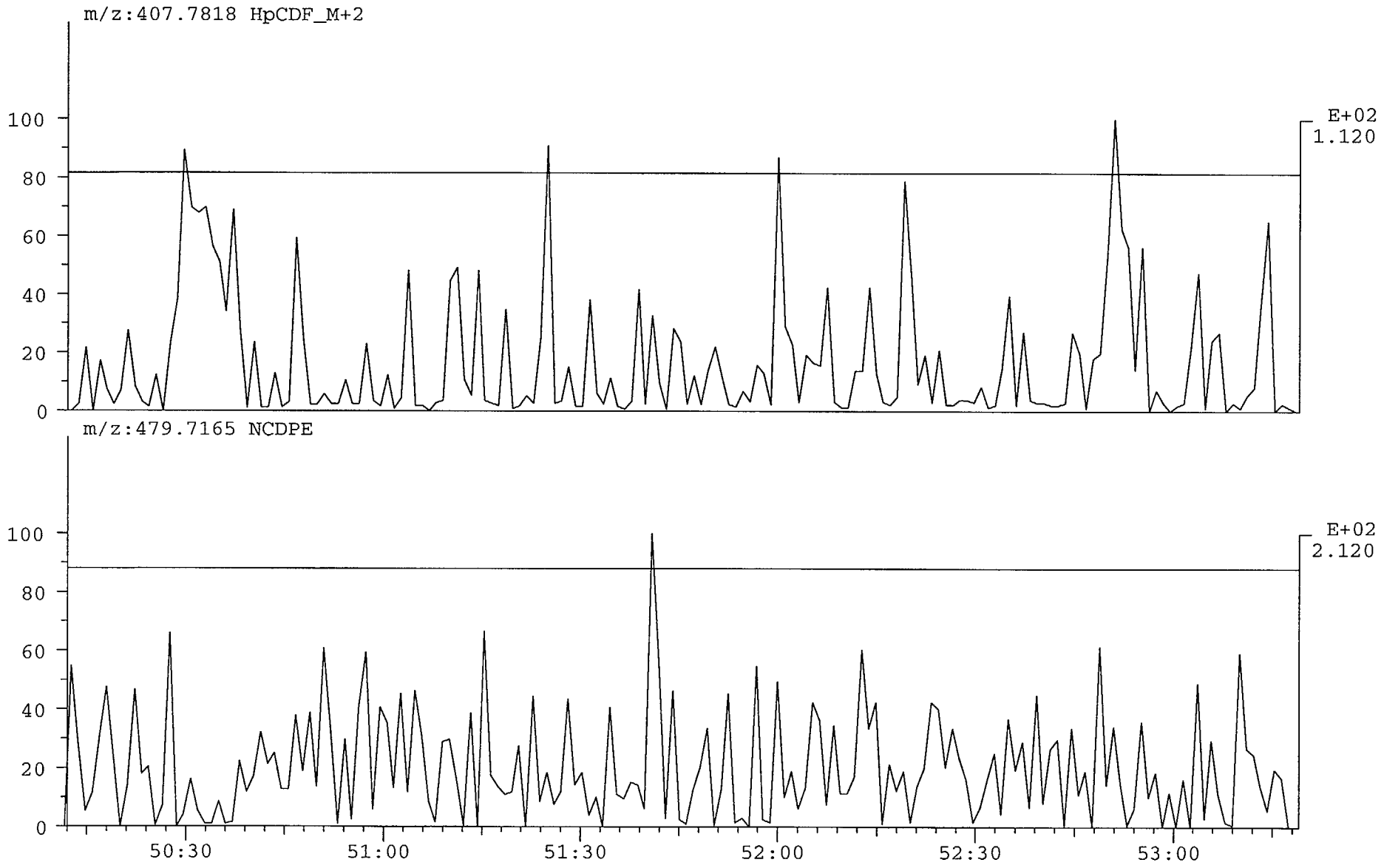

```
CHRO:  bth2h1w                                04-May-06  Elapse:  46:11      2115
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                 Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW          Client:  H6D030236-010               Inlet :  GC     Vial  17
Peak:  100.00  ppm     Label wndw:   2339 > 2516         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
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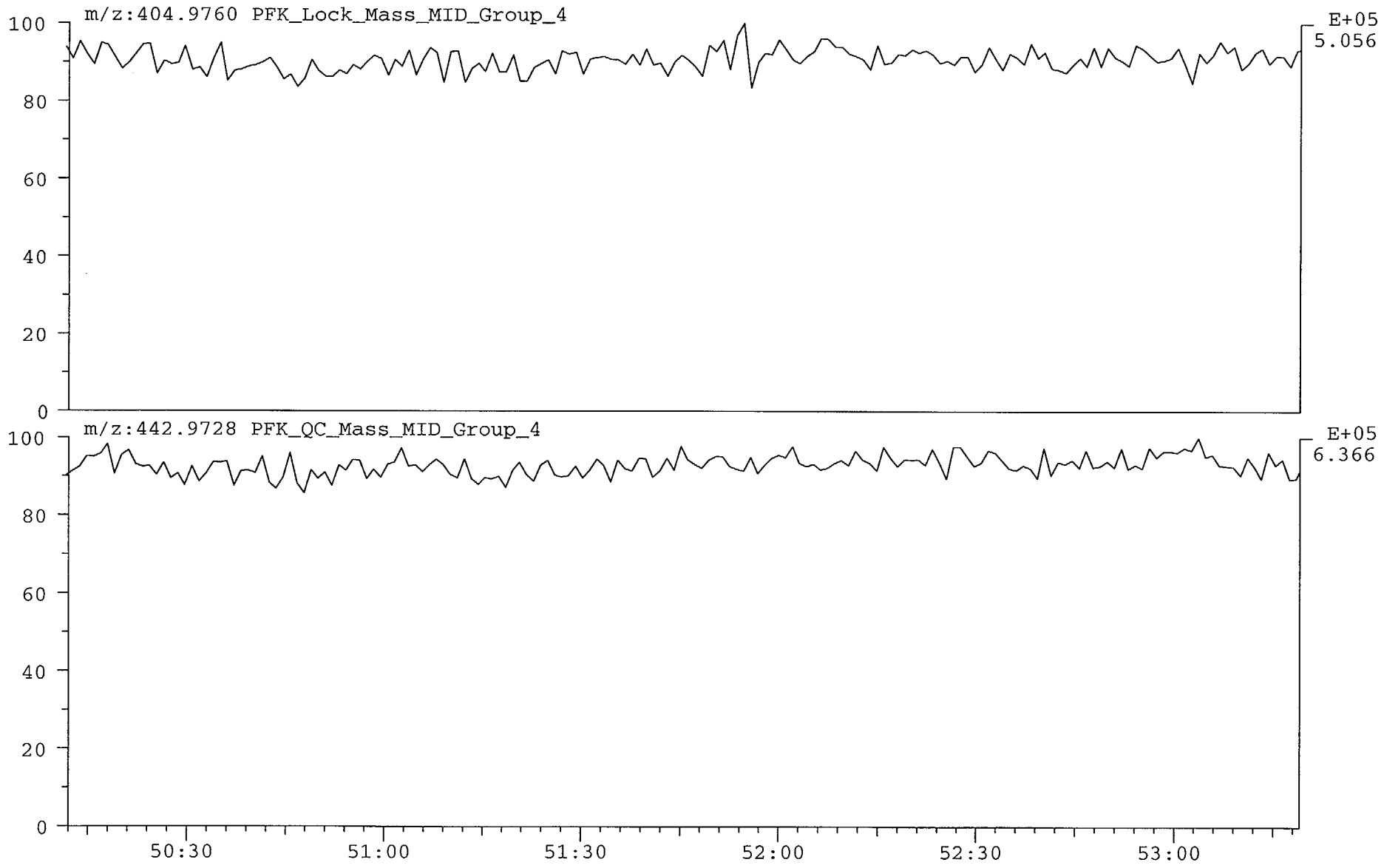

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CHRO:  bth2h1w                                04-May-06  Elapse:  56:35      2698
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                 Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW          Client:  H6D030236-010               Inlet :  GC     Vial  17
Peak:  100.00  ppm     Label wndw:   2669 > 2731         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
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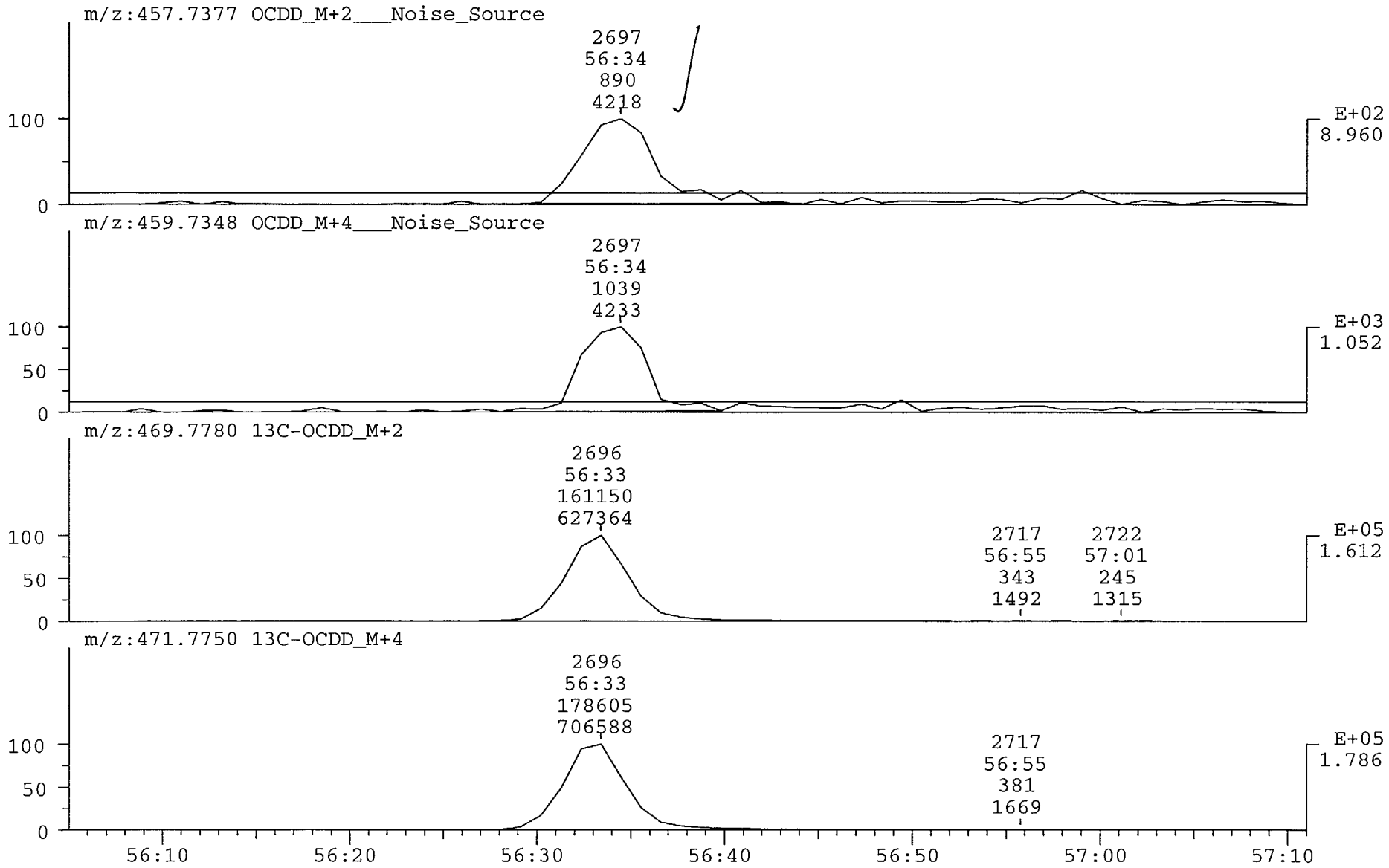

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CHRO:  bth2h1w                                04-May-06  Elapse:  56:35      2698
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                 Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-010             Inlet :  GC     Vial  17
Peak:  100.00  ppm      Label wndw:   2669 > 2731        Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  -2, 3.0
Disp:  Height  Area
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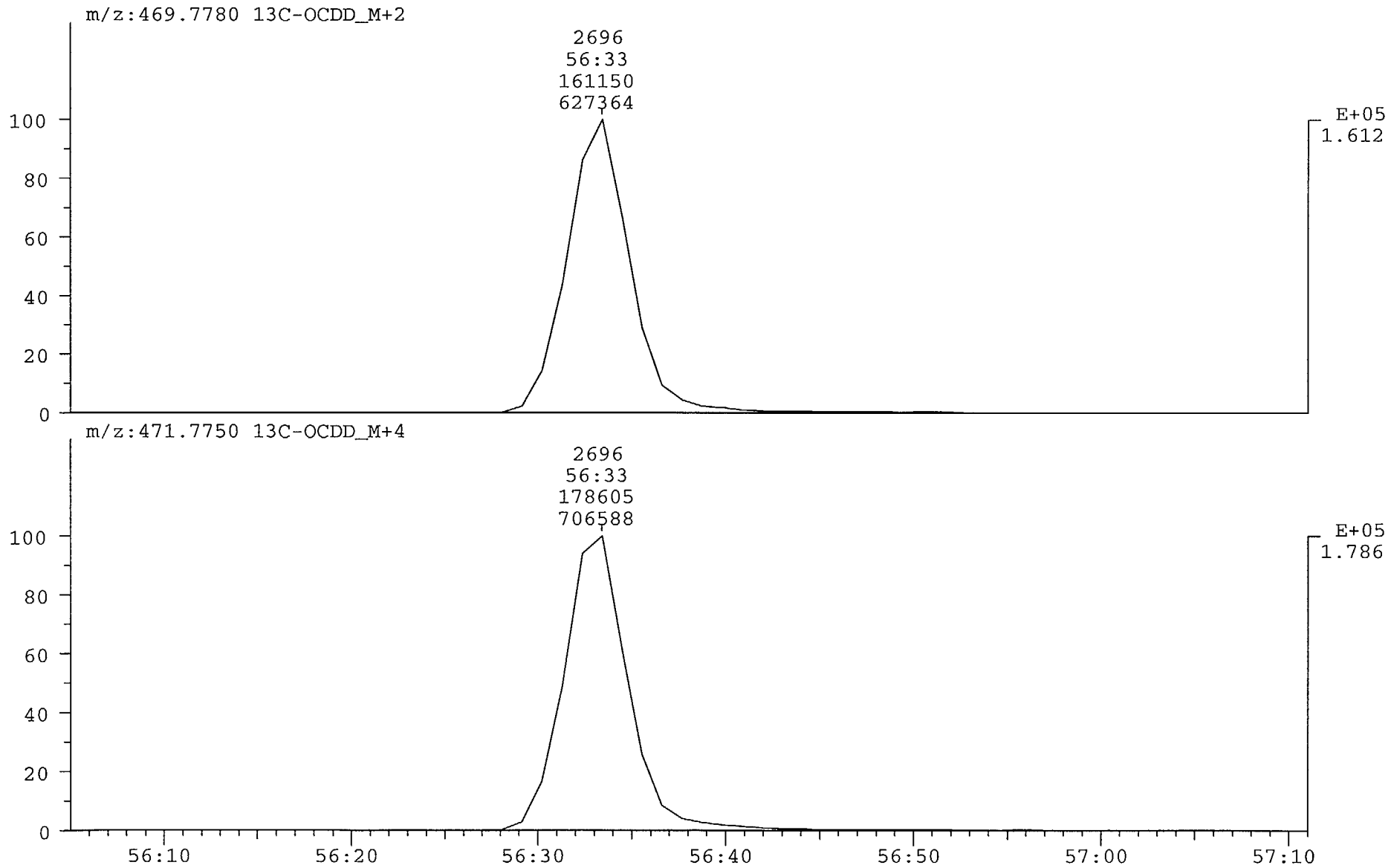
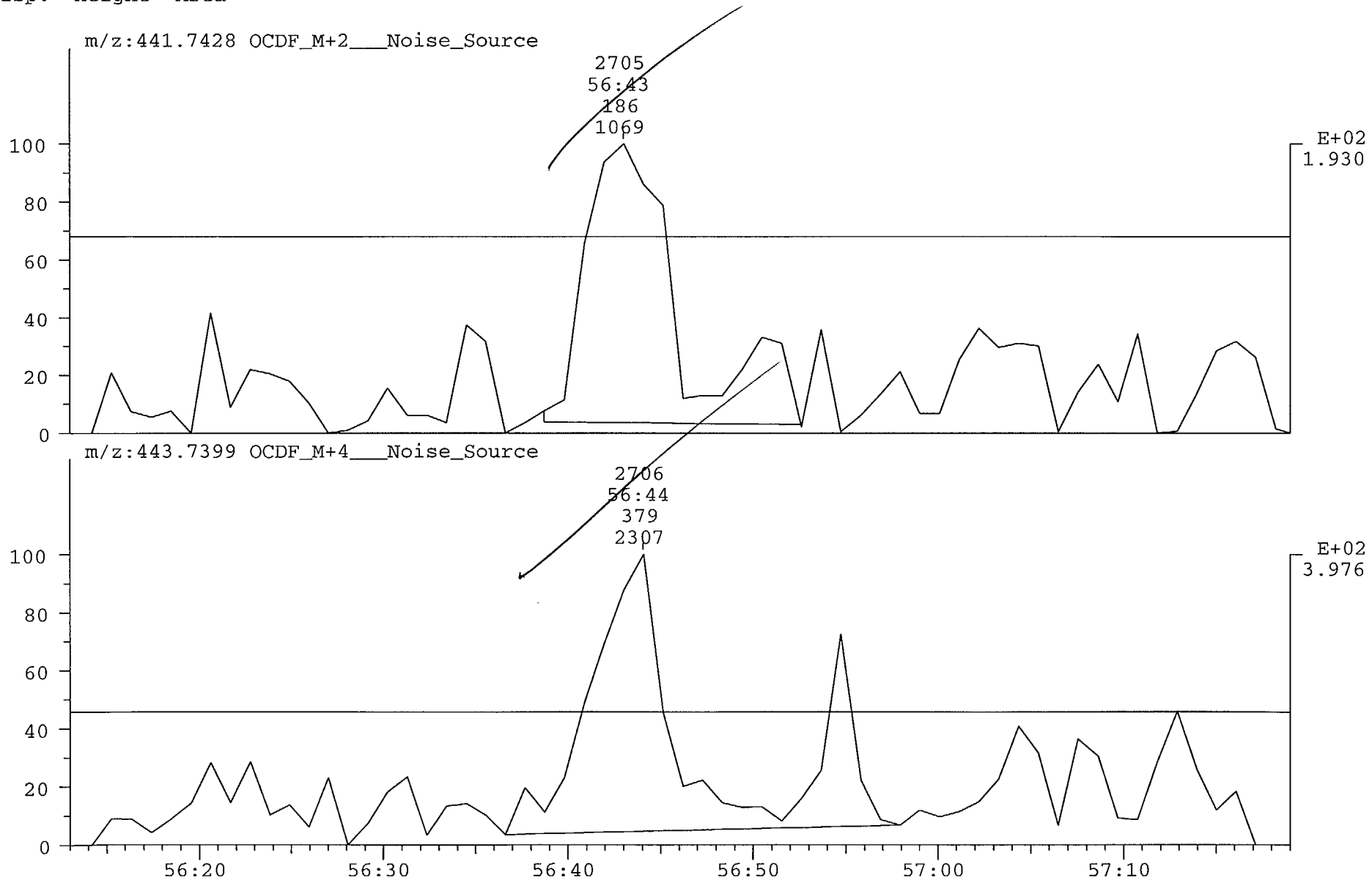
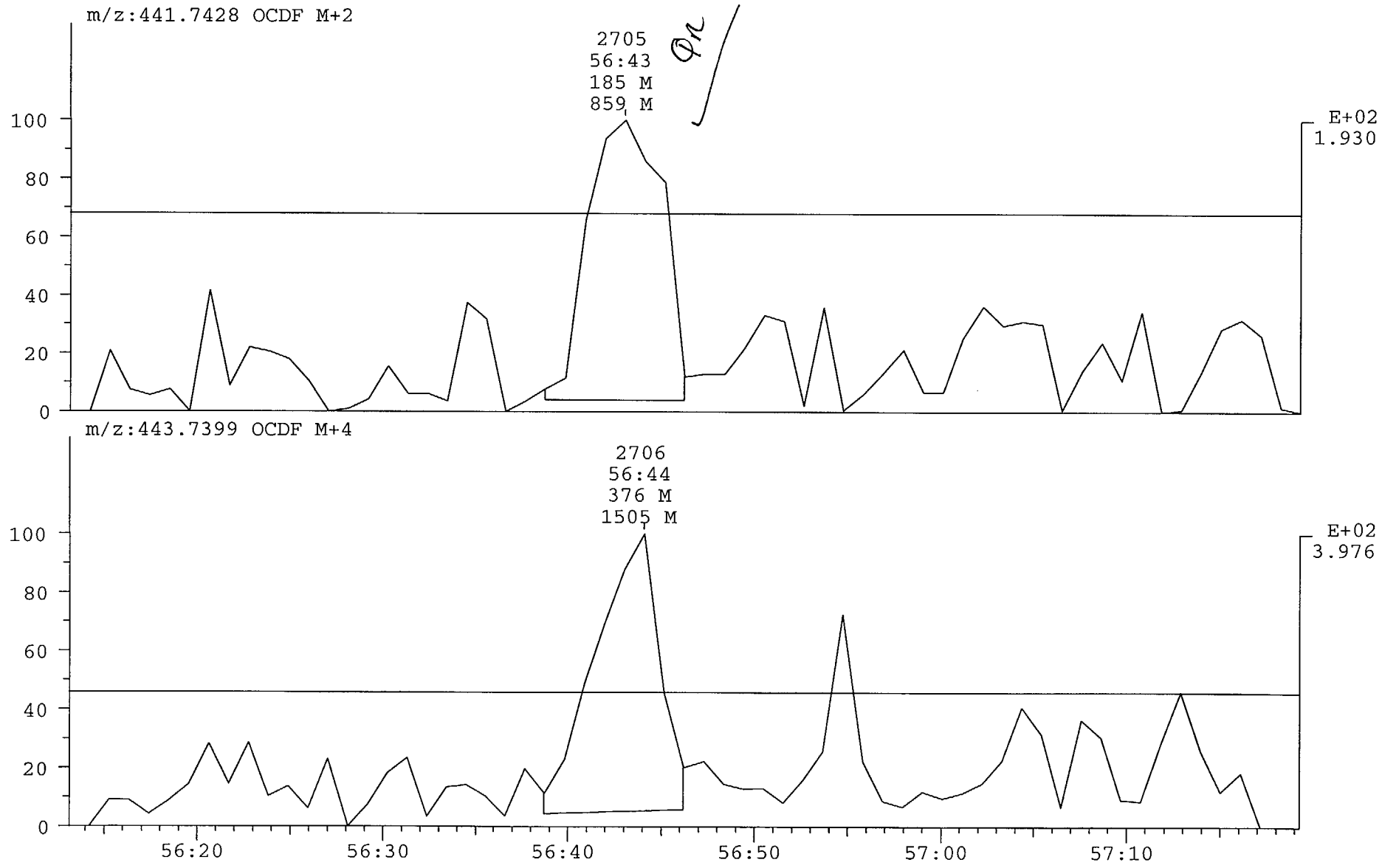


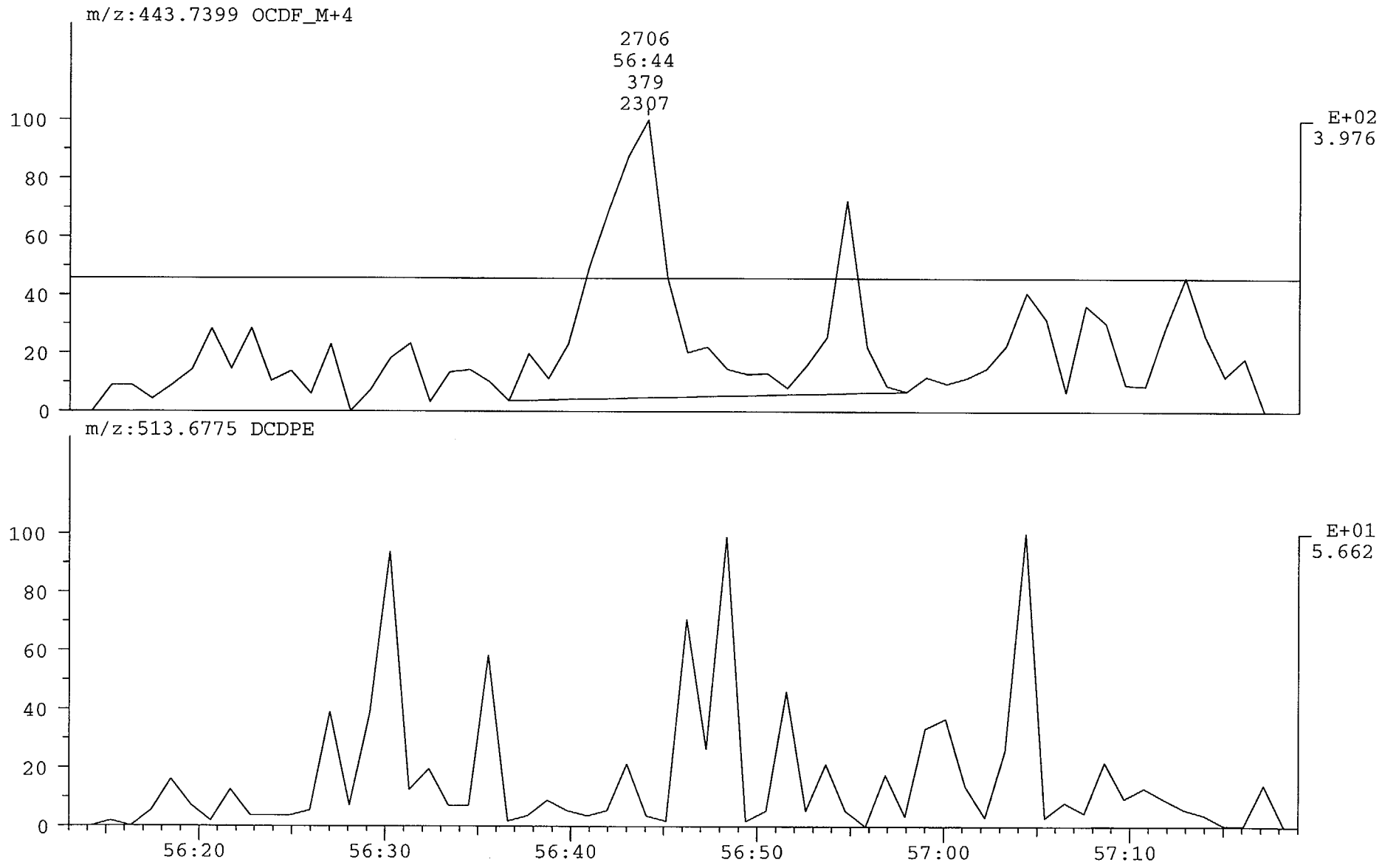
```
CHRO:  bth2h1w                                04-May-06  Elapse:  56:43      2705
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                 Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-010             Inlet :  GC     Vial  17
Peak:  100.00  ppm      Label wndw:   2677 > 2739        Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  bth2h1w                                  04-May-06   Elapse:  56:43      2705
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                    Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-010                Inlet :  GC     Vial  17
Peak:  100.00  ppm      Label wndw:   2677 > 2739           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  bth2h1w                                  04-May-06  Elapse:  56:43      2705
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                   Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-010               Inlet :  GC     Vial  17
Peak:  100.00  ppm      Label wndw:   2677 > 2739          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  bth2h1w                                04-May-06  Elapse:  56:43      2705
Samp:  Vial 17 WO=h2h1w1aa Meth=X8 Dil=1                 Start :  15:05:06   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW            Client:  H6D030236-010             Inlet :  GC     Vial  17
Peak:  100.00  ppm      Label wndw:   2677 > 2739        Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  0, 0.0
Disp:  Height  Area
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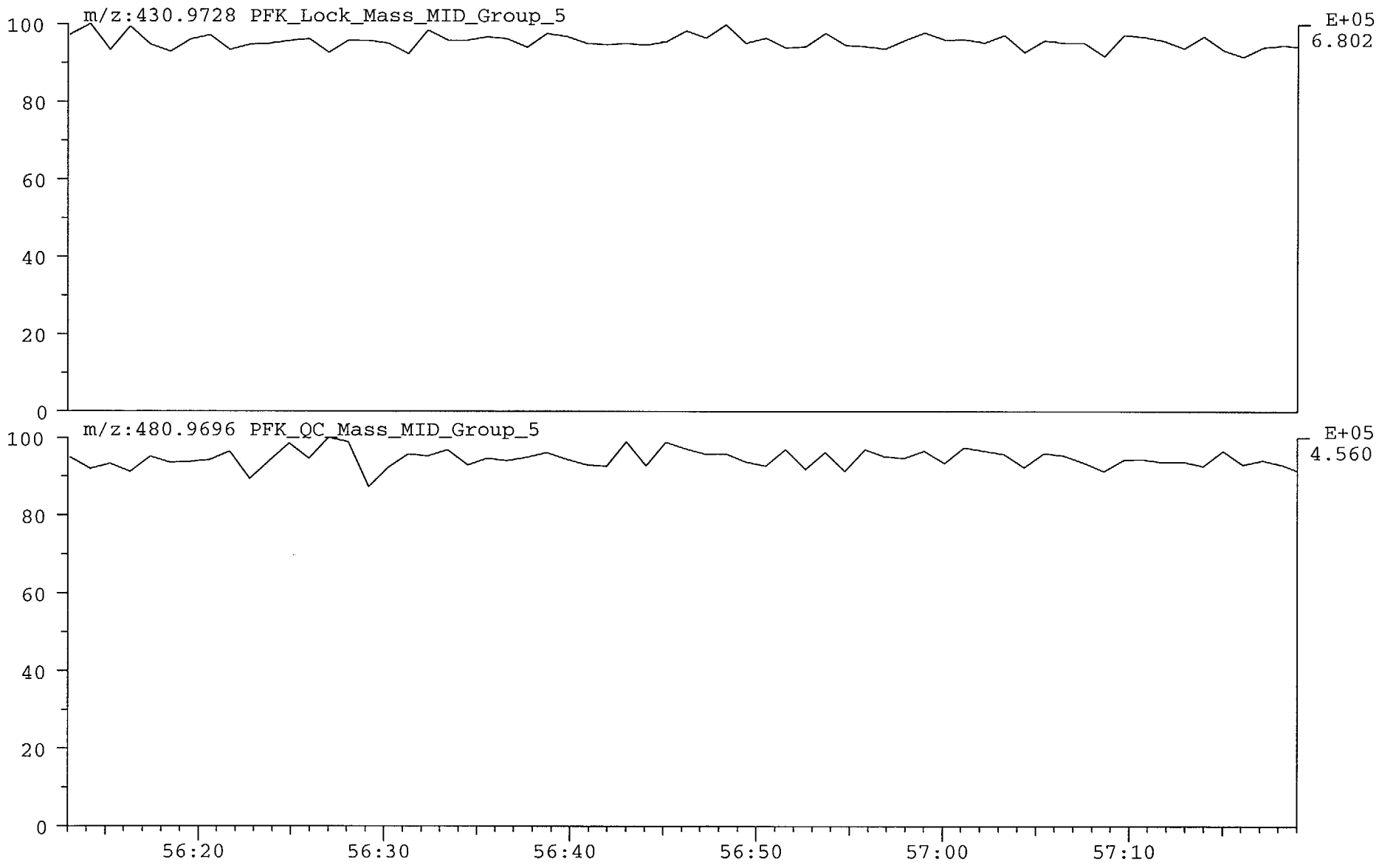


Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: bth2h1w
Study: 6107092 (Air)
Sample: WO=h2h1w1aa Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: BFW
Client: H6D030236-010
Comments: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Injected volume: 2.0
Sample from Vial 17
Analysis will stop when MID run finishes
Tune file name: tune2
File 3 of list 060504
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	TRUE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	140 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	29:52 min	37:52 min	1.00 sec
# 2	37:52 min	6:32 min	44:25 min	1.00 sec
# 3	44:25 min	5:05 min	49:30 min	1.00 sec
# 4	49:30 min	5:15 min	54:45 min	1.00 sec
# 5	54:45 min	5:15 min	60:00 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

```
 351.9000       1   1      91.48
 353.8970       1   1      91.48
 355.8546       1   1      91.48
 357.8516       1   1      91.48
 367.8949       1   1      91.48
 369.8919       1   1      91.48
 380.9760 c    10   1       8.19
 409.7974       1   1      91.48
Window # 3
     mass F  int  gr  time (ms)
 373.8208       1   1      91.48
 375.8178       1   1      91.48
 380.9760 l    10   1       8.19
 383.8639       1   1      91.48
 385.8610       1   1      91.48
 389.8156       1   1      91.48
 391.8127       1   1      91.48
 401.8559       1   1      91.48
 403.8529       1   1      91.48
 404.9760 c    10   1       8.19
 445.7555       1   1      91.48
Window # 4
     mass F  int  gr  time (ms)
 404.9760 l    10   1       8.19
 407.7818       1   1      91.48
 409.7788       1   1      91.48
 417.8250       1   1      91.48
 419.8220       1   1      91.48
 423.7767       1   1      91.48
 425.7737       1   1      91.48
 435.8169       1   1      91.48
 437.8140       1   1      91.48
 442.9728 c    10   1       8.19
 479.7165       1   1      91.48
Window # 5
     mass F  int  gr  time (ms)
 430.9728 l    10   1      10.92
 441.7428       1   1     120.15
 443.7399       1   1     120.15
 457.7377       1   1     120.15
 459.7348       1   1     120.15
 469.7780       1   1     120.15
 471.7750       1   1     120.15
 480.9696 c    10   1      10.92
 513.6775       1   1     120.15

Auto Sampler descriptor: pcdd2ul
 Injector A
 Normal Injection
 Slvnt A cln before inj(K):      3 times
 Slvnt B cln before inj(L):      0 times
 Sample rinse cycles   (R):      0 times
 Syringe filling volume(F):    1.0 ul
 Pullup delay time     (D):      4 sec
 Sample pullup speed   (E):    5.0 ul/sec
 Slvnt aftr pre inj cln(U):    0.0 ul
 Air after pre inj cln (G):    2.0 ul
 Sample volume         (V):    2.0 ul
 Sample air volume     (A):    2.0 ul
 Sample pullup count   (P):      2 times
 Injection speed       (S):   10.0 ul/sec
 Injection wait time   (W):     10 sec
 Injection hold time   (H):      3 sec
 Solvent A clean cycles(C):     15 times
 Solvent B clean cycles(B):     20 times
 Loop clean w slvnt A (LC):      0 times
```

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8403.0000
BDEV	8286.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.5861	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9996
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-738.5000	ELEN	61.7750
EMULT	1.8000	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	188.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	542.0000	FVINLET	598.0000
FVSRC	987.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.5784	HVANAL	1582.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4759.4580	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	430.9728
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	2897.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10100.2910	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.7100	TCURR	0.8984	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 04-May-06 15:05:06.8

Autosampler has injected sample from vial 17
Analysis stopped at: 04-May-06 16:05:08.9 (run time 60.03 minutes)
Analysis stopped because MID run finished

STL Knoxville - ACS

Sample ID: A-5381 MEDIA CHECK FILTER

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 011	**Work Order #....:**	H2H1X1AA	**Matrix....:**	AIR
Date Sampled....:	03/28/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107079				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	2.0	pg/sampl
Total TCDD	ND		10	2.0	pg/sampl
1,2,3,7,8-PeCDD	ND		50	1.1	pg/sampl
Total PeCDD	ND		50	1.1	pg/sampl
1,2,3,4,7,8-HxCDD	ND		50	0.78	pg/sampl
1,2,3,6,7,8-HxCDD	ND		50	0.78	pg/sampl
1,2,3,7,8,9-HxCDD	ND		50	0.71	pg/sampl
Total HxCDD	ND		50	0.76	pg/sampl
1,2,3,4,6,7,8-HpCDD	ND		50	1.1	pg/sampl
Total HpCDD	ND		50	1.1	pg/sampl
OCDD	**16**	**B J**	**100**	**1.2**	**pg/sampl**
2,3,7,8-TCDF	ND		10	1.6	pg/sampl
Total TCDF	ND		10	1.6	pg/sampl
1,2,3,7,8-PeCDF	ND		50	0.80	pg/sampl
2,3,4,7,8-PeCDF	ND		50	0.75	pg/sampl
Total PeCDF	ND		50	0.78	pg/sampl
1,2,3,4,7,8-HxCDF	ND		50	0.60	pg/sampl
1,2,3,6,7,8-HxCDF	ND		50	0.56	pg/sampl
2,3,4,6,7,8-HxCDF	ND		50	0.63	pg/sampl
1,2,3,7,8,9-HxCDF	ND		50	0.67	pg/sampl
Total HxCDF	ND		50	0.61	pg/sampl
1,2,3,4,6,7,8-HpCDF	ND		50	0.76	pg/sampl
1,2,3,4,7,8,9-HpCDF	ND		50	0.89	pg/sampl
Total HpCDF	ND		50	0.82	pg/sampl
OCDF	**2.8**	**Q B J**	**100**	**1.4**	**pg/sampl**

STL Knoxville - ACS

Sample ID: A-5381 MEDIA CHECK FILTER

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 011	**Work Order #....:**	H2H1X1AA	**Matrix....:**	AIR
Date Sampled....:	03/28/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107079				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	101	40 - 135
13C-1,2,3,7,8-PeCDD	119	40 - 135
13C-1,2,3,6,7,8-HxCDD	96	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	108	40 - 135
13C-OCDD	94	40 - 135
13C-2,3,7,8-TCDF	96	40 - 135
13C-1,2,3,7,8-PeCDF	104	40 - 135
13C-1,2,3,6,7,8-HxCDF	84	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	94	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

STL - Knoxville

IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1X1AA	Prep Batch	6107079	Lot No	H6D030236-011
Data File	/20060503s3/bth2h1x.d	Prep Date	04/17/06	SDG No	
Analysis ID	90486	Prep Exp Date	04/27/06	Date Received	04/02/06
Analysis Date	5/4/2006	Matrix	AIR	Date Sampled	03/28/06
Analysis Time	05:09	Initial Wt/Vol	1	Lims Test Code	XXSINX801
Anal Exp Date	06/01/06	Extract Vol	20	Method	0023/8290
Instrument	M2A	Dil Factor	1.0	Code	X8
Analyst	PMP				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (pg/sample		DL (pg/samp
2,3,7,8-TCDD				1.060				ND		2.01
Total TCDD				1.060				ND		2.01
2,3,7,8-TCDF				1.064				ND		1.64
Total TCDF				1.064				ND		1.64
1,2,3,7,8-PeCDD				0.977				ND		1.05
Total PeCDD				0.977				ND		1.05
1,2,3,7,8-PeCDF				0.955				ND		0.803
2,3,4,7,8-PeCDF				1.018				ND		0.754
Total PeCDF				0.987				ND		0.778
1,2,3,4,7,8-HxCDD				1.047				ND		0.781
1,2,3,6,7,8-HxCDD				1.055				ND		0.775
1,2,3,7,8,9-HxCDD				1.146				ND		0.714
Total HxCDD				1.083				ND		0.755
1,2,3,4,7,8-HxCDF				1.101				ND		0.600
1,2,3,6,7,8-HxCDF				1.184				ND		0.558
2,3,4,6,7,8-HxCDF				1.052				ND		0.628
1,2,3,7,8,9-HxCDF				0.982				ND		0.673
Total HxCDF				1.080				ND		0.612
1,2,3,4,6,7,8-HpCDD				1.018				ND		1.09
Total HpCDD				1.018				ND		1.09
1,2,3,4,6,7,8-HpCDF				1.403				ND		0.759
1,2,3,4,7,8,9-HpCDF				1.197				ND		0.890
Total HpCDF				1.300				ND		0.819
OCDD	56:40	13683	3645	0.965		16.216197		16.216197	BJ	1.20
OCDF	56:49	2688	514	1.103		2.785839		2.785839	QBJ	1.42
13C-2,3,7,8-TCDD	35:15	1110636	123292	1.068	1000	1009.78763	100.98	1009.78763		6.33
13C-2,3,7,8-TCDF	33:01	1394558	148632	1.413	1000	958.050235	95.81	958.050235		2.77
13C-1,2,3,7,8-PeCDD	43:01	1082457	285149	0.882	1000	1191.81550	119.18	1191.81550		3.26
13C-1,2,3,7,8-PeCDF	41:26	1270104	299652	1.188	1000	1038.00952	103.80	1038.00952		2.32
13C-1,2,3,6,7,8-HxCDD	47:20	990038	268992	0.943	1000	961.980033	96.20	961.980033		1.53
13C-1,2,3,6,7,8-HxCDF	46:16	1164706	332998	1.272	1000	839.214102	83.92	839.214102		0.999
13C-1,2,3,4,6,7,8-HpCDD	52:20	1083835	243670	0.918	1000	1081.74969	108.17	1081.74969		1.18
13C-1,2,3,4,6,7,8-HpCDF	50:37	937025	204170	0.916	1000	937.482951	93.75	937.482951		1.36
13C-OCDD	56:39	1749234	444057	0.850	2000	1886.58106	94.33	1886.58106		1.40
37Cl4-2,3,7,8-TCDD				1.046	2000			ND		1.12
13C-2,3,4,7,8-PeCDF				1.010	2000			ND		0.950
13C-1,2,3,4,7,8-HxCDD				0.902	2000			ND		1.63
13C-1,2,3,4,7,8-HxCDF				0.988	2000			ND		1.06
13C-1,2,3,7,8,9-HxCDF				1.113				ND		1.14
13C-1,2,3,4,7,8,9-HpCDF				0.912	2000			ND		1.83
13C-1,2,3,4-TCDD	34:42	2059713	208410	1.000	2000	2000.00000	100.00	2000.00000		6.77
13C-1,2,3,7,8,9-HxCDD	47:45	2182136	546702	1.000	2000	2000.00000	100.00	2000.00000		1.45

BTW 5/4/06
PMP 5-6-06

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1X1AA	Prep Batch	6107079	Lot No	H6D030236-011
Data File	/20060503s3/bth2h1x.d	Prep Date	04/17/06	SDG No	
Analysis ID	90486	Prep Exp Date	04/27/06	Date Received	04/02/06
Analysis Date	05/04/06 05:09	Matrix	AIR	Date Sampled	03/28/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSINX801
Instrument	M2A	Extract Vol	20 uL	Method	0023/8290
Analyst	PMP	Diluton Factor	1.00	Code	X8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration Flags
304					303.9016	305.8987	303.9016	305.8987	0.65-0.89	
	Noise	00:00	00:00	0	108	153	43	61	0.70	/
316					315.9419	317.9389	315.9419	317.9389	0.65-0.89	
	Noise	00:00	00:00	0	203	205	81	82	0.99 *	/
	13C-2,3,7,8-TCDF	33:01	33:03	-2	612601	781957	65156	83476	0.78	ABV/ABV
320					319.8965	321.8936	319.8965	321.8936	0.65-0.89	
	Noise	00:00	00:00	0	130	133	52	53	0.98 *	/
328					327.8847		327.8847			
	Noise	00:00	00:00	0	145		58			
332					331.9368	333.9338	331.9368	333.9338	0.65-0.89	
	Noise	00:00	00:00	0	478	228	191	91	2.10 *	/
	13C-1,2,3,4-TCDD	34:42	34:41	1	910568	1149145	92021	116389	0.79	AVV/ABV
	13C-2,3,7,8-TCDD	35:15	35:14	1	489816	620820	54382	68910	0.79	AVV/AVV
340					339.8597	341.8567	339.8597	341.8567	1.32-1.78	
	Noise	00:00	00:00	0	80	150	32	60	0.53 *	/
352					351.9000	353.8970	351.9000	353.8970	1.32-1.78	
	Noise	00:00	00:00	0	145	143	58	57	1.02 *	/
	13C-1,2,3,7,8-PeCDF	41:26	41:25	1	770452	499652	181701	117951	1.54	ABV/ABV
356					355.8546	357.8516	355.8546	357.8516	1.32-1.78	
	Noise	00:00	00:00	0	168	125	67	50	1.34	/
368					367.8949	369.8919	367.8949	369.8919	1.32-1.78	
	Noise	00:00	00:00	0	183	118	73	47	1.55	/
	13C-1,2,3,7,8-PeCDD	43:01	43:00	1	652604	429853	171978	113171	1.52	ABV/ABV
374					373.8208	375.8178	373.8208	375.8178	1.05-1.43	
	Noise	00:00	00:00	0	143	78	57	31	1.84 *	/
384					383.8639	385.8610	383.8639	385.8610	0.43-0.59	
	Noise	00:00	00:00	0	158	190	63	76	0.83 *	/
	13C-1,2,3,6,7,8-HxCDF	46:16	46:14	2	402952	761754	116624	216374	0.53	AVV/AVV
390					389.8156	391.8127	389.8156	391.8127	1.05-1.43	
	Noise	00:00	00:00	0	93	128	37	51	0.73 *	/
402					401.8559	403.8529	401.8559	403.8529	1.05-1.43	
	Noise	00:00	00:00	0	228	168	91	67	1.36	/
	13C-1,2,3,6,7,8-HxCDD	47:20	47:19	1	546603	443435	148982	120010	1.23	ABV/AVV
	13C-1,2,3,7,8,9-HxCDD	47:45	47:44	1	1216316	965820	299444	247258	1.26	AVV/ABV
408					407.7818	409.7788	407.7818	409.7788	0.88-1.20	
	Noise	00:00	00:00	0	113	105	45	42	1.07	/
418					417.8250	419.8220	417.8250	419.8220	0.37-0.51	
	Noise	00:00	00:00	0	168	173	67	69	0.97 *	/
	13C-1,2,3,4,6,7,8-HpCDF	50:37	50:36	1	294689	642336	63260	140910	0.46	ABV/ABV
424					423.7767	425.7737	423.7767	425.7737	0.88-1.20	
	Noise	00:00	00:00	0	153	118	61	47	1.30 *	/
436					435.8169	437.8140	435.8169	437.8140	0.88-1.20	
	Noise	00:00	00:00	0	165	130	66	52	1.27 *	/

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H2H1X1AA	Prep Batch	6107079	Lot No	H6D030236-011
Data File	/20060503s3/bth2h1x.d	Prep Date	04/17/06	SDG No	
Analysis ID	90486	Prep Exp Date	04/27/06	Date Received	04/02/06
Analysis Date	05/04/06 05:09	Matrix	AIR	Date Sampled	03/28/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSINX801
Instrument	M2A	Extract Vol	20 uL	Method	0023/8290
Analyst	PMP	Diluton Factor	1.00	Code	X8

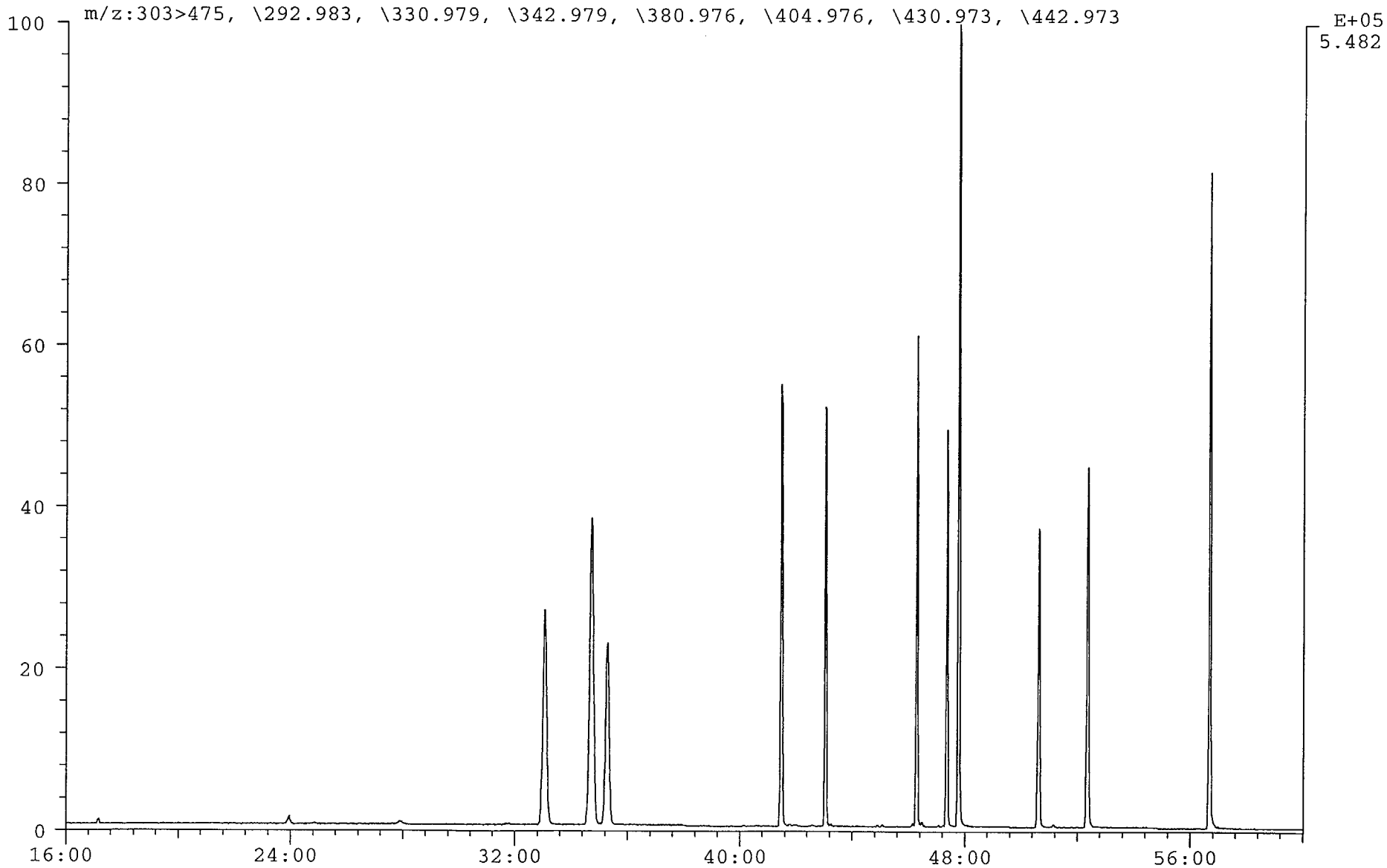
View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**		
	13C-1,2,3,4,6,7,8-HpCDD	52:20	52:20	0	554832	529003	122917	120753	1.05	ABV/ABV	
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**		
	Noise	00:00	00:00	0	155	193	62	77	0.81	/	
	OCDF	56:49	56:50	-1	1266	2107	242	453	0.60 *	ABB/MVV	R
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**		
	Noise	00:00	00:00	0	133	125	53	50	1.06 *	/	
	OCDD	56:40	56:41	-1	6393	7290	1750	1895	0.88	AVV/ABV	
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**		
	Noise	00:00	00:00	0	155	170	62	68	0.91	/	
	13C-OCDD	56:39	56:40	-1	827109	922125	207004	237053	0.90	ABV/ABV	

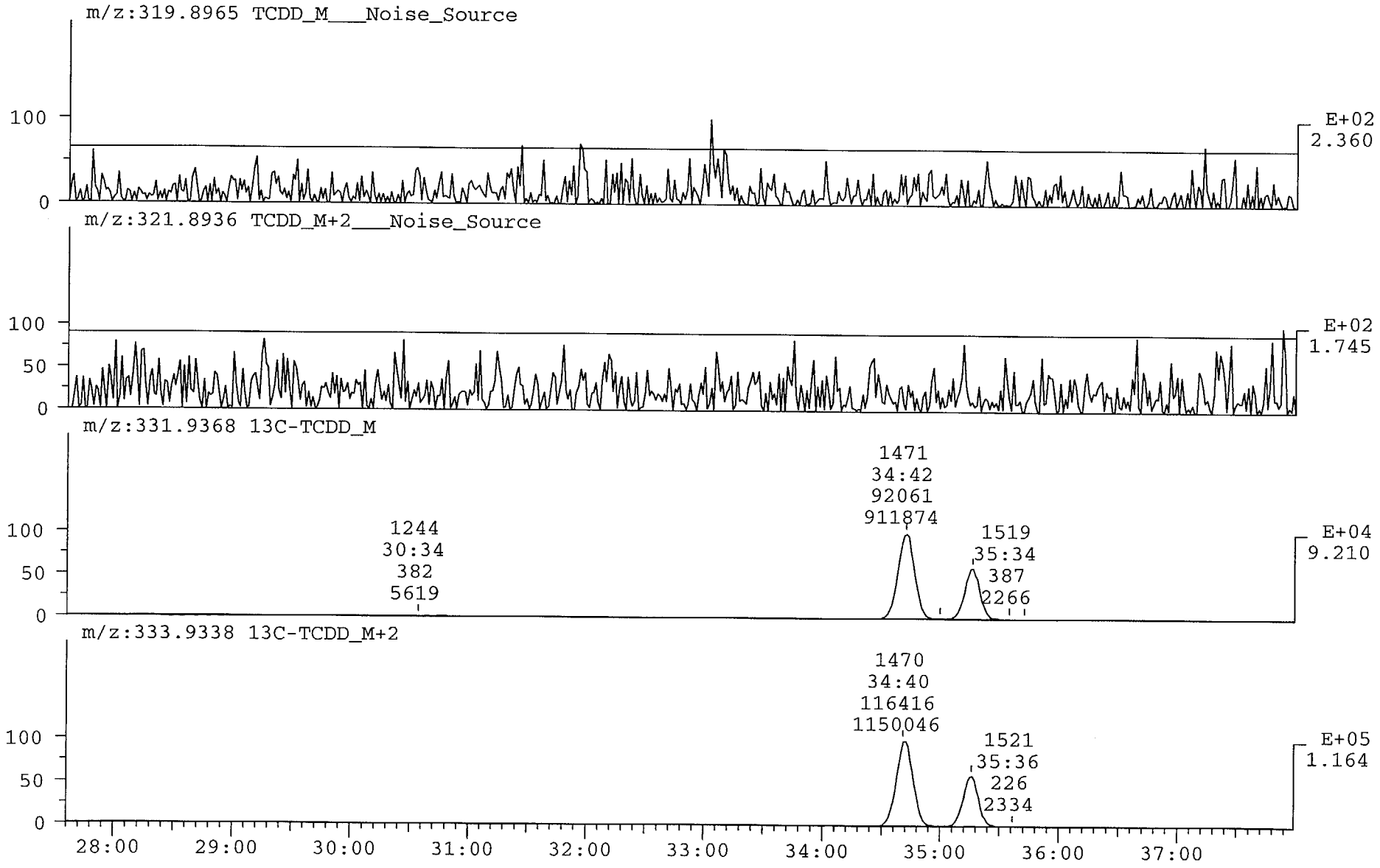
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

CHRO: bth2h1x 04-May-06 Elapse: 56:49 2707
Samp: Vial 8 WO=h2h1x1aa Meth=X8 Dil=1 Start : 05:09:18 2887
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D030236-011 Inlet : GC Vial 8
Peak: 100.00 ppm Label wndw: 441 > 2887 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

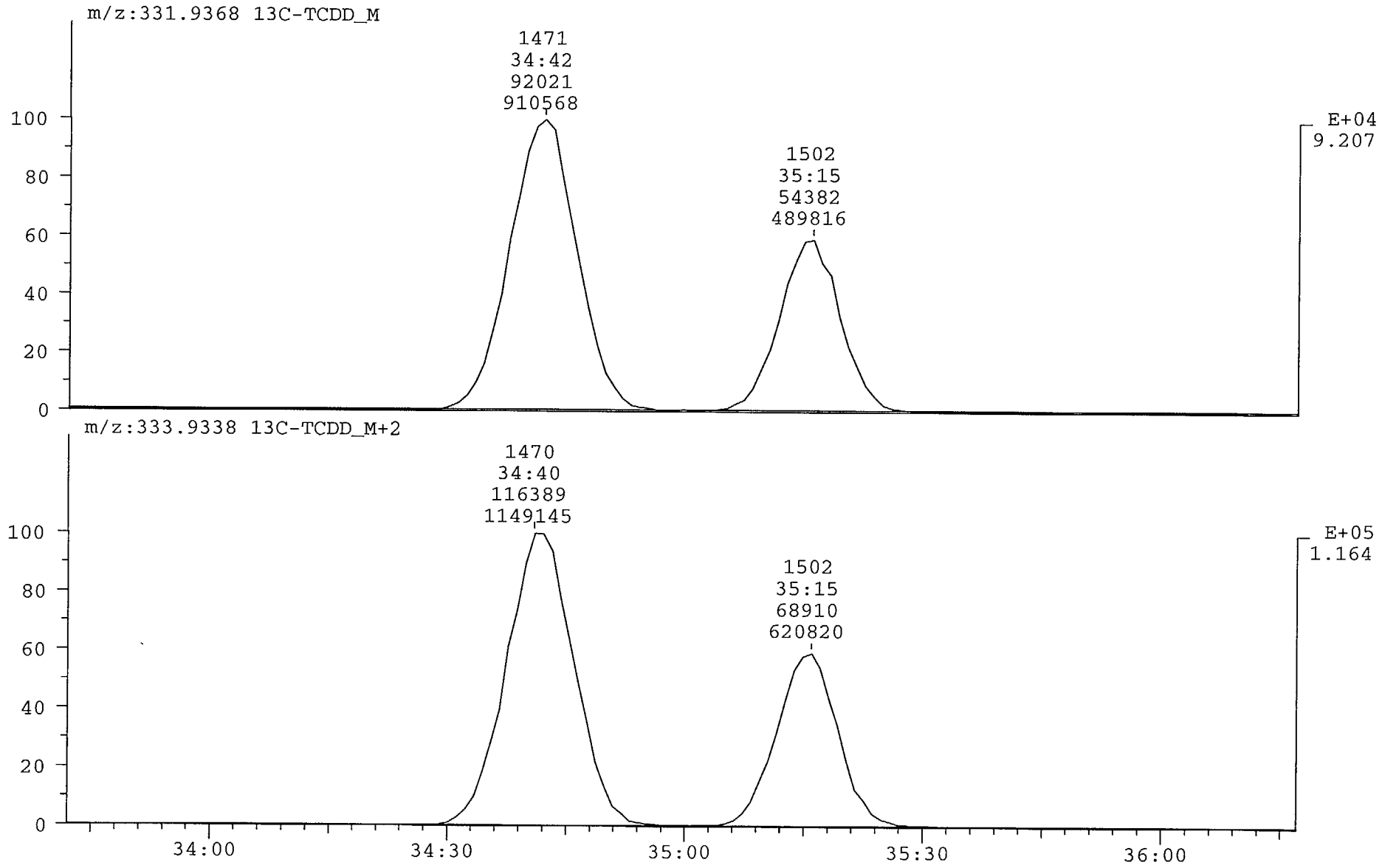
Int BKW 5/4/06
Calc BKW 5/4/06
QC/Rev PMP 5-8-06



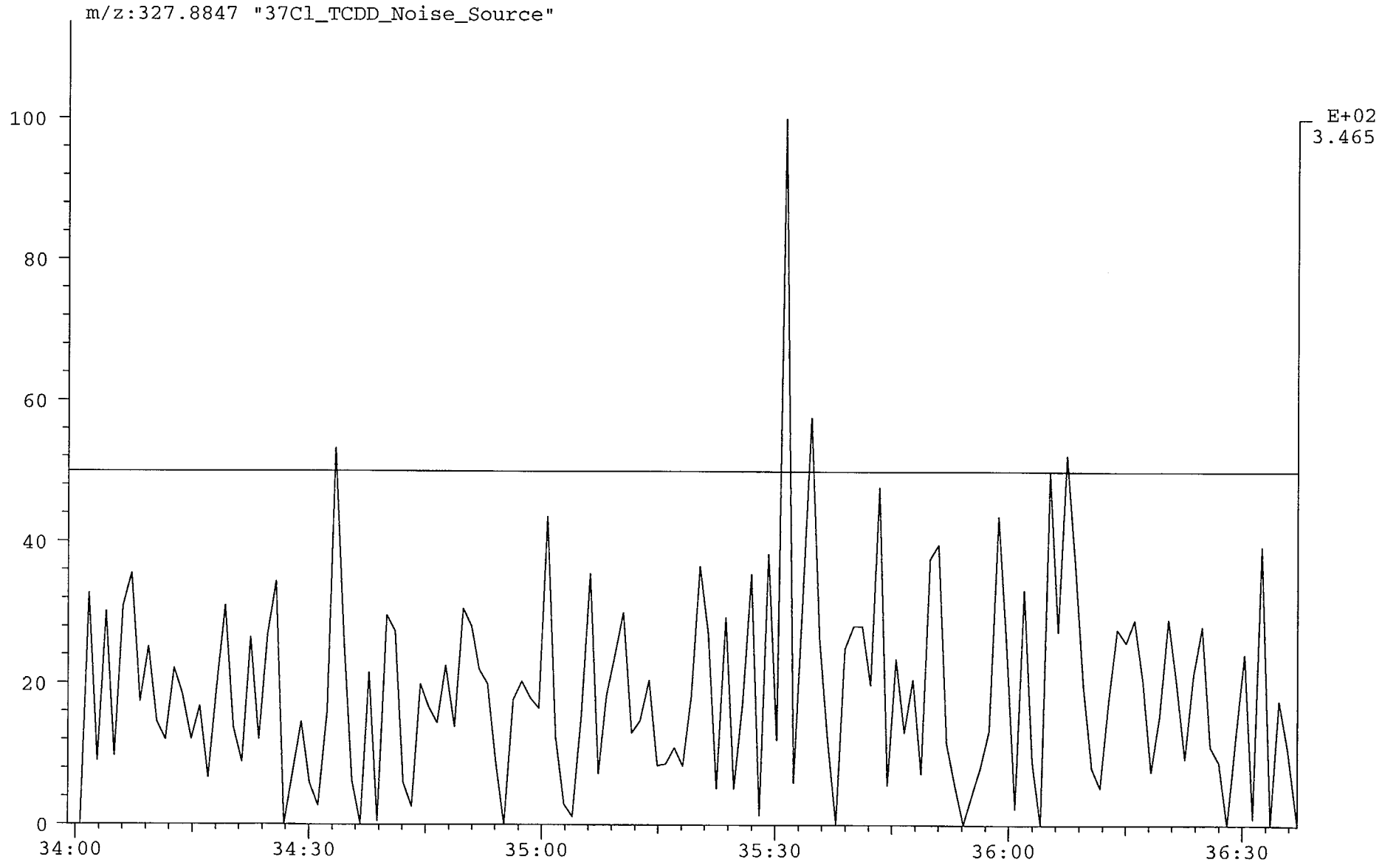
CHRO: bth2h1x 04-May-06 Elapse: 56:49 2707
Samp: Vial 8 WO=h2h1x1aa Meth=X8 Dil=1 Start : 05:09:18 2887
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D030236-011 Inlet : GC Vial 8
Peak: 100.00 ppm Label wndw: 1080 > 1651 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



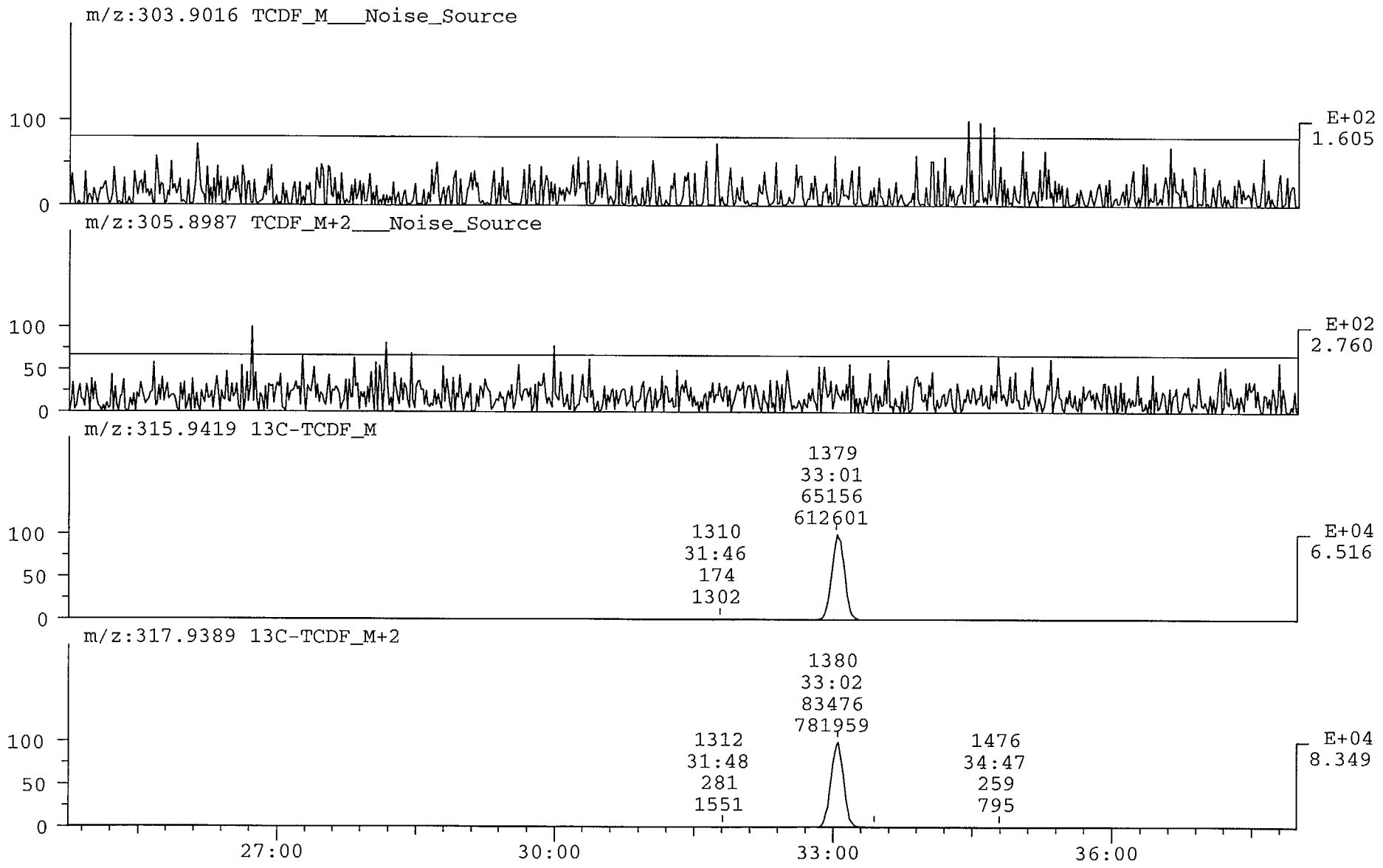
```
CHRO:  bth2h1x                                  04-May-06   Elapse:  34:59      1487
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                     Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-011                Inlet :  GC     Vial   8
Peak:  100.00  ppm      Label wndw:   1416 > 1558           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



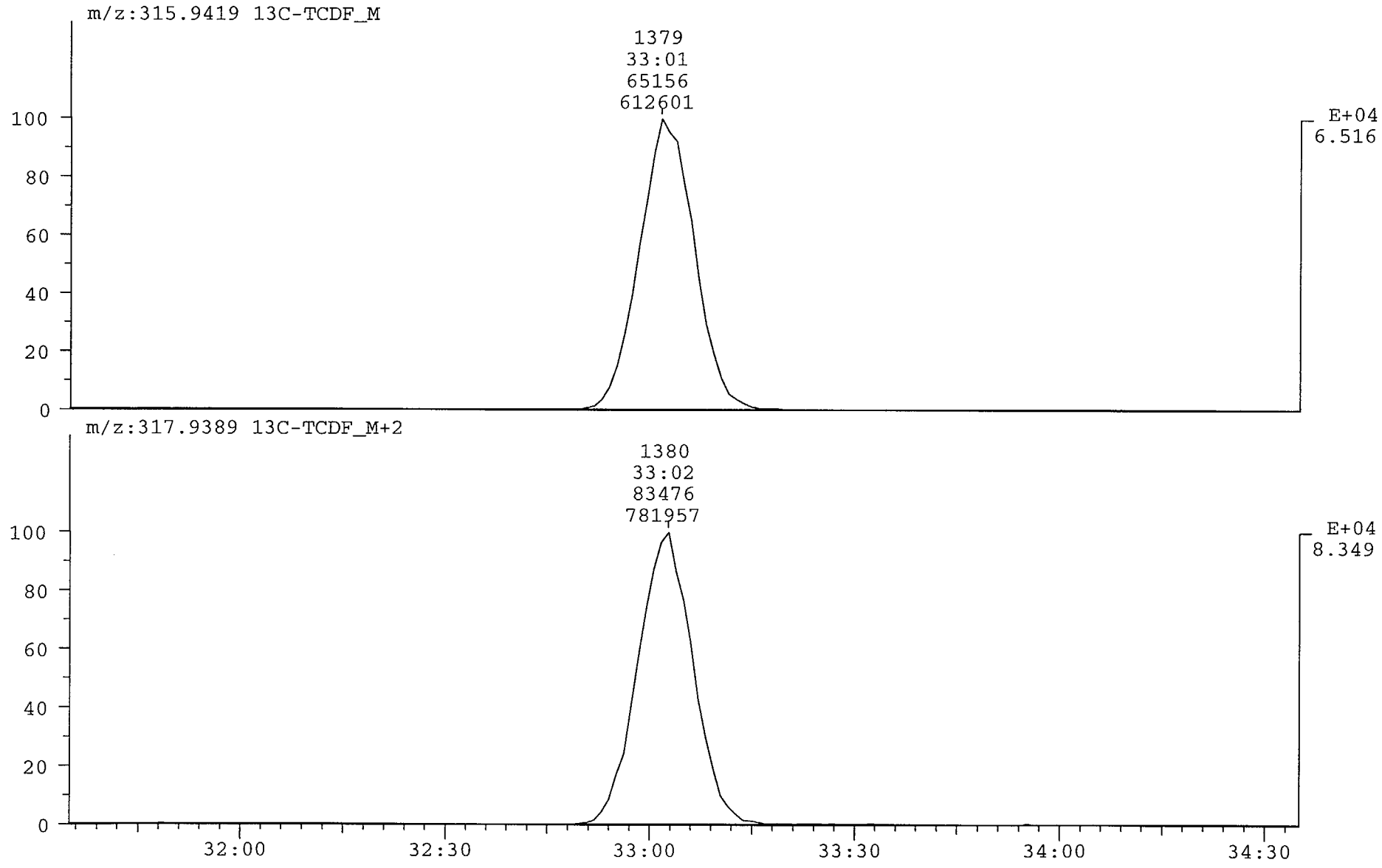
```
CHRO:  bth2h1x                                  04-May-06   Elapse:  35:14      1501
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                     Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-011                Inlet :  GC     Vial   8
Peak:  100.00  ppm      Label wndw:   1432 > 1576           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



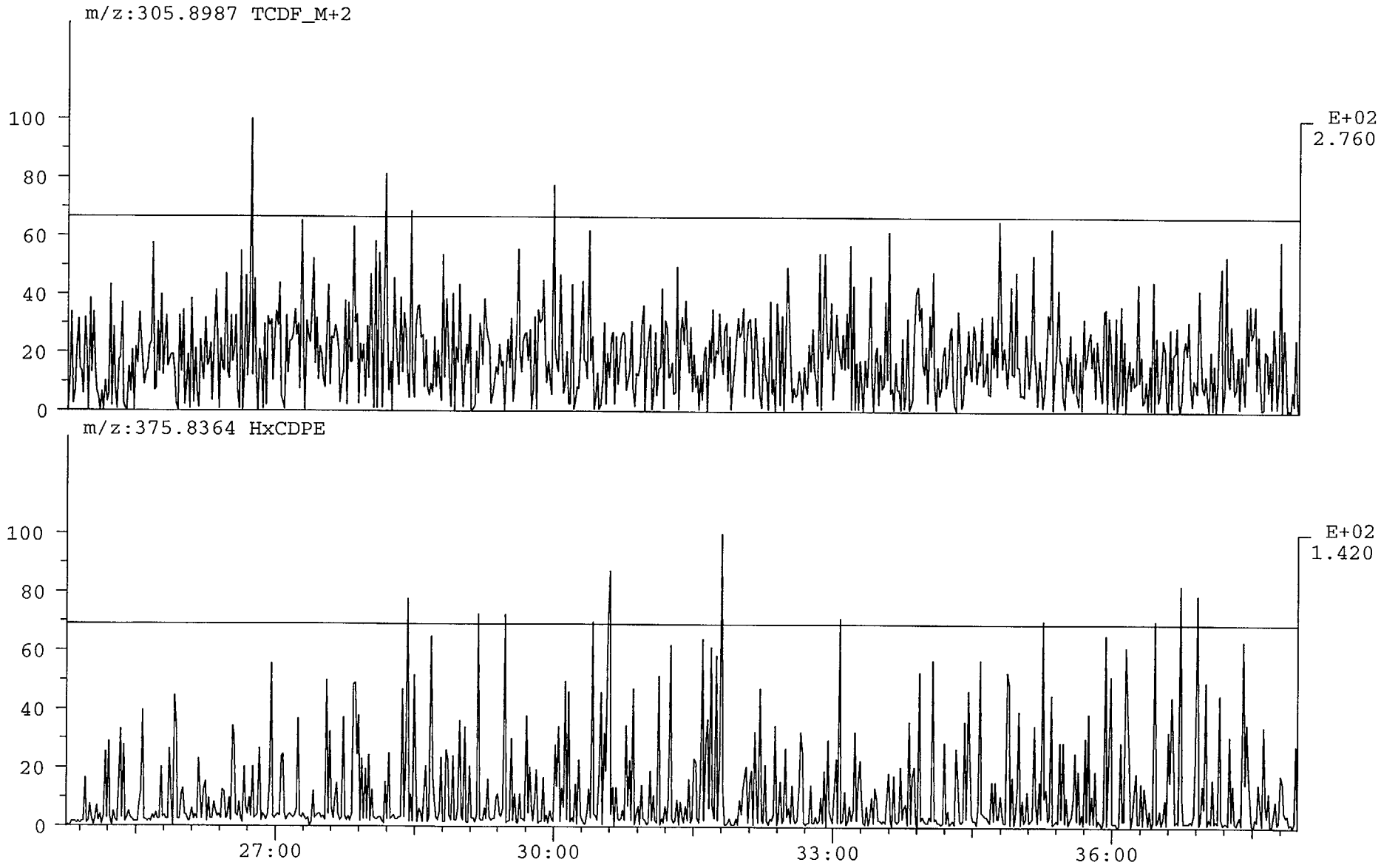
```
CHRO:  bth2h1x                                  04-May-06   Elapse:  35:14      1501
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                     Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-011                Inlet :  GC     Vial   8
Peak:  100.00  ppm      Label wndw:   923 > 1651            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



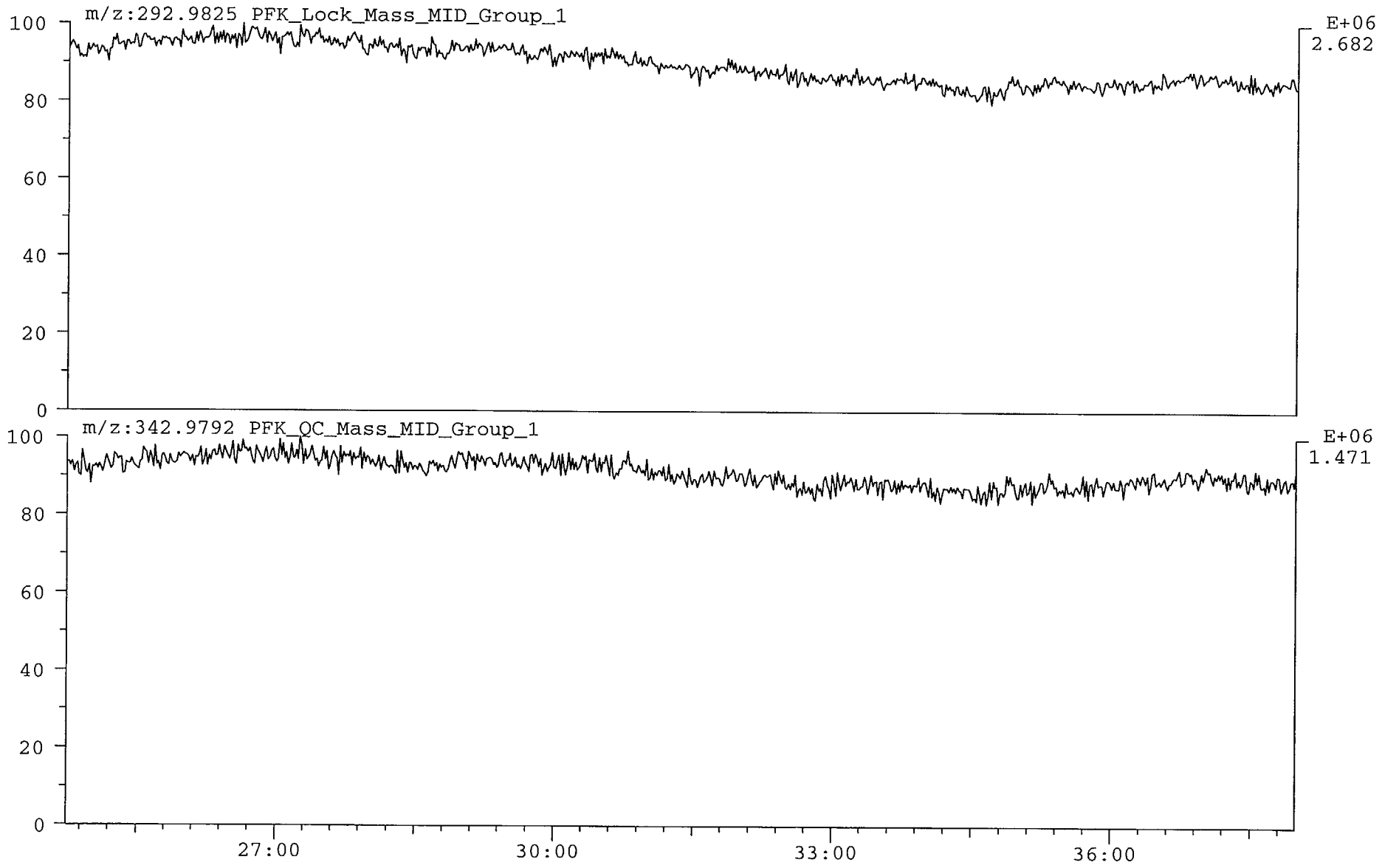
```
CHRO:  bth2h1x                                  04-May-06  Elapse:  33:01      1379
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                    Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-011               Inlet :  GC     Vial   8
Peak:  100.00  ppm      Label wndw:   1300 > 1465          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



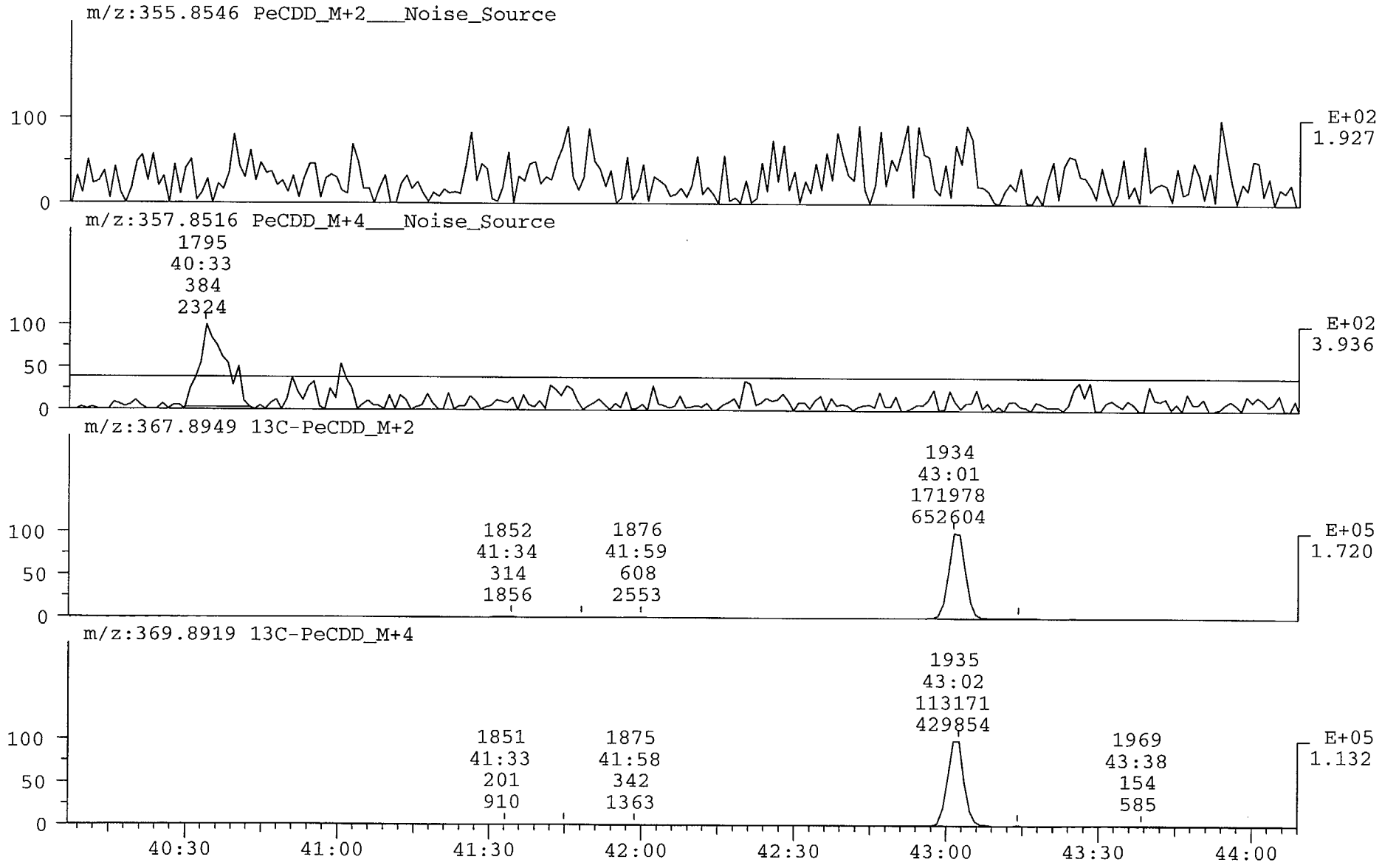
CHRO: bth2h1x 04-May-06 Elapse: 33:01 1379
Samp: Vial 8 WO=h2h1x1aa Meth=X8 Dil=1 Start : 05:09:18 2887
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D030236-011 Inlet : GC Vial 8
Peak: 100.00 ppm Label wndw: 923 > 1651 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



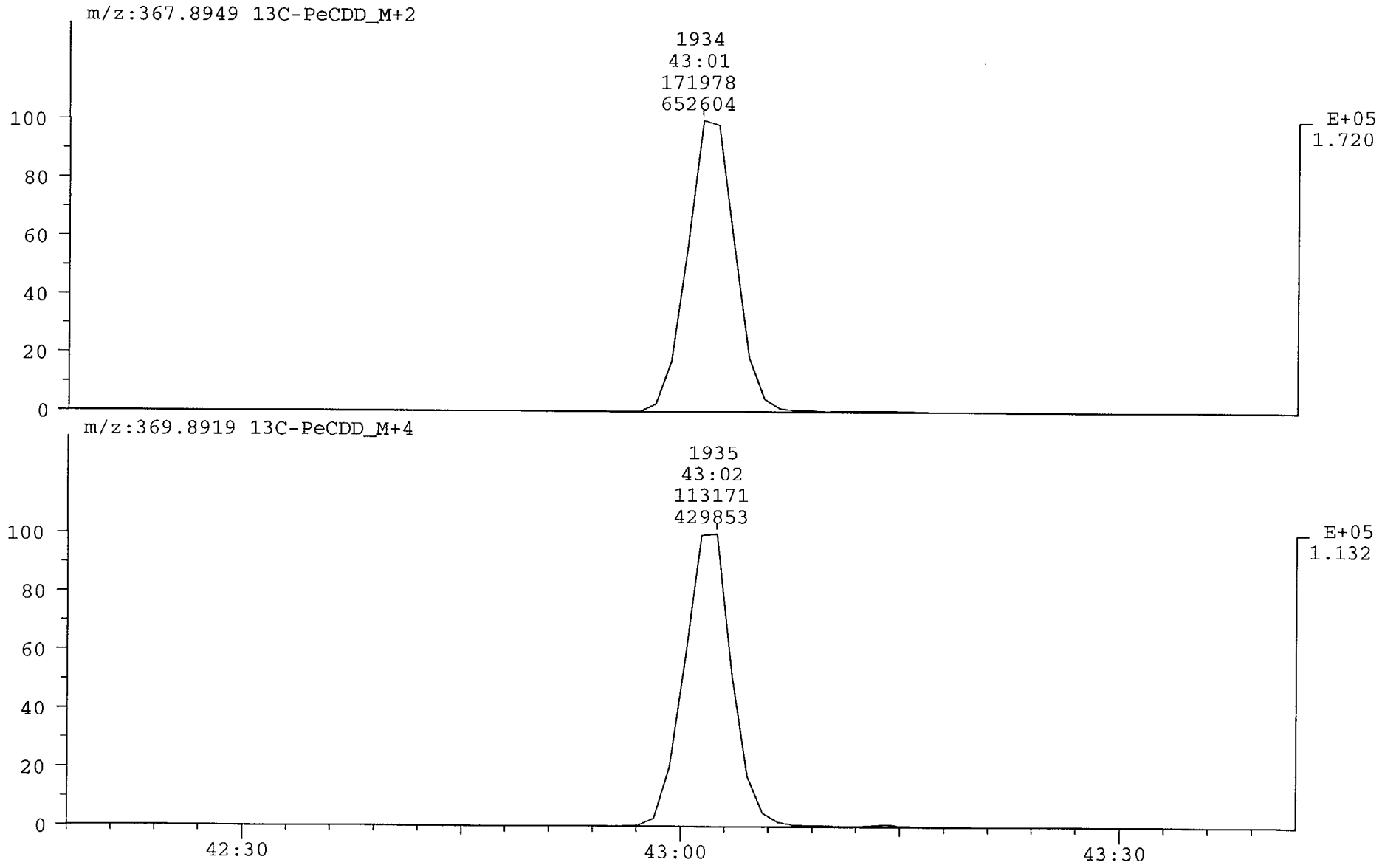
```
CHRO:  bth2h1x                                  04-May-06   Elapse:  33:01      1379
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                     Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-011                Inlet :  GC     Vial   8
Peak:  100.00  ppm      Label wndw:   923 > 1651            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```



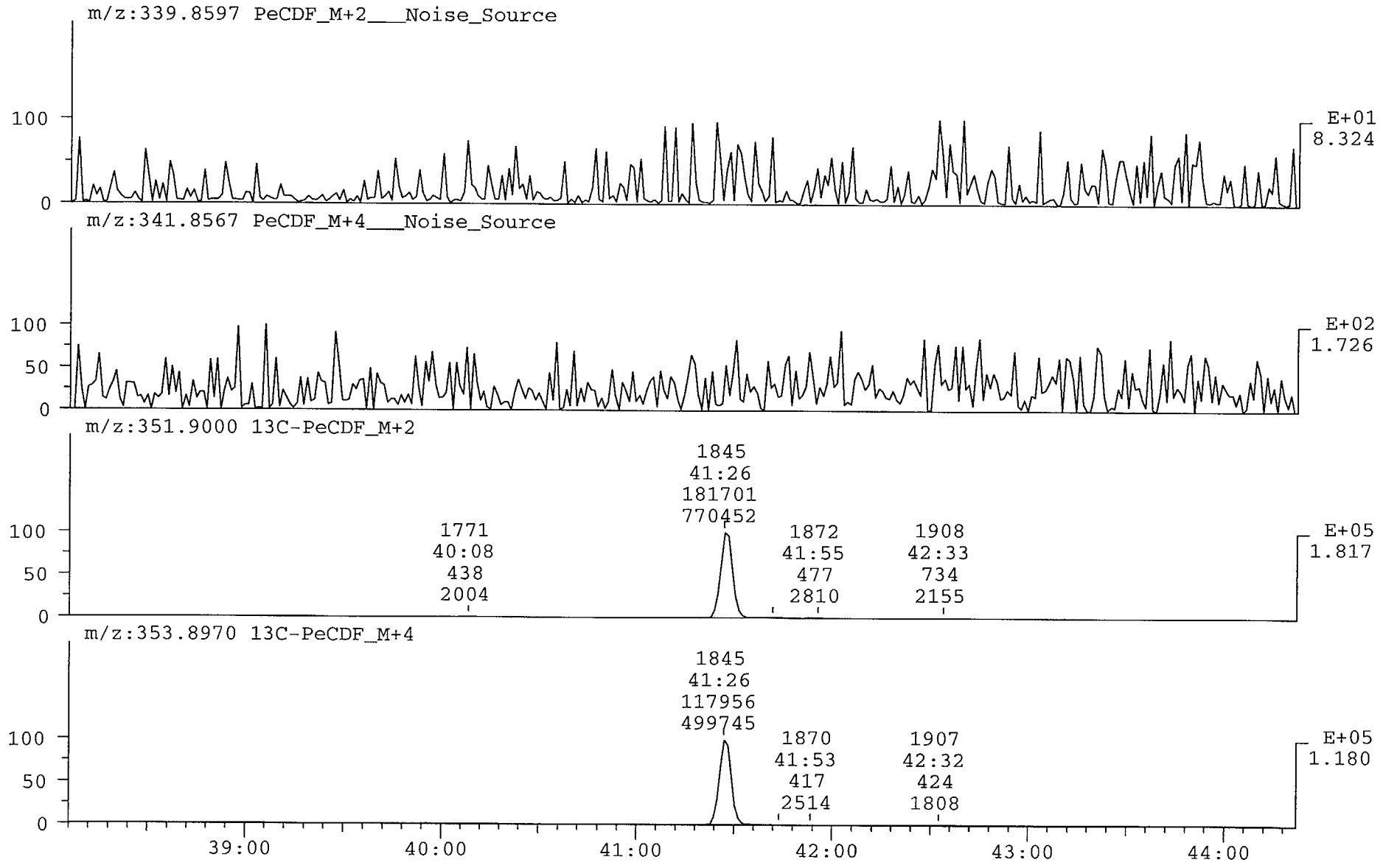
```
CHRO:  bth2h1x                                  04-May-06   Elapse:  33:01      1379
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                     Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-011                Inlet :  GC     Vial   8
Peak:  100.00  ppm      Label wndw:   1770 > 1998           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



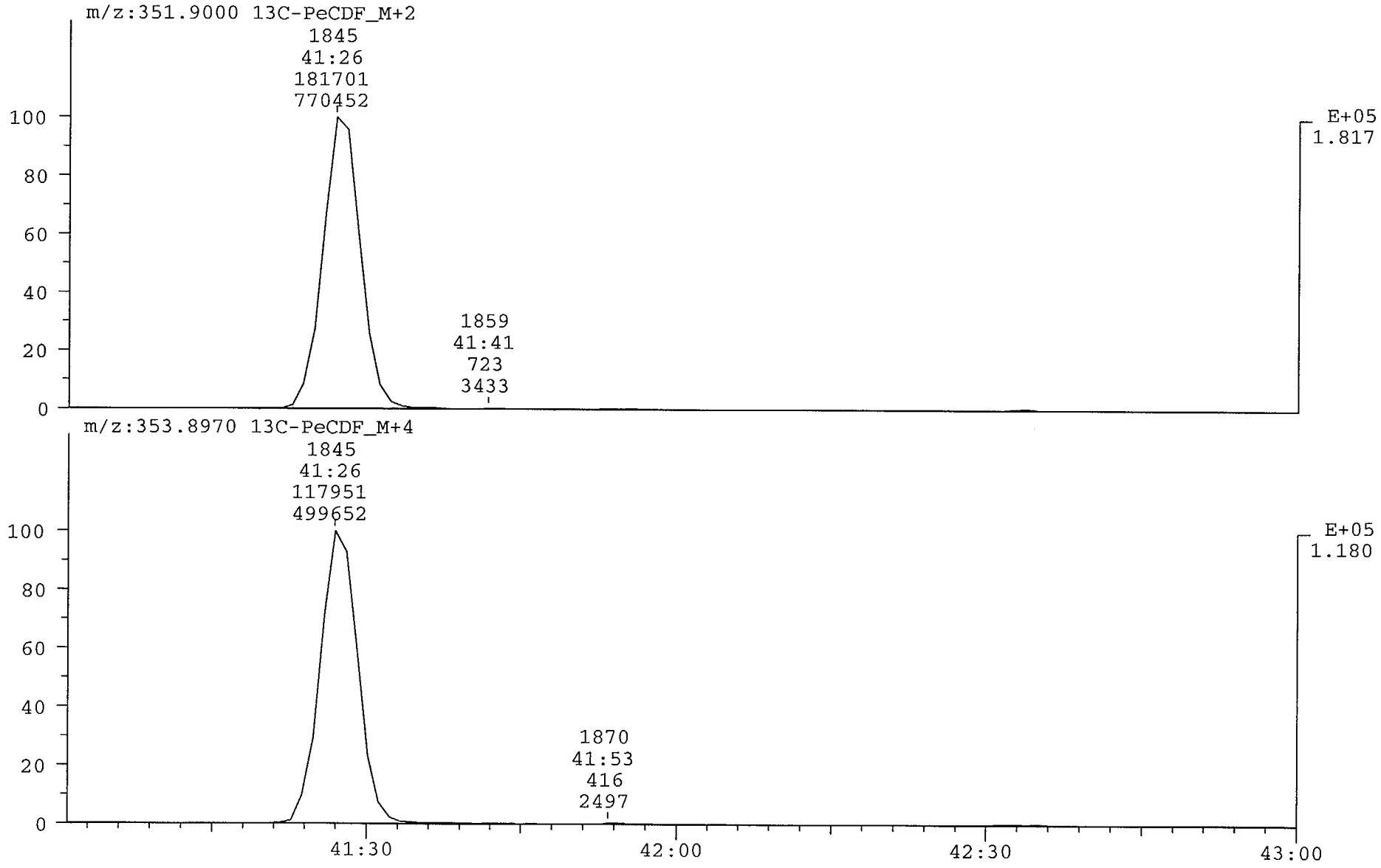
```
CHRO:  bth2h1x                                  04-May-06   Elapse:  42:57      1930
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                     Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-011                Inlet :  GC     Vial   8
Peak:  100.00  ppm      Label wndw:   1893 > 1972           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



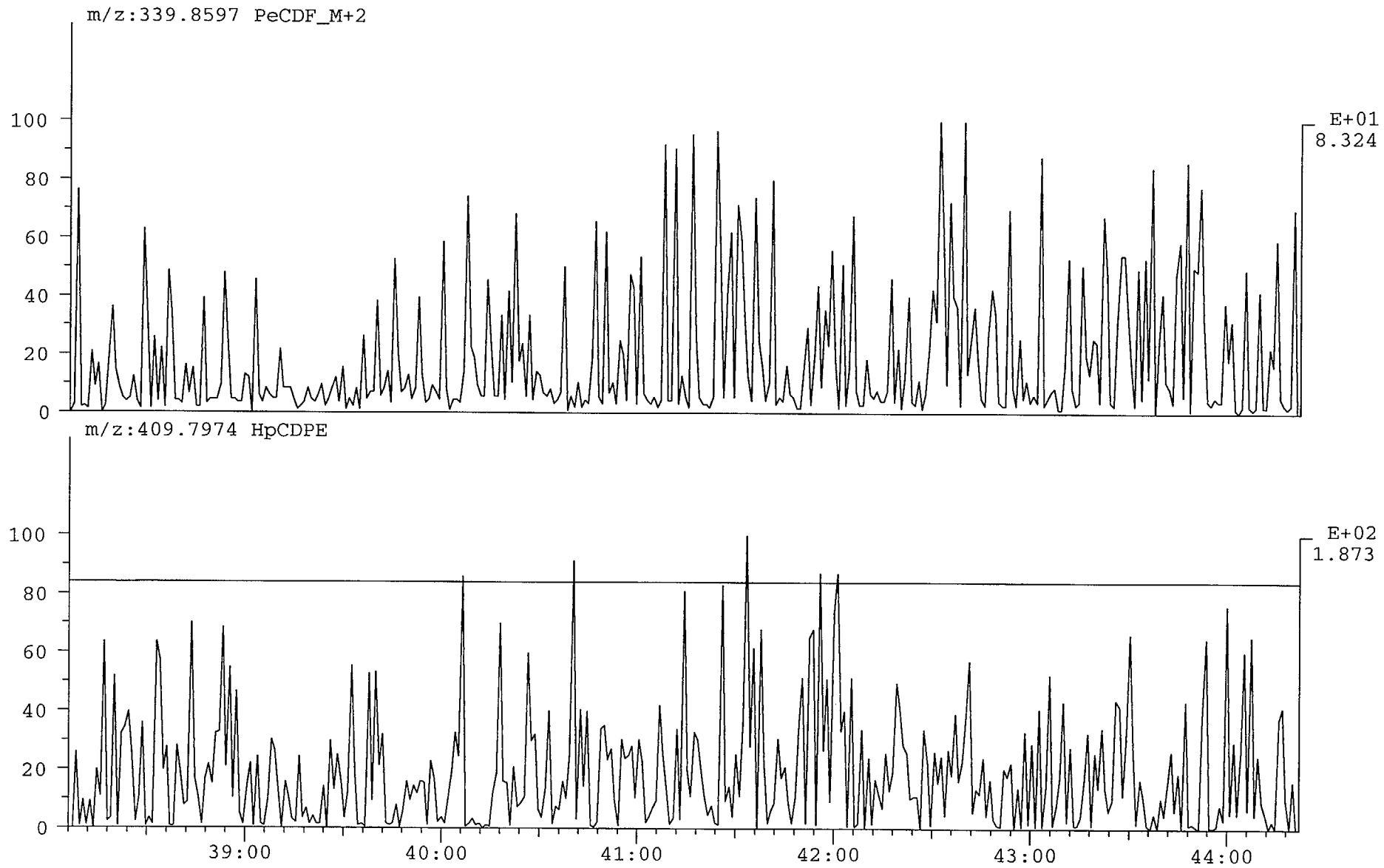
```
CHRO:  bth2h1x                                  04-May-06   Elapse:  42:57      1930
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                     Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-011                Inlet :  GC     Vial   8
Peak:  100.00  ppm      Label wndw:   1656 > 2010           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



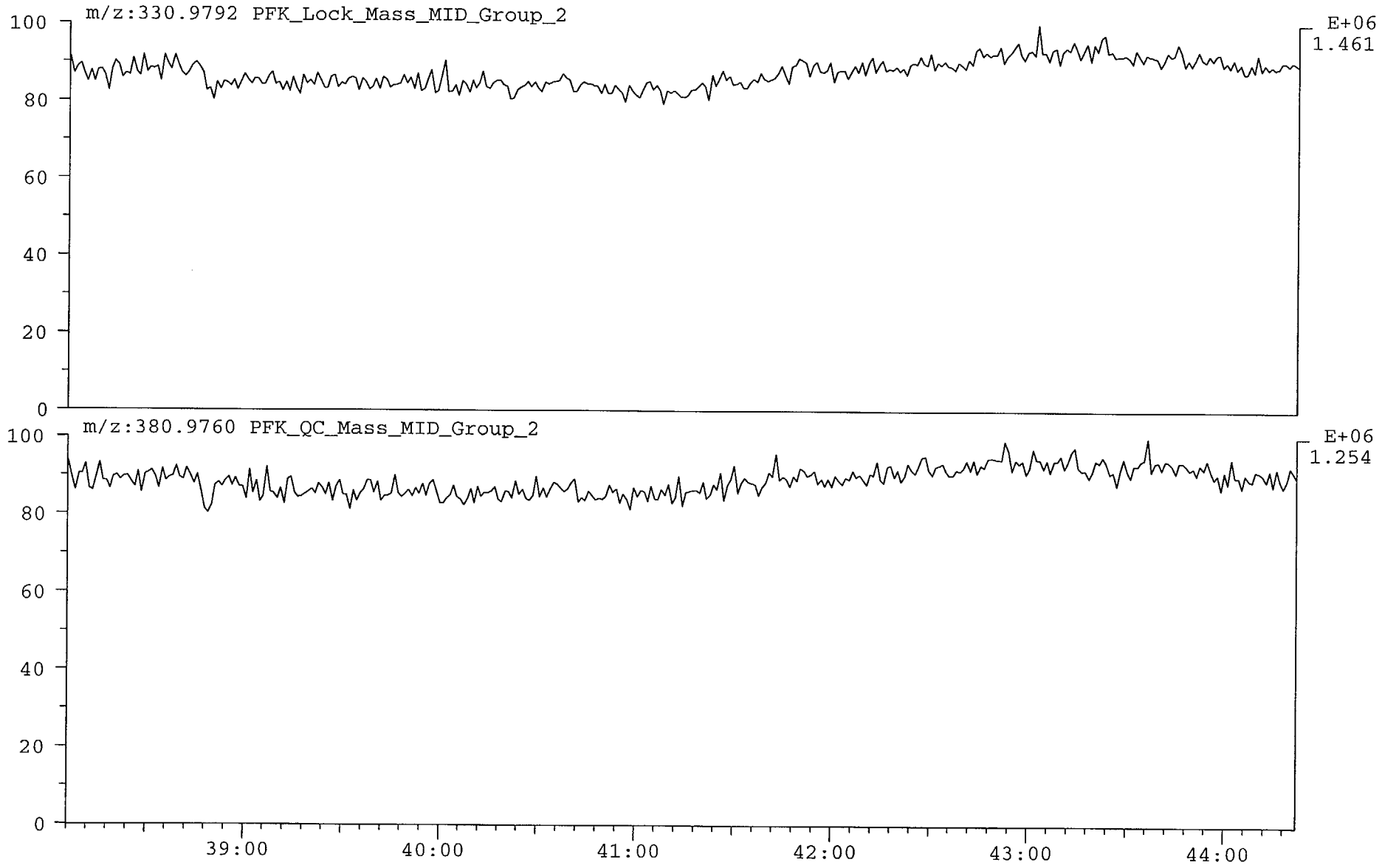
```
CHRO:  bth2h1x                                  04-May-06   Elapse:  41:59      1876
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                     Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-011                Inlet :  GC     Vial   8
Peak:  100.00  ppm      Label wndw:   1821 > 1933           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



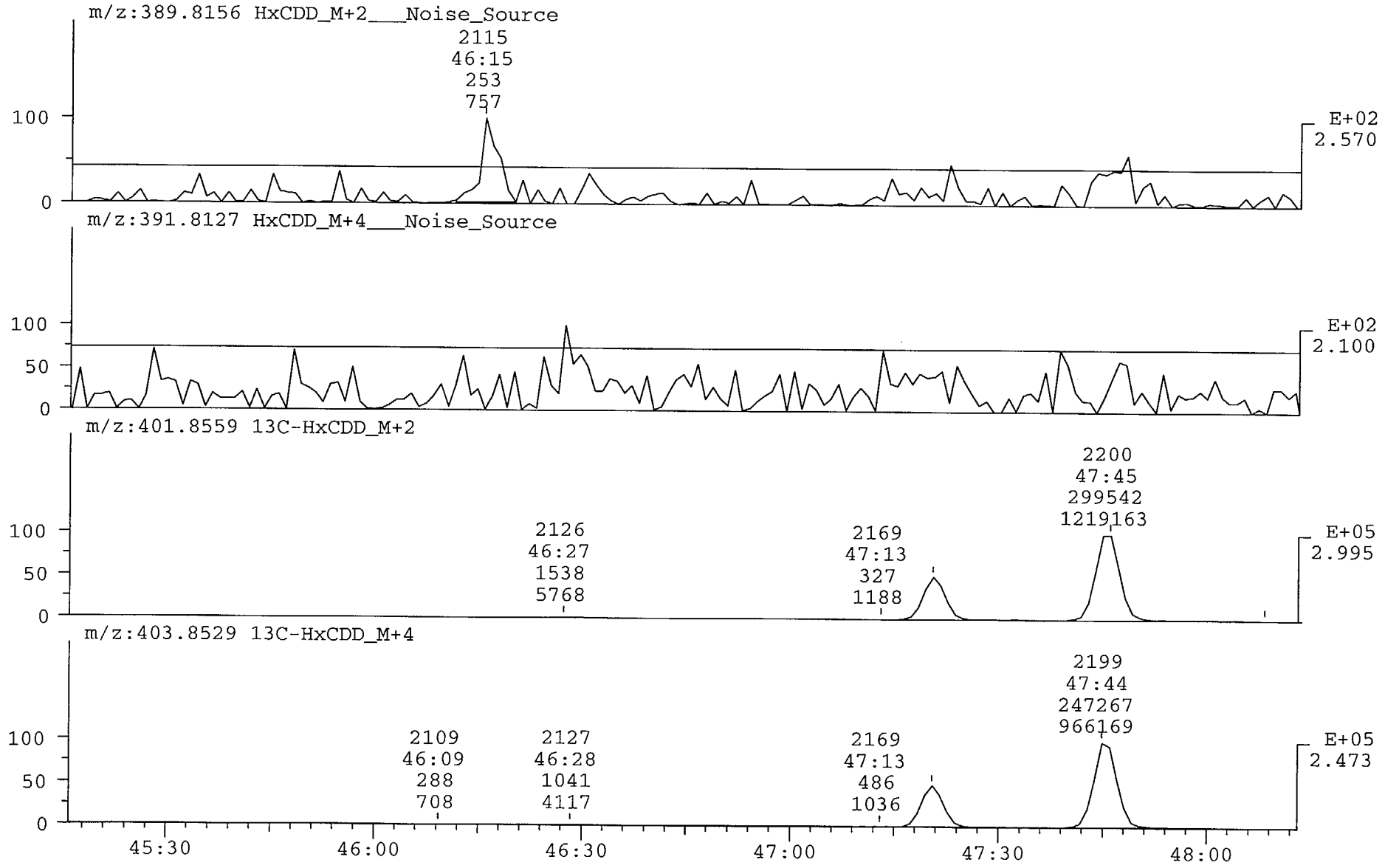
CHRO: bth2h1x 04-May-06 Elapse: 41:59 1876
Samp: Vial 8 WO=h2h1x1aa Meth=X8 Dil=1 Start : 05:09:18 2887
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D030236-011 Inlet : GC Vial 8
Peak: 100.00 ppm Label wndw: 1656 > 2010 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



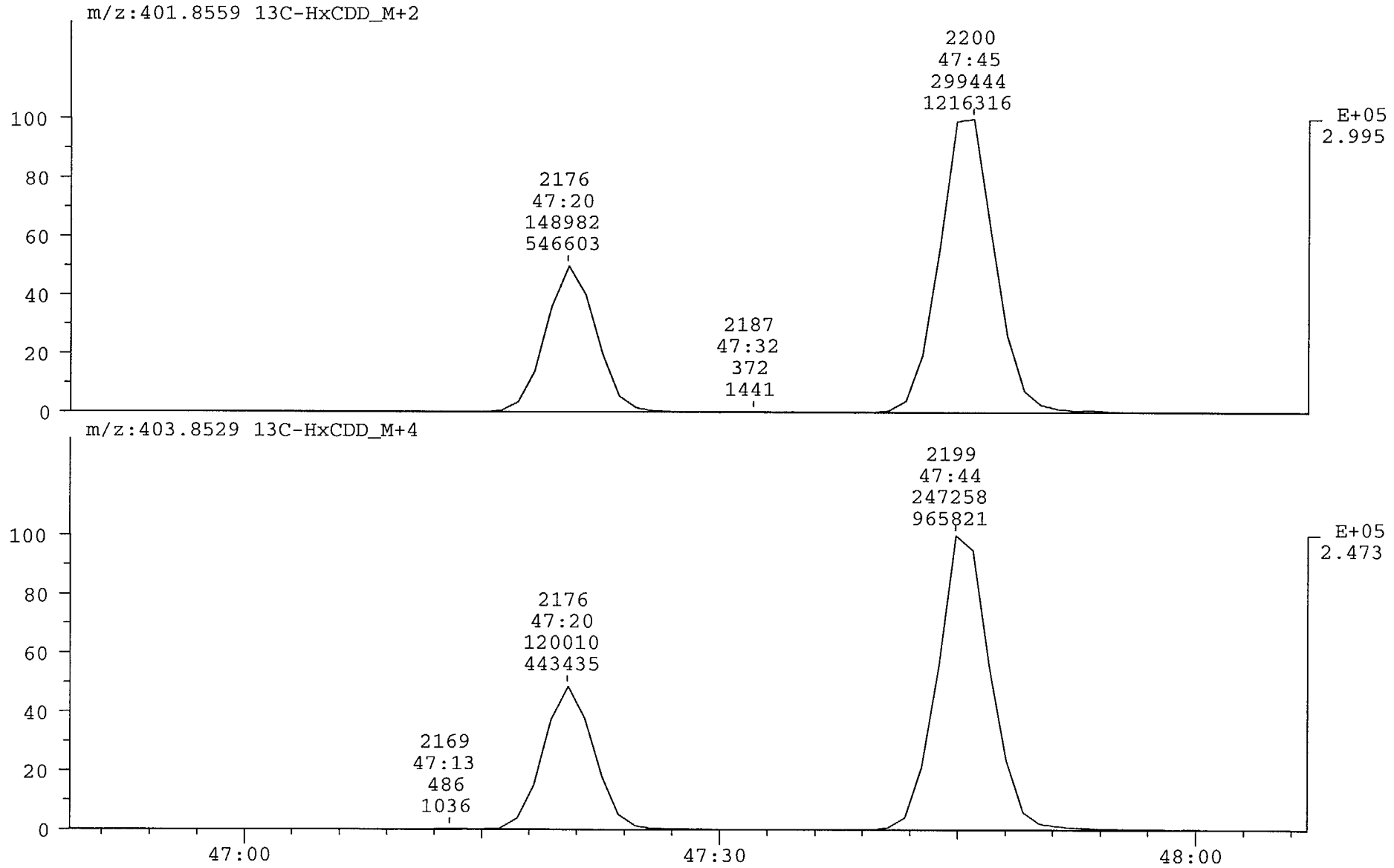
```
CHRO:  bth2h1x                                  04-May-06  Elapse:  41:59      1876
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                    Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-011               Inlet :  GC     Vial   8
Peak:  100.00  ppm      Label wndw:   1656 > 2010          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```



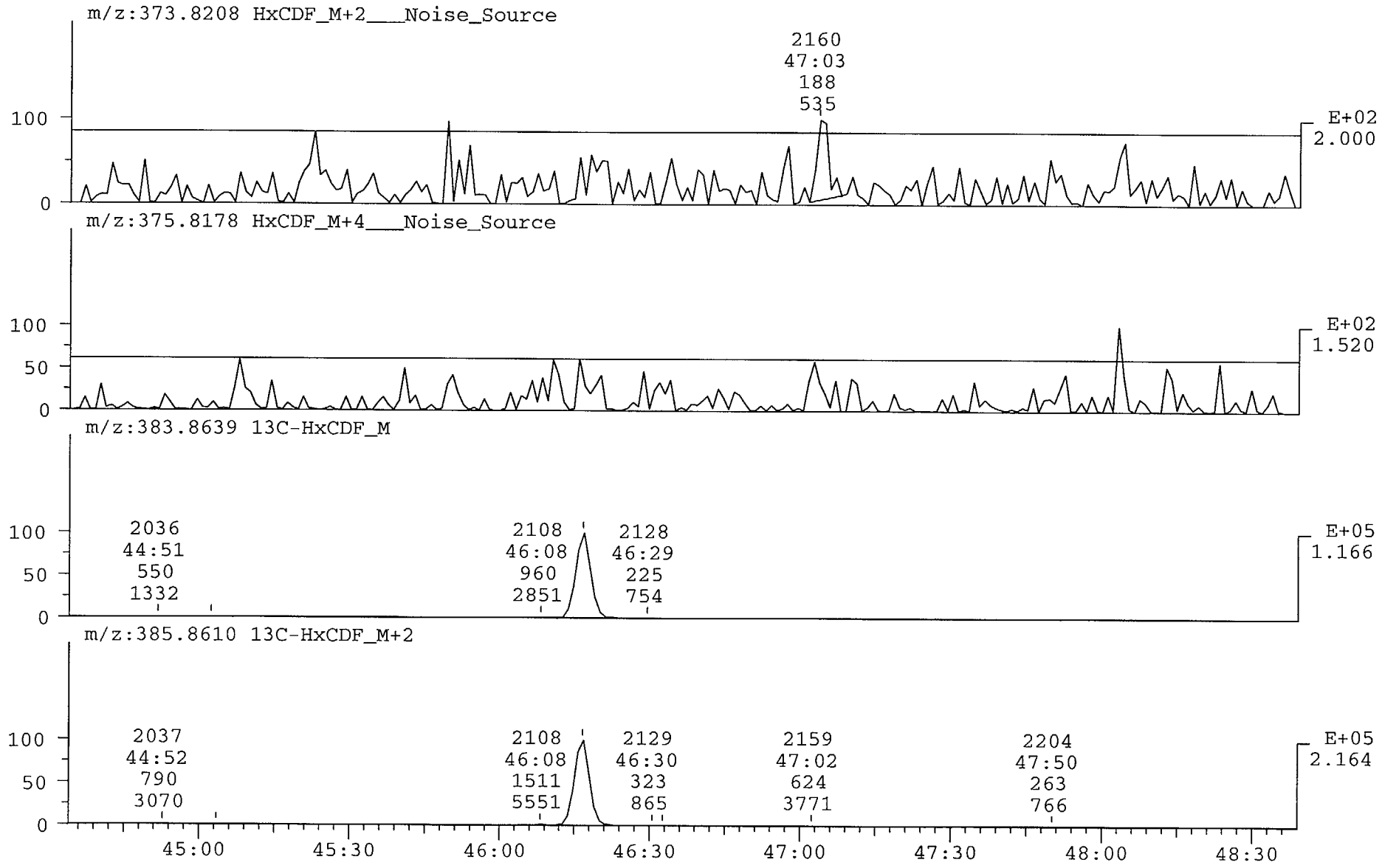
CHRO: bth2h1x 04-May-06 Elapse: 41:59 1876
Samp: Vial 8 WO=h2h1x1aa Meth=X8 Dil=1 Start : 05:09:18 2887
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D030236-011 Inlet : GC Vial 8
Peak: 100.00 ppm Label wndw: 2059 > 2226 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



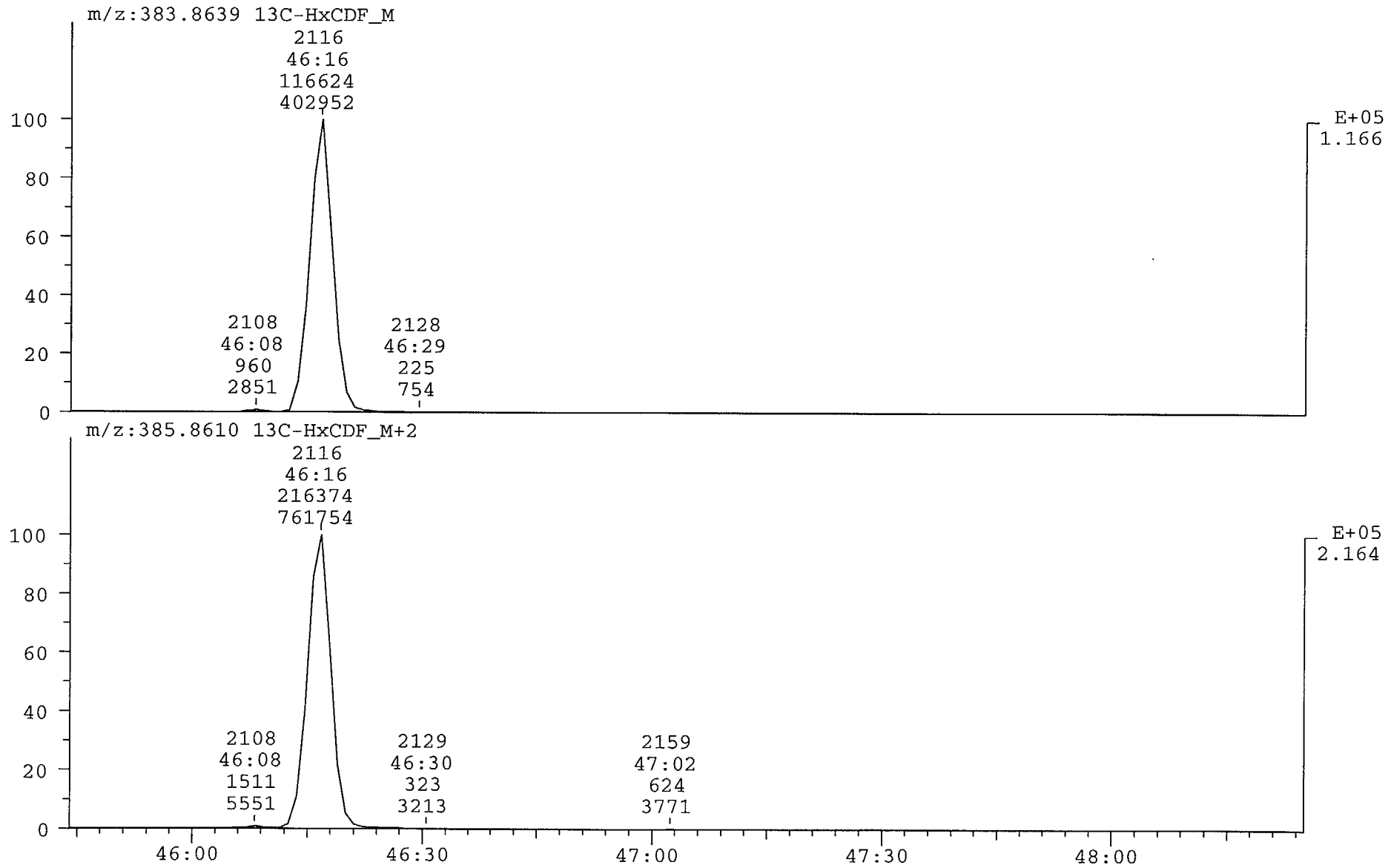
```
CHRO:  bth2h1x                                04-May-06  Elapse:  47:27      2183
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                  Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (air)
Oper:  PMP          Client:  H6D030236-011               Inlet :  GC     Vial   8
Peak:  100.00  ppm     Label wndw:   2146 > 2220         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



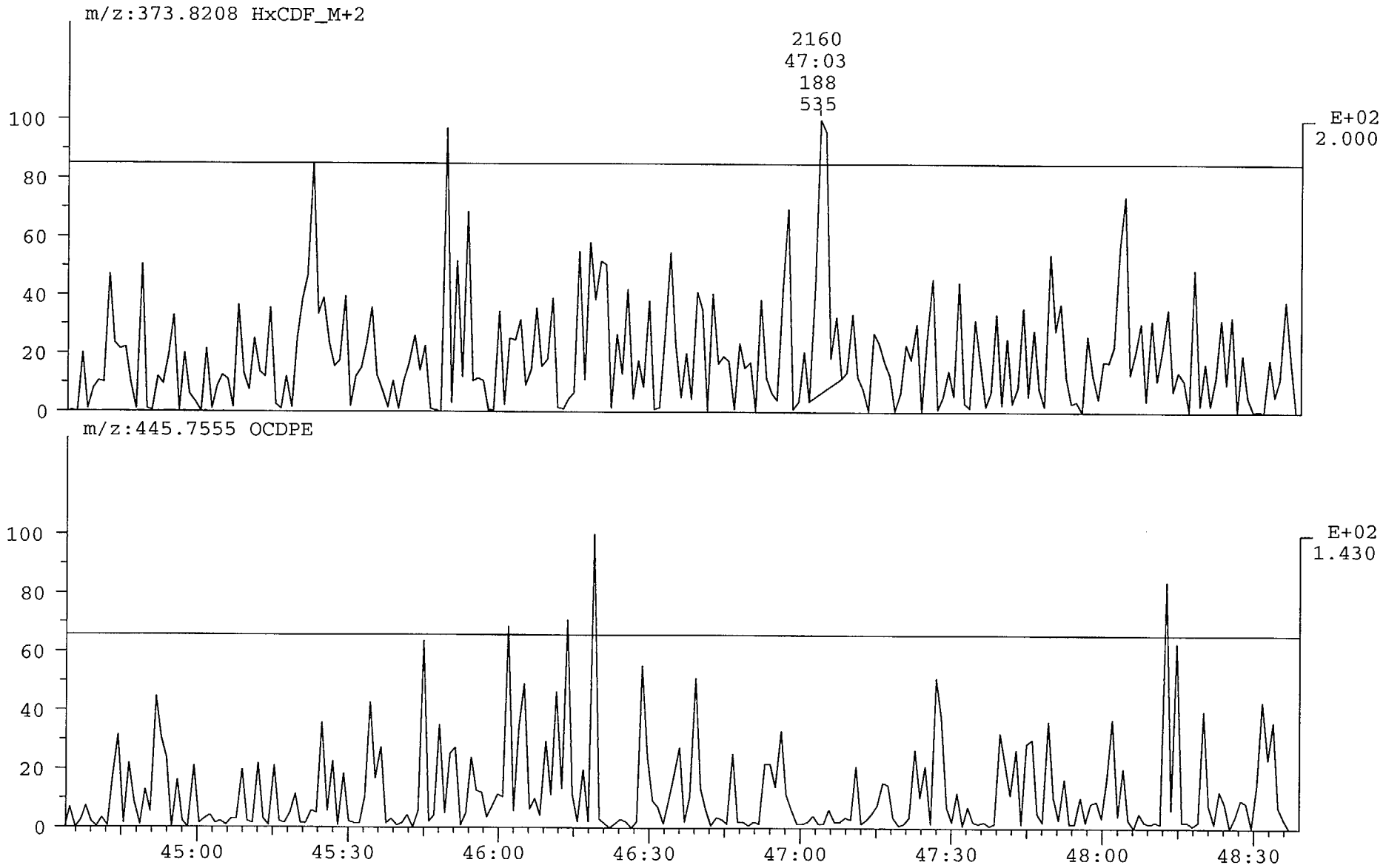
```
CHRO:  bth2h1x                                  04-May-06   Elapse:  47:27      2183
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                     Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-011                Inlet :  GC     Vial   8
Peak:  100.00  ppm      Label wndw:   2019 > 2250           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



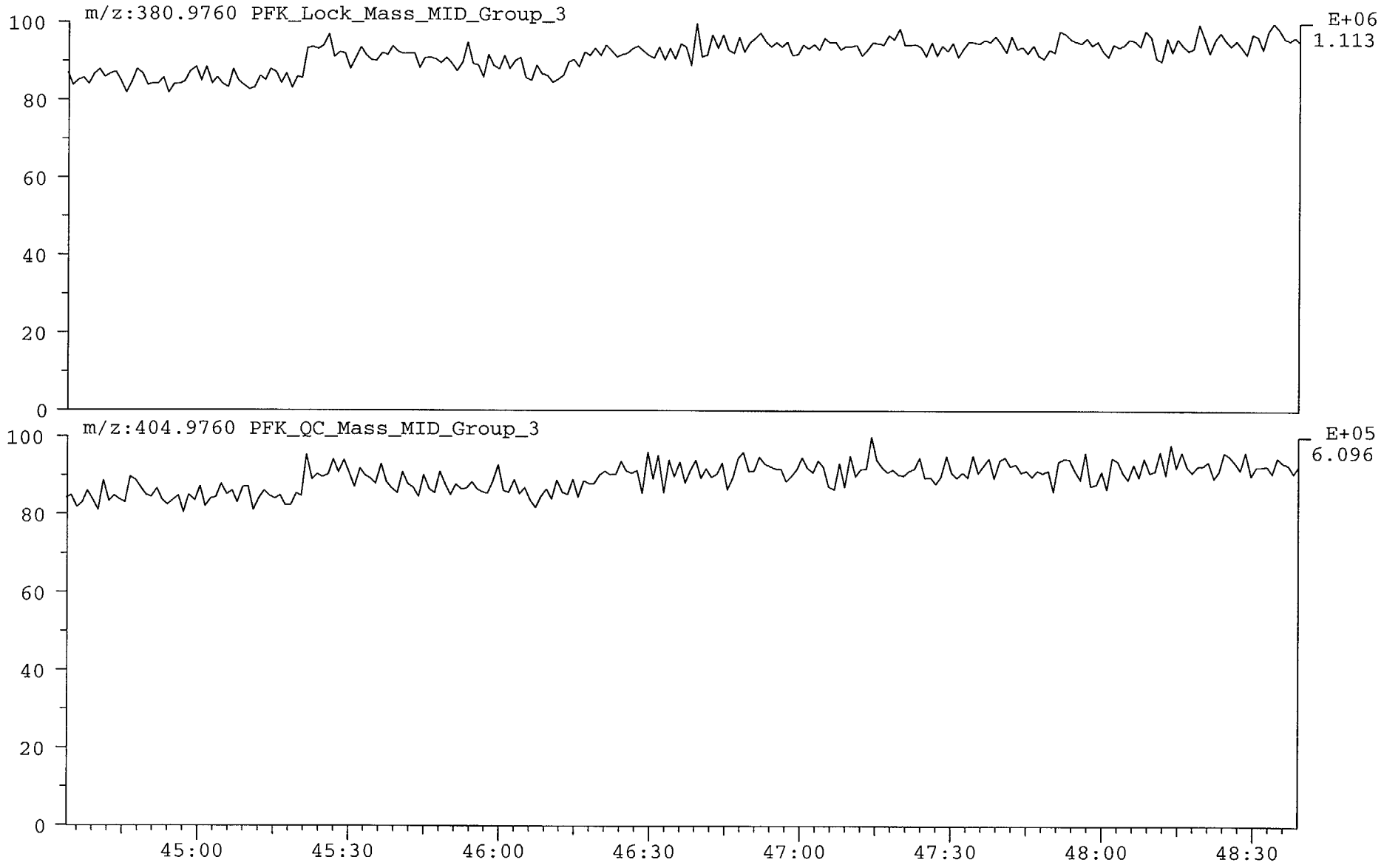
```
CHRO:  bth2h1x                                  04-May-06   Elapse:  47:04      2161
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                     Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-011                Inlet :  GC     Vial   8
Peak:  100.00  ppm      Label wndw:   2085 > 2237           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



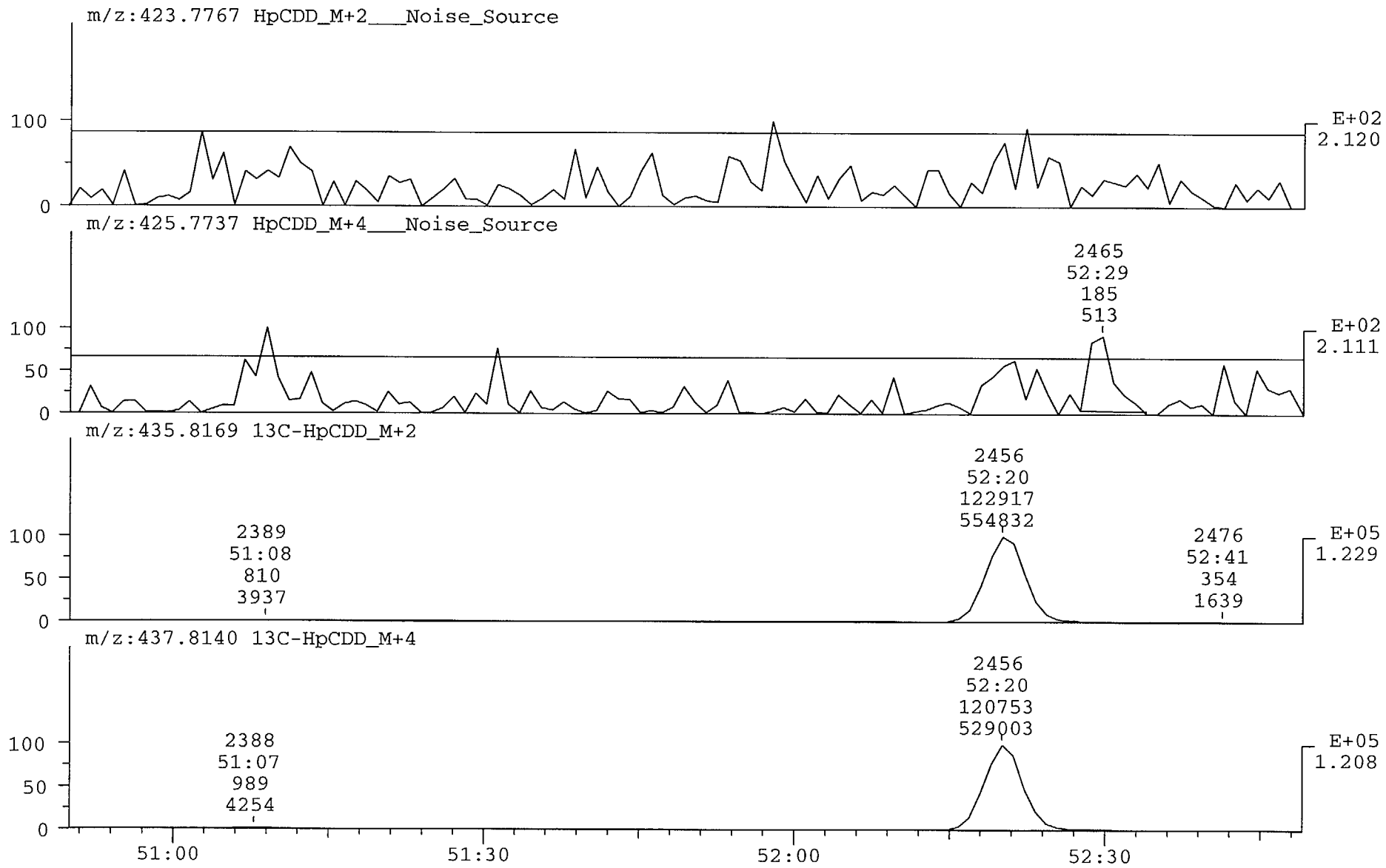
```
CHRO:  bth2h1x                                  04-May-06   Elapse:  46:13      2113
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                     Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-011                Inlet :  GC     Vial   8
Peak:  100.00  ppm      Label wndw:   2019 > 2250           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



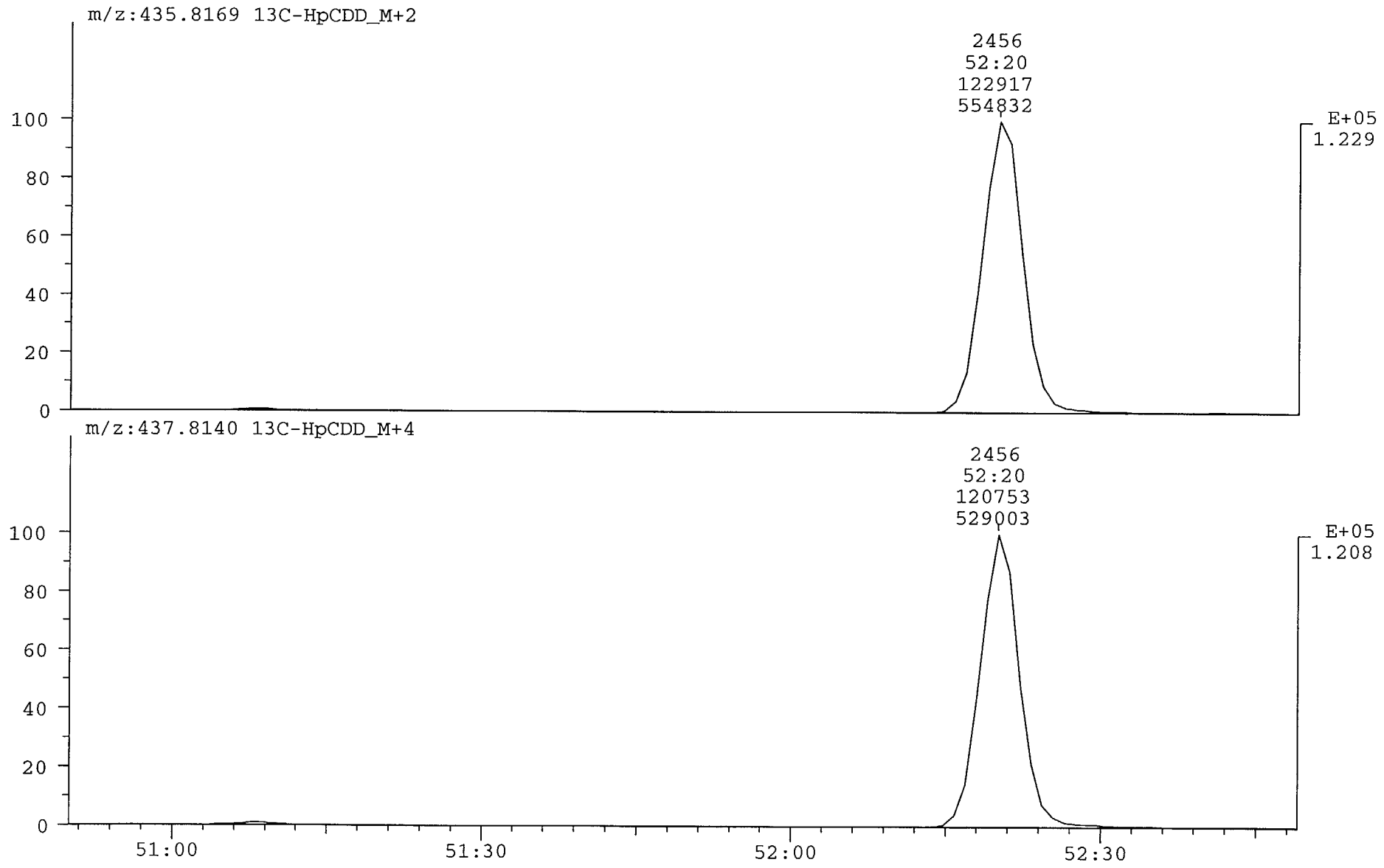
```
CHRO:  bth2h1x                                  04-May-06   Elapse:  46:13      2113
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                     Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-011                Inlet :  GC     Vial   8
Peak:  100.00  ppm      Label wndw:   2019 > 2250           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```



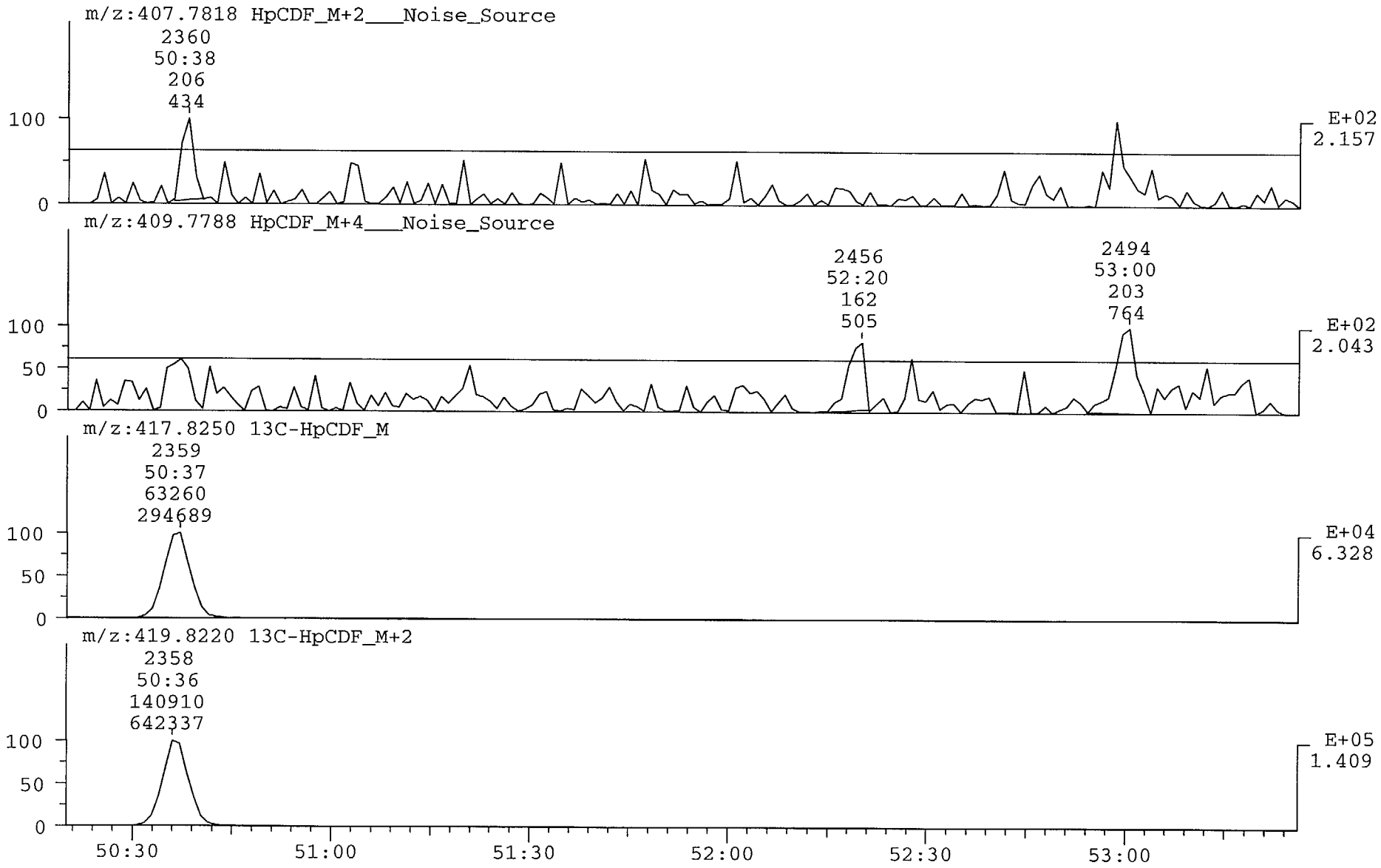
```
CHRO:  bth2h1x                                  04-May-06  Elapse:  46:13      2113
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                    Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-011               Inlet :  GC     Vial   8
Peak:  100.00  ppm      Label wndw:   2371 > 2483          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



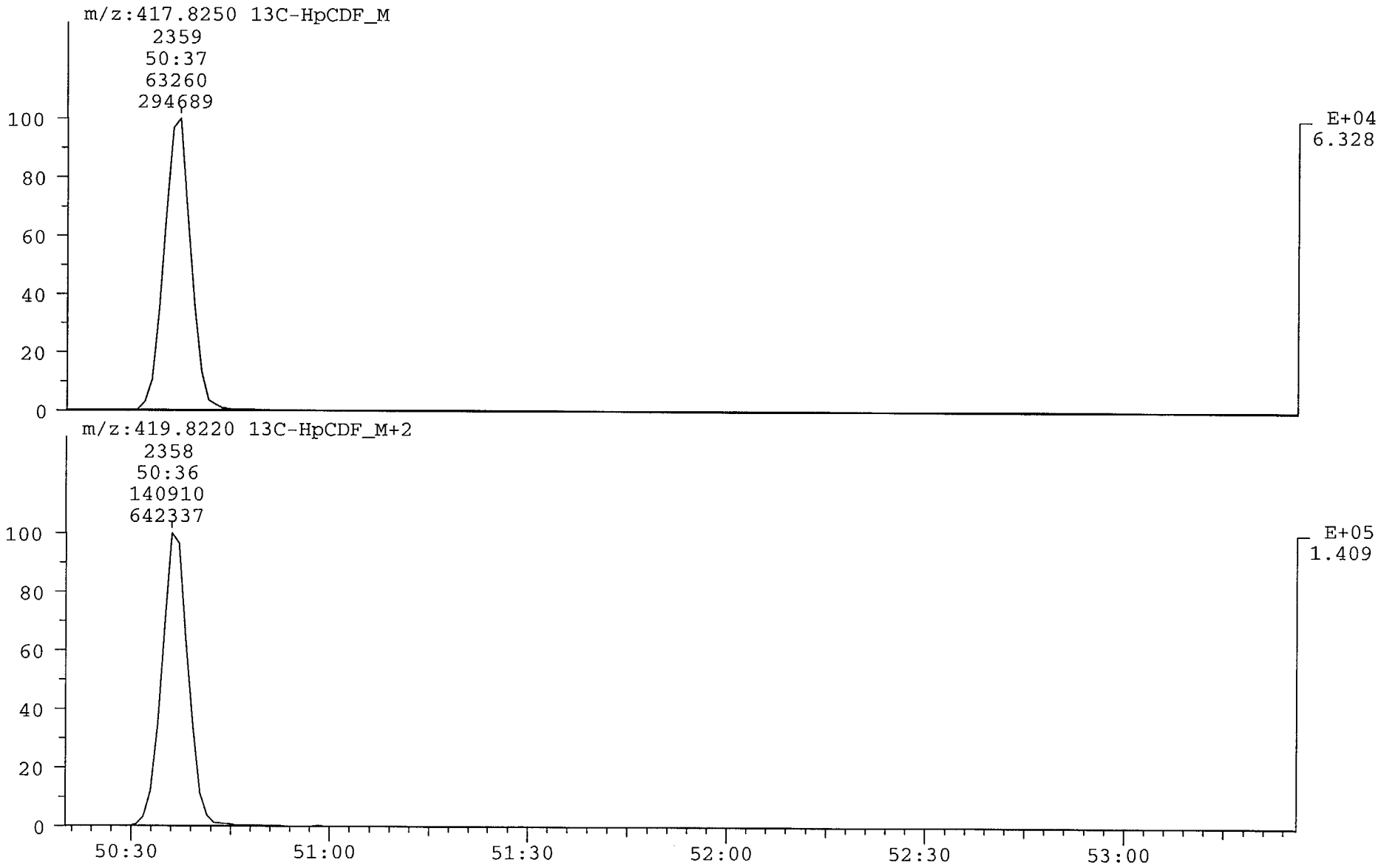
```
CHRO:  bth2h1x                                  04-May-06   Elapse:  46:13      2113
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                     Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-011                Inlet :  GC     Vial   8
Peak:  100.00  ppm      Label wndw:   2371 > 2483           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



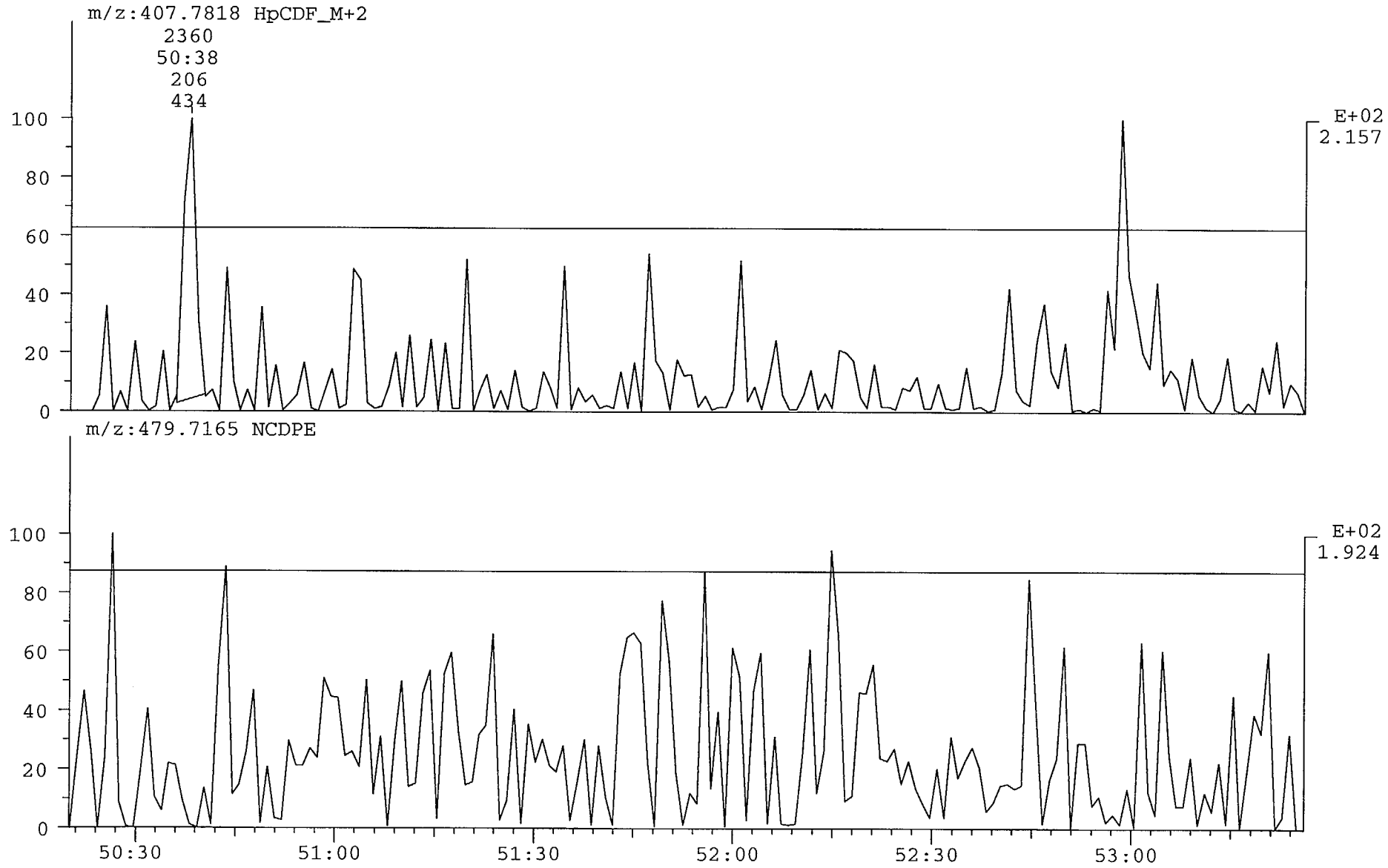
```
CHRO:  bth2h1x                                  04-May-06   Elapse:  46:13      2113
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                     Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-011                Inlet :  GC     Vial   8
Peak:  100.00  ppm      Label wndw:   2343 > 2518           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



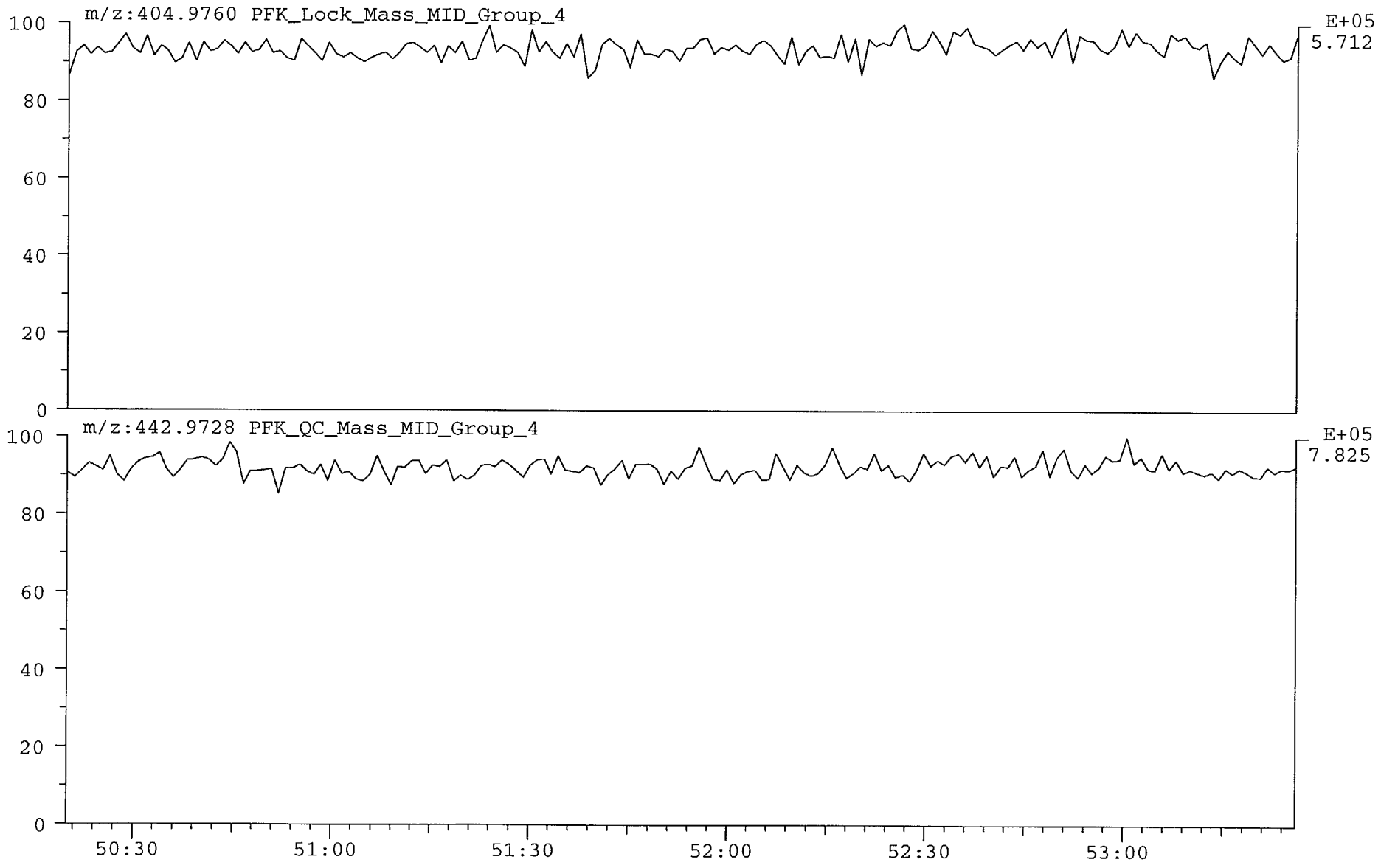
```
CHRO:  bth2h1x                                  04-May-06   Elapse:  46:13      2113
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                     Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-011                Inlet :  GC     Vial   8
Peak:  100.00  ppm      Label wndw:   2343 > 2518           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



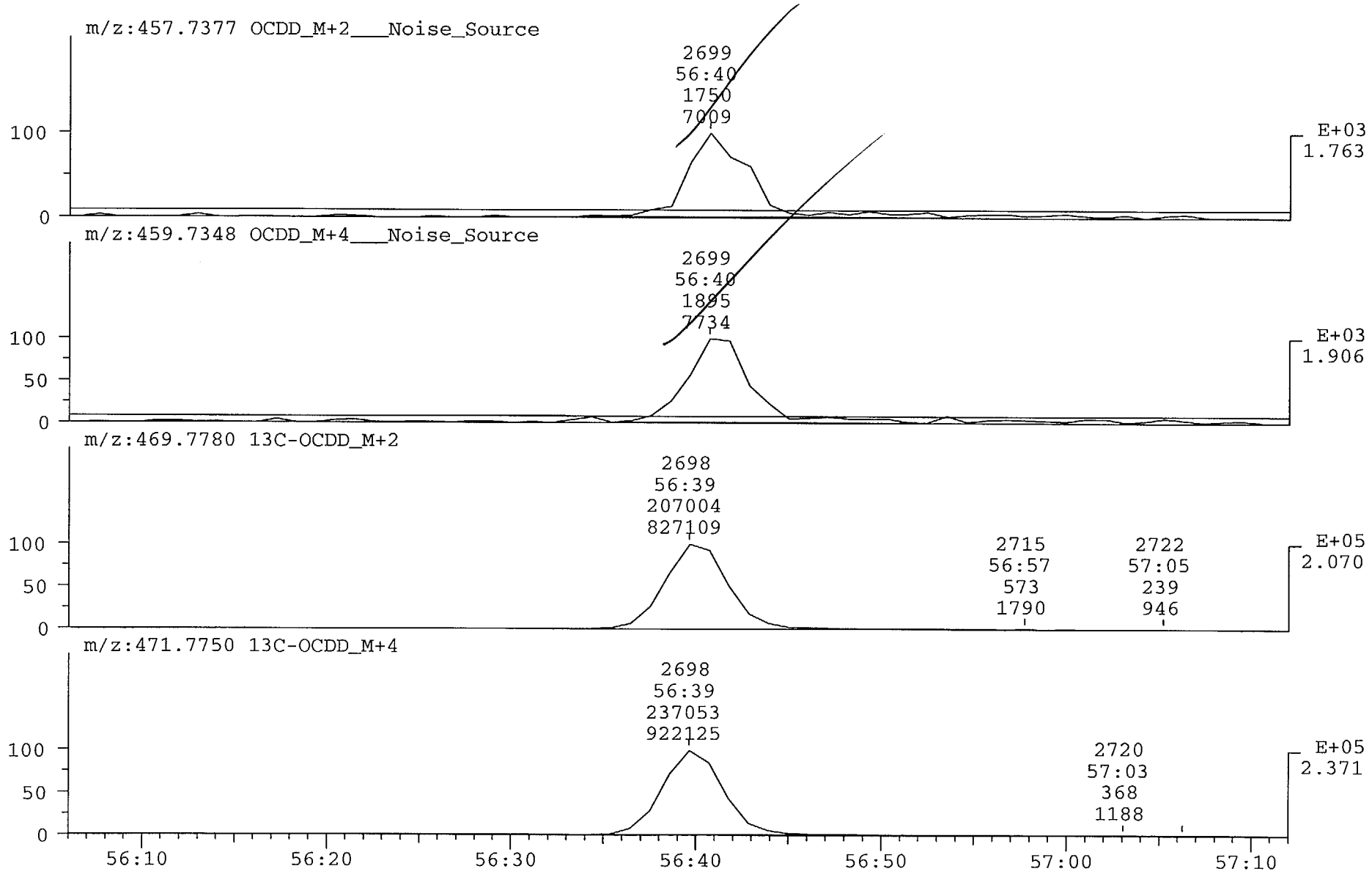
```
CHRO:  bth2h1x                                  04-May-06   Elapse:  46:13      2113
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                     Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-011                Inlet :  GC     Vial   8
Peak:  100.00  ppm      Label wndw:   2343 > 2518           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



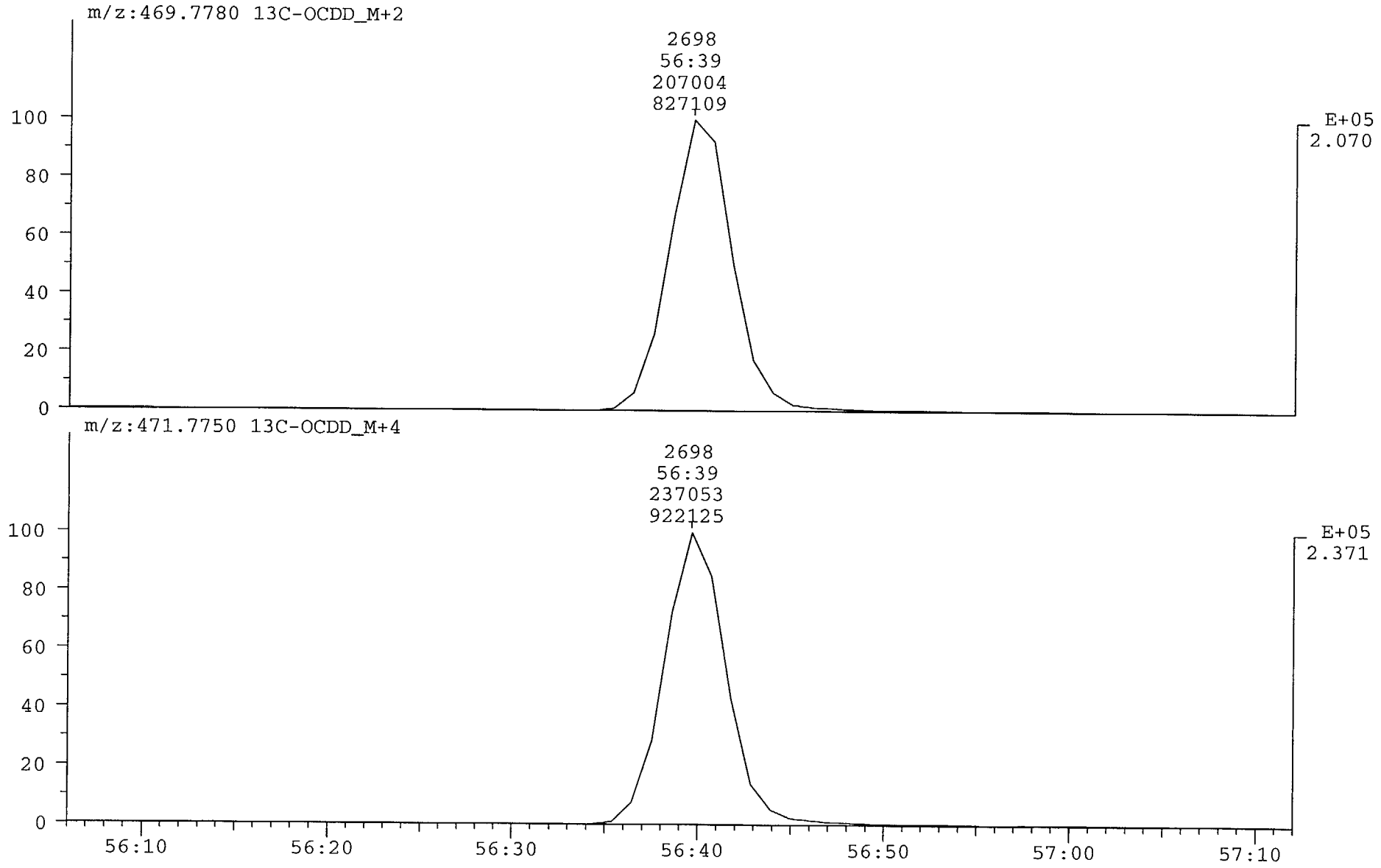
```
CHRO:  bth2h1x                                  04-May-06   Elapse:  46:13      2113
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                     Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-011                Inlet :  GC     Vial   8
Peak:  100.00  ppm      Label wndw:   2343 > 2518           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```



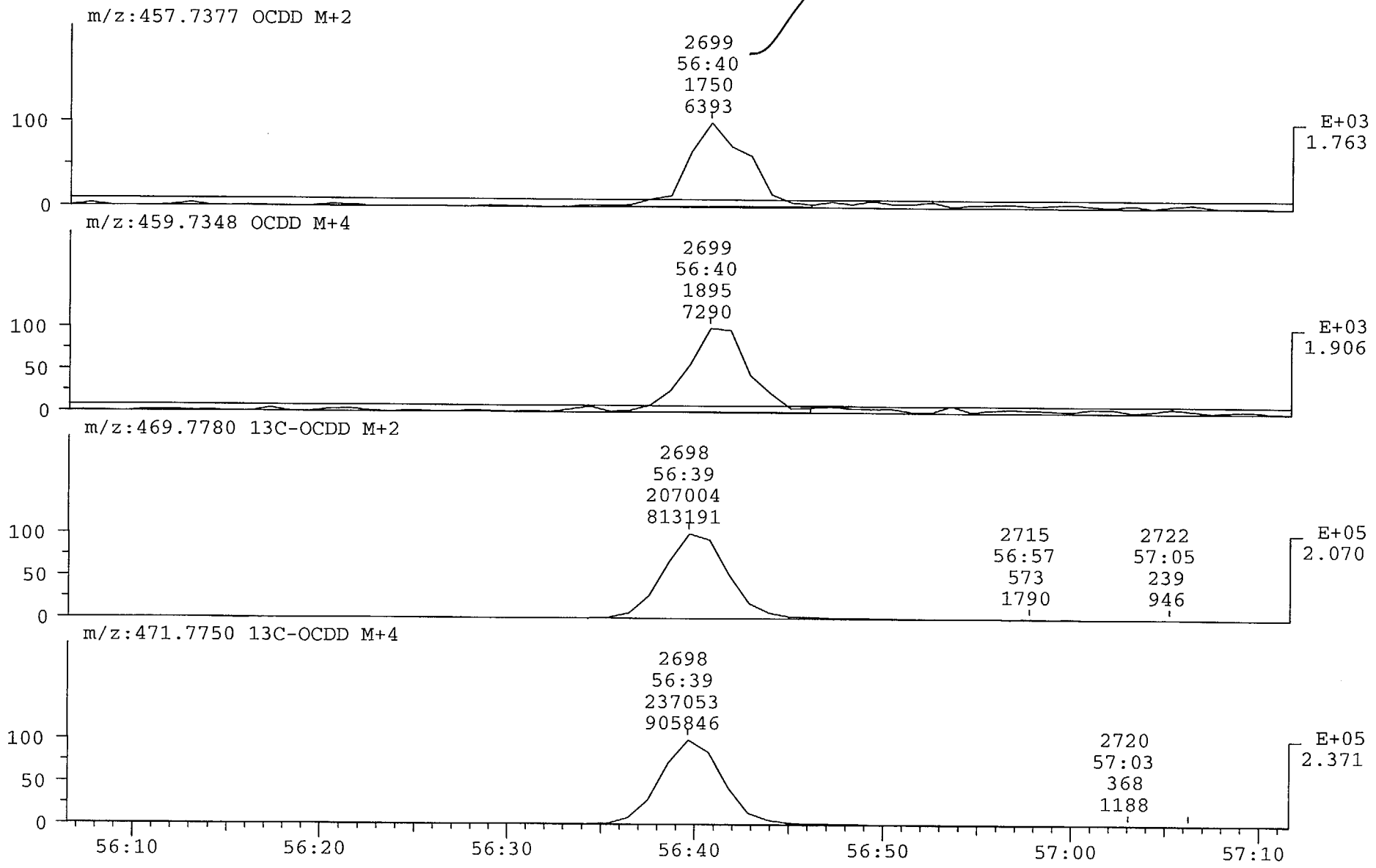
```
CHRO:  bth2h1x                                  04-May-06   Elapse:  56:36      2695
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                     Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-011                Inlet :  GC     Vial   8
Peak:  100.00  ppm      Label wndw:   2667 > 2728           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



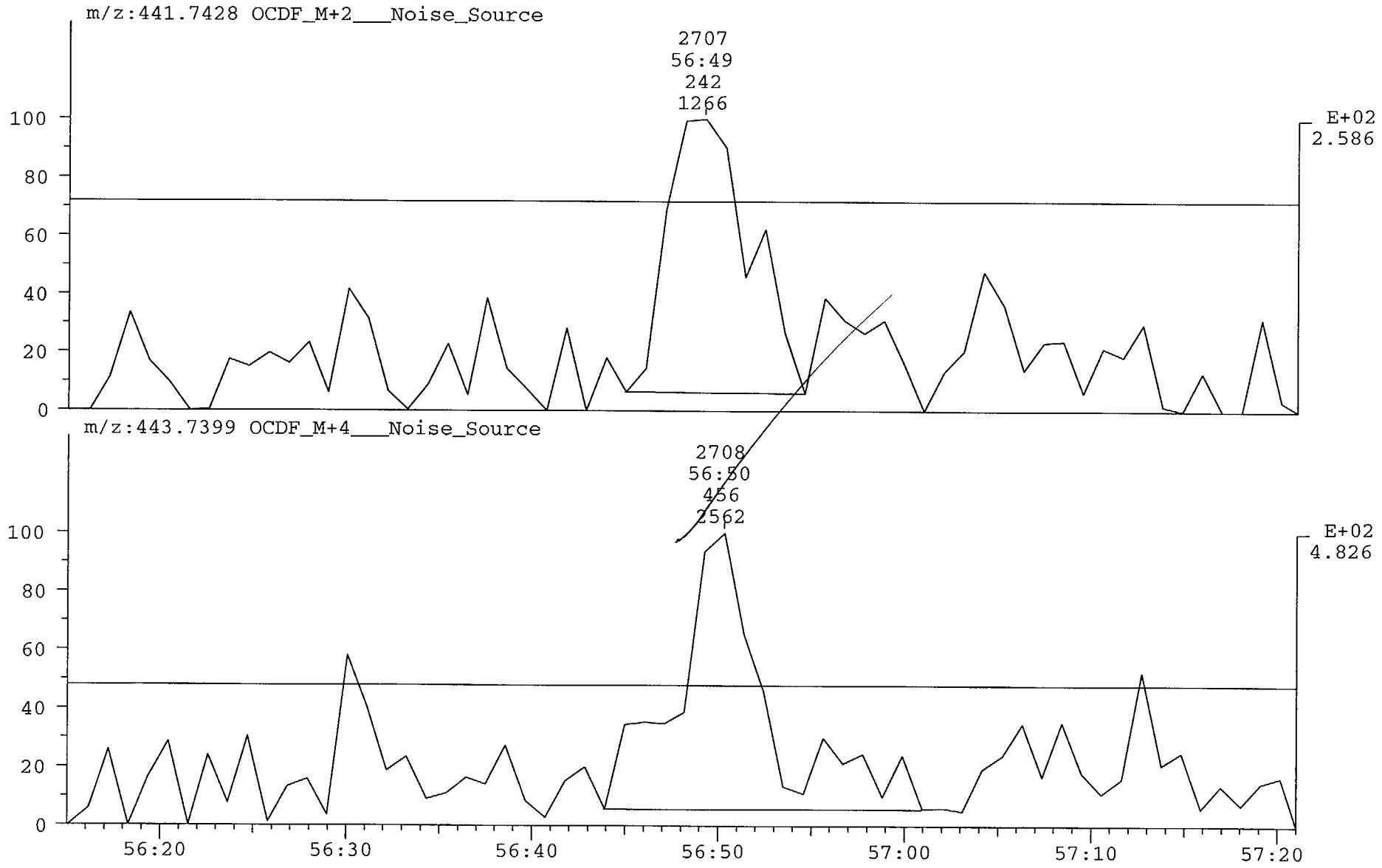
```
CHRO:  bth2h1x                                  04-May-06   Elapse:  56:36      2695
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                     Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-011                Inlet :  GC     Vial   8
Peak:  100.00  ppm      Label wndw:   2667 > 2728           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



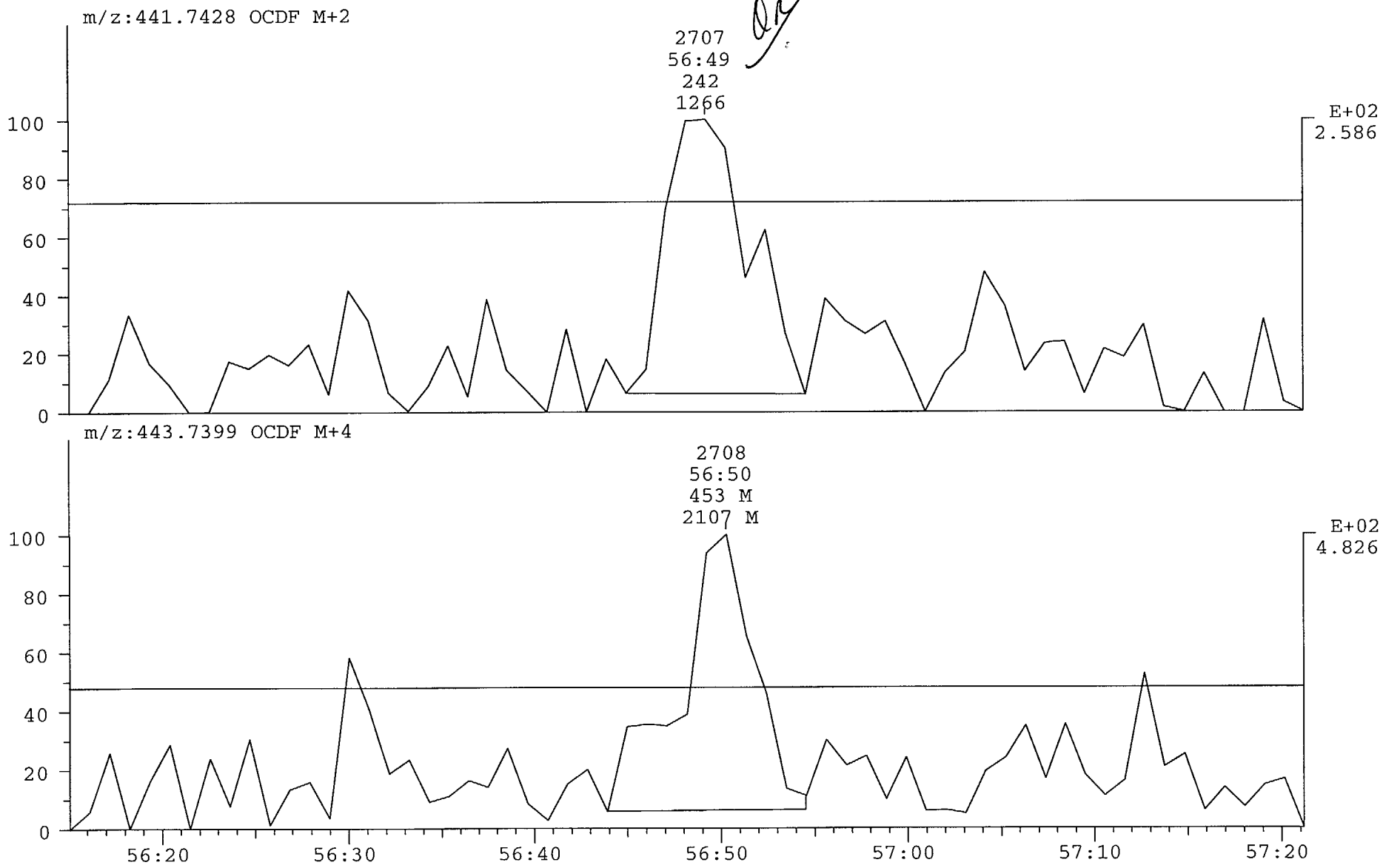
CHRO: bth2h1x 04-May-06 Elapse: 56:48 2706
Samp: Vial 8 WO=h2h1x1aa Meth=X8 Dil=1 Start : 05:09:18 2887
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D030236-011 Inlet : GC Vial 8
Peak: 100.00 ppm Label wndw: 2667 > 2728 Masses: 293 > 514
Area: 5, 0.50, 5 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



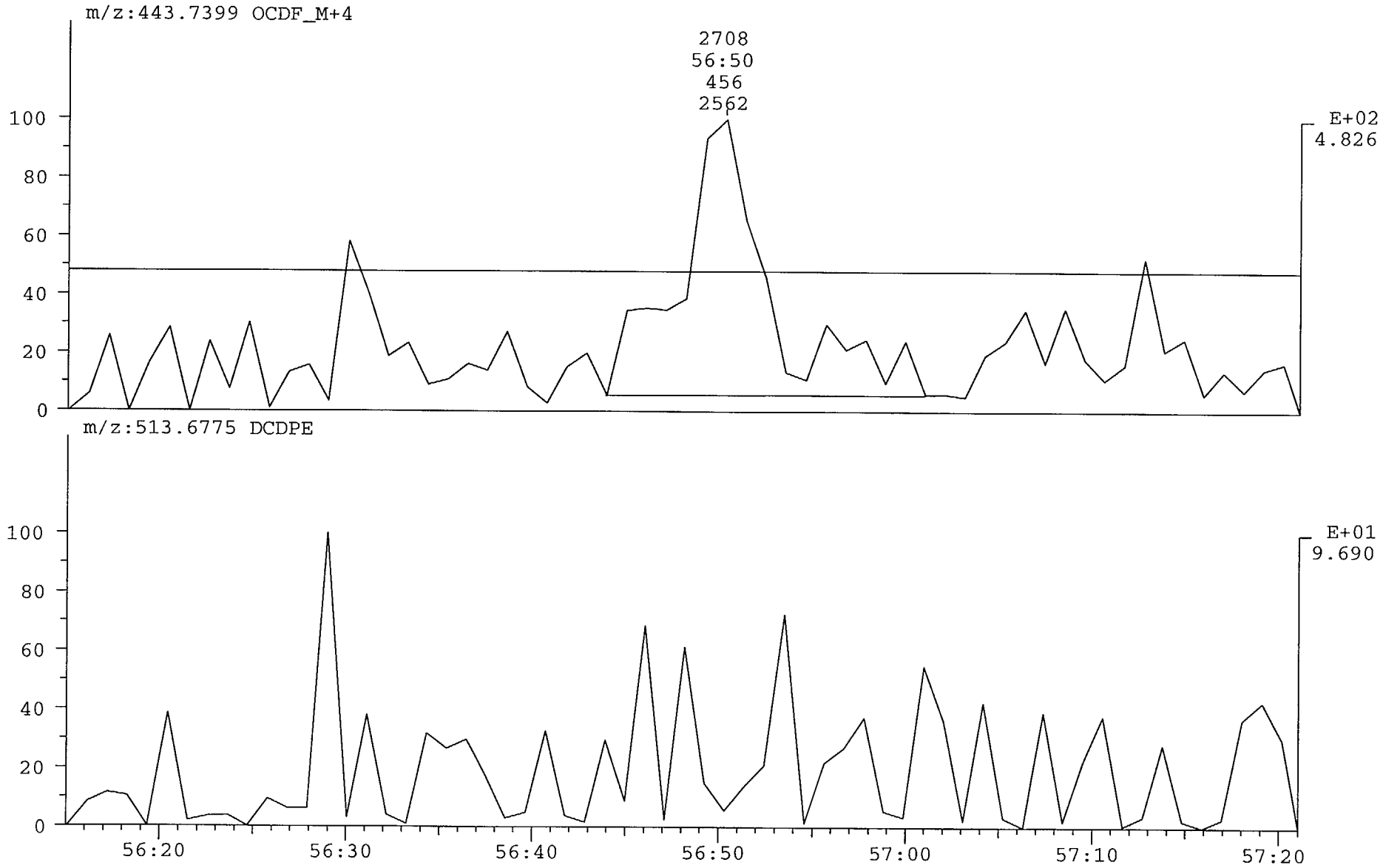
```
CHRO:  bth2h1x                                  04-May-06   Elapse:  56:44      2703
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                     Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-011                Inlet :  GC     Vial   8
Peak:  100.00  ppm      Label wndw:   2675 > 2737           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



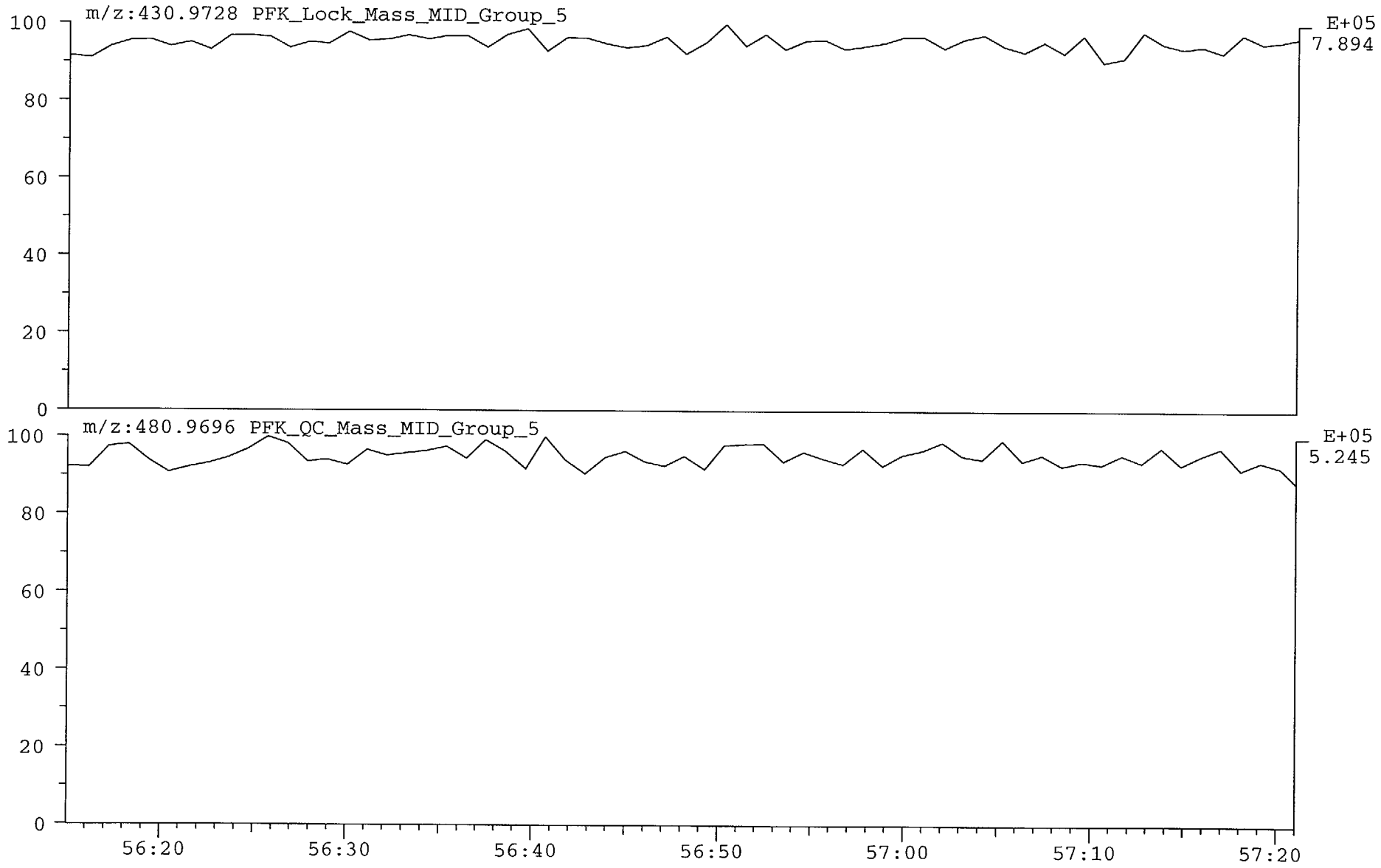
CHRO: bth2h1x 04-May-06 Elapse: 56:48 2706
Samp: Vial 8 WO=h2h1x1aa Meth=X8 Dil=1 Start : 05:09:18 2887
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D030236-011 Inlet : GC Vial 8
Peak: 100.00 ppm Label wndw: 2675 > 2737 Masses: 293 > 514
Area: 5, 0.50, 10 Baseline : 100, 3 Label : -3, 3.0
Disp: Height Area



```
CHRO:  bth2h1x                                  04-May-06   Elapse:  56:44      2703
Samp:  Vial 8 WO=h2h1x1aa Meth=X8 Dil=1                     Start :  05:09:18   2887
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D030236-011                Inlet :  GC     Vial   8
Peak:  100.00  ppm      Label wndw:   2675 > 2737           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: bth2h1x 04-May-06 Elapse: 56:44 2703
Samp: Vial 8 WO=h2h1x1aa Meth=X8 Dil=1 Start : 05:09:18 2887
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D030236-011 Inlet : GC Vial 8
Peak: 100.00 ppm Label wndw: 2675 > 2737 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: bth2h1x
Study: 6107079 (air)
Sample: WO=h2h1x1aa Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: PMP
Client: H6D030236-011
Comments: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Injected volume: 2.0
Sample from Vial 8
Analysis will stop when MID run finishes
Tune file name: tune2
File 7 of list 060503
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	TRUE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	140 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	30:00 min	38:00 min	1.00 sec
# 2	38:00 min	6:25 min	44:25 min	1.00 sec
# 3	44:25 min	5:05 min	49:30 min	1.00 sec
# 4	49:30 min	5:15 min	54:45 min	1.00 sec
# 5	54:45 min	5:15 min	60:00 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

351.9000		1	1	91.48
353.8970		1	1	91.48
355.8546		1	1	91.48
357.8516		1	1	91.48
367.8949		1	1	91.48
369.8919		1	1	91.48
380.9760	c	10	1	8.19
409.7974		1	1	91.48

Window # 3

mass	F	int	gr	time (ms)
373.8208		1	1	91.48
375.8178		1	1	91.48
380.9760	1	10	1	8.19
383.8639		1	1	91.48
385.8610		1	1	91.48
389.8156		1	1	91.48
391.8127		1	1	91.48
401.8559		1	1	91.48
403.8529		1	1	91.48
404.9760	c	10	1	8.19
445.7555		1	1	91.48

Window # 4

mass	F	int	gr	time (ms)
404.9760	1	10	1	8.19
407.7818		1	1	91.48
409.7788		1	1	91.48
417.8250		1	1	91.48
419.8220		1	1	91.48
423.7767		1	1	91.48
425.7737		1	1	91.48
435.8169		1	1	91.48
437.8140		1	1	91.48
442.9728	c	10	1	8.19
479.7165		1	1	91.48

Window # 5

mass	F	int	gr	time (ms)
430.9728	1	10	1	10.92
441.7428		1	1	120.15
443.7399		1	1	120.15
457.7377		1	1	120.15
459.7348		1	1	120.15
469.7780		1	1	120.15
471.7750		1	1	120.15
480.9696	c	10	1	10.92
513.6775		1	1	120.15

Auto Sampler descriptor: pcdd2ul

Injector A

Normal Injection

Slvnt A cln before inj	(K):	3	times
Slvnt B cln before inj	(L):	0	times
Sample rinse cycles	(R):	0	times
Syringe filling volume	(F):	1.0	ul
Pullup delay time	(D):	4	sec
Sample pullup speed	(E):	5.0	ul/sec
Slvnt aftr pre inj cln	(U):	0.0	ul
Air after pre inj cln	(G):	2.0	ul
Sample volume	(V):	2.0	ul
Sample air volume	(A):	2.0	ul
Sample pullup count	(P):	2	times
Injection speed	(S):	10.0	ul/sec
Injection wait time	(W):	10	sec
Injection hold time	(H):	3	sec
Solvent A clean cycles	(C):	15	times
Solvent B clean cycles	(B):	20	times
Loop clean w slvnt A	(LC):	0	times

```
Loop clean w slvnt B (LB):      0 times
Standard sample volume(X):    0.0 ul
Standard air volume   (Y):    0.0 ul
2nd Injection volume  (I):    0.0 ul
Air volume of 2nd inj (J):    0.0 ul
Time btwn 2 injections(T):      0 sec

GC descriptor :  epa1613
  Injector:          270 deg                        300 deg max
  Transfer Line:     290 deg                        300 deg max
  Column:            140 deg at   0.0 minutes       330 deg max
                     140 deg at   3.0 minutes
                     210 deg at   6.5 minutes
                     210 deg at  34.5 minutes
                     280 deg at  44.5 minutes
                     280 deg at  51.0 minutes
                     325 deg at  60.0 minutes
  Inlet    :
  Pressure        18.0 psi
  Splitless mode
  Purge time       1.5 min
  Purge flow      40.0 mL/min

   Gas saver is on
   Saver time       3.0 min
   Saver flow      15.0 mL/min

  Stabilize time   0.5 minutes
```

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8408.0000
BDEV	8287.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.7814	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9992
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-738.5000	ELEN	61.7750
EMULT	1.8000	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	189.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	532.0000	FVINLET	580.0000
FVSRC	992.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.6569	HVANAL	1576.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4757.0160	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	430.9728
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	2897.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10643.8407	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.6900	TCURR	0.8984	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 04-May-06 05:09:18.5

Autosampler has injected sample from vial 8
Analysis stopped at: 04-May-06 06:09:20.6 (run time 60.03 minutes)
Analysis stopped because MID run finished

Raw Sample Data
DB-225 Column

STL Knoxville - ACS

Sample ID: G-2939/2940-R1-M23A BACK HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 002	**Work Order #....:**	H2H1F1AC	**Matrix....:**	AIR
Date Sampled....:	03/28/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/08/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M3C	**Method:**	SW846 0023A/8290
Analyst ID....:	Vanhseng (MO) Khounlavong				

Confirmation Run

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDF	**230**	**Q**	**10**	**4.1**	**pg/sampl**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDF	97	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

Q Estimated maximum possible concentration (EMPC).

STL - Knoxville

IsoCalc Preliminary Sample Report

TCDD/F by EPA Method 0023/8290 - DB-225

IsoCalc

Workorder	H2H1F1AC	Prep Batch	6107092	Lot No	H6D030236-002
Data File	/20060508s1/cfh2h1f.d	Prep Date	04/17/06	SDG No	
Analysis ID	90559	Prep Exp Date	04/27/06	Date Received	04/02/06
Analysis Date	5/8/2006	Matrix	AIR	Date Sampled	03/28/06
Analysis Time	10:35	Initial Wt/Vol	1	Lims Test Code	XXSIOX801
Anal Exp Date	06/01/06	Extract Vol	20	Method	0023/8290_Conf
Instrument	M3C	Dil Factor	1.0	Code	X8c
Analyst	VMK				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (pg/sample		DL (pg/samp
2,3,7,8-TCDD								ND		0.000000
2,3,7,8-TCDF	21:41	203590	30778	1.058		234.607722		234.607722	Q	4.11
37Cl4-2,3,7,8-TCDD								ND		0.000000
13C-2,3,7,8-TCDD	19:42	557808	94551		1000			ND		0.000000
13C-2,3,7,8-TCDF	21:39	820204	130030	1.454	1000	965.468491	96.55	965.468491		2.02
13C-1,2,3,4-TCDD	20:04	1168856	204402	1.000	2000	2000.00000	100.00	2000.00000		2.18

VMK 5/8/06
MSD 5/8/06

STL - Knoxville

IsoCalc Preliminary Peak Report

TCDD/F by EPA Method 0023/8290 - DB-225

IsoCalc

Workorder	H2H1F1AC	Prep Batch	6107092	Lot No	H6D030236-002
Data File	/20060508s1/cfh2h1f.d	Prep Date	04/17/06	SDG No	
Analysis ID	90559	Prep Exp Date	04/27/06	Date Received	04/02/06
Analysis Date	05/08/06 10:35	Matrix	AIR	Date Sampled	03/28/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSIOX801
Instrument	M3C	Extract Vol	20 uL	Method	0023/8290_Conf
Analyst	VMK	Diluton Factor	1.00	Code	X8c

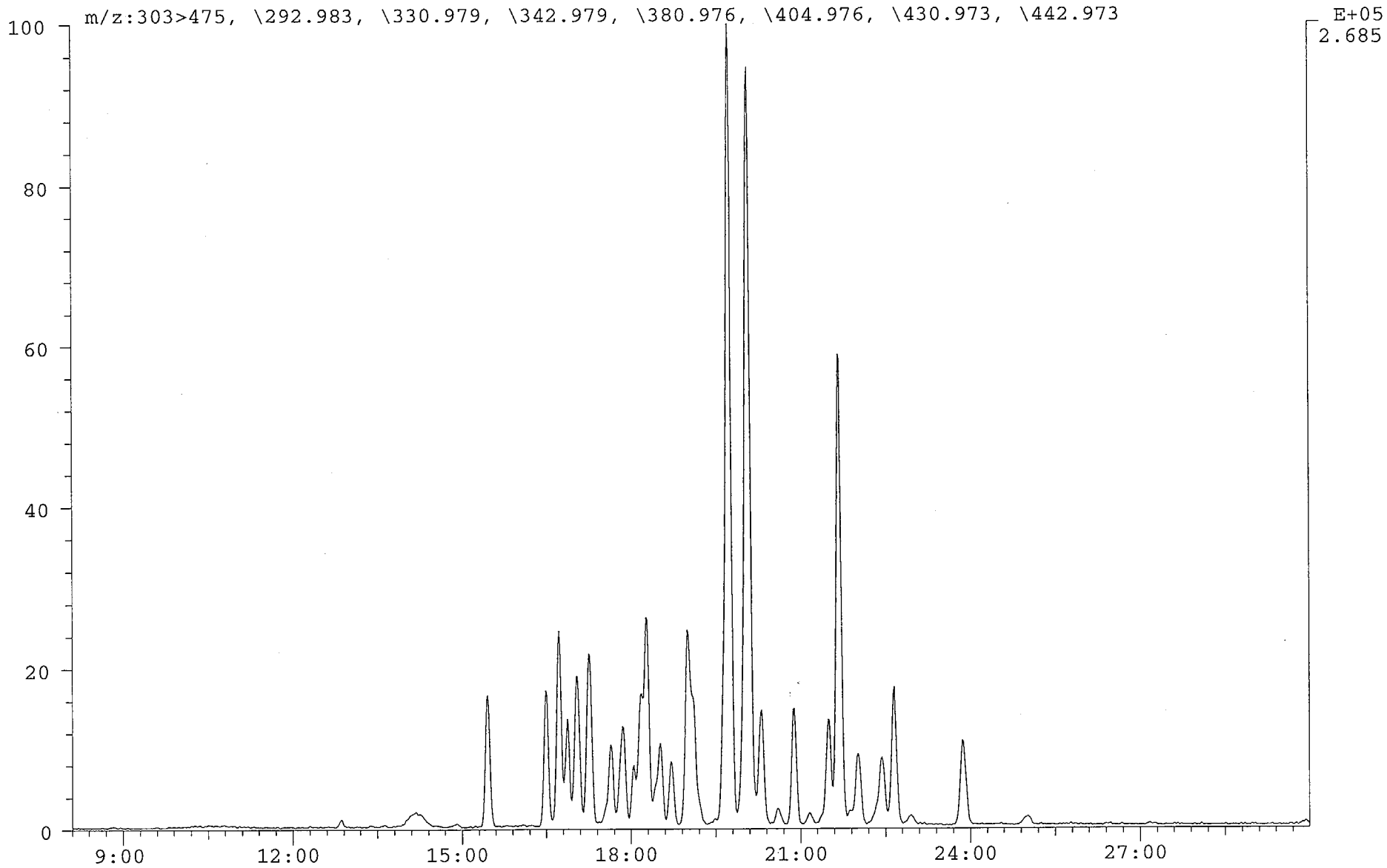
View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	283	283	113	113	1.00 *	/	
	2,3,7,8-TCDF	21:41	21:41	0	92419	111171	14134	16644	0.83	AVV/AVV	
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	158	143	63	57	1.11 *	/	
	13C-2,3,7,8-TCDF	21:39	21:39	0	367564	452640	58266	71764	0.81	AVV/AVV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	153	175	61	70	0.87	/	
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	25		10				
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	145	78	58	31	1.87 *	/	
	13C-2,3,7,8-TCDD	19:42	19:42	0	248275	309533	42246	52305	0.80	ABV/AVV	
	13C-1,2,3,4-TCDD	20:04	20:04	0	513338	655518	90047	114355	0.78	AVV/AVV	

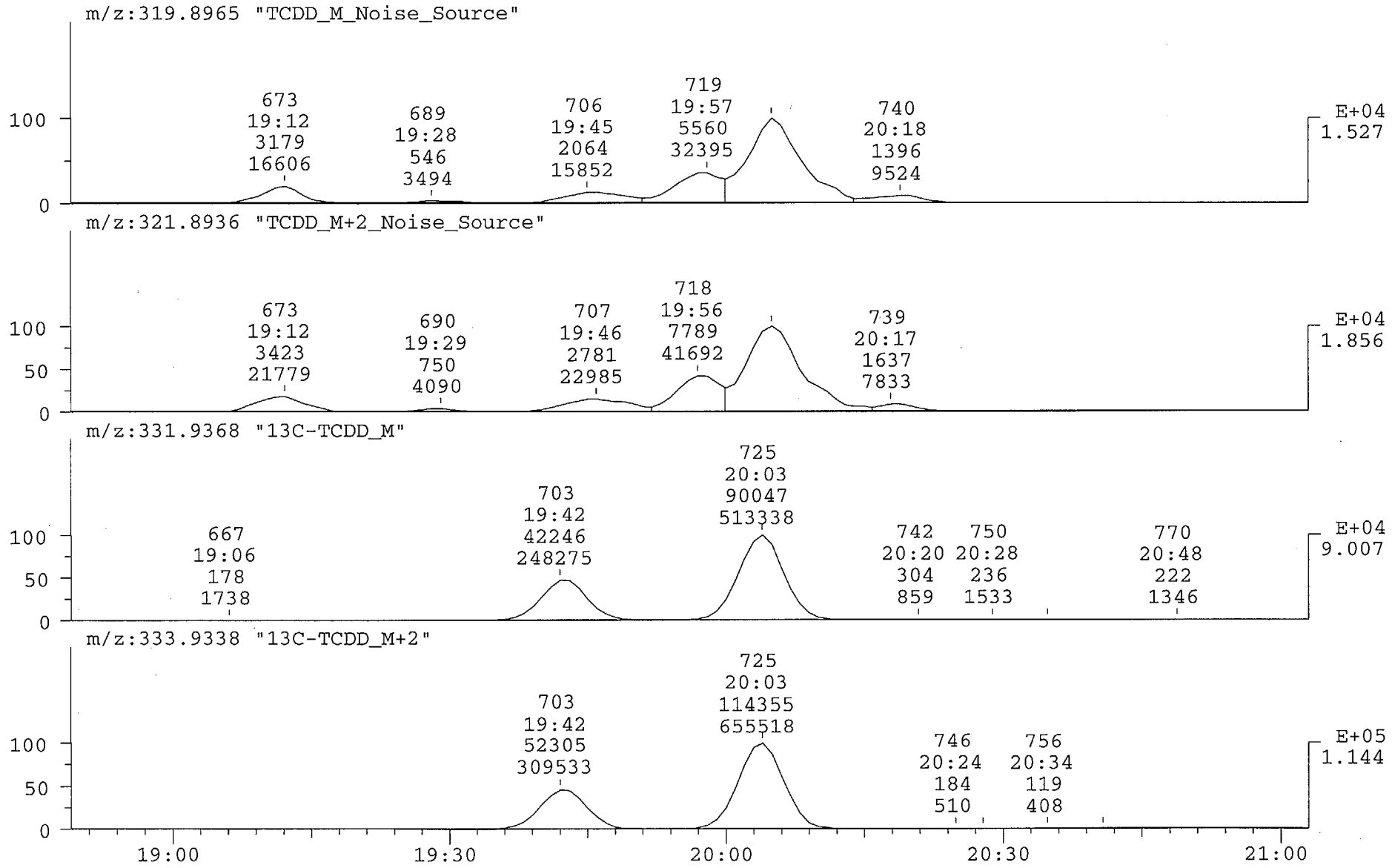
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

CHRO: cfh2h1f 08-May-06 Elapse: 21:41.6 823
Samp: Vial 5 WO=h2h1f1ac Meth=X8c Dil=1 Start : 10:35:50 1324
Comm: Inst=m3c/6502634 Batch=20060508s1 Ccal=C060508S1
Mode: EI + Q1MS UP LR Study : 6118206 (air)
Oper: VMK Client: H6D030236-002 Inlet : Vial 5
Peak: 100.00 ppm Label wndw: 5 > 1322 Masses: 292 > 376
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

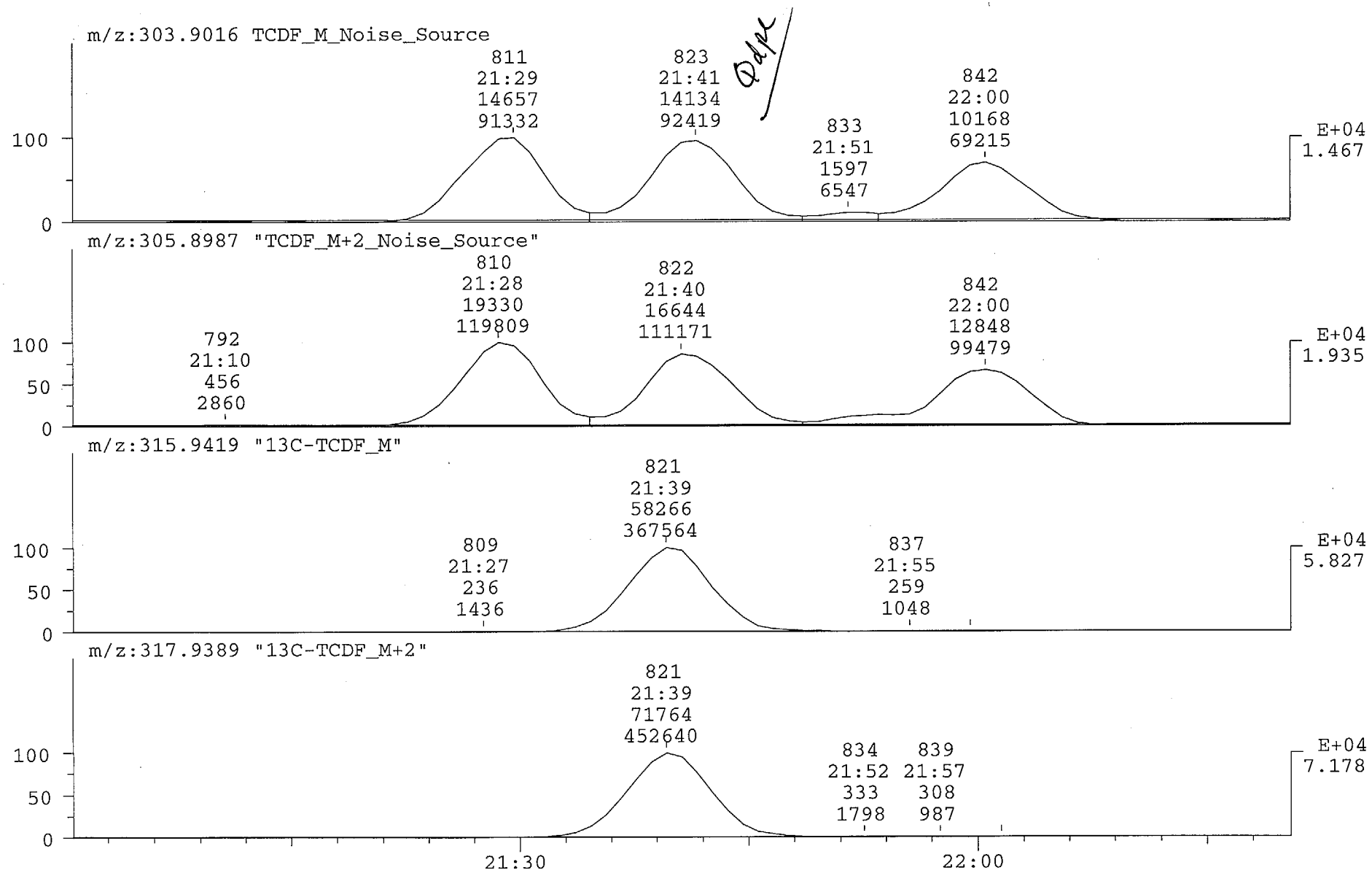
Int VMK 5/8/06
Calc VMK 5/8/06
QC Rev MSD 5/8/06



```
CHRO:  cfh2h1f                                08-May-06  Elapse:  19:55.9      717
Samp:  Vial 5 WO=h2h1f1ac Meth=X8c Dil=1                 Start :  10:35:50    1324
Comm:  Inst=m3c/6502634 Batch=20060508s1 Ccal=C060508S1
Mode:  EI + Q1MS UP LR                                   Study :  6118206 (air)
Oper:  VMK            Client:  H6D030236-002             Inlet :          Vial   5
Peak:  100.00  ppm      Label wndw:   650 > 784          Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  -2, 3.0
Disp:  Height  Area
```

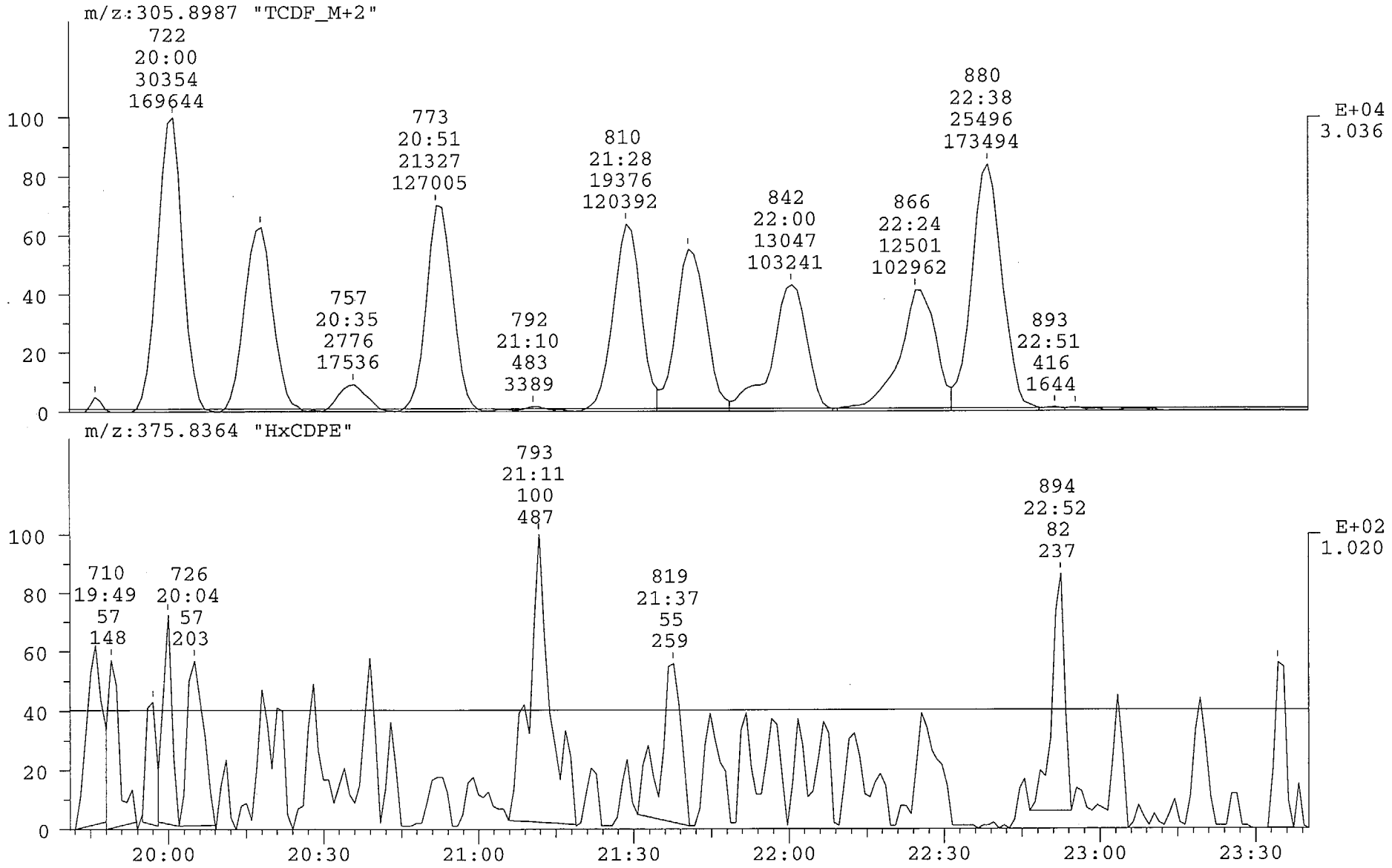


CHRO: cfh2h1f 08-May-06 Elapse: 21:40.6 822
Samp: Vial 5 WO=h2h1f1ac Meth=X8c Dil=1 Start : 10:35:50 1324
Comm: Inst=m3c/6502634 Batch=20060508s1 Ccal=C060508S1
Mode: EI + Q1MS UP LR Study : 6118206 (air)
Oper: VMK Client: H6D030236-002 Inlet : Vial 5
Peak: 100.00 ppm Label wndw: 782 > 862 Masses: 292 > 376
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area

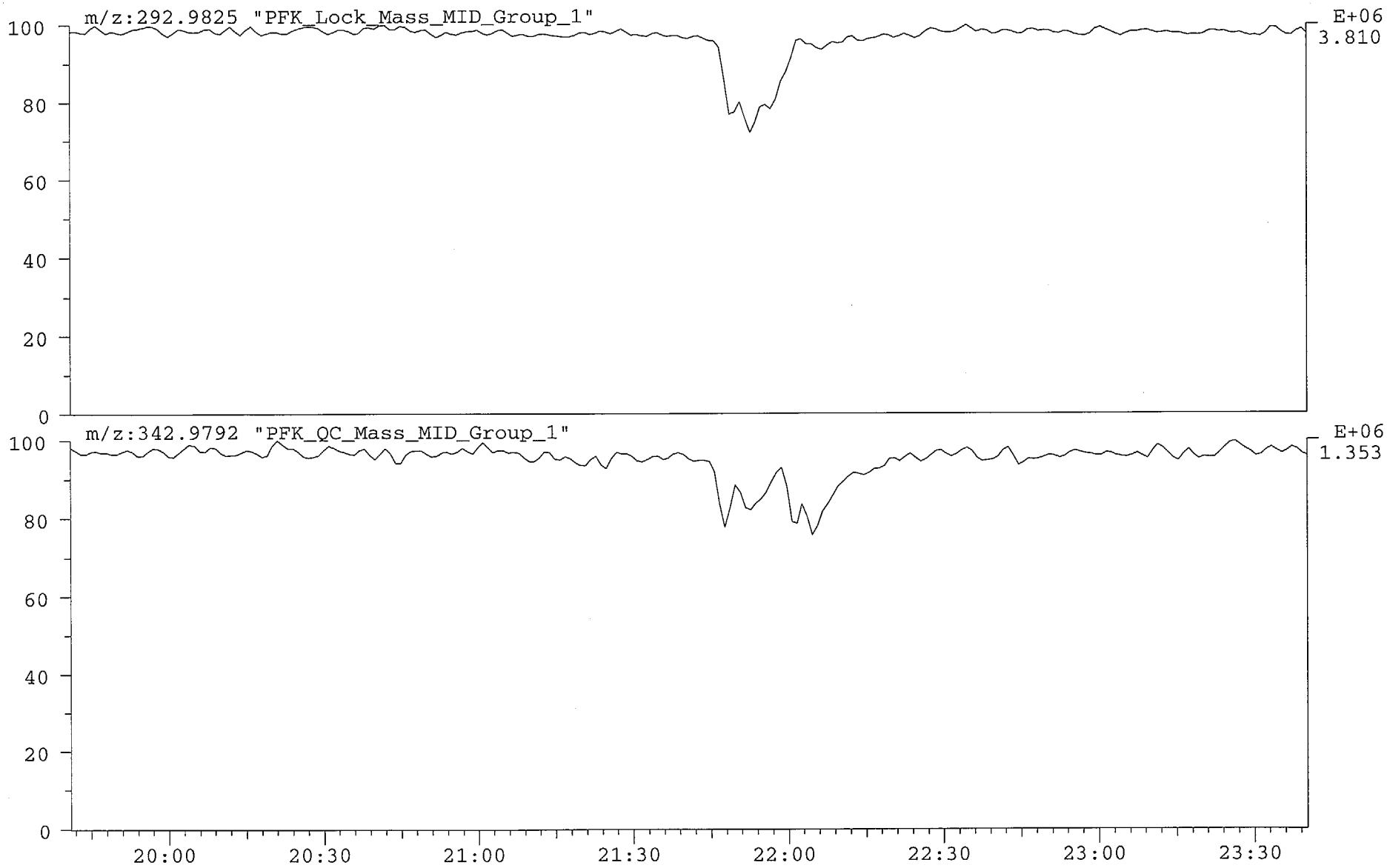


Qdpc

```
CHRO:  cfh2h1f                                08-May-06  Elapse:  21:40.6      822
Samp:  Vial 5 WO=h2h1f1ac Meth=X8c Dil=1                 Start :  10:35:50    1324
Comm:  Inst=m3c/6502634 Batch=20060508s1 Ccal=C060508S1
Mode:  EI + Q1MS UP LR                                   Study :  6118206 (air)
Oper:  VMK            Client:  H6D030236-002             Inlet :          Vial   5
Peak:  100.00  ppm      Label wndw:   702 > 942          Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  cfh2h1f                                08-May-06   Elapse:  21:40.6      822
Samp:  Vial 5 WO=h2h1f1ac Meth=X8c Dil=1                  Start :  10:35:50    1324
Comm:  Inst=m3c/6502634 Batch=20060508s1 Ccal=C060508S1
Mode:  EI + Q1MS UP LR                                    Study :  6118206 (air)
Oper:  VMK            Client:  H6D030236-002              Inlet :          Vial   5
Peak:  100.00  ppm      Label wndw:   702 > 942           Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



```
*** file opened Mon May 08 10:35:50 2006 ***

Started by                  - Mat95InstCtrl
Instrument Internet name    - MAT 95 XP
Instrument model            - MAT 95 XP
Instrument service number   - 0000
Workstation internet name   - KNXDXNM301

ICL Version: 11.68
File name: cfh2h1f
Study: 6118206 (air)
Sample: WO=h2h1f1ac Meth=X8c Dil=1
Amount:    0.0
Volume:    0.0
Injected volume:    2.0
Operator: VMK
Client: H6D030236-002
Comments: Inst=m3c/6502634 Batch=20060508S1 Ccal=C060508S1
Sample from Vial 5
Analysis will stop when MID run finishes
Tune file name: tune2
MCAL file name: mcal1
Single File
ICL procedure: sleep90 6
  MID procedure: db225


  Mid Time Windows:
        Start         Measure       End        Cycletime
  # 1   8:00 min  22:00 min  30:00 min   1.00 sec

  Mid Masses:
   Window # 1
        mass F  int  gr  time (ms)
    292.9825 l  10  1        8
    303.9016     1  1       84
    305.8987     1  1       84
    315.9419     1  1       84
    317.9389     1  1       84
    319.8965     1  1       84
    321.8936     1  1       84
    327.8847     1  1       84
    331.9368     1  1       84
    333.9338     1  1       84
    342.9792 c  10  1        8
    375.8364     1  1       84

  Auto Sampler descriptor:2ul
   Normal Injection
   Injector A
  Slvnt A cln before inj  (K):    3 times
  Slvnt B cln before inj  (L):    0 times
  Sample rinse cycles     (R):    0 times
  Syringe filling volume  (F):  1.0 ul
  Pullup delay time       (D):    4 sec
  Sample pullup count     (P):    5 times
  Sample pullup speed     (E):  5.0 ul/sec
  Slvnt aftr pre inj cln  (U):  0.0 ul
  Air after pre inj clean (G):  2.0 ul
  Sample volume           (V):  2.0 ul
```

Sample air volume	(A):	2.0	ul
Injection speed	(S):	10.0	ul/sec
Pre injection wait time	(W):	10	sec
Post injectn hold time	(H):	3	sec
Solvent A clean cycles	(C):	5	times
Solvent B clean cycles	(B):	0	times
Loop clean wth slvnt A	(LC):	0	times
Loop clean wth slvnt B	(LB):	0	times
Standard sample volume	(X):	0.0	ul
Standard air volume	(Y):	0.0	ul
2nd Injection volume	(I):	0.0	ul
Air volume 2nd injectn	(J):	0.0	ul
Time btwn 2 injections	(T):	0	sec

GC descriptor: db225

Injector:	270 deg		270 deg max
Transfer Line:	220 deg		230 deg max
Column:	140 deg at	0.0 minutes	230 deg max
	140 deg at	2.0 minutes	
	200 deg at	5.0 minutes	
	230 deg at	20.0 minutes	
	230 deg at	30.0 minutes	

Stabilize time 0.0 minutes

Inlet:

Splitless Mode	
Purge Time	1.50 min
Purge Flow	40.0 ml/min
Gas saver is on	
Saver Time	3.00 min
Saver Flow	15.0 ml/min

Column:

Constant Flow	1.2 ml
Standby Flow	0.5 ml/min

ICL Parameters

ACCU	666.0000	BCORRL	0.0150	BCORRS	0.0130
BFM	2.0000	BLM	2862.8777	BMASS	304.9824
BQUAD	0.0000	CAPIL	0.0000	CAPTEMP	0.0000
CAPTSET	0.0000	CCURR	3.7412	CORONA	0.0000
COUNTING	0.0000	DELAY	0.0000	DITEMP	399.9996
DITSET	0.0000	DRAW	-23.6000	DRAWC	0.0000
DRAWS	0.0000	ECORR	1.0009	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9999	EDACZ	928.5000
ELEN	58.1100	EMULT	1.8500	ENS	238.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	0.0000
ESIPAR	0.0000	EXS	153.0000	FDMA	18000000.0000
FILTER	100.0000	FLENS	1.0000	FM	292.6306
FMII	0.2000	FQUAD	0.0000	FREQ	600.6006
FSLOPE	36000000.0000	FVANAL	83.0000	FVINLET	927.0000
FVSRC	835.0000	FWIN	0.7000	GCTC	229.0000
GCTI	270.0000	GCTL	220.0000	HCURR	1.3922
HVANAL	827.0000	HVSRC	2459.0000	ICAL0	0.0011
ICAL1	0.4030	ICAL2	0.5865	IONEN	4754.5740
IST	271.3713	ISTC	0.0000	ISTCKP	5.0000
ISTCTD	1.0000	ISTCTN	2.0000	ISTCTS	60.0000
ISTCTV	3.0000	ISTS	270.0000	LENS	2527.5000
LENSS	46.2000	LKM	292.9825	LM	800.0000
LMASS	304.9824	LMII	0.2000	MASS	304.9824

MDAC	2017207.9536	MRANGE	2862.8777	MSFM	2.0000
MSLM	3790.0000	NPEAK	12.0000	NSAM	200.0000
NSCAN	1328.0000	NSMAX	8.0000	NSMIN	66.0000
OCT	-2.0000	PSAM	10.0000	PUSHER	-9.3500
RDRAW	0.0000	RDRAWC	0.0000	RECURR	0.0000
RELEN	0.0000	RES	10209.4360	RFAMP	0.0000
RFCUR	0.0000	RPUSHER	0.0000	RWIN	2.0000
SCIDLE	1.0000	SHIELD	1869.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000
SPRAY	0.0000	SS	3.0000	SW	0.0500
TANAL	381.5208	TCURR	0.7031	TD	0.9999
THRESH	2.0000	TIS	0.2000	TREF	150.0000
TS	0.4367	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	0.0000	URATIO	2.4500
UROT	-10.0000	USERVAR	0.0000	UTQ1	150.0000
UTQ2	190.0000	UTQ3	80.0000	VAPTEMP	0.0000
VAPTSET	0.0000	VMASS	304.9824	XLENS	3792.5000
XLENSS	13.3000	YLENS	2357.5000	YLENSS	-12.0000

Scantype is electric
Sourcemode is EI POS

Analysis started at: 08-May-06 10:37:26
MID Window terminated after 30.016667 minutes
MID Window end time was 30.000000 minutes
Autosampler has injected sample from vial 5
MID Time Window 1: Resolution is 10464.

Amplifier Offset: 91.

Analysis stopped at: 08-May-06 11:07:28 (run time 30.03 minutes)
Analysis stopped because MID run finished

*** File closed Mon May 08 11:07:29 2006 ***

STL Knoxville - ACS

Sample ID: G-3051/3052-R2-M23A BACK HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 004	**Work Order #....:**	H2H1J1AC	**Matrix....:**	AIR
Date Sampled....:	03/29/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/08/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M3C	**Method:**	SW846 0023A/8290
Analyst ID....:	Vanhseng (MO) Khounlavong				

Confirmation Run

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDF	**130**	**Q**	**10**	**3.5**	**pg/sampl**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDF	97	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

Q Estimated maximum possible concentration (EMPC).

STL - Knoxville

IsoCalc Preliminary Sample Report

TCDD/F by EPA Method 0023/8290 - DB-225

IsoCalc

Workorder	H2H1J1AC	**Prep Batch**	6107092	**Lot No**	H6D030236-004
Data File	/20060508s1/cfh2h1j.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90560	**Prep Exp Date**	04/28/06	**Date Received**	04/02/06
Analysis Date	5/8/2006	**Matrix**	AIR	**Date Sampled**	03/29/06
Analysis Time	11:07	**Initial Wt/Vol**	1	**Lims Test Code**	XXSIOX801
Anal Exp Date	06/01/06	**Extract Vol**	20	**Method**	0023/8290_Conf
Instrument	M3C	**Dil Factor**	1.0	**Code**	X8c
Analyst	VMK				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (pg/sample		DL (pg/samp
2,3,7,8-TCDD								ND		0.000000
2,3,7,8-TCDF	21:41	112499	17990	1.058		128.352013		128.352013	Q	3.54
37Cl4-2,3,7,8-TCDD								ND		0.000000
13C-2,3,7,8-TCDD	19:43	568137	97458		1000			ND		0.000000
13C-2,3,7,8-TCDF	21:40	828426	130044	1.454	1000	966.629525	96.66	966.629525		2.06
13C-1,2,3,4-TCDD	20:05	1179155	202517	1.000	2000	2000.00000	100.00	2000.00000		2.12

VMK 5/8/06
MSD 5/8/06

STL - Knoxville

IsoCalc Preliminary Peak Report

TCDD/F by EPA Method 0023/8290 - DB-225

IsoCalc

Workorder	H2H1J1AC	Prep Batch	6107092	Lot No	H6D030236-004
Data File	/20060508s1/cfh2h1j.d	Prep Date	04/17/06	SDG No	
Analysis ID	90560	Prep Exp Date	04/28/06	Date Received	04/02/06
Analysis Date	05/08/06 11:07	Matrix	AIR	Date Sampled	03/29/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSIOX801
Instrument	M3C	Extract Vol	20 uL	Method	0023/8290_Conf
Analyst	VMK	Diluton Factor	1.00	Code	X8c

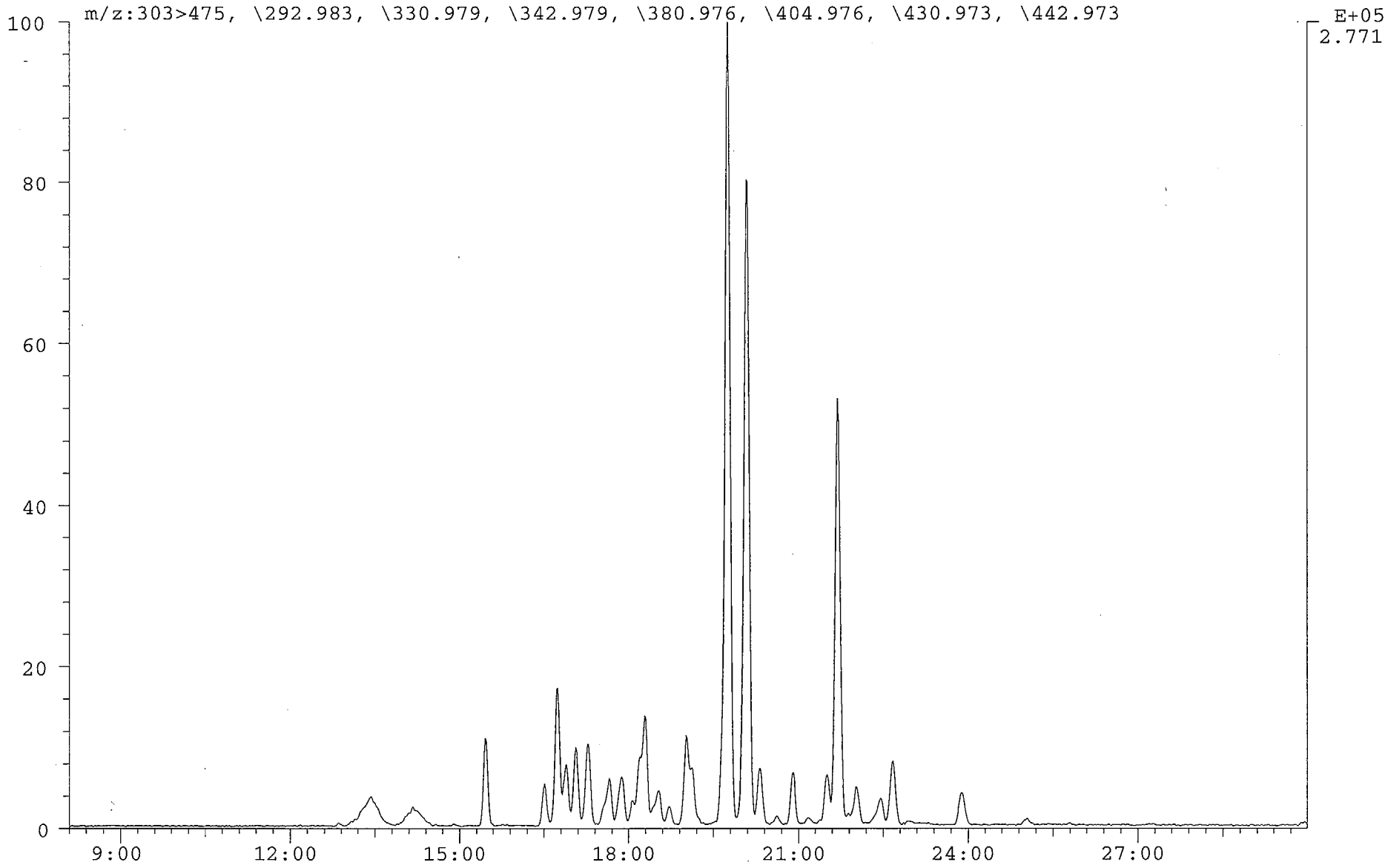
View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**	
	Noise	00:00	00:00	0	248	240	99	96	1.03 *	/
	2,3,7,8-TCDF	21:41	21:42	-1	50280	62219	8362	9628	0.81	AVV/AVV
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**	
	Noise	00:00	00:00	0	140	163	56	65	0.86	/
	13C-2,3,7,8-TCDF	21:40	21:40	0	370955	457471	58139	71905	0.81	AVV/AVV
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**	
	Noise	00:00	00:00	0	98	148	39	59	0.66	/
328					**327.8847**		**327.8847**			
	Noise	00:00	00:00	0	43		17			
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**	
	Noise	00:00	00:00	0	118	98	47	39	1.21 *	/
	13C-2,3,7,8-TCDD	19:43	19:43	0	253812	314325	43545	53913	0.81	ABV/ABV
	13C-1,2,3,4-TCDD	20:05	20:05	0	529628	649527	90552	111965	0.82	AVV/AVV

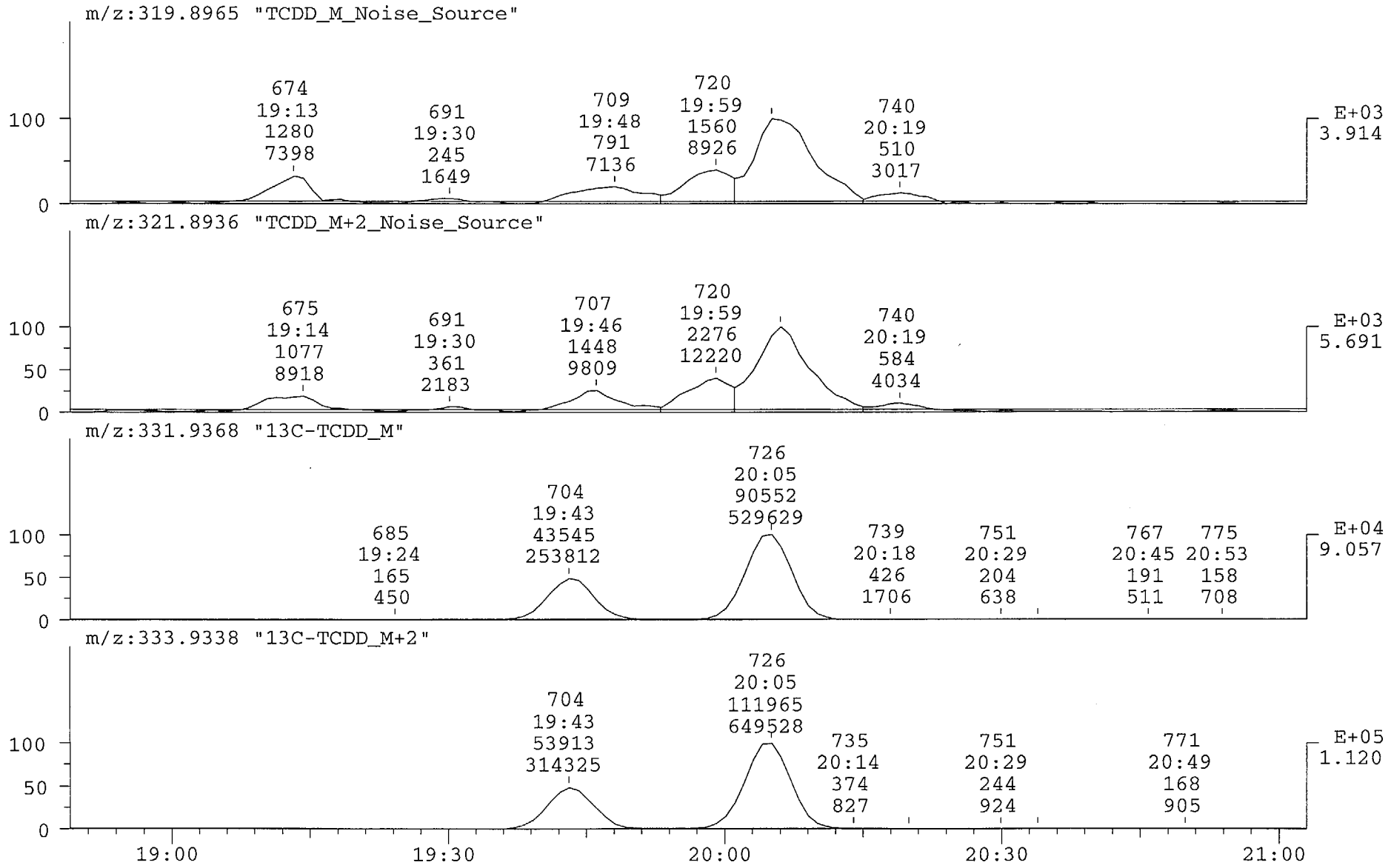
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

Int VMK 5/8/06
Calc VMK 5/8/06
QC Rev WSD 5/8/06

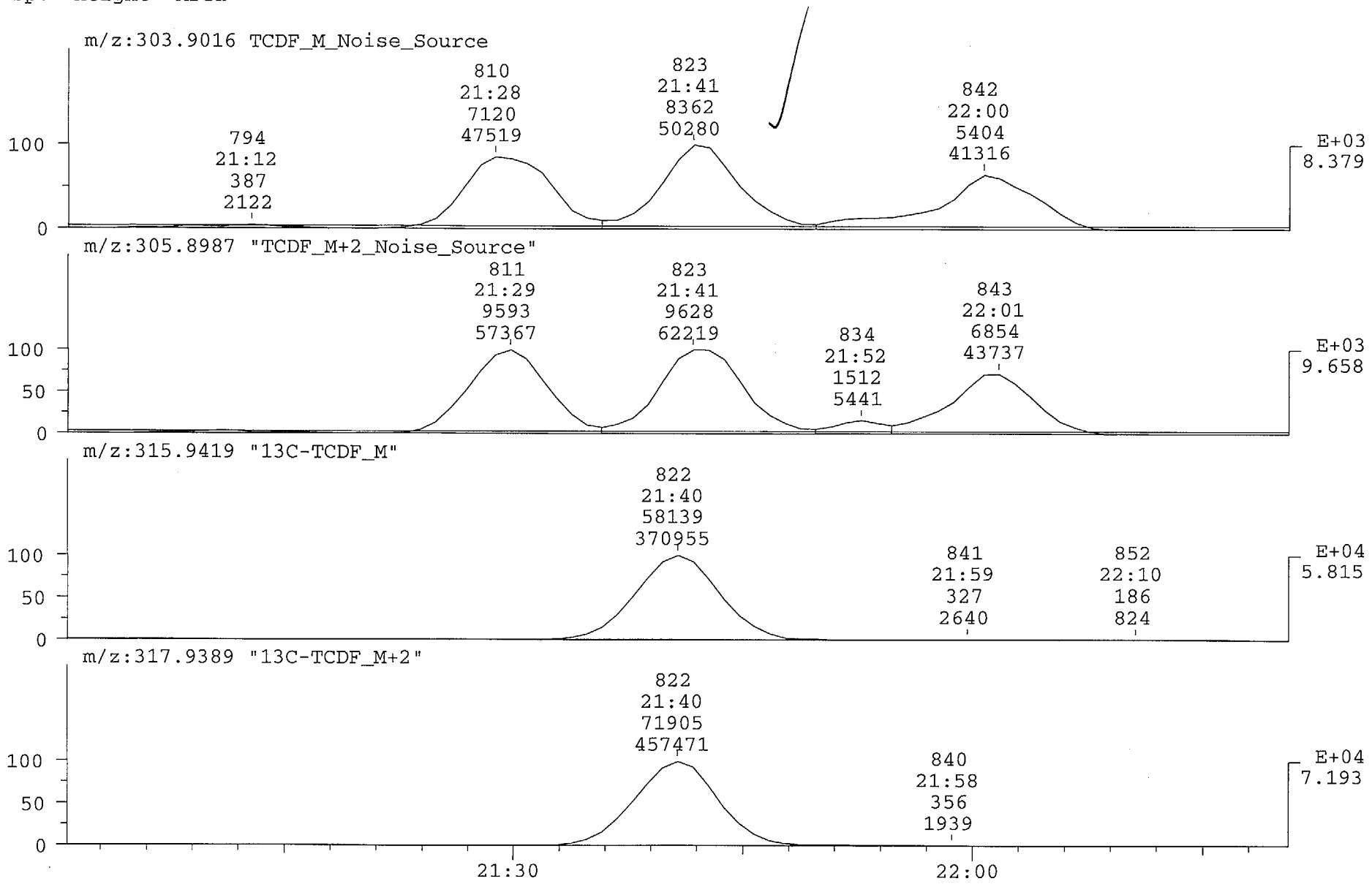
```
CHRO:  cfh2h1j                                08-May-06   Elapse:  21:40.7      822
Samp:  Vial 6 WO=h2h1j1ac Meth=X8c Dil=1                  Start :  11:07:31    1324
Comm:  Inst=m3c/6502634 Batch=20060508s1 Ccal=C060508S1
Mode:  EI + Q1MS UP LR                                    Study :  6118206 (air)
Oper:  VMK            Client:  H6D030236-004              Inlet :          Vial   6
Peak:  100.00  ppm      Label wndw:   5 > 1322            Masses:  292 > 376
Area:  5, 0.50, 0       Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



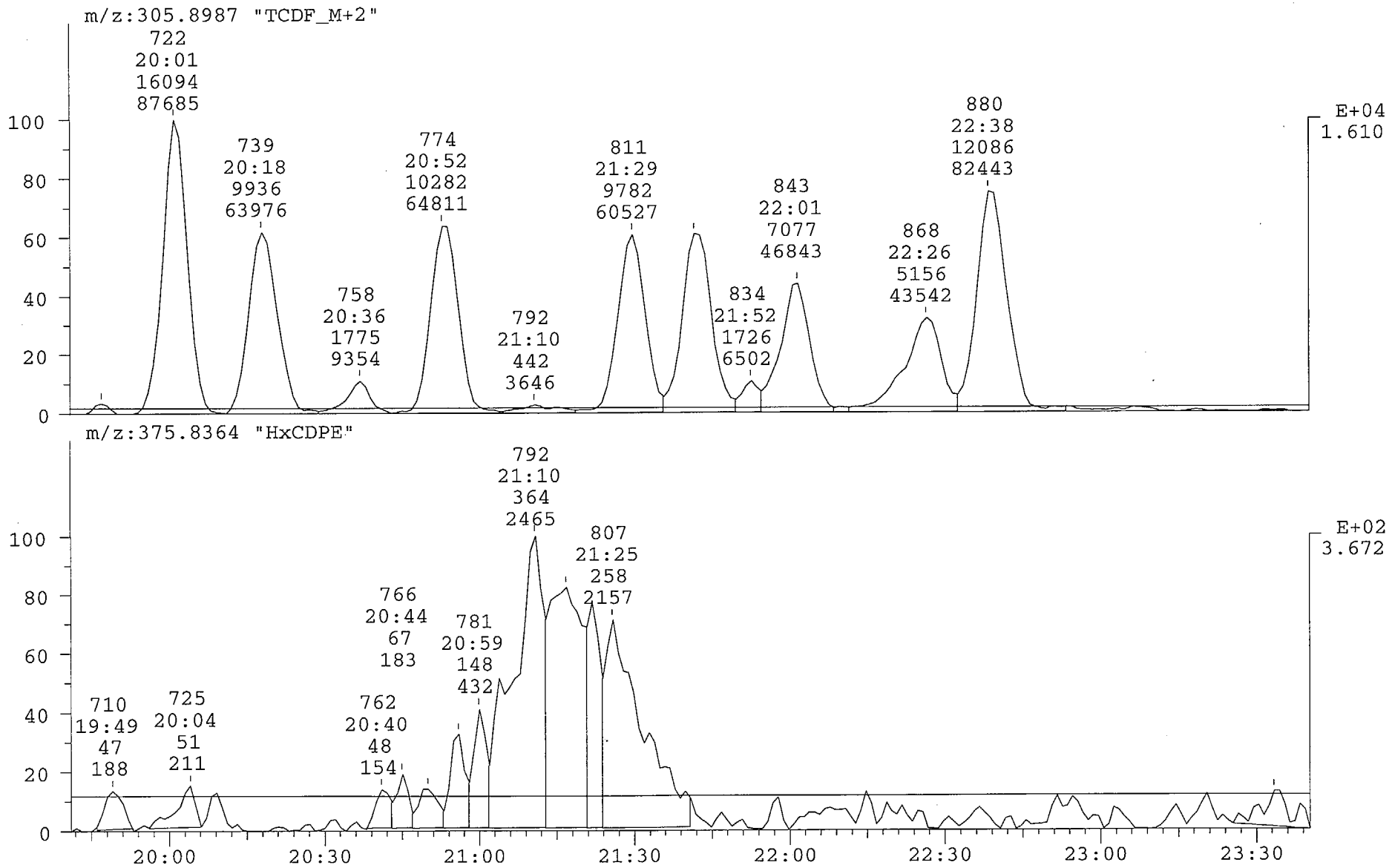
```
CHRO:  cfh2h1j                                08-May-06   Elapse:  19:56.0      717
Samp:  Vial 6 WO=h2h1j1ac Meth=X8c Dil=1                  Start :  11:07:31    1324
Comm:  Inst=m3c/6502634 Batch=20060508s1 Ccal=C060508S1
Mode:  EI + Q1MS UP LR                                    Study :  6118206 (air)
Oper:  VMK            Client:  H6D030236-004              Inlet :          Vial   6
Peak:  100.00  ppm      Label wndw:   650 > 784           Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



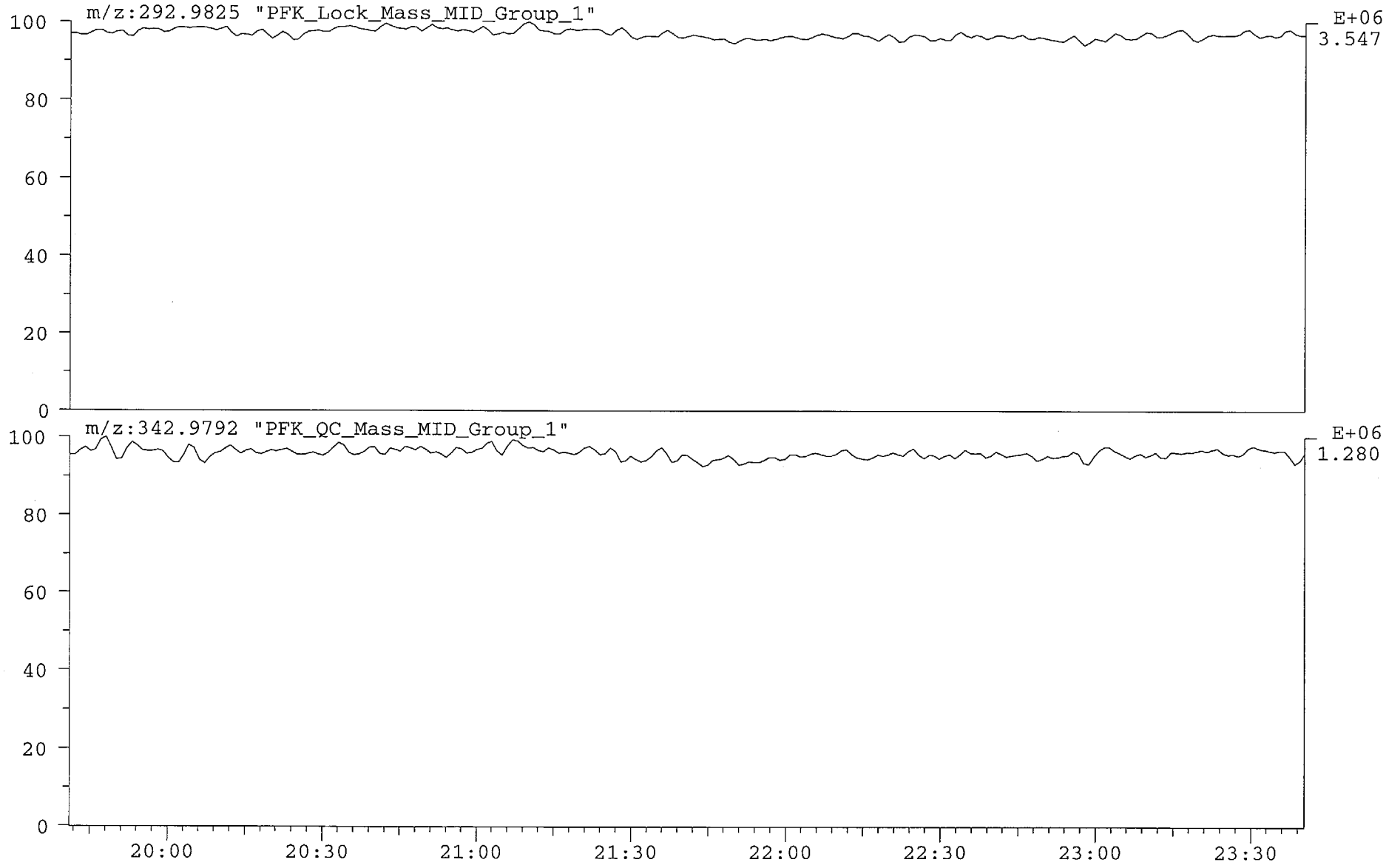
CHRO: cfh2h1j 08-May-06 Elapse: 21:40.7 822
Samp: Vial 6 WO=h2h1j1ac Meth=X8c Dil=1 Start : 11:07:31 1324
Comm: Inst=m3c/6502634 Batch=20060508s1 Ccal=C060508S1
Mode: EI + Q1MS UP LR Study : 6118206 (air)
Oper: VMK Client: H6D030236-004 Inlet : Vial 6
Peak: 100.00 ppm Label wndw: 782 > 862 Masses: 292 > 376
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  cfh2h1j                                08-May-06  Elapse:  21:40.7      822
Samp:  Vial 6 WO=h2h1j1ac Meth=X8c Dil=1                 Start :  11:07:31    1324
Comm:  Inst=m3c/6502634 Batch=20060508s1 Ccal=C060508S1
Mode:  EI + Q1MS UP LR                                   Study :  6118206 (air)
Oper:  VMK            Client:  H6D030236-004             Inlet :          Vial   6
Peak:  100.00  ppm      Label wndw:   702 > 942          Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  cfh2h1j                                08-May-06   Elapse:  21:40.7      822
Samp:  Vial 6 WO=h2h1j1ac Meth=X8c Dil=1                  Start :  11:07:31    1324
Comm:  Inst=m3c/6502634 Batch=20060508s1 Ccal=C060508S1
Mode:  EI + Q1MS UP LR                                    Study :  6118206 (air)
Oper:  VMK            Client:  H6D030236-004              Inlet :          Vial   6
Peak:  100.00  ppm      Label wndw:   702 > 942           Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



```
*** file opened Mon May 08 11:07:31 2006 ***

Started by                  - Mat95InstCtrl
Instrument Internet name    - MAT 95 XP
Instrument model            - MAT 95 XP
Instrument service number   - 0000
Workstation internet name   - KNXDXNM301

ICL Version: 11.68
File name: cfh2h1j
Study: 6118206 (air)
Sample: WO=h2h1j1ac Meth=X8c Dil=1
Amount:   0.0
Volume:   0.0
Injected volume:   2.0
Operator: VMK
Client: H6D030236-004
Comments: Inst=m3c/6502634 Batch=20060508S1 Ccal=C060508S1
Sample from Vial 6
Analysis will stop when MID run finishes
Tune file name: tune2
MCAL file name: mcal1
Single File
ICL procedure: sleep90 6
  MID procedure: db225


  Mid Time Windows:
        Start        Measure      End       Cycletime
  # 1   8:00 min  22:00 min  30:00 min   1.00 sec

  Mid Masses:
   Window # 1
        mass F  int  gr  time (ms)
    292.9825 l  10  1        8
    303.9016     1  1       84
    305.8987     1  1       84
    315.9419     1  1       84
    317.9389     1  1       84
    319.8965     1  1       84
    321.8936     1  1       84
    327.8847     1  1       84
    331.9368     1  1       84
    333.9338     1  1       84
    342.9792 c  10  1        8
    375.8364     1  1       84

  Auto Sampler descriptor:2ul
   Normal Injection
   Injector A
  Slvnt A cln before inj  (K):    3 times
  Slvnt B cln before inj  (L):    0 times
  Sample rinse cycles     (R):    0 times
  Syringe filling volume  (F):  1.0 ul
  Pullup delay time       (D):    4 sec
  Sample pullup count     (P):    5 times
  Sample pullup speed     (E):  5.0 ul/sec
  Slvnt aftr pre inj cln  (U):  0.0 ul
  Air after pre inj clean (G):  2.0 ul
  Sample volume           (V):  2.0 ul
```

Sample air volume	(A):	2.0	ul
Injection speed	(S):	10.0	ul/sec
Pre injection wait time	(W):	10	sec
Post injectn hold time	(H):	3	sec
Solvent A clean cycles	(C):	5	times
Solvent B clean cycles	(B):	0	times
Loop clean wth slvnt A	(LC):	0	times
Loop clean wth slvnt B	(LB):	0	times
Standard sample volume	(X):	0.0	ul
Standard air volume	(Y):	0.0	ul
2nd Injection volume	(I):	0.0	ul
Air volume 2nd injectn	(J):	0.0	ul
Time btwn 2 injections	(T):	0	sec

GC descriptor: db225

Injector:	270 deg		270 deg max
Transfer Line:	220 deg		230 deg max
Column:	140 deg at	0.0 minutes	230 deg max
	140 deg at	2.0 minutes	
	200 deg at	5.0 minutes	
	230 deg at	20.0 minutes	
	230 deg at	30.0 minutes	

Stabilize time 0.0 minutes

Inlet:

Splitless Mode	
Purge Time	1.50 min
Purge Flow	40.0 ml/min
Gas saver is on	
Saver Time	3.00 min
Saver Flow	15.0 ml/min

Column:

Constant Flow	1.2 ml
Standby Flow	0.5 ml/min

ICL Parameters

ACCU	666.0000	BCORRL	0.0150	BCORRS	0.0130
BFM	2.0000	BLM	2862.8777	BMASS	304.9824
BQUAD	0.0000	CAPIL	0.0000	CAPTEMP	0.0000
CAPTSET	0.0000	CCURR	3.7412	CORONA	0.0000
COUNTING	0.0000	DELAY	0.0000	DITEMP	399.9996
DITSET	0.0000	DRAW	-23.6000	DRAWC	0.0000
DRAWS	0.0000	ECORR	1.0009	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9999	EDACZ	928.5000
ELEN	58.1100	EMULT	1.8500	ENS	238.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	0.0000
ESIPAR	0.0000	EXS	153.0000	FDMA	18000000.0000
FILTER	100.0000	FLENS	1.0000	FM	292.6306
FMII	0.2000	FQUAD	0.0000	FREQ	600.6006
FSLOPE	36000000.0000	FVANAL	83.0000	FVINLET	927.0000
FVSRC	835.0000	FWIN	0.7000	GCTC	229.0000
GCTI	270.0000	GCTL	220.0000	HCURR	1.3235
HVANAL	827.0000	HVSRC	2459.0000	ICAL0	0.0011
ICAL1	0.4030	ICAL2	0.5865	IONEN	4754.5740
IST	271.3713	ISTC	0.0000	ISTCKP	5.0000
ISTCTD	1.0000	ISTCTN	2.0000	ISTCTS	60.0000
ISTCTV	3.0000	ISTS	270.0000	LENS	2527.5000
LENSS	46.2000	LKM	292.9825	LM	800.0000
LMASS	304.9824	LMII	0.2000	MASS	304.9824

MDAC	2017207.9536	MRANGE	2862.8777	MSFM	2.0000
MSLM	3790.0000	NPEAK	12.0000	NSAM	200.0000
NSCAN	1328.0000	NSMAX	8.0000	NSMIN	66.0000
OCT	-2.0000	PSAM	10.0000	PUSHER	-9.3500
RDRAW	0.0000	RDRAWC	0.0000	RECURR	0.0000
RELEN	0.0000	RES	10209.4360	RFAMP	0.0000
RFCUR	0.0000	RPUSHER	0.0000	RWIN	2.0000
SCIDLE	1.0000	SHIELD	1869.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000
SPRAY	0.0000	SS	3.0000	SW	0.0500
TANAL	380.9590	TCURR	0.7031	TD	0.9999
THRESH	2.0000	TIS	0.2000	TREF	150.0000
TS	0.4367	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	0.0000	URATIO	2.4500
UROT	-10.0000	USERVAR	0.0000	UTQ1	150.0000
UTQ2	190.0000	UTQ3	80.0000	VAPTEMP	0.0000
VAPTSET	0.0000	VMASS	304.9824	XLENS	3792.5000
XLENSS	13.3000	YLENS	2357.5000	YLENSS	-12.0000

Scantype is electric
Sourcemode is EI POS

Analysis started at: 08-May-06 11:09:08
MID Window terminated after 30.016667 minutes
MID Window end time was 30.000000 minutes
Autosampler has injected sample from vial 6
MID Time Window 1: Resolution is 10464.

Amplifier Offset: 90.

Analysis stopped at: 08-May-06 11:39:10 (run time 30.03 minutes)
Analysis stopped because MID run finished

*** File closed Mon May 08 11:39:11 2006 ***

STL Knoxville - ACS

Sample ID: G-3130/3131-R3-M23A BACK HALF COMPOSITE TRAIN D

Trace Level Organic Compounds

Lot - Sample #....:	H6D030236 - 006	**Work Order #....:**	H2H1L1AC	**Matrix....:**	AIR
Date Sampled....:	03/30/06	**Date Received....:**	04/02/06	**Dilution Factor:**	1
Prep Date....:	04/17/06	**Analysis Date....:**	05/08/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M3C	**Method:**	SW846 0023A/8290
Analyst ID....:	Vanhseng (MO) Khounlavong				

Confirmation Run

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDF	**160**	**Q**	**10**	**4.0**	**pg/sampl**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDF	94	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

Q Estimated maximum possible concentration (EMPC).

STL - Knoxville

IsoCalc Preliminary Sample Report

TCDD/F by EPA Method 0023/8290 - DB-225

IsoCalc

Workorder	H2H1L1AC	Prep Batch	6107092	Lot No	H6D030236-006
Data File	/20060508s1/cfh2h11.d	Prep Date	04/17/06	SDG No	
Analysis ID	90561	Prep Exp Date	04/29/06	Date Received	04/02/06
Analysis Date	5/8/2006	Matrix	AIR	Date Sampled	03/30/06
Analysis Time	11:39	Initial Wt/Vol	1	Lims Test Code	XXSIOX801
Anal Exp Date	06/01/06	Extract Vol	20	Method	0023/8290_Conf
Instrument	M3C	Dil Factor	1.0	Code	X8c
Analyst	VMK				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (pg/sample		DL (pg/samp
2,3,7,8-TCDD								ND		0.000000
2,3,7,8-TCDF	21:41	129150	20402	1.058		157.679747		157.679747	Q	3.98
37Cl4-2,3,7,8-TCDD								ND		0.000000
13C-2,3,7,8-TCDD	19:43	522160	87728		1000			ND		0.000000
13C-2,3,7,8-TCDF	21:40	774152	122748	1.454	1000	938.936250	93.89	938.936250		1.99
13C-1,2,3,4-TCDD	20:05	1134403	193689	1.000	2000	2000.00000	100.00	2000.00000		2.76

VMK 5/8/06
MSD 5/8/06

STL - Knoxville

IsoCalc Preliminary Peak Report

TCDD/F by EPA Method 0023/8290 - DB-225

IsoCalc

Workorder	H2H1L1AC	Prep Batch	6107092	Lot No	H6D030236-006
Data File	/20060508s1/cfh2h11.d	Prep Date	04/17/06	SDG No	
Analysis ID	90561	Prep Exp Date	04/29/06	Date Received	04/02/06
Analysis Date	05/08/06 11:39	Matrix	AIR	Date Sampled	03/30/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSIOX801
Instrument	M3C	Extract Vol	20 uL	Method	0023/8290_Conf
Analyst	VMK	Diluton Factor	1.00	Code	X8c

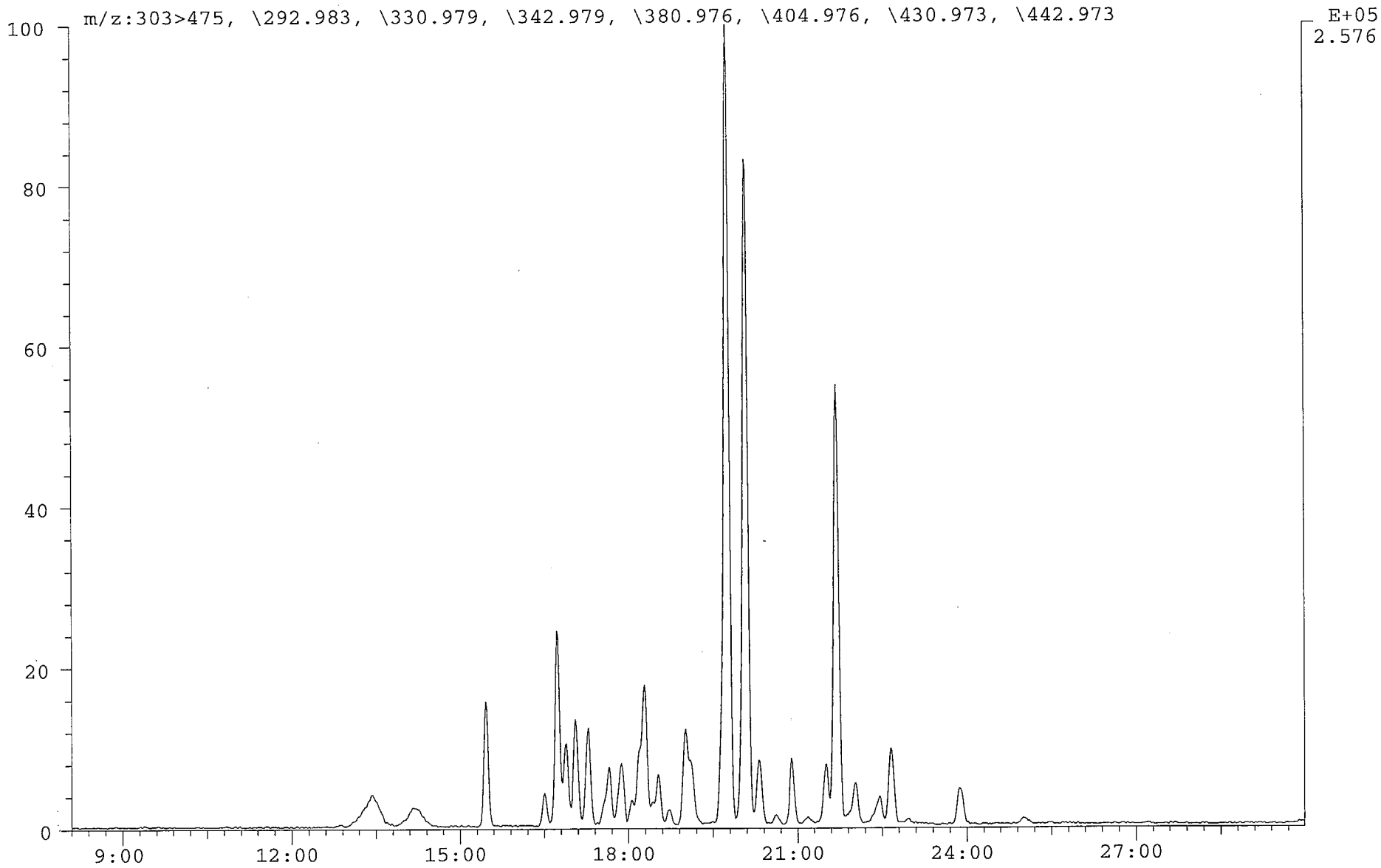
View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	248	270	99	108	0.92 *	/	
	2,3,7,8-TCDF	21:41	21:42	-1	57753	71397	9530	10872	0.81	AVV/AVV	
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	128	153	51	61	0.84	/	
	13C-2,3,7,8-TCDF	21:40	21:40	0	340586	433566	54617	68131	0.79	AVV/AVV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	95	123	38	49	0.78	/	
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	33		13				
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	135	133	54	53	1.02 *	/	
	13C-2,3,7,8-TCDD	19:43	19:43	0	232782	289378	39025	48703	0.80	AVV/ABV	
	13C-1,2,3,4-TCDD	20:05	20:05	0	509598	624805	86529	107160	0.82	AVV/AVV	

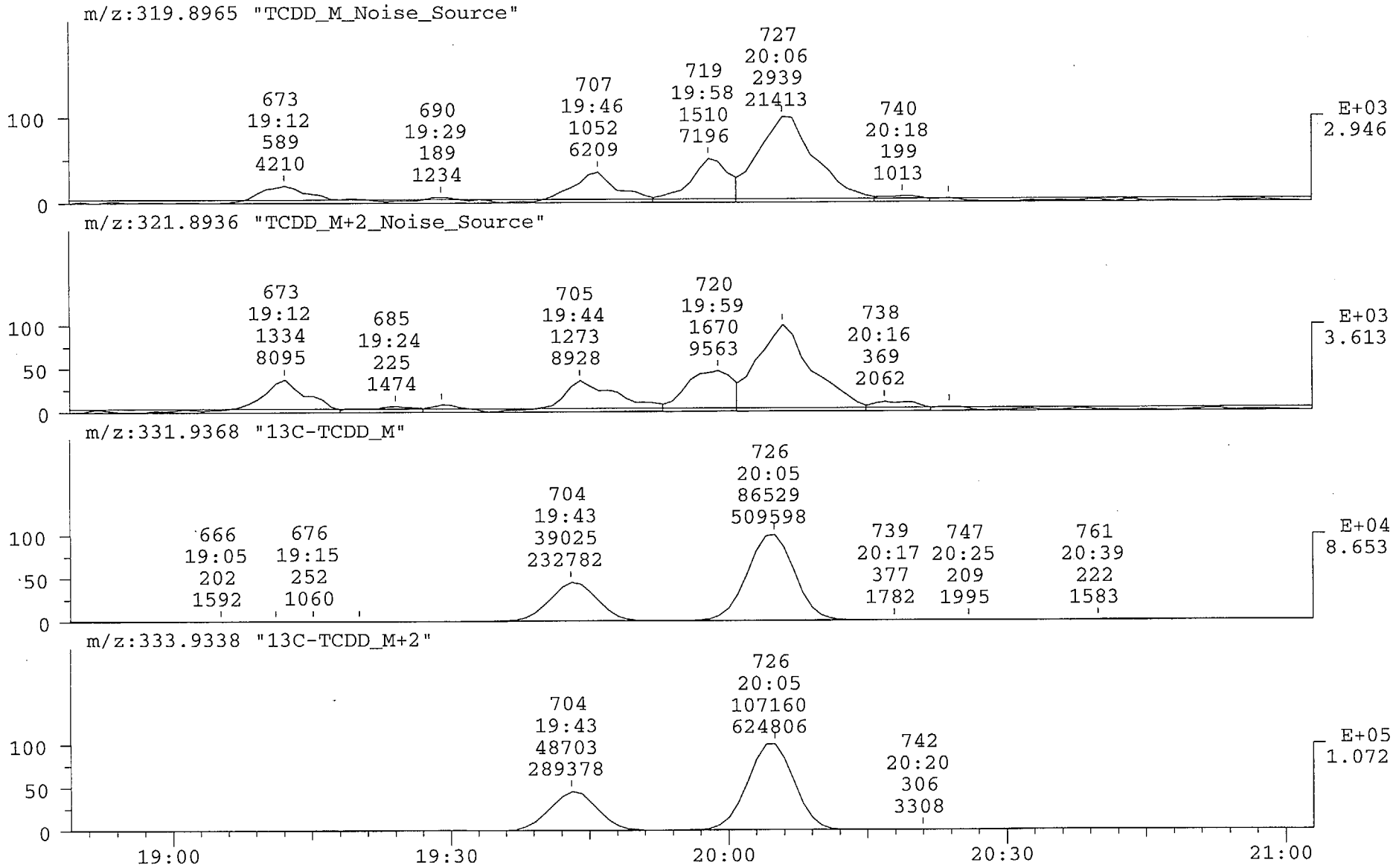
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

Int VMK 5/8/06
Calc VMK 5/8/06
QC Rev MSD 5/8/06

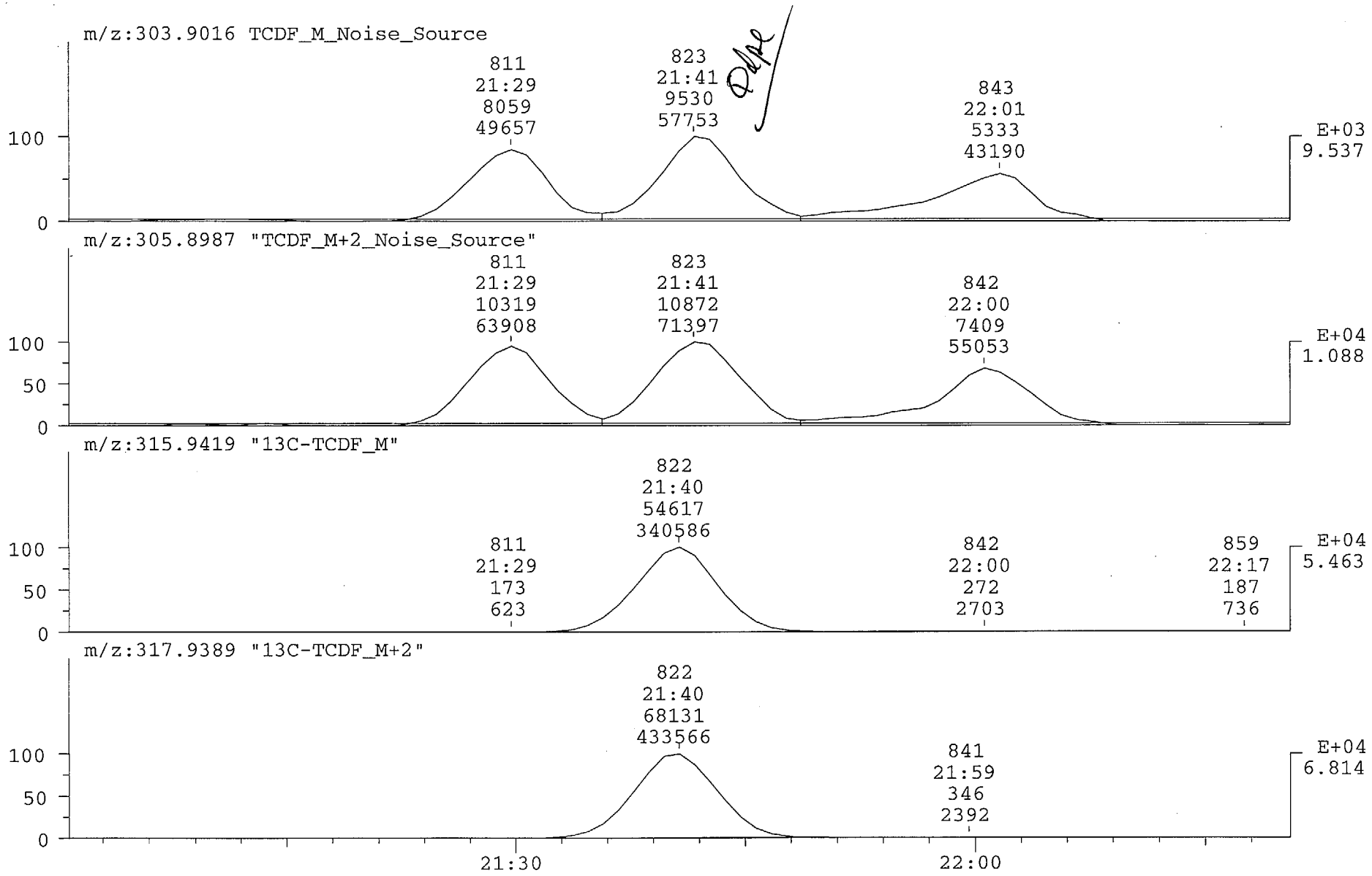
```
CHRO:  cfh2h11                                  08-May-06  Elapse:  21:40.7      822
Samp:  Vial 7 WO=h2h1l1ac Meth=X8c Dil=1                   Start :  11:39:13    1324
Comm:  Inst=m3c/6502634 Batch=20060508s1 Ccal=C060508S1
Mode:  EI + Q1MS UP LR                                     Study :  6118206 (air)
Oper:  VMK            Client:  H6D030236-006               Inlet :         Vial   7
Peak:  100.00  ppm      Label wndw:   5 > 1322             Masses:  292 > 376
Area:  5, 0.50, 0       Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
```



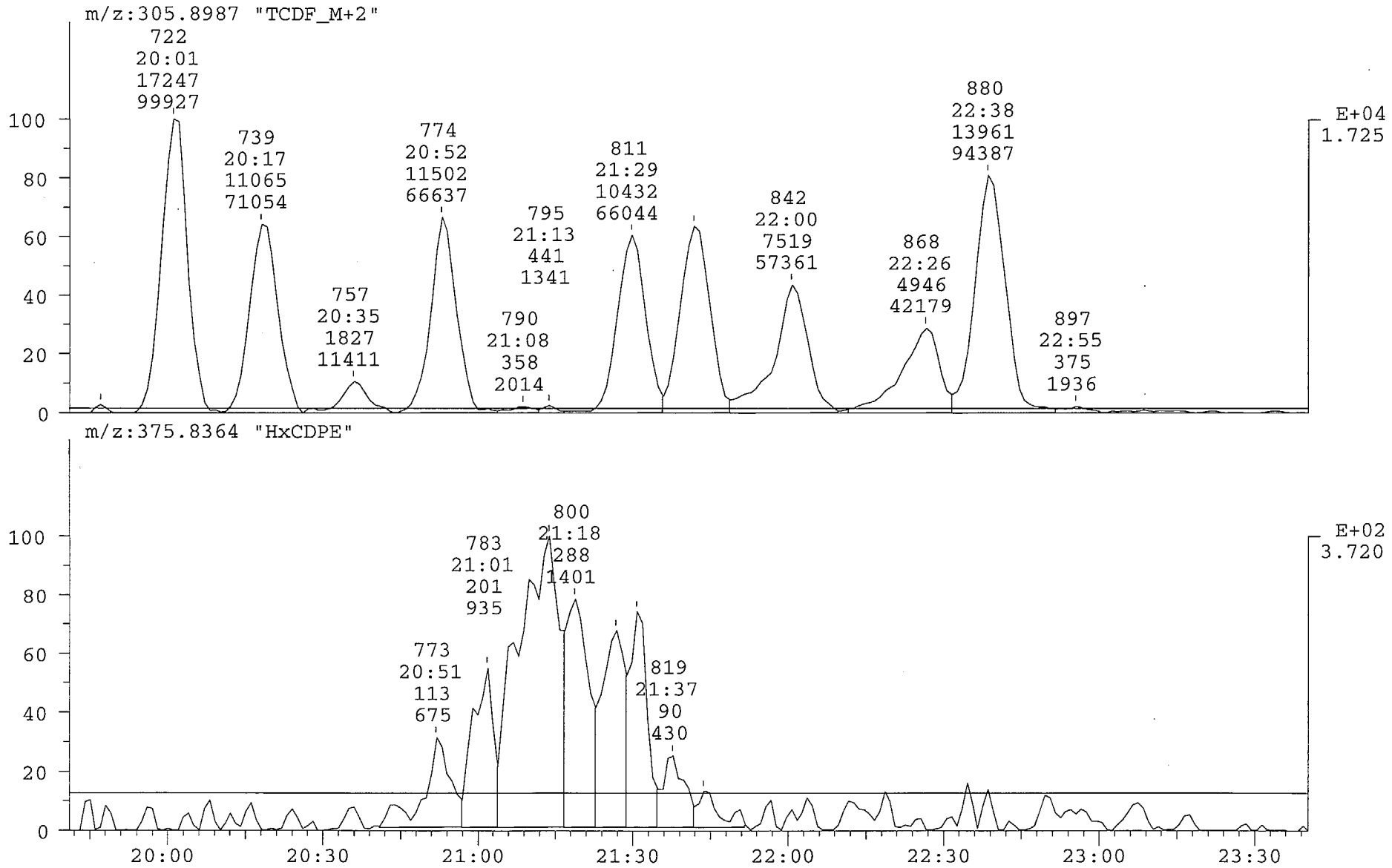
CHRO: cfh2h11 08-May-06 Elapse: 19:56.0 717
Samp: Vial 7 WO=h2h11ac Meth=X8c Dil=1 Start : 11:39:13 1324
Comm: Inst=m3c/6502634 Batch=20060508s1 Ccal=C060508S1
Mode: EI + Q1MS UP LR Study : 6118206 (air)
Oper: VMK Client: H6D030236-006 Inlet : Vial 7
Peak: 100.00 ppm Label wndw: 650 > 784 Masses: 292 > 376
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



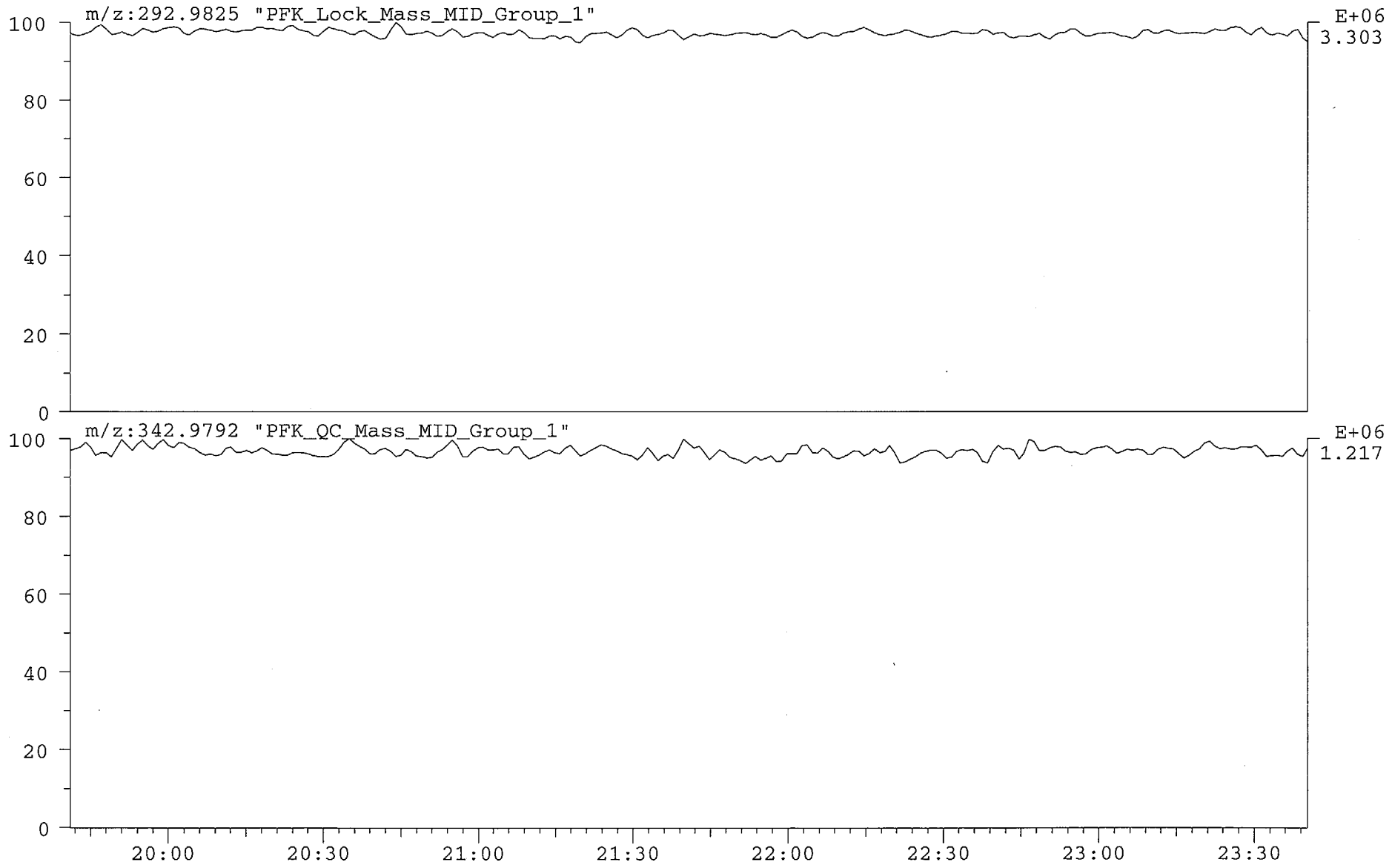
CHRO: cfh2h11 08-May-06 Elapse: 21:40.7 822
Samp: Vial 7 WO=h2h111ac Meth=X8c Dil=1 Start : 11:39:13 1324
Comm: Inst=m3c/6502634 Batch=20060508s1 Ccal=C060508S1
Mode: EI + Q1MS UP LR Study : 6118206 (air)
Oper: VMK Client: H6D030236-006 Inlet : Vial 7
Peak: 100.00 ppm Label wndw: 782 > 862 Masses: 292 > 376
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  cfh2h11                                08-May-06   Elapse:  21:40.7      822
Samp:  Vial 7 WO=h2h111ac Meth=X8c Dil=1                  Start :  11:39:13    1324
Comm:  Inst=m3c/6502634 Batch=20060508s1 Ccal=C060508S1
Mode:  EI + Q1MS UP LR                                    Study :  6118206 (air)
Oper:  VMK            Client:  H6D030236-006              Inlet :          Vial   7
Peak:  100.00  ppm      Label wndw:   702 > 942           Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  cfh2h11                                08-May-06   Elapse:  21:40.7      822
Samp:  Vial 7 WO=h2h111ac Meth=X8c Dil=1                  Start :  11:39:13    1324
Comm:  Inst=m3c/6502634 Batch=20060508s1 Ccal=C060508S1
Mode:  EI + Q1MS UP LR                                    Study :  6118206 (air)
Oper:  VMK            Client:  H6D030236-006              Inlet :          Vial   7
Peak:  100.00  ppm      Label wndw:   702 > 942           Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



```
*** file opened Mon May 08 11:39:13 2006 ***

Started by                  - Mat95InstCtrl
Instrument Internet name    - MAT 95 XP
Instrument model            - MAT 95 XP
Instrument service number   - 0000
Workstation internet name   - KNXDXNM301

ICL Version: 11.68
File name: cfh2h11
Study: 6118206 (air)
Sample: WO=h2h111ac Meth=X8c Dil=1
Amount:   0.0
Volume:   0.0
Injected volume:   2.0
Operator: VMK
Client: H6D030236-006
Comments: Inst=m3c/6502634 Batch=20060508S1 Ccal=C060508S1
Sample from Vial 7
Analysis will stop when MID run finishes
Tune file name: tune2
MCAL file name: mcal1
Single File
ICL procedure: sleep90 6
  MID procedure: db225


  Mid Time Windows:
        Start        Measure      End        Cycletime
  # 1   8:00 min  22:00 min  30:00 min   1.00 sec

  Mid Masses:
   Window # 1
        mass F  int  gr  time (ms)
    292.9825 l  10  1        8
    303.9016     1  1       84
    305.8987     1  1       84
    315.9419     1  1       84
    317.9389     1  1       84
    319.8965     1  1       84
    321.8936     1  1       84
    327.8847     1  1       84
    331.9368     1  1       84
    333.9338     1  1       84
    342.9792 c  10  1        8
    375.8364     1  1       84

  Auto Sampler descriptor:2ul
   Normal Injection
   Injector A
  Slvnt A cln before inj  (K):    3 times
  Slvnt B cln before inj  (L):    0 times
  Sample rinse cycles     (R):    0 times
  Syringe filling volume  (F):  1.0 ul
  Pullup delay time       (D):    4 sec
  Sample pullup count     (P):    5 times
  Sample pullup speed     (E):  5.0 ul/sec
  Slvnt aftr pre inj cln  (U):  0.0 ul
  Air after pre inj clean (G):  2.0 ul
  Sample volume           (V):  2.0 ul
```

Sample air volume	(A):	2.0	ul
Injection speed	(S):	10.0	ul/sec
Pre injection wait time	(W):	10	sec
Post injectn hold time	(H):	3	sec
Solvent A clean cycles	(C):	5	times
Solvent B clean cycles	(B):	0	times
Loop clean wth slvnt A	(LC):	0	times
Loop clean wth slvnt B	(LB):	0	times
Standard sample volume	(X):	0.0	ul
Standard air volume	(Y):	0.0	ul
2nd Injection volume	(I):	0.0	ul
Air volume 2nd injectn	(J):	0.0	ul
Time btwn 2 injections	(T):	0	sec

GC descriptor: db225

Injector:	270 deg		270 deg max
Transfer Line:	220 deg		230 deg max
Column:	140 deg at	0.0 minutes	230 deg max
	140 deg at	2.0 minutes	
	200 deg at	5.0 minutes	
	230 deg at	20.0 minutes	
	230 deg at	30.0 minutes	

Stabilize time 0.0 minutes

Inlet:

Splitless Mode	
Purge Time	1.50 min
Purge Flow	40.0 ml/min
Gas saver is on	
Saver Time	3.00 min
Saver Flow	15.0 ml/min

Column:

Constant Flow	1.2 ml
Standby Flow	0.5 ml/min

ICL Parameters

ACCU	666.0000	BCORRL	0.0150	BCORRS	0.0130
BFM	2.0000	BLM	2862.8777	BMASS	304.9824
BQUAD	0.0000	CAPIL	0.0000	CAPTEMP	0.0000
CAPTSET	0.0000	CCURR	3.7412	CORONA	0.0000
COUNTING	0.0000	DELAY	0.0000	DITEMP	399.9996
DITSET	0.0000	DRAW	-23.6000	DRAWC	0.0000
DRAWS	0.0000	ECORR	1.0009	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9999	EDACZ	928.5000
ELEN	58.1100	EMULT	1.8500	ENS	238.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	0.0000
ESIPAR	0.0000	EXS	153.0000	FDMA	18000000.0000
FILTER	100.0000	FLENS	1.0000	FM	292.6306
FMII	0.2000	FQUAD	0.0000	FREQ	600.6006
FSLOPE	36000000.0000	FVANAL	83.0000	FVINLET	927.0000
FVSRC	835.0000	FWIN	0.7000	GCTC	229.0000
GCTI	270.0000	GCTL	220.0000	HCURR	1.3431
HVANAL	827.0000	HVSRC	2459.0000	ICAL0	0.0011
ICAL1	0.4030	ICAL2	0.5865	IONEN	4754.5740
IST	271.3713	ISTC	0.0000	ISTCKP	5.0000
ISTCTD	1.0000	ISTCTN	2.0000	ISTCTS	60.0000
ISTCTV	3.0000	ISTS	270.0000	LENS	2527.5000
LENSS	46.2000	LKM	292.9825	LM	800.0000
LMASS	304.9824	LMII	0.2000	MASS	304.9824

MDAC	2017207.9536	MRANGE	2862.8777	MSFM	2.0000
MSLM	3790.0000	NPEAK	12.0000	NSAM	200.0000
NSCAN	1328.0000	NSMAX	8.0000	NSMIN	66.0000
OCT	-2.0000	PSAM	10.0000	PUSHER	-9.3500
RDRAW	0.0000	RDRAWC	0.0000	RECURR	0.0000
RELEN	0.0000	RES	10209.4360	RFAMP	0.0000
RFCUR	0.0000	RPUSHER	0.0000	RWIN	2.0000
SCIDLE	1.0000	SHIELD	1869.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000
SPRAY	0.0000	SS	3.0000	SW	0.0500
TANAL	380.9630	TCURR	0.7422	TD	0.9999
THRESH	2.0000	TIS	0.2000	TREF	150.0000
TS	0.4367	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	0.0000	URATIO	2.4500
UROT	-10.0000	USERVAR	0.0000	UTQ1	150.0000
UTQ2	190.0000	UTQ3	80.0000	VAPTEMP	0.0000
VAPTSET	0.0000	VMASS	304.9824	XLENS	3792.5000
XLENSS	13.3000	YLENS	2357.5000	YLENSS	-12.0000

Scantype is electric
Sourcemode is EI POS

Analysis started at: 08-May-06 11:40:50
MID Window terminated after 30.016667 minutes
MID Window end time was 30.000000 minutes
Autosampler has injected sample from vial 7
MID Time Window 1: Resolution is 10464.

Amplifier Offset: 91.

Analysis stopped at: 08-May-06 12:10:52 (run time 30.03 minutes)
Analysis stopped because MID run finished

*** File closed Mon May 08 12:10:52 2006 ***

Standards Data
DB-5 Column

STL Knoxville Dioxin GC/MS Initial Calibration Data Review / Narrative Checklist
Method: TO-9A - KNOX-ID-0004-R3

PFK Date/Time:	9:10 11/8/04	Inst:	MA7955	Win Filename:	b041108w1	Col Perf Filename:	b041108w1

CS1 Filename	CS2 Filename	CS3 Filename	CS4 Filename	CS5 Filename
b041108i1	b041108i2	b041108i3	b041108i4	b041108i5

Review Items	NA	Yes	No	If No, why is data reportable?	2nd Level
1. Was the mass resolution documented before beginning the initial calibration?		✓			✓
2. Was the instrument resolution >10,000 (<100 ppm) on PFK m/z 304.9824 and m/z 380.9760 (at reduced voltage)?		✓			✓
3. Was the measured exact mass of m/z 380.9760 (PFK) within 5 ppm at reduced accelerating voltage?		✓			✓
4. Was the Window Defining Mixture analyzed and the MID switchpoints set to encompass the retention time windows of each congener group?		✓			✓
5. Was the Column Performance solution analyzed and the %Valley ≤25 for separation between 2378-TCDD/F and the closest eluting non-2378 isomer?		✓			✓
6. Were the five calibration standard solutions, at the concentrations specified in Table 6 of the SOP, analyzed?		✓			✓
7. Was date/time of analysis verified between analysis header and logbook as correct?		✓			✓
8. Were the response factors calculated for each labeled standard and unlabeled native analyte using the SOP specified reference compound (Table 4), quantitation ions (Table 22), and formula (Section 10.2.6)?		✓			✓
9. Are the relative retention times of all PCDDs/PCDFs and all labeled compounds within the limits specified in Table 3?		✓			✓
10. Are %RSD for all unlabeled native analytes ≤ criteria in Table 6?		✓			✓
11. Are %RSD for all labeled internal standards ≤ criteria in Table 6?		✓			✓
12. Are all S/N ratios ≥10 for the GC signals in each EICP (extracted ion chromatographic profile) including internal standards?		✓			✓
13. Are the ion abundance ratios for all labeled and unlabeled analytes within the control limits specified in Table 22 of the SOP?		✓			✓
14. Was the second source (Wellington) ICV standard analyzed, and the %D calculated and within the acceptance criteria of < ±35%?		✓			✓
15. If manual integrations were performed, are they clearly identified, initialed and dated?		✓			✓
16. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				✓
17. Does the ICAL folder contain **complete** data in the following order: Data review checklist, a **complete** runlog, Avg. %RSD summary, Ratio summary, Calculation summary, PFK resolution/peak match documentation; Total RIC, EICP's and manual integration - for window and all standards, in order from low to high standard, ICV Summary Table, Calculation Summary, and chromatograms?		✓			✓

Analyst: P NAP	Date: 11-9-04	2nd Level Reviewer: MS Davidson	Date: 11/9/04
Comments:		Comments:	

STL Knoxville Dioxin GC/MS Initial Calibration Data Review / Narrative Checklist

Method: ☒ 0023A/8290 ☒ EPA 23 KNOX-ID-0004-R3

PFK Date/Time:	9:10 11/8/04	Inst:	MAT 955	Win Filename:	b041108w1	Col Perf Filename:	b041108w1

CS1 Filename	CS2 Filename	CS3 Filename	CS4 Filename	CS5 Filename
b041108i1	b041108i2	b041108i3	b041108i4	b041108i5

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd Level
1. Was the mass resolution documented before beginning the initial calibration?		✓			✓
2. Was the instrument resolution >10,000 (<100 ppm) on PFK m/z 304.9824 and m/z 380.9760 (at reduced voltage)?		✓			✓
3. Was the measured exact mass of m/z 380.9760 (PFK) within 5 ppm at reduced accelerating voltage?		✓			✓
4. Was the Window Defining Mixture analyzed and the MID switchpoints set to encompass the retention time windows of each congener group?		✓			✓
5. Was the Column Performance solution analyzed and the %Valley ≤25 for separation between 2378-TCDD/F and the closest eluting non-2378 isomer?		✓			✓
6. Were the five calibration standard solutions, at the concentrations specified in Table 6of the SOP, analyzed?		✓			✓
7. Was date/time of analysis verified between analysis header and logbook as correct?		✓			✓
8. Were the response factors calculated for each labeled standard and unlabeled native analyte using the SOP specified reference compound (Table 4), quantitation ions (Table 22), and formula (Section 10.2.6)?		✓			✓
9. Are the relative retention times of all PCDDs/PCDFs and all labeled compounds within the limits specified in Table 3?		✓			✓
10. Method 0023A: Are %RSD ≤20% for all unlabeled native analytes (≤ criteria in Table 6 for Method 23)?		✓			✓
11. Method 0023A: Are %RSD ≤35% for all labeled internal standards (≤ criteria in Table 6 for Method 23)?		✓			✓
12. Are all S/N ratios ≥10 for the GC signals in each EICP (extracted ion chromatographic profile) including internal standards?		✓			✓
13. Are the ion abundance ratios for all labeled and unlabeled analytes within the control limits specified in Table 22 of the SOP?		✓			✓
14. Was the second source (Wellington) ICV standard analyzed, and the %D calculated and within the acceptance criteria of < ±35%?		✓			✓
15. If manual integrations were performed, are they clearly identified, initialed and dated?		✓			✓
16. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				✓
17. Does the ICAL folder contain **complete** data in the following order: Data review checklist, a **complete** runlog, Avg. %RSD summary, Ratio summary, Calculation summary, PFK resolution/peak match documentation; Total RIC, EICP's and manual integration - for window and all standards, in order from low to high standard, ICV Summary Table, Calculation Summary, and chromatograms?		✓			✓

Analyst: PMP	Date: 11-9-04	2nd Level Reviewer: [signature]	Date: 11/9/04
Comments:		Comments:	

STL KNOXVILLE
SPECIALTY ORGANICS INSTRUMENT MAT 95S RUN LOG

Date	Time	Opr	Sample ID	Filename	Code	Matrix	Type	Tape	Lot#/Comments
11/8/04	09:10	MSD	PFK	—	OK	—	RES		Mass Res Chk
11/8/04	09:14	MSD	2960:58	b041108w1	OK	—	WIN		M23 Win ICAL
11/8/04	10:18	MSD	Noname	↓	OK	—	QC		flushes
11/8/04	10:34	MSD	↓	↓	OK	—	QC		↓
11/8/04	10:50	MSD	↓	↓	OK	—	QC		↓
11/8/04	11:05	MSD	↓	↓	OK	—	QC		↓
11/8/04	11:30	MSD	↓	↓	OK	—	QC		↓
11/8/04	12:14 / 13:19	MSD	2960:59 CS1	b041108i1	LS/CF / OK	—	ICAL		M23 ICAL
11/8/04	14:23	MSD	2960:59 CS2	b041108i2	OK	—	ICAL		↓
11/8/04	15:25	MSD	2960:59 CS3	b041108i3	OK	—	ICAL		↓
11/8/04	16:29	MSD	2960:59 CS4	b041108i4	OK	—	ICAL		↓
11/8/04	17:32	MSD	2960:59 CS5	b041108i5	OK	—	ICAL		↓
11-8-04	20:14	PMP	PFK	—	OK	—	Res		Mass Res Chk
11-8-04	21:32	PMP	PFK	—	OK	—	Res		Mass Res Chk
11-8-04	21:35	PMP	1778:08 CS3	b041108s5	OK	—	2nd source ver		Sec Source STD
11-8-04	22:38	PMP	PFK	—	OK	—	Res		Mass Res Chk
			~~2960:~~	PMP 11-8-04					
11-8-04	23:44	PMP	PFK	—	OK	—	Res		Mass Res Chk
11-8-04	23:46	PMP	2960:37	b041108s2	OK	—	Ver		M23 Ver
11-9-04		PMP	2960:58	b041109w1		—	Win		M23 Win

Read and Understood by: _____ Date: _____

STL - Knoxville
Specialty Organics Group

IsoCalc Initial Calibration Report

PCDD/PCDF by EPA Method 0023/8290

ICAL ID: 10432 - 20041108I
Date: 11/08/04 13:19
Method: X8 - 0023/8290

Instrument: M2A
Column Desc: Rtx-5 60m x 0.32mm ID x 0.25um
Column S/N: 656438

Level	Filename	Date/Time	Sample ID	Result Directory
CS1:	b041108i1	11/08/04 13:19	2960:59CS1	/20041108i/b041108i1.d
CS2:	b041108i2	11/08/04 14:23	2960:59CS2	/20041108i/b041108i2.d
CS3:	b041108i3	11/08/04 15:25	2960:59CS3	/20041108i/b041108i3.d
CS4:	b041108i4	11/08/04 16:29	2960:59CS4	/20041108i/b041108i4.d
CS5:	b041108i5	11/08/04 17:32	2960:59CS5	/20041108i/b041108i5.d

	Response Factors								
Analyte	CS1	CS2	CS3	CS4	CS5	Mean RF	%RSD	Limit	Valid?
2,3,7,8-TCDD	1.139	1.086	1.051	1.022	1.004	1.060	5.1	20.0	True
Total TCDD						1.060	0.0	20.0	True
2,3,7,8-TCDF	1.217	1.104	1.036	0.986	0.977	1.064	9.3	20.0	True
Total TCDF						1.064	0.0	20.0	True
1,2,3,7,8-PeCDD	1.008	0.975	0.992	0.956	0.952	0.977	2.4	20.0	True
Total PeCDD						0.977	0.0	20.0	True
1,2,3,7,8-PeCDF	0.974	0.956	0.974	0.945	0.927	0.955	2.1	20.0	True
2,3,4,7,8-PeCDF	1.062	0.960	1.033	1.046	0.987	1.018	4.2	20.0	True
Total PeCDF						0.987	0.0	20.0	True
1,2,3,4,7,8-HxCDD	1.088	1.044	1.057	1.049	0.999	1.047	3.1	20.0	True
1,2,3,6,7,8-HxCDD	1.090	1.073	1.129	1.036	0.946	1.055	6.6	20.0	True
1,2,3,7,8,9-HxCDD	1.254	1.175	1.169	1.102	1.030	1.146	7.4	20.0	True
Total HxCDD						1.083	0.0	20.0	True
1,2,3,4,7,8-HxCDF	1.175	1.132	1.153	1.063	0.981	1.101	7.2	20.0	True
1,2,3,6,7,8-HxCDF	1.335	1.245	1.216	1.093	1.032	1.184	10.2	20.0	True
2,3,4,6,7,8-HxCDF	1.094	1.115	1.110	1.008	0.935	1.052	7.5	20.0	True
1,2,3,7,8,9-HxCDF	1.039	1.013	0.992	0.968	0.898	0.982	5.5	20.0	True
Total HxCDF						1.080	0.0	20.0	True
1,2,3,4,6,7,8-HpCDD	1.061	1.017	1.051	0.982	0.976	1.018	3.8	20.0	True
Total HpCDD						1.018	0.0	20.0	True
1,2,3,4,6,7,8-HpCDF	1.442	1.402	1.414	1.386	1.373	1.403	1.9	20.0	True
1,2,3,4,7,8,9-HpCDF	1.213	1.194	1.180	1.248	1.149	1.197	3.1	20.0	True
Total HpCDF						1.300	0.0	20.0	True
OCDD	1.011	0.979	0.960	0.939	0.935	0.965	3.3	20.0	True
OCDF	1.123	1.071	1.095	1.113	1.115	1.103	1.9	20.0	True
13C-2,3,7,8-TCDD	1.030	1.049	1.119	1.063	1.078	1.068	3.1	30.0	True
13C-2,3,7,8-TCDF	1.417	1.417	1.433	1.375	1.426	1.413	1.6	30.0	True
13C-1,2,3,7,8-PeCDD	0.846	0.909	0.862	0.887	0.906	0.882	3.1	30.0	True
13C-1,2,3,7,8-PeCDF	1.122	1.233	1.150	1.184	1.252	1.188	4.6	30.0	True
13C-1,2,3,6,7,8-HxCDD	0.918	0.931	0.910	0.960	0.997	0.943	3.8	30.0	True
13C-1,2,3,6,7,8-HxCDF	1.215	1.217	1.208	1.317	1.402	1.272	6.7	30.0	True
13C-1,2,3,4,6,7,8-HpCDD	0.930	0.969	0.879	0.968	0.845	0.918	6.0	30.0	True
13C-1,2,3,4,6,7,8-HpCDF	0.921	0.930	0.906	0.938	0.885	0.916	2.3	30.0	True
13C-OCDD	0.850	0.900	0.787	0.925	0.787	0.850	7.5	30.0	True
37Cl4-2,3,7,8-TCDD	1.146	1.063	1.007	1.013	1.001	1.046	5.9	30.0	True
13C-2,3,4,7,8-PeCDF	1.094	0.988	1.014	1.002	0.953	1.010	5.2	30.0	True
13C-1,2,3,4,7,8-HxCDD	0.846	0.893	0.970	0.938	0.864	0.902	5.7	30.0	True
13C-1,2,3,4,7,8-HxCDF	1.208	1.058	0.959	0.885	0.831	0.988	15.1	30.0	True
13C-1,2,3,7,8,9-HxCDF	1.169	1.138	1.049	1.107	1.100	1.113	4.0	30.0	True
13C-1,2,3,4,7,8,9-HpCDF	0.956	0.966	0.886	0.913	0.839	0.912	5.7	30.0	True
13C-1,2,3,4-TCDD	1.000	1.000	1.000	1.000	1.000	1.000	0.0	0.0	True
13C-1,2,3,7,8,9-HxCDD	1.000	1.000	1.000	1.000	1.000	1.000	0.0	0.0	True

PMP 11-8-04
WSD 11-9-04

STL - Knoxville

Specialty Organics Group

IsoCalc Initial Calibration Report

PCDD/PCDF by EPA Method 0023/8290

ICAL ID: 10432 - 20041108I
Date: 11/08/04 13:19
Method: X8 - 0023/8290

Instrument: M2A
Column Desc: Rtx-5 60m x 0.32mm ID x 0.25um
Column S/N: 656438

Level	Filename	Date/Time	Sample ID	Result Directory
CS1:	b041108i1	11/08/04 13:19	2960:59CS1	/20041108i/b041108i1.d
CS2:	b041108i2	11/08/04 14:23	2960:59CS2	/20041108i/b041108i2.d
CS3:	b041108i3	11/08/04 15:25	2960:59CS3	/20041108i/b041108i3.d
CS4:	b041108i4	11/08/04 16:29	2960:59CS4	/20041108i/b041108i4.d
CS5:	b041108i5	11/08/04 17:32	2960:59CS5	/20041108i/b041108i5.d

Ion Abundance Ratios

Analyte	M/Z's	CS1	CS2	CS3	CS4	CS5	Ratio Limits	Valid?
2,3,7,8-TCDD	M/M+2	0.70	0.81	0.75	0.77	0.77	0.65-0.89	True
2,3,7,8-TCDF	M/M+2	0.70	0.79	0.80	0.79	0.77	0.65-0.89	True
1,2,3,7,8-PeCDD	M+2/M+4	1.49	1.66	1.54	1.55	1.55	1.32-1.78	True
1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.49	1.54	1.55	1.55	1.32-1.78	True
2,3,4,7,8-PeCDF	M+2/M+4	1.40	1.49	1.56	1.53	1.54	1.32-1.78	True
1,2,3,4,7,8-HxCDD	M+2/M+4	1.15	1.24	1.27	1.22	1.23	1.05-1.43	True
1,2,3,6,7,8-HxCDD	M+2/M+4	1.37	1.26	1.21	1.25	1.24	1.05-1.43	True
1,2,3,7,8,9-HxCDD	M+2/M+4	1.29	1.16	1.27	1.24	1.23	1.05-1.43	True
1,2,3,4,7,8-HxCDF	M+2/M+4	1.15	1.23	1.21	1.26	1.22	1.05-1.43	True
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.20	1.19	1.22	1.23	1.05-1.43	True
2,3,4,6,7,8-HxCDF	M+2/M+4	1.22	1.24	1.23	1.23	1.24	1.05-1.43	True
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.27	1.26	1.25	1.25	1.05-1.43	True
1,2,3,4,6,7,8-HpCDD	M+2/M+4	0.99	1.08	1.08	1.05	1.06	0.88-1.20	True
1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.95	1.00	1.03	1.03	1.02	0.88-1.20	True
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.16	1.11	1.00	1.03	1.01	0.88-1.20	True
OCDD	M+2/M+4	0.90	0.92	0.89	0.89	0.87	0.76-1.02	True
OCDF	M+2/M+4	0.89	0.83	0.89	0.90	0.90	0.76-1.02	True
13C-2,3,7,8-TCDD	M/M+2	0.79	0.78	0.78	0.79	0.78	0.65-0.89	True
13C-2,3,7,8-TCDF	M/M+2	0.78	0.78	0.79	0.78	0.79	0.65-0.89	True
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.56	1.56	1.58	1.58	1.57	1.32-1.78	True
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.59	1.58	1.61	1.57	1.32-1.78	True
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.29	1.26	1.28	1.27	1.05-1.43	True
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.53	0.53	0.53	0.52	0.43-0.59	True
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	1.06	1.07	1.05	1.06	0.88-1.20	True
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.47	0.46	0.46	0.46	0.46	0.37-0.51	True
13C-OCDD	M+2/M+4	0.91	0.91	0.90	0.90	0.90	0.76-1.02	True
37Cl4-2,3,7,8-TCDD								
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.68	1.56	1.55	1.57	1.57	1.32-1.78	True
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.25	1.22	1.28	1.28	1.05-1.43	True
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.53	0.53	0.53	0.53	0.43-0.59	True
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.55	0.55	0.53	0.53	0.52	0.43-0.59	True
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.49	0.48	0.47	0.45	0.46	0.37-0.51	True
13C-1,2,3,4-TCDD	M/M+2	0.80	0.80	0.80	0.81	0.81	0.65-0.89	True
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.24	1.27	1.25	1.27	1.05-1.43	True

STL - Knoxville

Specialty Organics Group

IsoCalc Initial Calibration Report

PCDD/PCDF by EPA Method 0023/8290

ICAL ID: 10432 - 20041108I
Date: 11/08/04 13:19
Method: X8 - 0023/8290

Instrument: M2A
Column Desc: Rtx-5 60m x 0.32mm ID x 0.25um
Column S/N: 656438

Level	Filename	Date/Time		Sample ID	Result Directory
CS1:	b041108i1	11/08/04	13:19	2960:59CS1	/20041108i/b041108i1.d
CS2:	b041108i2	11/08/04	14:23	2960:59CS2	/20041108i/b041108i2.d
CS3:	b041108i3	11/08/04	15:25	2960:59CS3	/20041108i/b041108i3.d
CS4:	b041108i4	11/08/04	16:29	2960:59CS4	/20041108i/b041108i4.d
CS5:	b041108i5	11/08/04	17:32	2960:59CS5	/20041108i/b041108i5.d

Relative Retention Time

Analyte	CS1	CS2	CS3	CS4	CS5	Mean RRT	Range	Window
2,3,7,8-TCDD	1.000	1.001	1.002	1.001	1.000	1.001	1.000-1.002	0.002
2,3,7,8-TCDF	1.001	1.000	1.002	1.001	1.001	1.001	1.000-1.002	0.002
1,2,3,7,8-PeCDD	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000
1,2,3,7,8-PeCDF	1.000	1.001	1.000	1.000	1.000	1.000	1.000-1.001	0.001
2,3,4,7,8-PeCDF	1.026	1.026	1.026	1.026	1.026	1.026	1.026-1.026	0.000
1,2,3,4,7,8-HxCDD	0.998	0.998	0.998	0.998	0.998	0.998	0.998-0.998	0.000
1,2,3,6,7,8-HxCDD	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000
1,2,3,7,8,9-HxCDD	1.010	1.009	1.009	1.009	1.009	1.009	1.009-1.010	0.001
1,2,3,4,7,8-HxCDF	0.997	0.997	0.997	0.998	0.997	0.997	0.997-0.998	0.001
1,2,3,6,7,8-HxCDF	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000
2,3,4,6,7,8-HxCDF	1.017	1.016	1.017	1.017	1.017	1.017	1.016-1.017	0.001
1,2,3,7,8,9-HxCDF	1.039	1.039	1.039	1.039	1.039	1.039	1.039-1.039	0.000
1,2,3,4,6,7,8-HpCDD	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000
1,2,3,4,6,7,8-HpCDF	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000
1,2,3,4,7,8,9-HpCDF	1.046	1.046	1.046	1.046	1.046	1.046	1.046-1.046	0.000
OCDD	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000
OCDF	1.003	1.003	1.003	1.003	1.003	1.003	1.003-1.003	0.000
13C-2,3,7,8-TCDD	1.017	1.017	1.016	1.017	1.017	1.017	1.016-1.017	0.001
13C-2,3,7,8-TCDF	0.956	0.955	0.956	0.955	0.955	0.955	0.955-0.956	0.001
13C-1,2,3,7,8-PeCDD	1.228	1.228	1.228	1.229	1.228	1.228	1.228-1.229	0.001
13C-1,2,3,7,8-PeCDF	1.184	1.185	1.185	1.185	1.185	1.185	1.184-1.185	0.001
13C-1,2,3,6,7,8-HxCDD	0.991	0.991	0.991	0.991	0.991	0.991	0.991-0.991	0.000
13C-1,2,3,6,7,8-HxCDF	0.969	0.969	0.969	0.968	0.969	0.969	0.968-0.969	0.001
13C-1,2,3,4,6,7,8-HpCDD	1.096	1.096	1.096	1.096	1.097	1.096	1.096-1.096	0.000
13C-1,2,3,4,6,7,8-HpCDF	1.061	1.061	1.061	1.061	1.061	1.061	1.061-1.061	0.000
13C-OCDD	1.186	1.185	1.185	1.185	1.186	1.185	1.185-1.186	0.001
37Cl4-2,3,7,8-TCDD	1.001	1.001	1.002	1.001	1.001	1.001	1.001-1.002	0.001
13C-2,3,4,7,8-PeCDF	1.026	1.026	1.025	1.026	1.025	1.026	1.025-1.026	0.001
13C-1,2,3,4,7,8-HxCDD	0.998	0.998	0.998	0.998	0.998	0.998	0.998-0.998	0.000
13C-1,2,3,4,7,8-HxCDF	0.997	0.997	0.997	0.997	0.997	0.997	0.997-0.997	0.000
13C-1,2,3,7,8,9-HxCDF	1.007	1.006	1.006	1.006	1.007	1.006	1.006-1.007	0.001
13C-1,2,3,4,7,8,9-HpCDF	1.045	1.046	1.045	1.045	1.046	1.045	1.045-1.046	0.001
13C-1,2,3,4-TCDD	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000
13C-1,2,3,7,8,9-HxCDD	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000

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IsoCalc Initial Calibration Report

PCDD/PCDF by EPA Method 23

ICAL ID: 10435 - 20041108I
Date: 11/08/04 13:19
Method: KP2 - DX23_2

Instrument: M2A
Column Desc: Rtx-5 60m x 0.32mm ID x 0.25um
Column S/N: 656438

Level	Filename	Date/Time	Sample ID	Result Directory
CS1:	b041108i1	11/08/04 13:19	2960:59CS1	/20041108i/b041108i1.d
CS2:	b041108i2	11/08/04 14:23	2960:59CS2	/20041108i/b041108i2.d
CS3:	b041108i3	11/08/04 15:25	2960:59CS3	/20041108i/b041108i3.d
CS4:	b041108i4	11/08/04 16:29	2960:59CS4	/20041108i/b041108i4.d
CS5:	b041108i5	11/08/04 17:32	2960:59CS5	/20041108i/b041108i5.d

	Response Factors								
Analyte	CS1	CS2	CS3	CS4	CS5	Mean RF	%RSD	Limit	Valid?
2,3,7,8-TCDD	1.139	1.086	1.051	1.022	1.004	1.060	5.1	25.0	True
Total TCDD						1.060	0.0	25.0	True
2,3,7,8-TCDF	1.217	1.104	1.036	0.986	0.977	1.064	9.3	25.0	True
Total TCDF						1.064	0.0	25.0	True
1,2,3,7,8-PeCDD	1.008	0.975	0.992	0.956	0.952	0.977	2.4	25.0	True
Total PeCDD						0.977	0.0	25.0	True
1,2,3,7,8-PeCDF	0.974	0.956	0.974	0.945	0.927	0.955	2.1	25.0	True
2,3,4,7,8-PeCDF	1.062	0.960	1.033	1.046	0.987	1.018	4.2	25.0	True
Total PeCDF						0.987	0.0	25.0	True
1,2,3,4,7,8-HxCDD	1.088	1.044	1.057	1.049	0.999	1.047	3.1	25.0	True
1,2,3,6,7,8-HxCDD	1.090	1.073	1.129	1.036	0.946	1.055	6.6	25.0	True
1,2,3,7,8,9-HxCDD	1.254	1.175	1.169	1.102	1.030	1.146	7.4	25.0	True
Total HxCDD						1.083	0.0	25.0	True
1,2,3,4,7,8-HxCDF	1.175	1.132	1.153	1.063	0.981	1.101	7.2	25.0	True
1,2,3,6,7,8-HxCDF	1.335	1.245	1.216	1.093	1.032	1.184	10.2	25.0	True
2,3,4,6,7,8-HxCDF	1.094	1.115	1.110	1.008	0.935	1.052	7.5	25.0	True
1,2,3,7,8,9-HxCDF	1.039	1.013	0.992	0.968	0.898	0.982	5.5	25.0	True
Total HxCDF						1.080	0.0	25.0	True
1,2,3,4,6,7,8-HpCDD	1.061	1.017	1.051	0.982	0.976	1.018	3.8	25.0	True
Total HpCDD						1.018	0.0	25.0	True
1,2,3,4,6,7,8-HpCDF	1.442	1.402	1.414	1.386	1.373	1.403	1.9	25.0	True
1,2,3,4,7,8,9-HpCDF	1.213	1.194	1.180	1.248	1.149	1.197	3.1	25.0	True
Total HpCDF						1.300	0.0	25.0	True
OCDD	1.011	0.979	0.960	0.939	0.935	0.965	3.3	30.0	True
OCDF	1.123	1.071	1.095	1.113	1.115	1.103	1.9	25.0	True
13C-2,3,7,8-TCDD	1.030	1.049	1.119	1.063	1.078	1.068	3.1	25.0	True
13C-2,3,7,8-TCDF	1.417	1.417	1.433	1.375	1.426	1.413	1.6	30.0	True
13C-1,2,3,7,8-PeCDD	0.846	0.909	0.862	0.887	0.906	0.882	3.1	30.0	True
13C-1,2,3,7,8-PeCDF	1.122	1.233	1.150	1.184	1.252	1.188	4.6	30.0	True
13C-1,2,3,6,7,8-HxCDD	0.918	0.931	0.910	0.960	0.997	0.943	3.8	25.0	True
13C-1,2,3,6,7,8-HxCDF	1.215	1.217	1.208	1.317	1.402	1.272	6.7	30.0	True
13C-1,2,3,4,6,7,8-HpCDD	0.930	0.969	0.879	0.968	0.845	0.918	6.0	30.0	True
13C-1,2,3,4,6,7,8-HpCDF	0.921	0.930	0.906	0.938	0.885	0.916	2.3	30.0	True
13C-OCDD	0.850	0.900	0.787	0.925	0.787	0.850	7.5	30.0	True
37Cl4-2,3,7,8-TCDD	1.146	1.063	1.007	1.013	1.001	1.046	5.9	25.0	True
13C-2,3,4,7,8-PeCDF	1.094	0.988	1.014	1.002	0.953	1.010	5.2	25.0	True
13C-1,2,3,4,7,8-HxCDD	0.846	0.893	0.970	0.938	0.864	0.902	5.7	25.0	True
13C-1,2,3,4,7,8-HxCDF	1.208	1.058	0.959	0.885	0.831	0.988	15.1	25.0	True
13C-1,2,3,7,8,9-HxCDF	1.169	1.138	1.049	1.107	1.100	1.113	4.0	30.0	True
13C-1,2,3,4,7,8,9-HpCDF	0.956	0.966	0.886	0.913	0.839	0.912	5.7	25.0	True
13C-1,2,3,4-TCDD	1.000	1.000	1.000	1.000	1.000	1.000	0.0	0.0	True
13C-1,2,3,7,8,9-HxCDD	1.000	1.000	1.000	1.000	1.000	1.000	0.0	0.0	True

WSD 11-9-04
PMP 11-8-04

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IsoCalc Initial Calibration Report

PCDD/PCDF by EPA Method 23

ICAL ID: 10435 - 20041108I
Date: 11/08/04 13:19
Method: KP2 - DX23_2

Instrument: M2A
Column Desc: Rtx-5 60m x 0.32mm ID x 0.25um
Column S/N: 656438

Level	Filename	Date/Time	Sample ID	Result Directory
CS1:	b041108i1	11/08/04 13:19	2960:59CS1	/20041108i/b041108i1.d
CS2:	b041108i2	11/08/04 14:23	2960:59CS2	/20041108i/b041108i2.d
CS3:	b041108i3	11/08/04 15:25	2960:59CS3	/20041108i/b041108i3.d
CS4:	b041108i4	11/08/04 16:29	2960:59CS4	/20041108i/b041108i4.d
CS5:	b041108i5	11/08/04 17:32	2960:59CS5	/20041108i/b041108i5.d

Ion Abundance Ratios

Analyte	M/Z's	CS1	CS2	CS3	CS4	CS5	Ratio Limits	Valid?
2,3,7,8-TCDD	M/M+2	0.70	0.81	0.75	0.77	0.77	0.65-0.89	True
2,3,7,8-TCDF	M/M+2	0.70	0.79	0.80	0.79	0.77	0.65-0.89	True
1,2,3,7,8-PeCDD	M+2/M+4	1.49	1.66	1.54	1.55	1.55	1.32-1.78	True
1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.49	1.54	1.55	1.55	1.32-1.78	True
2,3,4,7,8-PeCDF	M+2/M+4	1.40	1.49	1.56	1.53	1.54	1.32-1.78	True
1,2,3,4,7,8-HxCDD	M+2/M+4	1.15	1.24	1.27	1.22	1.23	1.05-1.43	True
1,2,3,6,7,8-HxCDD	M+2/M+4	1.37	1.26	1.21	1.25	1.24	1.05-1.43	True
1,2,3,7,8,9-HxCDD	M+2/M+4	1.29	1.16	1.27	1.24	1.23	1.05-1.43	True
1,2,3,4,7,8-HxCDF	M+2/M+4	1.15	1.23	1.21	1.26	1.22	1.05-1.43	True
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.20	1.19	1.22	1.23	1.05-1.43	True
2,3,4,6,7,8-HxCDF	M+2/M+4	1.22	1.24	1.23	1.23	1.24	1.05-1.43	True
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.27	1.26	1.25	1.25	1.05-1.43	True
1,2,3,4,6,7,8-HpCDD	M+2/M+4	0.99	1.08	1.08	1.05	1.06	0.88-1.20	True
1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.95	1.00	1.03	1.03	1.02	0.88-1.20	True
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.16	1.11	1.00	1.03	1.01	0.88-1.20	True
OCDD	M+2/M+4	0.90	0.92	0.89	0.89	0.87	0.76-1.02	True
OCDF	M+2/M+4	0.89	0.83	0.89	0.90	0.90	0.76-1.02	True
13C-2,3,7,8-TCDD	M/M+2	0.79	0.78	0.78	0.79	0.78	0.65-0.89	True
13C-2,3,7,8-TCDF	M/M+2	0.78	0.78	0.79	0.78	0.79	0.65-0.89	True
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.56	1.56	1.58	1.58	1.57	1.32-1.78	True
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.59	1.58	1.61	1.57	1.32-1.78	True
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.29	1.26	1.28	1.27	1.05-1.43	True
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.53	0.53	0.53	0.52	0.43-0.59	True
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	1.06	1.07	1.05	1.06	0.88-1.20	True
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.47	0.46	0.46	0.46	0.46	0.37-0.51	True
13C-OCDD	M+2/M+4	0.91	0.91	0.90	0.90	0.90	0.76-1.02	True
37Cl4-2,3,7,8-TCDD								
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.68	1.56	1.55	1.57	1.57	1.32-1.78	True
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.25	1.22	1.28	1.28	1.05-1.43	True
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.53	0.53	0.53	0.53	0.43-0.59	True
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.55	0.55	0.53	0.53	0.52	0.43-0.59	True
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.49	0.48	0.47	0.45	0.46	0.37-0.51	True
13C-1,2,3,4-TCDD	M/M+2	0.80	0.80	0.80	0.81	0.81	0.65-0.89	True
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.24	1.27	1.25	1.27	1.05-1.43	True

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Specialty Organics Group

IsoCalc Initial Calibration Report

PCDD/PCDF by EPA Method 23

ICAL ID: 10435 - 20041108I
Date: 11/08/04 13:19
Method: KP2 - DX23_2

Instrument: M2A
Column Desc: Rtx-5 60m x 0.32mm ID x 0.25um
Column S/N: 656438

Level	Filename	Date/Time		Sample ID	Result Directory
CS1:	b041108i1	11/08/04	13:19	2960:59CS1	/20041108i/b041108i1.d
CS2:	b041108i2	11/08/04	14:23	2960:59CS2	/20041108i/b041108i2.d
CS3:	b041108i3	11/08/04	15:25	2960:59CS3	/20041108i/b041108i3.d
CS4:	b041108i4	11/08/04	16:29	2960:59CS4	/20041108i/b041108i4.d
CS5:	b041108i5	11/08/04	17:32	2960:59CS5	/20041108i/b041108i5.d

Relative Retention Time

Analyte	CS1	CS2	CS3	CS4	CS5	Mean RRT	Range	Window
2,3,7,8-TCDD	1.000	1.001	1.002	1.001	1.000	1.001	1.000-1.002	0.002
2,3,7,8-TCDF	1.001	1.000	1.002	1.001	1.001	1.001	1.000-1.002	0.002
1,2,3,7,8-PeCDD	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000
1,2,3,7,8-PeCDF	1.000	1.001	1.000	1.000	1.000	1.000	1.000-1.001	0.001
2,3,4,7,8-PeCDF	1.026	1.026	1.026	1.026	1.026	1.026	1.026-1.026	0.000
1,2,3,4,7,8-HxCDD	0.998	0.998	0.998	0.998	0.998	0.998	0.998-0.998	0.000
1,2,3,6,7,8-HxCDD	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000
1,2,3,7,8,9-HxCDD	1.010	1.009	1.009	1.009	1.009	1.009	1.009-1.010	0.001
1,2,3,4,7,8-HxCDF	0.997	0.997	0.997	0.998	0.997	0.997	0.997-0.998	0.001
1,2,3,6,7,8-HxCDF	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000
2,3,4,6,7,8-HxCDF	1.017	1.016	1.017	1.017	1.017	1.017	1.016-1.017	0.001
1,2,3,7,8,9-HxCDF	1.039	1.039	1.039	1.039	1.039	1.039	1.039-1.039	0.000
1,2,3,4,6,7,8-HpCDD	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000
1,2,3,4,6,7,8-HpCDF	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000
1,2,3,4,7,8,9-HpCDF	1.046	1.046	1.046	1.046	1.046	1.046	1.046-1.046	0.000
OCDD	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000
OCDF	1.003	1.003	1.003	1.003	1.003	1.003	1.003-1.003	0.000
13C-2,3,7,8-TCDD	1.017	1.017	1.016	1.017	1.017	1.017	1.016-1.017	0.001
13C-2,3,7,8-TCDF	0.956	0.955	0.956	0.955	0.955	0.955	0.955-0.956	0.001
13C-1,2,3,7,8-PeCDD	1.228	1.228	1.228	1.229	1.228	1.228	1.228-1.229	0.001
13C-1,2,3,7,8-PeCDF	1.184	1.185	1.185	1.185	1.185	1.185	1.184-1.185	0.001
13C-1,2,3,6,7,8-HxCDD	0.991	0.991	0.991	0.991	0.991	0.991	0.991-0.991	0.000
13C-1,2,3,6,7,8-HxCDF	0.969	0.969	0.969	0.968	0.969	0.969	0.968-0.969	0.001
13C-1,2,3,4,6,7,8-HpCDD	1.096	1.096	1.096	1.096	1.097	1.096	1.096-1.096	0.000
13C-1,2,3,4,6,7,8-HpCDF	1.061	1.061	1.061	1.061	1.061	1.061	1.061-1.061	0.000
13C-OCDD	1.186	1.185	1.185	1.185	1.186	1.185	1.185-1.186	0.001
37Cl4-2,3,7,8-TCDD	1.001	1.001	1.002	1.001	1.001	1.001	1.001-1.002	0.001
13C-2,3,4,7,8-PeCDF	1.026	1.026	1.025	1.026	1.025	1.026	1.025-1.026	0.001
13C-1,2,3,4,7,8-HxCDD	0.998	0.998	0.998	0.998	0.998	0.998	0.998-0.998	0.000
13C-1,2,3,4,7,8-HxCDF	0.997	0.997	0.997	0.997	0.997	0.997	0.997-0.997	0.000
13C-1,2,3,7,8,9-HxCDF	1.007	1.006	1.006	1.006	1.007	1.006	1.006-1.007	0.001
13C-1,2,3,4,7,8,9-HpCDF	1.045	1.046	1.045	1.045	1.046	1.045	1.045-1.046	0.001
13C-1,2,3,4-TCDD	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000
13C-1,2,3,7,8,9-HxCDD	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000

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IsoCalc Initial Calibration Report

PCDD/PCDF by EPA Method TO-9A

ICAL ID: 10434 - 20041108I
Date: 11/08/04 13:19
Method: 09 - TO-9A

Instrument: M2A
Column Desc: Rtx-5 60m x 0.32mm ID x 0.25um
Column S/N: 656438

Level	Filename	Date/Time	Sample ID	Result Directory
CS1:	b041108i1	11/08/04 13:19	2960:59CS1	/20041108i/b041108i1.d
CS2:	b041108i2	11/08/04 14:23	2960:59CS2	/20041108i/b041108i2.d
CS3:	b041108i3	11/08/04 15:25	2960:59CS3	/20041108i/b041108i3.d
CS4:	b041108i4	11/08/04 16:29	2960:59CS4	/20041108i/b041108i4.d
CS5:	b041108i5	11/08/04 17:32	2960:59CS5	/20041108i/b041108i5.d

	Response Factors								
Analyte	CS1	CS2	CS3	CS4	CS5	Mean RF	%RSD	Limit	Valid?
2,3,7,8-TCDD	1.139	1.086	1.051	1.022	1.004	1.060	5.1	25.0	True
Total TCDD						1.060	0.0	25.0	True
2,3,7,8-TCDF	1.217	1.104	1.036	0.986	0.977	1.064	9.3	25.0	True
Total TCDF						1.064	0.0	25.0	True
1,2,3,7,8-PeCDD	1.008	0.975	0.992	0.956	0.952	0.977	2.4	25.0	True
Total PeCDD						0.977	0.0	25.0	True
1,2,3,7,8-PeCDF	0.974	0.956	0.974	0.945	0.927	0.955	2.1	25.0	True
2,3,4,7,8-PeCDF	1.062	0.960	1.033	1.046	0.987	1.018	4.2	25.0	True
Total PeCDF						0.987	0.0	25.0	True
1,2,3,4,7,8-HxCDD	1.088	1.044	1.057	1.049	0.999	1.047	3.1	25.0	True
1,2,3,6,7,8-HxCDD	1.090	1.073	1.129	1.036	0.946	1.055	6.6	25.0	True
1,2,3,7,8,9-HxCDD	1.254	1.175	1.169	1.102	1.030	1.146	7.4	25.0	True
Total HxCDD						1.083	0.0	25.0	True
1,2,3,4,7,8-HxCDF	1.175	1.132	1.153	1.063	0.981	1.101	7.2	25.0	True
1,2,3,6,7,8-HxCDF	1.335	1.245	1.216	1.093	1.032	1.184	10.2	25.0	True
2,3,4,6,7,8-HxCDF	1.094	1.115	1.110	1.008	0.935	1.052	7.5	25.0	True
1,2,3,7,8,9-HxCDF	1.039	1.013	0.992	0.968	0.898	0.982	5.5	25.0	True
Total HxCDF						1.080	0.0	25.0	True
1,2,3,4,6,7,8-HpCDD	1.061	1.017	1.051	0.982	0.976	1.018	3.8	25.0	True
Total HpCDD						1.018	0.0	25.0	True
1,2,3,4,6,7,8-HpCDF	1.442	1.402	1.414	1.386	1.373	1.403	1.9	25.0	True
1,2,3,4,7,8,9-HpCDF	1.213	1.194	1.180	1.248	1.149	1.197	3.1	25.0	True
Total HpCDF						1.300	0.0	25.0	True
OCDD	1.011	0.979	0.960	0.939	0.935	0.965	3.3	25.0	True
OCDF	1.123	1.071	1.095	1.113	1.115	1.103	1.9	30.0	True
13C-2,3,7,8-TCDD	1.030	1.049	1.119	1.063	1.078	1.068	3.1	25.0	True
13C-2,3,7,8-TCDF	1.417	1.417	1.433	1.375	1.426	1.413	1.6	30.0	True
13C-1,2,3,7,8-PeCDD	0.846	0.909	0.862	0.887	0.906	0.882	3.1	30.0	True
13C-1,2,3,7,8-PeCDF	1.122	1.233	1.150	1.184	1.252	1.188	4.6	30.0	True
13C-1,2,3,6,7,8-HxCDD	0.918	0.931	0.910	0.960	0.997	0.943	3.8	25.0	True
13C-1,2,3,6,7,8-HxCDF	1.215	1.217	1.208	1.317	1.402	1.272	6.7	30.0	True
13C-1,2,3,4,6,7,8-HpCDD	0.930	0.969	0.879	0.968	0.845	0.918	6.0	30.0	True
13C-1,2,3,4,6,7,8-HpCDF	0.921	0.930	0.906	0.938	0.885	0.916	2.3	30.0	True
13C-OCDD	0.850	0.900	0.787	0.925	0.787	0.850	7.5	30.0	True
37Cl4-2,3,7,8-TCDD	1.146	1.063	1.007	1.013	1.001	1.046	5.9	25.0	True
13C-2,3,4,7,8-PeCDF	1.094	0.988	1.014	1.002	0.953	1.010	5.2	25.0	True
13C-1,2,3,4,7,8-HxCDD	0.846	0.893	0.970	0.938	0.864	0.902	5.7	25.0	True
13C-1,2,3,4,7,8-HxCDF	1.208	1.058	0.959	0.885	0.831	0.988	15.1	25.0	True
13C-1,2,3,7,8,9-HxCDF	1.169	1.138	1.049	1.107	1.100	1.113	4.0	30.0	True
13C-1,2,3,4,7,8,9-HpCDF	0.956	0.966	0.886	0.913	0.839	0.912	5.7	25.0	True
13C-1,2,3,4-TCDD	1.000	1.000	1.000	1.000	1.000	1.000	0.0	0.0	True
13C-1,2,3,7,8,9-HxCDD	1.000	1.000	1.000	1.000	1.000	1.000	0.0	0.0	True

PMP 11-9-04
MSD 11-9-04

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IsoCalc Initial Calibration Report

PCDD/PCDF by EPA Method TO-9A

ICAL ID: 10434 - 20041108I
Date: 11/08/04 13:19
Method: 09 - TO-9A

Instrument: M2A
Column Desc: Rtx-5 60m x 0.32mm ID x 0.25um
Column S/N: 656438

Level	Filename	Date/Time	Sample ID	Result Directory
CS1:	b041108i1	11/08/04 13:19	2960:59CS1	/20041108i/b041108i1.d
CS2:	b041108i2	11/08/04 14:23	2960:59CS2	/20041108i/b041108i2.d
CS3:	b041108i3	11/08/04 15:25	2960:59CS3	/20041108i/b041108i3.d
CS4:	b041108i4	11/08/04 16:29	2960:59CS4	/20041108i/b041108i4.d
CS5:	b041108i5	11/08/04 17:32	2960:59CS5	/20041108i/b041108i5.d

Ion Abundance Ratios

Analyte	M/Z's	CS1	CS2	CS3	CS4	CS5	Ratio Limits	Valid?
2,3,7,8-TCDD	M/M+2	0.70	0.81	0.75	0.77	0.77	0.65-0.89	True
2,3,7,8-TCDF	M/M+2	0.70	0.79	0.80	0.79	0.77	0.65-0.89	True
1,2,3,7,8-PeCDD	M+2/M+4	1.49	1.66	1.54	1.55	1.55	1.32-1.78	True
1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.49	1.54	1.55	1.55	1.32-1.78	True
2,3,4,7,8-PeCDF	M+2/M+4	1.40	1.49	1.56	1.53	1.54	1.32-1.78	True
1,2,3,4,7,8-HxCDD	M+2/M+4	1.15	1.24	1.27	1.22	1.23	1.05-1.43	True
1,2,3,6,7,8-HxCDD	M+2/M+4	1.37	1.26	1.21	1.25	1.24	1.05-1.43	True
1,2,3,7,8,9-HxCDD	M+2/M+4	1.29	1.16	1.27	1.24	1.23	1.05-1.43	True
1,2,3,4,7,8-HxCDF	M+2/M+4	1.15	1.23	1.21	1.26	1.22	1.05-1.43	True
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.20	1.19	1.22	1.23	1.05-1.43	True
2,3,4,6,7,8-HxCDF	M+2/M+4	1.22	1.24	1.23	1.23	1.24	1.05-1.43	True
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.27	1.26	1.25	1.25	1.05-1.43	True
1,2,3,4,6,7,8-HpCDD	M+2/M+4	0.99	1.08	1.08	1.05	1.06	0.88-1.20	True
1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.95	1.00	1.03	1.03	1.02	0.88-1.20	True
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.16	1.11	1.00	1.03	1.01	0.88-1.20	True
OCDD	M+2/M+4	0.90	0.92	0.89	0.89	0.87	0.76-1.02	True
OCDF	M+2/M+4	0.89	0.83	0.89	0.90	0.90	0.76-1.02	True
13C-2,3,7,8-TCDD	M/M+2	0.79	0.78	0.78	0.79	0.78	0.65-0.89	True
13C-2,3,7,8-TCDF	M/M+2	0.78	0.78	0.79	0.78	0.79	0.65-0.89	True
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.56	1.56	1.58	1.58	1.57	1.32-1.78	True
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.59	1.58	1.61	1.57	1.32-1.78	True
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.29	1.26	1.28	1.27	1.05-1.43	True
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.53	0.53	0.53	0.52	0.43-0.59	True
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	1.06	1.07	1.05	1.06	0.88-1.20	True
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.47	0.46	0.46	0.46	0.46	0.37-0.51	True
13C-OCDD	M+2/M+4	0.91	0.91	0.90	0.90	0.90	0.76-1.02	True
37Cl4-2,3,7,8-TCDD								
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.68	1.56	1.55	1.57	1.57	1.32-1.78	True
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.25	1.22	1.28	1.28	1.05-1.43	True
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.53	0.53	0.53	0.53	0.43-0.59	True
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.55	0.55	0.53	0.53	0.52	0.43-0.59	True
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.49	0.48	0.47	0.45	0.46	0.37-0.51	True
13C-1,2,3,4-TCDD	M/M+2	0.80	0.80	0.80	0.81	0.81	0.65-0.89	True
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.24	1.27	1.25	1.27	1.05-1.43	True

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Specialty Organics Group

IsoCalc Initial Calibration Report

PCDD/PCDF by EPA Method TO-9A

ICAL ID: 10434 - 20041108I
Date: 11/08/04 13:19
Method: 09 - TO-9A

Instrument: M2A
Column Desc: Rtx-5 60m x 0.32mm ID x 0.25um
Column S/N: 656438

Level	Filename	Date/Time	Sample ID	Result Directory
CS1:	b041108i1	11/08/04 13:19	2960:59CS1	/20041108i/b041108i1.d
CS2:	b041108i2	11/08/04 14:23	2960:59CS2	/20041108i/b041108i2.d
CS3:	b041108i3	11/08/04 15:25	2960:59CS3	/20041108i/b041108i3.d
CS4:	b041108i4	11/08/04 16:29	2960:59CS4	/20041108i/b041108i4.d
CS5:	b041108i5	11/08/04 17:32	2960:59CS5	/20041108i/b041108i5.d

Relative Retention Time

Analyte	CS1	CS2	CS3	CS4	CS5	Mean RRT	Range	Window
2,3,7,8-TCDD	1.000	1.001	1.002	1.001	1.000	1.001	1.000-1.002	0.002
2,3,7,8-TCDF	1.001	1.000	1.002	1.001	1.001	1.001	1.000-1.002	0.002
1,2,3,7,8-PeCDD	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000
1,2,3,7,8-PeCDF	1.000	1.001	1.000	1.000	1.000	1.000	1.000-1.001	0.001
2,3,4,7,8-PeCDF	1.026	1.026	1.026	1.026	1.026	1.026	1.026-1.026	0.000
1,2,3,4,7,8-HxCDD	0.998	0.998	0.998	0.998	0.998	0.998	0.998-0.998	0.000
1,2,3,6,7,8-HxCDD	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000
1,2,3,7,8,9-HxCDD	1.010	1.009	1.009	1.009	1.009	1.009	1.009-1.010	0.001
1,2,3,4,7,8-HxCDF	0.997	0.997	0.997	0.998	0.997	0.997	0.997-0.998	0.001
1,2,3,6,7,8-HxCDF	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000
2,3,4,6,7,8-HxCDF	1.017	1.016	1.017	1.017	1.017	1.017	1.016-1.017	0.001
1,2,3,7,8,9-HxCDF	1.039	1.039	1.039	1.039	1.039	1.039	1.039-1.039	0.000
1,2,3,4,6,7,8-HpCDD	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000
1,2,3,4,6,7,8-HpCDF	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000
1,2,3,4,7,8,9-HpCDF	1.046	1.046	1.046	1.046	1.046	1.046	1.046-1.046	0.000
OCDD	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000
OCDF	1.003	1.003	1.003	1.003	1.003	1.003	1.003-1.003	0.000
13C-2,3,7,8-TCDD	1.017	1.017	1.016	1.017	1.017	1.017	1.016-1.017	0.001
13C-2,3,7,8-TCDF	0.956	0.955	0.956	0.955	0.955	0.955	0.955-0.956	0.001
13C-1,2,3,7,8-PeCDD	1.228	1.228	1.228	1.229	1.228	1.228	1.228-1.229	0.001
13C-1,2,3,7,8-PeCDF	1.184	1.185	1.185	1.185	1.185	1.185	1.184-1.185	0.001
13C-1,2,3,6,7,8-HxCDD	0.991	0.991	0.991	0.991	0.991	0.991	0.991-0.991	0.000
13C-1,2,3,6,7,8-HxCDF	0.969	0.969	0.969	0.968	0.969	0.969	0.968-0.969	0.001
13C-1,2,3,4,6,7,8-HpCDD	1.096	1.096	1.096	1.096	1.097	1.096	1.096-1.096	0.000
13C-1,2,3,4,6,7,8-HpCDF	1.061	1.061	1.061	1.061	1.061	1.061	1.061-1.061	0.000
13C-OCDD	1.186	1.185	1.185	1.185	1.186	1.185	1.185-1.186	0.001
37Cl4-2,3,7,8-TCDD	1.001	1.001	1.002	1.001	1.001	1.001	1.001-1.002	0.001
13C-2,3,4,7,8-PeCDF	1.026	1.026	1.025	1.026	1.025	1.026	1.025-1.026	0.001
13C-1,2,3,4,7,8-HxCDD	0.998	0.998	0.998	0.998	0.998	0.998	0.998-0.998	0.000
13C-1,2,3,4,7,8-HxCDF	0.997	0.997	0.997	0.997	0.997	0.997	0.997-0.997	0.000
13C-1,2,3,7,8,9-HxCDF	1.007	1.006	1.006	1.006	1.007	1.006	1.006-1.007	0.001
13C-1,2,3,4,7,8,9-HpCDF	1.045	1.046	1.045	1.045	1.046	1.045	1.045-1.046	0.001
13C-1,2,3,4-TCDD	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000
13C-1,2,3,7,8,9-HxCDD	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	2960:59CS1	**Prep Batch**		**Lot No**	
Data File	/20041108i/b041108i1.d	**Prep Date**		**SDG No**	
Analysis ID	79619	**Prep Exp Date**		**Date Received**	
Analysis Date	11/08/04 13:19	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M2A	**Extract Vol**		**Method**	0023/8290
Analyst	MSD	**Diluton Factor**	1.00	**Code**	X8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	135	163	54	65	0.83	/	
	2,3,7,8-TCDF	33:43	00:00	0	10852	15502	1295	1544	0.70	AVV/AVV	M
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	293	470	117	188	0.62 *	/	
	13C-2,3,7,8-TCDF	33:40	00:00	0	1902801	2429697	170010	222839	0.78	AVV/ABV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	150	153	60	61	0.98 *	/	
	2,3,7,8-TCDD	35:49	00:00	0	7365	10581	985	1467	0.70	ABB/AVV	M
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	135		54				
	37Cl4-2,3,7,8-TCDD	35:51	00:00	0	18059		2620			AVB	M
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	643	613	257	245	1.05 *	/	
	13C-1,2,3,4-TCDD	35:14	00:00	0	1361361	1696314	140244	178096	0.80	AVV/ABV	
	13C-2,3,7,8-TCDD	35:49	00:00	0	1391155	1759723	151771	188666	0.79	AVV/AVV	
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**		
	Noise	00:00	00:00	0	165	200	66	80	0.83 *	/	
	1,2,3,7,8-PeCDF	41:45	00:00	0	51140	32412	11339	7351	1.58	ABV/ABB	M
	2,3,4,7,8-PeCDF	42:50	00:00	0	53100	38006	12925	8498	1.40	ABV/ABV	M
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**		
	Noise	00:00	00:00	0	228	170	91	68	1.34	/	
	13C-1,2,3,7,8-PeCDF	41:44	00:00	0	2099019	1331950	459793	285555	1.58	ABV/ABV	M
	13C-2,3,4,7,8-PeCDF	42:49	00:00	0	58863	34957	12497	7700	1.68	AVB/AVV	M
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**		
	Noise	00:00	00:00	0	160	123	64	49	1.31 *	/	
	1,2,3,7,8-PeCDD	43:16	00:00	0	38999	26216	9167	5958	1.49	ABB/ABV	M
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**		
	Noise	00:00	00:00	0	260	190	104	76	1.37	/	
	13C-1,2,3,7,8-PeCDD	43:15	00:00	0	1576984	1010174	384431	248320	1.56	ABV/ABV	
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	Noise	00:00	00:00	0	160	180	64	72	0.89 *	/	
	1,2,3,4,7,8-HxCDF	46:23	00:00	0	44389	38544	11691	9996	1.15	ABV/ABV	
	1,2,3,6,7,8-HxCDF	46:32	00:00	0	52509	41683	12834	9148	1.26	AVV/AVB	
	2,3,4,6,7,8-HxCDF	47:18	00:00	0	42384	34854	10392	7860	1.22	ABV/ABB	
	1,2,3,7,8,9-HxCDF	48:20	00:00	0	40811	32525	8313	6988	1.25	ABV/ABV	M
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**		
	Noise	00:00	00:00	0	205	198	82	79	1.04 *	/	
	13C-1,2,3,4,7,8-HxCDF	46:22	00:00	0	29254	55994	6975	13949	0.52	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDF	46:31	00:00	0	978365	1844604	249088	462223	0.53	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDF	48:19	00:00	0	23968	43945	5114	8447	0.55	ABV/ABV	M
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	Noise	00:00	00:00	0	188	210	75	84	0.89 *	/	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	2960:59CS1	**Prep Batch**		**Lot No**	
Data File	/20041108i/b041108i1.d	**Prep Date**		**SDG No**	
Analysis ID	79619	**Prep Exp Date**		**Date Received**	
Analysis Date	11/08/04 13:19	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M2A	**Extract Vol**		**Method**	0023/8290
Analyst	MSD	**Diluton Factor**	1.00	**Code**	X8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	1,2,3,4,7,8-HxCDD	47:28	00:00	0	31018	26968	8706	6984	1.15	ABV/ABV	
	1,2,3,6,7,8-HxCDD	47:35	00:00	0	33624	24481	7988	5568	1.37	AVB/AVV	
	1,2,3,7,8,9-HxCDD	48:02	00:00	0	37688	29147	8232	6284	1.29	ABB/AVB	
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**		
	Noise	00:00	00:00	0	395	263	158	105	1.50 *	/	
	13C-1,2,3,4,7,8-HxCDD	47:28	00:00	0	25100	20000	6786	5324	1.26	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDD	47:34	00:00	0	1200368	932146	296198	235294	1.29	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDD	48:00	00:00	0	1301287	1022699	290304	234067	1.27	AVV/AVV	
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**		
	Noise	00:00	00:00	0	135	143	54	57	0.95	/	
	1,2,3,4,6,7,8-HpCDF	50:56	00:00	0	37547	39607	7520	7466	0.95	ABV/ABB	M
	1,2,3,4,7,8,9-HpCDF	53:16	00:00	0	34913	30006	7077	5722	1.16	ABV/ABV	M
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	Noise	00:00	00:00	0	175	200	70	80	0.88 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	50:55	00:00	0	680735	1459880	134307	285865	0.47	ABV/ABV	M
	13C-1,2,3,4,7,8,9-HpCDF	53:14	00:00	0	16890	34266	3097	6809	0.49	AVV/ABV	M
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**		
	Noise	00:00	00:00	0	153	150	61	60	1.02	/	
	1,2,3,4,6,7,8-HpCDD	52:38	00:00	0	28564	28797	5814	6349	0.99	ABB/ABV	M
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**		
	Noise	00:00	00:00	0	193	155	77	62	1.24 *	/	
	13C-1,2,3,4,6,7,8-HpCDD	52:37	00:00	0	1105307	1056522	229198	221031	1.05	ABV/ABV	
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**		
	Noise	00:00	00:00	0	153	175	61	70	0.87	/	
	OCDF	57:04	00:00	0	52163	58758	13039	14940	0.89	ABV/ABV	M
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**		
	Noise	00:00	00:00	0	145	153	58	61	0.95	/	
	OCDD	56:56	00:00	0	47370	52488	10920	13913	0.90		M
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**		
	Noise	00:00	00:00	0	235	240	94	96	0.98	/	
	13C-OCDD	56:55	00:00	0	1880457	2070850	453106	499657	0.91	ABV/ABV	

Notes:
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STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	2960:59CS2	**Prep Batch**		**Lot No**	
Data File	/20041108i/b041108i2.d	**Prep Date**		**SDG No**	
Analysis ID	79621	**Prep Exp Date**		**Date Received**	
Analysis Date	11/08/04 14:23	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M2A	**Extract Vol**		**Method**	0023/8290
Analyst	MSD	**Diluton Factor**	1.00	**Code**	X8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	150	165	60	66	0.91 *	/	
	2,3,7,8-TCDF	33:43	00:00	0	22716	28848	2169	3074	0.79	ABV/AVV	M
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	305	373	122	149	0.82	/	
	13C-2,3,7,8-TCDF	33:43	00:00	0	2050634	2621533	186172	229919	0.78	AVV/AVV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	138	148	55	59	0.93 *	/	
	2,3,7,8-TCDD	35:56	00:00	0	16783	20796	1737	1897	0.81	ABV/ABV	M
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	148		59				
	37Cl4-2,3,7,8-TCDD	35:56	00:00	0	36794		4856			ABV	M
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	768	470	307	188	1.63 *	/	
	13C-1,2,3,4-TCDD	35:18	00:00	0	1462436	1835841	147254	183497	0.80	ABV/AVV	
	13C-2,3,7,8-TCDD	35:53	00:00	0	1519066	1941985	161832	206901	0.78	AVV/AVV	
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**		
	Noise	00:00	00:00	0	163	165	65	66	0.98 *	/	
	1,2,3,7,8-PeCDF	41:51	00:00	0	116274	78189	24453	16876	1.49	ABV/AVV	M
	2,3,4,7,8-PeCDF	42:54	00:00	0	116984	78309	25545	17140	1.49	ABB/ABV	M
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**		
	Noise	00:00	00:00	0	278	233	111	93	1.19 *	/	
	13C-1,2,3,7,8-PeCDF	41:49	00:00	0	2497155	1569841	523640	334770	1.59	ABV/ABV	M
	13C-2,3,4,7,8-PeCDF	42:53	00:00	0	122424	78548	26694	18734	1.56	AVV/AVV	M
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**		
	Noise	00:00	00:00	0	158	155	63	62	1.02 *	/	
	1,2,3,7,8-PeCDD	43:22	00:00	0	91159	54944	20933	13224	1.66	AVV/ABV	M
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**		
	Noise	00:00	00:00	0	135	220	54	88	0.61 *	/	
	13C-1,2,3,7,8-PeCDD	43:21	00:00	0	1825082	1172675	467733	301881	1.56	ABV/ABV	
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	Noise	00:00	00:00	0	195	190	78	76	1.03 *	/	
	1,2,3,4,7,8-HxCDF	46:29	00:00	0	109237	88643	25830	23251	1.23	ABV/ABV	M
	1,2,3,6,7,8-HxCDF	46:37	00:00	0	118734	98788	27357	23474	1.20	AVV/AVV	M
	2,3,4,6,7,8-HxCDF	47:23	00:00	0	107771	87102	23457	19481	1.24	AVV/ABV	
	1,2,3,7,8,9-HxCDF	48:26	00:00	0	98834	78098	19501	14701	1.27	ABV/ABV	M
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**		
	Noise	00:00	00:00	0	200	195	80	78	1.03 *	/	
	13C-1,2,3,4,7,8-HxCDF	46:28	00:00	0	64002	120852	17532	32585	0.53	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDF	46:37	00:00	0	1212029	2282814	298909	555773	0.53	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDF	48:24	00:00	0	57959	105448	11236	21348	0.55	ABV/ABV	
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	Noise	00:00	00:00	0	165	165	66	66	1.00 *	/	

Notes:
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STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	2960:59CS2	**Prep Batch**		**Lot No**	
Data File	/20041108i/b041108i2.d	**Prep Date**		**SDG No**	
Analysis ID	79621	**Prep Exp Date**		**Date Received**	
Analysis Date	11/08/04 14:23	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M2A	**Extract Vol**		**Method**	0023/8290
Analyst	MSD	**Diluton Factor**	1.00	**Code**	X8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	1,2,3,4,7,8-HxCDD	47:34	00:00	0	77188	62362	20431	16900	1.24	ABV/ABV	
	1,2,3,6,7,8-HxCDD	47:41	00:00	0	79991	63401	20302	15340	1.26	AVB/AVV	
	1,2,3,7,8,9-HxCDD	48:07	00:00	0	84414	72566	20330	16391	1.16	AVV/ABV	
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**		
	Noise	00:00	00:00	0	190	185	76	74	1.03 *	/	
	13C-1,2,3,4,7,8-HxCDD	47:33	00:00	0	66446	52949	19086	16289	1.25	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDD	47:40	00:00	0	1506630	1165934	373511	289324	1.29	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDD	48:06	00:00	0	1592140	1279149	372448	298565	1.24	ABV/ABV	
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**		
	Noise	00:00	00:00	0	170	160	68	64	1.06	/	
	1,2,3,4,6,7,8-HpCDF	51:02	00:00	0	93501	93812	19092	18275	1.00	ABB/ABB	M
	1,2,3,4,7,8,9-HpCDF	53:22	00:00	0	83894	75553	15757	14211	1.11	ABV/ABV	M
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	Noise	00:00	00:00	0	180	200	72	80	0.90 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	51:01	00:00	0	839853	1831412	165031	352562	0.46	ABV/ABV	M
	13C-1,2,3,4,7,8,9-HpCDF	53:21	00:00	0	41922	87141	7578	15413	0.48	ABV/AVV	M
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**		
	Noise	00:00	00:00	0	130	140	52	56	0.93	/	
	1,2,3,4,6,7,8-HpCDD	52:44	00:00	0	73437	68131	15199	14206	1.08	ABB/ABV	M
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**		
	Noise	00:00	00:00	0	178	120	71	48	1.48 *	/	
	13C-1,2,3,4,6,7,8-HpCDD	52:43	00:00	0	1432715	1350728	298435	279511	1.06	ABV/ABV	
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**		
	Noise	00:00	00:00	0	160	175	64	70	0.91	/	
	OCDF	57:10	00:00	0	125432	151467	30304	36976	0.83	ABV/ABV	M
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**		
	Noise	00:00	00:00	0	153	163	61	65	0.94	/	
	OCDD	57:02	00:00	0	121269	131841	30838	34802	0.92	ABV/ABV	
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**		
	Noise	00:00	00:00	0	183	253	73	101	0.72 *	/	
	13C-OCDD	57:01	00:00	0	2461254	2708939	585384	648006	0.91	ABV/ABV	

Notes:
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STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	2960:59CS3	**Prep Batch**		**Lot No**	
Data File	/20041108i/b041108i3.d	**Prep Date**		**SDG No**	
Analysis ID	79625	**Prep Exp Date**		**Date Received**	
Analysis Date	11/08/04 15:25	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M2A	**Extract Vol**		**Method**	0023/8290
Analyst	MSD	**Diluton Factor**	1.00	**Code**	X8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	148	208	59	83	0.71	/	
	2,3,7,8-TCDF	33:43	00:00	0	83120	104149	7485	9457	0.80	ABV/ABV	M
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	268	443	107	177	0.60 *	/	
	13C-2,3,7,8-TCDF	33:39	00:00	0	1596683	2020119	145259	183995	0.79	ABV/ABV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	183	198	73	79	0.92 *	/	
	2,3,7,8-TCDD	35:51	00:00	0	63565	84907	6830	10135	0.75	AVV/AVV	M
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	188		75				
	37Cl4-2,3,7,8-TCDD	35:51	00:00	0	142222		15984			AVV	M
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	500	523	200	209	0.96 *	/	
	13C-1,2,3,4-TCDD	35:13	00:00	0	1125405	1398935	116259	144205	0.80	AVV/ABV	
	13C-2,3,7,8-TCDD	35:47	00:00	0	1237209	1587607	130685	175730	0.78	AVV/AVV	
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**		
	Noise	00:00	00:00	0	230	218	92	87	1.06 *	/	
	1,2,3,7,8-PeCDF	41:45	00:00	0	429243	277956	93059	57270	1.54	ABV/ABV	M
	2,3,4,7,8-PeCDF	42:48	00:00	0	456953	293223	103083	67493	1.56	ABV/ABV	M
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**		
	Noise	00:00	00:00	0	260	235	104	94	1.11 *	/	
	13C-1,2,3,7,8-PeCDF	41:44	00:00	0	1777487	1126446	388358	240398	1.58	ABV/ABV	M
	13C-2,3,4,7,8-PeCDF	42:47	00:00	0	447897	288415	106466	69463	1.55	AVV/ABV	M
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**		
	Noise	00:00	00:00	0	188	168	75	67	1.12 *	/	
	1,2,3,7,8-PeCDD	43:16	00:00	0	327285	212408	80395	53330	1.54	ABV/ABV	M
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**		
	Noise	00:00	00:00	0	198	218	79	87	0.91 *	/	
	13C-1,2,3,7,8-PeCDD	43:15	00:00	0	1332653	843403	336559	211137	1.58	ABV/ABV	
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	Noise	00:00	00:00	0	238	213	95	85	1.12	/	
	1,2,3,4,7,8-HxCDF	46:23	00:00	0	388388	319771	101995	82304	1.21	ABV/ABV	M
	1,2,3,6,7,8-HxCDF	46:31	00:00	0	405142	341777	98190	81295	1.19	AVV/AVV	M
	2,3,4,6,7,8-HxCDF	47:17	00:00	0	375976	305537	87125	71430	1.23	AVV/ABV	
	1,2,3,7,8,9-HxCDF	48:19	00:00	0	339721	269541	67791	55389	1.26	ABV/ABV	
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**		
	Noise	00:00	00:00	0	195	248	78	99	0.79 *	/	
	13C-1,2,3,4,7,8-HxCDF	46:22	00:00	0	204437	384780	53280	98515	0.53	ABV/ABV	M
	13C-1,2,3,6,7,8-HxCDF	46:30	00:00	0	854041	1602961	211452	387163	0.53	AVV/AVV	M
	13C-1,2,3,7,8,9-HxCDF	48:18	00:00	0	185622	347790	36577	67843	0.53	ABV/ABV	
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	Noise	00:00	00:00	0	215	215	86	86	1.00 *	/	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	2960:59CS3	**Prep Batch**		**Lot No**	
Data File	/20041108i/b041108i3.d	**Prep Date**		**SDG No**	
Analysis ID	79625	**Prep Exp Date**		**Date Received**	
Analysis Date	11/08/04 15:25	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M2A	**Extract Vol**		**Method**	0023/8290
Analyst	MSD	**Diluton Factor**	1.00	**Code**	X8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	1,2,3,4,7,8-HxCDD	47:28	00:00	0	273041	215821	73502	55619	1.27	ABV/ABV	
	1,2,3,6,7,8-HxCDD	47:35	00:00	0	285851	236613	65936	53046	1.21	AVV/AVV	
	1,2,3,7,8,9-HxCDD	48:01	00:00	0	302188	238408	68556	52915	1.27	AVV/AVV	
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**		
	Noise	00:00	00:00	0	218	153	87	61	1.43	/	
	13C-1,2,3,4,7,8-HxCDD	47:27	00:00	0	246070	202491	65006	54249	1.22	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDD	47:34	00:00	0	1032511	817915	253298	203943	1.26	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDD	48:00	00:00	0	1136838	896469	264103	211174	1.27	AVV/AVV	
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**		
	Noise	00:00	00:00	0	163	208	65	83	0.78 *	/	
	1,2,3,4,6,7,8-HpCDF	50:56	00:00	0	330273	320618	65726	63148	1.03	ABV/ABV	M
	1,2,3,4,7,8,9-HpCDF	53:15	00:00	0	271808	271452	53725	56289	1.00	ABV/ABV	M
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	Noise	00:00	00:00	0	210	173	84	69	1.22 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	50:55	00:00	0	582969	1258923	115154	255979	0.46	ABV/ABV	M
	13C-1,2,3,4,7,8,9-HpCDF	53:14	00:00	0	130796	277326	25306	53450	0.47	ABV/ABV	M
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**		
	Noise	00:00	00:00	0	158	130	63	52	1.21 *	/	
	1,2,3,4,6,7,8-HpCDD	52:38	00:00	0	244095	225476	52456	48703	1.08	ABB/ABV	M
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**		
	Noise	00:00	00:00	0	183	163	73	65	1.12	/	
	13C-1,2,3,4,6,7,8-HpCDD	52:37	00:00	0	921705	864709	201296	184987	1.07	ABV/ABV	
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**		
	Noise	00:00	00:00	0	180	185	72	74	0.97	/	
	OCDF	57:04	00:00	0	413439	462724	98958	112178	0.89	ABV/ABV	
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**		
	Noise	00:00	00:00	0	148	175	59	70	0.84	/	
	OCDD	56:55	00:00	0	362803	405997	88236	100140	0.89	ABV/ABV	
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**		
	Noise	00:00	00:00	0	300	240	120	96	1.25 *	/	
	13C-OCDD	56:54	00:00	0	1519645	1682390	353701	400853	0.90	ABV/ABV	

Notes:
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STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	2960:59CS4	**Prep Batch**		**Lot No**	
Data File	/20041108i/b041108i4.d	**Prep Date**		**SDG No**	
Analysis ID	79626	**Prep Exp Date**		**Date Received**	
Analysis Date	11/08/04 16:29	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M2A	**Extract Vol**		**Method**	0023/8290
Analyst	MSD	**Diluton Factor**	1.00	**Code**	X8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	380	355	152	142	1.07 *	/	
	2,3,7,8-TCDF	33:45	00:00	0	1048174	1332501	95969	125944	0.79	ABV/ABV	M
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	430	433	172	173	0.99 *	/	
	13C-2,3,7,8-TCDF	33:42	00:00	0	2112774	2713980	194700	253684	0.78	AVV/AVV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	238	275	95	110	0.86	/	
	2,3,7,8-TCDD	35:54	00:00	0	829802	1076525	88052	117434	0.77	ABV/AVV	M
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	260		104				
	37Cl4-2,3,7,8-TCDD	35:54	00:00	0	1889167		209609			ABV	M
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	598	605	239	242	0.99 *	/	
	13C-1,2,3,4-TCDD	35:17	00:00	0	1569612	1941009	160814	196003	0.81	AVV/ABV	
	13C-2,3,7,8-TCDD	35:52	00:00	0	1644076	2086269	180440	226283	0.79	AVV/AVV	
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**		
	Noise	00:00	00:00	0	360	375	144	150	0.96 *	/	
	1,2,3,7,8-PeCDF	41:50	00:00	0	5965575	3849145	1379230	905563	1.55	ABV/ABV	M
	2,3,4,7,8-PeCDF	42:55	00:00	0	6569741	4296272	1589195	1056390	1.53	ABV/ABV	M
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**		
	Noise	00:00	00:00	0	288	213	115	85	1.35	/	
	13C-1,2,3,7,8-PeCDF	41:49	00:00	0	2562572	1592554	582119	371832	1.61	ABV/ABV	M
	13C-2,3,4,7,8-PeCDF	42:54	00:00	0	6362257	4048249	1531487	984923	1.57	ABV/ABV	M
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**		
	Noise	00:00	00:00	0	600	533	240	213	1.13 *	/	
	1,2,3,7,8-PeCDD	43:22	00:00	0	4520288	2920182	1176044	745657	1.55	ABV/ABV	M
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**		
	Noise	00:00	00:00	0	240	130	96	52	1.85 *	/	
	13C-1,2,3,7,8-PeCDD	43:21	00:00	0	1908933	1204460	489699	301297	1.58	ABV/ABV	
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	Noise	00:00	00:00	0	600	445	240	178	1.35	/	
	1,2,3,4,7,8-HxCDF	46:29	00:00	0	5668096	4496863	1493288	1206715	1.26	ABV/ABV	M
	1,2,3,6,7,8-HxCDF	46:36	00:00	0	5747621	4704363	1455121	1179368	1.22	AVV/AVV	M
	2,3,4,6,7,8-HxCDF	47:23	00:00	0	5308388	4328898	1379464	1124349	1.23	AVV/AVV	
	1,2,3,7,8,9-HxCDF	48:25	00:00	0	5140313	4114666	1182335	930764	1.25	ABV/ABV	
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**		
	Noise	00:00	00:00	0	303	283	121	113	1.07 *	/	
	13C-1,2,3,4,7,8-HxCDF	46:28	00:00	0	2918949	5543058	775135	1439721	0.53	ABV/ABV	M
	13C-1,2,3,6,7,8-HxCDF	46:35	00:00	0	1329184	2494450	324730	627708	0.53	AVV/AVV	M
	13C-1,2,3,7,8,9-HxCDF	48:24	00:00	0	2789101	5241548	644872	1174849	0.53	ABV/ABV	
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	Noise	00:00	00:00	0	258	238	103	95	1.08	/	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
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STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	2960:59CS4	**Prep Batch**		**Lot No**	
Data File	/20041108i/b041108i4.d	**Prep Date**		**SDG No**	
Analysis ID	79626	**Prep Exp Date**		**Date Received**	
Analysis Date	11/08/04 16:29	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M2A	**Extract Vol**		**Method**	0023/8290
Analyst	MSD	**Diluton Factor**	1.00	**Code**	X8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	1,2,3,4,7,8-HxCDD	47:34	00:00	0	4022331	3286302	1044519	848080	1.22	ABV/ABV	
	1,2,3,6,7,8-HxCDD	47:41	00:00	0	4006899	3211076	989411	780205	1.25	AVV/AVV	
	1,2,3,7,8,9-HxCDD	48:07	00:00	0	4259780	3421670	1085768	844087	1.24	AVV/AVV	
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**		
	Noise	00:00	00:00	0	233	288	93	115	0.81 *	/	
	13C-1,2,3,4,7,8-HxCDD	47:33	00:00	0	3668404	2869543	932422	721494	1.28	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDD	47:40	00:00	0	1564785	1223000	408197	313818	1.28	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDD	48:06	00:00	0	1615213	1287322	404173	327545	1.25	AVV/AVV	
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**		
	Noise	00:00	00:00	0	345	240	138	96	1.44 *	/	
	1,2,3,4,6,7,8-HpCDF	51:02	00:00	0	4786268	4645712	985415	936337	1.03	ABV/ABV	M
	1,2,3,4,7,8,9-HpCDF	53:21	00:00	0	4309278	4180935	922152	885807	1.03	ABV/ABV	M
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	Noise	00:00	00:00	0	190	298	76	119	0.64 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	51:01	00:00	0	862446	1859692	181384	383659	0.46	ABV/ABV	M
	13C-1,2,3,4,7,8,9-HpCDF	53:20	00:00	0	1927788	4284189	405847	894474	0.45	ABV/ABV	M
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**		
	Noise	00:00	00:00	0	143	170	57	68	0.84 *	/	
	1,2,3,4,6,7,8-HpCDD	52:44	00:00	0	3531094	3367903	783334	734645	1.05	ABV/ABV	M
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**		
	Noise	00:00	00:00	0	193	130	77	52	1.48 *	/	
	13C-1,2,3,4,6,7,8-HpCDD	52:43	00:00	0	1440501	1369500	311609	283325	1.05	ABV/ABV	
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**		
	Noise	00:00	00:00	0	230	300	92	120	0.77	/	
	OCDF	57:10	00:00	0	7085956	7853688	1803246	2005854	0.90	ABV/ABV	
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**		
	Noise	00:00	00:00	0	283	228	113	91	1.24 *	/	
	OCDD	57:01	00:00	0	5928812	6669241	1519894	1724763	0.89	ABV/ABV	
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**		
	Noise	00:00	00:00	0	195	188	78	75	1.04 *	/	
	13C-OCDD	57:00	00:00	0	2541058	2826802	652576	704116	0.90	ABV/ABV	

Notes:
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STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	2960:59CS5	**Prep Batch**		**Lot No**	
Data File	/20041108i/b041108i5.d	**Prep Date**		**SDG No**	
Analysis ID	79635	**Prep Exp Date**		**Date Received**	
Analysis Date	11/08/04 17:32	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M2A	**Extract Vol**		**Method**	0023/8290
Analyst	MSD	**Diluton Factor**	1.00	**Code**	X8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	348	360	139	144	0.97 *	/	
	2,3,7,8-TCDF	33:40	00:00	0	1624887	2100239	151098	197236	0.77	AVV/AVV	M
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	308	465	123	186	0.66	/	
	13C-2,3,7,8-TCDF	33:38	00:00	0	1689283	2125129	158348	200265	0.79	AVV/ABV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	265	200	106	80	1.33 *	/	
	2,3,7,8-TCDD	35:48	00:00	0	1263695	1632301	144117	185672	0.77	ABV/AVV	M
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	443		177				
	37Cl4-2,3,7,8-TCDD	35:49	00:00	0	2886351		318774			ABV	M
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	398	435	159	174	0.91 *	/	
	13C-1,2,3,4-TCDD	35:12	00:00	0	1195503	1479474	119027	157135	0.81	AVV/ABV	
	13C-2,3,7,8-TCDD	35:47	00:00	0	1265377	1619506	145451	181576	0.78	AVV/AVV	
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**		
	Noise	00:00	00:00	0	475	488	190	195	0.97 *	/	
	1,2,3,7,8-PeCDF	41:44	00:00	0	9437280	6080397	2225154	1459253	1.55	ABV/ABV	M
	2,3,4,7,8-PeCDF	42:47	00:00	0	10004771	6513555	2569091	1701343	1.54	AVV/ABV	M
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**		
	Noise	00:00	00:00	0	363	318	145	127	1.14 *	/	
	13C-1,2,3,7,8-PeCDF	41:43	00:00	0	2044840	1302897	483635	307174	1.57	ABV/ABV	M
	13C-2,3,4,7,8-PeCDF	42:46	00:00	0	9748578	6197819	2485782	1608214	1.57	ABV/ABV	M
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**		
	Noise	00:00	00:00	0	305	293	122	117	1.04 *	/	
	1,2,3,7,8-PeCDD	43:15	00:00	0	7011309	4526439	1816840	1204963	1.55	ABV/ABV	M
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**		
	Noise	00:00	00:00	0	243	130	97	52	1.87 *	/	
	13C-1,2,3,7,8-PeCDD	43:14	00:00	0	1478180	944472	385065	244921	1.57	ABV/ABV	DM
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	Noise	00:00	00:00	0	623	535	249	214	1.16	/	
	1,2,3,4,7,8-HxCDF	46:22	00:00	0	8623898	7044934	2397315	1979390	1.22	ABV/ABV	M
	1,2,3,6,7,8-HxCDF	46:30	00:00	0	9094299	7397222	2402644	1939896	1.23	AVV/AVB	M
	2,3,4,6,7,8-HxCDF	47:17	00:00	0	8269475	6666205	2086097	1670043	1.24	AVV/AVV	
	1,2,3,7,8,9-HxCDF	48:18	00:00	0	7969315	6380689	1814943	1464870	1.25	ABV/ABV	
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**		
	Noise	00:00	00:00	0	253	365	101	146	0.69 *	/	
	13C-1,2,3,4,7,8-HxCDF	46:21	00:00	0	4594100	8678143	1236203	2372347	0.53	ABV/ABV	M
	13C-1,2,3,6,7,8-HxCDF	46:29	00:00	0	1099602	2096171	283148	538674	0.52	AVV/AVV	M
	13C-1,2,3,7,8,9-HxCDF	48:17	00:00	0	4301870	8230670	987486	1913987	0.52	ABV/ABV	
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	Noise	00:00	00:00	0	590	538	236	215	1.10	/	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	2960:59CS5	**Prep Batch**		**Lot No**	
Data File	/20041108i/b041108i5.d	**Prep Date**		**SDG No**	
Analysis ID	79635	**Prep Exp Date**		**Date Received**	
Analysis Date	11/08/04 17:32	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M2A	**Extract Vol**		**Method**	0023/8290
Analyst	MSD	**Diluton Factor**	1.00	**Code**	X8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	1,2,3,4,7,8-HxCDD	47:27	00:00	0	6266817	5081845	1615700	1348200	1.23	ABV/ABV	
	1,2,3,6,7,8-HxCDD	47:34	00:00	0	5948255	4798733	1457488	1198967	1.24	AVV/AVV	
	1,2,3,7,8,9-HxCDD	48:00	00:00	0	6446990	5254153	1551361	1296235	1.23	AVV/AVV	
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**		
	Noise	00:00	00:00	0	390	375	156	150	1.04 *	/	
	13C-1,2,3,4,7,8-HxCDD	47:27	00:00	0	5510401	4307236	1394672	1099630	1.28	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDD	47:33	00:00	0	1272503	1000262	298186	241837	1.27	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDD	47:58	00:00	0	1276388	1002289	304639	243751	1.27	AVV/AVV	
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**		
	Noise	00:00	00:00	0	310	390	124	156	0.79 *	/	
	1,2,3,4,6,7,8-HpCDF	50:55	00:00	0	6992552	6854607	1417313	1401546	1.02	ABV/ABV	M
	1,2,3,4,7,8,9-HpCDF	53:14	00:00	0	5834651	5755503	1272000	1262559	1.01	ABV/ABV	
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	Noise	00:00	00:00	0	228	198	91	79	1.15 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	50:54	00:00	0	637280	1380000	131108	292055	0.46	ABV/ABV	M
	13C-1,2,3,4,7,8,9-HpCDF	53:13	00:00	0	2661039	5805458	582869	1246501	0.46	ABV/ABV	
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**		
	Noise	00:00	00:00	0	188	233	75	93	0.81 *	/	
	1,2,3,4,6,7,8-HpCDD	52:37	00:00	0	4828309	4568235	1052477	1001331	1.06	ABV/ABV	M
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**		
	Noise	00:00	00:00	0	140	148	56	59	0.95	/	
	13C-1,2,3,4,6,7,8-HpCDD	52:37	00:00	0	992209	933671	215663	200365	1.06	ABV/ABV	
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**		
	Noise	00:00	00:00	0	340	300	136	120	1.13 *	/	
	OCDF	57:04	00:00	0	9490295	10496391	2379215	2586723	0.90	ABV/ABV	
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**		
	Noise	00:00	00:00	0	250	370	100	148	0.68 *	/	
	OCDD	56:55	00:00	0	7814200	8935545	1973540	2234753	0.87	ABV/ABV	
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**		
	Noise	00:00	00:00	0	168	185	67	74	0.91	/	
	13C-OCDD	56:54	00:00	0	1698392	1886045	434835	479641	0.90	ABV/ABV	

Notes:
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STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 1613B

IsoCalc

Workorder	2960:58	**Prep Batch**		**Lot No**	
Data File	/20041108i/b041108w1.d	**Prep Date**		**SDG No**	
Analysis ID	79608	**Prep Exp Date**		**Date Received**	
Analysis Date	11/08/04 09:14	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M2A	**Extract Vol**		**Method**	DX1613B
Analyst	MSD	**Diluton Factor**	1.00	**Code**	F8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	153	160	61	64	0.95 *	/	
	Unidentified	26:28	00:00	0	123604	164585	15209	20635	0.75	AVV/AVV	
	2,3,7,8-TCDF	33:51	00:00	0	122844	160443	11733	16002	0.77	AVV/ABV	M
	Unidentified	38:06	00:00	0	117786	156086	17446	21320	0.75	ABV/ABV	
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	158	190	63	76	0.83	/	
	13C-2,3,7,8-TCDF	33:49	00:00	0	1158233	1471071	108436	138186	0.79	ABV/AVV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	195	213	78	85	0.92 *	/	
	Unidentified	29:18	00:00	0	84614	106130	10318	11728	0.80	ABV/ABV	
	Unidentified	35:26	00:00	0	77153	97643	7954	10249	0.79	ABV/ABV	
	Unidentified	35:43	00:00	0	79714	98913	8539	10952	0.81	AVV/AVV	
	2,3,7,8-TCDD	35:59	00:00	0	93833	117227	10799	13676	0.80	AVV/AVV	M
	Unidentified	36:21	00:00	0	94388	121202	11407	13656	0.78	AVV/AVV	
	Unidentified	38:12	00:00	0	77615	96378	12801	15042	0.81	ABB/ABB	
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	175		70				
	37Cl4-2,3,7,8-TCDD	35:59	00:00	0	206212		23668			AVV	M
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	245	208	98	83	1.18 *	/	
	13C-1,2,3,4-TCDD	35:23	00:00	0	796817	975818	83387	102672	0.82	AVV/ABV	
	13C-2,3,7,8-TCDD	35:57	00:00	0	830446	1047500	94850	119259	0.79	AVV/AVV	
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**		
	Noise	00:00	00:00	0	183	200	73	80	0.91 *	/	
	Unidentified	38:41	00:00	0	620544	400709	111492	76504	1.55	ABB/ABB	
	1,2,3,7,8-PeCDF	41:52	00:00	0	758542	481569	173417	110620	1.58	ABV/ABV	M
	2,3,4,7,8-PeCDF	42:57	00:00	0	784406	496743	185482	118504	1.58	ABV/ABV	
	Unidentified	44:06	00:00	0	666751	425850	176221	112513	1.57	ABV/ABV	
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**		
	Noise	00:00	00:00	0	170	158	68	63	1.08 *	/	
	13C-1,2,3,7,8-PeCDF	41:51	00:00	0	1452864	913095	341346	216099	1.59	ABV/ABV	
	13C-2,3,4,7,8-PeCDF	42:54	00:00	0	1406223	885610	339839	224918	1.59	ABV/ABV	
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**		
	Noise	00:00	00:00	0	168	150	67	60	1.12 *	/	
	Unidentified	40:52	00:00	0	468708	299081	90322	57795	1.57	ABV/ABV	
	1,2,3,7,8-PeCDD	43:23	00:00	0	524337	326223	135670	82400	1.61	ABV/ABV	M
	Unidentified	43:58	00:00	0	422583	267520	134150	82161	1.58	ABB/ABB	
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**		
	Noise	00:00	00:00	0	165	123	66	49	1.35	/	
	13C-1,2,3,7,8-PeCDD	43:22	00:00	0	1026990	647670	263533	169655	1.59	ABV/ABV	
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	Noise	00:00	00:00	0	190	173	76	69	1.10	/	
	Unidentified	45:14	00:00	0	730044	573706	210872	165094	1.27	ABV/ABV	

Notes:
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STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 1613B

IsoCalc

Workorder	2960:58	**Prep Batch**		**Lot No**	
Data File	/20041108i/b041108w1.d	**Prep Date**		**SDG No**	
Analysis ID	79608	**Prep Exp Date**		**Date Received**	
Analysis Date	11/08/04 09:14	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M2A	**Extract Vol**		**Method**	DX1613B
Analyst	MSD	**Diluton Factor**	1.00	**Code**	F8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	1,2,3,4,7,8-HxCDF	46:30	00:00	0	726073	589347	193632	154759	1.23	ABV/ABV	M
	1,2,3,6,7,8-HxCDF	46:39	00:00	0	760780	603104	196485	154542	1.26	AVB/AVV	M
	2,3,4,6,7,8-HxCDF	47:25	00:00	0	706662	559032	171253	133933	1.26	AVV/AVB	M
	1,2,3,7,8,9-HxCDF	48:27	00:00	0	637458	504694	149251	120745	1.26	ABV/ABV	
	Unidentified	48:33	00:00	0	631341	493553	137948	109257	1.28	AVB/AVB	
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**		
	Noise	00:00	00:00	0	230	200	92	80	1.15 *	/	
	13C-1,2,3,4,7,8-HxCDF	46:29	00:00	0	698157	1319210	185509	362571	0.53	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDF	46:38	00:00	0	767500	1446622	196274	380889	0.53	AVV/AVV	
	13C-2,3,4,6,7,8-HxCDF	47:24	00:00	0	740144	1386584	189085	347075	0.53	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDF	48:26	00:00	0	681150	1290959	156401	288465	0.53	ABV/ABV	
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	Noise	00:00	00:00	0	183	175	73	70	1.04 *	/	
	Unidentified	45:55	00:00	0	514060	412743	143592	111484	1.25	ABV/ABV	
	1,2,3,4,7,8-HxCDD	47:36	00:00	0	498277	402548	130159	101098	1.24	AVV/ABV	M
	1,2,3,6,7,8-HxCDD	47:43	00:00	0	478130	385392	114535	92495	1.24	AVV/AVB	M
	1,2,3,7,8,9-HxCDD	48:09	00:00	0	519114	428497	122087	99840	1.21	AVV/ABV	M
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**		
	Noise	00:00	00:00	0	170	148	68	59	1.15	/	
	13C-1,2,3,4,7,8-HxCDD	47:35	00:00	0	840536	671739	216068	172325	1.25	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDD	47:42	00:00	0	881054	678261	218153	164960	1.30	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDD	48:08	00:00	0	913847	727980	222183	176952	1.26	AVV/AVV	
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**		
	Noise	00:00	00:00	0	190	188	76	75	1.01	/	
	1,2,3,4,6,7,8-HpCDF	51:04	00:00	0	617266	587404	123109	115453	1.05	ABV/ABV	M
	1,2,3,4,7,8,9-HpCDF	53:23	00:00	0	534928	515764	119163	112952	1.04	ABV/ABV	M
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	Noise	00:00	00:00	0	140	168	56	67	0.84 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	51:03	00:00	0	515640	1110103	101392	220323	0.46	ABV/ABV	
	13C-1,2,3,4,7,8,9-HpCDF	53:22	00:00	0	461709	1006090	101025	217443	0.46	ABV/ABV	
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**		
	Noise	00:00	00:00	0	133	145	53	58	0.91	/	
	Unidentified	51:36	00:00	0	435967	416807	93178	87299	1.05	ABV/ABV	
	1,2,3,4,6,7,8-HpCDD	52:46	00:00	0	419623	396468	91252	87205	1.06	ABV/ABV	M
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**		
	Noise	00:00	00:00	0	170	138	68	55	1.24 *	/	
	13C-1,2,3,4,6,7,8-HpCDD	52:45	00:00	0	811187	760318	175274	164820	1.07	ABV/ABV	
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**		
	Noise	00:00	00:00	0	180	205	72	82	0.88	/	
	OCDF	57:12	00:00	0	925307	1008674	243316	261703	0.92	ABV/ABV	M
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**		
	Noise	00:00	00:00	0	135	185	54	74	0.73 *	/	
	OCDD	57:04	00:00	0	760255	851706	193283	218462	0.89	ABV/ABV	M

Notes:
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STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 1613B

IsoCalc

Workorder	2960:58	**Prep Batch**		**Lot No**	
Data File	/20041108i/b041108w1.d	**Prep Date**		**SDG No**	
Analysis ID	79608	**Prep Exp Date**		**Date Received**	
Analysis Date	11/08/04 09:14	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M2A	**Extract Vol**		**Method**	DX1613B
Analyst	MSD	**Diluton Factor**	1.00	**Code**	F8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**		
	Noise	00:00	00:00	0	178	180	71	72	0.99	/	
	13C-OCDD	57:03	00:00	0	1491722	1650506	361591	406839	0.90	ABV/ABV	

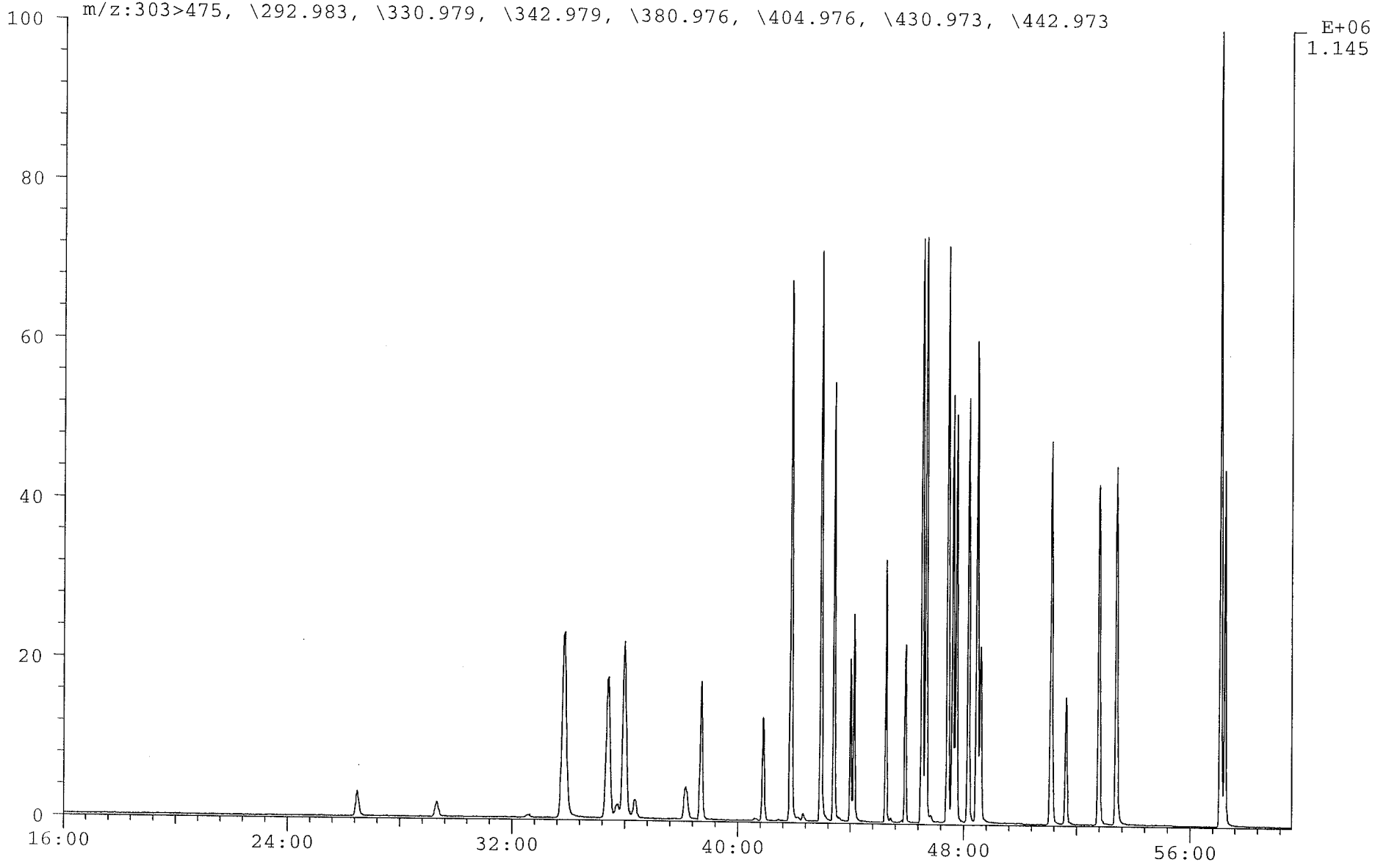
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

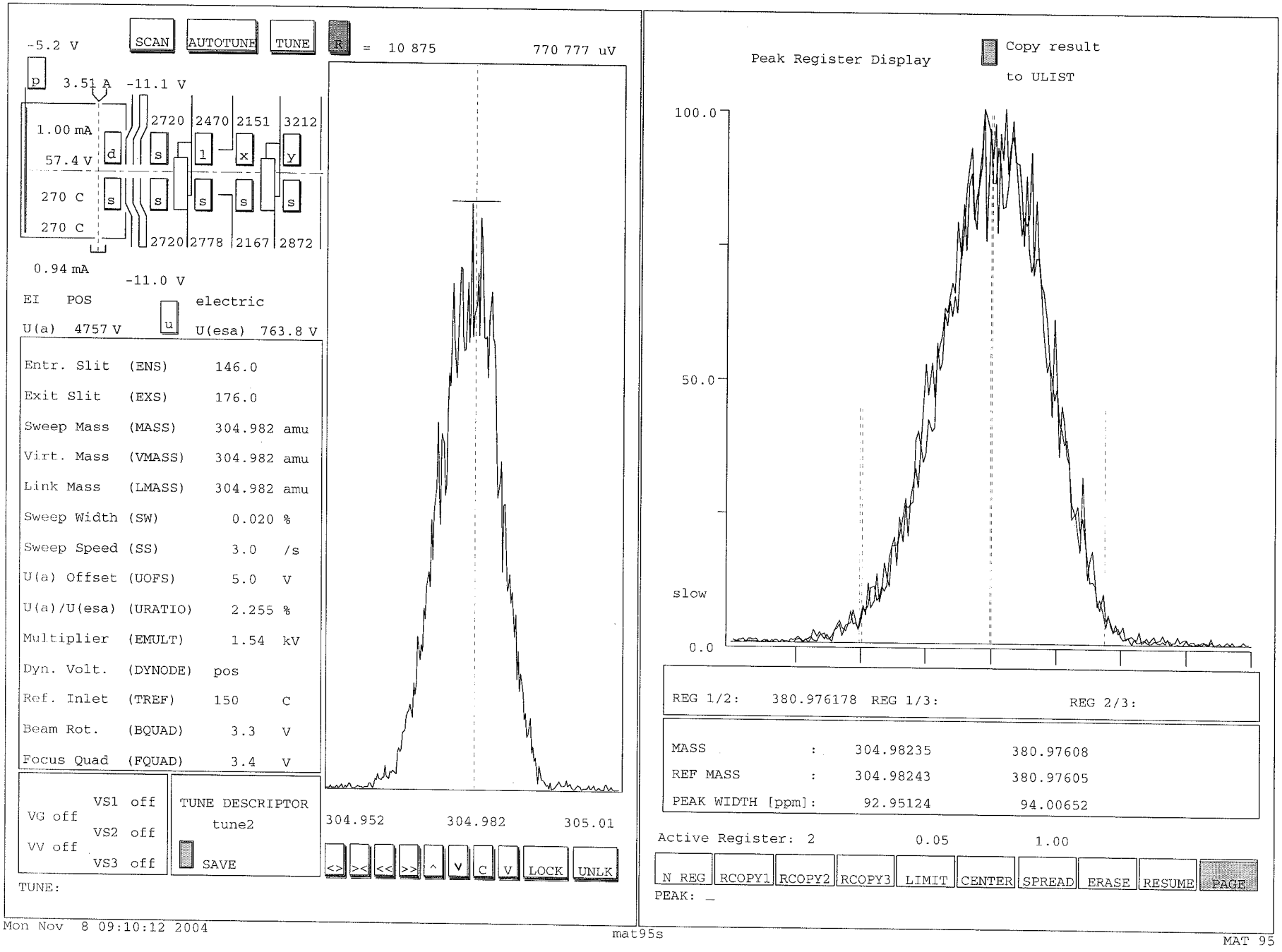
CHRO: b041108w1 08-Nov-04
Samp: Vial 1 WO=2960:58 Meth=F8 Dil=1
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode: EI +VE +LMR ESCAN LR NRM
Oper: MSD Client: STL Knoxville
Peak: 100.00 ppm Label wndw: 442 > 2866
Area: 5, 0.50, 0 Baseline : 100, 3
Disp: Height Area

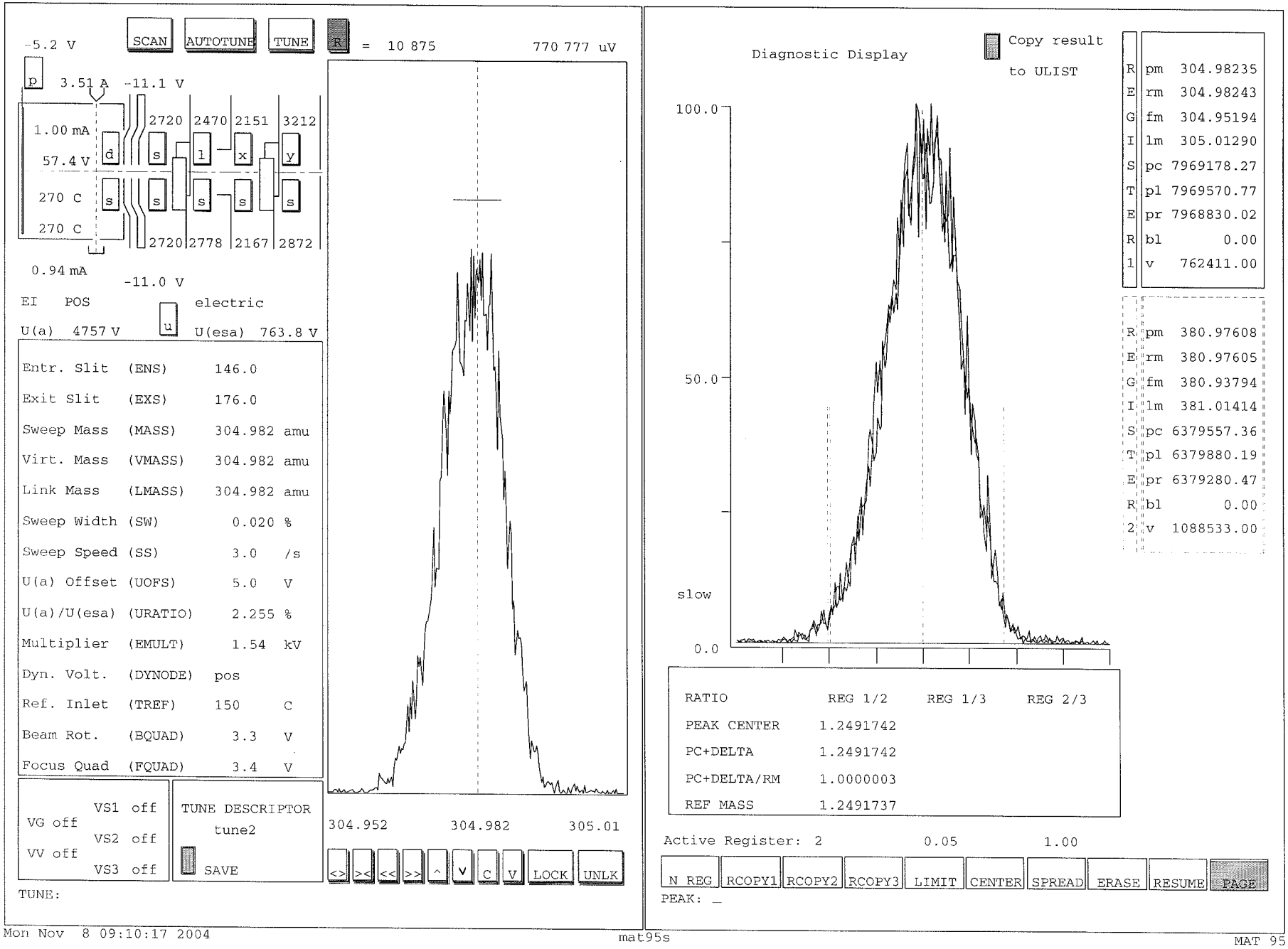
Elapse: 38:26 1680
Start : 09:14:22 2866

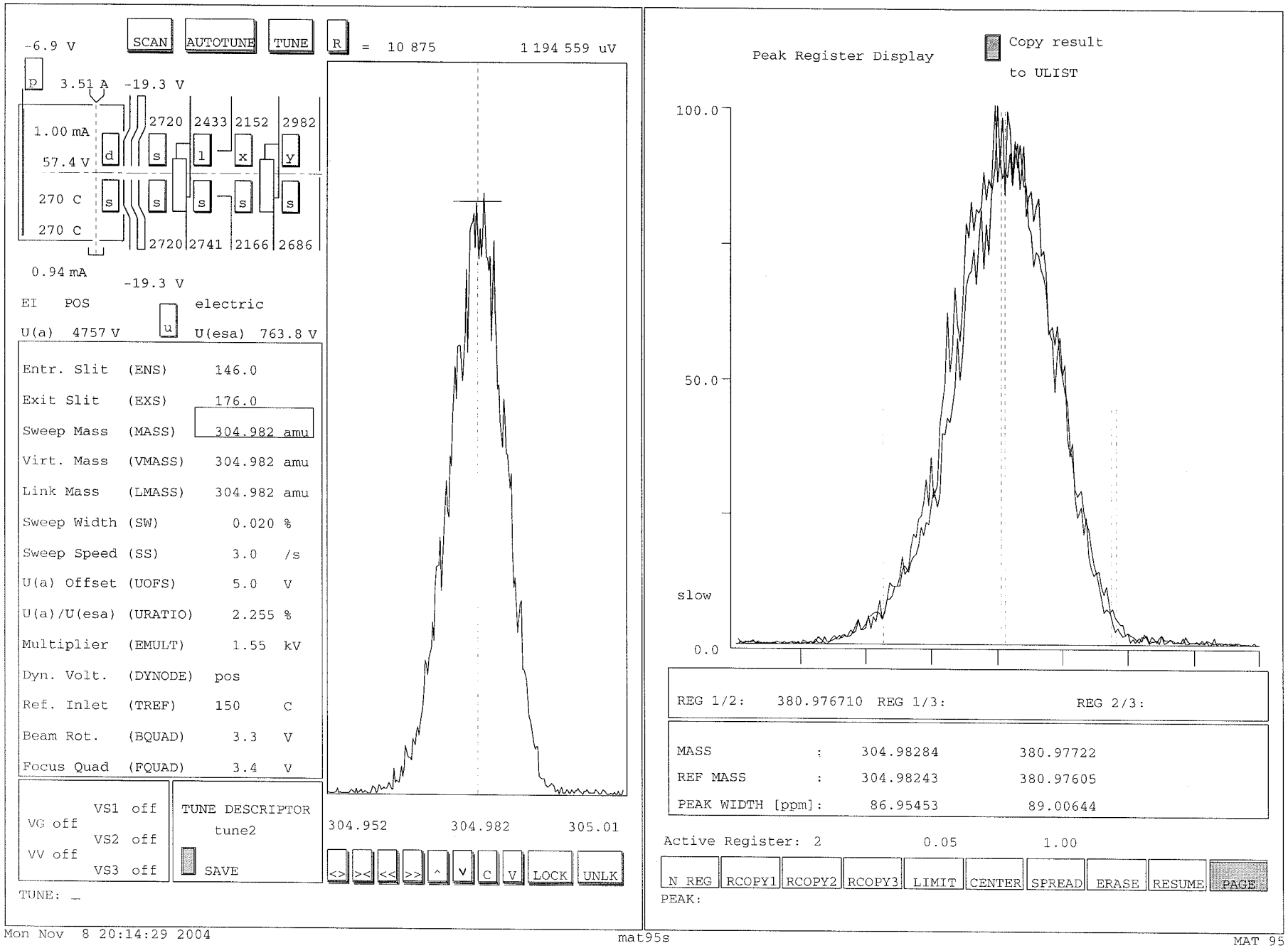
Study : 8290/1613 Win
Inlet : GC Vial 1
Masses: 293 > 514
Label : 0, 0.0

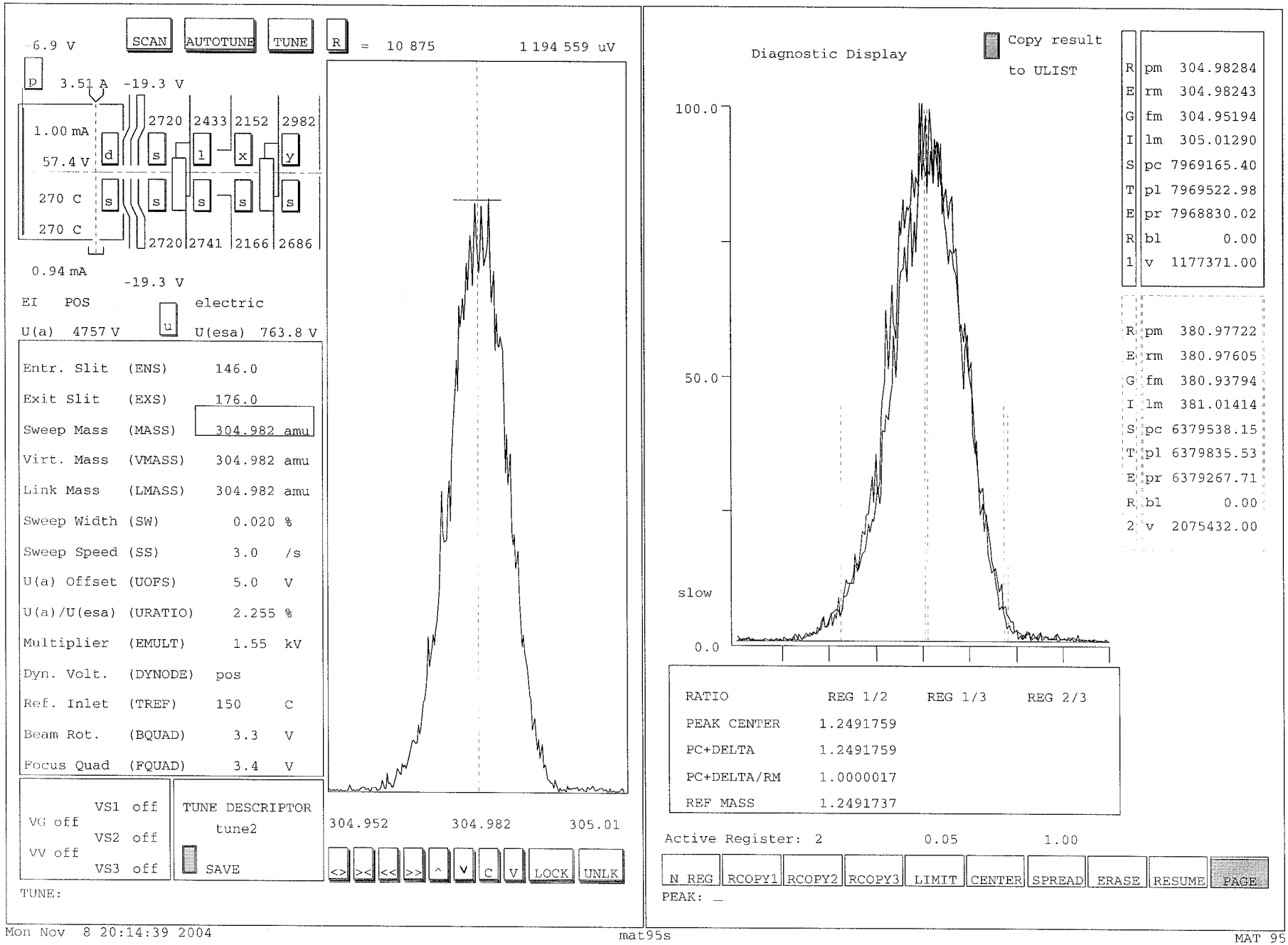
Int, Calc MSD 11/8/04
QC Prep 11-8-04



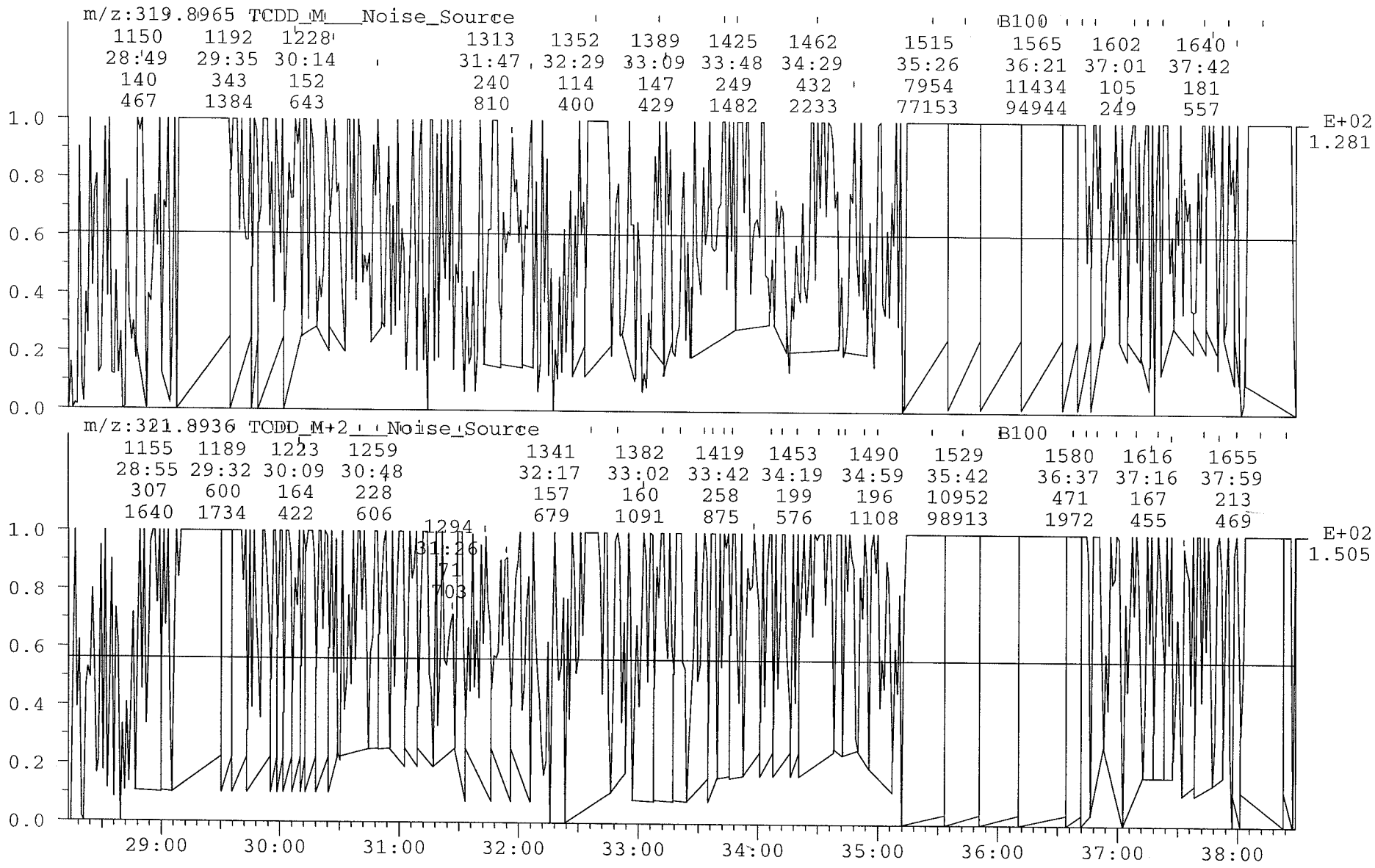

SCAN
AUTOTUNE
TUNE
R = 10 875
770 777 uV
-5.2 V
p
3.51 A
-11.1 V
1.00 mA
57.4 V
270 C
270 C
2720 2470 2151 3212
2720 2778 2167 2872
0.94 mA
-11.0 V
EI POS
electric
U(a) 4757 V
U(esa) 763.8 V
Entr. Slit (ENS) 146.0
Exit Slit (EXS) 176.0
Sweep Mass (MASS) 304.982 amu
Virt. Mass (VMASS) 304.982 amu
Link Mass (LMASS) 304.982 amu
Sweep Width (SW) 0.020 %
Sweep Speed (SS) 3.0 /s
U(a) Offset (UOFS) 5.0 V
U(a)/U(esa) (URATIO) 2.255 %
Multiplier (EMULT) 1.54 kV
Dyn. Volt. (DYNODE) pos
Ref. Inlet (TREF) 150 C
Beam Rot. (BQUAD) 3.3 V
Focus Quad (FQUAD) 3.4 V
VG off
VS1 off
VS2 off
VV off
VS3 off
TUNE DESCRIPTOR
tune2
SAVE
304.952
304.982
305.01
LOCK
UNLK
TUNE:
Mon Nov 8 09:10:12 2004
mat95s
Peak Register Display
Copy result to ULIST
100.0
50.0
slow
0.0
REG 1/2: 380.976178 REG 1/3: REG 2/3:
MASS : 304.98235 380.97608
REF MASS : 304.98243 380.97605
PEAK WIDTH [ppm]: 92.95124 94.00652
Active Register: 2 0.05 1.00
N REG
RCOPY1
RCOPY2
RCOPY3
LIMIT
CENTER
SPREAD
ERASE
RESUME
PAGE
PEAK: _
MAT 95


-5.2 V
SCAN
AUTOTUNE
TUNE
R = 10 875
770 777 uV
p
3.51 A
-11.1 V
1.00 mA
57.4 V
270 C
270 C
2720 2470 2151 3212
2720 2778 2167 2872
0.94 mA
-11.0 V
EI POS
electric
U(a) 4757 V
U(esa) 763.8 V
Entr. Slit (ENS) 146.0
Exit Slit (EXS) 176.0
Sweep Mass (MASS) 304.982 amu
Virt. Mass (VMASS) 304.982 amu
Link Mass (LMASS) 304.982 amu
Sweep Width (SW) 0.020 %
Sweep Speed (SS) 3.0 /s
U(a) Offset (UOFS) 5.0 V
U(a)/U(esa) (URATIO) 2.255 %
Multiplier (EMULT) 1.54 kV
Dyn. Volt. (DYNODE) pos
Ref. Inlet (TREF) 150 C
Beam Rot. (BQUAD) 3.3 V
Focus Quad (FQUAD) 3.4 V
VG off
VS1 off
VS2 off
VV off
VS3 off
TUNE DESCRIPTOR
tune2
SAVE
304.952
304.982
305.01
LOCK
UNLK
TUNE:
Diagnostic Display
Copy result to ULIST
100.0
50.0
slow
0.0
RATIO REG 1/2 REG 1/3 REG 2/3
PEAK CENTER 1.2491742
PC+DELTA 1.2491742
PC+DELTA/RM 1.0000003
REF MASS 1.2491737
Active Register: 2
0.05
1.00
N REG
RCOPY1
RCOPY2
RCOPY3
LIMIT
CENTER
SPREAD
ERASE
RESUME
PAGE
PEAK: _
REGIST 1
pm 304.98235
rm 304.98243
fm 304.95194
lm 305.01290
pc 7969178.27
pl 7969570.77
pr 7968830.02
bl 0.00
v 762411.00
REGIST 2
pm 380.97608
rm 380.97605
fm 380.93794
lm 381.01414
pc 6379557.36
pl 6379880.19
pr 6379280.47
bl 0.00
v 1088533.00
Mon Nov 8 09:10:17 2004
mat95s
MAT 95

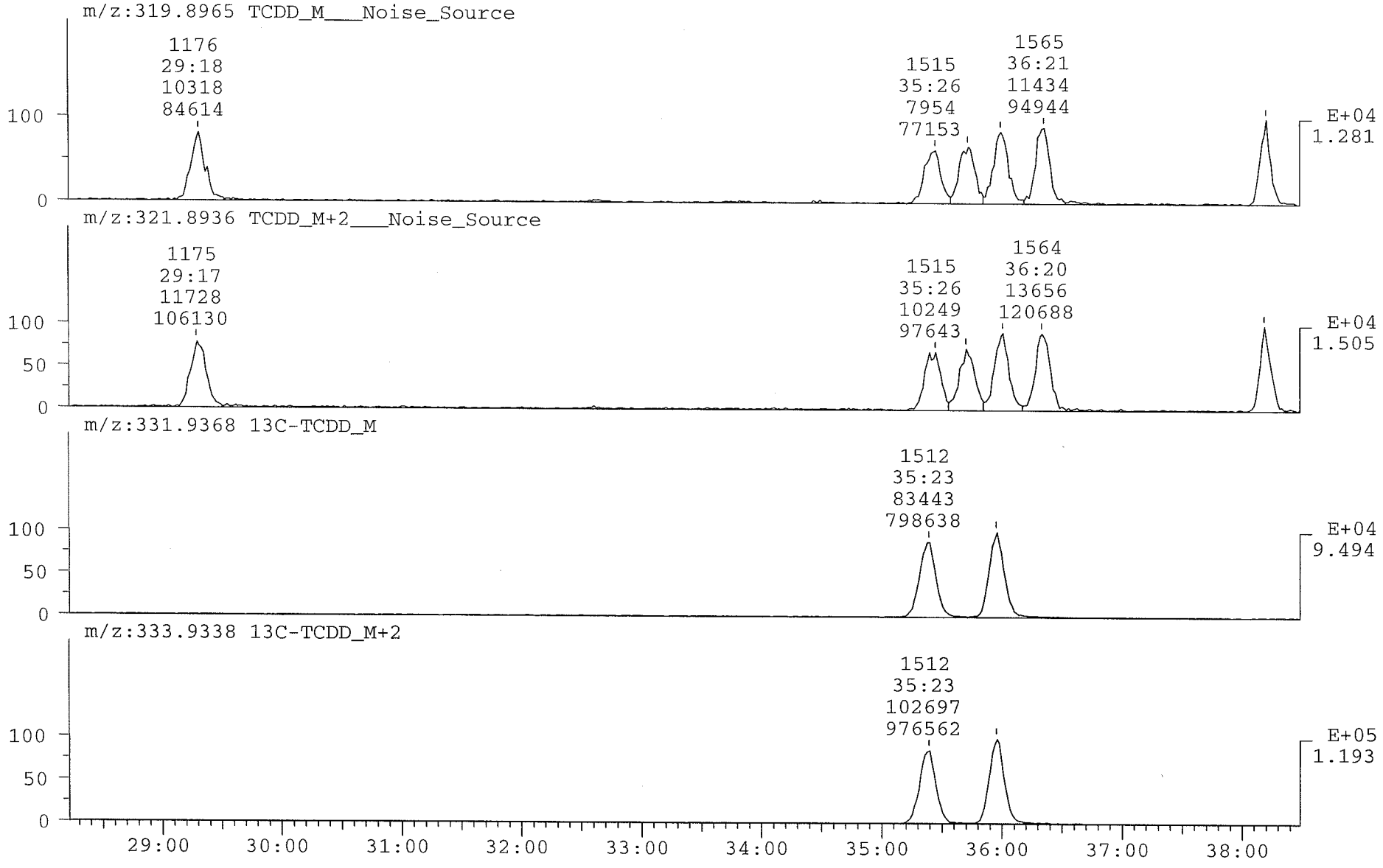

-6.9 V
SCAN
AUTOTUNE
TUNE
R
= 10 875
1 194 559 uV
p
3.51 A
-19.3 V
1.00 mA
57.4 V
270 C
270 C
2720
2433
2152
2982
2720
2741
2166
2686
0.94 mA
-19.3 V
EI POS
electric
U(a) 4757 V
u
U(esa) 763.8 V
Entr. Slit (ENS) 146.0
Exit Slit (EXS) 176.0
Sweep Mass (MASS) 304.982 amu
Virt. Mass (VMASS) 304.982 amu
Link Mass (LMASS) 304.982 amu
Sweep Width (SW) 0.020 %
Sweep Speed (SS) 3.0 /s
U(a) Offset (UOFS) 5.0 V
U(a)/U(esa) (URATIO) 2.255 %
Multiplier (EMULT) 1.55 kV
Dyn. Volt. (DYNODE) pos
Ref. Inlet (TREF) 150 C
Beam Rot. (BQUAD) 3.3 V
Focus Quad (FQUAD) 3.4 V
VS1 off
VG off
VS2 off
VV off
VS3 off
TUNE DESCRIPTOR
tune2
SAVE
TUNE: _
304.952
304.982
305.01
<>
><
<<
>>
^
v
C
V
LOCK
UNLK
Peak Register Display
Copy result
to ULIST
100.0
50.0
slow
0.0
REG 1/2: 380.976710 REG 1/3: REG 2/3:
MASS : 304.98284 380.97722
REF MASS : 304.98243 380.97605
PEAK WIDTH [ppm]: 86.95453 89.00644
Active Register: 2 0.05 1.00
N REG
RCOPY1
RCOPY2
RCOPY3
LIMIT
CENTER
SPREAD
ERASE
RESUME
PAGE
PEAK:
Mon Nov 8 20:14:29 2004
mat95s
MAT 95


-6.9 V
SCAN
AUTOTUNE
TUNE
R = 10 875
1 194 559 uV
p
3.51 A
-19.3 V
1.00 mA
57.4 V
270 C
270 C
2720 2433 2152 2982
2720 2741 2166 2686
0.94 mA
-19.3 V
EI POS
electric
U(a) 4757 V
U(esa) 763.8 V
Entr. Slit (ENS) 146.0
Exit Slit (EXS) 176.0
Sweep Mass (MASS) 304.982 amu
Virt. Mass (VMASS) 304.982 amu
Link Mass (LMASS) 304.982 amu
Sweep Width (SW) 0.020 %
Sweep Speed (SS) 3.0 /s
U(a) Offset (UOFS) 5.0 V
U(a)/U(esa) (URATIO) 2.255 %
Multiplier (EMULT) 1.55 kV
Dyn. Volt. (DYNODE) pos
Ref. Inlet (TREF) 150 C
Beam Rot. (BQUAD) 3.3 V
Focus Quad (FQUAD) 3.4 V
VS1 off
VG off
VS2 off
VV off
VS3 off
TUNE DESCRIPTOR
tune2
SAVE
304.952 304.982 305.01
LOCK UNLK
TUNE:
Diagnostic Display
Copy result to ULIST
100.0
50.0
slow
0.0
R pm 304.98284
E rm 304.98243
G fm 304.95194
I lm 305.01290
S pc 7969165.40
T pl 7969522.98
E pr 7968830.02
R bl 0.00
1 v 1177371.00
R pm 380.97722
E rm 380.97605
G fm 380.93794
I lm 381.01414
S pc 6379538.15
T pl 6379835.53
E pr 6379267.71
R bl 0.00
2 v 2075432.00
RATIO REG 1/2 REG 1/3 REG 2/3
PEAK CENTER 1.2491759
PC+DELTA 1.2491759
PC+DELTA/RM 1.0000017
REF MASS 1.2491737
Active Register: 2 0.05 1.00
N REG RCOPY1 RCOPY2 RCOPY3 LIMIT CENTER SPREAD ERASE RESUME PAGE
PEAK: _
Mon Nov 8 20:14:39 2004
mat95s
MAT 95

CHRO: b041108w1 08-Nov-04 Elapse: 38:26 1680
Samp: Vial 1 WO=2960:58 Meth=F8 Dil=1 Start : 09:14:22 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 8290/1613 Win
Oper: MSD Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1116 > 1683 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -3, 1.0
Disp: Height Area



CHRO: b041108w1 08-Nov-04 Elapse: 38:26 1680
Samp: Vial 1 WO=2960:58 Meth=F8 Dil=1 Start : 09:14:22 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 8290/1613 Win
Oper: MSD Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1116 > 1683 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



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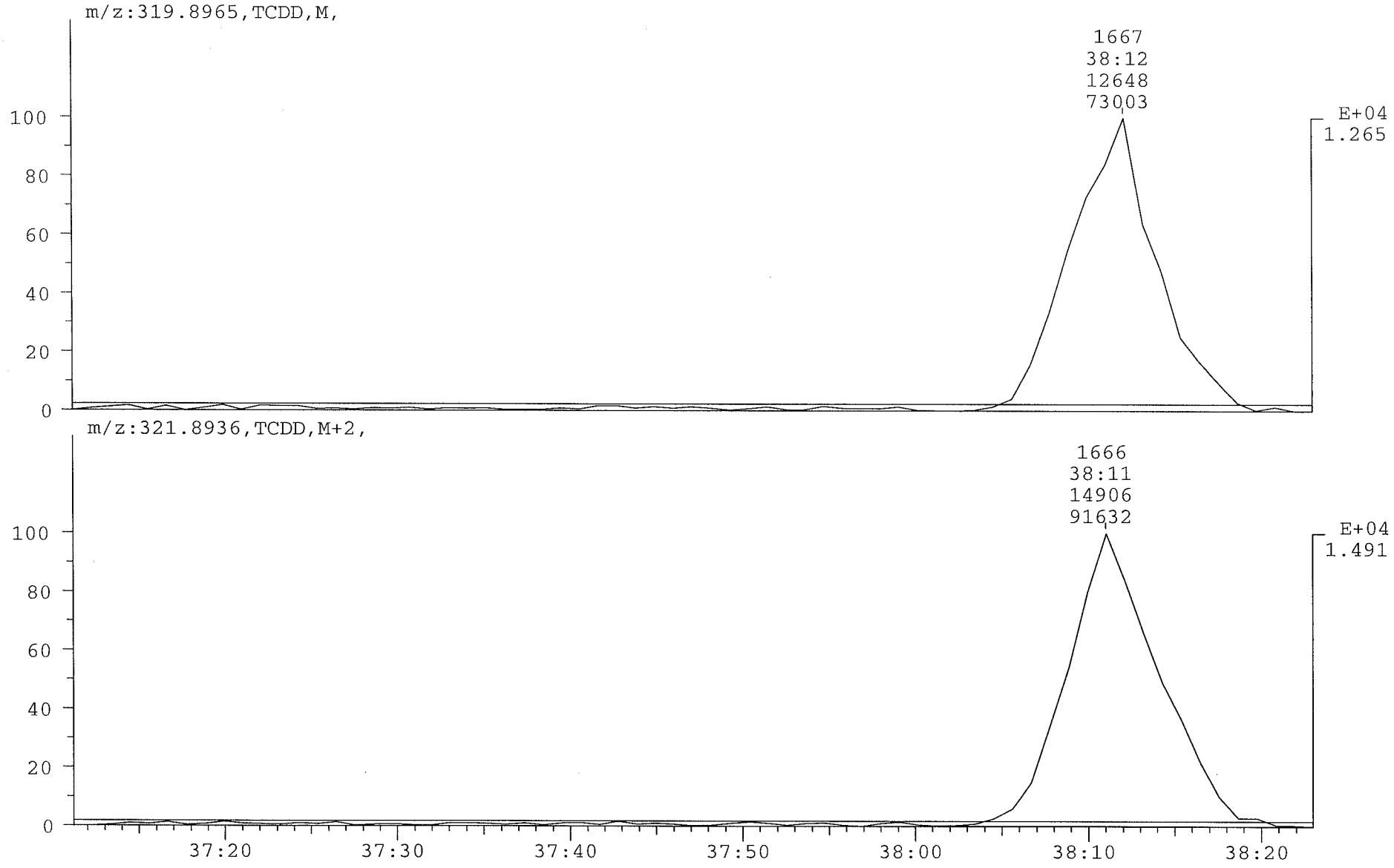
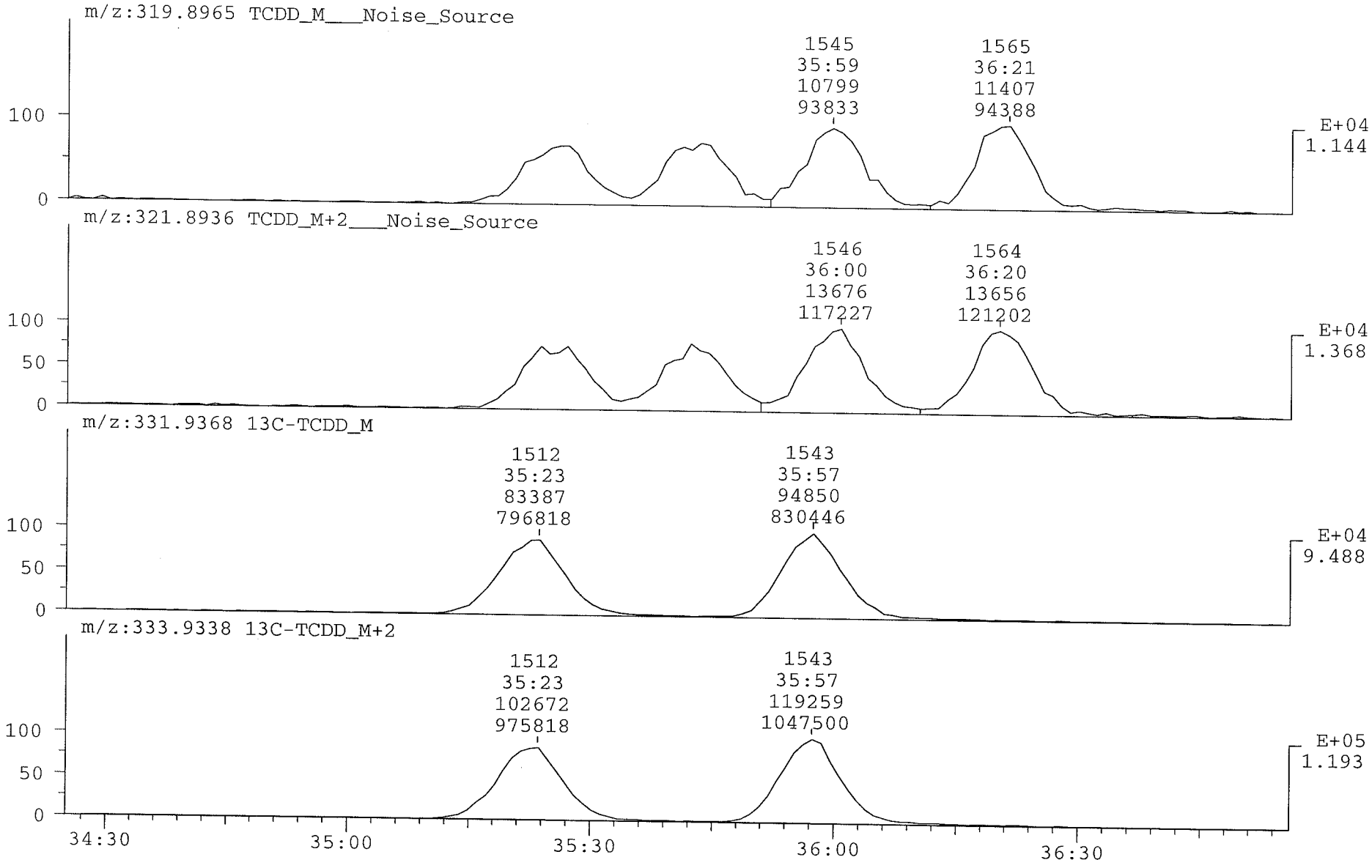
CHRO:  b041108w1                                08-Nov-04   Elapse:  57:08      2728
Samp:  Vial 1 WO=2960:58 Meth=F8 Dil=1                      Start :  09:14:22   2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  8290/1613 Win
Oper:  MSD          Client:  STL Knoxville                  Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1611 > 1677            Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```

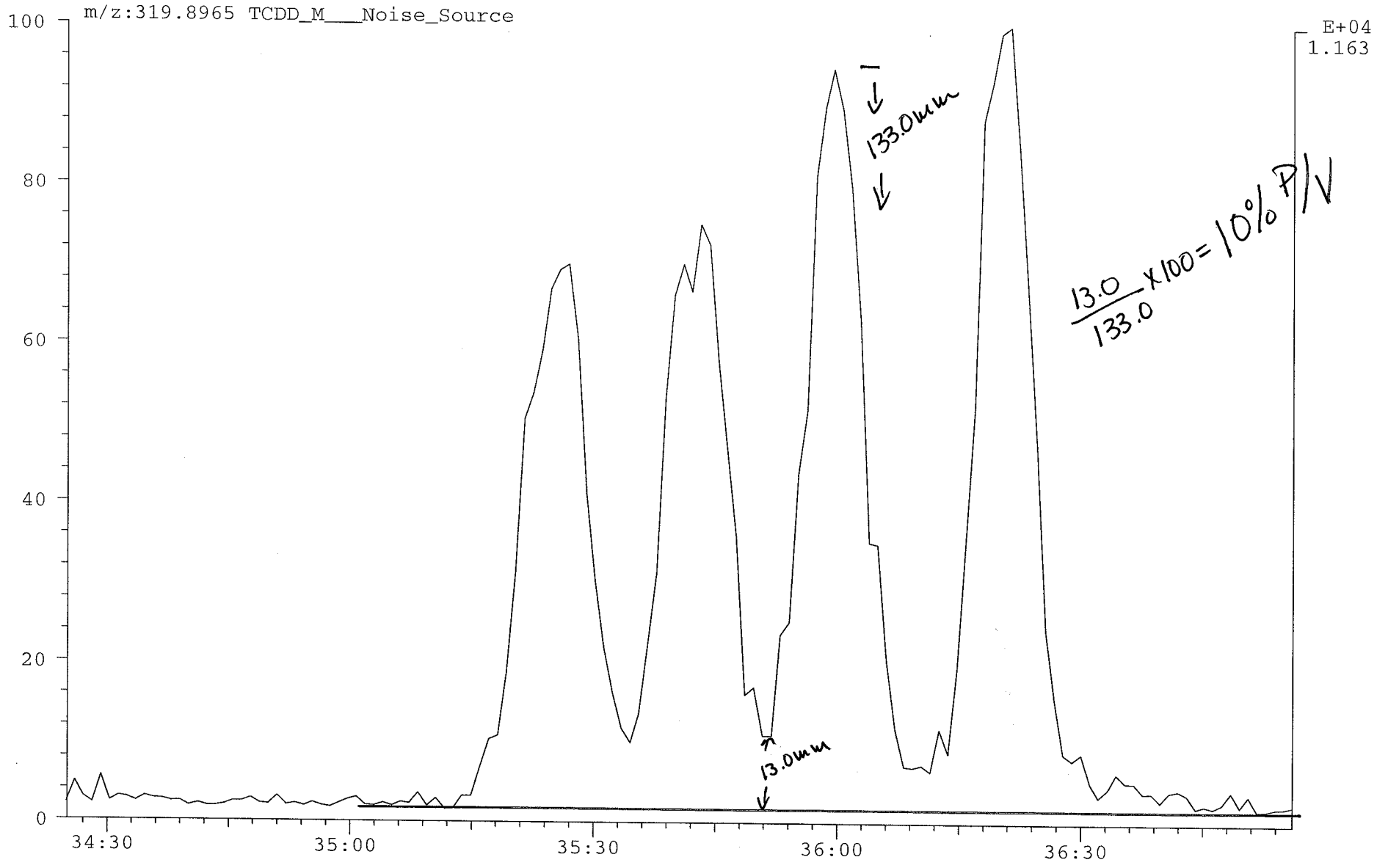


CHRO: b041108w1 08-Nov-04
Samp: Vial 1 WO=2960:58 Meth=F8 Dil=1
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode: EI +VE +LMR ESCAN LR NRM
Oper: MSD Client: STL Knoxville
Peak: 100.00 ppm Label wndw: 1458 > 1597
Area: 5, 0.50, 15 Baseline : 100, 3
Disp: Height Area

Elapse: 35:39 1527
Start : 09:14:22 2866
Study : 8290/1613 Win
Inlet : GC Vial 1
Masses: 293 > 514
Label : 2, 3.0



CHRO: b041108w1 08-Nov-04 Elapse: 35:39 1527
Samp: Vial 1 WO=2960:58 Meth=F8 Dil=1 Start : 09:14:22 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 8290/1613 Win
Oper: MSD Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1458 > 1597 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



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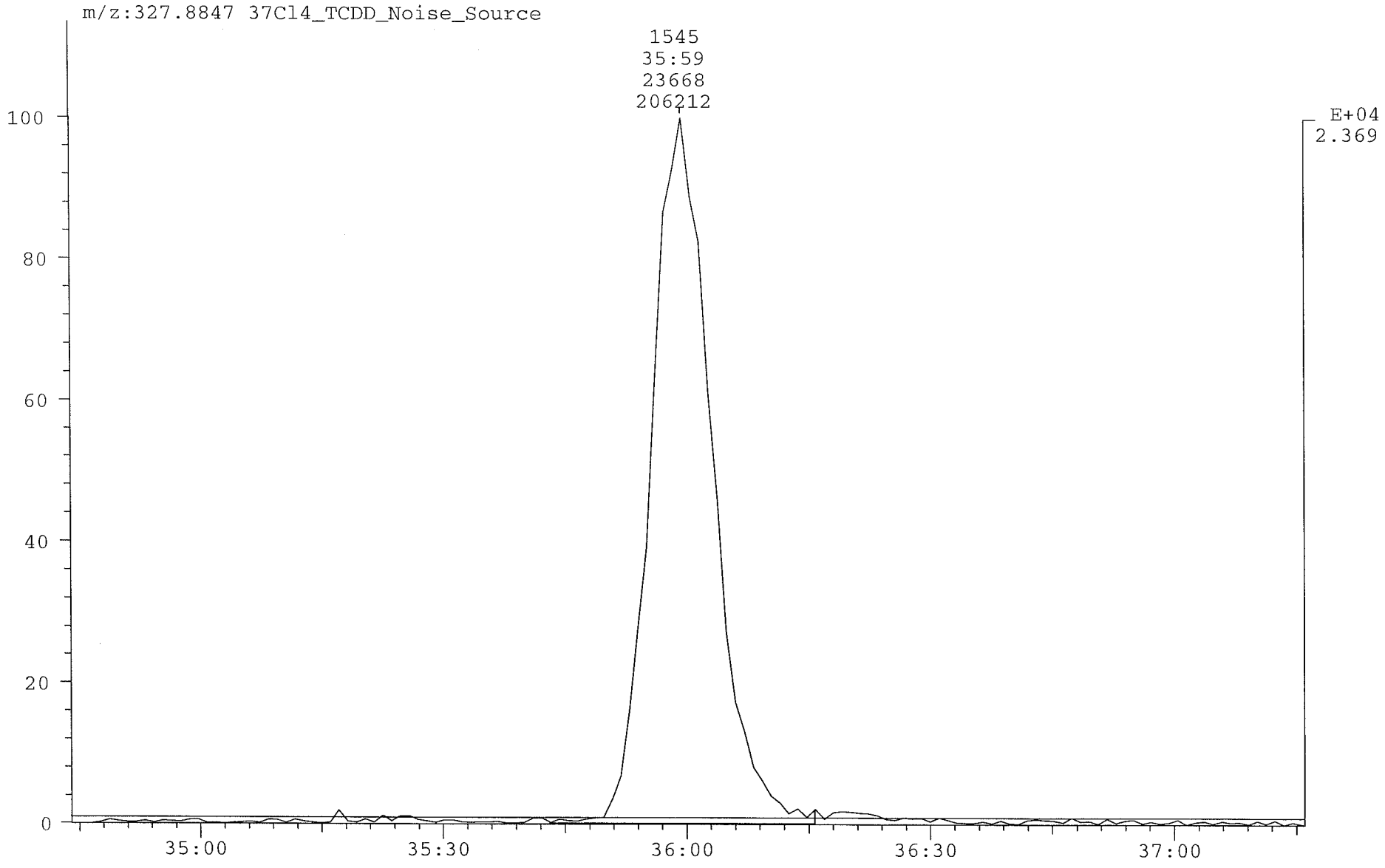
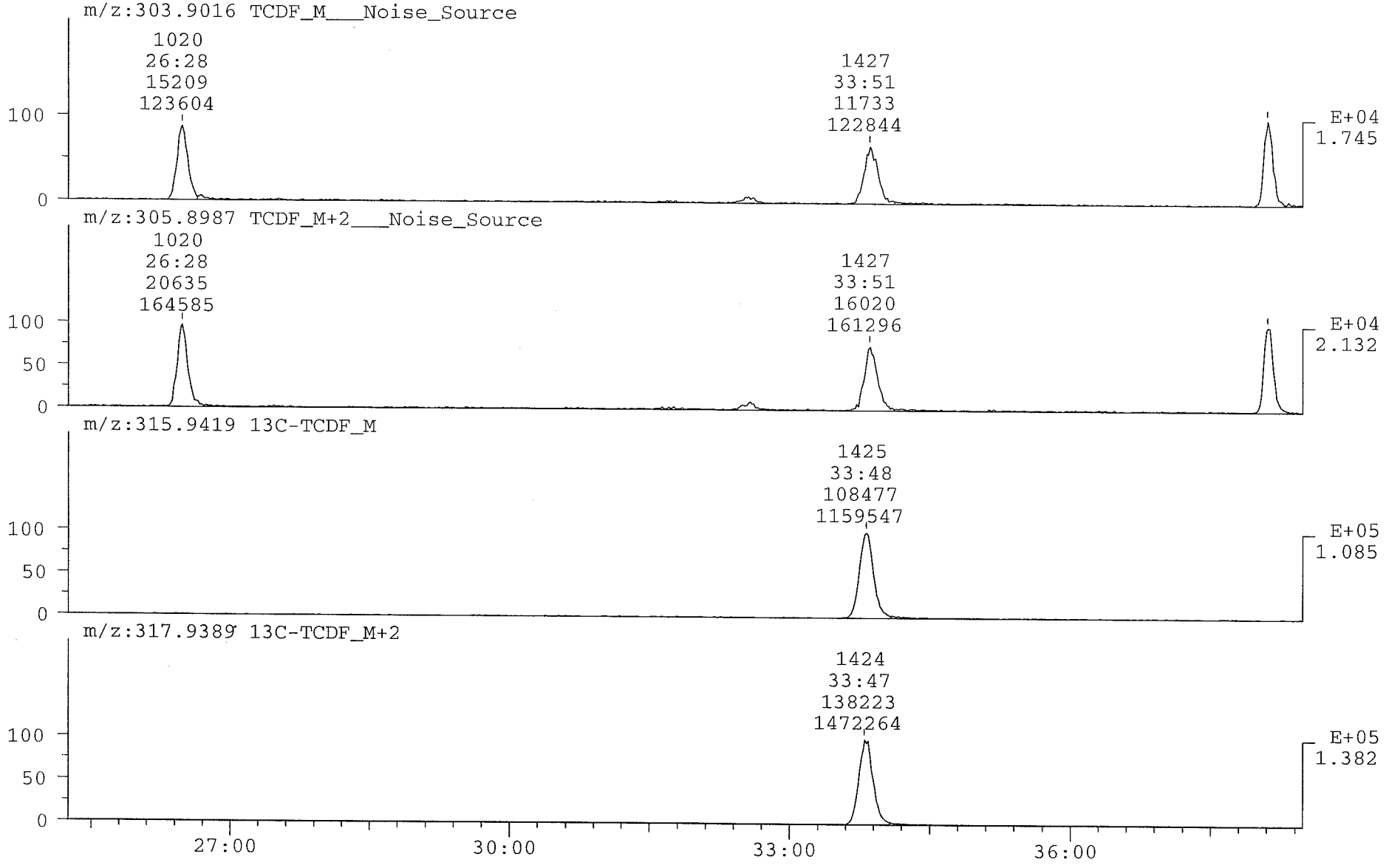
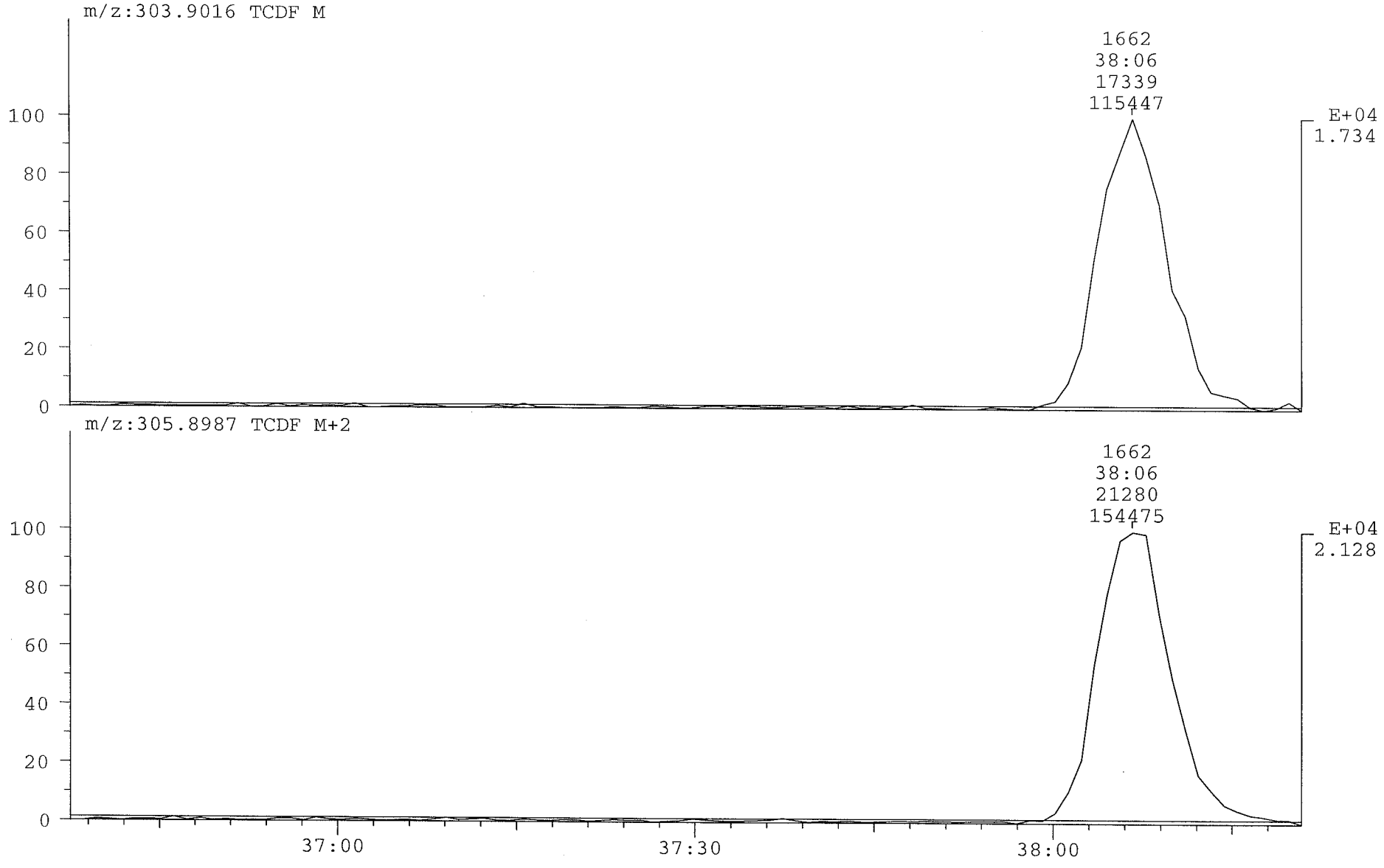
CHRO:  b041108w1                                08-Nov-04   Elapse:  35:57      1543
Samp:  Vial 1 WO=2960:58 Meth=F8 Dil=1                      Start :  09:14:22   2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  8290/1613 Win
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   1476 > 1615           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



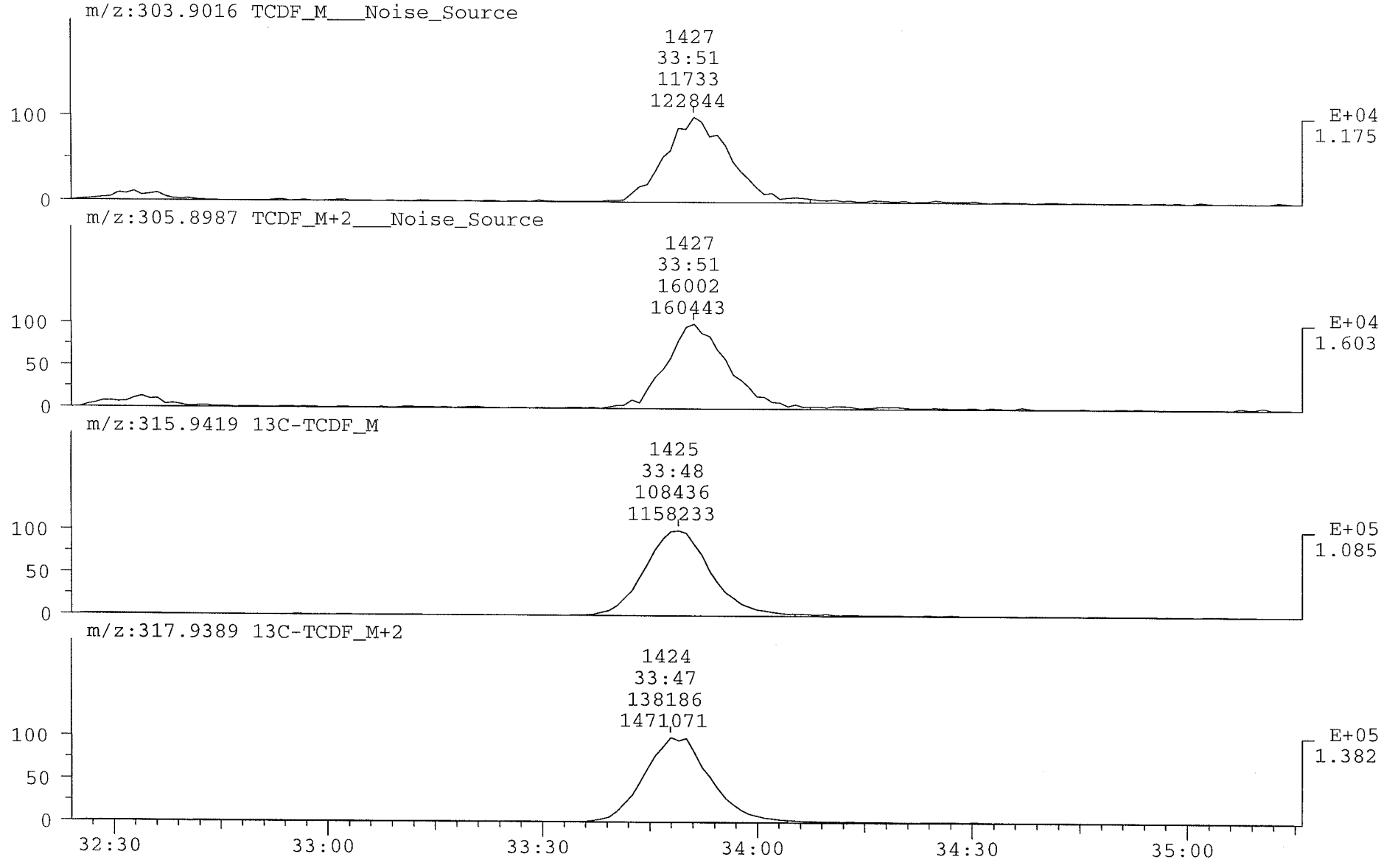
CHRO: b041108w1 08-Nov-04 Elapse: 35:57 1543
Samp: Vial 1 WO=2960:58 Meth=F8 Dil=1 Start : 09:14:22 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 8290/1613 Win
Oper: MSD Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 952 > 1683 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



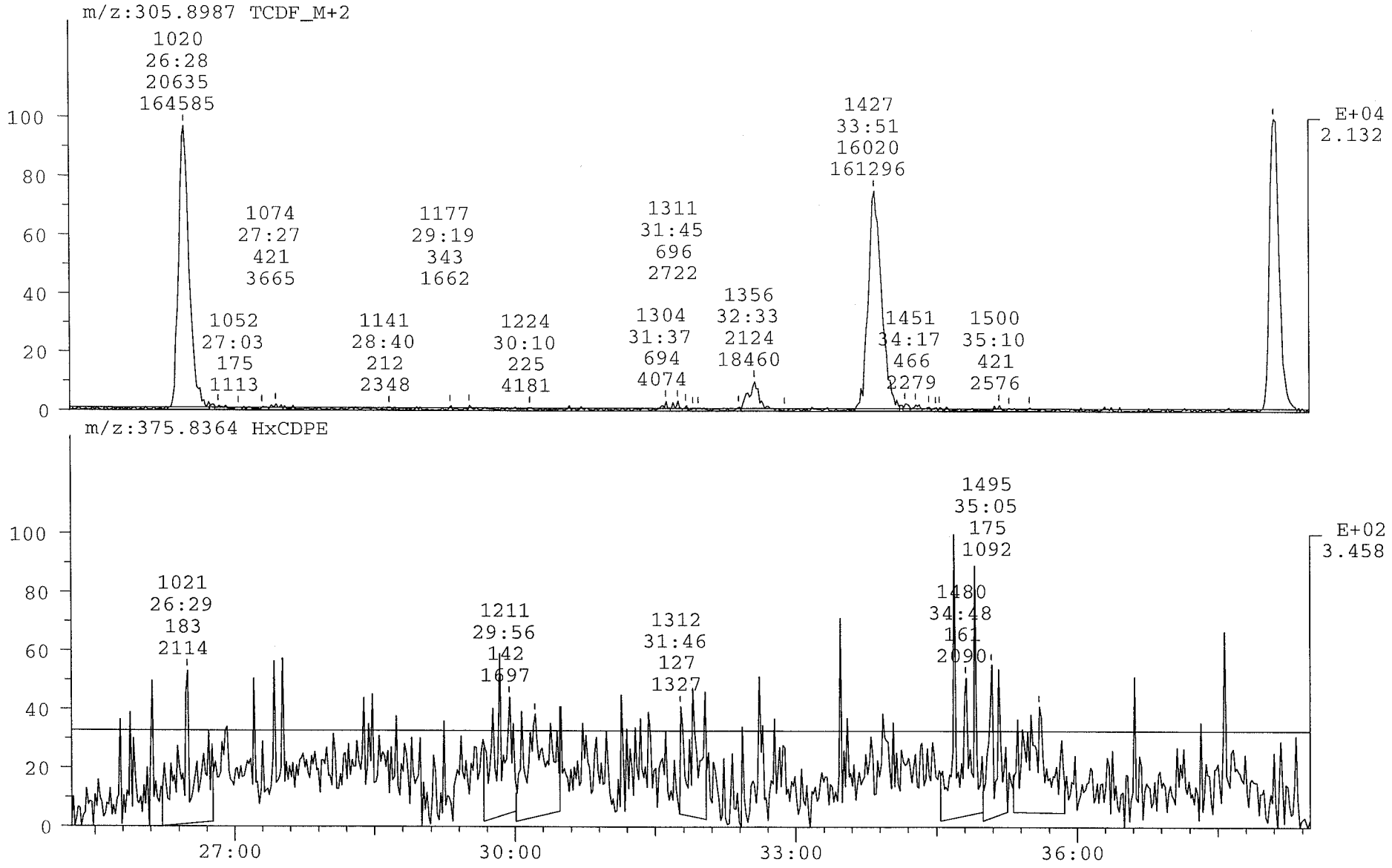
```
CHRO:  b041108w1                                08-Nov-04   Elapse:  57:08      2728
Samp:  Vial 1 WO=2960:58 Meth=F8 Dil=1                      Start :  09:14:22   2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  8290/1613 Win
Oper:  MSD          Client:  STL Knoxville                  Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1580 > 1675            Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



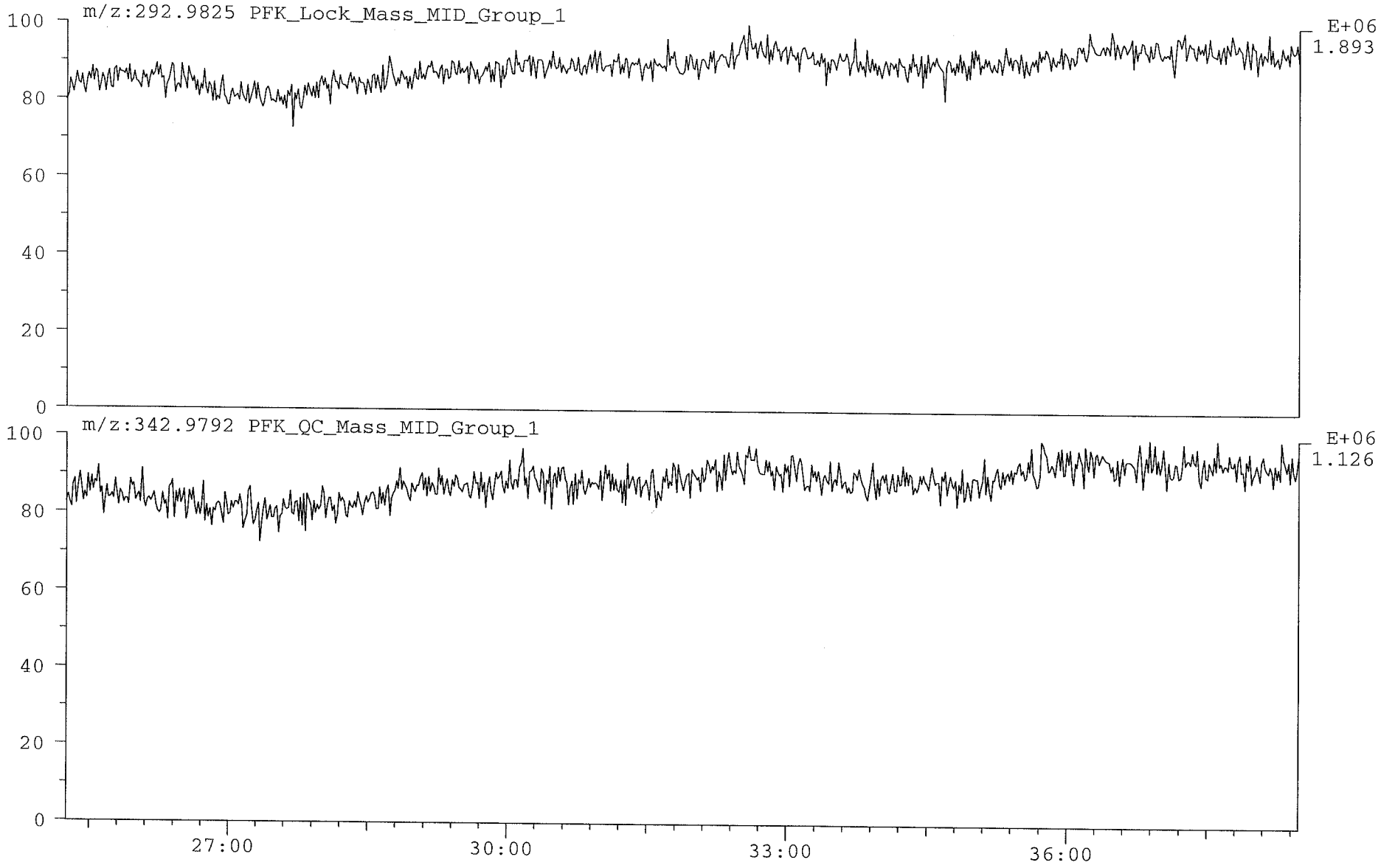
CHRO: b041108w1 08-Nov-04 Elapse: 33:46 1423
Samp: Vial 1 WO=2960:58 Meth=F8 Dil=1 Start : 09:14:22 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 8290/1613 Win
Oper: MSD Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1347 > 1505 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



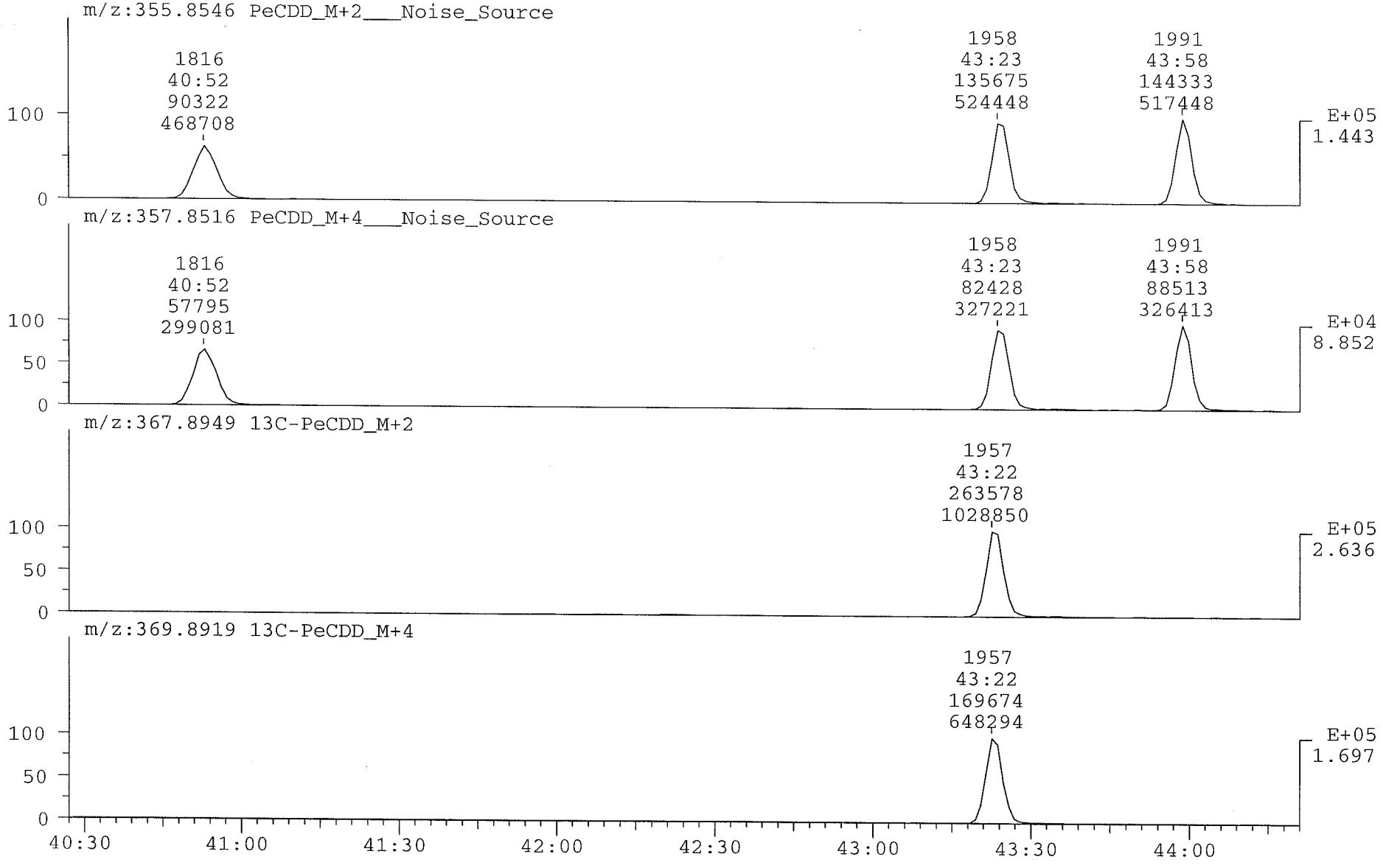
CHRO: b041108w1 08-Nov-04 Elapse: 33:46 1423
Samp: Vial 1 WO=2960:58 Meth=F8 Dil=1 Start : 09:14:22 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 8290/1613 Win
Oper: MSD Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 952 > 1683 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: b041108w1 08-Nov-04 Elapse: 33:46 1423
Samp: Vial 1 WO=2960:58 Meth=F8 Dil=1 Start : 09:14:22 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 8290/1613 Win
Oper: MSD Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 952 > 1683 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



```
CHRO:  b041108w1                                08-Nov-04   Elapse:  33:46      1423
Samp:  Vial 1 WO=2960:58 Meth=F8 Dil=1                      Start :  09:14:22   2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  8290/1613 Win
Oper:  MSD          Client:  STL Knoxville                  Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1792 > 2012            Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                 Label :  2, 3.0
Disp:  Height  Area
```



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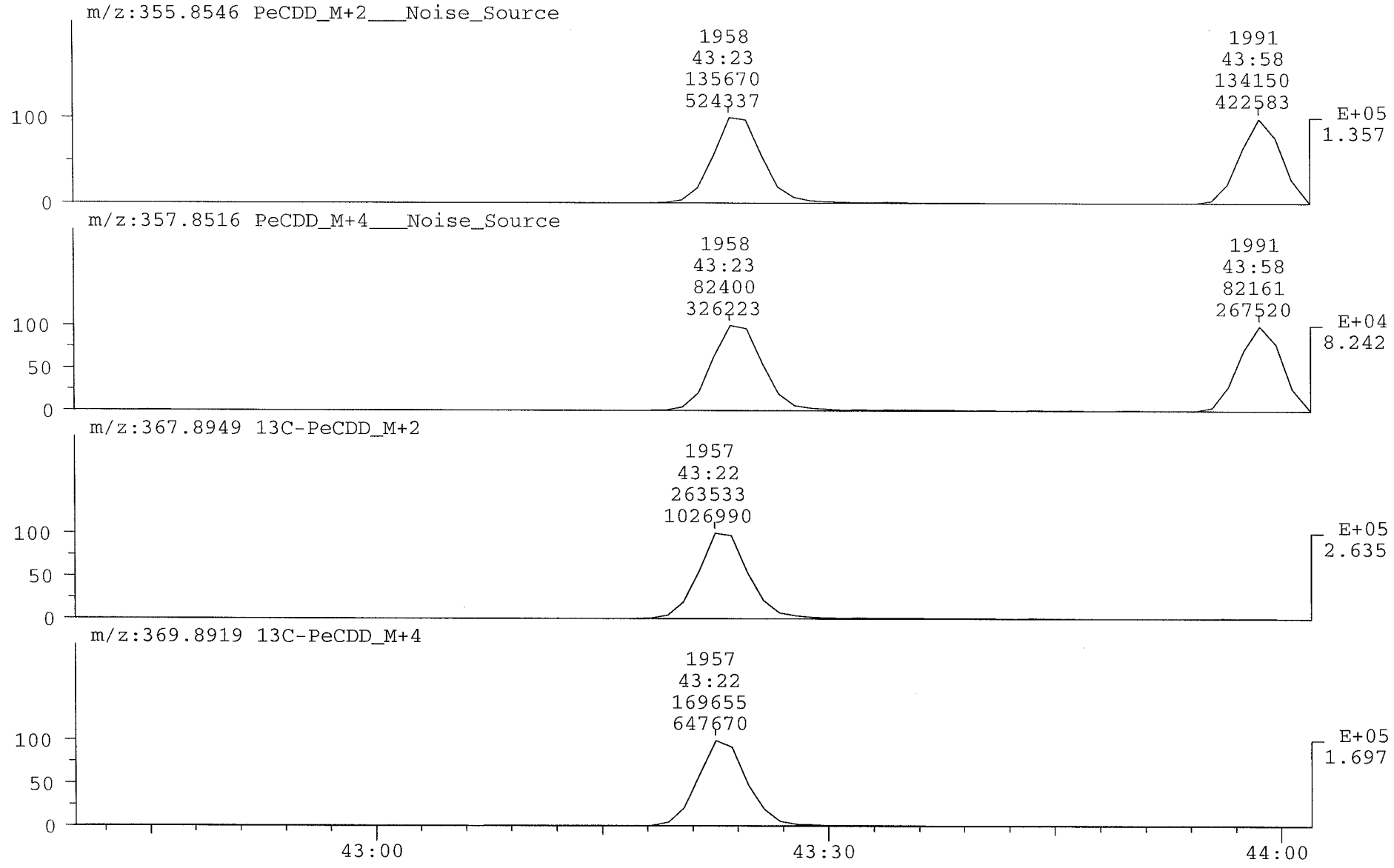
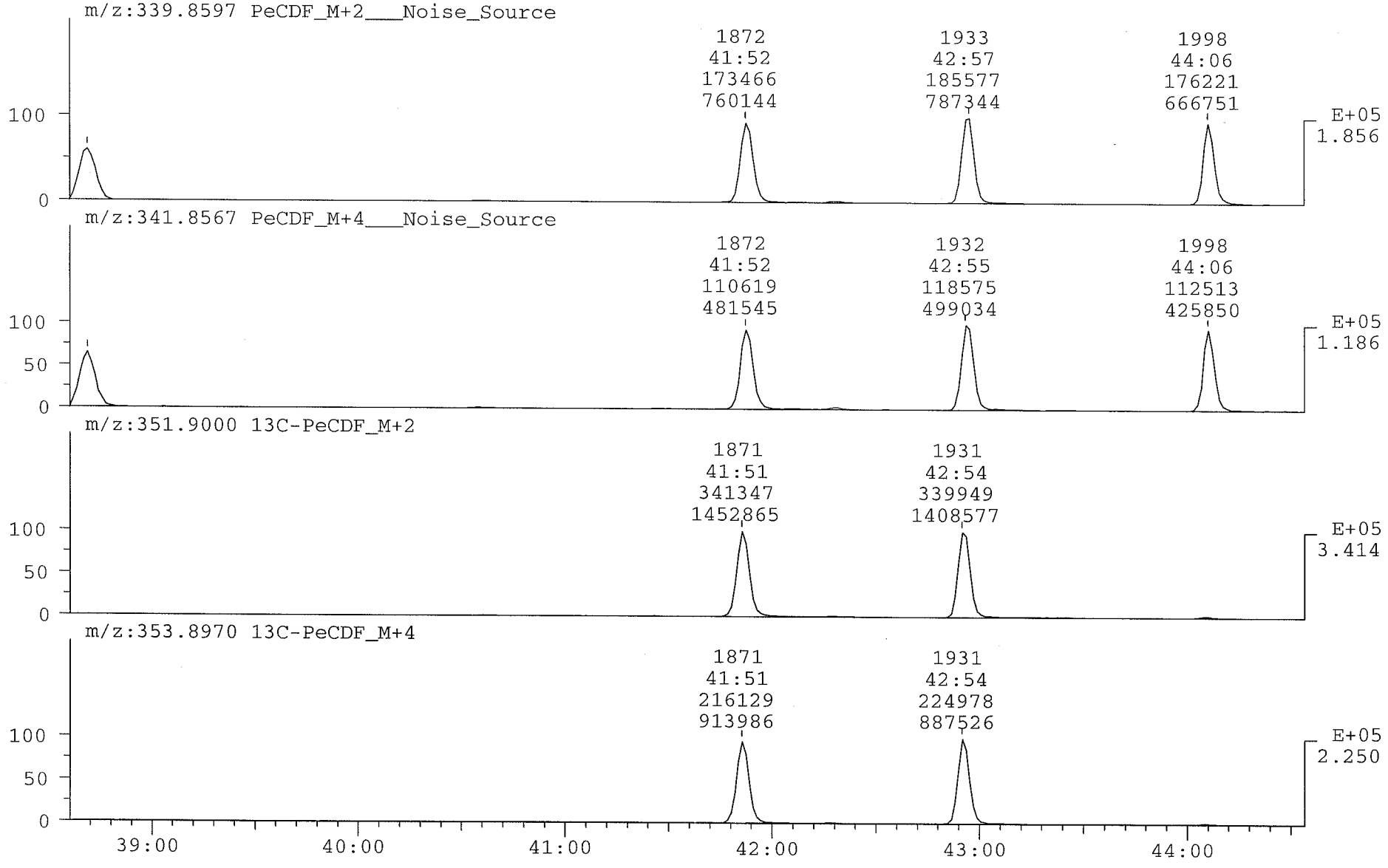
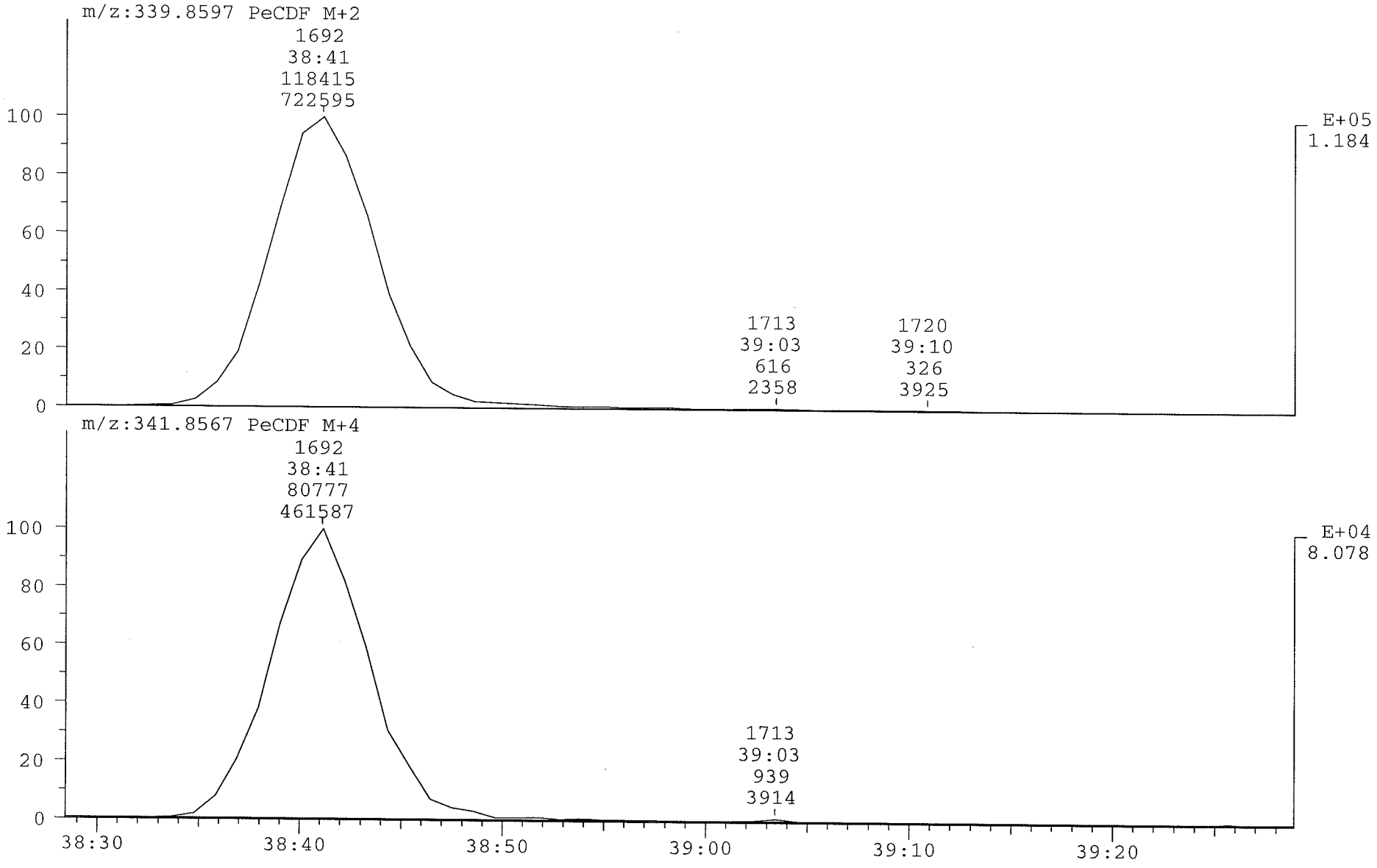
CHRO:  b041108w1                              08-Nov-04   Elapse:  43:18      1953
Samp:  Vial 1 WO=2960:58 Meth=F8 Dil=1                    Start :  09:14:22   2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  8290/1613 Win
Oper:  MSD            Client:  STL Knoxville              Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   1917 > 1994         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  2, 3.0
Disp:  Height  Area
```



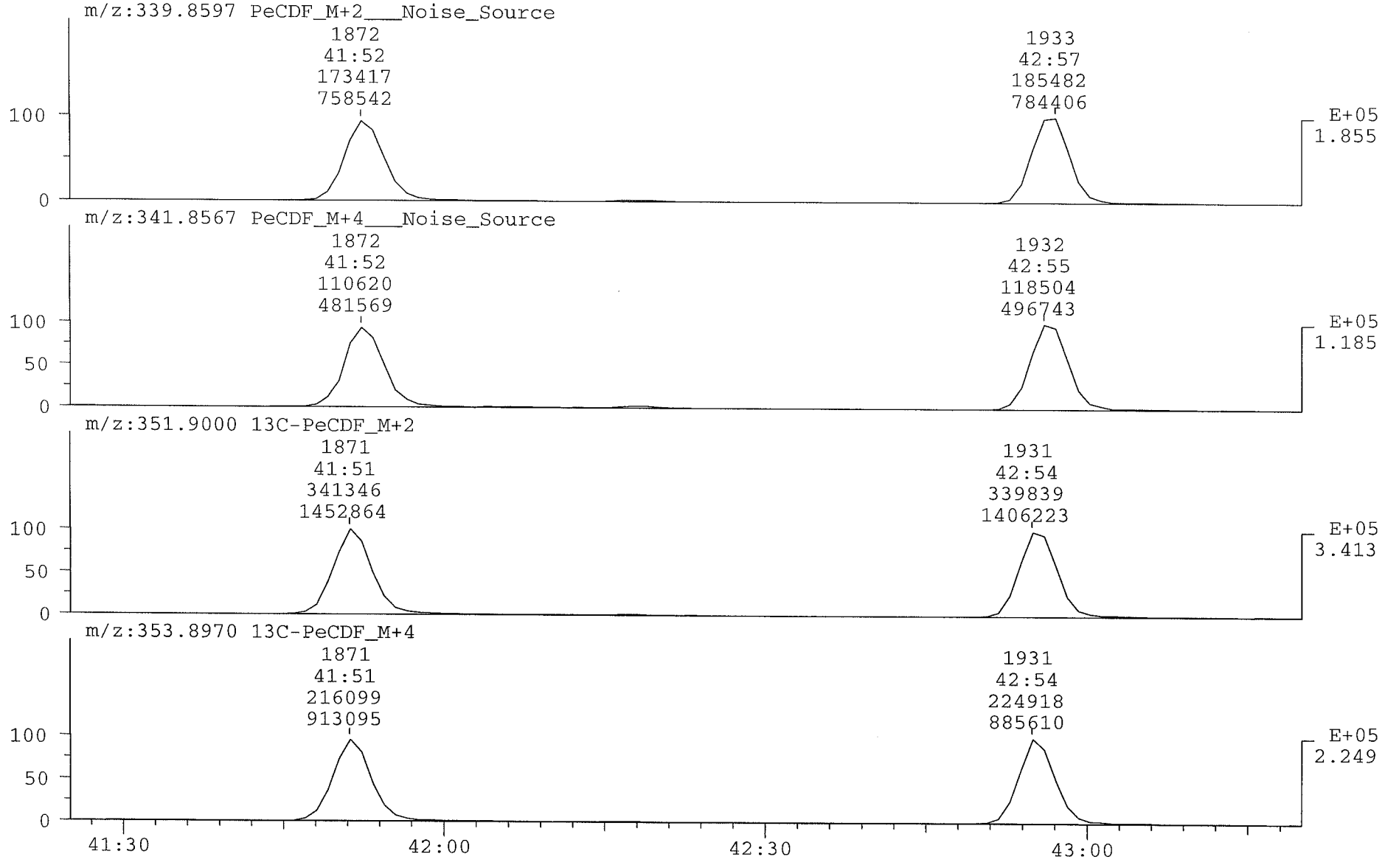
```
CHRO:  b041108w1                                08-Nov-04   Elapse:  43:18      1953
Samp:  Vial 1 WO=2960:58 Meth=F8 Dil=1                      Start :  09:14:22   2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  8290/1613 Win
Oper:  MSD          Client:  STL Knoxville                  Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1687 > 2024            Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                 Label :  2, 3.0
Disp:  Height  Area
```



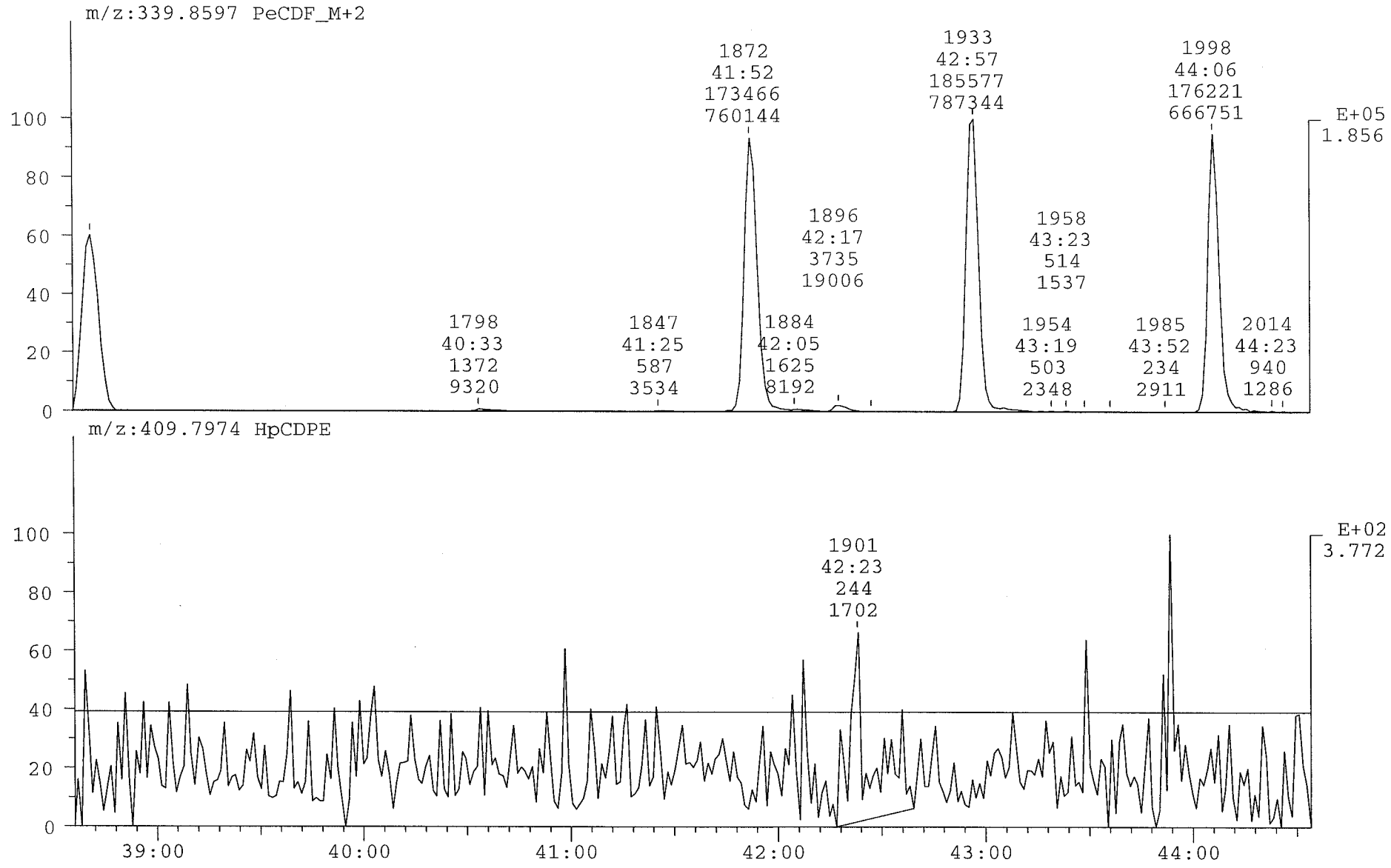
CHRO: b041108w1 08-Nov-04 Elapse: 57:08 2728
Samp: Vial 1 WO=2960:58 Meth=F8 Dil=1 Start : 09:14:22 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 8290/1613 Win
Oper: MSD Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1682 > 1737 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



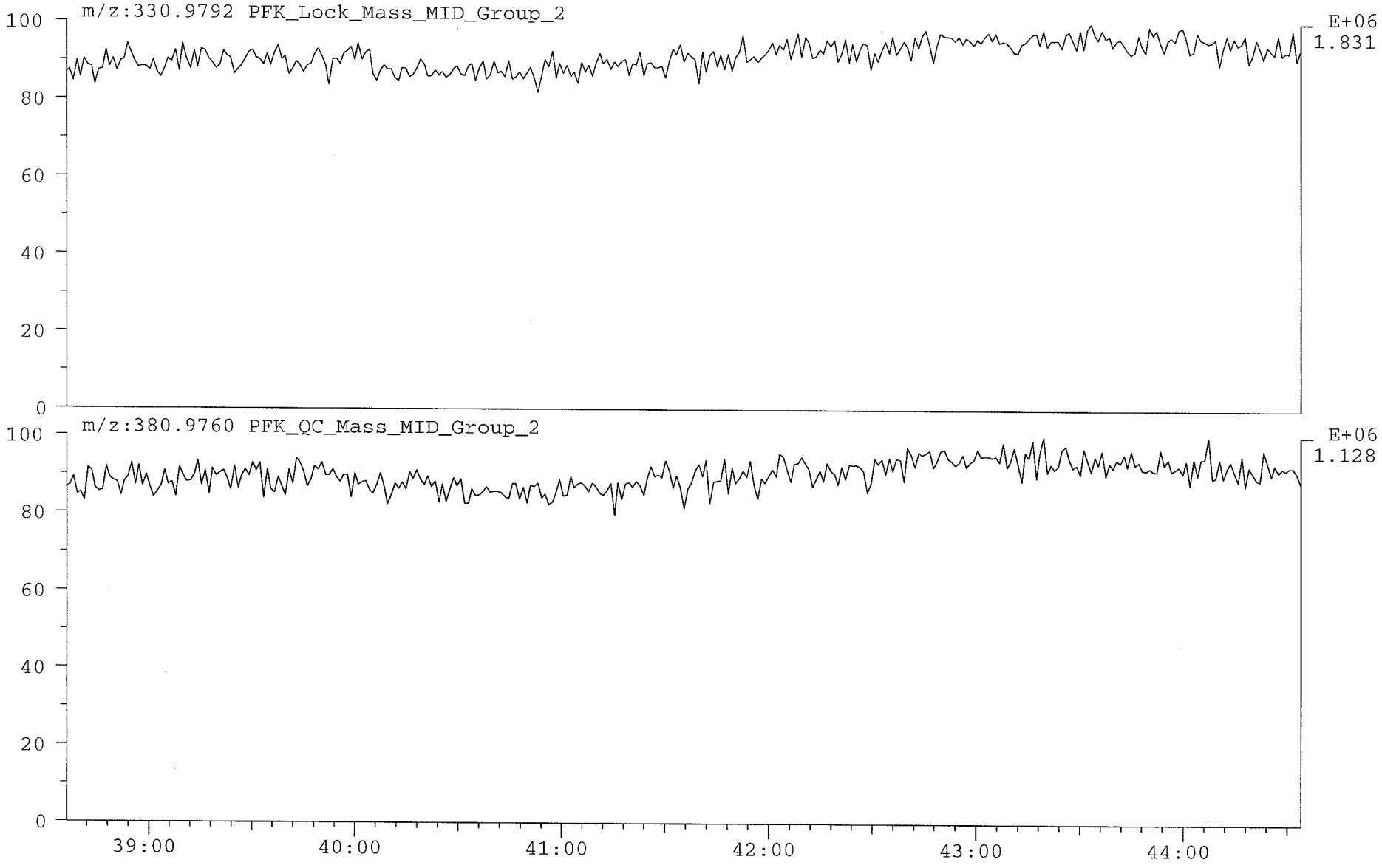
```
CHRO:  b041108w1                                08-Nov-04   Elapse:  42:22      1900
Samp:  Vial 1 WO=2960:58 Meth=F8 Dil=1                      Start :  09:14:22   2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  8290/1613 Win
Oper:  MSD          Client:  STL Knoxville                  Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1846 > 1955            Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                 Label :  2, 3.0
Disp:  Height  Area
```



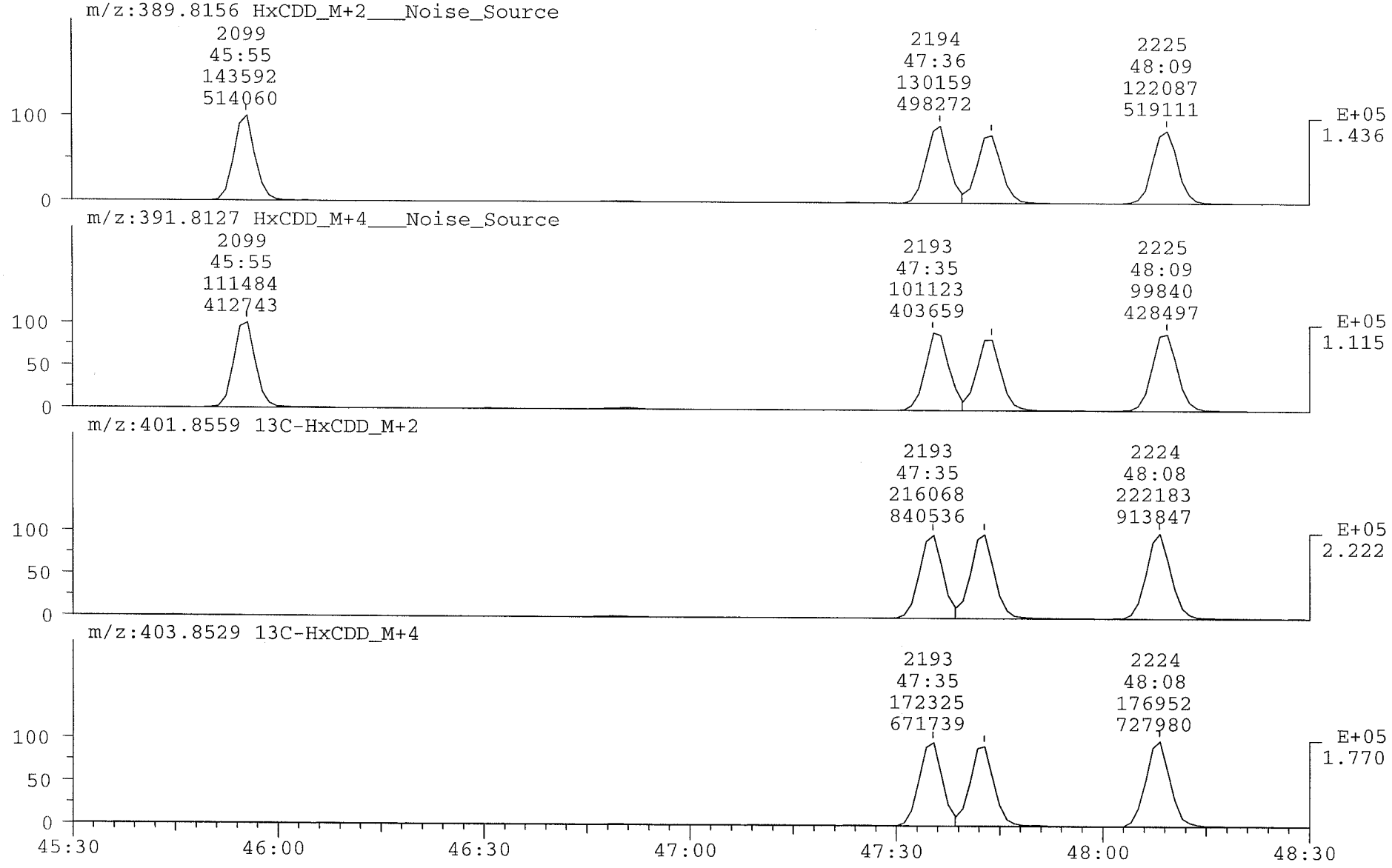
```
CHRO:  b041108w1                                08-Nov-04   Elapse:  42:22      1900
Samp:  Vial 1 WO=2960:58 Meth=F8 Dil=1                      Start :  09:14:22   2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  8290/1613 Win
Oper:  MSD          Client:  STL Knoxville                  Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1687 > 2024            Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



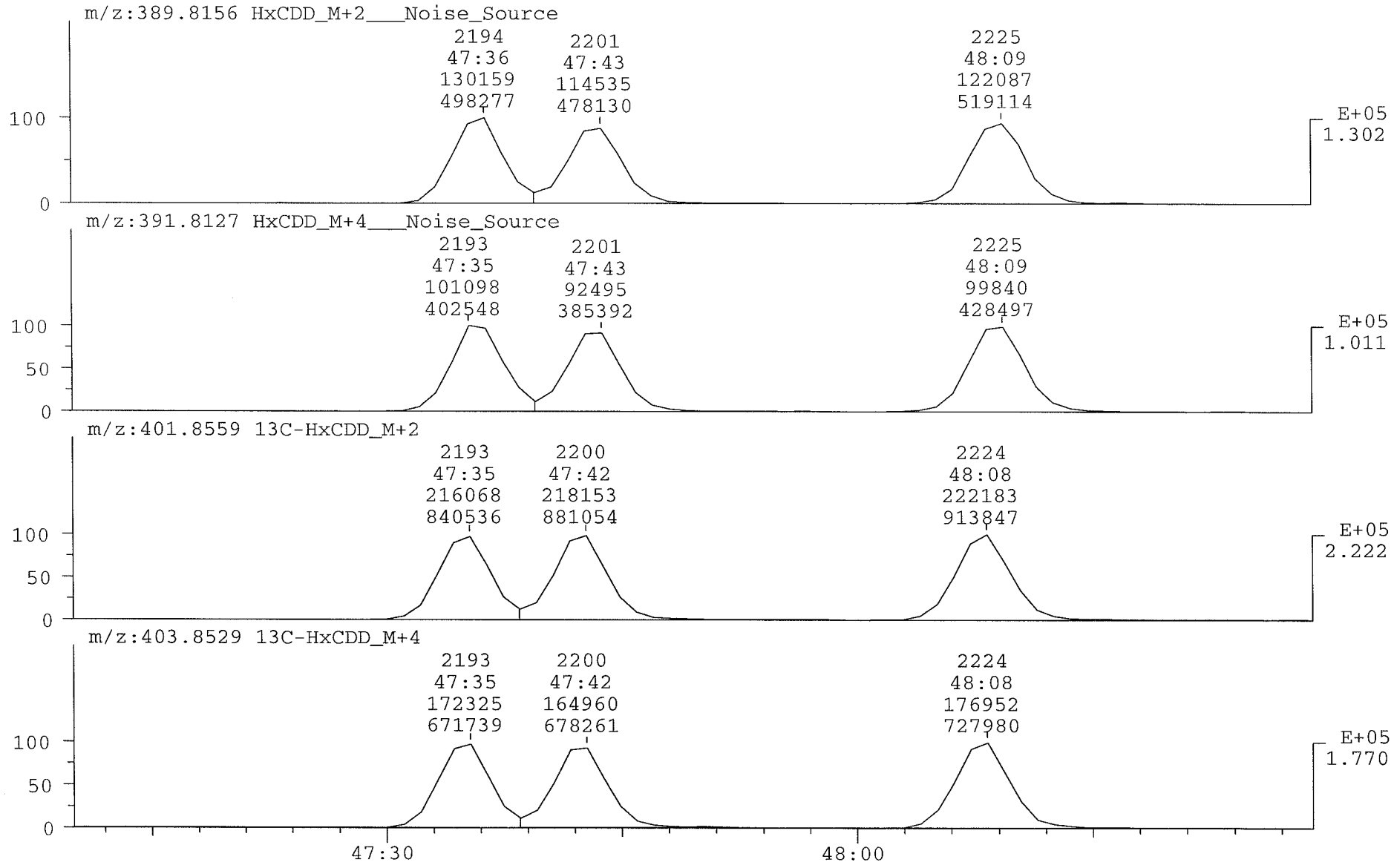
```
CHRO:  b041108w1                                08-Nov-04   Elapse:  42:22      1900
Samp:  Vial 1 WO=2960:58 Meth=F8 Dil=1                      Start :  09:14:22   2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  8290/1613 Win
Oper:  MSD          Client:  STL Knoxville                  Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1687 > 2024            Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                 Label :  0, 0.0
Disp:  Height  Area
```



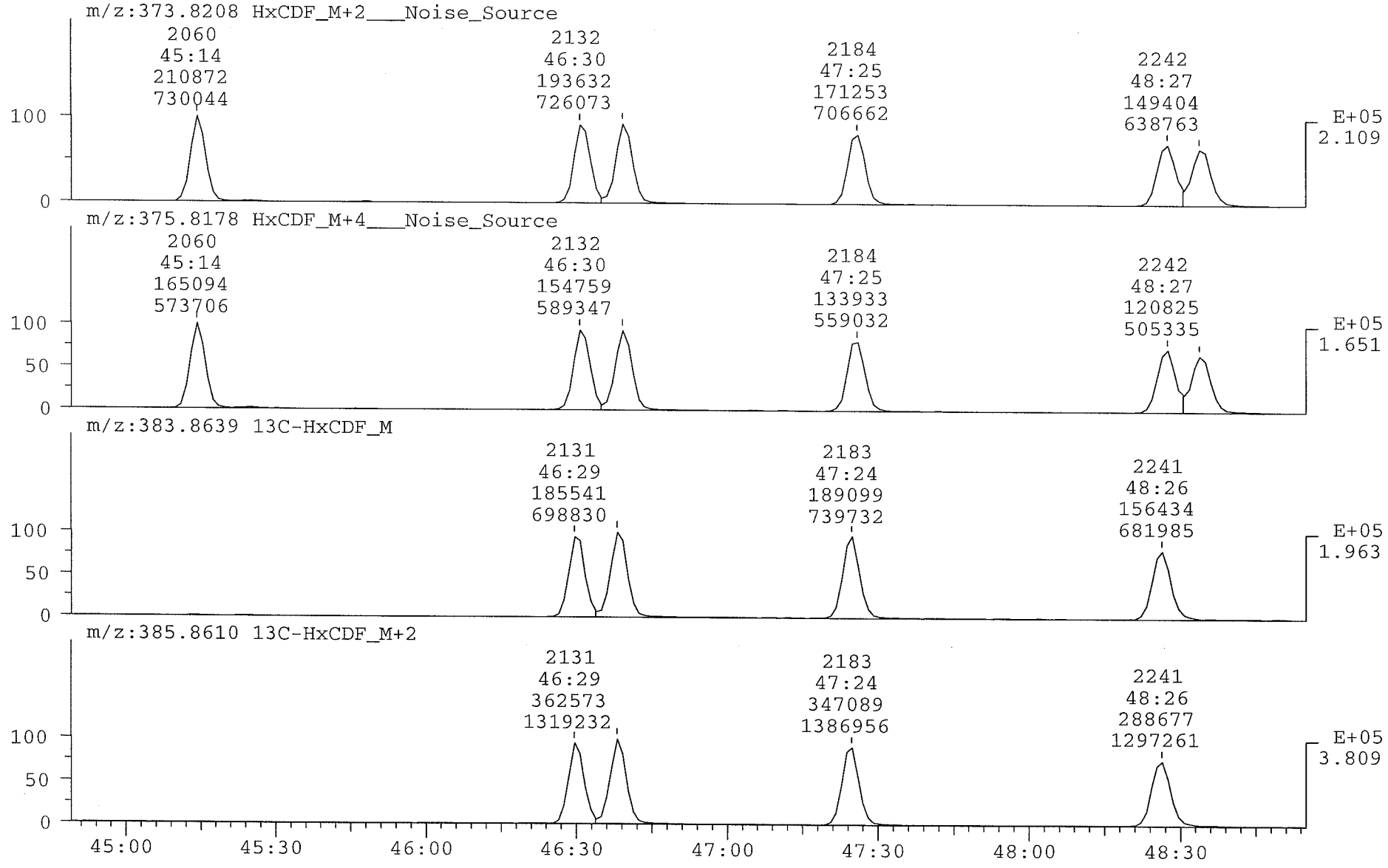
CHRO: b041108w1 08-Nov-04 Elapse: 42:22 1900
Samp: Vial 1 WO=2960:58 Meth=F8 Dil=1 Start : 09:14:22 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 8290/1613 Win
Oper: MSD Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2075 > 2244 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



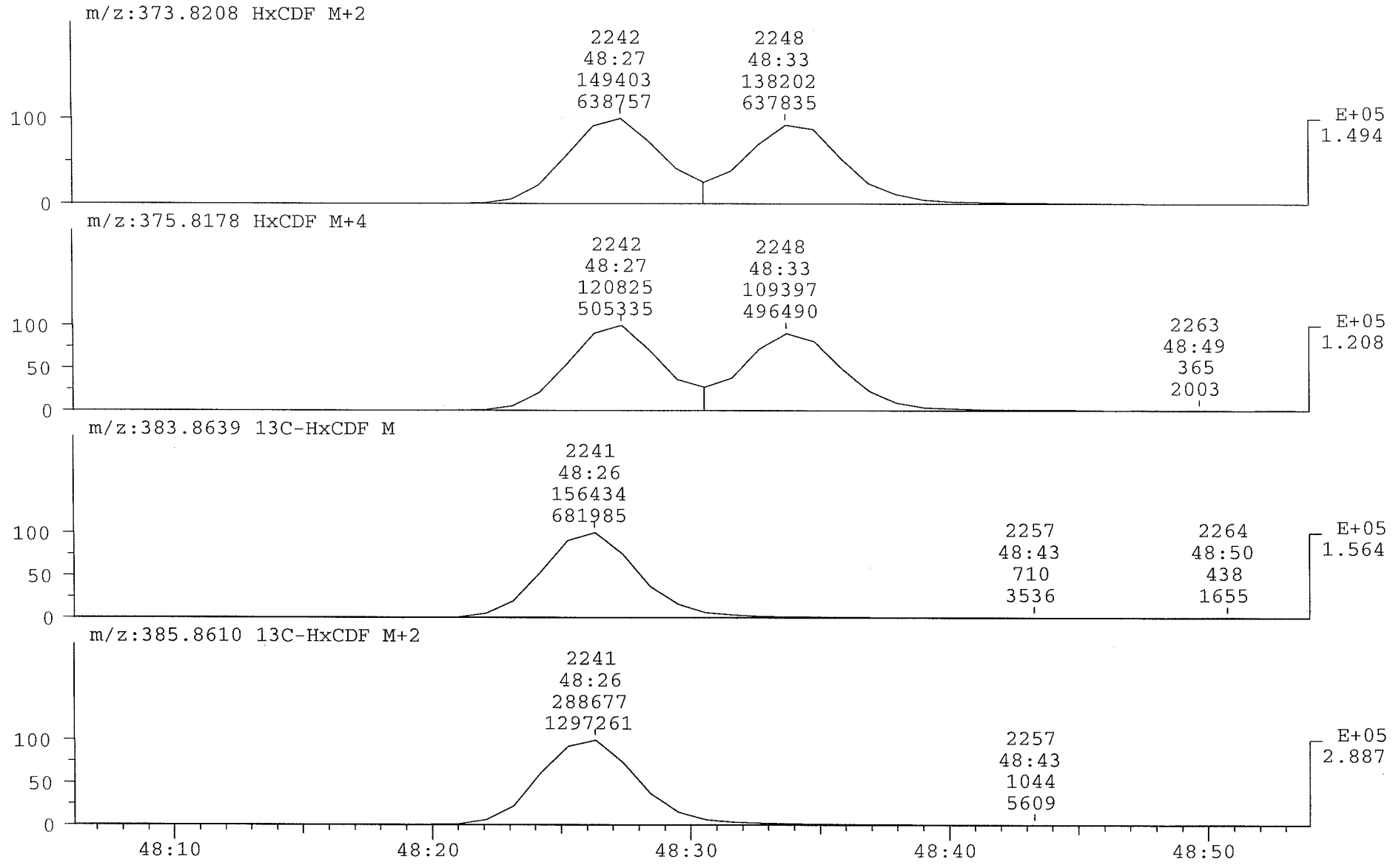
```
CHRO:  b041108w1                                08-Nov-04   Elapse:  47:49      2206
Samp:  Vial 1 WO=2960:58 Meth=F8 Dil=1                      Start :  09:14:22   2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  8290/1613 Win
Oper:  MSD          Client:  STL Knoxville                  Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2169 > 2244            Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                 Label :  2, 3.0
Disp:  Height  Area
```



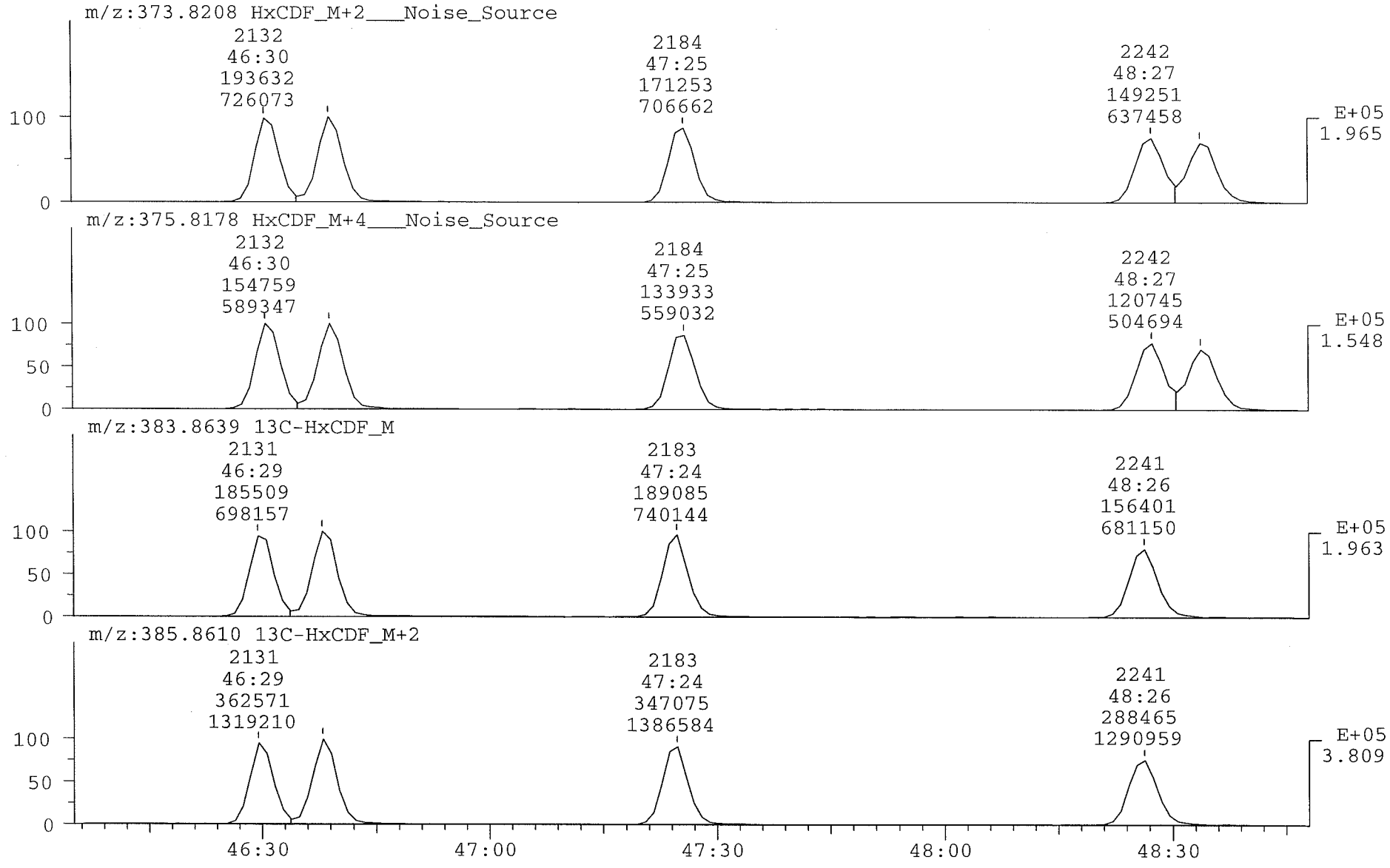
CHRO: b041108w1 08-Nov-04 Elapse: 47:49 2206
Samp: Vial 1 WO=2960:58 Meth=F8 Dil=1 Start : 09:14:22 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 8290/1613 Win
Oper: MSD Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2036 > 2268 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



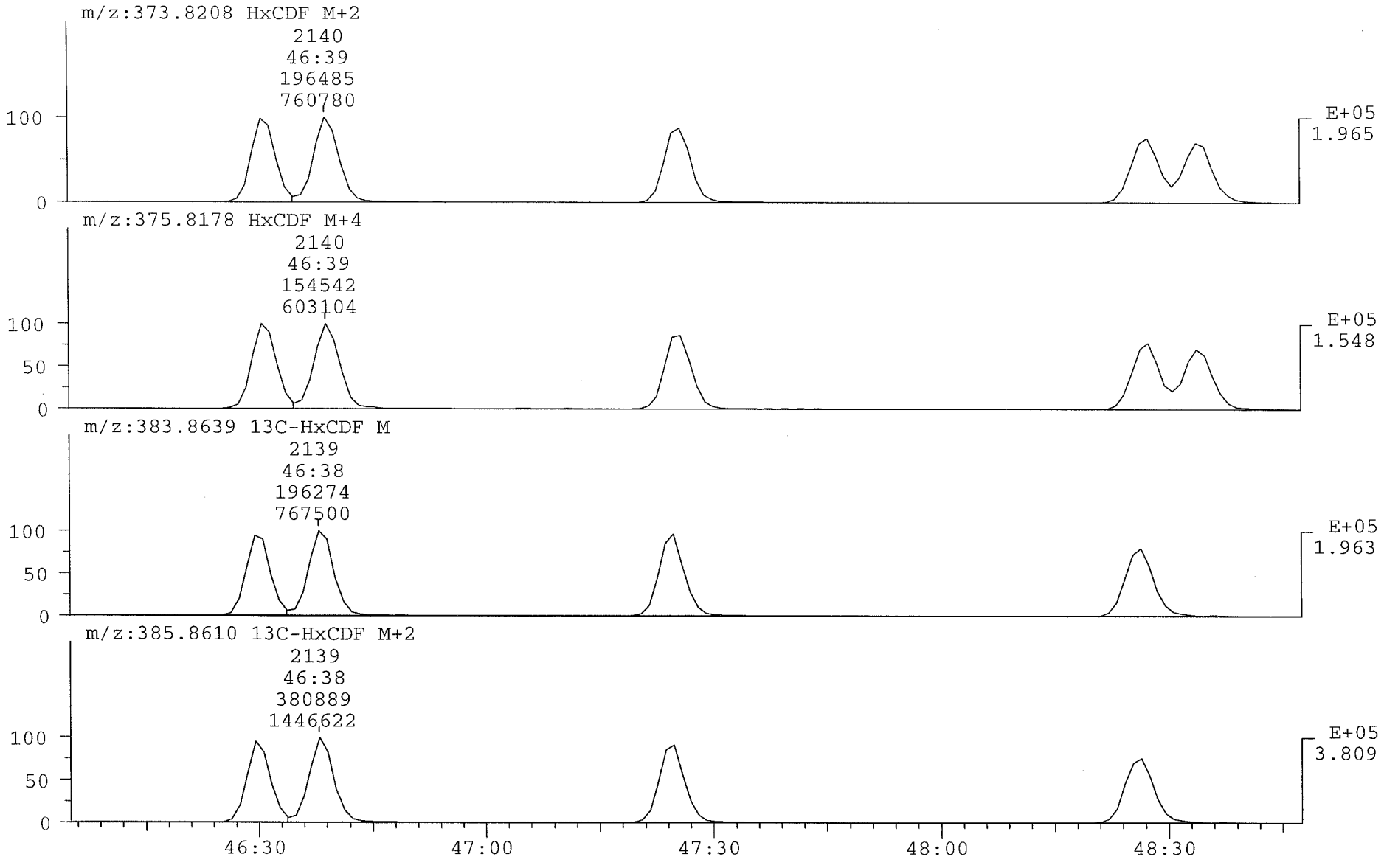
CHRO: b041108w1 08-Nov-04 Elapse: 57:08 2728
Samp: Vial 1 WO=2960:58 Meth=F8 Dil=1 Start : 09:14:22 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 8290/1613 Win
Oper: MSD Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2222 > 2267 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



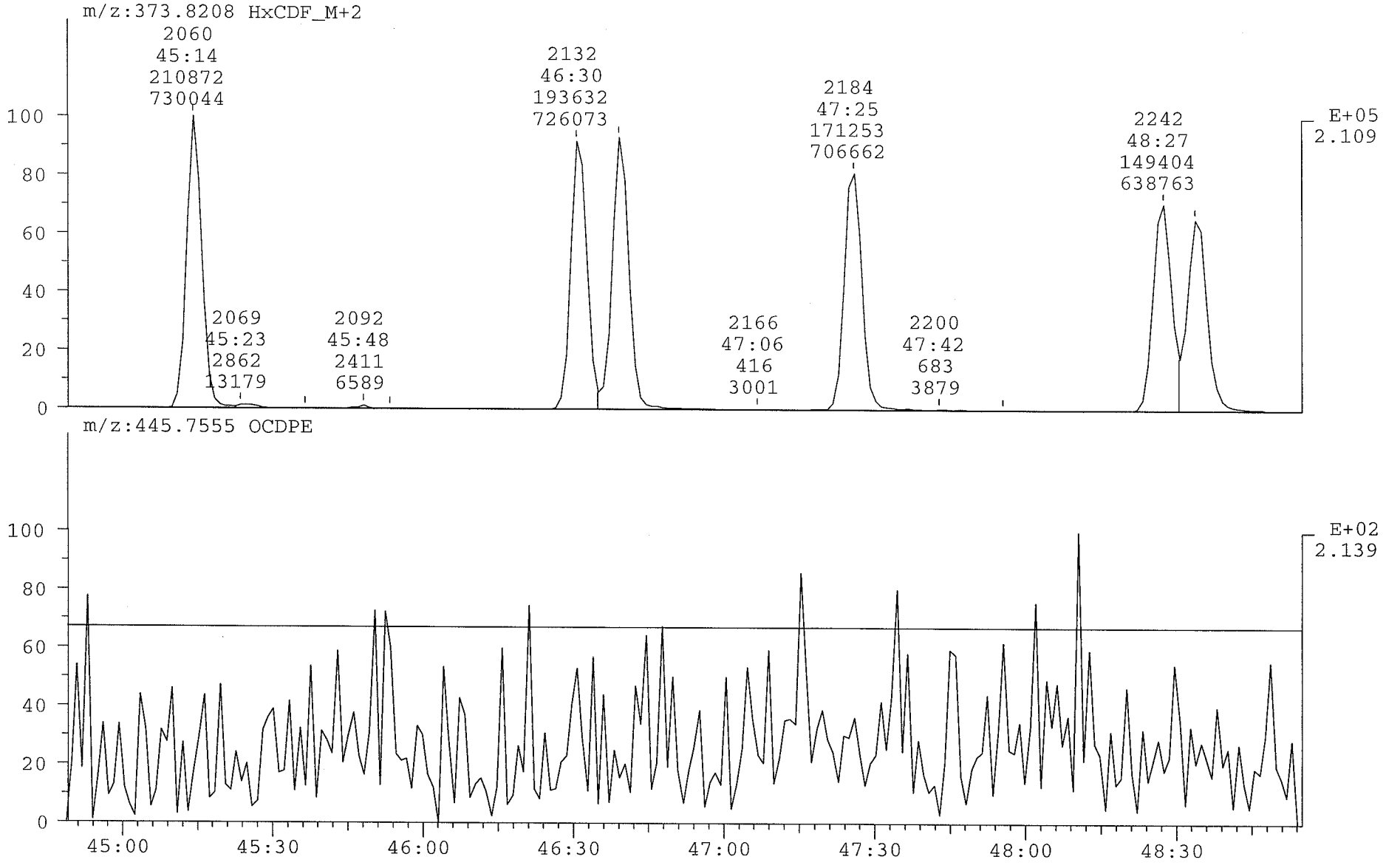
```
CHRO:  b041108w1                                08-Nov-04   Elapse:  47:25      2184
Samp:  Vial 1 WO=2960:58 Meth=F8 Dil=1                      Start :  09:14:22   2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  8290/1613 Win
Oper:  MSD          Client:  STL Knoxville                  Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2108 > 2261            Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                 Label :  2, 3.0
Disp:  Height  Area
```



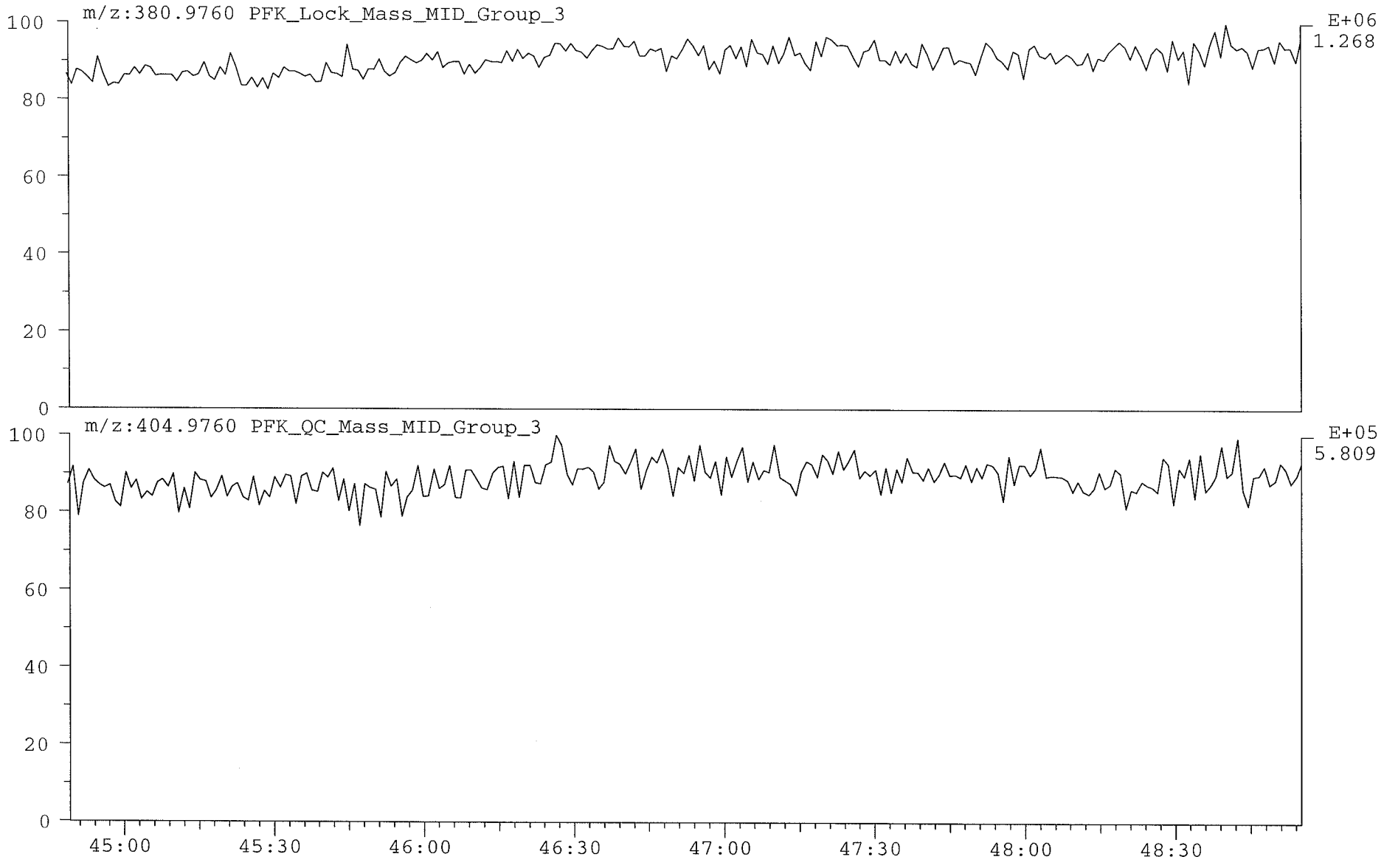
```
CHRO:  b041108w1                                08-Nov-04   Elapse:  46:39      2140
Samp:  Vial 1 WO=2960:58 Meth=F8 Dil=1                      Start :  09:14:22   2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  8290/1613 Win
Oper:  MSD          Client:  STL Knoxville                  Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2137 > 2143            Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



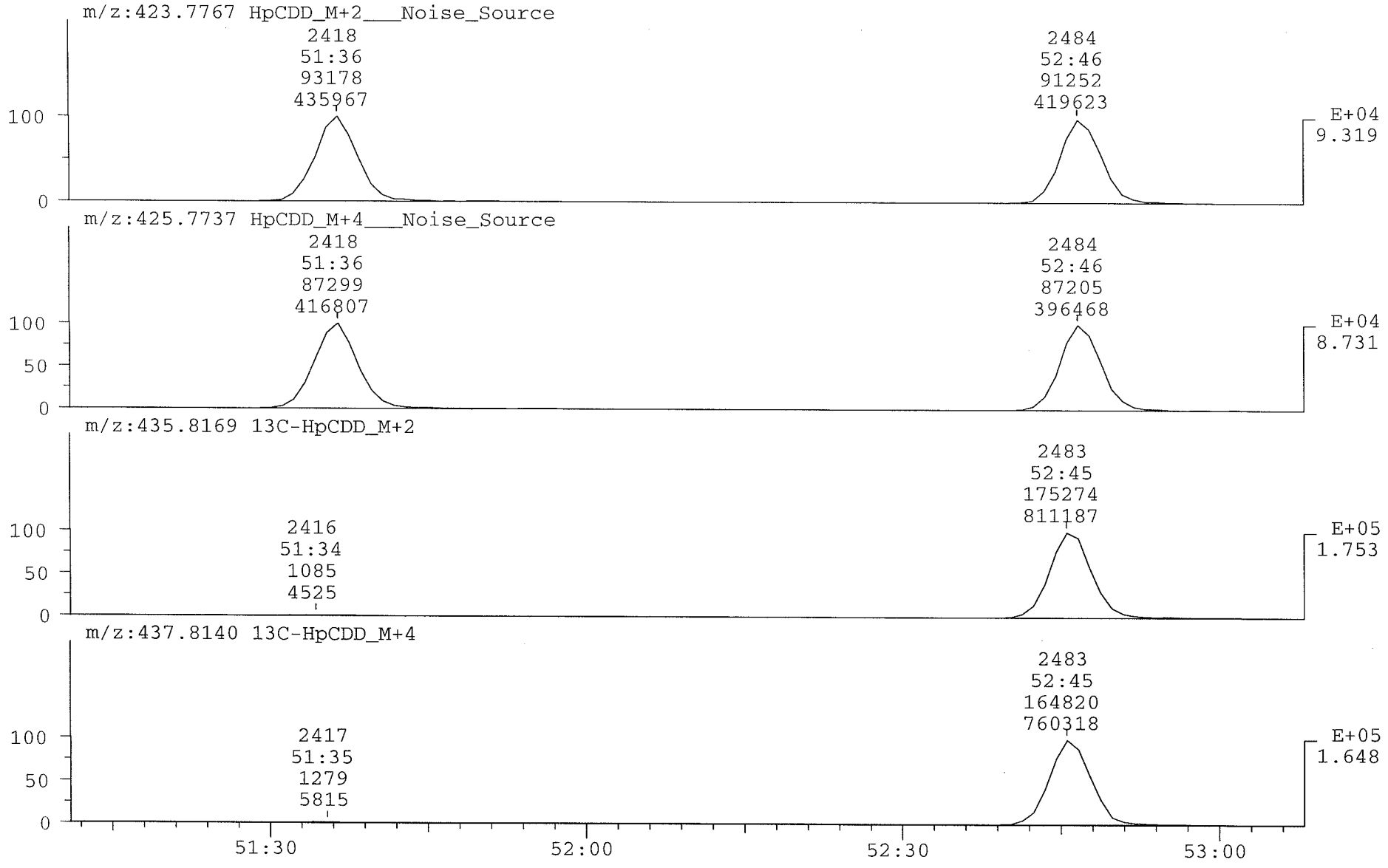
CHRO: b041108w1 08-Nov-04 Elapse: 46:33 2135
Samp: Vial 1 WO=2960:58 Meth=F8 Dil=1 Start : 09:14:22 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 8290/1613 Win
Oper: MSD Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2036 > 2268 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



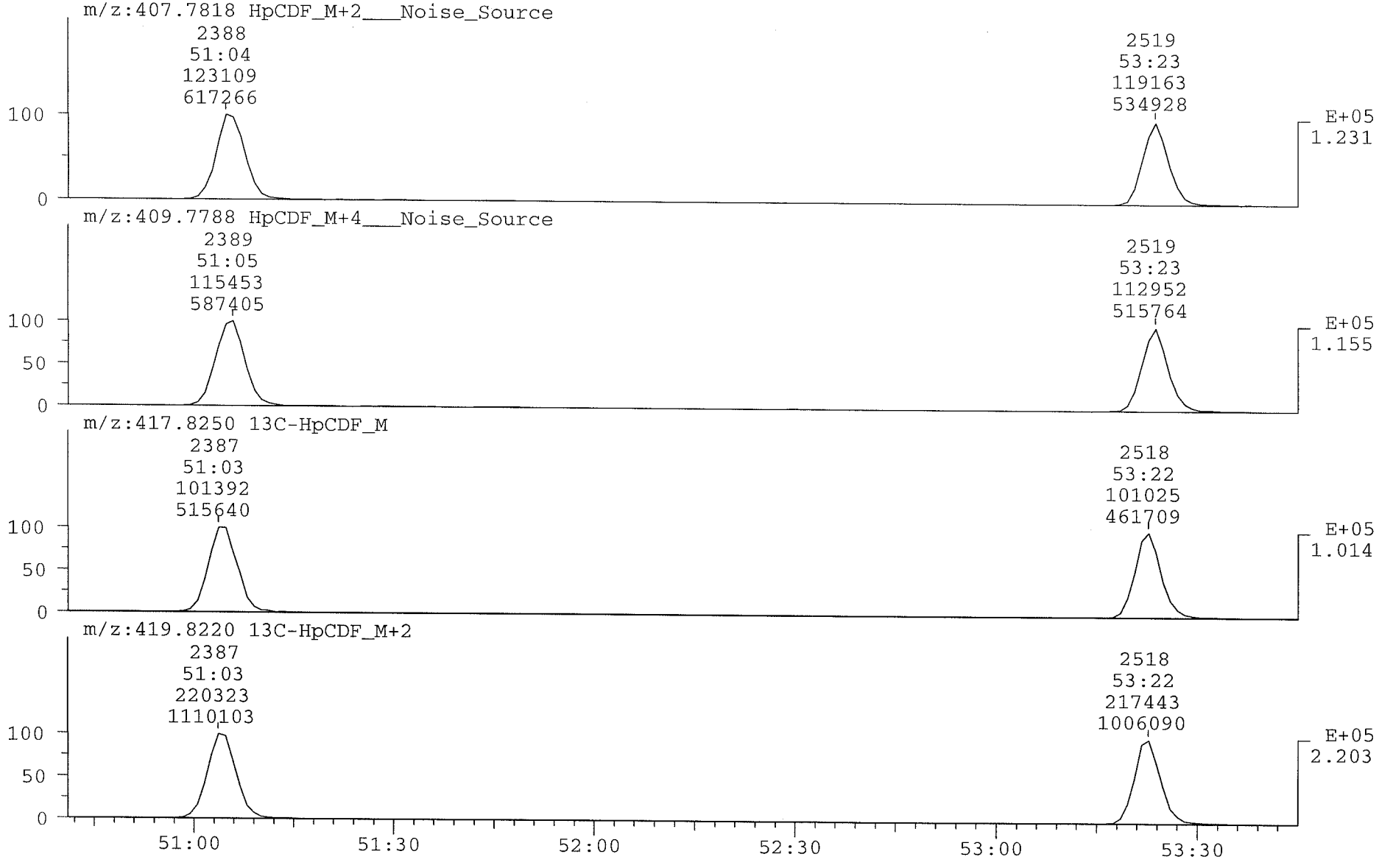
```
CHRO:  b041108w1                                08-Nov-04   Elapse:  46:33      2135
Samp:  Vial 1 WO=2960:58 Meth=F8 Dil=1                      Start :  09:14:22   2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  8290/1613 Win
Oper:  MSD          Client:  STL Knoxville                  Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2036 > 2268            Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                 Label :  0, 0.0
Disp:  Height  Area
```



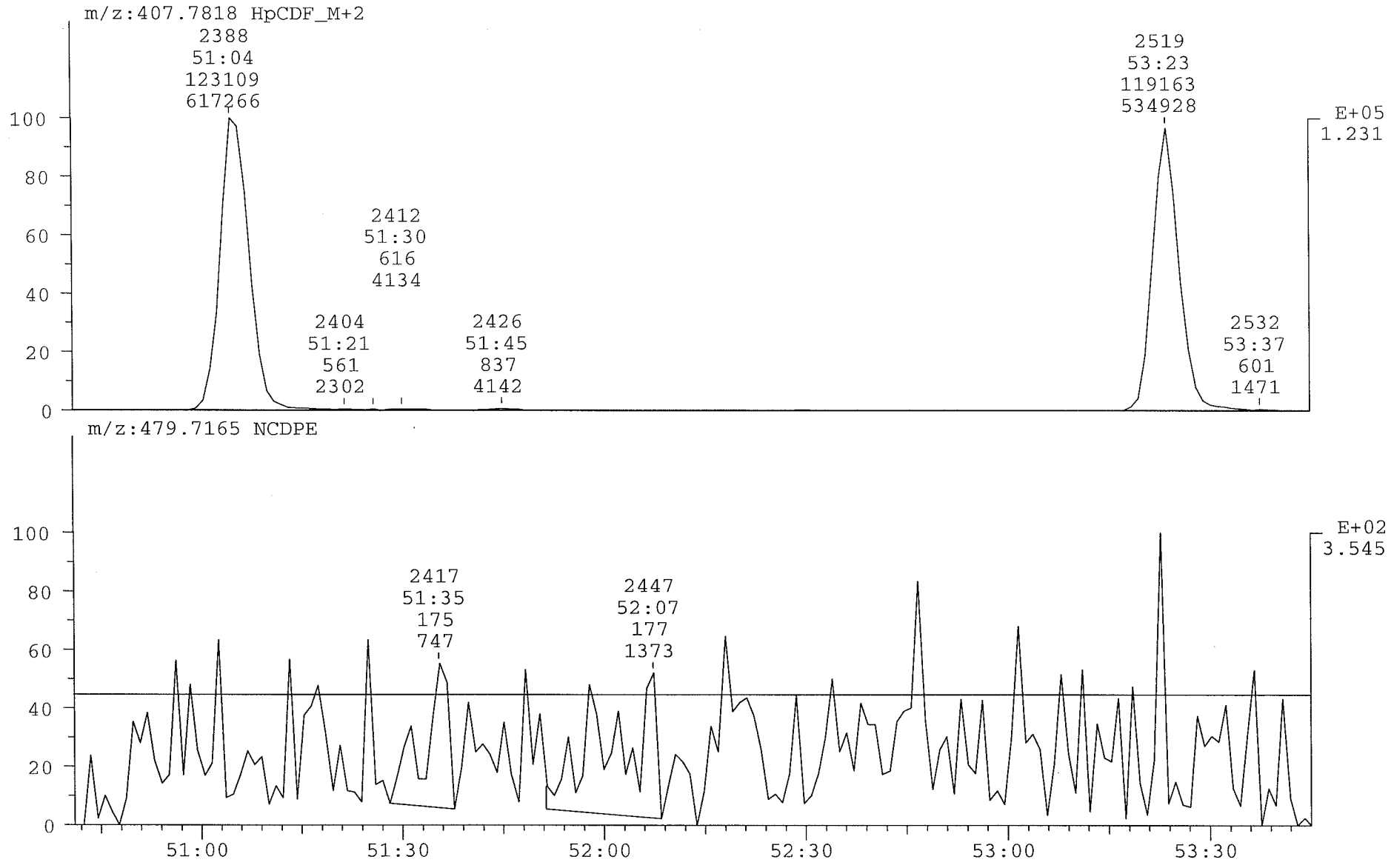
```
CHRO:  b041108w1                                08-Nov-04   Elapse:  46:33      2135
Samp:  Vial 1 WO=2960:58 Meth=F8 Dil=1                      Start :  09:14:22   2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  8290/1613 Win
Oper:  MSD          Client:  STL Knoxville                  Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2394 > 2504            Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



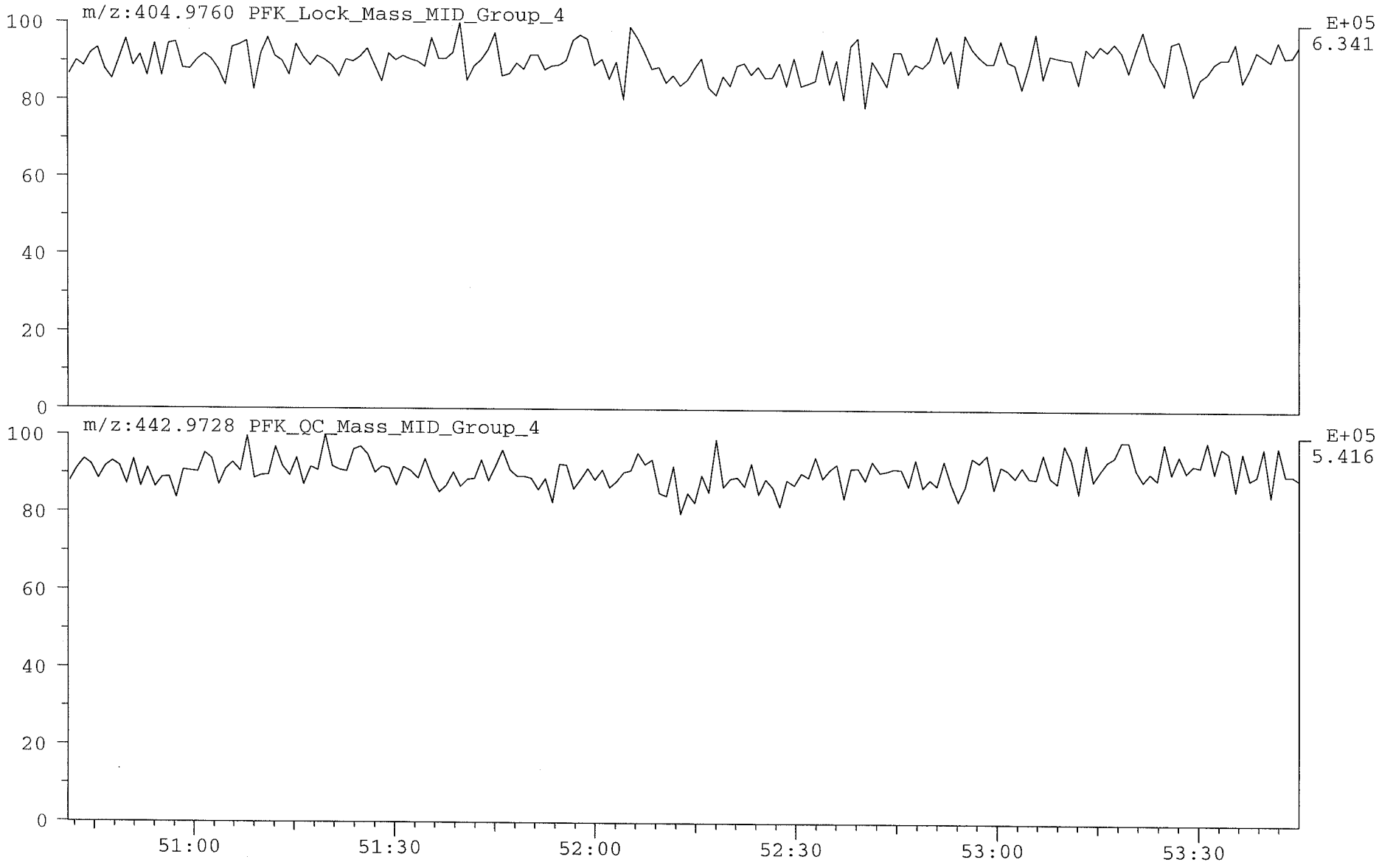
CHRO: b041108w1 08-Nov-04 Elapse: 52:12 2452
Samp: Vial 1 WO=2960:58 Meth=F8 Dil=1 Start : 09:14:22 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 8290/1613 Win
Oper: MSD Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2366 > 2539 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



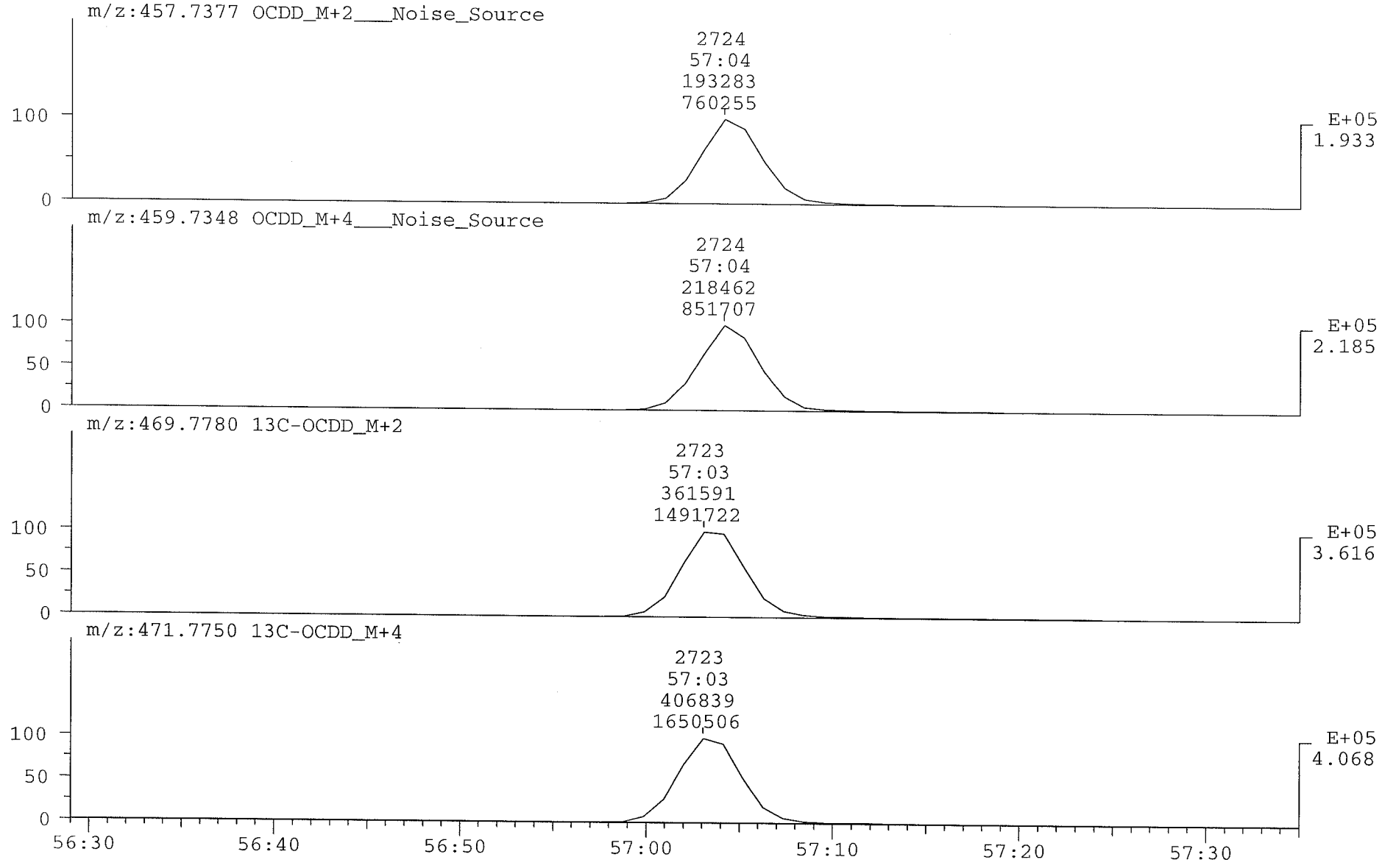
```
CHRO:  b041108w1                                08-Nov-04   Elapse:  52:12      2452
Samp:  Vial 1 WO=2960:58 Meth=F8 Dil=1                      Start :  09:14:22   2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  8290/1613 Win
Oper:  MSD          Client:  STL Knoxville                  Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2366 > 2539            Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



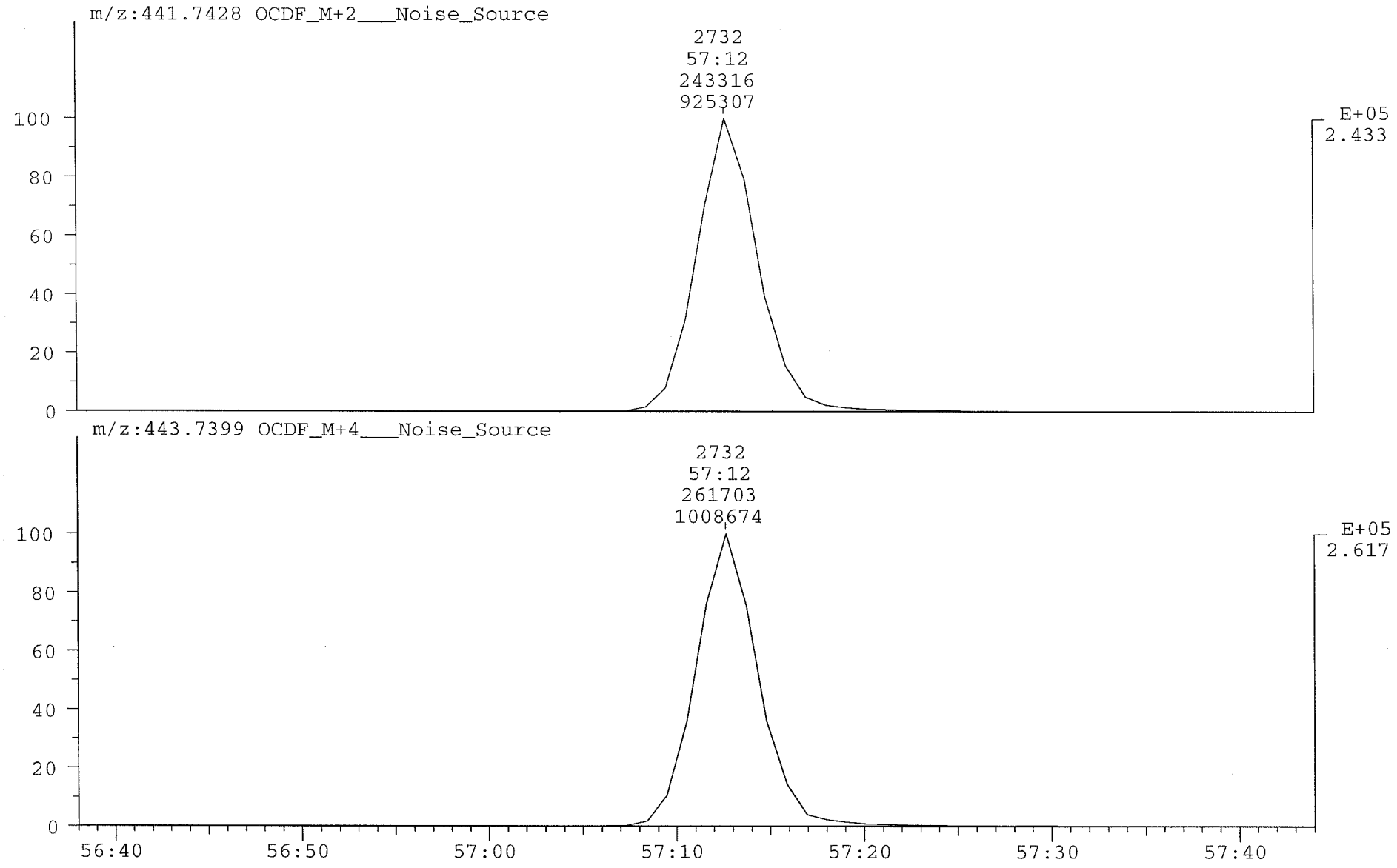
CHRO: b041108w1 08-Nov-04 Elapse: 52:12 2452
Samp: Vial 1 WO=2960:58 Meth=F8 Dil=1 Start : 09:14:22 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 8290/1613 Win
Oper: MSD Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2366 > 2539 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



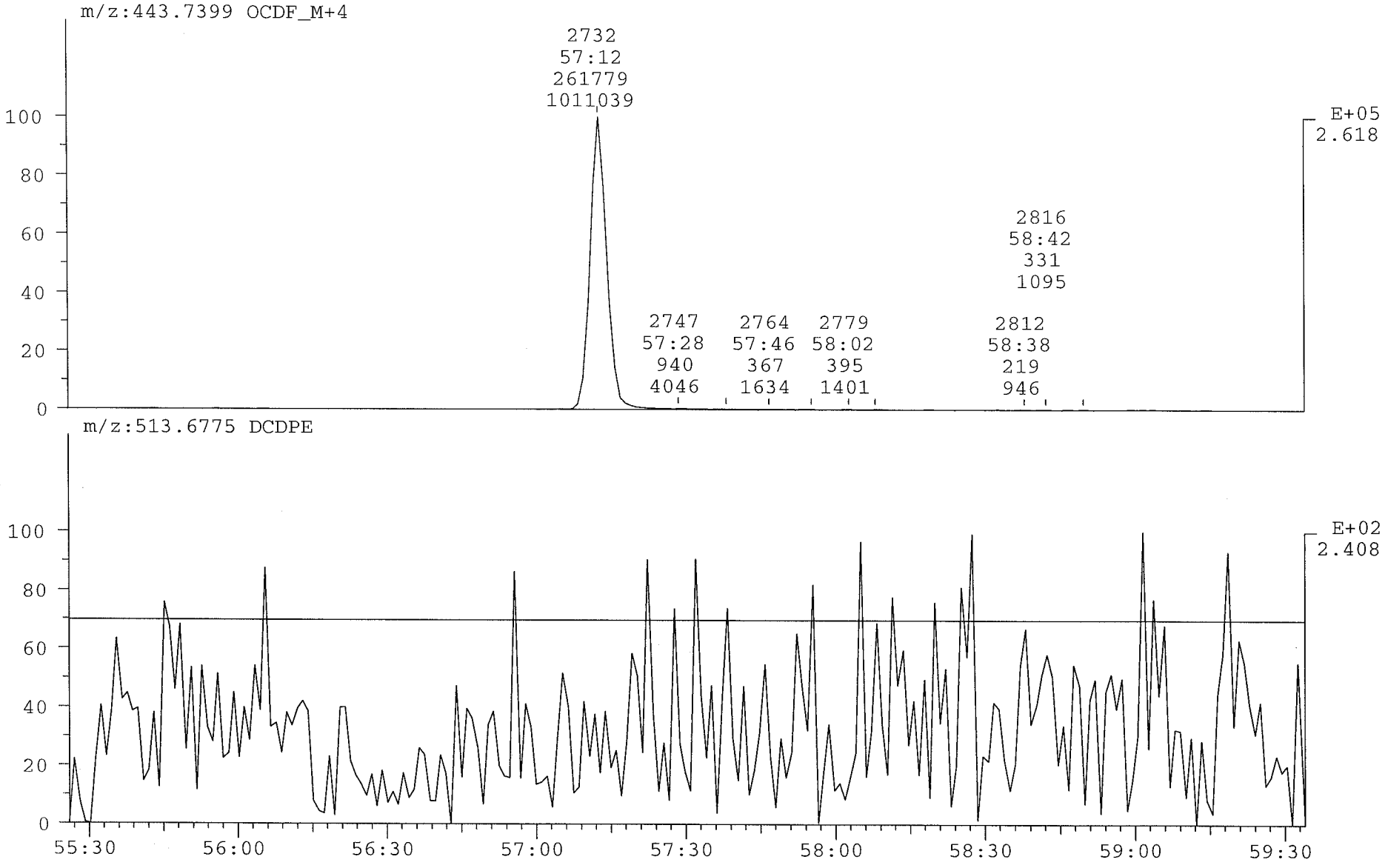
```
CHRO:  b041108w1                                08-Nov-04   Elapse:  56:58      2719
Samp:  Vial 1 WO=2960:58 Meth=F8 Dil=1                      Start :  09:14:22   2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  8290/1613 Win
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   2691 > 2753           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



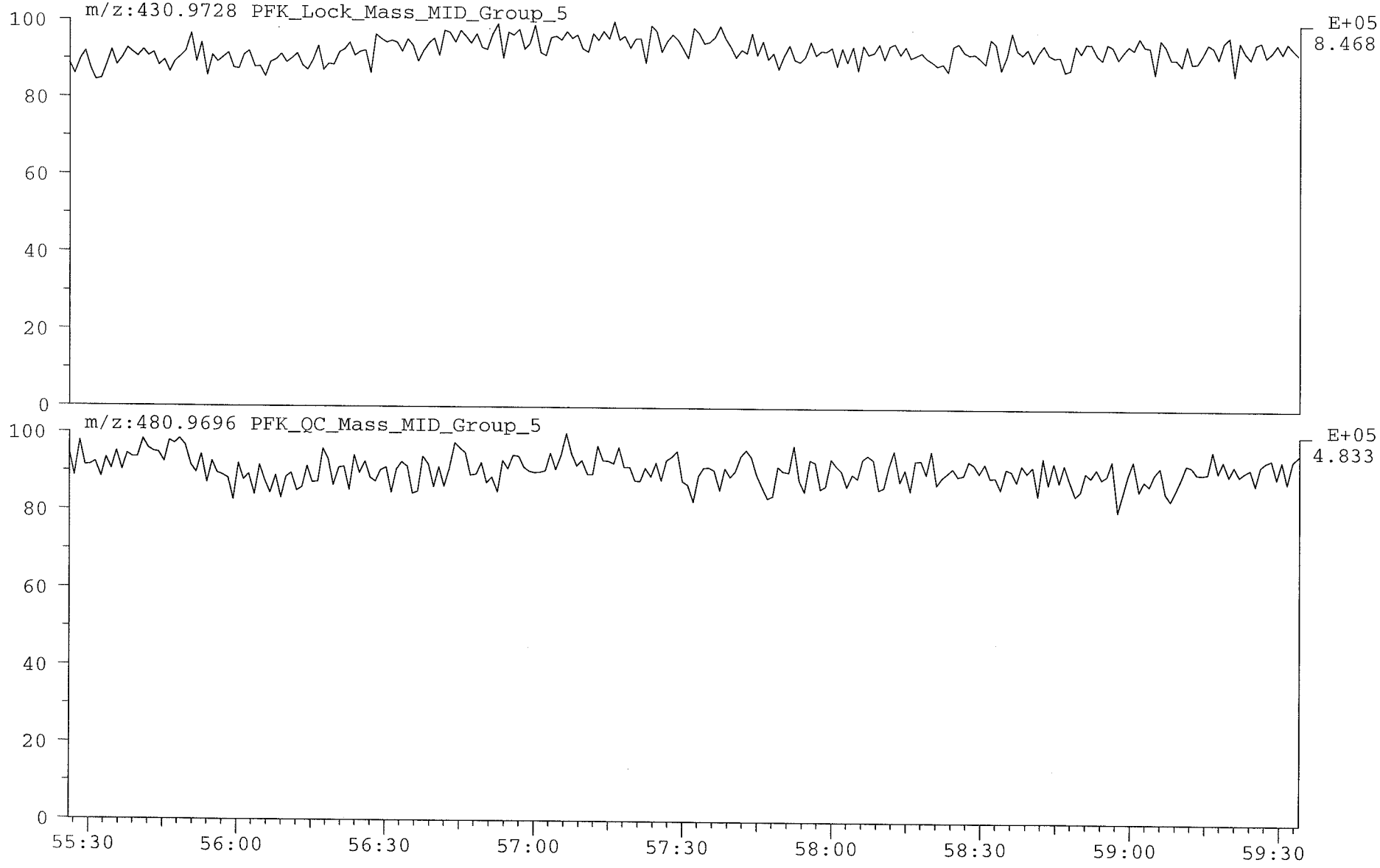
```
CHRO:  b041108w1                                08-Nov-04   Elapse:  57:08      2728
Samp:  Vial 1 WO=2960:58 Meth=F8 Dil=1                      Start :  09:14:22   2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  8290/1613 Win
Oper:  MSD          Client:  STL Knoxville                  Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2700 > 2761            Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: b041108w1 08-Nov-04 Elapse: 57:08 2728
Samp: Vial 1 WO=2960:58 Meth=F8 Dil=1 Start : 09:14:22 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 8290/1613 Win
Oper: MSD Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2632 > 2864 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: b041108w1 08-Nov-04 Elapse: 57:08 2728
Samp: Vial 1 WO=2960:58 Meth=F8 Dil=1 Start : 09:14:22 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 8290/1613 Win
Oper: MSD Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2632 > 2864 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: b041108w1
Study: 8290/1613 Win
Sample: WO=2960:58 Meth=F8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: MSD
Client: STL Knoxville
Comments: Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Injected volume: 2.0
Sample from Vial 1
Analysis will stop when MID run finishes
Tune file name: tune2
File 1 of list 041108i
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	FALSE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	100 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	30:30 min	38:30 min	1.00 sec
# 2	38:30 min	6:05 min	44:35 min	1.00 sec
# 3	44:35 min	5:24 min	50:00 min	1.00 sec
# 4	50:00 min	5:20 min	55:20 min	1.00 sec
# 5	55:20 min	4:15 min	59:35 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

351.9000		1	1	91.48
353.8970		1	1	91.48
355.8546		1	1	91.48
357.8516		1	1	91.48
367.8949		1	1	91.48
369.8919		1	1	91.48
380.9760	c	10	1	8.19
409.7974		1	1	91.48

Window # 3

mass	F	int	gr	time (ms)
373.8208		1	1	91.48
375.8178		1	1	91.48
380.9760	l	10	1	8.19
383.8639		1	1	91.48
385.8610		1	1	91.48
389.8156		1	1	91.48
391.8127		1	1	91.48
401.8559		1	1	91.48
403.8529		1	1	91.48
404.9760	c	10	1	8.19
445.7555		1	1	91.48

Window # 4

mass	F	int	gr	time (ms)
404.9760	l	10	1	8.19
407.7818		1	1	91.48
409.7788		1	1	91.48
417.8250		1	1	91.48
419.8220		1	1	91.48
423.7767		1	1	91.48
425.7737		1	1	91.48
435.8169		1	1	91.48
437.8140		1	1	91.48
442.9728	c	10	1	8.19
479.7165		1	1	91.48

Window # 5

mass	F	int	gr	time (ms)
430.9728	l	10	1	10.92
441.7428		1	1	120.15
443.7399		1	1	120.15
457.7377		1	1	120.15
459.7348		1	1	120.15
469.7780		1	1	120.15
471.7750		1	1	120.15
480.9696	c	10	1	10.92
513.6775		1	1	120.15

Auto Sampler descriptor: pcdd2ul

Injector A

Normal Injection

Slvnt A cln before inj(K):	3	times
Slvnt B cln before inj(L):	0	times
Sample rinse cycles (R):	0	times
Syringe filling volume(F):	1.0	ul
Pullup delay time (D):	4	sec
Sample pullup speed (E):	5.0	ul/sec
Slvnt aftr pre inj cln(U):	0.0	ul
Air after pre inj cln (G):	2.0	ul
Sample volume (V):	2.0	ul
Sample air volume (A):	2.0	ul
Sample pullup count (P):	2	times
Injection speed (S):	10.0	ul/sec
Injection wait time (W):	10	sec
Injection hold time (H):	3	sec
Solvent A clean cycles(C):	15	times
Solvent B clean cycles(B):	20	times
Loop clean w slvnt A (LC):	0	times

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8408.0000
BDEV	8288.0000	BFM	2.0000	BLM	1038.6736
BMASS	304.9824	BQUAD	3.2750	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.5059
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.7814	DITSET	0.0000	DRAW	-11.0500
DRAWC	1.0000	DRAWS	0.0050	ECORR	1.0000
ECURR	1.0000	EDAC	7969177.0000	EDACG	0.9999
EDACR	20.0000	EDACZ	850.0000	ELEN	57.4000
EMULT	1.5400	ENS	146.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	176.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	3.3500	FREQ	600.9615
FSLOPE	36000000.0000	FVANAL	488.0000	FVINLET	853.0000
FVSRC	967.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	156.0000
HCURR	1.4216	HVANAL	1104.0000	HVSRC	2958.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4757.0160	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2624.0000	LENSS	154.0000	LKM	304.9824
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3475842.6628	MDACR	20.0000
MRANGE	1038.6736	MSFM	2.0000	MSLM	3790.0000
NPEAK	200.0000	NSAM	200.0000	NSCAN	12673.0000
NSMAX	14.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-5.2000	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10875.2257	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	2.0000
SCIDLE	1.0000	SHIELD	2720.0000	SHIELDS	0.2000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.7800	TCURR	0.9375	TD	50.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	80.1030	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.2550
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2159.0000	XLENSS	7.8000
YLENS	3042.0000	YLENSS	-170.2000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 08-Nov-04 09:14:22.2

Autosampler has injected sample from vial 1
Analysis stopped at: 08-Nov-04 10:13:58.8 (run time 59.60 minutes)
Analysis stopped because MID run finished

QUAN: b041108w1.q0 Entries: 178

Data file(s) used
File: b041108w1 08-Nov-04
Samp: Vial 1 WO=2960:58 Meth=F8 Dil=1 Start : 09:14:22 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 8290/1613
Oper: MSD Client: STL Knoxville Inlet : GC Vial 1

Disp: CHRO
Amount = (area * ref amnt) / (ref area * response factor); amount = f(reponse)
Response factors from quantitation file

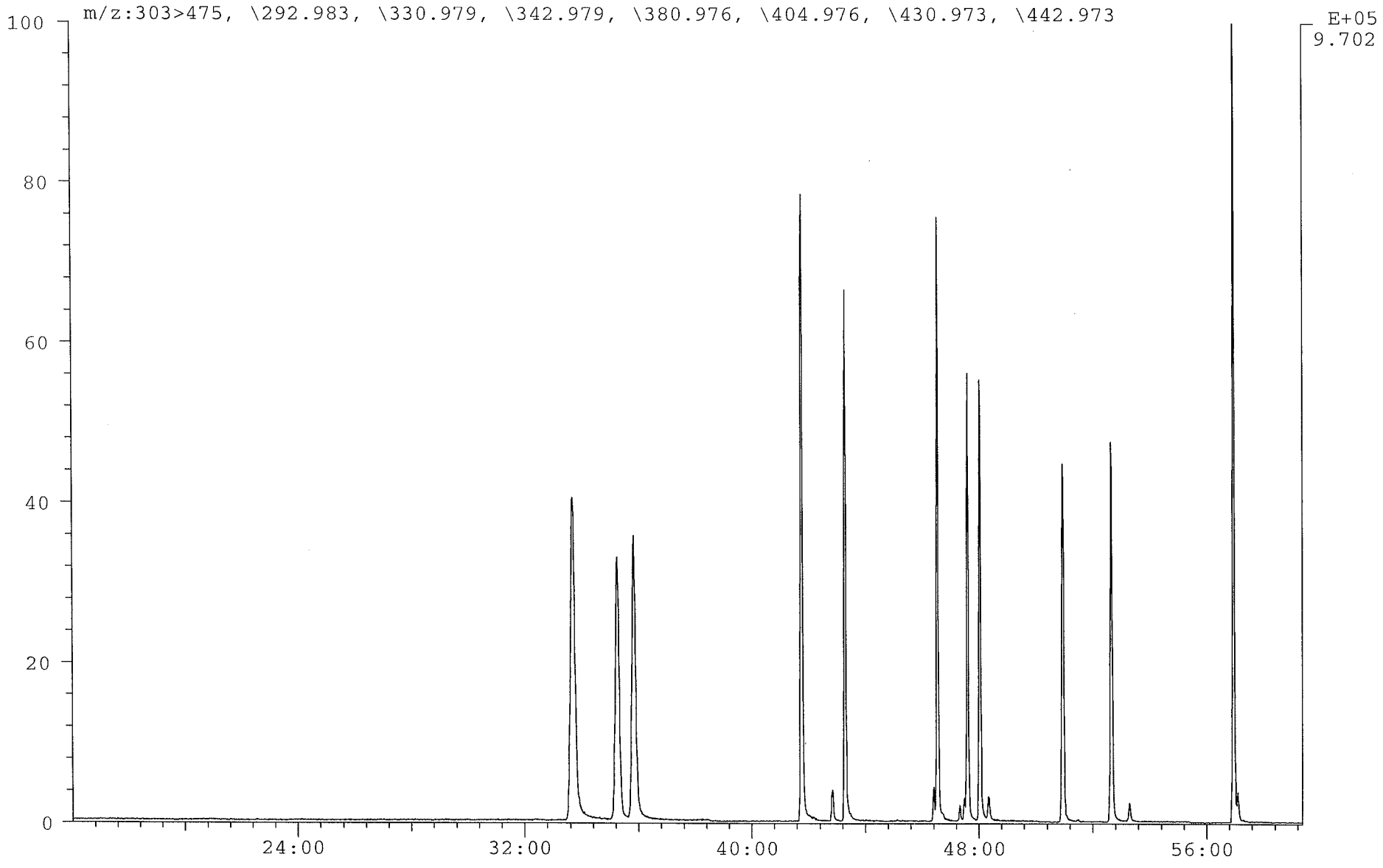
Quan Masses	Actual Time	Area	Height	Peak Beginn	Peak End	Noise Value	La Pe	Lab Fac
319.8805	35:59	95375.	10817.	35:50	36:11	78.	1	1.0
321.8775	36:20	120688.	13656.	36:10	36:34	85.	1	1.0
319.8805	29:18	84614.	10318.	29:07	29:31	78.	2	3.0
319.8805	35:26	77153.	7954.	35:12	35:34	78.	2	3.0
319.8805	35:43	79714.	8539.	35:34	35:50	78.	2	3.0
319.8805	35:59	95375.	10817.	35:50	36:11	78.	2	3.0
319.8805	36:21	94944.	11434.	36:11	36:32	78.	2	3.0
319.8805	38:12	77615.	12801.	38:03	38:28	78.	2	3.0
321.8775	29:17	106130.	11728.	29:05	29:30	85.	2	3.0
321.8775	35:26	97643.	10249.	35:11	35:33	85.	2	3.0
321.8775	35:42	98913.	10952.	35:33	35:50	85.	2	3.0
321.8775	36:00	117227.	13676.	35:50	36:10	85.	2	3.0
321.8775	36:20	120688.	13656.	36:10	36:34	85.	2	3.0
321.8775	38:11	96378.	15042.	37:56	38:27	85.	2	3.0
331.9202	35:23	798638.	83443.	35:07	35:39	98.	2	3.0
331.9202	35:57	833125.	94937.	35:43	36:13	98.	2	3.0
333.9171	35:23	976562.	102697.	35:09	35:39	83.	2	3.0
333.9171	35:57	1048656.	119295.	35:41	36:13	83.	2	3.0
319.8805	35:59	93833.	10799.	35:51	36:11	131.	2	3.0
319.8805	36:21	94388.	11407.	36:11	36:32	131.	2	3.0
321.8775	36:00	117227.	13676.	35:50	36:10	130.	2	3.0
321.8775	36:20	121202.	13656.	36:10	36:36	130.	2	3.0
331.9202	35:23	796817.	83387.	35:07	35:39	205.	2	3.0
331.9202	35:57	830446.	94850.	35:43	36:13	205.	2	3.0
333.9171	35:23	975818.	102672.	35:09	35:39	182.	2	3.0
333.9171	35:57	1047500.	119259.	35:41	36:13	182.	2	3.0
327.8683	35:59	206212.	23668.	35:43	36:15	70.	1	1.0
327.8683	35:59	206212.	23668.	35:43	36:15	70.	2	3.0
303.8864	26:28	123228.	15209.	26:18	26:38	61.	1	1.0
305.8834	26:28	164395.	20635.	26:14	26:45	64.	1	1.0
303.8864	26:28	123604.	15209.	26:12	26:38	61.	2	3.0
303.8864	33:51	122844.	11733.	33:34	34:07	61.	2	3.0
303.8864	38:06	117786.	17446.	37:58	38:17	61.	2	3.0
305.8834	26:28	164585.	20635.	26:12	26:45	64.	2	3.0
305.8834	33:51	161296.	16020.	33:34	34:07	64.	2	3.0
305.8834	38:06	156086.	21320.	37:56	38:23	64.	2	3.0
315.9261	33:49	1159547.	108477.	33:32	34:05	63.	2	3.0
317.9230	33:47	1472264.	138223.	33:31	34:04	76.	2	3.0
303.8864	33:51	122844.	11733.	33:34	34:07	66.	2	3.0
305.8834	33:51	160443.	16002.	33:38	34:07	66.	2	3.0
315.9261	33:49	1158233.	108436.	33:32	34:05	126.	2	3.0
317.9230	33:47	1471071.	138186.	33:31	34:04	124.	2	3.0
355.8368	43:23	524448.	135675.	43:18	43:33	67.	1	1.0
357.8337	43:23	326647.	82428.	43:18	43:33	60.	1	1.0
355.8368	40:52	468708.	90322.	40:42	41:07	67.	2	3.0
355.8368	43:23	524448.	135675.	43:18	43:33	67.	2	3.0
355.8368	43:58	517448.	144333.	43:53	44:14	67.	2	3.0
357.8337	40:52	299081.	57795.	40:41	41:03	60.	2	3.0
357.8337	43:23	327221.	82428.	43:07	43:33	60.	2	3.0

357.8337	43:58	326413.	88513.	43:53	44:13	60.	2	3.0
367.8765	43:22	1028850.	263578.	43:06	43:38	66.	2	3.0
369.8734	43:22	648294.	169674.	43:11	43:38	49.	2	3.0
355.8368	43:23	524337.	135670.	43:18	43:33	50.	2	3.0
355.8368	43:58	422583.	134150.	43:54	44:01	50.	2	3.0
357.8337	43:23	326223.	82400.	43:18	43:33	52.	2	3.0
357.8337	43:58	267520.	82161.	43:54	44:01	52.	2	3.0
367.8765	43:22	1026990.	263533.	43:15	43:38	69.	2	3.0
369.8734	43:22	647670.	169655.	43:11	43:38	46.	2	3.0
339.8427	42:57	787344.	185577.	42:47	43:13	73.	1	1.0
341.8396	42:56	499034.	118575.	42:46	43:11	80.	1	1.0
339.8427	38:41	620544.	111492.	38:35	38:48	73.	2	3.0
339.8427	41:52	760144.	173466.	41:36	42:04	73.	2	3.0
339.8427	42:57	787344.	185577.	42:47	43:13	73.	2	3.0
339.8427	44:06	666751.	176221.	43:58	44:22	73.	2	3.0
341.8396	38:41	400709.	76504.	38:35	38:49	80.	2	3.0
341.8396	41:52	481545.	110619.	41:41	42:02	80.	2	3.0
341.8396	42:56	499034.	118575.	42:46	43:11	80.	2	3.0
341.8396	44:06	425850.	112513.	43:58	44:22	80.	2	3.0
351.8824	41:51	1452865.	341346.	41:40	42:07	68.	2	3.0
351.8824	42:54	1408577.	339949.	42:49	43:10	68.	2	3.0
353.8793	41:51	913986.	216129.	41:37	42:07	63.	2	3.0
353.8793	42:54	887526.	224978.	42:47	43:10	63.	2	3.0
339.8427	41:52	758542.	173417.	41:41	42:04	72.	2	3.0
339.8427	42:57	784406.	185482.	42:50	43:13	72.	2	3.0
341.8396	41:52	481569.	110620.	41:41	42:02	88.	2	3.0
341.8396	42:56	496743.	118504.	42:47	43:10	88.	2	3.0
351.8824	41:51	1452864.	341346.	41:40	42:07	119.	2	3.0
351.8824	42:54	1406223.	339839.	42:46	43:10	119.	2	3.0
353.8793	41:51	913095.	216099.	41:38	42:07	92.	2	3.0
353.8793	42:54	885610.	224918.	42:47	43:10	92.	2	3.0
389.7961	48:09	519111.	122087.	47:59	48:23	73.	1	1.0
391.7931	48:09	429443.	99840.	47:59	48:25	70.	1	1.0
389.7961	45:55	514060.	143592.	45:47	46:11	73.	2	3.0
389.7961	47:36	498272.	130159.	47:26	47:39	73.	2	3.0
389.7961	47:43	478125.	114535.	47:39	47:59	73.	2	3.0
389.7961	48:09	519111.	122087.	47:59	48:23	73.	2	3.0
391.7931	45:55	412743.	111484.	45:44	46:10	70.	2	3.0
391.7931	47:35	403659.	101123.	47:19	47:39	70.	2	3.0
391.7931	47:43	384781.	92512.	47:39	47:55	70.	2	3.0
391.7931	48:09	428497.	99840.	47:59	48:21	70.	2	3.0
401.8358	47:35	840536.	216068.	47:27	47:38	68.	2	3.0
401.8358	47:42	881054.	218153.	47:38	47:58	68.	2	3.0
401.8358	48:08	913847.	222183.	48:00	48:24	68.	2	3.0
403.8327	47:35	671739.	172325.	47:25	47:38	59.	2	3.0
403.8327	47:42	678261.	164960.	47:38	47:58	59.	2	3.0
403.8327	48:08	727980.	176952.	47:58	48:21	59.	2	3.0
389.7961	47:36	498277.	130159.	47:26	47:39	84.	2	3.0
389.7961	47:43	478130.	114535.	47:39	47:59	84.	2	3.0
389.7961	48:09	519114.	122087.	47:59	48:23	84.	2	3.0
391.7931	47:35	402548.	101098.	47:27	47:39	79.	2	3.0
391.7931	47:43	385392.	92495.	47:39	47:59	79.	2	3.0
391.7931	48:09	428497.	99840.	47:59	48:21	79.	2	3.0
401.8358	47:35	840536.	216068.	47:27	47:38	83.	2	3.0
401.8358	47:42	881054.	218153.	47:38	47:58	83.	2	3.0
401.8358	48:08	913847.	222183.	48:00	48:24	83.	2	3.0
403.8327	47:35	671739.	172325.	47:25	47:38	85.	2	3.0
403.8327	47:42	678261.	164960.	47:38	47:58	85.	2	3.0
403.8327	48:08	727980.	176952.	47:58	48:21	85.	2	3.0
373.8021	46:39	760780.	196485.	46:34	46:55	76.	1	1.0
375.7990	46:39	603104.	154542.	46:34	46:54	69.	1	1.0
373.8021	45:14	730044.	210872.	45:07	45:22	76.	2	3.0
373.8021	46:30	726073.	193632.	46:20	46:34	76.	2	3.0
373.8021	46:39	760780.	196485.	46:34	46:55	76.	2	3.0
373.8021	47:25	706662.	171253.	47:12	47:40	76.	2	3.0
373.8021	48:27	638763.	149404.	48:17	48:30	76.	2	3.0

373.8021	48:33	637865.	138204.	48:30	48:49	76.	2	3.0
375.7990	45:14	573706.	165094.	45:08	45:21	69.	2	3.0
375.7990	46:30	589347.	154759.	46:23	46:34	69.	2	3.0
375.7990	46:39	603104.	154542.	46:34	46:54	69.	2	3.0
375.7990	47:25	559032.	133933.	47:16	47:38	69.	2	3.0
375.7990	48:27	505335.	120825.	48:18	48:30	69.	2	3.0
375.7990	48:33	496490.	109397.	48:30	48:46	69.	2	3.0
383.8447	46:29	698830.	185541.	46:18	46:33	92.	2	3.0
383.8447	46:38	768055.	196304.	46:33	46:54	92.	2	3.0
383.8447	47:24	739732.	189099.	47:09	47:38	92.	2	3.0
383.8447	48:26	681985.	156434.	48:18	48:40	92.	2	3.0
385.8417	46:29	1319232.	362573.	46:18	46:33	80.	2	3.0
385.8417	46:38	1446725.	380893.	46:33	46:54	80.	2	3.0
385.8417	47:24	1386956.	347089.	47:14	47:40	80.	2	3.0
385.8417	48:26	1297261.	288677.	48:14	48:41	80.	2	3.0
373.8021	46:30	726073.	193632.	46:20	46:34	86.	2	3.0
373.8021	46:39	760780.	196485.	46:34	46:55	86.	2	3.0
373.8021	47:25	706662.	171253.	47:12	47:40	86.	2	3.0
373.8021	48:27	637458.	149251.	48:17	48:30	86.	2	3.0
373.8021	48:33	631341.	137948.	48:30	48:47	86.	2	3.0
375.7990	46:30	589347.	154759.	46:23	46:34	75.	2	3.0
375.7990	46:39	603104.	154542.	46:34	46:54	75.	2	3.0
375.7990	47:25	559032.	133933.	47:16	47:38	75.	2	3.0
375.7990	48:27	504694.	120745.	48:18	48:30	75.	2	3.0
375.7990	48:33	493553.	109257.	48:30	48:46	75.	2	3.0
383.8447	46:29	698157.	185509.	46:24	46:33	121.	2	3.0
383.8447	46:38	767500.	196274.	46:33	46:54	121.	2	3.0
383.8447	47:24	740144.	189085.	47:09	47:40	121.	2	3.0
383.8447	48:26	681150.	156401.	48:18	48:40	121.	2	3.0
385.8417	46:29	1319210.	362571.	46:18	46:33	101.	2	3.0
385.8417	46:38	1446622.	380889.	46:33	46:54	101.	2	3.0
385.8417	47:24	1386584.	347075.	47:14	47:40	101.	2	3.0
385.8417	48:26	1290959.	288465.	48:16	48:41	101.	2	3.0
423.7555	51:36	435967.	93178.	51:25	51:48	53.	1	1.0
425.7524	51:36	416807.	87299.	51:29	51:49	58.	1	1.0
423.7555	51:36	435967.	93178.	51:25	51:48	53.	2	3.0
423.7555	52:46	419623.	91252.	52:39	53:01	53.	2	3.0
425.7524	51:36	416807.	87299.	51:29	51:49	58.	2	3.0
425.7524	52:46	396468.	87205.	52:39	52:56	58.	2	3.0
435.7951	51:34	4525.	1085.	51:30	51:42	68.	2	3.0
435.7951	52:45	811187.	175274.	52:37	52:59	68.	2	3.0
437.7921	51:35	5815.	1279.	51:25	51:46	55.	2	3.0
437.7921	52:45	760318.	164820.	52:37	53:01	55.	2	3.0
407.7614	51:04	617266.	123109.	50:54	51:19	76.	1	1.0
409.7583	51:05	587404.	115453.	50:56	51:18	75.	1	1.0
407.7614	51:04	617266.	123109.	50:54	51:19	76.	2	3.0
407.7614	53:23	534928.	119163.	53:16	53:36	76.	2	3.0
409.7583	51:05	587404.	115453.	50:56	51:18	75.	2	3.0
409.7583	53:23	515764.	112952.	53:14	53:39	75.	2	3.0
417.8041	51:03	515640.	101392.	50:55	51:19	56.	2	3.0
417.8041	53:22	461709.	101025.	53:15	53:35	56.	2	3.0
419.8010	51:03	1110103.	220323.	50:54	51:19	67.	2	3.0
419.8010	53:22	1006090.	217443.	53:13	53:38	67.	2	3.0
457.7148	57:04	760255.	193283.	56:57	57:15	54.	1	1.0
459.7118	57:04	851706.	218462.	56:56	57:20	74.	1	1.0
457.7148	57:04	760255.	193283.	56:57	57:15	54.	2	3.0
459.7118	57:04	851706.	218462.	56:56	57:20	74.	2	3.0
469.7545	57:03	1491722.	361591.	56:56	57:19	71.	2	3.0
471.7514	57:03	1650506.	406839.	56:54	57:19	72.	2	3.0
441.7207	57:12	924935.	243316.	57:05	57:27	72.	1	1.0
443.7177	57:12	1008197.	261703.	57:06	57:27	82.	1	1.0
441.7207	57:12	925307.	243316.	57:02	57:27	72.	2	3.0
443.7177	57:12	1008674.	261703.	57:02	57:27	82.	2	3.0

CHRO: b041108i1 08-Nov-04 Elapse: 08:00.5 1
Samp: Vial 12 WO=2960:59CS1 Meth=X8 Dil=1 Start : 13:19:44 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 442 > 2853 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

Int, Calc MSD 11/8/04
QC PMP 11-8-04



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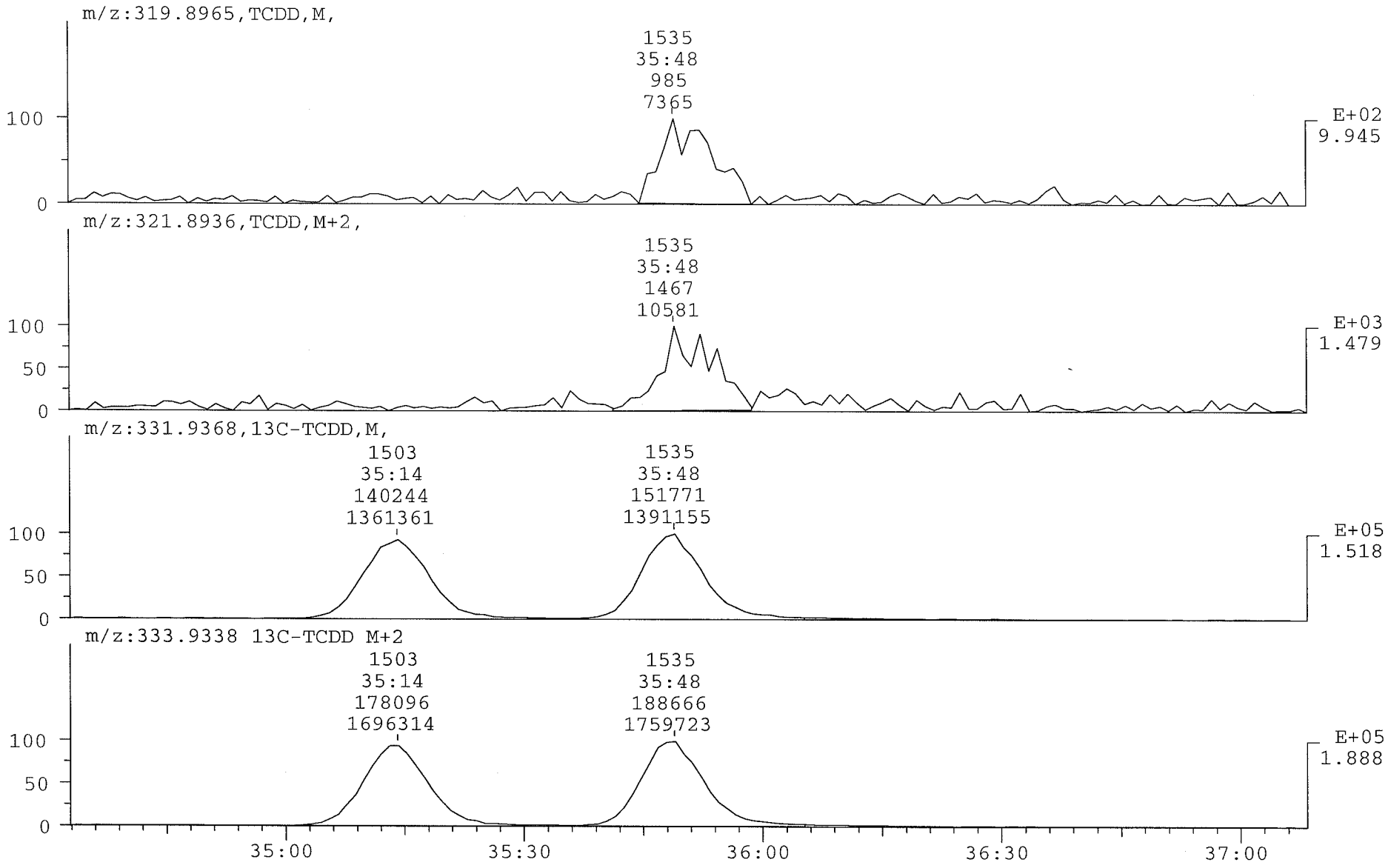
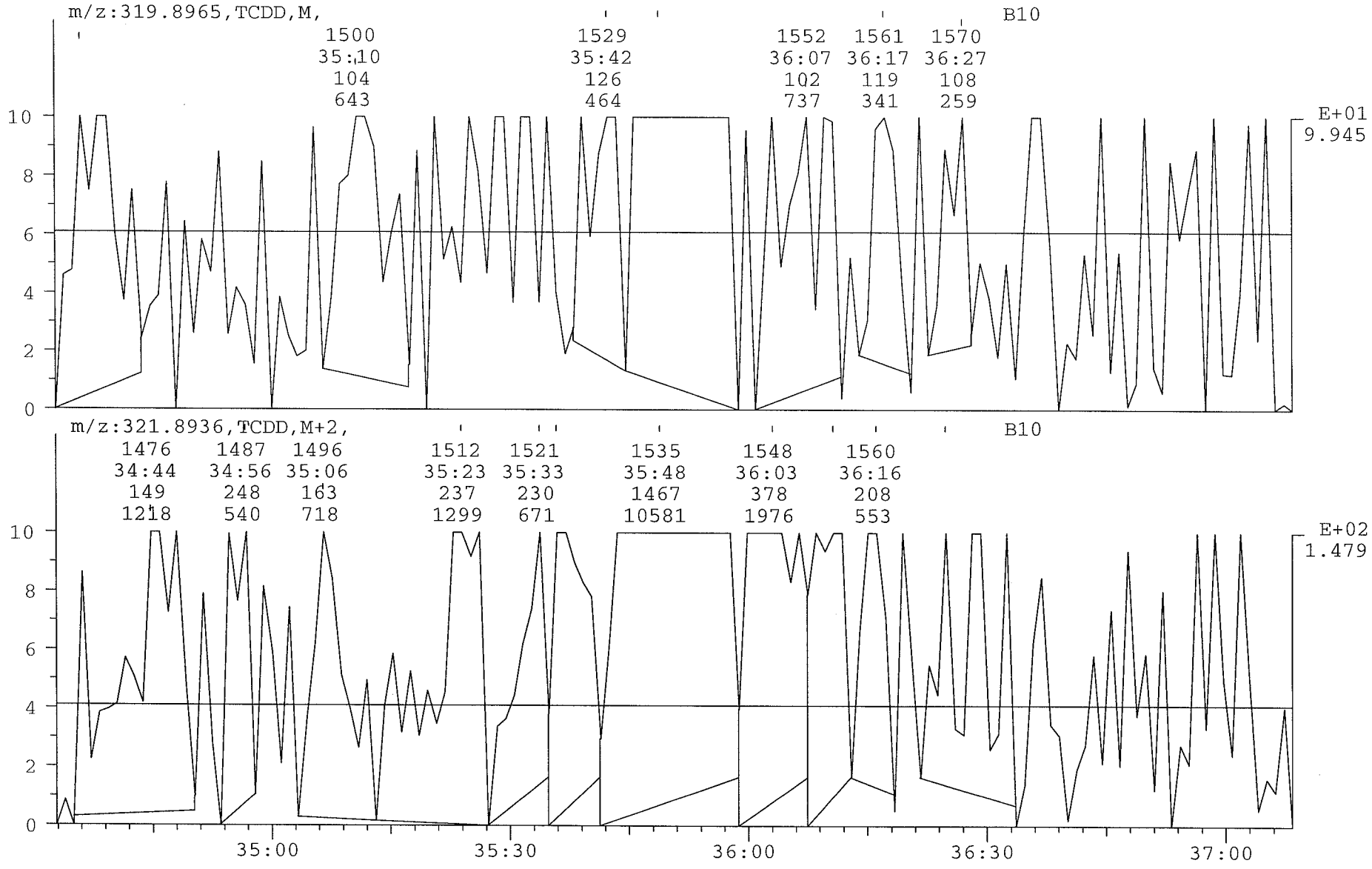
CHRO:  b041108i1                                08-Nov-04   Elapse:  08:00.5        1
Samp:  Vial 12 WO=2960:59CS1 Meth=X8 Dil=1                  Start :  13:19:44    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   1465 > 1608           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
```



```
CHRO:  b041108i1                                08-Nov-04   Elapse:  50:52       2376
Samp:  Vial 12 WO=2960:59CS1 Meth=X8 Dil=1                  Start :  13:19:44    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   1465 > 1608           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -3, 1.0
Disp:  Height  Area
```



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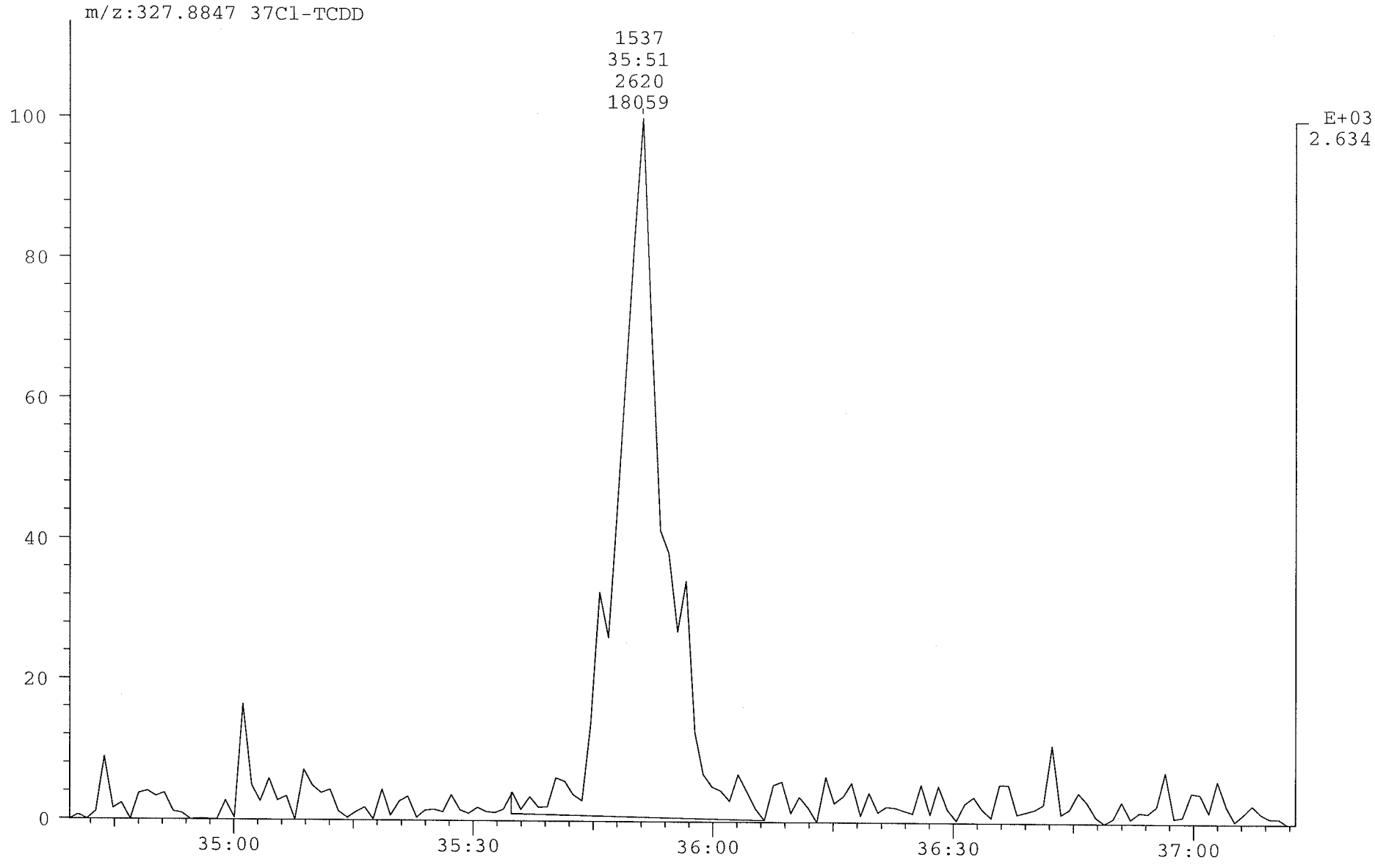
CHRO:  b041108i1                                08-Nov-04   Elapse:  08:00.5        1
Samp:  Vial 12 WO=2960:59CS1 Meth=X8 Dil=1                  Start :  13:19:44    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   1471 > 1612           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
```



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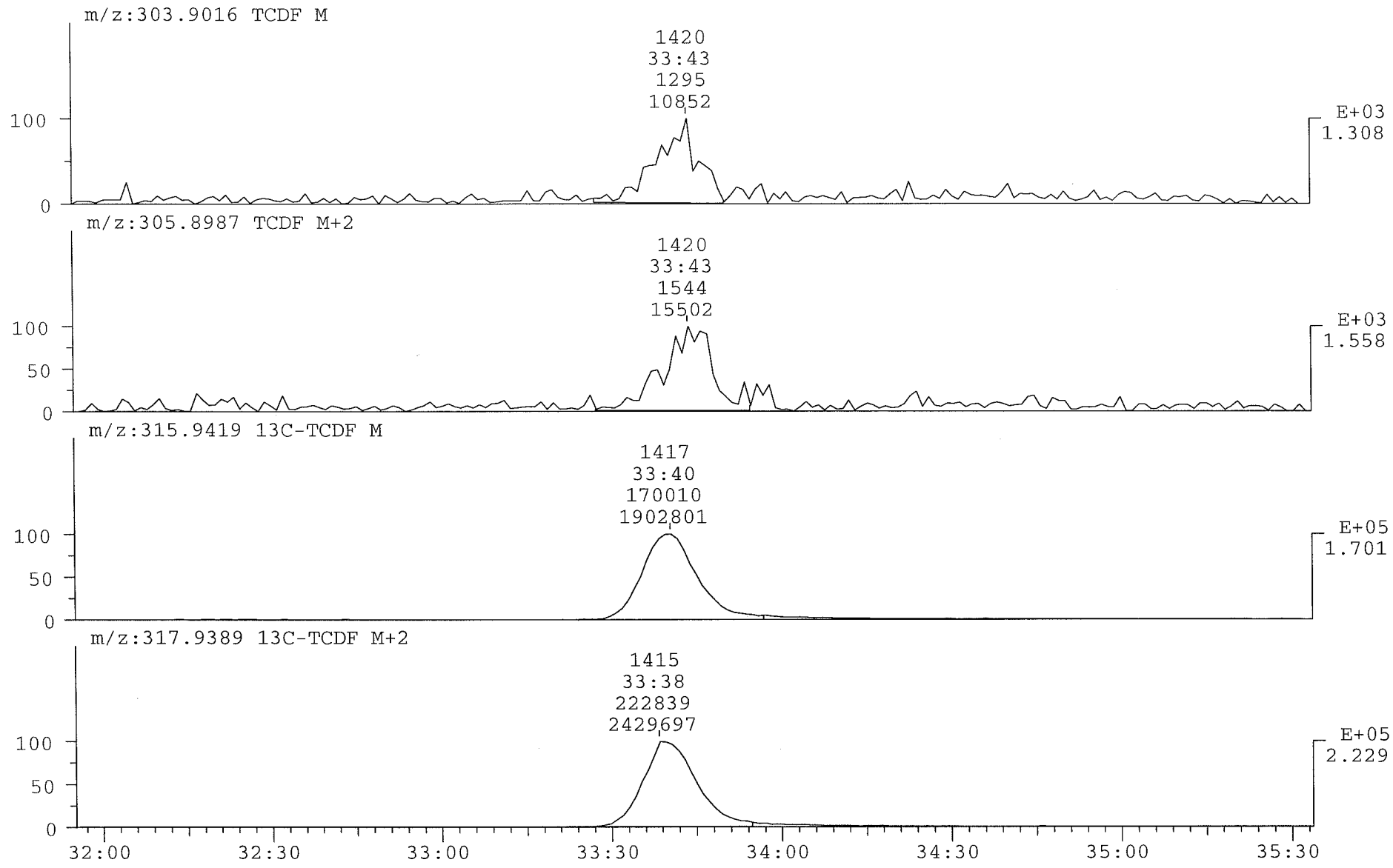
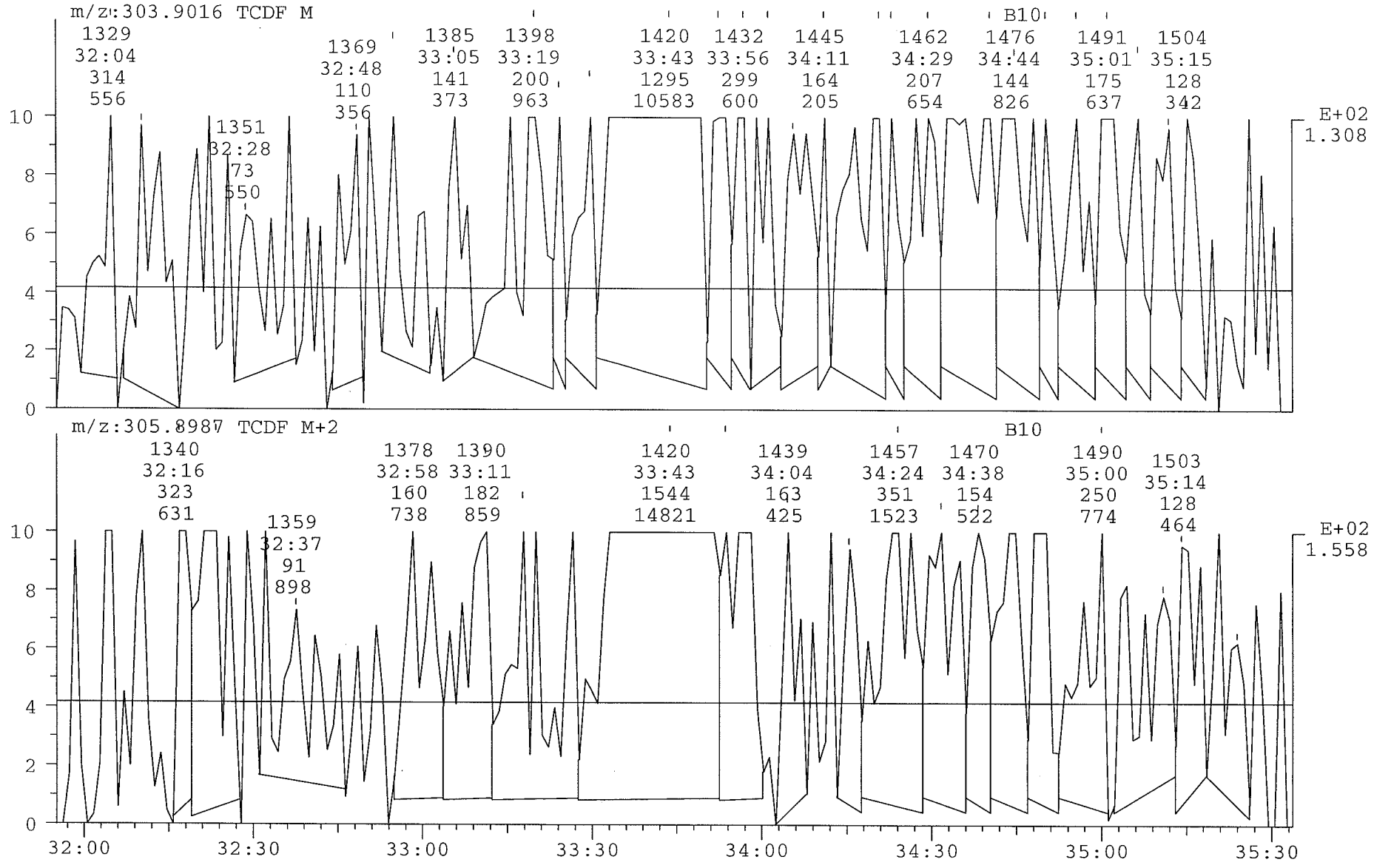
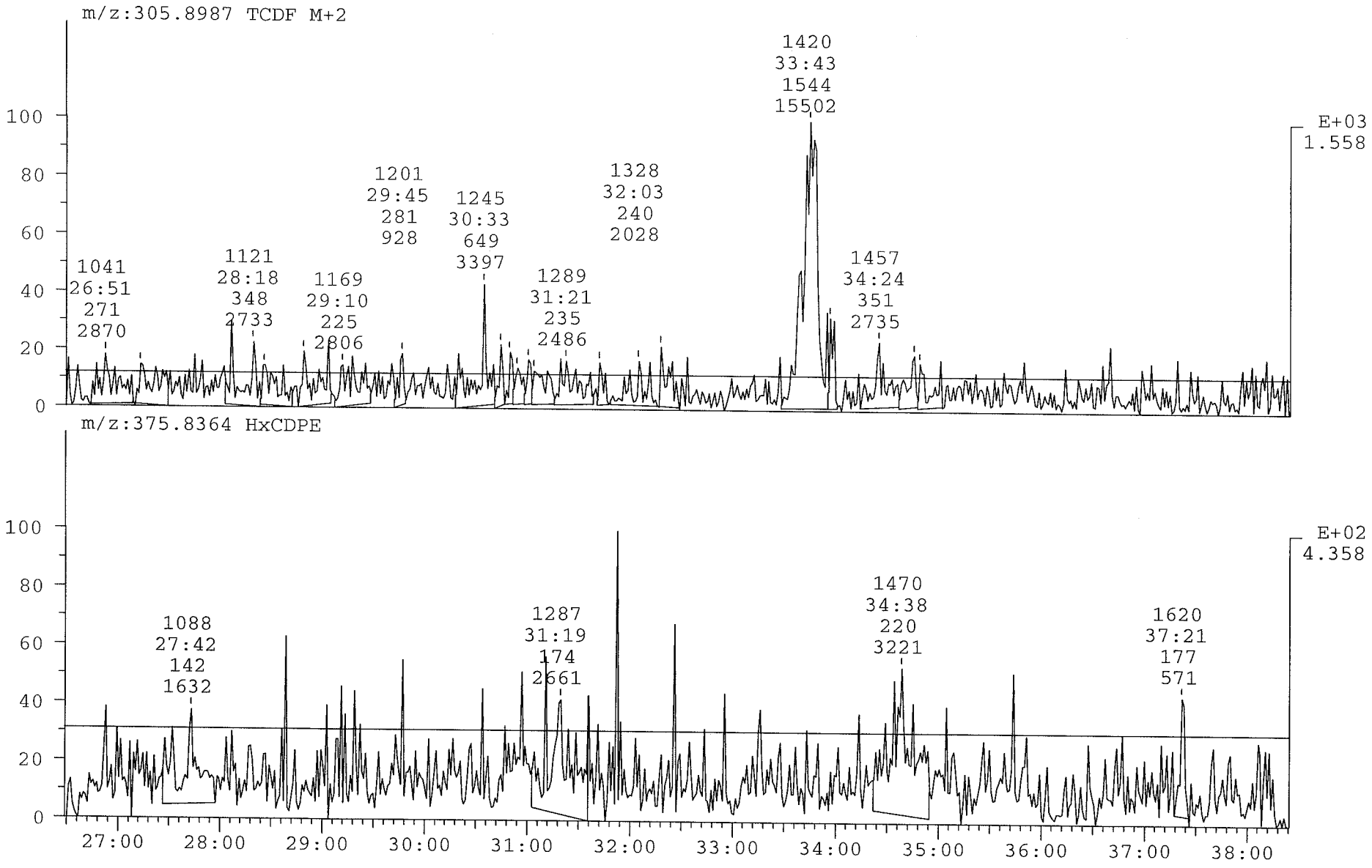
CHRO:  b041108i1                                08-Nov-04   Elapse:  08:00.5        1
Samp:  Vial 12 WO=2960:59CS1 Meth=X8 Dil=1                  Start :  13:19:44    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   1320 > 1521           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
```



CHRO: b041108i1 08-Nov-04 Elapse: 50:52 2376
Samp: Vial 12 WO=2960:59CS1 Meth=X8 Dil=1 Start : 13:19:44 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 1320 > 1521 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -3, 1.0
Disp: Height Area



CHRO: b04110 8i1 08-Nov-04 Elapse: 32:23 1346
Samp: Vial 12 WO=2960:59CS1 Meth=X8 Dil=1 Start : 13:19:44 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 1020 > 1678 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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CHRO:  b041108i1                                08-Nov-04   Elapse:  08:00.5        1
Samp:  Vial 12 WO=2960:59CS1 Meth=X8 Dil=1                  Start :  13:19:44    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   805 > 1703            Masses:  293 > 514
Area:  5, 0.50, 0       Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
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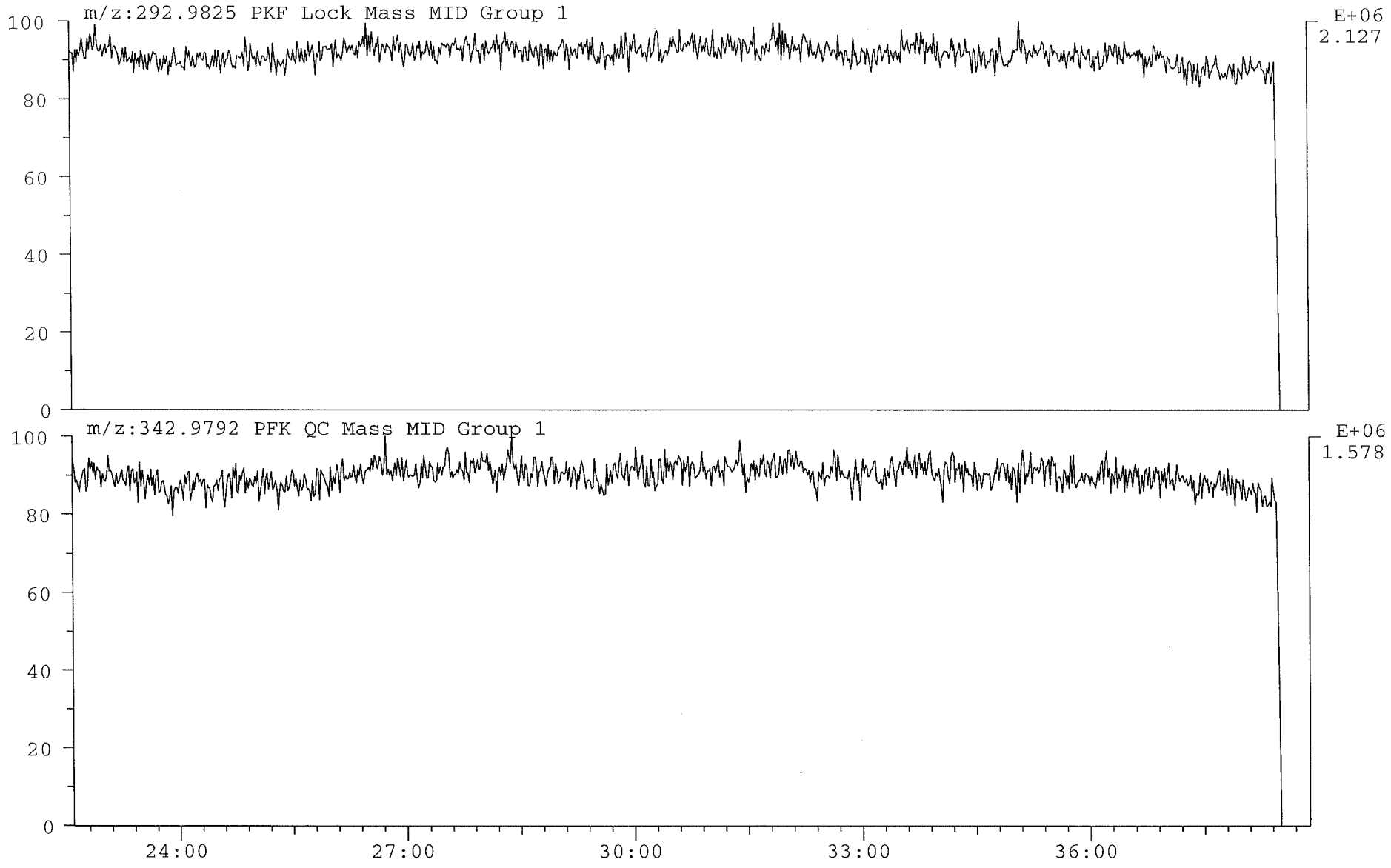

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CHRO:  b041108i1                                08-Nov-04   Elapse:  08:00.5        1
Samp:  Vial 12 WO=2960:59CS1 Meth=X8 Dil=1                  Start :  13:19:44    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   1942 > 2002           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
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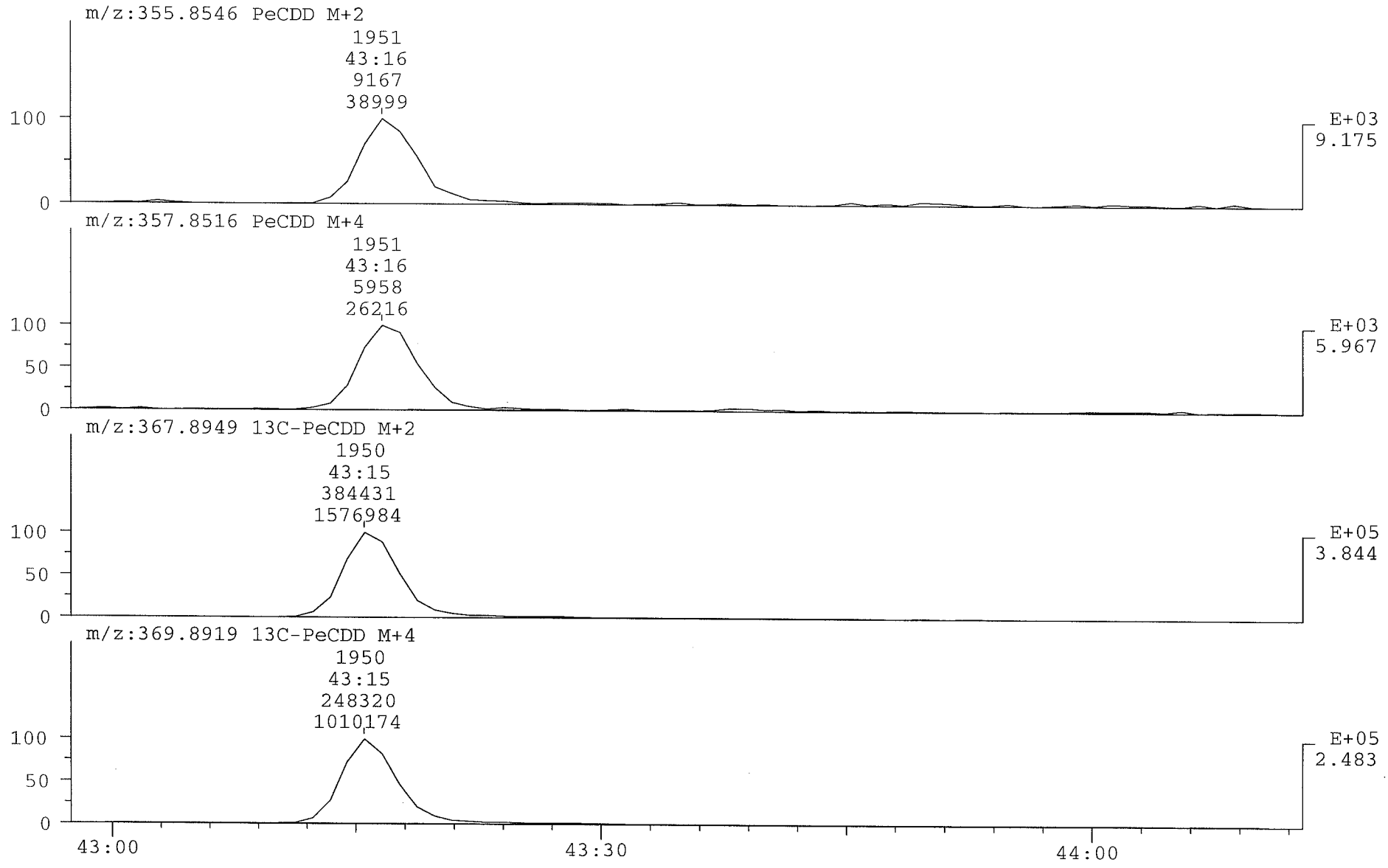

```
CHRO:  b041108i1                                08-Nov-04   Elapse:  08:00.5        1
Samp:  Vial 12 WO=2960:59CS1 Meth=X8 Dil=1                  Start :  13:19:44    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   1842 > 1956           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
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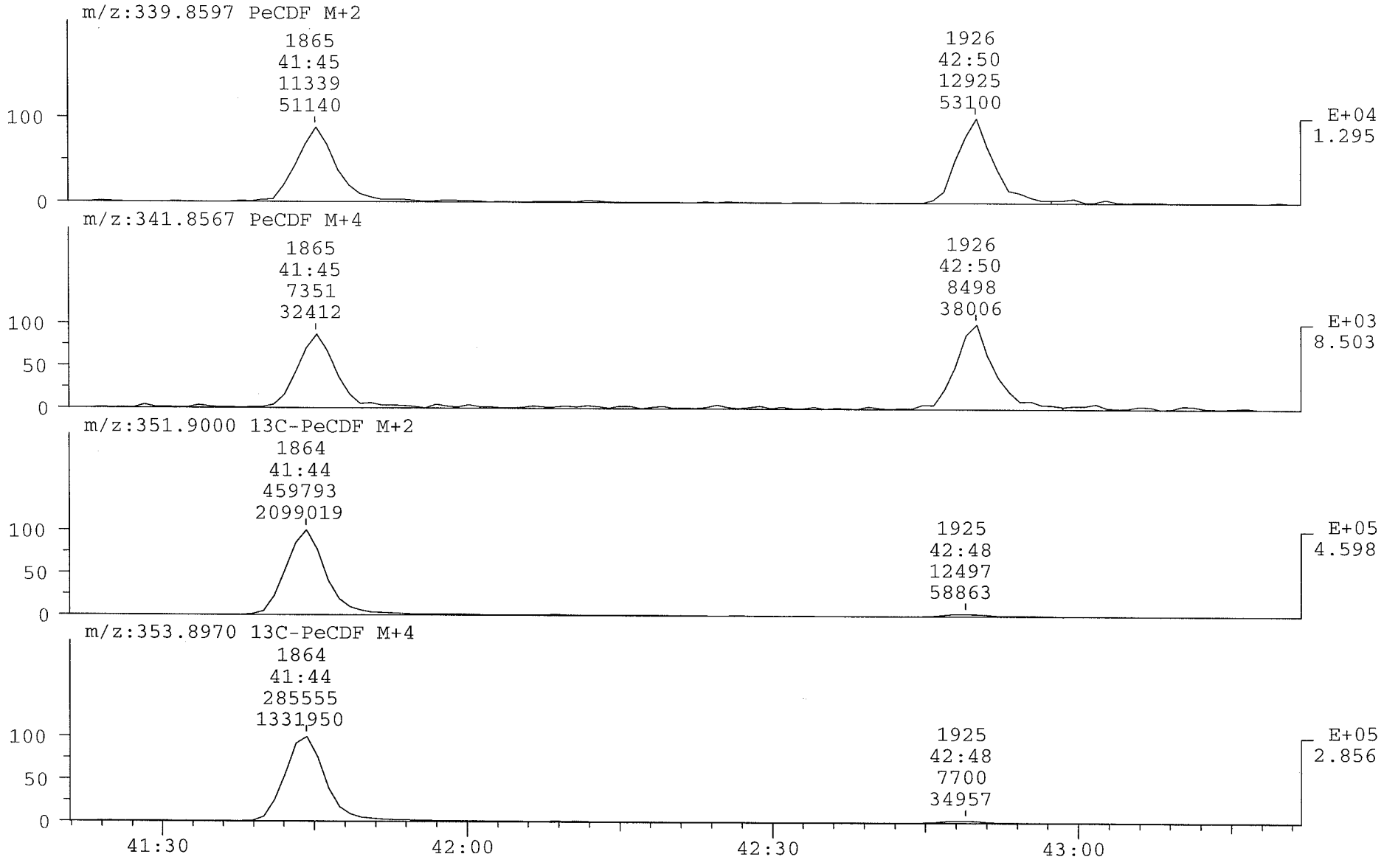
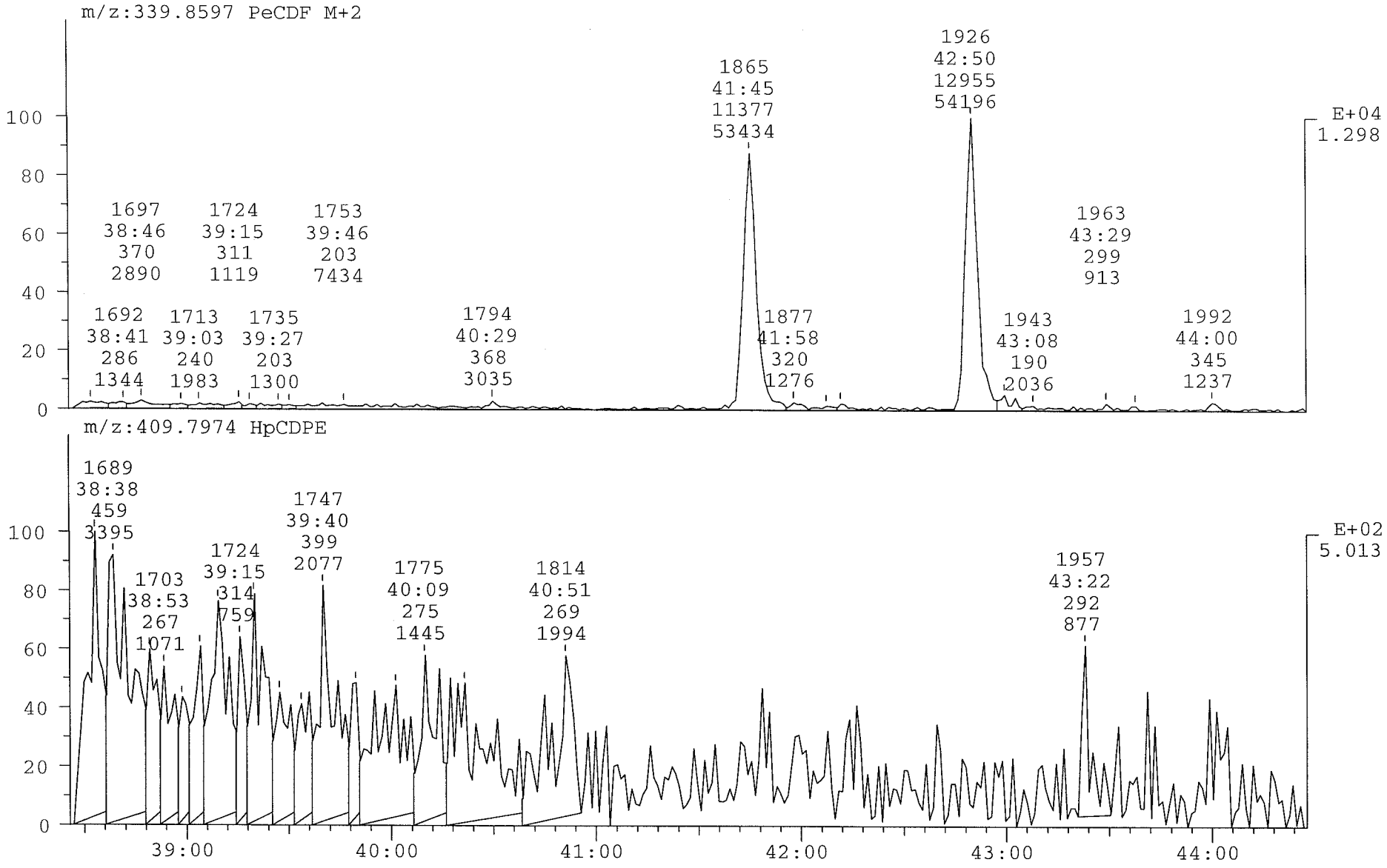
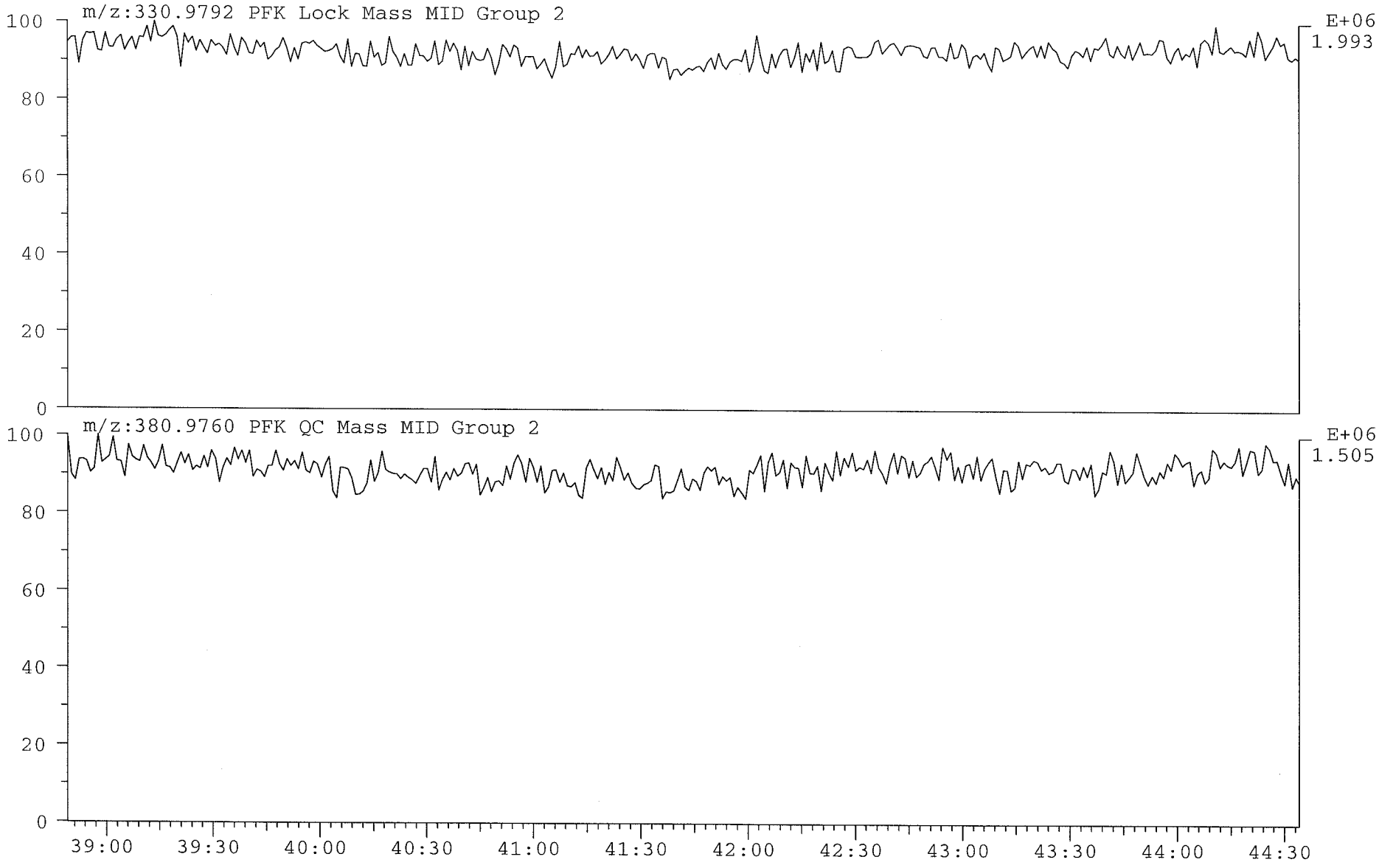


CHRO: b041108i1 08-Nov-04 Elapse: 08:00.5 1
Samp: Vial 12 WO=2960:59CS1 Meth=X8 Dil=1 Start : 13:19:44 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 1679 > 2018 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



CHRO: b04110811 08-Nov-04 Elapse: 08:00.5 1
Samp: Vial 12 WO=2960:59CS1 Meth=X8 Dil=1 Start : 13:19:44 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 1699 > 2024 Masses: 293 > 514
Area: 0, 0.00, 0 Baseline : 0, 3 Label : 0, 0.0



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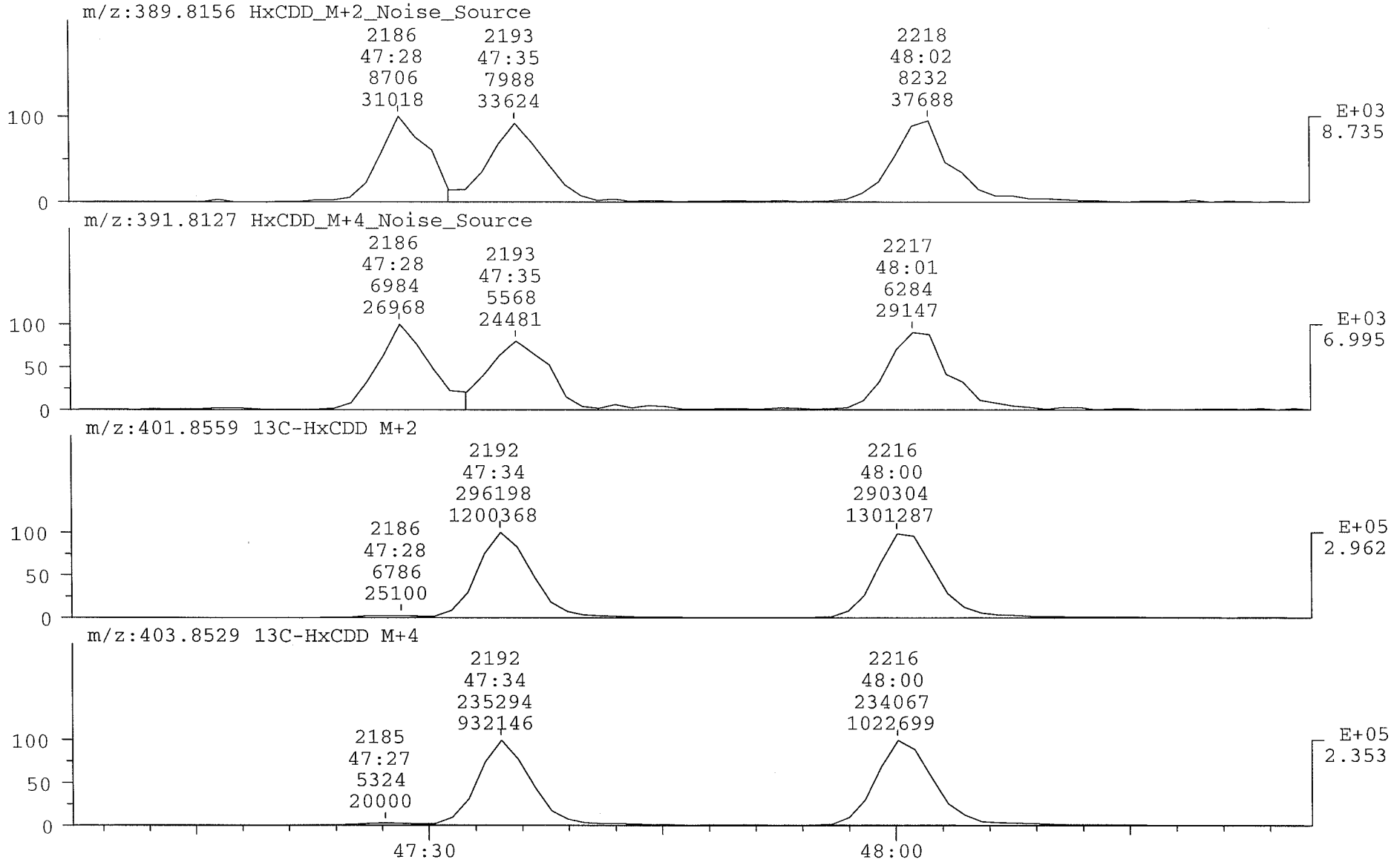
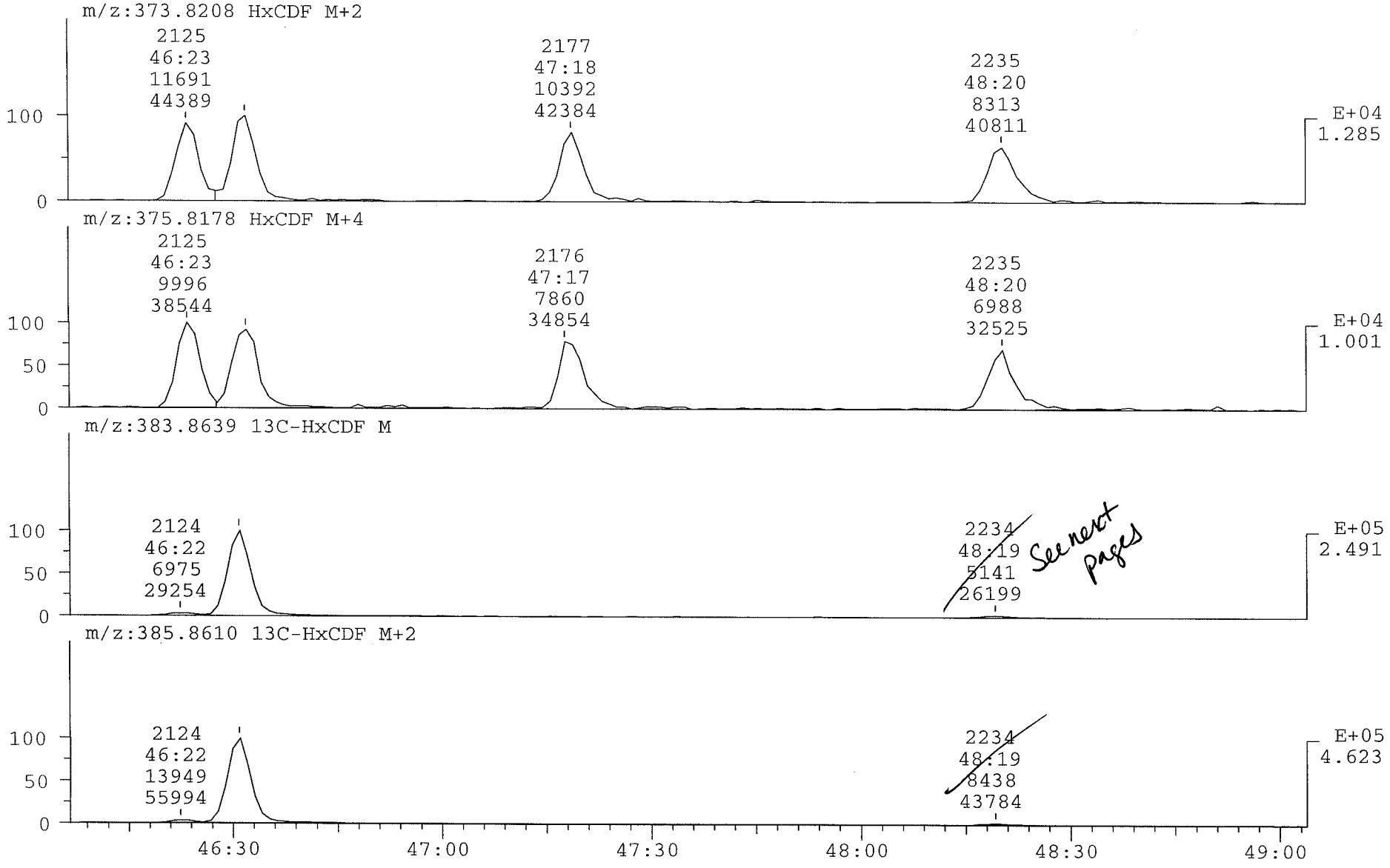
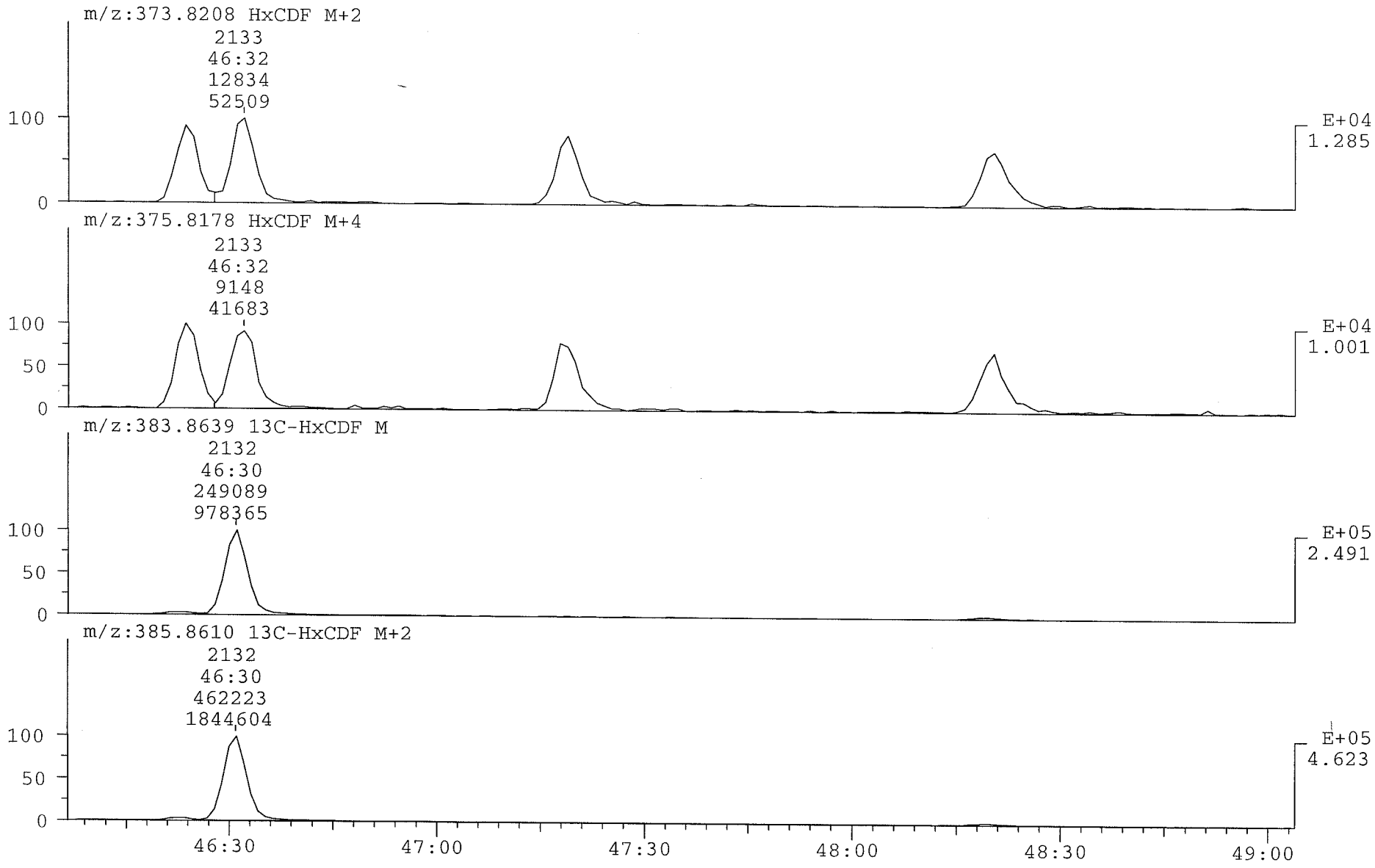
CHRO:  b041108i1                                08-Nov-04   Elapse:  32:23      1346
Samp:  Vial 12 WO=2960:59CS1 Meth=X8 Dil=1                  Start :  13:19:44   2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   2166 > 2241           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 2                Label :  2, 3.0
Disp:  Height  Area
```



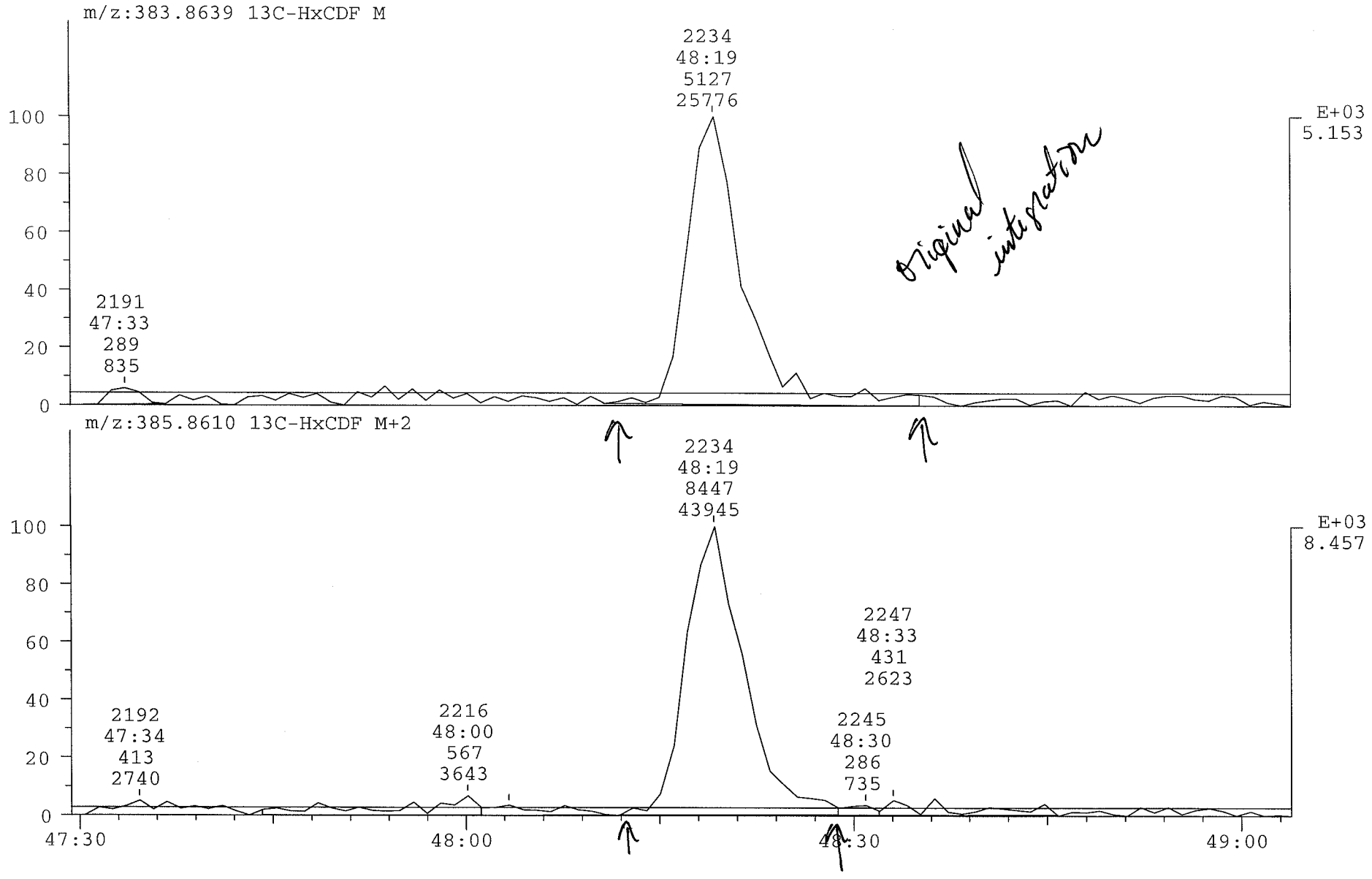
CHRO: b041108i1 08-Nov-04 Elapse: 32:23 1346
Samp: Vial 12 WO=2960:59CS1 Meth=X8 Dil=1 Start : 13:19:44 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2109 > 2276 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



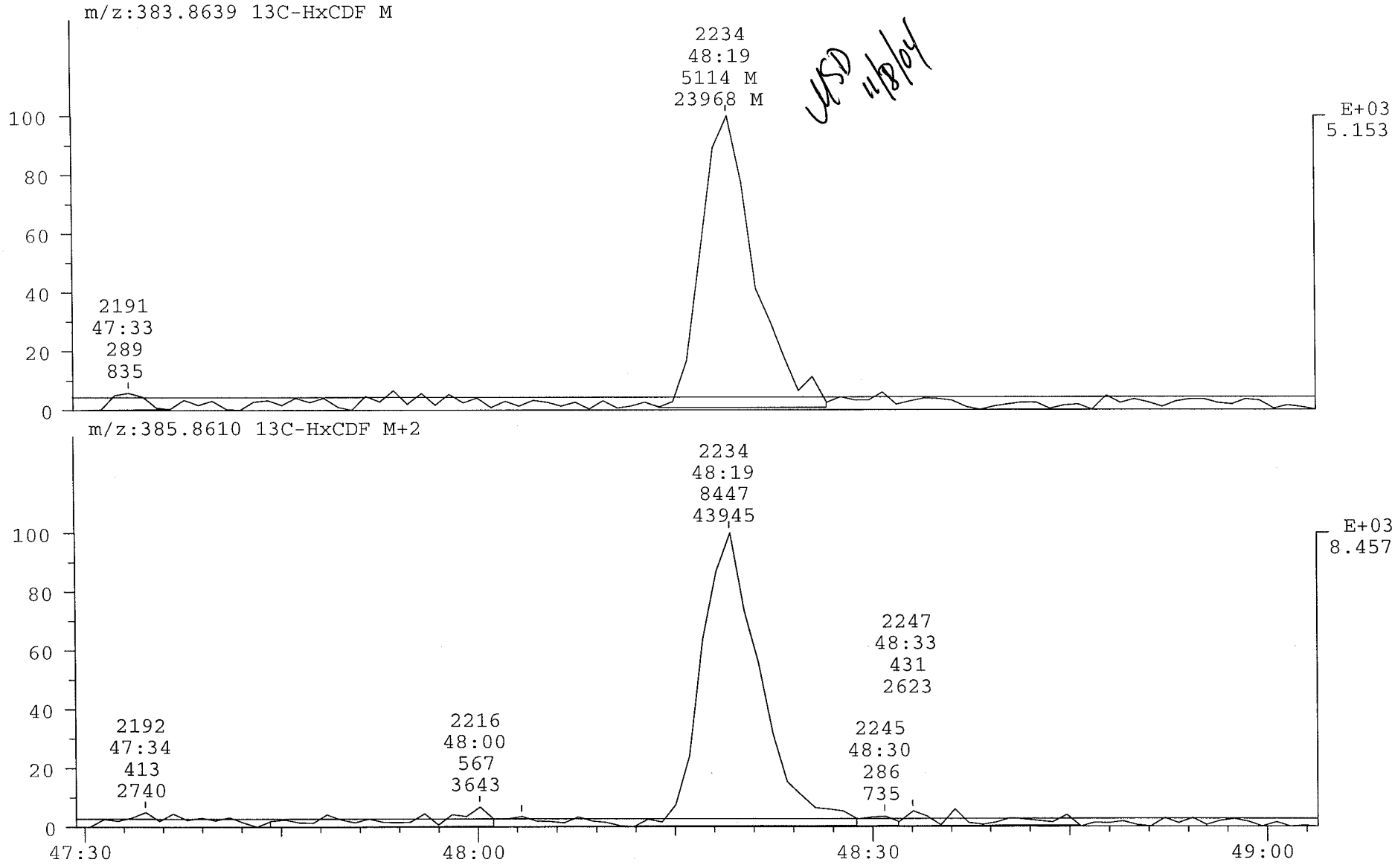
CHRO: b041108i1 08-Nov-04 Elapse: 46:32 2133
Samp: Vial 12 WO=2960:59CS1 Meth=X8 Dil=1 Start : 13:19:44 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2130 > 2136 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



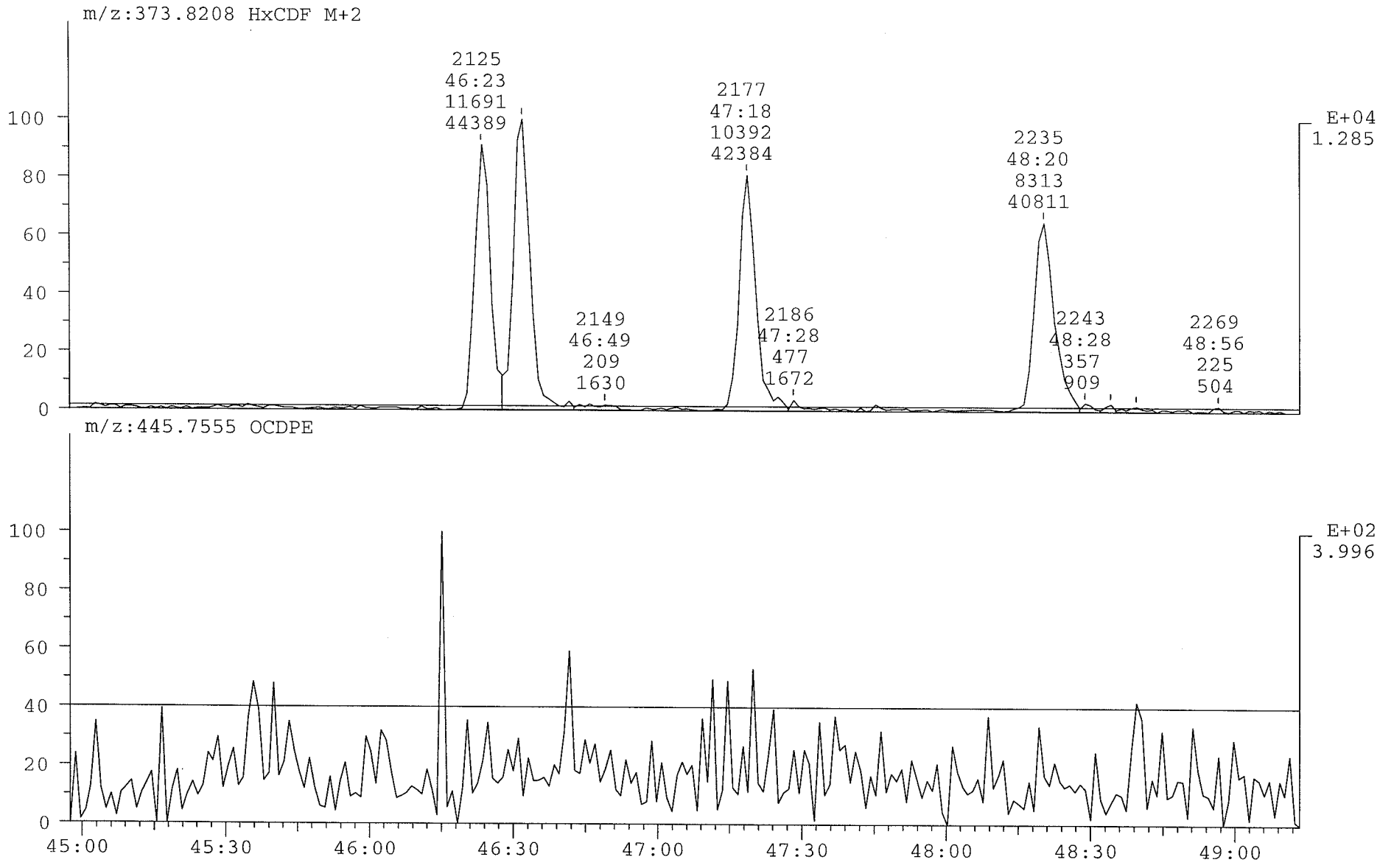
CHRO: b041108i1 08-Nov-04 Elapse: 48:08 2224
Samp: Vial 12 WO=2960:59CS1 Meth=X8 Dil=1 Start : 13:19:44 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2187 > 2276 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



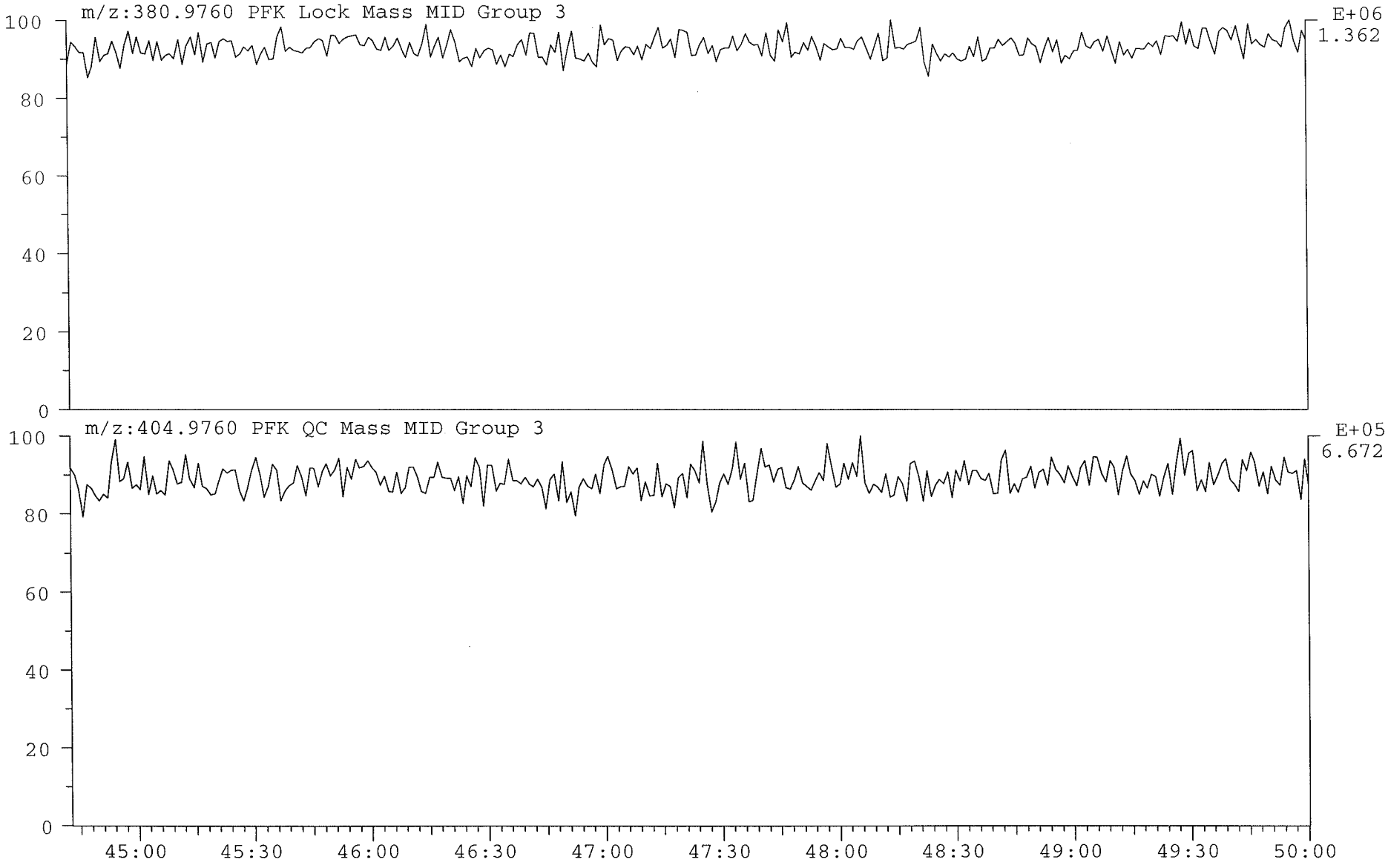
CHRO: b041108i1 08-Nov-04 Elapse: 48:08 2224
Samp: Vial 12 WO=2960:59CS1 Meth=X8 Dil=1 Start : 13:19:44 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2187 > 2276 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: b041108i1 08-Nov-04 Elapse: 08:00.5 1
Samp: Vial 12 WO=2960:59CS1 Meth=X8 Dil=1 Start : 13:19:44 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2044 > 2285 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: b041108i1 08-Nov-04 Elapse: 08:00.5 1
Samp: Vial 12 WO=2960:59CS1 Meth=X8 Dil=1 Start : 13:19:44 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2030 > 2329 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



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CHRO:  b041108i1                                08-Nov-04   Elapse:  08:00.5        1
Samp:  Vial 12 WO=2960:59CS1 Meth=X8 Dil=1                  Start :  13:19:44    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   1 > 3000              Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
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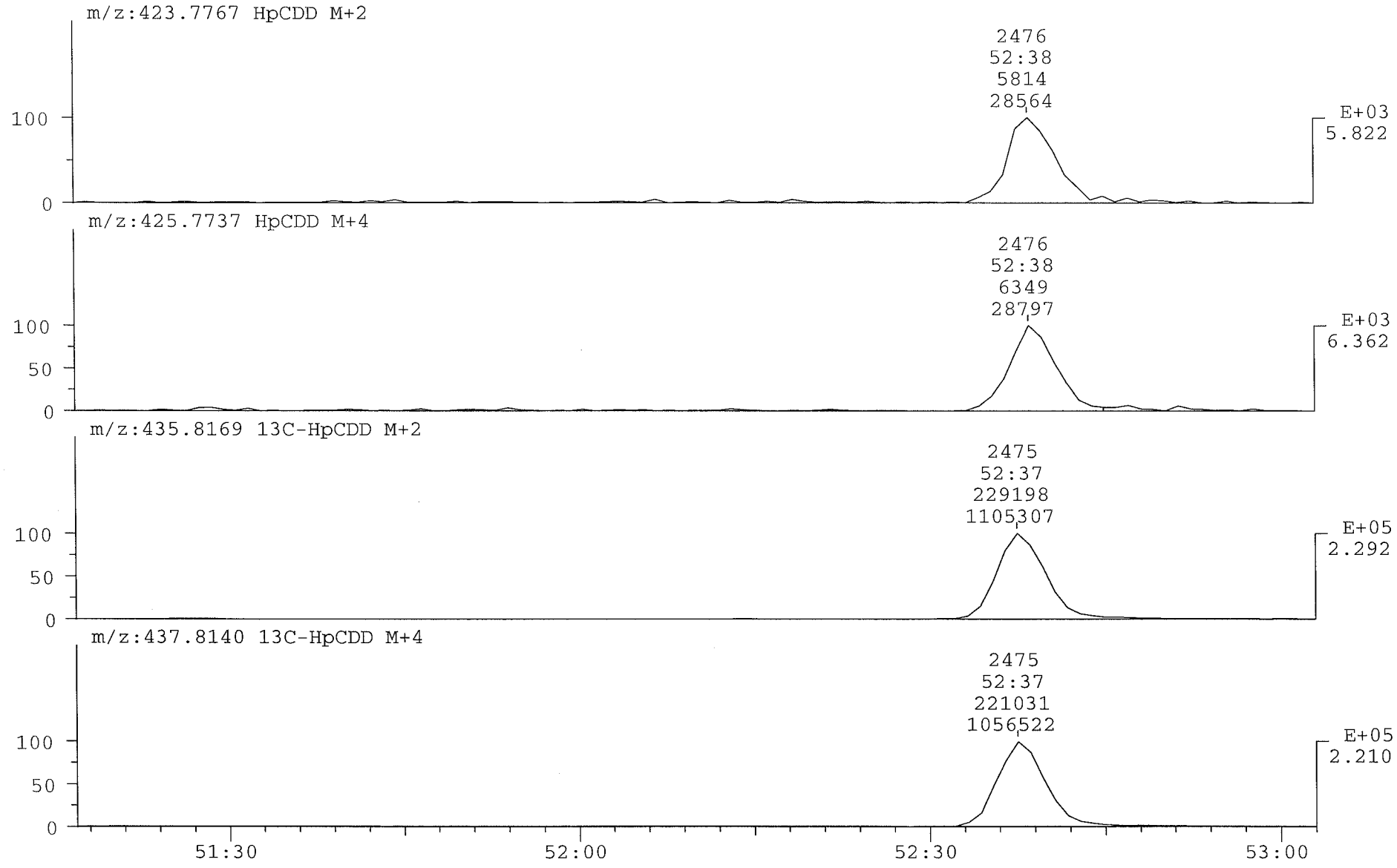
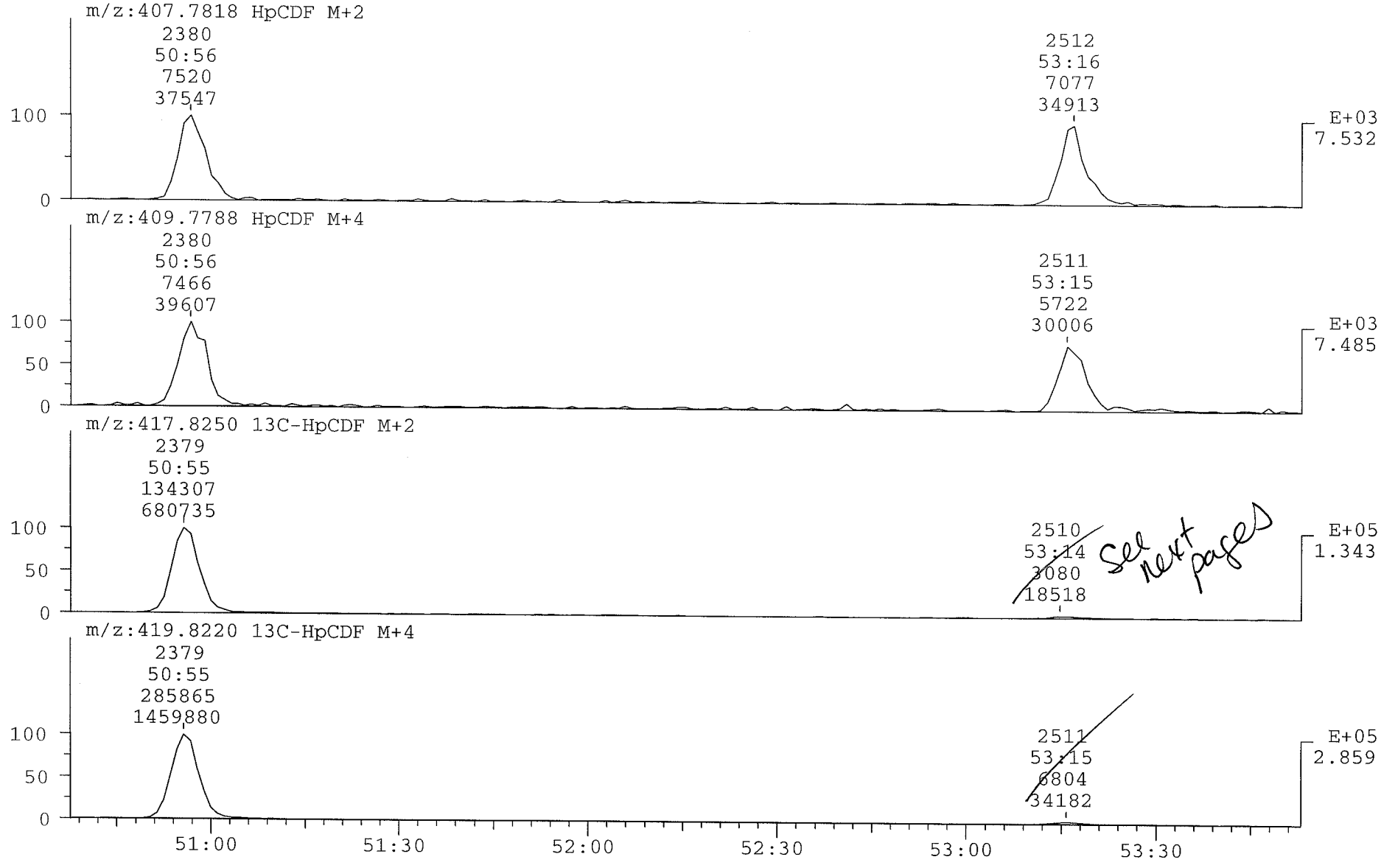
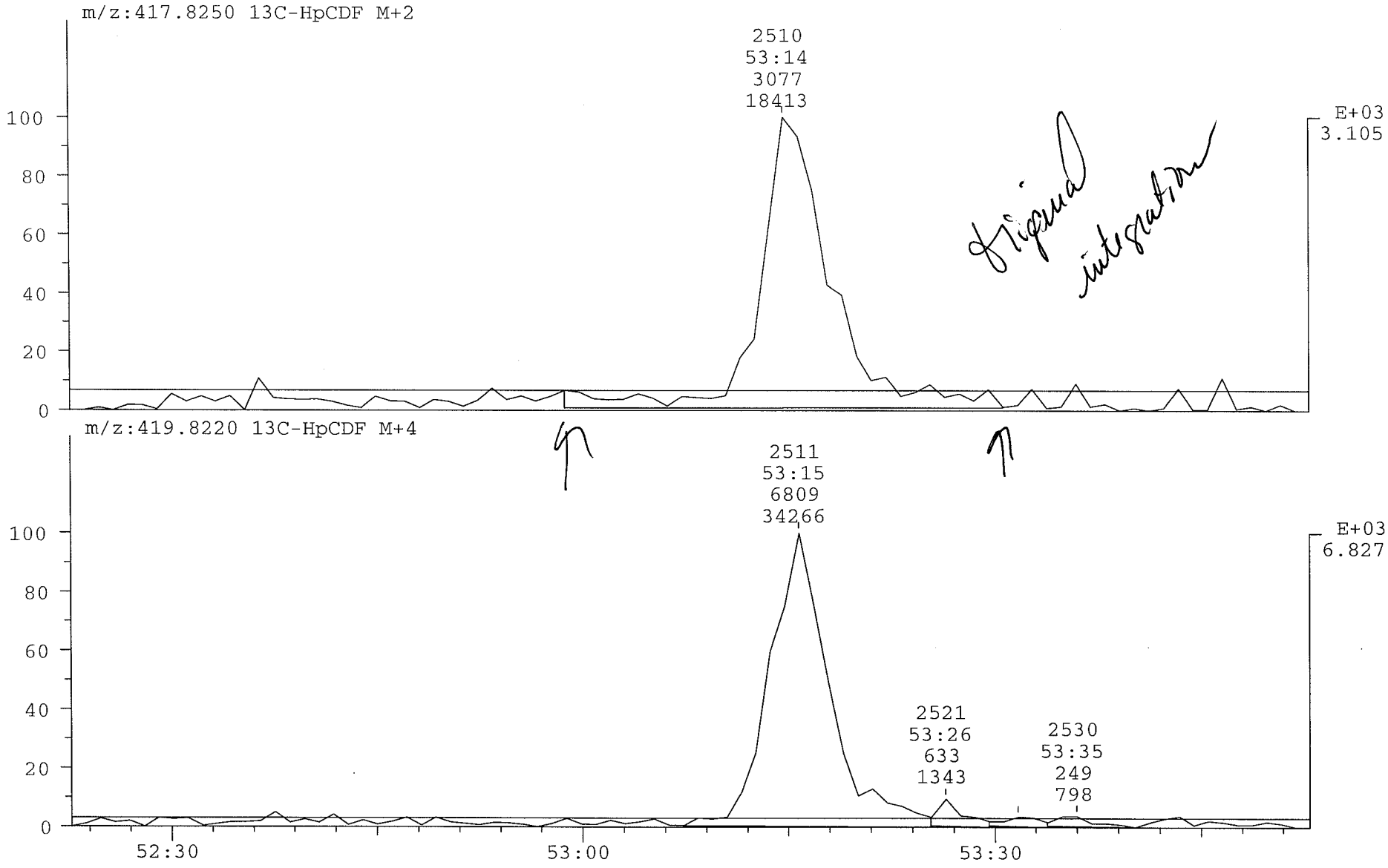


CHRO: b041108i1 08-Nov-04 Elapse: 08:00.5 1
Samp: Vial 12 WO=2960:59CS1 Meth=X8 Dil=1 Start : 13:19:44 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2362 > 2546 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area

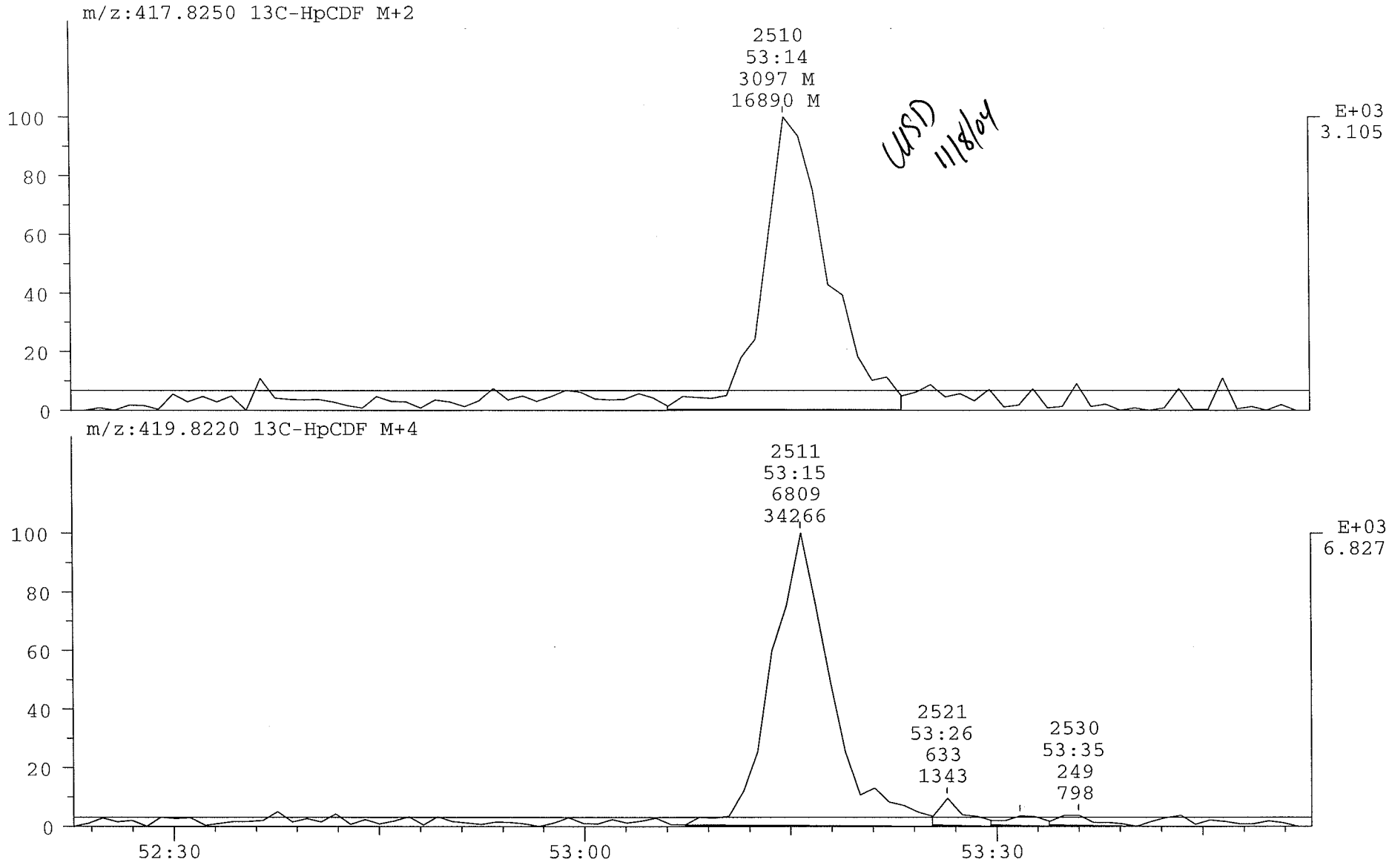


See next pages

CHRO: b041108i1 08-Nov-04 Elapse: 50:52 2376
Samp: Vial 12 WO=2960:59CS1 Meth=X8 Dil=1 Start : 13:19:44 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2461 > 2546 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: b041108i1 08-Nov-04 Elapse: 50:52 2376
Samp: Vial 12 WO=2960:59CS1 Meth=X8 Dil=1 Start : 13:19:44 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2461 > 2546 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



WSD 11/8/04

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CHRO:  b041108i1                                08-Nov-04   Elapse:  08:00.5        1
Samp:  Vial 12 WO=2960:59CS1 Meth=X8 Dil=1                  Start :  13:19:44    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   2360 > 2555           Masses:  293 > 514
Area:  5, 0.50, 0       Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
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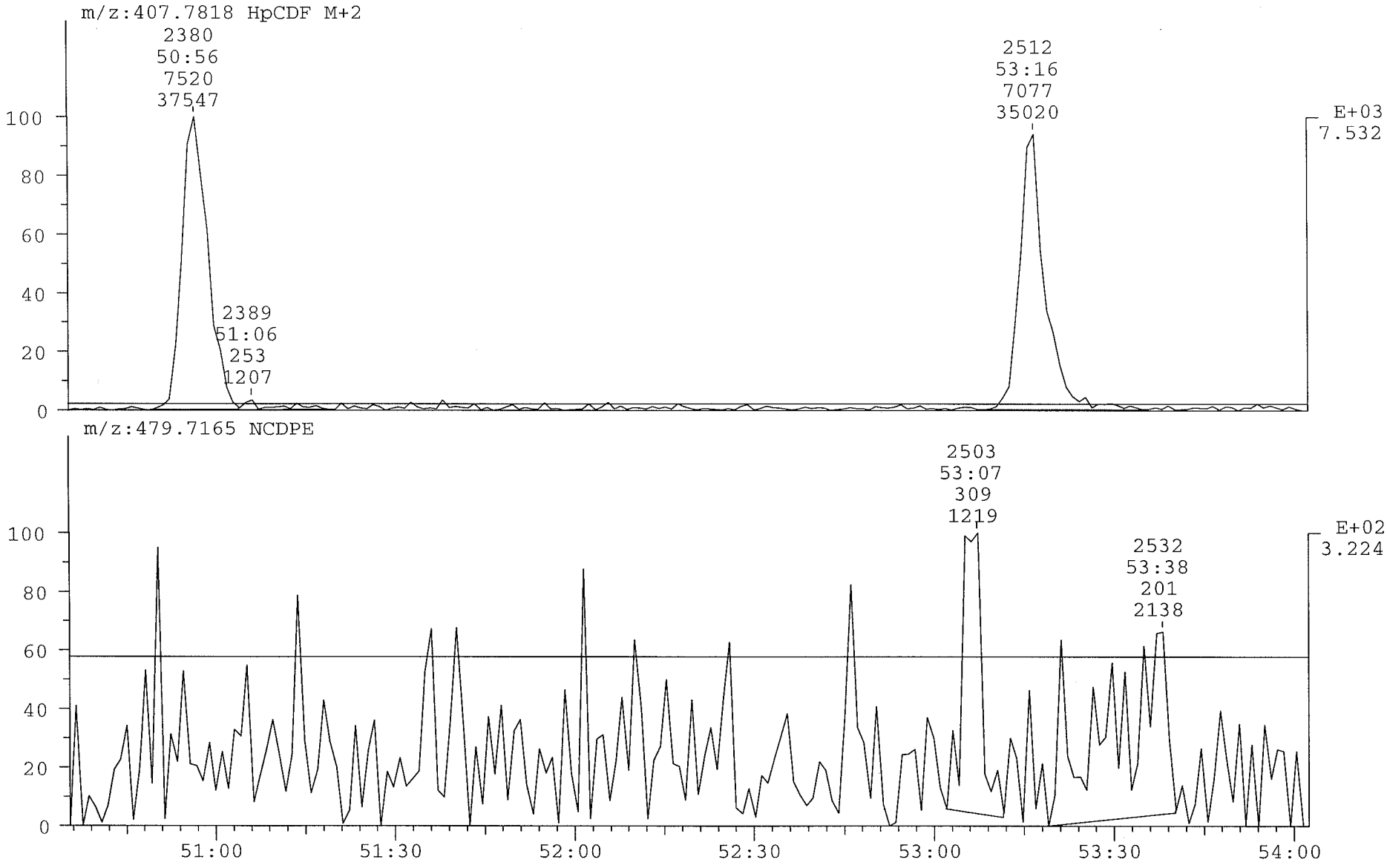

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CHRO:  b041108i1                                08-Nov-04  Elapse:  08:00.5        1
Samp:  Vial 12 WO=2960:59CS1 Meth=X8 Dil=1                 Start :  13:19:44    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  M23 ICAL
Oper:  MSD          Client:  STL Knoxville                 Inlet :  GC     Vial  12
Peak:  100.00  ppm     Label wndw:   2366 > 2625           Masses:  293 > 514
Area:  0, 0.00, 0      Baseline  :   0, 3                  Label :  0, 2.5
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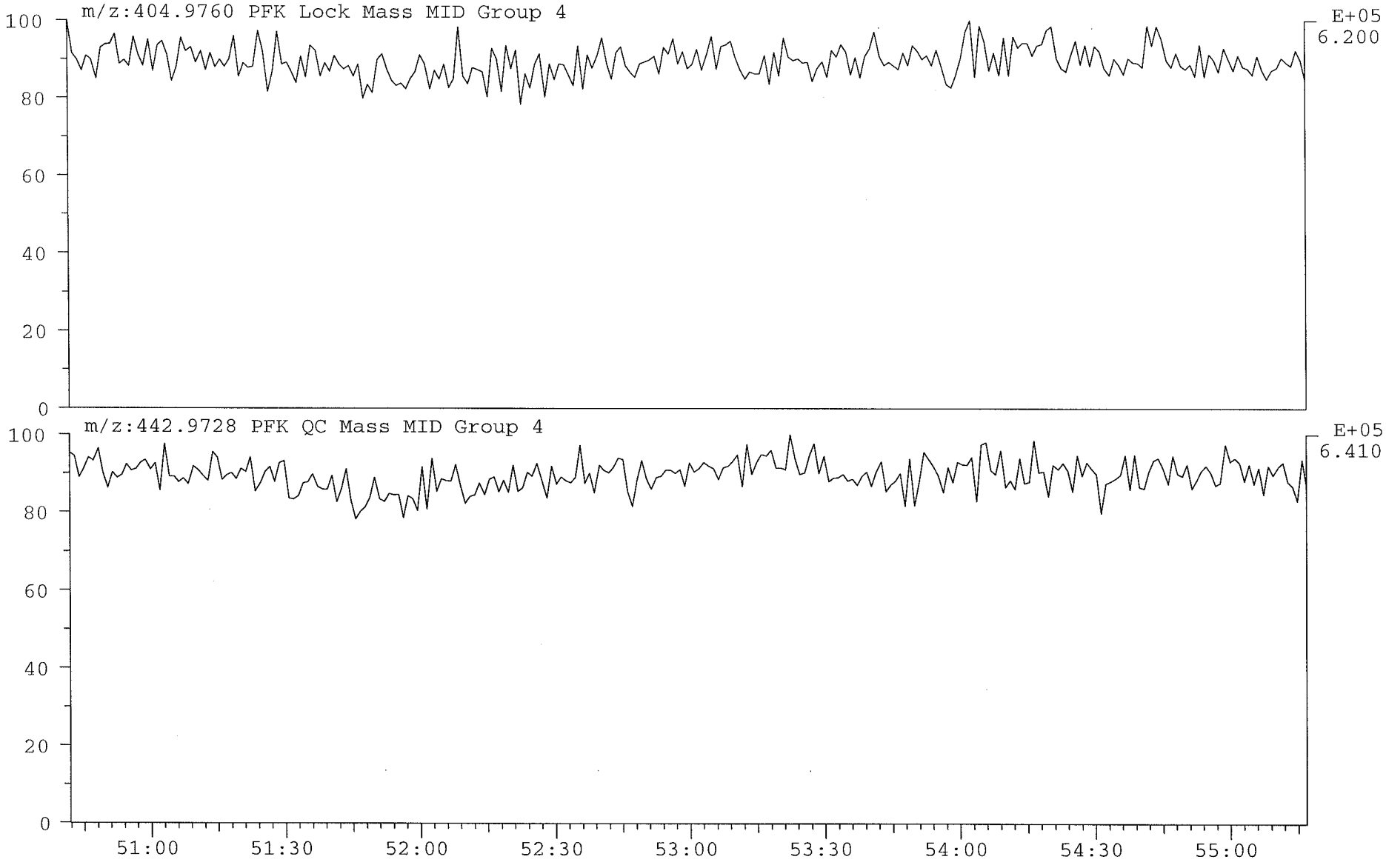
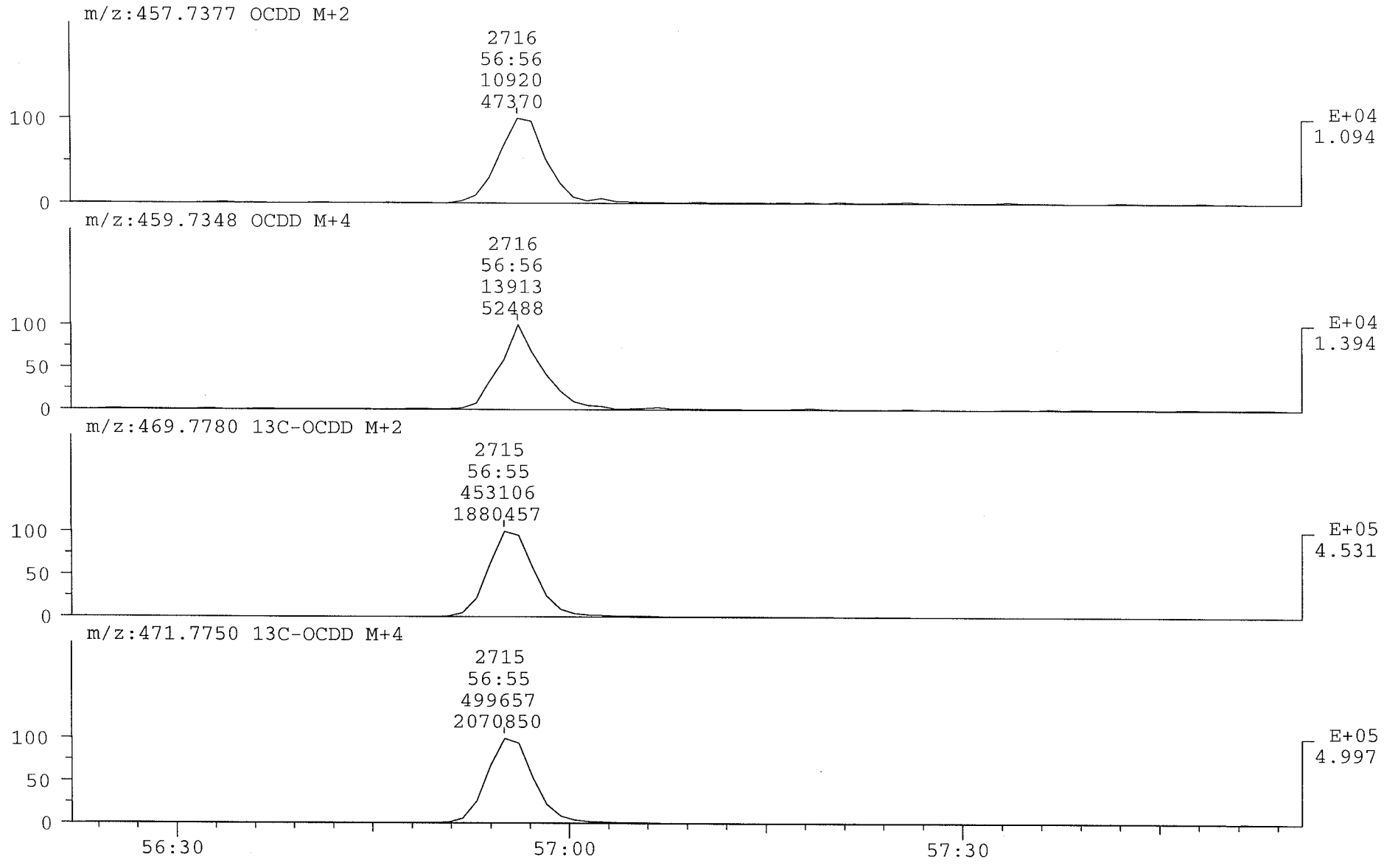


CHRO: b041108i1 08-Nov-04 Elapse: 08:00.5 1
Samp: Vial 12 WO=2960:59CS1 Meth=X8 Dil=1 Start : 13:19:44 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2684 > 2772 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



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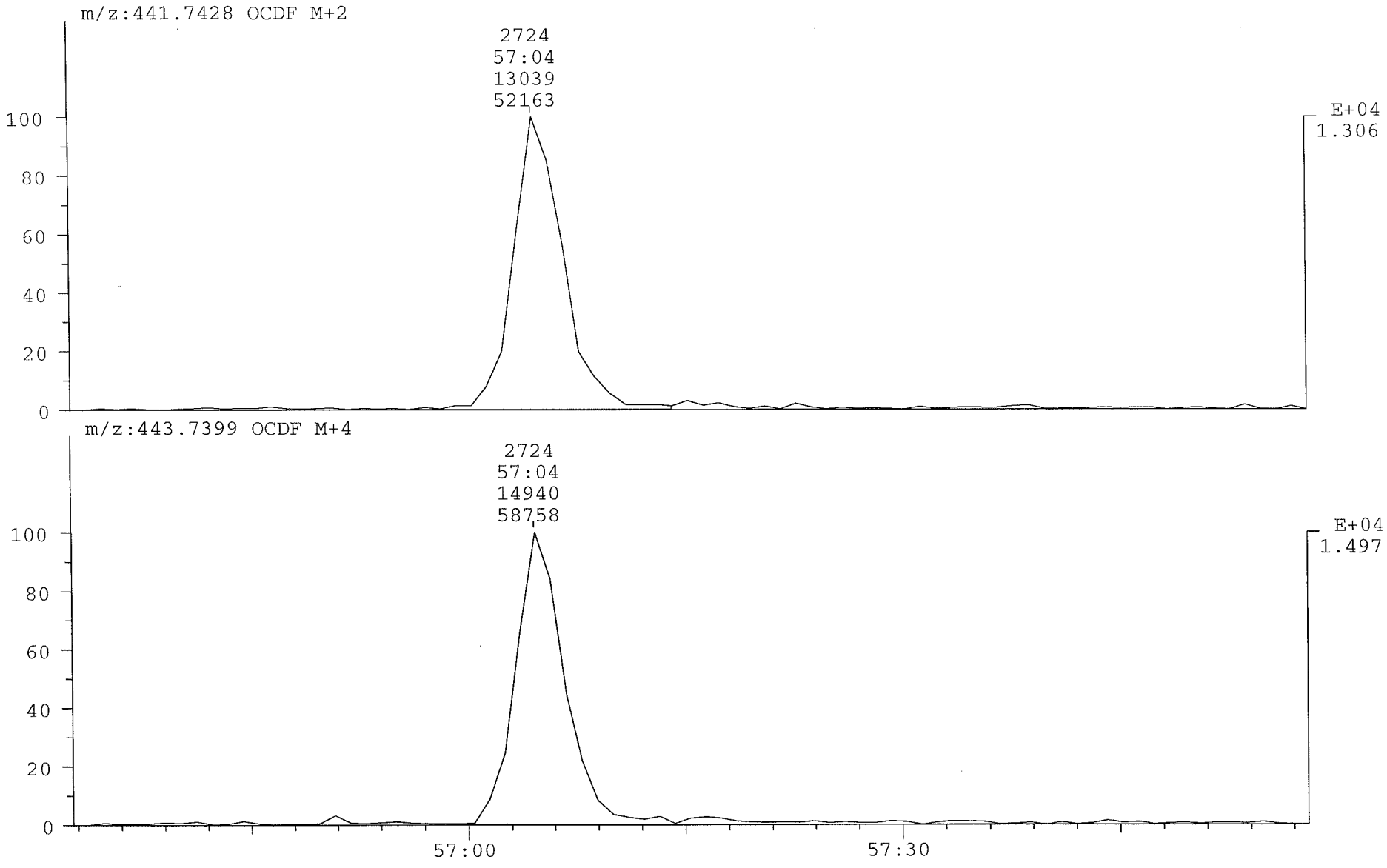
CHRO:  b041108i1                                08-Nov-04   Elapse:  08:00.5        1
Samp:  Vial 12 WO=2960:59CS1 Meth=X8 Dil=1                  Start :  13:19:44    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  12
Peak:  100.00  ppm      Label wndw:   2694 > 2774           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
```



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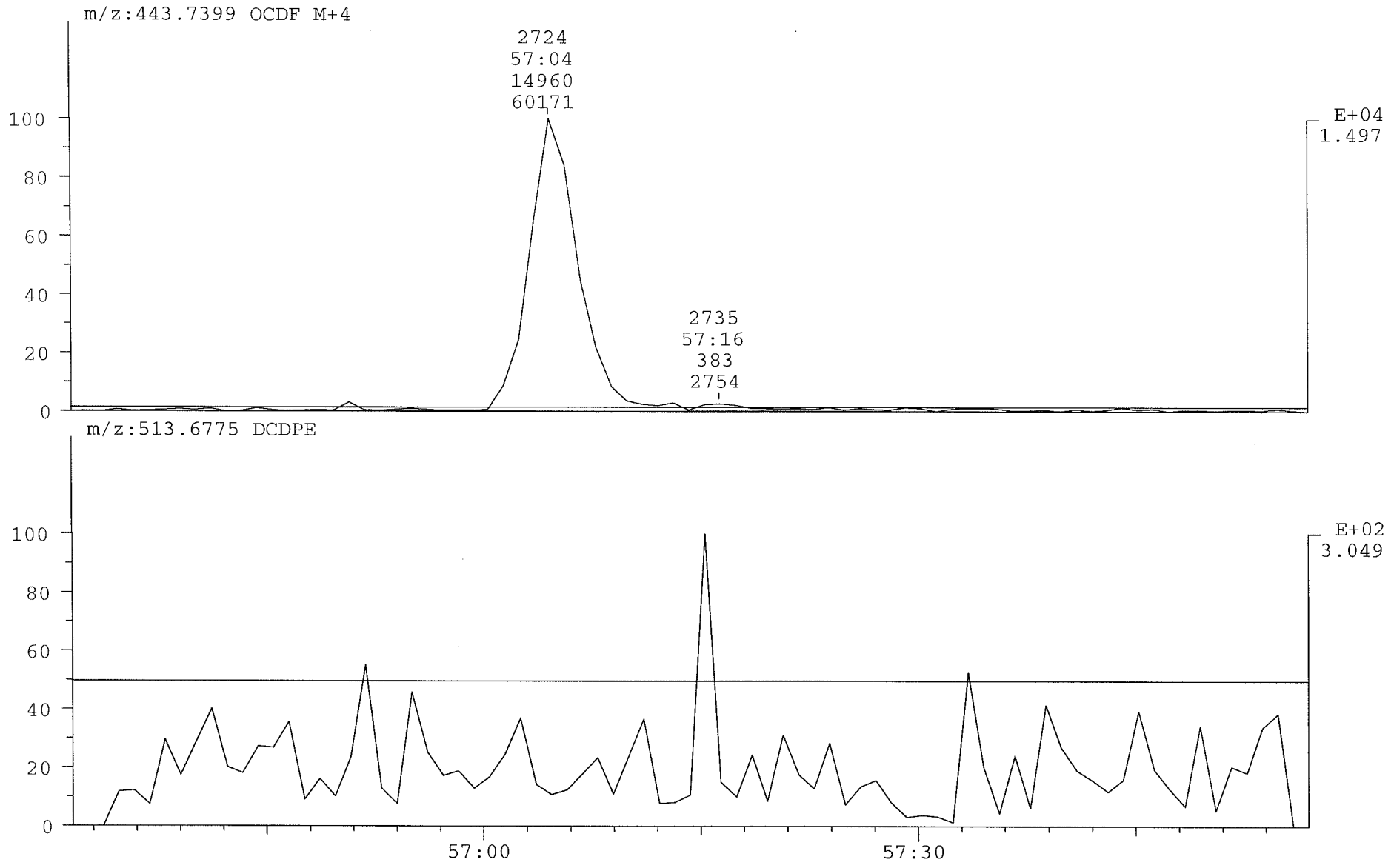
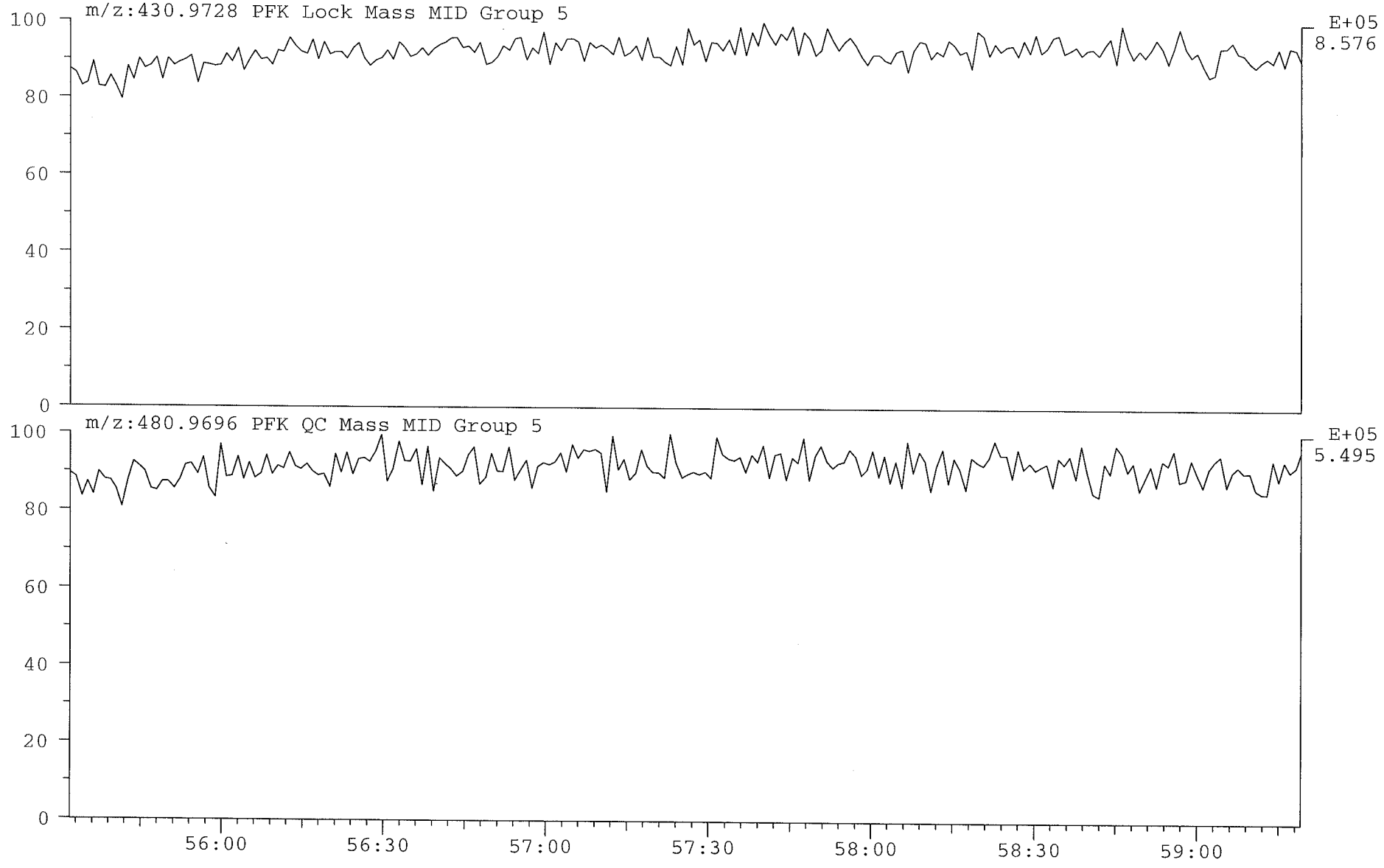
CHRO:  b041108i1                                08-Nov-04   Elapse:  08:00.5        1
Samp:  Vial 12 WO=2960:59CS1 Meth=X8 Dil=1                  Start :  13:19:44    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD          Client:  STL Knoxville                  Inlet :  GC     Vial  12
Peak:  100.00  ppm     Label wndw:   2693 > 2773            Masses:  293 > 514
Area:  5, 0.50, 0      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: b041108i1 08-Nov-04 Elapse: 08:00.5 1
Samp: Vial 12 WO=2960:59CS1 Meth=X8 Dil=1 Start : 13:19:44 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 12
Peak: 100.00 ppm Label wndw: 2637 > 2850 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 3.0
Disp: Height Area



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: b041108i1
Study: M23 ICAL
Sample: WO=2960:59CS1 Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: MSD
Client: STL Knoxville
Comments: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Injected volume: 2.0
Sample from Vial 12
Analysis will stop when MID run finishes
Tune file name: tune2
File 1 of list 041108i
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	FALSE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	100 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	30:26 min	38:26 min	1.00 sec
# 2	38:26 min	6:09 min	44:35 min	1.00 sec
# 3	44:35 min	5:24 min	50:00 min	1.00 sec
# 4	50:00 min	5:20 min	55:20 min	1.00 sec
# 5	55:20 min	4:15 min	59:35 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

```
  351.9000       1   1      91.48
  353.8970       1   1      91.48
  355.8546       1   1      91.48
  357.8516       1   1      91.48
  367.8949       1   1      91.48
  369.8919       1   1      91.48
  380.9760 c    10   1       8.19
  409.7974       1   1      91.48
 Window # 3
      mass F  int  gr  time (ms)
  373.8208       1   1      91.48
  375.8178       1   1      91.48
  380.9760 l    10   1       8.19
  383.8639       1   1      91.48
  385.8610       1   1      91.48
  389.8156       1   1      91.48
  391.8127       1   1      91.48
  401.8559       1   1      91.48
  403.8529       1   1      91.48
  404.9760 c    10   1       8.19
  445.7555       1   1      91.48
 Window # 4
      mass F  int  gr  time (ms)
  404.9760 l    10   1       8.19
  407.7818       1   1      91.48
  409.7788       1   1      91.48
  417.8250       1   1      91.48
  419.8220       1   1      91.48
  423.7767       1   1      91.48
  425.7737       1   1      91.48
  435.8169       1   1      91.48
  437.8140       1   1      91.48
  442.9728 c    10   1       8.19
  479.7165       1   1      91.48
 Window # 5
      mass F  int  gr  time (ms)
  430.9728 l    10   1      10.92
  441.7428       1   1     120.15
  443.7399       1   1     120.15
  457.7377       1   1     120.15
  459.7348       1   1     120.15
  469.7780       1   1     120.15
  471.7750       1   1     120.15
  480.9696 c    10   1      10.92
  513.6775       1   1     120.15

Auto Sampler descriptor: pcdd2ul
 Injector A
 Normal Injection
 Slvnt A cln before inj(K):      3 times
 Slvnt B cln before inj(L):      0 times
 Sample rinse cycles   (R):      0 times
 Syringe filling volume(F):    1.0 ul
 Pullup delay time     (D):      4 sec
 Sample pullup speed   (E):    5.0 ul/sec
 Slvnt aftr pre inj cln(U):    0.0 ul
 Air after pre inj cln (G):    2.0 ul
 Sample volume         (V):    2.0 ul
 Sample air volume     (A):    2.0 ul
 Sample pullup count   (P):      2 times
 Injection speed       (S):   10.0 ul/sec
 Injection wait time   (W):     10 sec
 Injection hold time   (H):      3 sec
 Solvent A clean cycles(C):     15 times
 Solvent B clean cycles(B):     20 times
 Loop clean w slvnt A (LC):      0 times
```

```
Loop clean w slvnt B (LB):      0 times
Standard sample volume(X):    0.0 ul
Standard air volume   (Y):    0.0 ul
2nd Injection volume  (I):    0.0 ul
Air volume of 2nd inj (J):    0.0 ul
Time btwn 2 injections(T):      0 sec

GC descriptor :  epa1613
  Injector:        270 deg                        300 deg max
  Transfer Line:   290 deg                        300 deg max
  Column:          140 deg at   0.0 minutes       330 deg max
                   140 deg at   3.0 minutes
                   210 deg at   6.5 minutes
                   210 deg at  34.5 minutes
                   280 deg at  44.5 minutes
                   280 deg at  51.0 minutes
                   325 deg at  60.0 minutes
  Inlet    :
  Pressure       18.0 psi
  Splitless mode
  Purge time      1.5 min
  Purge flow     40.0 mL/min

   Gas saver is on
   Saver time      3.0 min
   Saver flow     15.0 mL/min

  Stabilize time   0.5 minutes
```

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8409.0000
BDEV	8278.0000	BFM	2.0000	BLM	1038.6736
BMASS	304.9824	BQUAD	3.2750	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.5059
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.7814	DITSET	0.0000	DRAW	-19.3250
DRAWC	1.0000	DRAWS	0.0050	ECORR	1.0000
ECURR	1.0000	EDAC	7969177.0000	EDACG	0.9999
EDACR	20.0000	EDACZ	850.0000	ELEN	57.4000
EMULT	1.5400	ENS	146.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	176.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	3.3500	FREQ	600.9615
FSLOPE	36000000.0000	FVANAL	449.0000	FVINLET	867.0000
FVSRC	968.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	156.0000
HCURR	1.4020	HVANAL	1108.0000	HVSRC	2958.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4757.0160	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2587.0000	LENSS	154.0000	LKM	304.9824
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3475842.6628	MDACR	20.0000
MRANGE	1038.6736	MSFM	2.0000	MSLM	3790.0000
NPEAK	200.0000	NSAM	200.0000	NSCAN	422.0000
NSMAX	14.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-6.9500	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10875.2257	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	2.0000
SCIDLE	1.0000	SHIELD	2720.0000	SHIELDS	0.2000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.7400	TCURR	0.9375	TD	50.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	80.1030	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.2550
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2159.0000	XLENSS	7.2000
YLENS	2834.0000	YLENSS	-148.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 08-Nov-04 13:19:44.2

Autosampler has injected sample from vial 12
Analysis stopped at: 08-Nov-04 14:19:21.2 (run time 59.61 minutes)
Analysis stopped because MID run finished

QUAN: b041108i1.q0 Entries: 142

Data file(s) used
File: b041108i1 08-Nov-04
Samp: Vial 12 WO=2960:59CS1 Meth=X8 Dil=1 Start : 13:19:44 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 12

Disp: CHRO
Amount = (area * ref amnt) / (ref area * response factor); amount = f(reponse)
Response factors from quantitation file

Quan Masses	Actual Time	Area	Height	Peak Beginn	Peak End	Noise Value	La Pe	Lab Fac
321.8775	35:49	10581.	1467.	35:41	35:58	61.	2	3.0
331.9202	35:14	1361361.	140244.	34:57	35:30	257.	2	3.0
331.9202	35:49	1391155.	151771.	35:34	36:05	257.	2	3.0
333.9171	35:14	1696314.	178096.	34:57	35:30	245.	2	3.0
333.9171	35:49	1759723.	188666.	35:37	36:05	245.	2	3.0
333.9171	36:14	18515.	2619.	36:12	36:23	245.	2	3.0
327.8683	35:51	18059.	2620.	35:34	36:06	54.	2	3.0
303.8864	33:43	10852.	1295.	33:27	33:50	54.	2	3.0
305.8834	33:43	15502.	1544.	33:27	33:54	65.	2	3.0
315.9261	33:40	1902801.	170010.	33:24	33:56	117.	2	3.0
317.9230	33:38	2429697.	222839.	33:23	33:54	188.	2	3.0
355.8368	43:16	38999.	9167.	43:09	43:31	64.	2	3.0
357.8337	43:16	26216.	5958.	43:03	43:32	49.	2	3.0
367.8765	43:15	1576984.	384431.	43:05	43:31	104.	2	3.0
369.8734	43:15	1010174.	248320.	43:07	43:31	76.	2	3.0
339.8427	41:45	51140.	11339.	41:35	41:55	66.	2	3.0
339.8427	42:50	53100.	12925.	42:44	42:57	66.	2	3.0
341.8396	41:45	32412.	7351.	41:37	41:55	80.	2	3.0
341.8396	42:50	38006.	8498.	42:41	42:58	80.	2	3.0
351.8824	41:44	2099019.	459793.	41:35	42:00	91.	2	3.0
351.8824	42:49	58863.	12497.	42:42	42:58	91.	2	3.0
353.8793	41:44	1331950.	285555.	41:34	42:00	68.	2	3.0
353.8793	42:49	34957.	7700.	42:43	42:54	68.	2	3.0
389.7961	47:28	31018.	8706.	47:19	47:31	75.	2	3.0
389.7961	47:35	33624.	7988.	47:31	47:46	75.	2	3.0
389.7961	48:02	37688.	8232.	47:46	48:15	75.	2	3.0
391.7931	47:28	26968.	6984.	47:21	47:32	84.	2	3.0
391.7931	47:35	24481.	5568.	47:32	47:41	84.	2	3.0
391.7931	48:01	29147.	6284.	47:54	48:09	84.	2	3.0
401.8358	47:34	1225468.	296198.	47:21	47:50	158.	2	3.0
401.8358	48:00	1305497.	290304.	47:52	48:16	158.	2	3.0
401.8358	48:24	1719.	519.	48:21	48:25	158.	2	3.0
403.8327	47:27	20000.	5324.	47:21	47:29	105.	2	3.0
403.8327	47:34	932146.	235294.	47:29	47:46	105.	2	3.0
403.8327	48:00	1022699.	234067.	47:51	48:16	105.	2	3.0
373.8021	46:23	44389.	11691.	46:18	46:27	64.	2	3.0
373.8021	46:32	52509.	12834.	46:27	46:42	64.	2	3.0
373.8021	47:18	42384.	10392.	47:11	47:27	64.	2	3.0
373.8021	48:20	40811.	8313.	48:11	48:27	64.	2	3.0
375.7990	46:23	38544.	9996.	46:19	46:27	72.	2	3.0
375.7990	46:32	41683.	9148.	46:27	46:44	72.	2	3.0
375.7990	47:17	34854.	7860.	47:08	47:27	72.	2	3.0
375.7990	48:20	32525.	6988.	48:13	48:36	72.	2	3.0
383.8447	46:22	29254.	6975.	46:16	46:25	82.	2	3.0
383.8447	46:31	978365.	249088.	46:25	46:46	82.	2	3.0
383.8447	47:33	4104.	350.	47:24	47:49	82.	2	3.0
383.8447	48:19	26199.	5141.	48:08	48:35	82.	2	3.0
385.8417	46:22	55994.	13949.	46:11	46:25	79.	2	3.0
385.8417	46:31	1844604.	462223.	46:25	46:46	79.	2	3.0

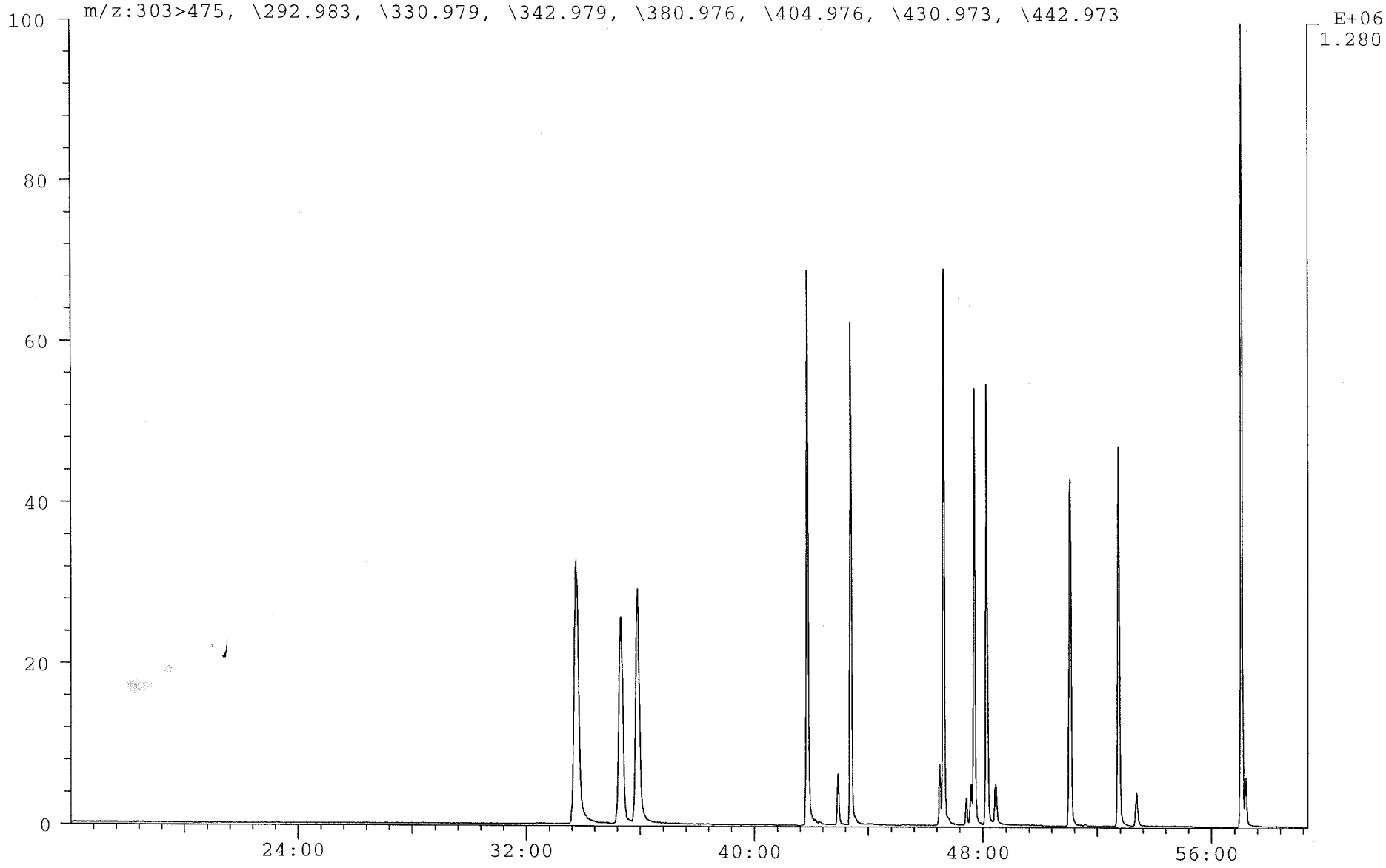
385.8417	46:49	10250.	1926.	46:47	46:57	79.	2	3.0
385.8417	48:19	43784.	8438.	48:11	48:28	79.	2	3.0
423.7555	52:38	28564.	5814.	52:33	52:53	61.	2	3.0
425.7524	52:38	28797.	6349.	52:33	52:45	60.	2	3.0
435.7951	52:37	1105307.	229198.	52:29	52:53	77.	2	3.0
437.7921	52:37	1056522.	221031.	52:29	52:53	62.	2	3.0
407.7614	50:56	37547.	7520.	50:49	51:04	54.	2	3.0
407.7614	53:16	34913.	7077.	53:08	53:32	54.	2	3.0
409.7583	50:56	39607.	7466.	50:43	51:11	57.	2	3.0
409.7583	53:15	30006.	5722.	53:10	53:26	57.	2	3.0
417.8041	50:55	680735.	134307.	50:42	51:11	70.	2	3.0
417.8041	53:14	18518.	3080.	52:58	53:30	70.	2	3.0
419.8010	50:55	1459880.	285865.	50:45	51:11	80.	2	3.0
419.8010	53:15	34182.	6804.	53:07	53:25	80.	2	3.0
457.7148	56:56	47370.	10920.	56:50	57:12	58.	2	3.0
459.7118	56:56	52488.	13913.	56:40	57:03	61.	2	3.0
469.7545	56:55	1880457.	453106.	56:48	57:11	94.	2	3.0
471.7514	56:55	2070850.	499657.	56:46	57:11	96.	2	3.0
441.7207	57:04	52163.	13039.	56:56	57:14	61.	2	3.0
443.7177	57:04	58758.	14940.	56:59	57:14	70.	2	3.0
319.8805	35:49	7365.	985.	35:44	35:58	60.	2	3.0
321.8775	35:49	10581.	1467.	35:41	35:58	61.	2	3.0
331.9202	35:14	1361361.	140244.	34:57	35:30	257.	2	3.0
331.9202	35:49	1391155.	151771.	35:34	36:05	257.	2	3.0
333.9171	35:14	1696314.	178096.	34:57	35:30	245.	2	3.0
333.9171	35:49	1759723.	188666.	35:37	36:05	245.	2	3.0
319.8805	35:49	7365.	985.	35:44	35:58	60.	2	3.0
321.8775	35:49	10581.	1467.	35:41	35:58	61.	2	3.0
331.9202	35:14	1361361.	140244.	34:57	35:30	257.	2	3.0
331.9202	35:49	1391155.	151771.	35:34	36:05	257.	2	3.0
333.9171	35:14	1696314.	178096.	34:57	35:30	245.	2	3.0
333.9171	35:49	1759723.	188666.	35:37	36:05	245.	2	3.0
327.8683	35:51	18059.	2620.	35:34	36:06	54.	2	3.0
303.8864	33:43	10852.	1295.	33:27	33:50	54.	2	3.0
305.8834	33:43	15502.	1544.	33:27	33:54	65.	2	3.0
315.9261	33:40	1902801.	170010.	33:24	33:56	117.	2	3.0
317.9230	33:38	2429697.	222839.	33:23	33:54	188.	2	3.0
355.8368	43:16	38999.	9167.	43:09	43:31	64.	2	3.0
357.8337	43:16	26216.	5958.	43:03	43:32	49.	2	3.0
367.8765	43:15	1576984.	384431.	43:05	43:31	104.	2	3.0
369.8734	43:15	1010174.	248320.	43:07	43:31	76.	2	3.0
339.8427	41:45	51140.	11339.	41:35	41:55	66.	2	3.0
339.8427	42:50	53100.	12925.	42:44	42:57	66.	2	3.0
341.8396	41:45	32412.	7351.	41:37	41:55	80.	2	3.0
341.8396	42:50	38006.	8498.	42:41	42:58	80.	2	3.0
351.8824	41:44	2099019.	459793.	41:35	42:00	91.	2	3.0
351.8824	42:49	58863.	12497.	42:42	42:58	91.	2	3.0
353.8793	41:44	1331950.	285555.	41:34	42:00	68.	2	3.0
353.8793	42:49	34957.	7700.	42:43	42:54	68.	2	3.0
389.7961	47:28	31018.	8706.	47:19	47:31	75.	2	3.0
389.7961	47:35	33624.	7988.	47:31	47:46	75.	2	3.0
389.7961	48:02	37688.	8232.	47:46	48:15	75.	2	3.0
391.7931	47:28	26968.	6984.	47:21	47:32	84.	2	3.0
391.7931	47:35	24481.	5568.	47:32	47:41	84.	2	3.0
391.7931	48:01	29147.	6284.	47:54	48:09	84.	2	3.0
401.8358	47:28	25100.	6786.	47:21	47:29	158.	2	3.0
401.8358	47:34	1200368.	296198.	47:29	47:50	158.	2	3.0
401.8358	48:00	1301287.	290304.	47:52	48:13	158.	2	3.0
403.8327	47:27	20000.	5324.	47:21	47:29	105.	2	3.0
403.8327	47:34	932146.	235294.	47:29	47:46	105.	2	3.0
403.8327	48:00	1022699.	234067.	47:51	48:16	105.	2	3.0
373.8021	46:23	44389.	11691.	46:18	46:27	64.	2	3.0
373.8021	46:32	52509.	12834.	46:27	46:42	64.	2	3.0
373.8021	47:18	42384.	10392.	47:11	47:27	64.	2	3.0
373.8021	48:20	40811.	8313.	48:11	48:27	64.	2	3.0
375.7990	46:23	38544.	9996.	46:19	46:27	72.	2	3.0

375.7990	46:32	41683.	9148.	46:27	46:44	72.	2	3.0
375.7990	47:17	34854.	7860.	47:08	47:27	72.	2	3.0
375.7990	48:20	32525.	6988.	48:13	48:36	72.	2	3.0
383.8447	46:22	29254.	6975.	46:16	46:25	82.	2	3.0
383.8447	46:31	978365.	249088.	46:25	46:46	82.	2	3.0
383.8447	48:19	26199.	5141.	48:08	48:35	82.	2	3.0
385.8417	46:22	55994.	13949.	46:11	46:25	79.	2	3.0
385.8417	46:31	1844604.	462223.	46:25	46:46	79.	2	3.0
385.8417	48:19	43784.	8438.	48:11	48:28	79.	2	3.0
423.7555	52:38	28564.	5814.	52:33	52:53	61.	2	3.0
425.7524	52:38	28797.	6349.	52:33	52:45	60.	2	3.0
435.7951	52:37	1105307.	229198.	52:29	52:53	77.	2	3.0
437.7921	52:37	1056522.	221031.	52:29	52:53	62.	2	3.0
407.7614	50:56	37547.	7520.	50:49	51:04	54.	2	3.0
407.7614	53:16	34913.	7077.	53:08	53:32	54.	2	3.0
409.7583	50:56	39607.	7466.	50:43	51:11	57.	2	3.0
409.7583	53:15	30006.	5722.	53:10	53:26	57.	2	3.0
417.8041	50:55	680735.	134307.	50:42	51:11	70.	2	3.0
417.8041	53:14	18518.	3080.	52:58	53:30	70.	2	3.0
419.8010	50:55	1459880.	285865.	50:45	51:11	80.	2	3.0
419.8010	53:15	34182.	6804.	53:07	53:25	80.	2	3.0
457.7148	56:56	47370.	10920.	56:50	57:12	58.	2	3.0
459.7118	56:56	52488.	13913.	56:40	57:03	61.	2	3.0
469.7545	56:55	1880457.	453106.	56:48	57:11	94.	2	3.0
471.7514	56:55	2070850.	499657.	56:46	57:11	96.	2	3.0
441.7207	57:04	52163.	13039.	56:56	57:14	61.	2	3.0
443.7177	57:04	58758.	14940.	56:59	57:14	70.	2	3.0

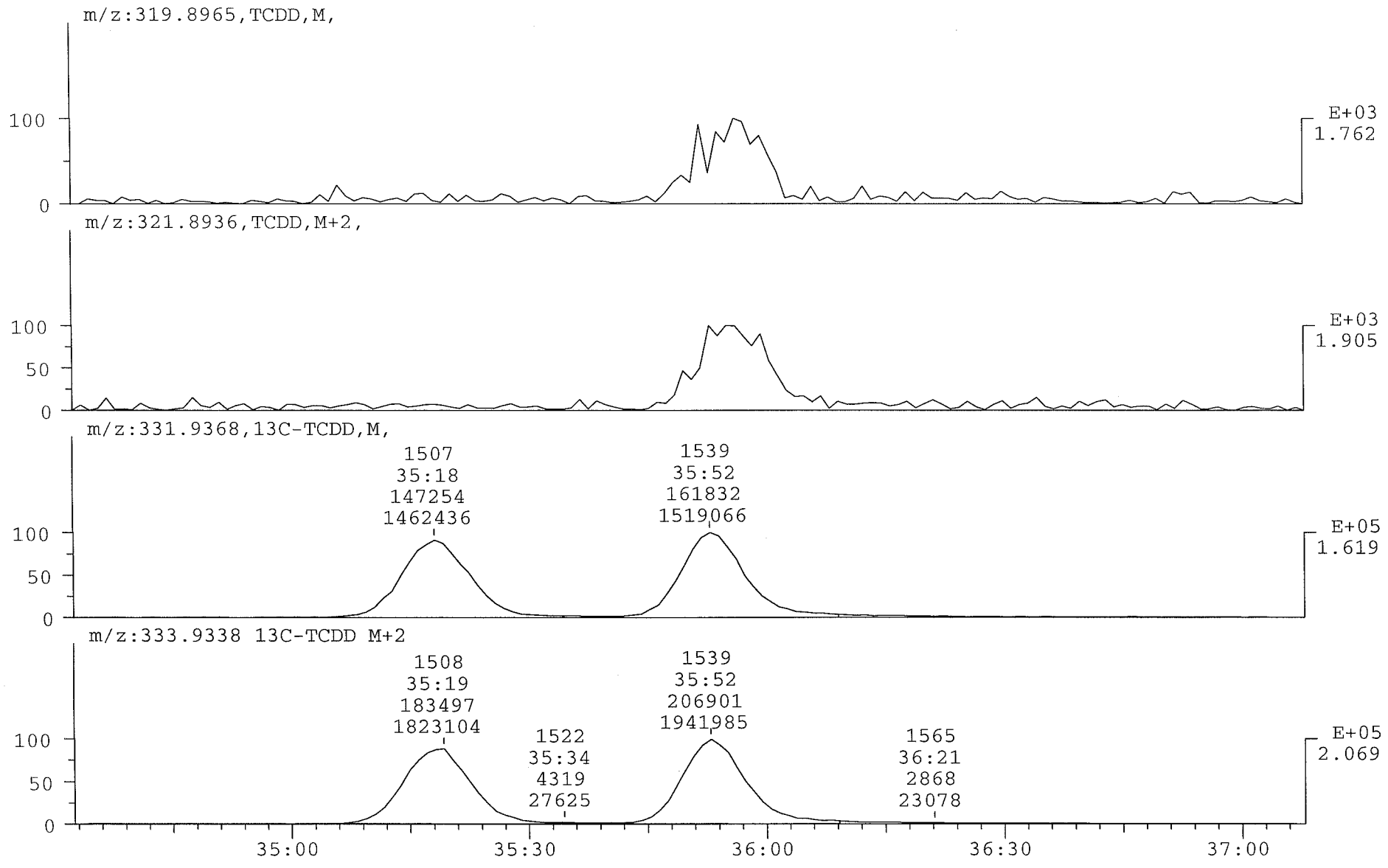
CHRO: b041108i2 08-Nov-04
Samp: Vial 13 WO=2960:59CS2 Meth=X8 Dil=1
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM
Oper: MSD Client: STL Knoxville
Peak: 100.00 ppm Label wndw: 442 > 2853
Area: 5, 0.50, 0 Baseline : 100, 3
Disp: Height Area

Elapse: 46:31 2133
Start : 14:23:27 2867
Study : M23 ICAL
Inlet : GC Vial 13
Masses: 293 > 514
Label : 0, 0.0

Int, Calc MSD 11/8/04
QCPMP 11-9-04



CHRO: b041108i2 08-Nov-04 Elapse: 46:31 2133
Samp: Vial 13 WO=2960:59CS2 Meth=X8 Dil=1 Start : 14:23:27 2867
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1465 > 1608 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



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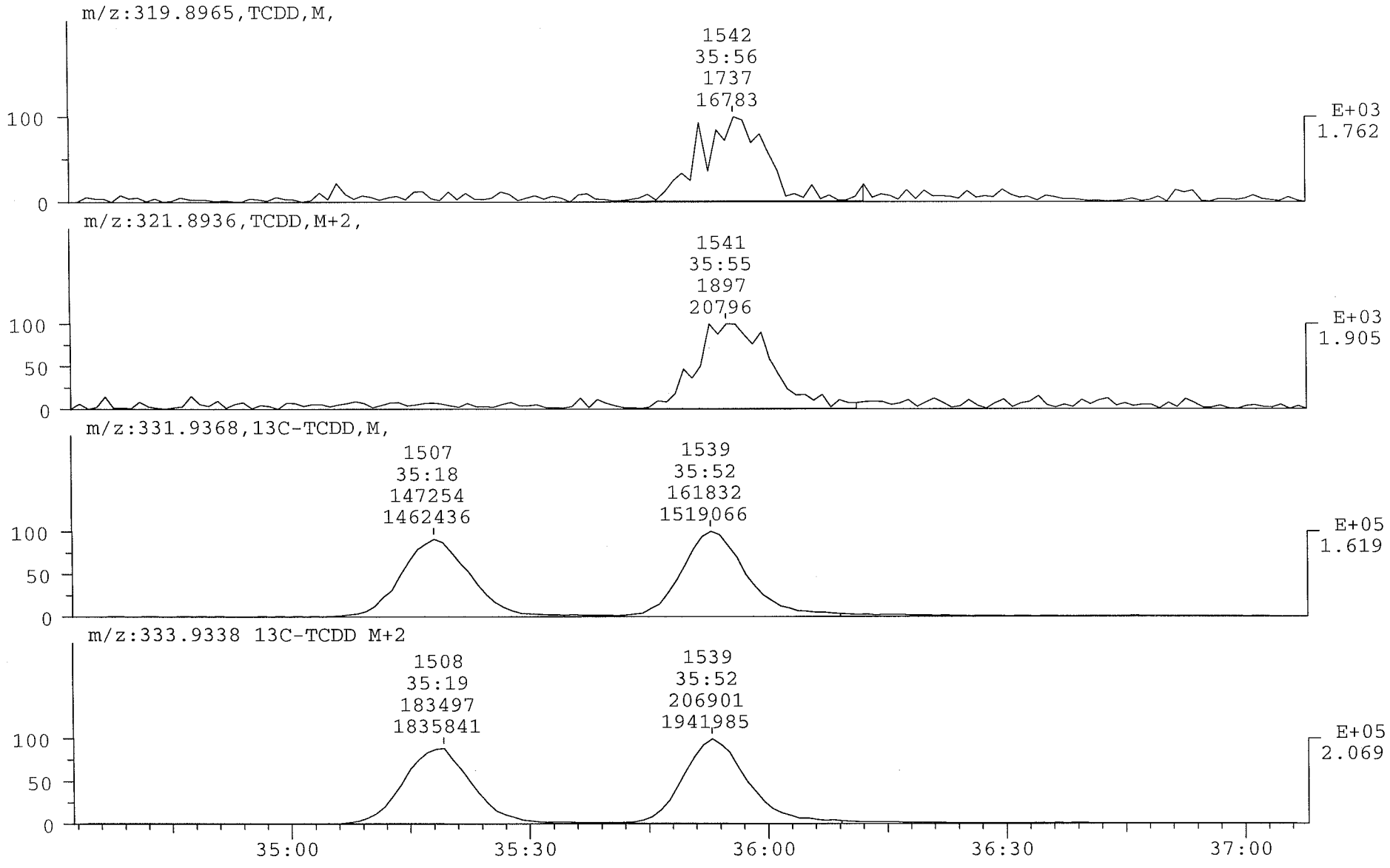
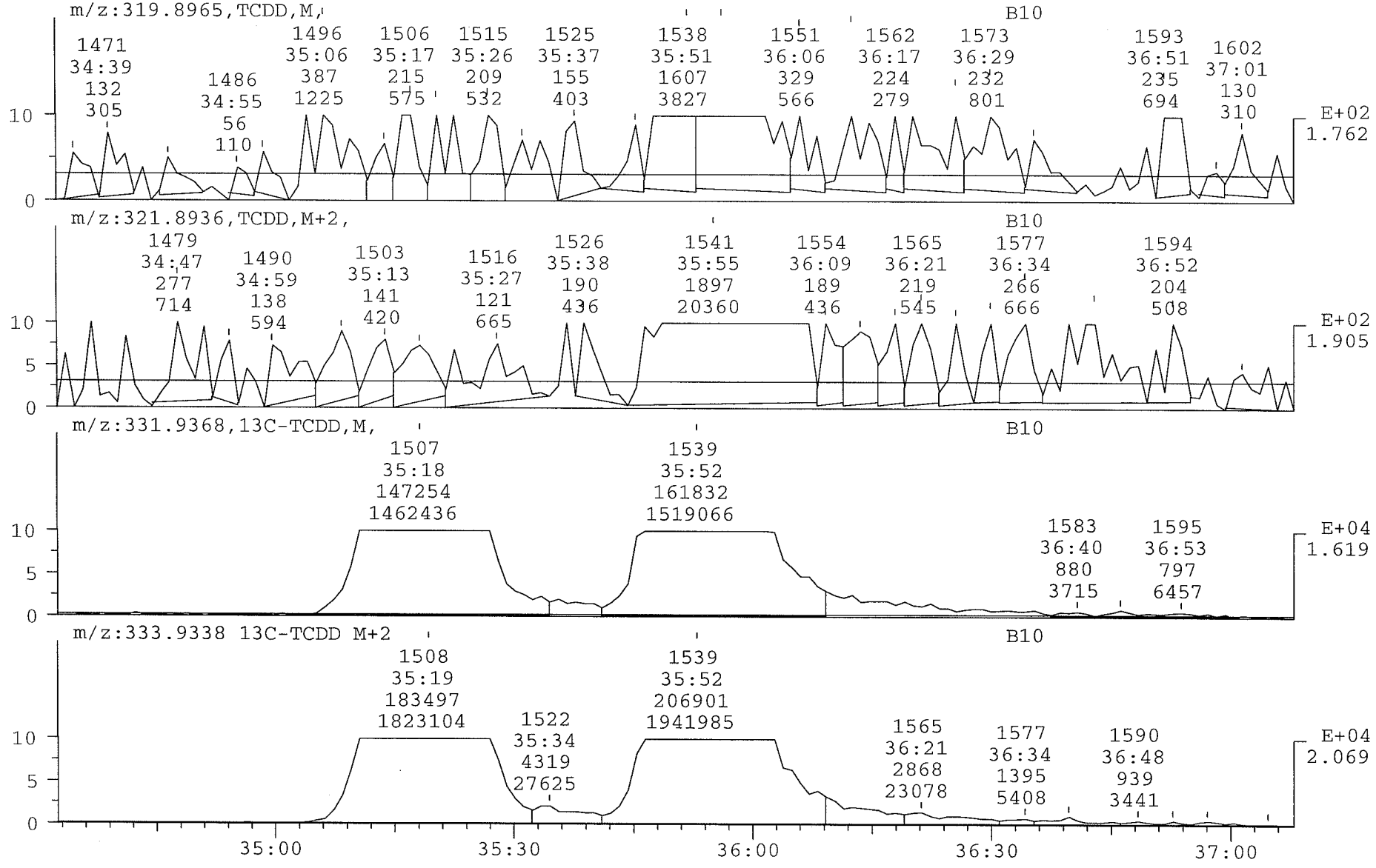
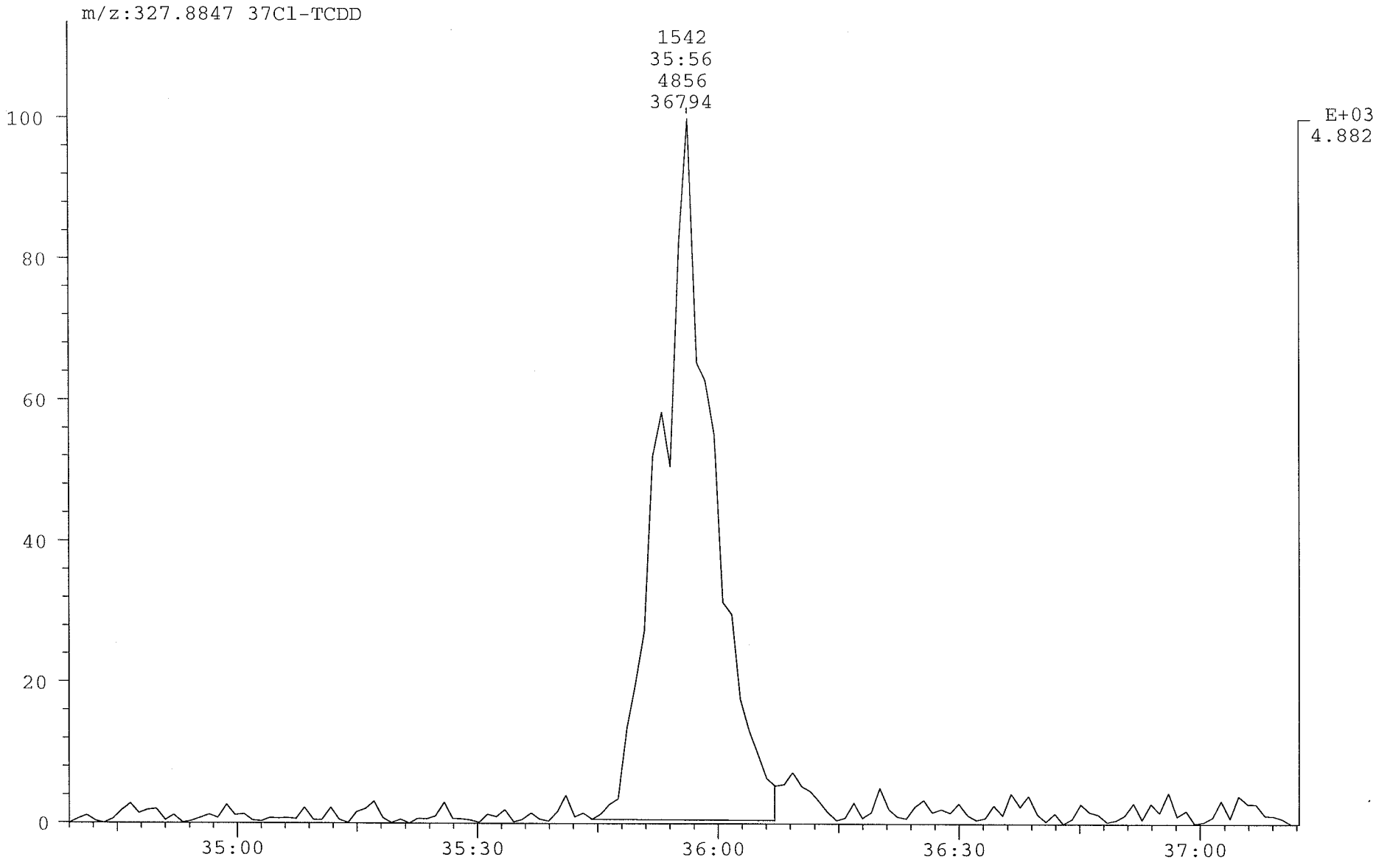
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1465 > 1608 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 5 Label : 2, 3.0
Disp: Height Area



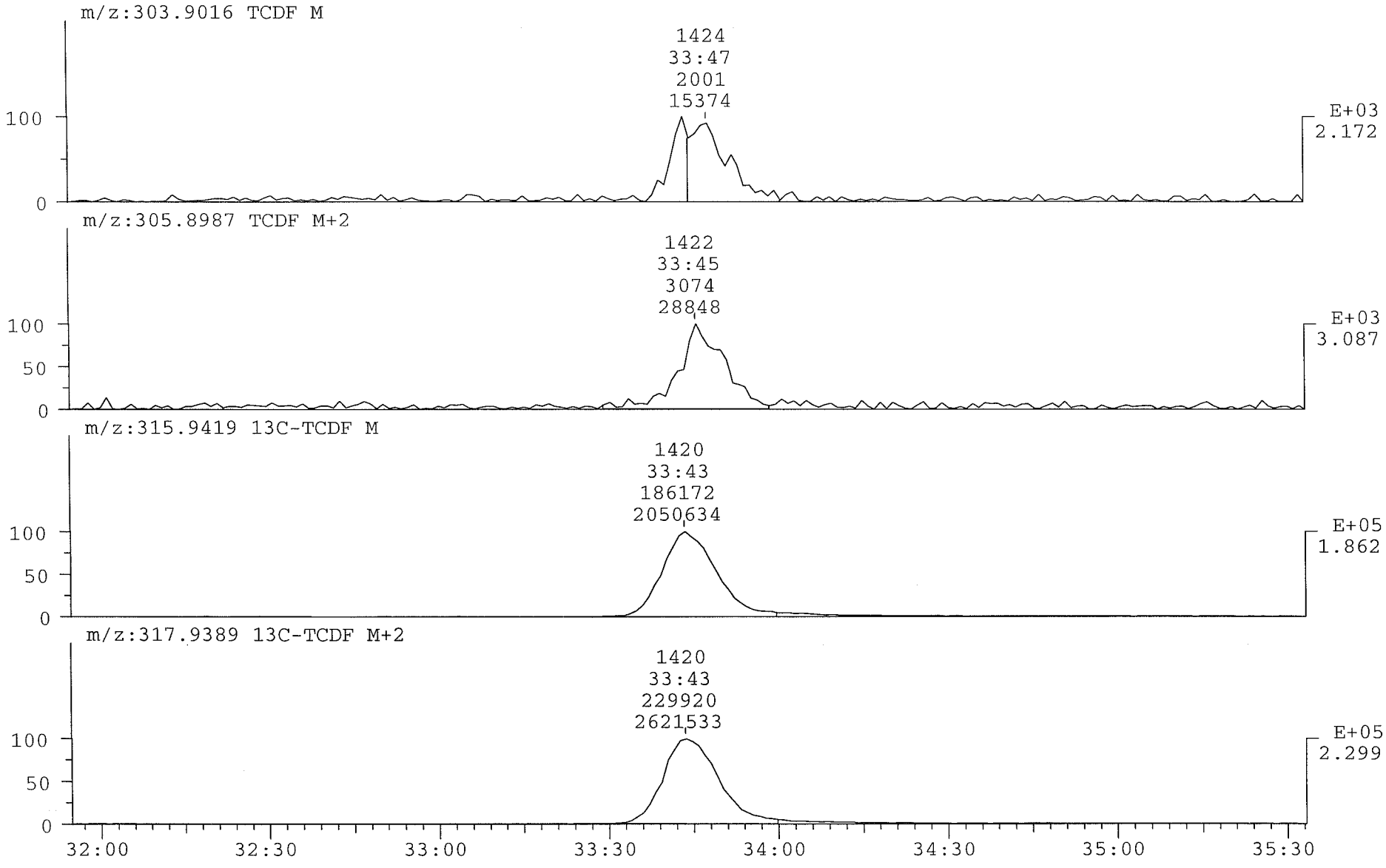
CHRO: b041108i2 08-Nov-04 Elapse: 46:28 2130
Samp: Vial 13 WO=2960:59CS2 Meth=X8 Dil=1 Start : 14:23:27 2867
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1465 > 1608 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 1.0
Disp: Height Area



CHRO: b041108i2 08-Nov-04 Elapse: 46:31 2133
Samp: Vial 13 WO=2960:59CS2 Meth=X8 Dil=1 Start : 14:23:27 2867
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1471 > 1612 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



CHRO: b041108i2 08-Nov-04 Elapse: 46:31 2133
Samp: Vial 13 WO=2960:59CS2 Meth=X8 Dil=1 Start : 14:23:27 2867
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1320 > 1521 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



CHRO: b041108i2 08-Nov-04 Elapse: 50:52 2376
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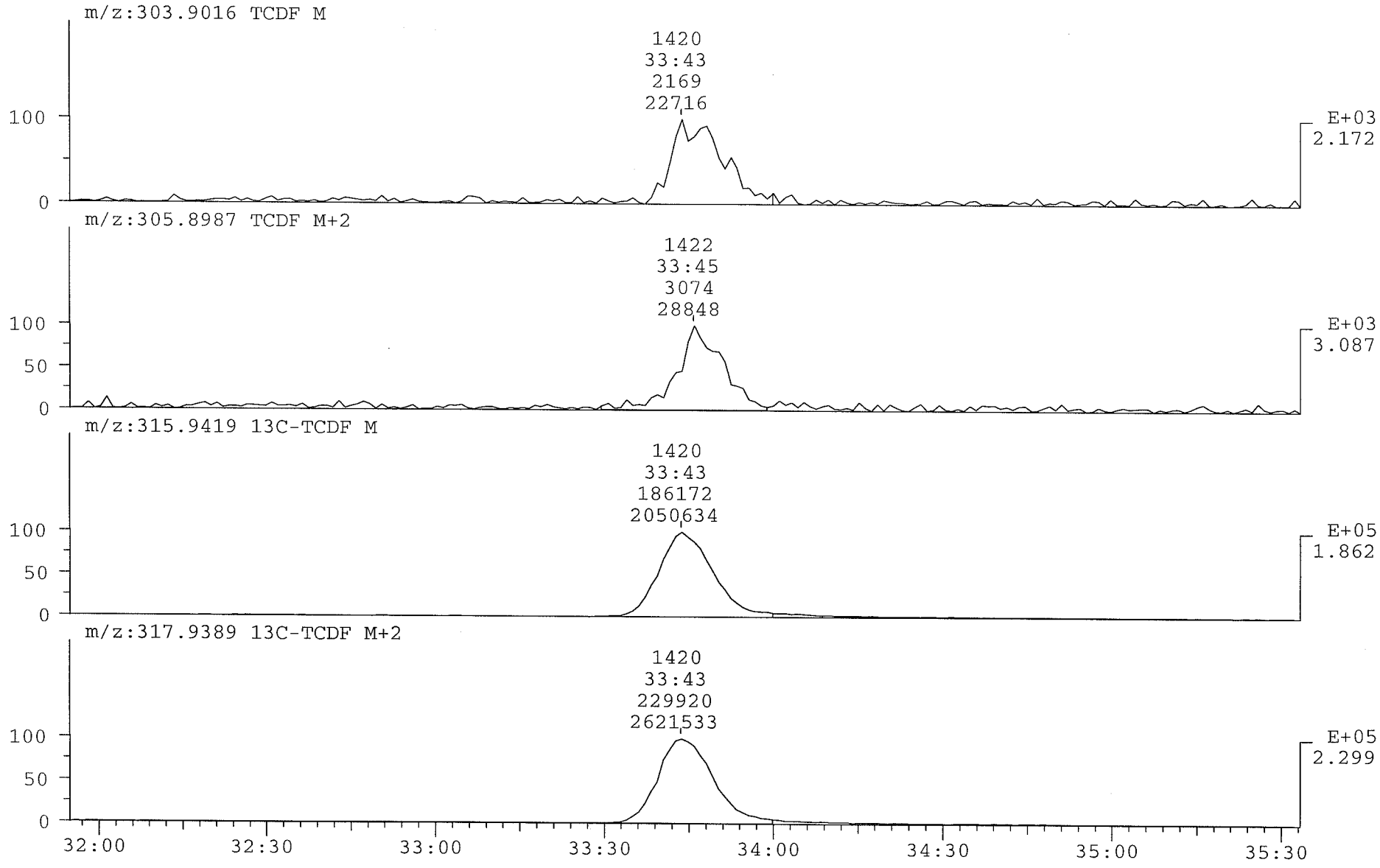
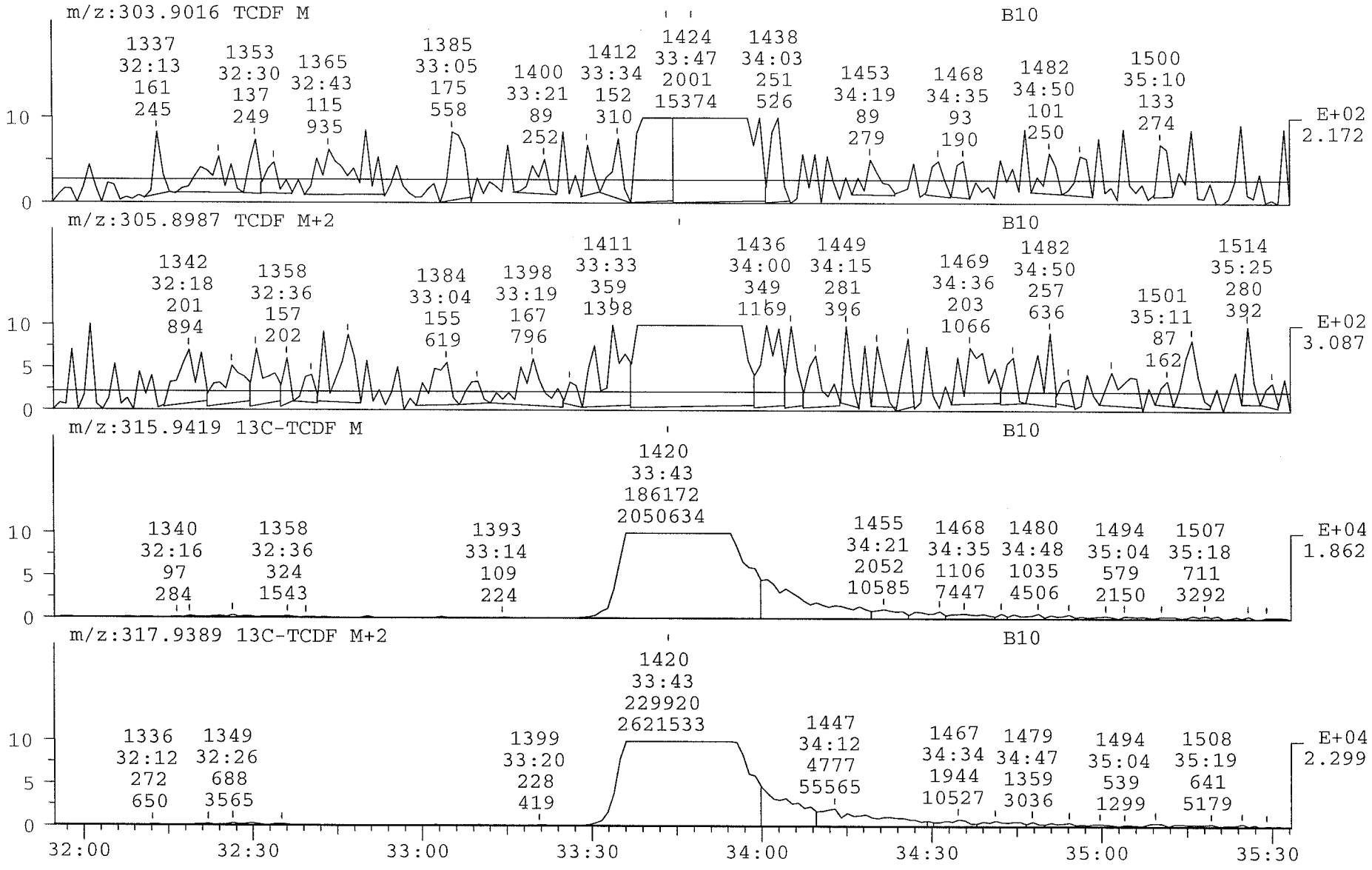
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1320 > 1521 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 5 Label : 2, 3.0
Disp: Height Area



CHRO: b041108i2 08-Nov-04 Elapse: 46:28 2130
Samp: Vial 13 WO=2960:59CS2 Meth=X8 Dil=1 Start : 14:23:27 2867
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1320 > 1521 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 1.0
Disp: Height Area



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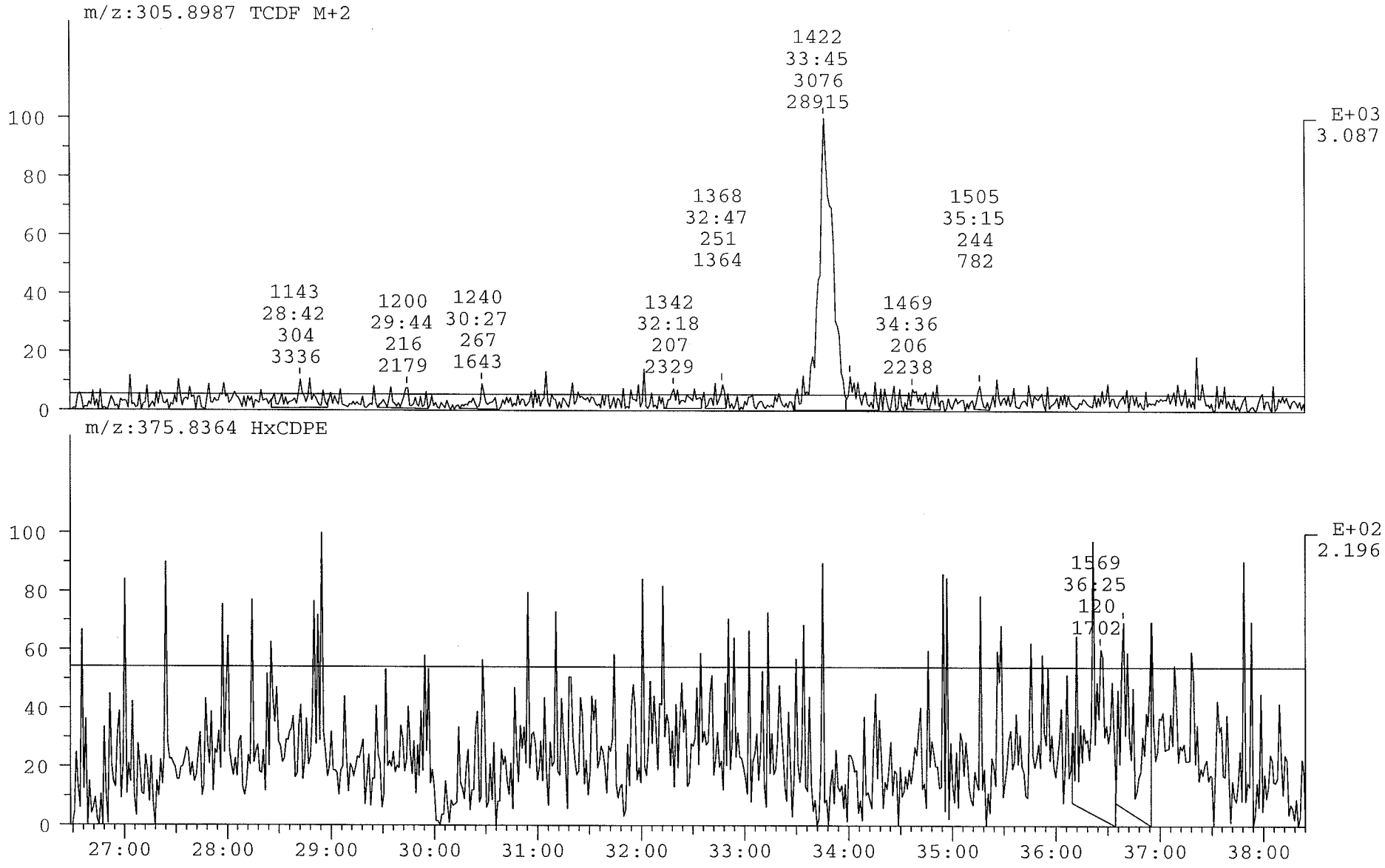
Samp: Vial 13 WO=2960:59CS2 Meth=X8 Dil=1 Start : 14:23:27 2867
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1020 > 1678 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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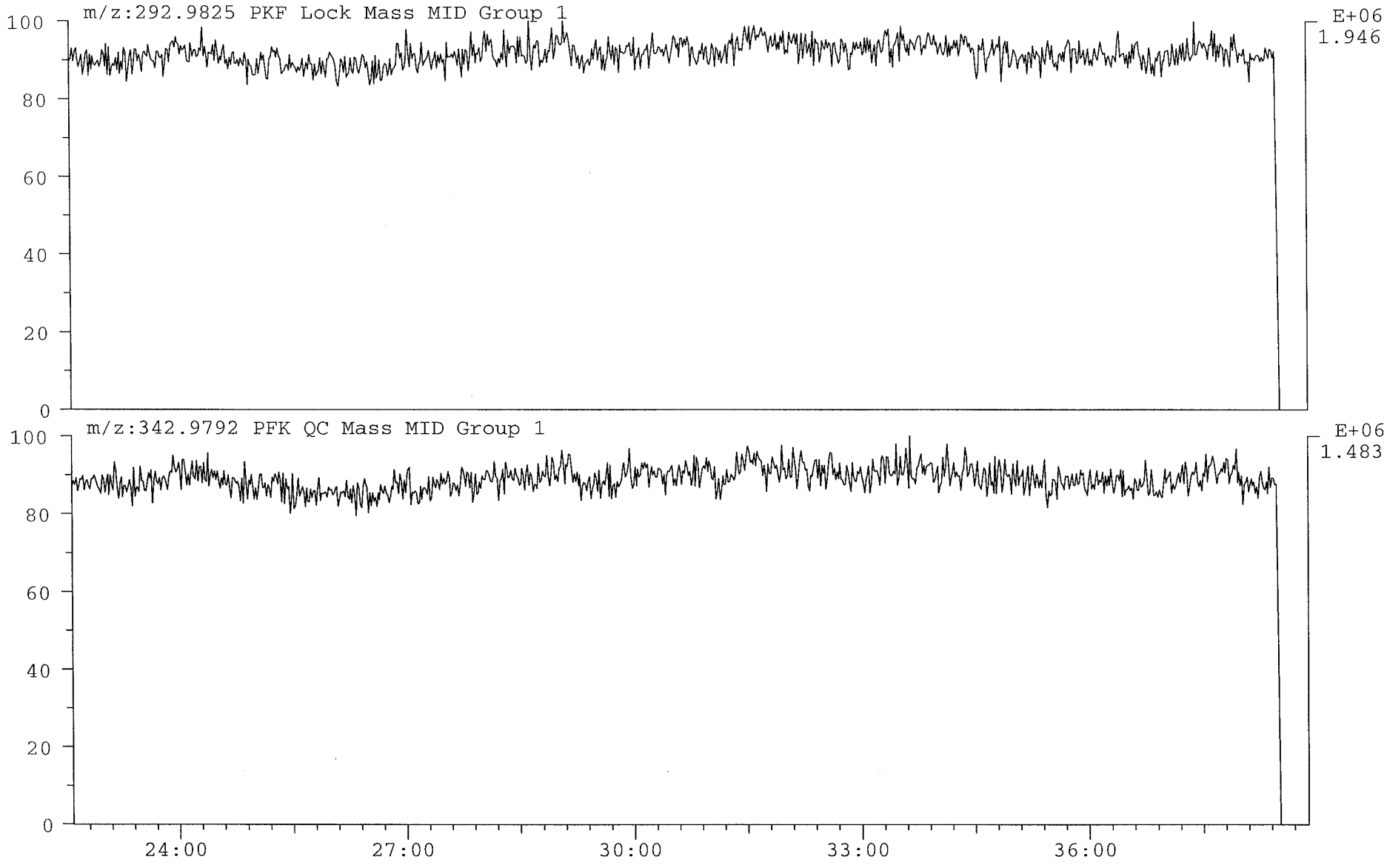
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 805 > 1703 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



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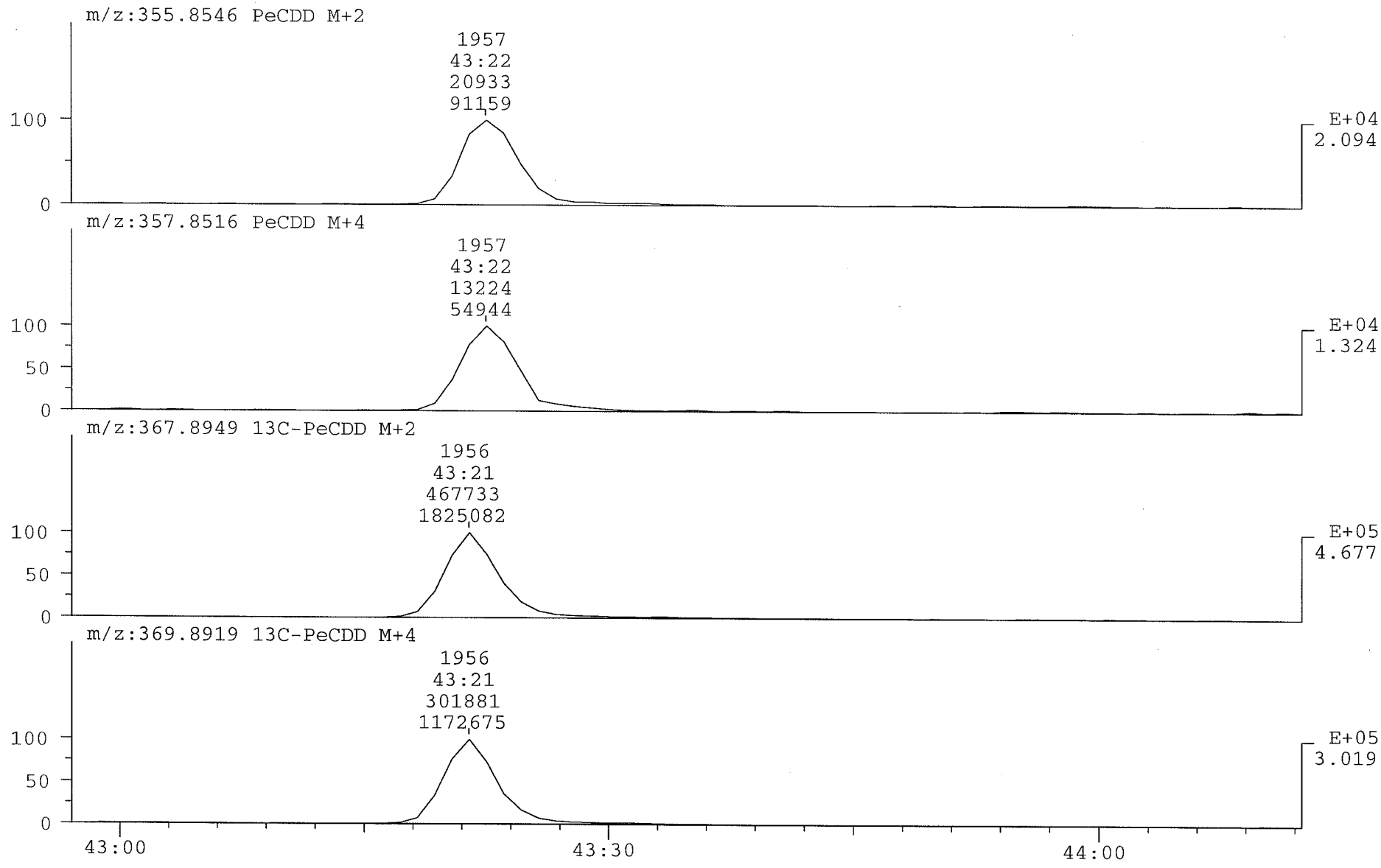
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1942 > 2002 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



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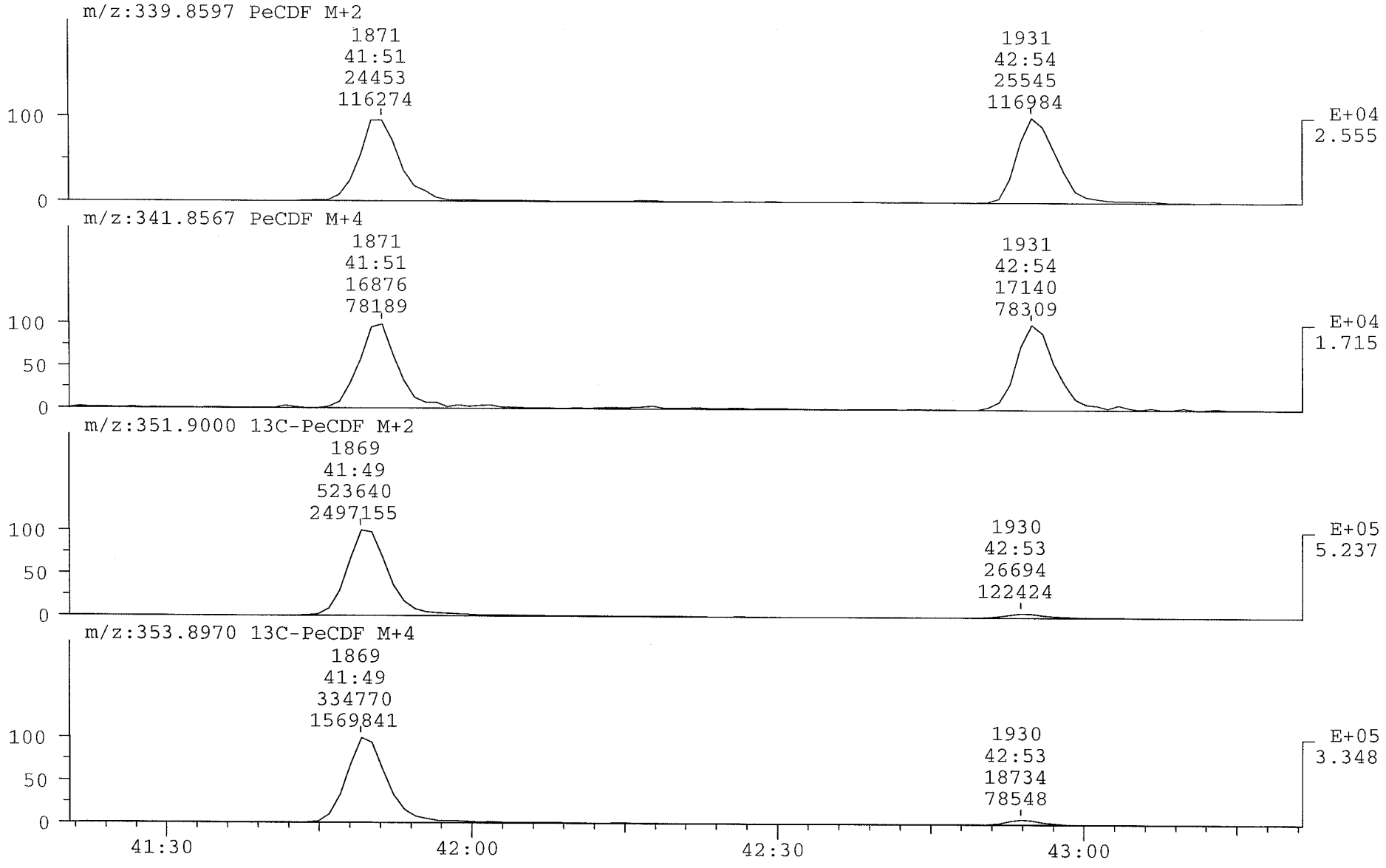
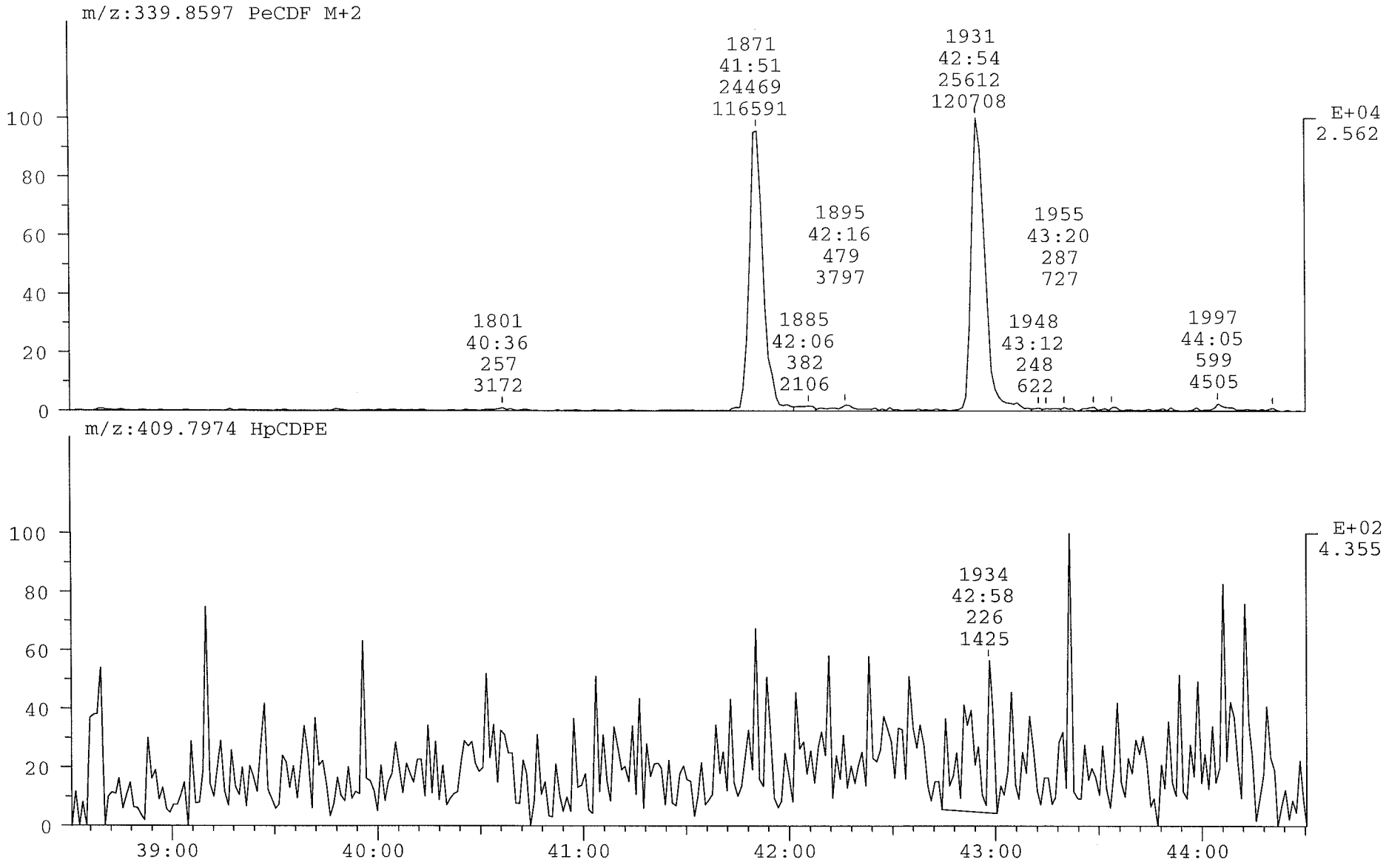
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1842 > 1956 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



CHRO: b041108i2 08-Nov-04 Elapse: 50:52 2376
Samp: Vial 13 WO=2960:59CS2 Meth=X8 Dil=1 Start : 14:23:27 2867
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1682 > 2021 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



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Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 1699 > 2024 Masses: 293 > 514
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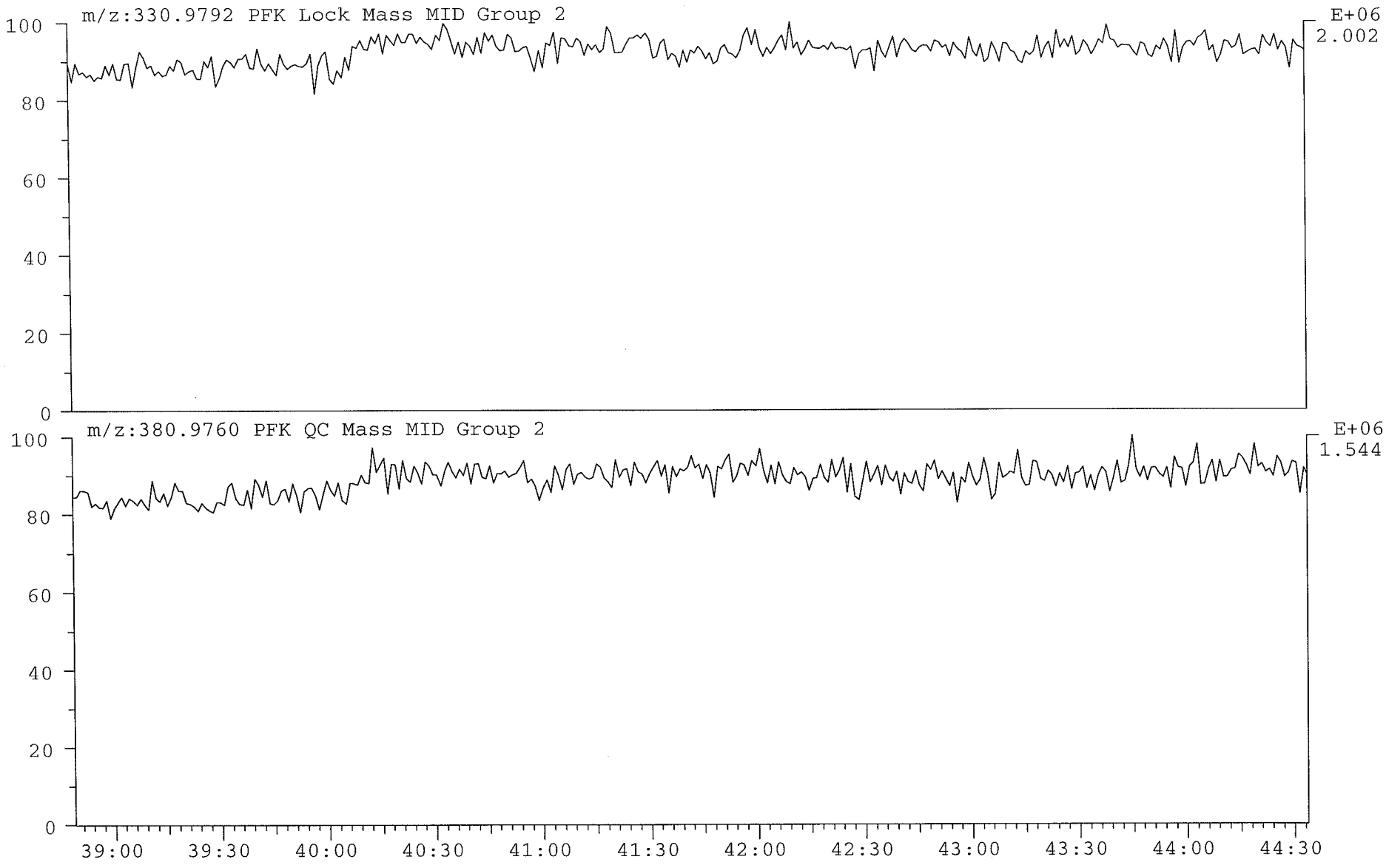

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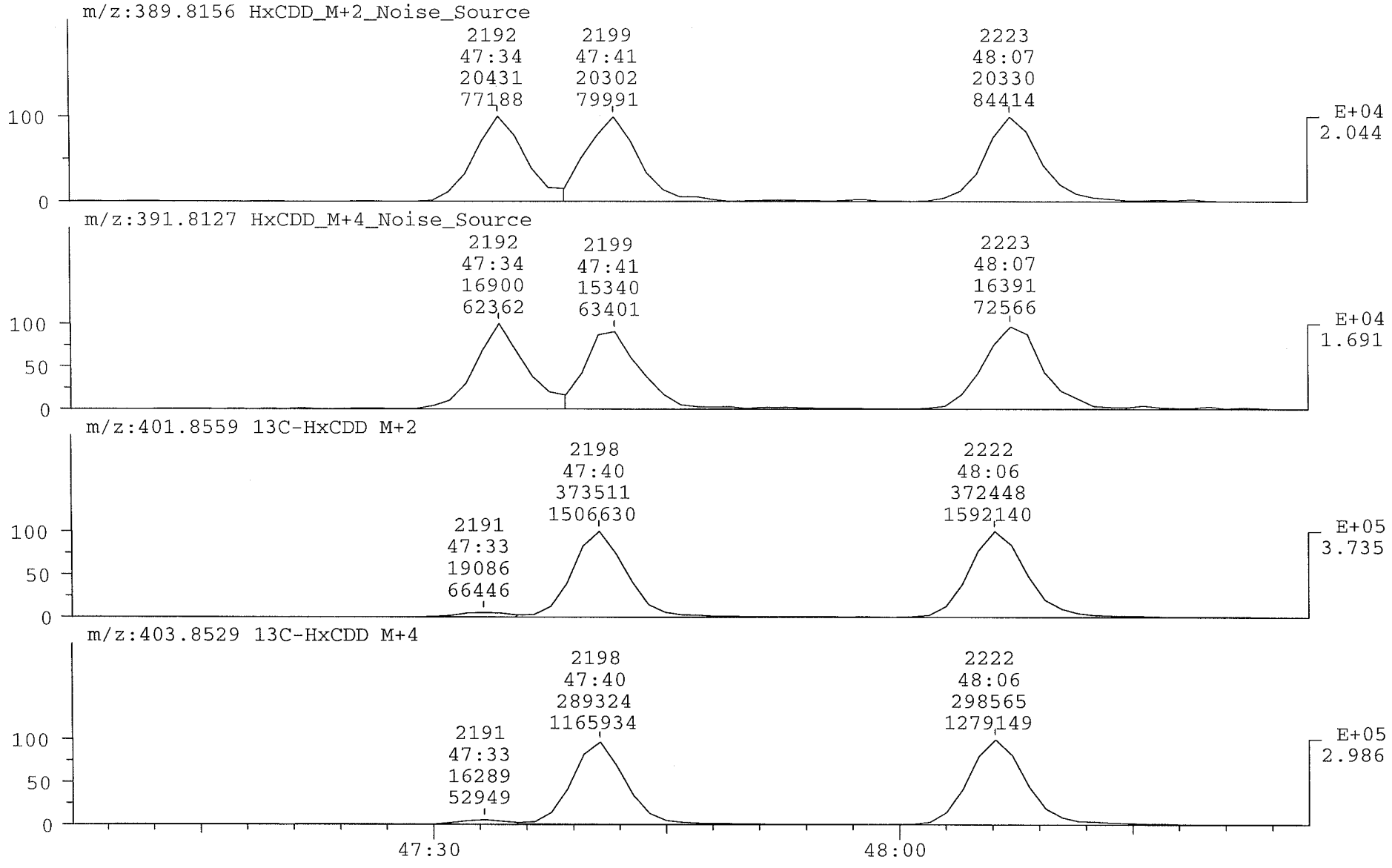
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 2166 > 2241 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



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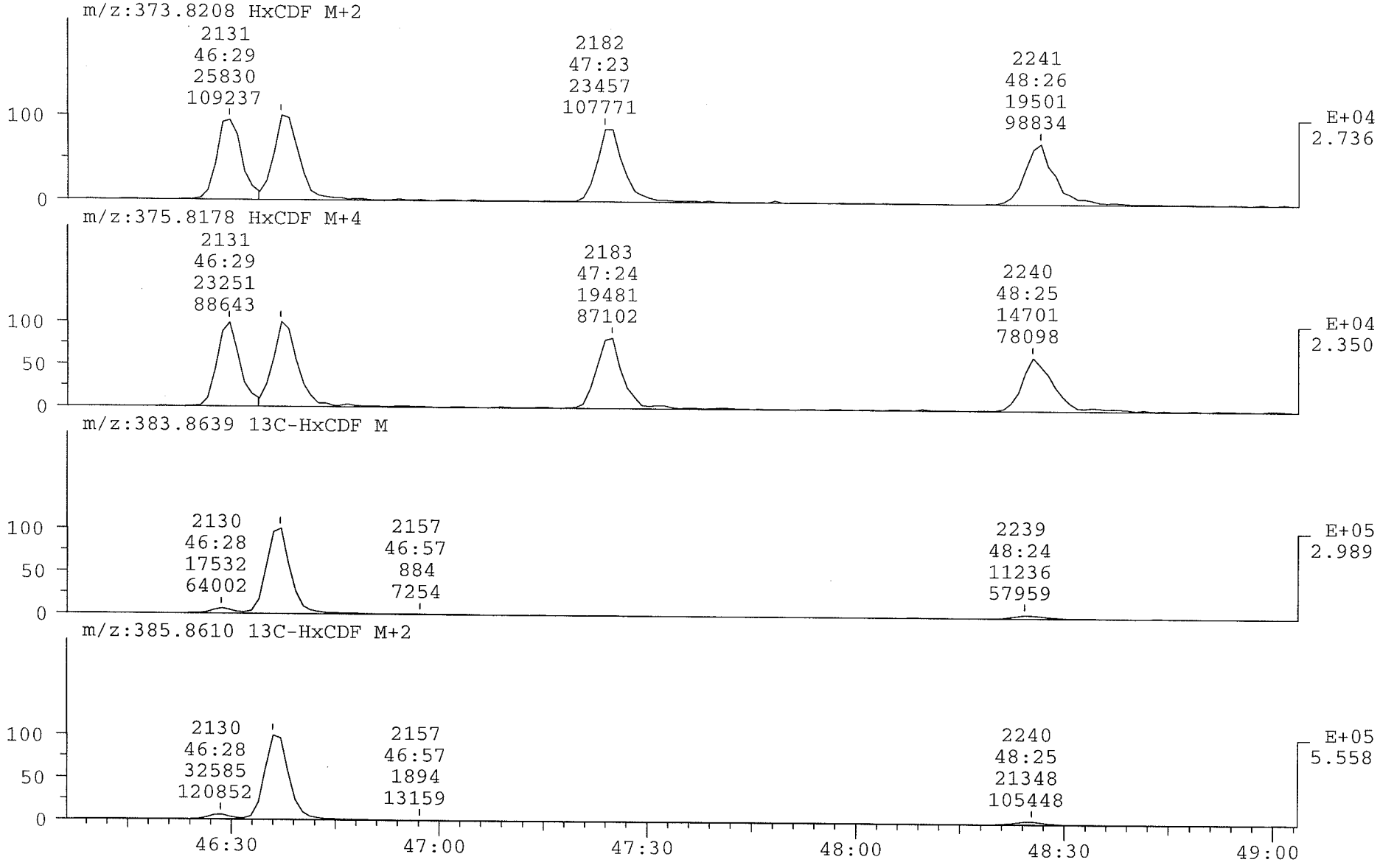
Samp: Vial 13 WO=2960:59CS2 Meth=X8 Dil=1
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM
Oper: MSD Client: STL Knoxville
Peak: 100.00 ppm Label wndw: 2109 > 2276
Area: 5, 0.50, 15 Baseline : 100, 3
Disp: Height Area

Elapse: 46:31 2133
Start : 14:23:27 2867
Study : M23 ICAL
Inlet : GC Vial 13
Masses: 293 > 514
Label : 2, 3.0



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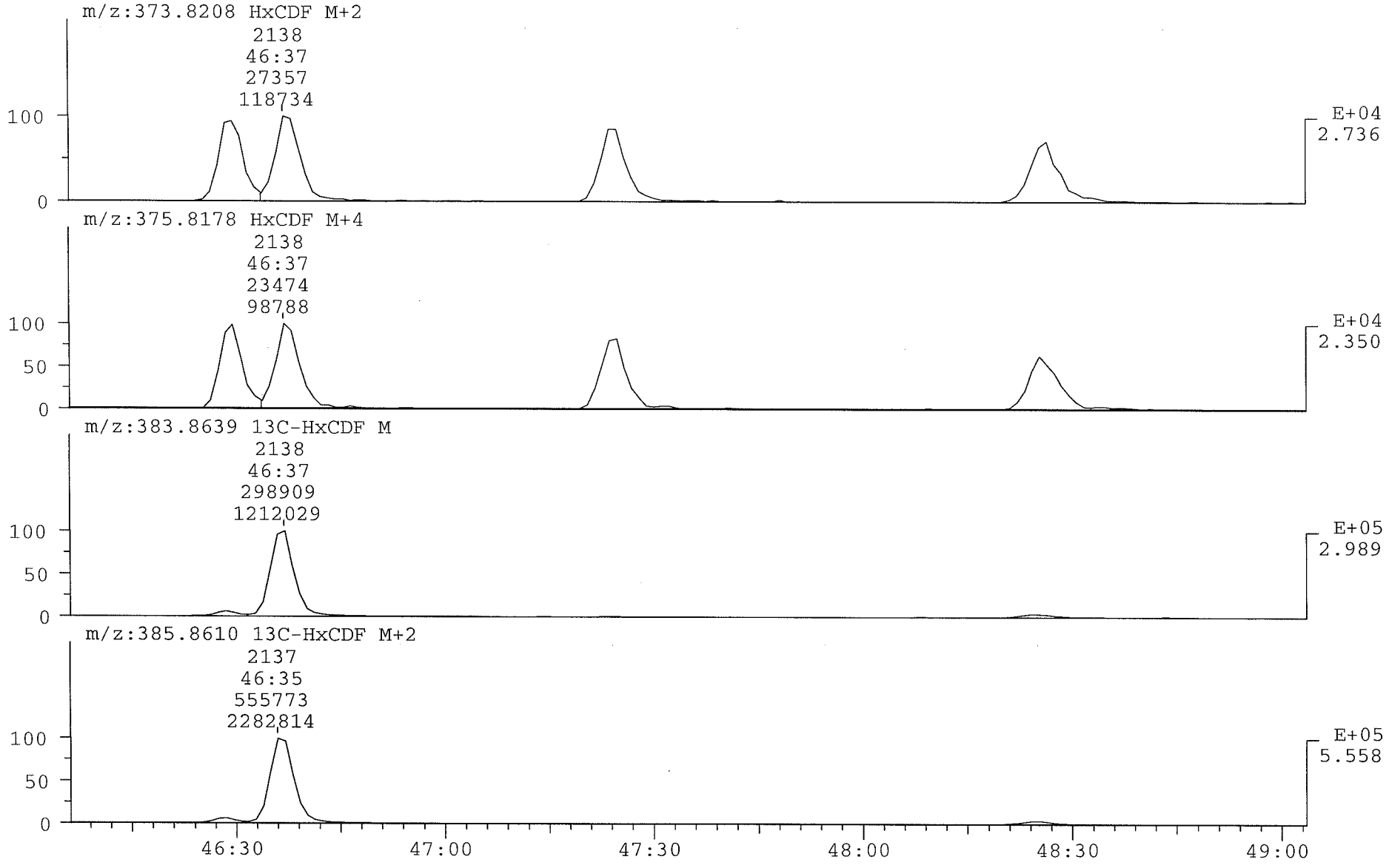
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 2134 > 2144 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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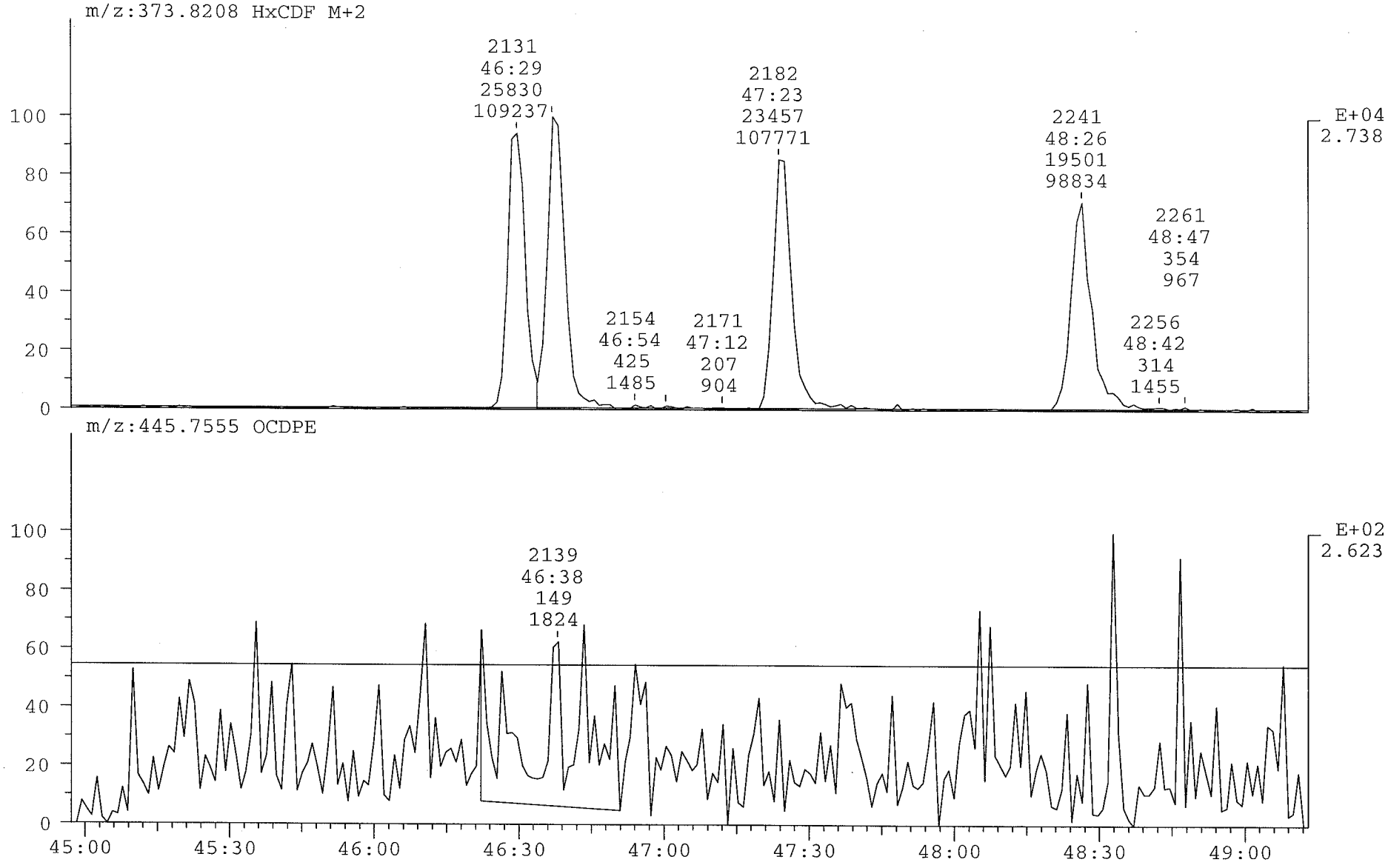
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 2044 > 2285 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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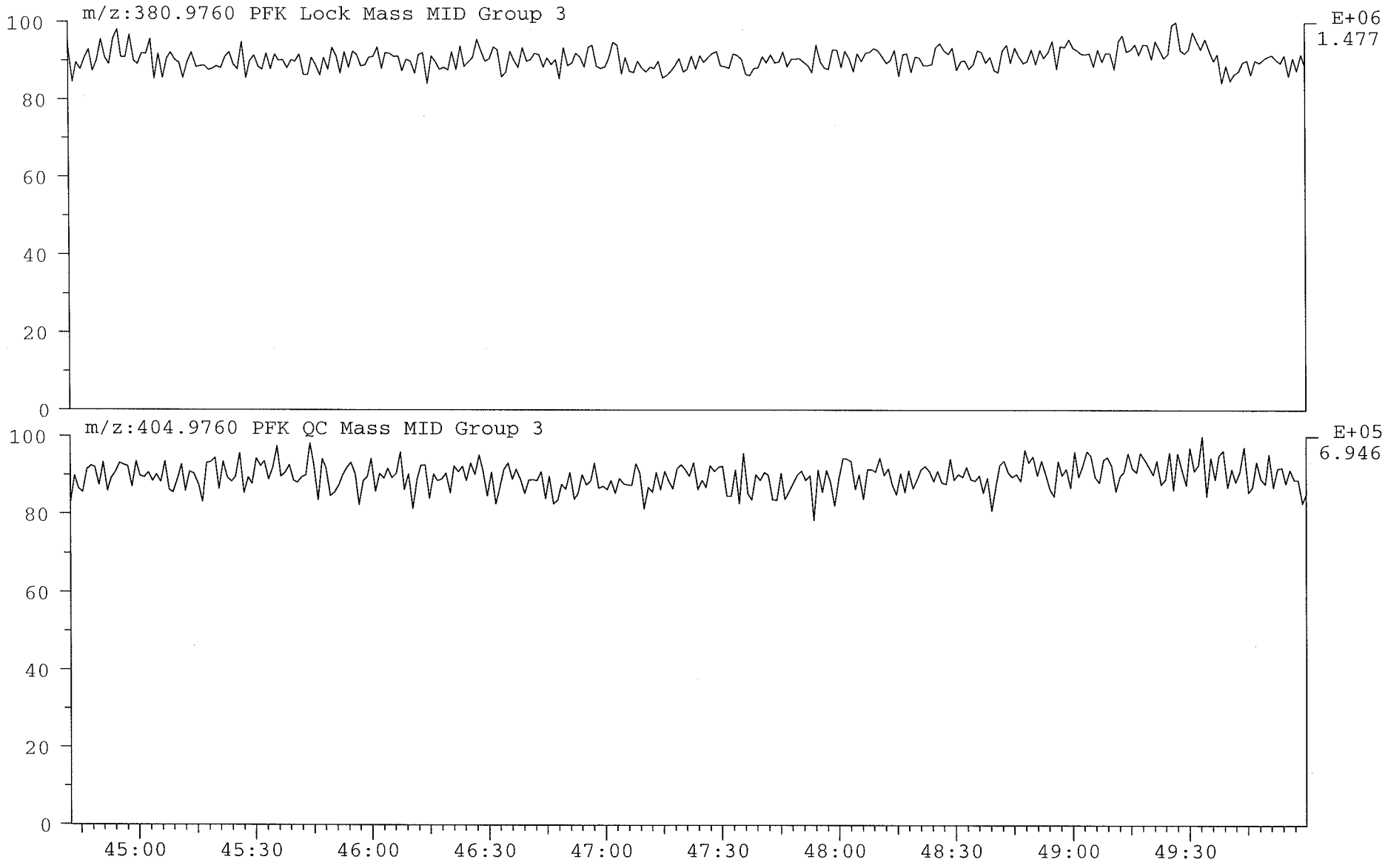
Samp: Vial 13 WO=2960:59CS2 Meth=X8 Dil=1 Start : 14:23:27 2867
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 2030 > 2329 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



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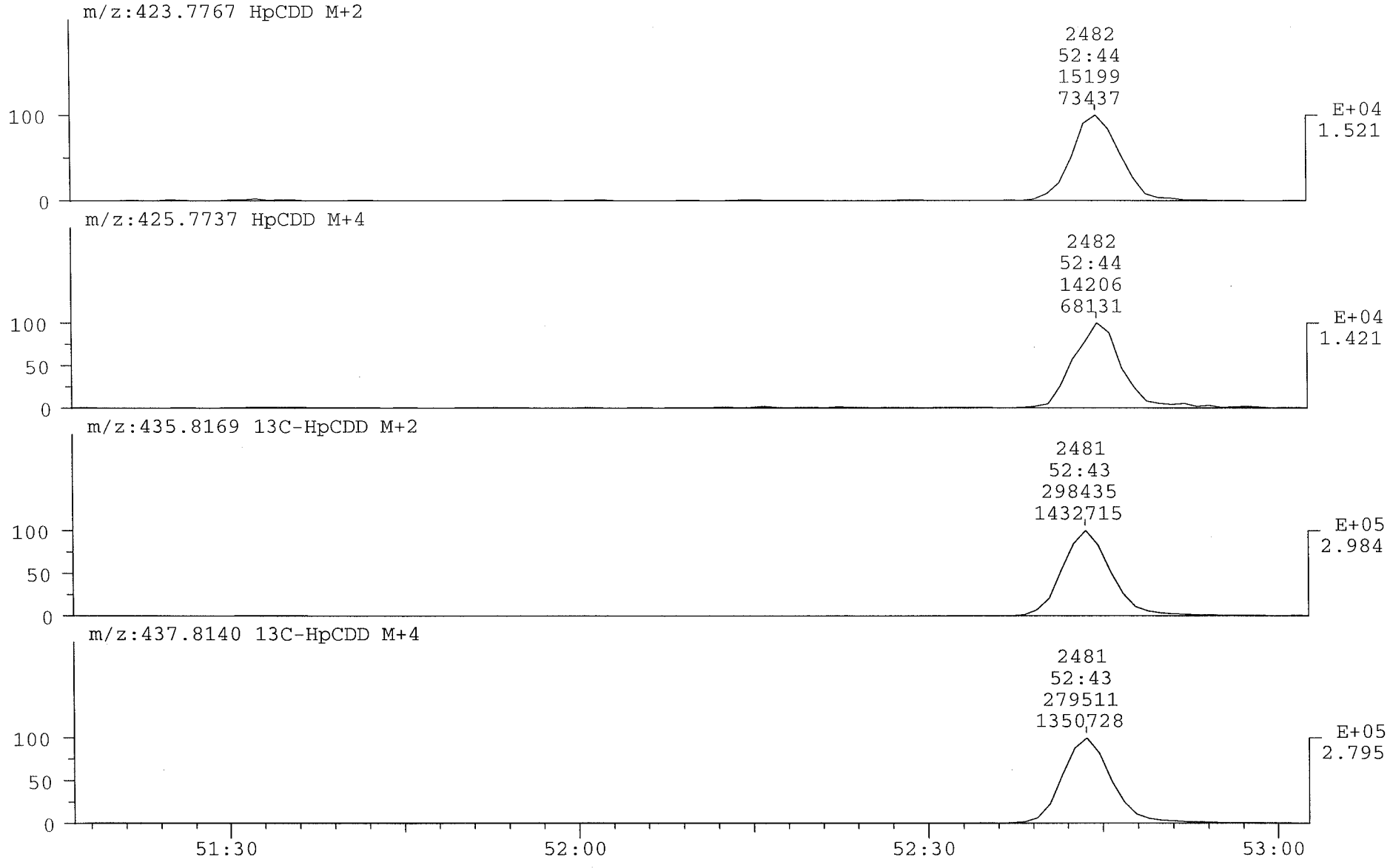
CHRO:  b041108i2                              08-Nov-04   Elapse:  46:31      2133
Samp:  Vial 13 WO=2960:59CS2 Meth=X8 Dil=1                Start :  14:23:27   2867
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville              Inlet :  GC     Vial  13
Peak:  100.00  ppm      Label wndw:   1 > 3000            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  2, 3.0
Disp:  Height  Area
```



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CHRO:  b041108i2                                08-Nov-04   Elapse:  46:31       2133
Samp:  Vial 13 WO=2960:59CS2 Meth=X8 Dil=1                  Start :  14:23:27    2867
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  13
Peak:  100.00  ppm      Label wndw:   2362 > 2546           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
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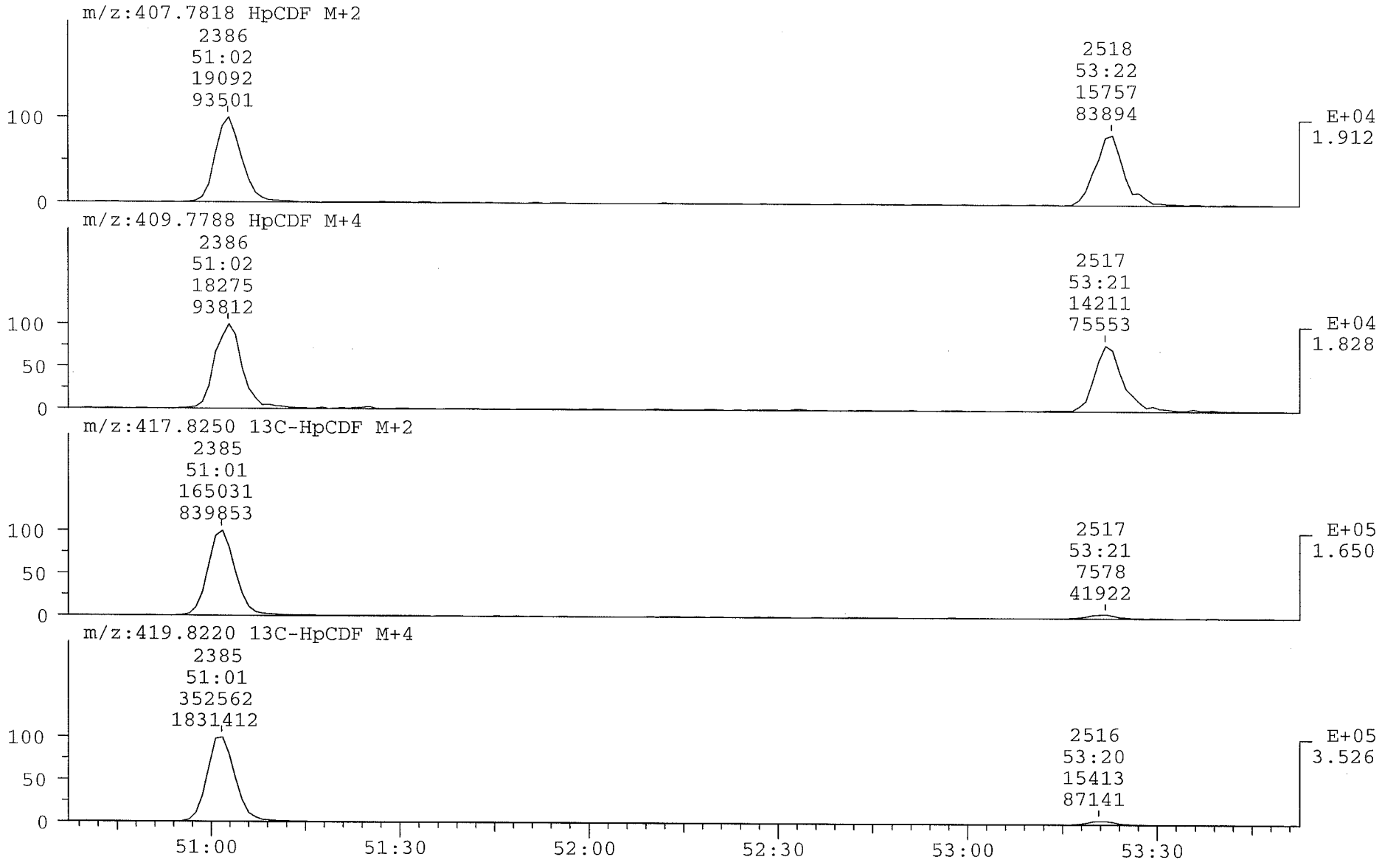

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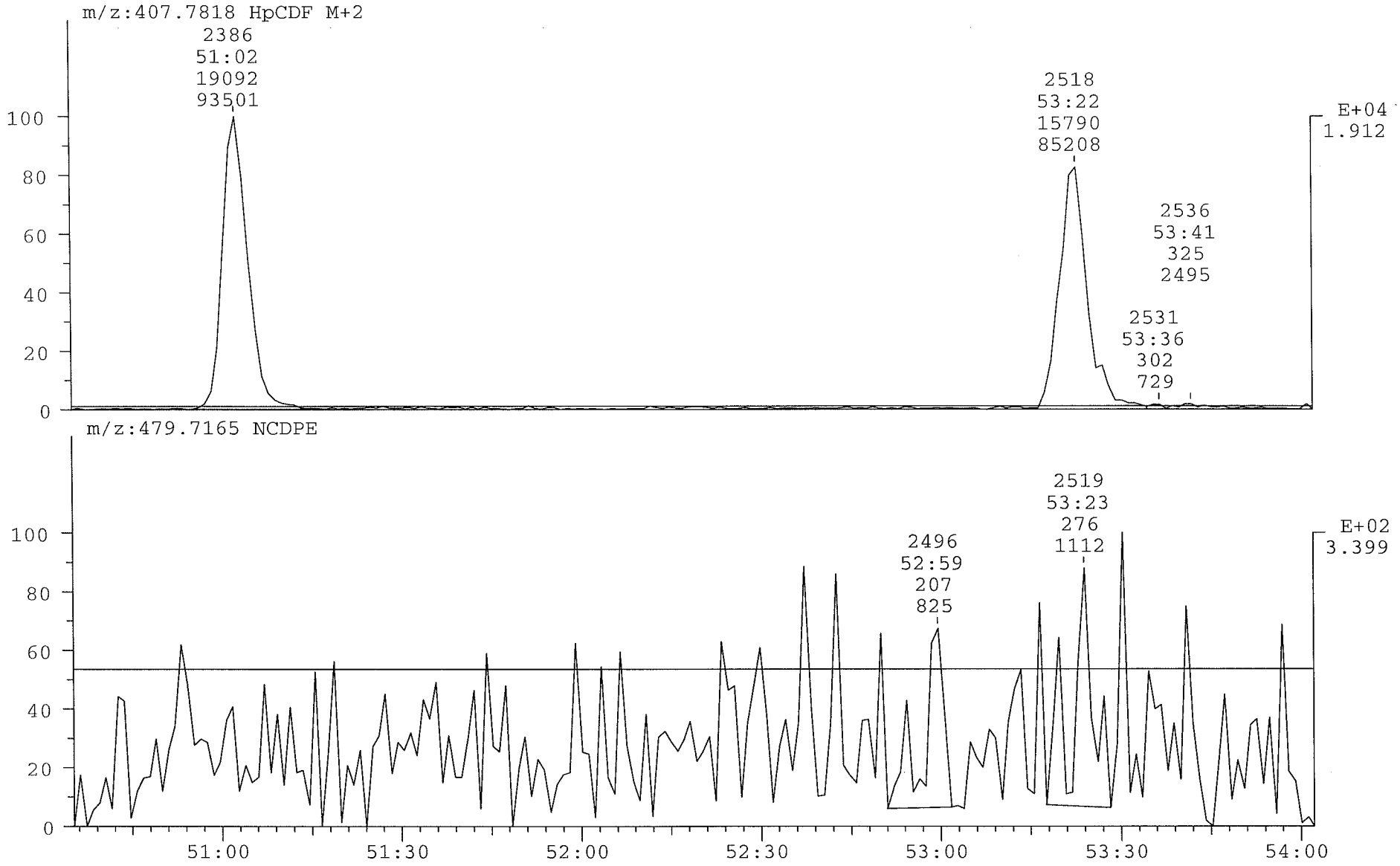
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 2360 > 2555 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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CHRO:  b041108i2                                08-Nov-04   Elapse:  46:31      2133
Samp:  Vial 13 WO=2960:59CS2 Meth=X8 Dil=1                  Start :  14:23:27   2867
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  13
Peak:  100.00  ppm      Label wndw:   2366 > 2625           Masses:  293 > 514
Area:  0, 0.00, 0       Baseline  :   0, 3                  Label :  0, 2.5
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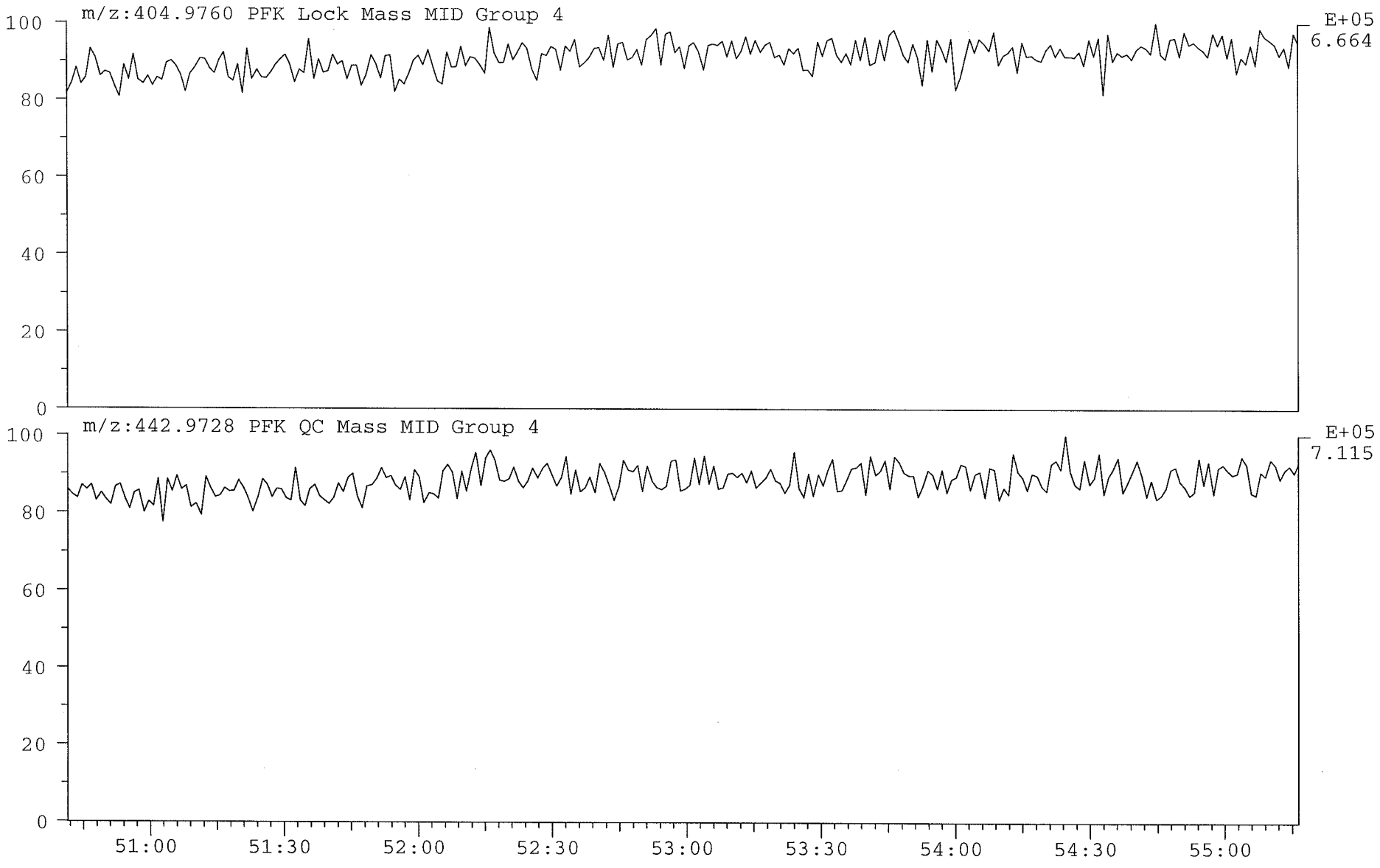

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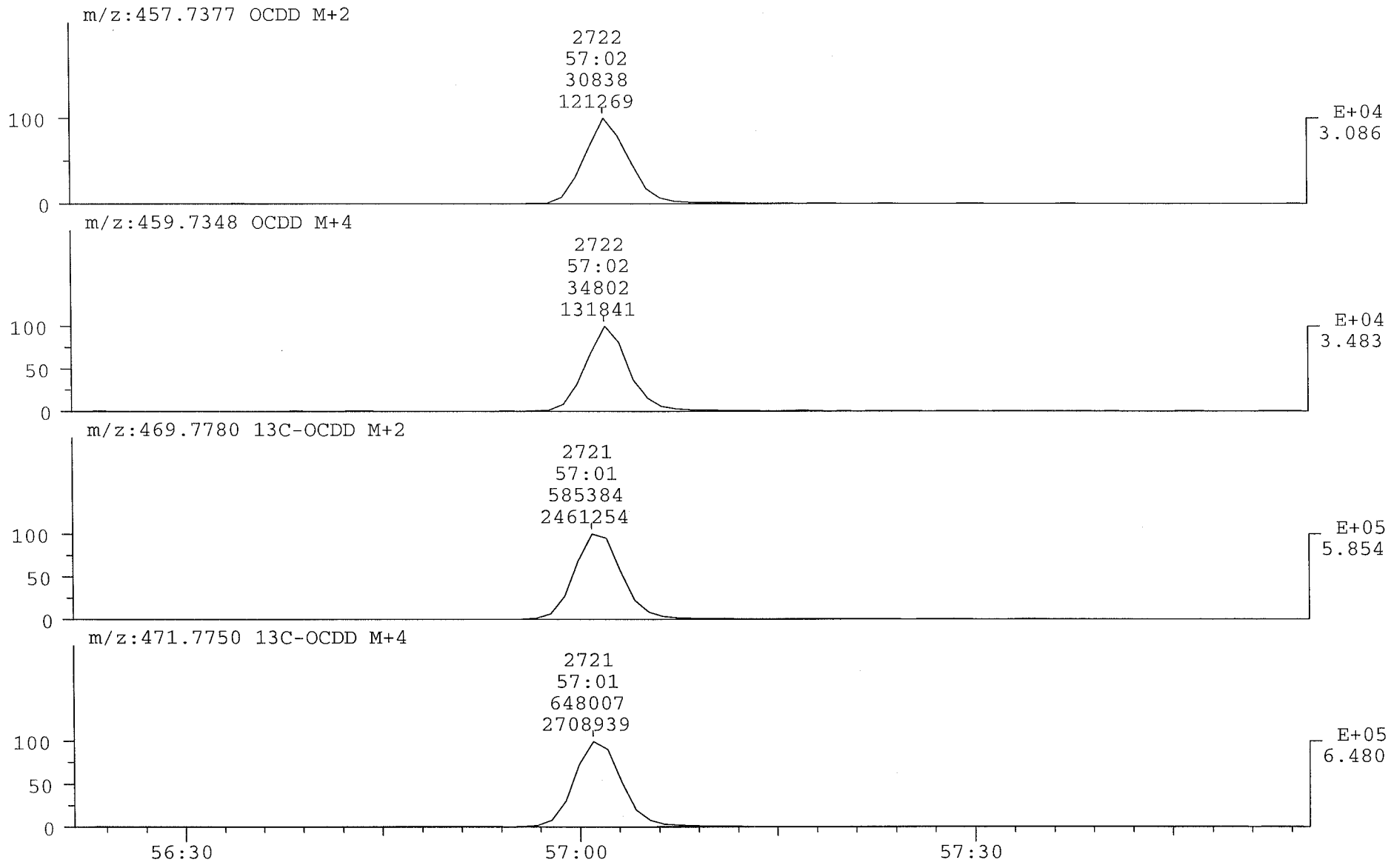
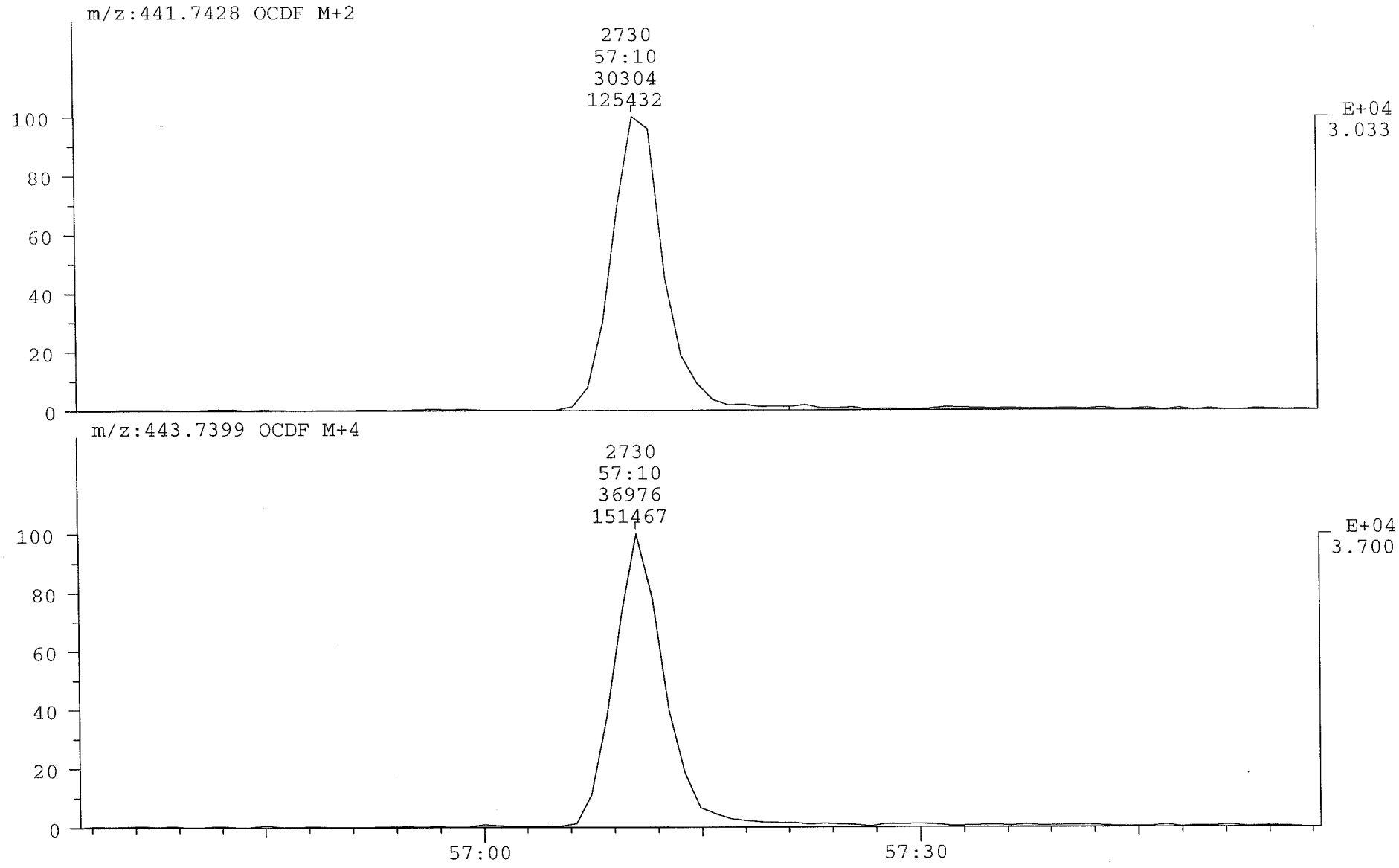
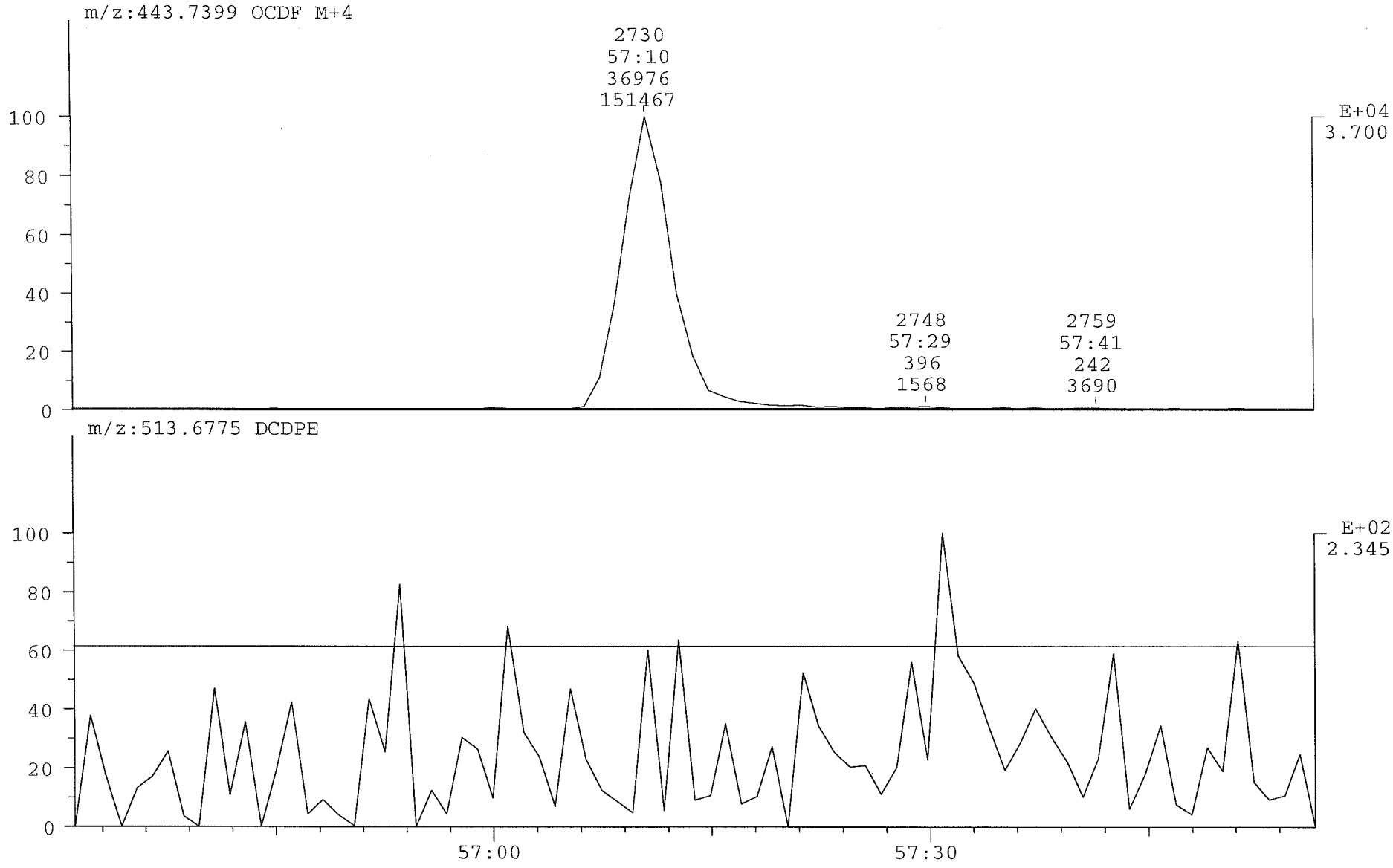
Samp:  Vial 13 WO=2960:59CS2 Meth=X8 Dil=1                  Start :  14:23:27   2867
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  13
Peak:  100.00  ppm      Label wndw:   2684 > 2772           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
```



CHRO: b041108i2 08-Nov-04 Elapse: 46:31 2133
Samp: Vial 13 WO=2960:59CS2 Meth=X8 Dil=1 Start : 14:23:27 2867
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 2694 > 2774 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



CHRO: b041108i2 08-Nov-04 Elapse: 46:31 2133
Samp: Vial 13 WO=2960:59CS2 Meth=X8 Dil=1 Start : 14:23:27 2867
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 13
Peak: 100.00 ppm Label wndw: 2693 > 2773 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



770

Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: b041108i2
Study: M23 ICAL
Sample: WO=2960:59CS2 Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: MSD
Client: STL Knoxville
Comments: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Injected volume: 2.0
Sample from Vial 13
Analysis will stop when MID run finishes
Tune file name: tune2
File 2 of list 041108i
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	FALSE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	100 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	30:26 min	38:26 min	1.00 sec
# 2	38:26 min	6:09 min	44:35 min	1.00 sec
# 3	44:35 min	5:24 min	50:00 min	1.00 sec
# 4	50:00 min	5:20 min	55:20 min	1.00 sec
# 5	55:20 min	4:15 min	59:35 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

351.9000		1	1	91.48
353.8970		1	1	91.48
355.8546		1	1	91.48
357.8516		1	1	91.48
367.8949		1	1	91.48
369.8919		1	1	91.48
380.9760	c	10	1	8.19
409.7974		1	1	91.48

Window # 3

mass	F	int	gr	time (ms)
373.8208		1	1	91.48
375.8178		1	1	91.48
380.9760	l	10	1	8.19
383.8639		1	1	91.48
385.8610		1	1	91.48
389.8156		1	1	91.48
391.8127		1	1	91.48
401.8559		1	1	91.48
403.8529		1	1	91.48
404.9760	c	10	1	8.19
445.7555		1	1	91.48

Window # 4

mass	F	int	gr	time (ms)
404.9760	l	10	1	8.19
407.7818		1	1	91.48
409.7788		1	1	91.48
417.8250		1	1	91.48
419.8220		1	1	91.48
423.7767		1	1	91.48
425.7737		1	1	91.48
435.8169		1	1	91.48
437.8140		1	1	91.48
442.9728	c	10	1	8.19
479.7165		1	1	91.48

Window # 5

mass	F	int	gr	time (ms)
430.9728	l	10	1	10.92
441.7428		1	1	120.15
443.7399		1	1	120.15
457.7377		1	1	120.15
459.7348		1	1	120.15
469.7780		1	1	120.15
471.7750		1	1	120.15
480.9696	c	10	1	10.92
513.6775		1	1	120.15

Auto Sampler descriptor: pcdd2ul

Injector A

Normal Injection

Slvnt A cln before inj	(K):	3	times
Slvnt B cln before inj	(L):	0	times
Sample rinse cycles	(R):	0	times
Syringe filling volume	(F):	1.0	ul
Pullup delay time	(D):	4	sec
Sample pullup speed	(E):	5.0	ul/sec
Slvnt aftr pre inj cln	(U):	0.0	ul
Air after pre inj cln	(G):	2.0	ul
Sample volume	(V):	2.0	ul
Sample air volume	(A):	2.0	ul
Sample pullup count	(P):	2	times
Injection speed	(S):	10.0	ul/sec
Injection wait time	(W):	10	sec
Injection hold time	(H):	3	sec
Solvent A clean cycles	(C):	15	times
Solvent B clean cycles	(B):	20	times
Loop clean w slvnt A	(LC):	0	times

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8410.0000
BDEV	8280.0000	BFM	2.0000	BLM	1038.6736
BMASS	304.9824	BQUAD	3.2750	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.5059
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.7814	DITSET	0.0000	DRAW	-19.3250
DRAWC	1.0000	DRAWS	0.0050	ECORR	1.0000
ECURR	1.0000	EDAC	7969177.0000	EDACG	0.9999
EDACR	20.0000	EDACZ	850.0000	ELEN	57.4000
EMULT	1.5500	ENS	146.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	176.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	3.3500	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	466.0000	FVINLET	870.0000
FVSRC	954.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.3431	HVANAL	1108.0000	HVSRC	2958.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4757.0160	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2587.0000	LENSS	154.0000	LKM	430.9728
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3475842.6628	MDACR	20.0000
MRANGE	1038.6736	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	2872.0000
NSMAX	14.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-6.9500	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10875.2257	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2720.0000	SHIELDS	0.2000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.6800	TCURR	0.9375	TD	50.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	80.1030	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.2550
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2159.0000	XLENSS	7.2000
YLENS	2834.0000	YLENSS	-148.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 08-Nov-04 14:23:27.1

Autosampler has injected sample from vial 13
Analysis stopped at: 08-Nov-04 15:23:04.6 (run time 59.62 minutes)
Analysis stopped because MID run finished

QUAN: b041108i2.q0 Entries: 135

Data file(s) used
File: b041108i2 08-Nov-04
Samp: Vial 13 WO=2960:59CS2 Meth=X8 Dil=1 Start : 14:23:27 2867
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 13

Disp: CHRO
Amount = (area * ref amnt) / (ref area * response factor); amount = f(reponse)
Response factors from quantitation file

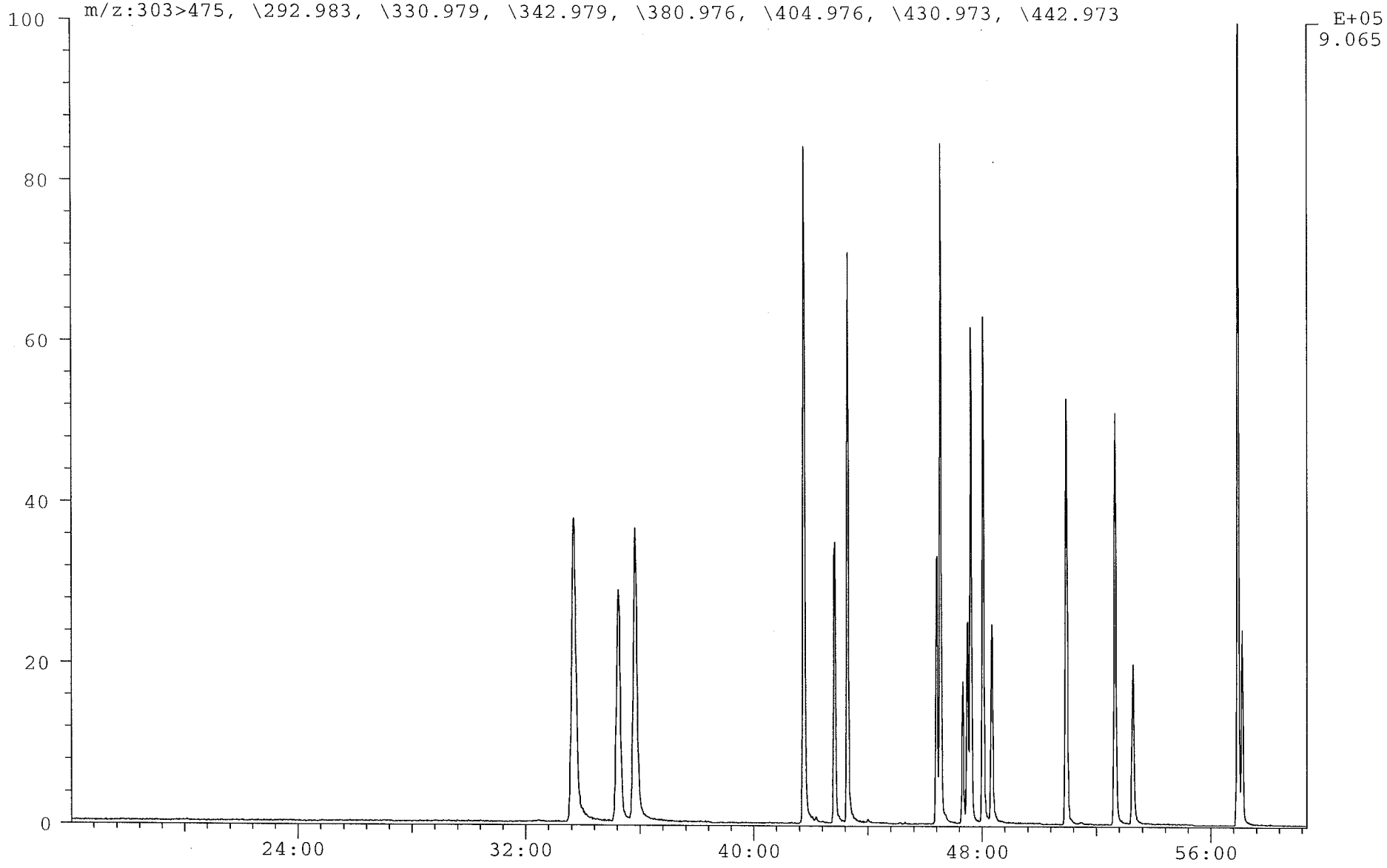
Quan Masses	Actual Time	Area	Height	Peak Beginn	Peak End	Noise Value	La Pe	Lab Fac
331.9202	35:18	1462436.	147254.	35:01	35:34	307.	2	3.0
331.9202	35:53	1519066.	161832.	35:41	36:09	307.	2	3.0
333.9171	35:19	1823104.	183497.	35:02	35:32	188.	2	3.0
333.9171	35:34	27625.	4319.	35:32	35:41	188.	2	3.0
333.9171	35:53	1941985.	206901.	35:41	36:09	188.	2	3.0
333.9171	36:21	23078.	2868.	36:19	36:31	188.	2	3.0
327.8683	35:56	36794.	4856.	35:44	36:07	59.	2	3.0
303.8864	33:47	15374.	2001.	33:44	34:00	60.	2	3.0
305.8834	33:45	28848.	3074.	33:29	33:58	66.	2	3.0
315.9261	33:43	2050634.	186172.	33:27	33:59	122.	2	3.0
317.9230	33:43	2621533.	229919.	33:27	33:59	149.	2	3.0
355.8368	43:22	91159.	20933.	43:06	43:38	63.	2	3.0
357.8337	43:22	54944.	13224.	43:16	43:38	62.	2	3.0
367.8765	43:21	1825082.	467733.	43:15	43:37	54.	2	3.0
369.8734	43:21	1172675.	301881.	43:14	43:37	88.	2	3.0
339.8427	41:51	116274.	24453.	41:42	42:01	65.	2	3.0
339.8427	42:54	116984.	25545.	42:47	43:10	65.	2	3.0
341.8396	41:51	78189.	16876.	41:44	42:07	66.	2	3.0
341.8396	42:54	78309.	17140.	42:49	43:10	66.	2	3.0
351.8824	41:49	2497155.	523640.	41:41	42:05	111.	2	3.0
351.8824	42:53	122424.	26694.	42:48	43:09	111.	2	3.0
353.8793	41:49	1569841.	334770.	41:35	42:05	93.	2	3.0
353.8793	42:53	78548.	18734.	42:45	43:09	93.	2	3.0
389.7961	47:34	77188.	20431.	47:28	47:38	66.	2	3.0
389.7961	47:41	79991.	20302.	47:38	47:49	66.	2	3.0
389.7961	48:07	84414.	20330.	48:00	48:17	66.	2	3.0
391.7931	47:34	62362.	16900.	47:28	47:38	66.	2	3.0
391.7931	47:41	63401.	15340.	47:38	47:50	66.	2	3.0
391.7931	48:07	72566.	16391.	48:00	48:14	66.	2	3.0
401.8358	47:33	66446.	19086.	47:28	47:35	76.	2	3.0
401.8358	47:40	1506630.	373511.	47:35	47:56	76.	2	3.0
401.8358	48:06	1592140.	372448.	47:59	48:21	76.	2	3.0
403.8327	47:33	52949.	16289.	47:28	47:35	74.	2	3.0
403.8327	47:40	1165934.	289324.	47:35	47:56	74.	2	3.0
403.8327	48:06	1279149.	298565.	47:58	48:22	74.	2	3.0
373.8021	46:29	109237.	25830.	46:18	46:33	78.	2	3.0
373.8021	46:37	118734.	27357.	46:33	46:51	78.	2	3.0
373.8021	47:23	107771.	23457.	47:16	47:39	78.	2	3.0
373.8021	48:26	98834.	19501.	48:13	48:39	78.	2	3.0
375.7990	46:29	88643.	23251.	46:23	46:33	76.	2	3.0
375.7990	46:37	98788.	23474.	46:33	46:51	76.	2	3.0
375.7990	47:24	87102.	19481.	47:17	47:34	76.	2	3.0
375.7990	48:25	78098.	14701.	48:16	48:41	76.	2	3.0
383.8447	46:28	64002.	17532.	46:18	46:31	80.	2	3.0
383.8447	46:37	1212029.	298909.	46:31	46:52	80.	2	3.0
383.8447	46:57	7254.	884.	46:55	47:07	80.	2	3.0
383.8447	48:24	57959.	11236.	48:14	48:40	80.	2	3.0
385.8417	46:28	120852.	32585.	46:21	46:31	78.	2	3.0
385.8417	46:35	2282814.	555773.	46:31	46:51	78.	2	3.0

385.8417	46:57	13159.	1894.	46:56	47:07	78.	2	3.0
385.8417	48:25	105448.	21348.	48:16	48:34	78.	2	3.0
423.7555	52:44	73437.	15199.	52:31	52:57	52.	2	3.0
425.7524	52:44	68131.	14206.	52:36	52:55	56.	2	3.0
435.7951	52:43	1432715.	298435.	52:35	52:59	71.	2	3.0
437.7921	52:43	1350728.	279511.	52:36	52:59	48.	2	3.0
407.7614	51:02	93501.	19092.	50:51	51:17	68.	2	3.0
407.7614	53:22	83894.	15757.	53:14	53:34	68.	2	3.0
409.7583	51:02	93812.	18275.	50:54	51:18	64.	2	3.0
409.7583	53:21	75553.	14211.	53:11	53:34	64.	2	3.0
417.8041	51:01	839853.	165031.	50:48	51:17	72.	2	3.0
417.8041	53:21	41922.	7578.	53:12	53:37	72.	2	3.0
419.8010	51:01	1831412.	352562.	50:52	51:17	80.	2	3.0
419.8010	53:20	87141.	15413.	53:04	53:32	80.	2	3.0
457.7148	57:02	121269.	30838.	56:55	57:18	61.	2	3.0
459.7118	57:02	131841.	34802.	56:50	57:11	65.	2	3.0
469.7545	57:01	2461254.	585384.	56:54	57:17	73.	2	3.0
471.7514	57:01	2708939.	648006.	56:54	57:17	101.	2	3.0
441.7207	57:10	125432.	30304.	57:04	57:21	64.	2	3.0
443.7177	57:10	151467.	36976.	56:58	57:26	70.	2	3.0
319.8805	35:56	16783.	1737.	35:41	36:12	55.	2	3.0
321.8775	35:55	20796.	1897.	35:44	36:11	59.	2	3.0
331.9202	35:18	1462436.	147254.	35:01	35:34	307.	2	3.0
331.9202	35:53	1519066.	161832.	35:41	36:09	307.	2	3.0
333.9171	35:19	1835841.	183497.	35:02	35:35	188.	2	3.0
333.9171	35:53	1941985.	206901.	35:41	36:09	188.	2	3.0
303.8864	33:43	22716.	2169.	33:37	33:59	60.	2	3.0
305.8834	33:45	28848.	3074.	33:29	33:58	66.	2	3.0
315.9261	33:43	2050634.	186172.	33:27	33:59	122.	2	3.0
317.9230	33:43	2621533.	229919.	33:27	33:59	149.	2	3.0
303.8864	33:43	22716.	2169.	33:37	33:59	60.	2	3.0
305.8834	33:45	28848.	3074.	33:29	33:58	66.	2	3.0
315.9261	33:43	2050634.	186172.	33:27	33:59	122.	2	3.0
317.9230	33:43	2621533.	229919.	33:27	33:59	149.	2	3.0
355.8368	43:22	91159.	20933.	43:06	43:38	63.	2	3.0
357.8337	43:22	54944.	13224.	43:16	43:38	62.	2	3.0
367.8765	43:21	1825082.	467733.	43:15	43:37	54.	2	3.0
369.8734	43:21	1172675.	301881.	43:14	43:37	88.	2	3.0
339.8427	41:51	116274.	24453.	41:42	42:01	65.	2	3.0
339.8427	42:54	116984.	25545.	42:47	43:10	65.	2	3.0
341.8396	41:51	78189.	16876.	41:44	42:07	66.	2	3.0
341.8396	42:54	78309.	17140.	42:49	43:10	66.	2	3.0
351.8824	41:49	2497155.	523640.	41:41	42:05	111.	2	3.0
351.8824	42:53	122424.	26694.	42:48	43:09	111.	2	3.0
353.8793	41:49	1569841.	334770.	41:35	42:05	93.	2	3.0
353.8793	42:53	78548.	18734.	42:45	43:09	93.	2	3.0
389.7961	47:34	77188.	20431.	47:28	47:38	66.	2	3.0
389.7961	47:41	79991.	20302.	47:38	47:49	66.	2	3.0
389.7961	48:07	84414.	20330.	48:00	48:17	66.	2	3.0
391.7931	47:34	62362.	16900.	47:28	47:38	66.	2	3.0
391.7931	47:41	63401.	15340.	47:38	47:50	66.	2	3.0
391.7931	48:07	72566.	16391.	48:00	48:14	66.	2	3.0
401.8358	47:33	66446.	19086.	47:28	47:35	76.	2	3.0
401.8358	47:40	1506630.	373511.	47:35	47:56	76.	2	3.0
401.8358	48:06	1592140.	372448.	47:59	48:21	76.	2	3.0
403.8327	47:33	52949.	16289.	47:28	47:35	74.	2	3.0
403.8327	47:40	1165934.	289324.	47:35	47:56	74.	2	3.0
403.8327	48:06	1279149.	298565.	47:58	48:22	74.	2	3.0
373.8021	46:29	109237.	25830.	46:18	46:33	78.	2	3.0
373.8021	46:37	118734.	27357.	46:33	46:51	78.	2	3.0
373.8021	47:23	107771.	23457.	47:16	47:39	78.	2	3.0
373.8021	48:26	98834.	19501.	48:13	48:39	78.	2	3.0
375.7990	46:29	88643.	23251.	46:23	46:33	76.	2	3.0
375.7990	46:37	98788.	23474.	46:33	46:51	76.	2	3.0
375.7990	47:24	87102.	19481.	47:17	47:34	76.	2	3.0
375.7990	48:25	78098.	14701.	48:16	48:41	76.	2	3.0

383.8447	46:28	64002.	17532.	46:18	46:31	80.	2	3.0
383.8447	46:37	1212029.	298909.	46:31	46:52	80.	2	3.0
383.8447	48:24	57959.	11236.	48:14	48:40	80.	2	3.0
385.8417	46:28	120852.	32585.	46:21	46:31	78.	2	3.0
385.8417	46:35	2282814.	555773.	46:31	46:51	78.	2	3.0
385.8417	48:25	105448.	21348.	48:16	48:34	78.	2	3.0
423.7555	52:44	73437.	15199.	52:31	52:57	52.	2	3.0
425.7524	52:44	68131.	14206.	52:36	52:55	56.	2	3.0
435.7951	52:43	1432715.	298435.	52:35	52:59	71.	2	3.0
437.7921	52:43	1350728.	279511.	52:36	52:59	48.	2	3.0
407.7614	51:02	93501.	19092.	50:51	51:17	68.	2	3.0
407.7614	53:22	83894.	15757.	53:14	53:34	68.	2	3.0
409.7583	51:02	93812.	18275.	50:54	51:18	64.	2	3.0
409.7583	53:21	75553.	14211.	53:11	53:34	64.	2	3.0
417.8041	51:01	839853.	165031.	50:48	51:17	72.	2	3.0
417.8041	53:21	41922.	7578.	53:12	53:37	72.	2	3.0
419.8010	51:01	1831412.	352562.	50:52	51:17	80.	2	3.0
419.8010	53:20	87141.	15413.	53:04	53:32	80.	2	3.0
441.7207	57:10	125432.	30304.	57:04	57:21	64.	2	3.0
443.7177	57:10	151467.	36976.	56:58	57:26	70.	2	3.0

Int. Cal CDCg 11/8/04
QC PMP 11-9-04

CHRO: b041108i3 08-Nov-04 Elapse: 08:00.6 1
Samp: Vial 14 WO=2960:59CS3 Meth=X8 Dil=1 Start : 15:25:53 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 442 > 2853 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



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CHRO:  b041108i3                                08-Nov-04   Elapse:  08:00.6        1
Samp:  Vial 14 WO=2960:59CS3 Meth=X8 Dil=1                  Start :  15:25:53    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  14
Peak:  100.00  ppm      Label wndw:   1465 > 1608           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
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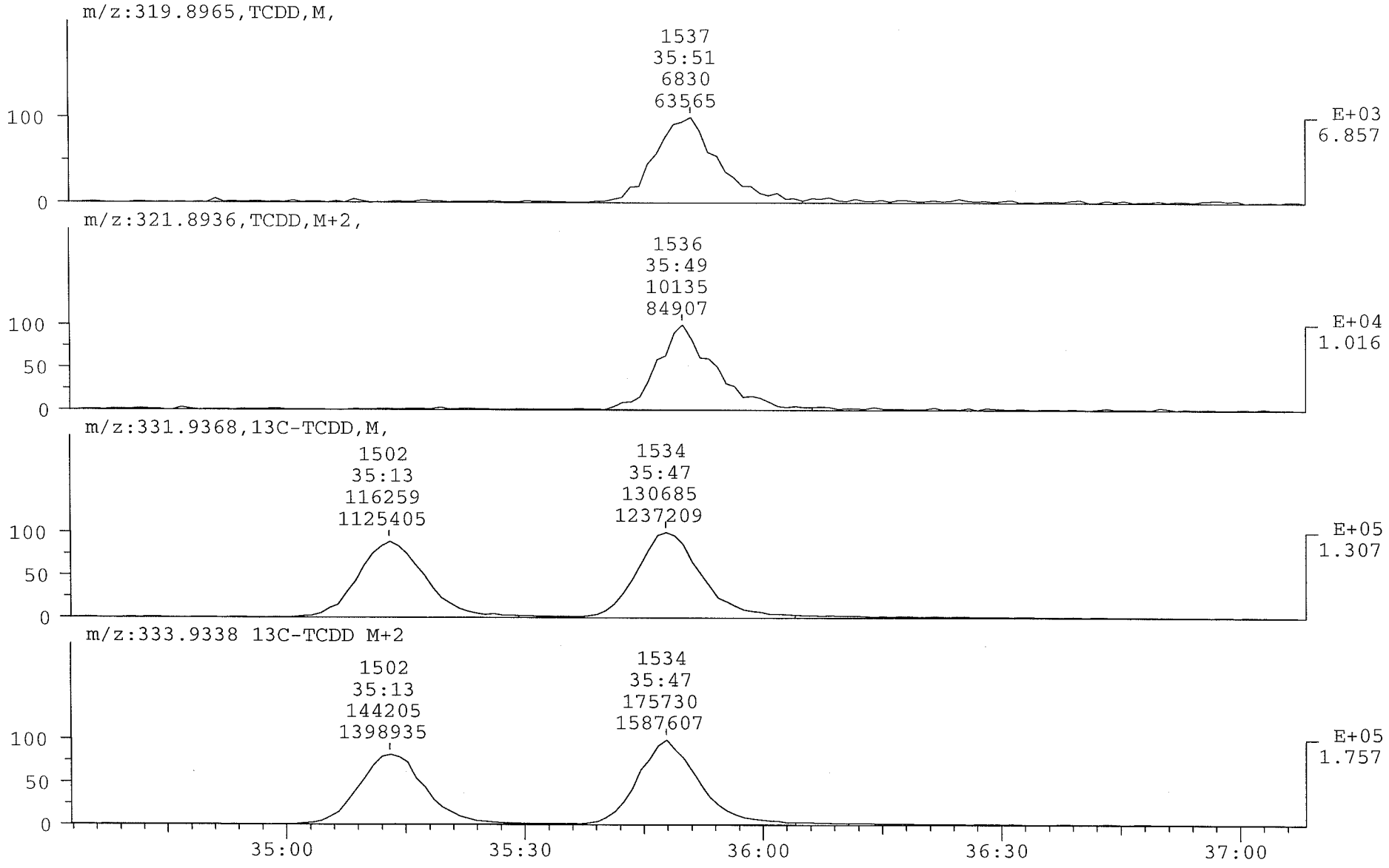
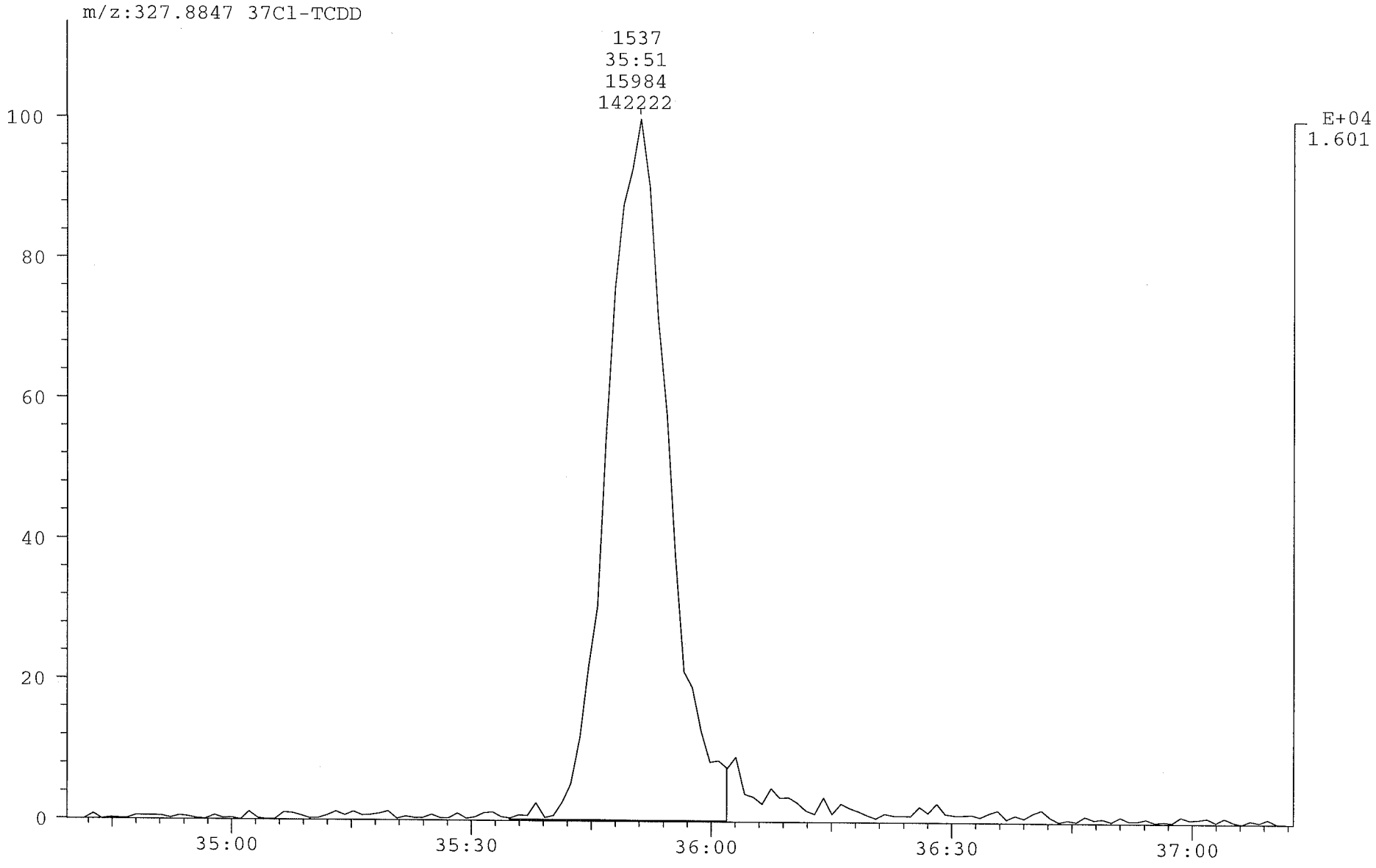


CHRO: b041108i3 08-Nov-04 Elapse: 08:00.6 1
Samp: Vial 14 WO=2960:59CS3 Meth=X8 Dil=1 Start : 15:25:53 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1471 > 1612 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



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CHRO:  b041108i3                                08-Nov-04   Elapse:  08:00.6        1
Samp:  Vial 14 WO=2960:59CS3 Meth=X8 Dil=1                  Start :  15:25:53    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  14
Peak:  100.00  ppm      Label wndw:   1320 > 1521           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
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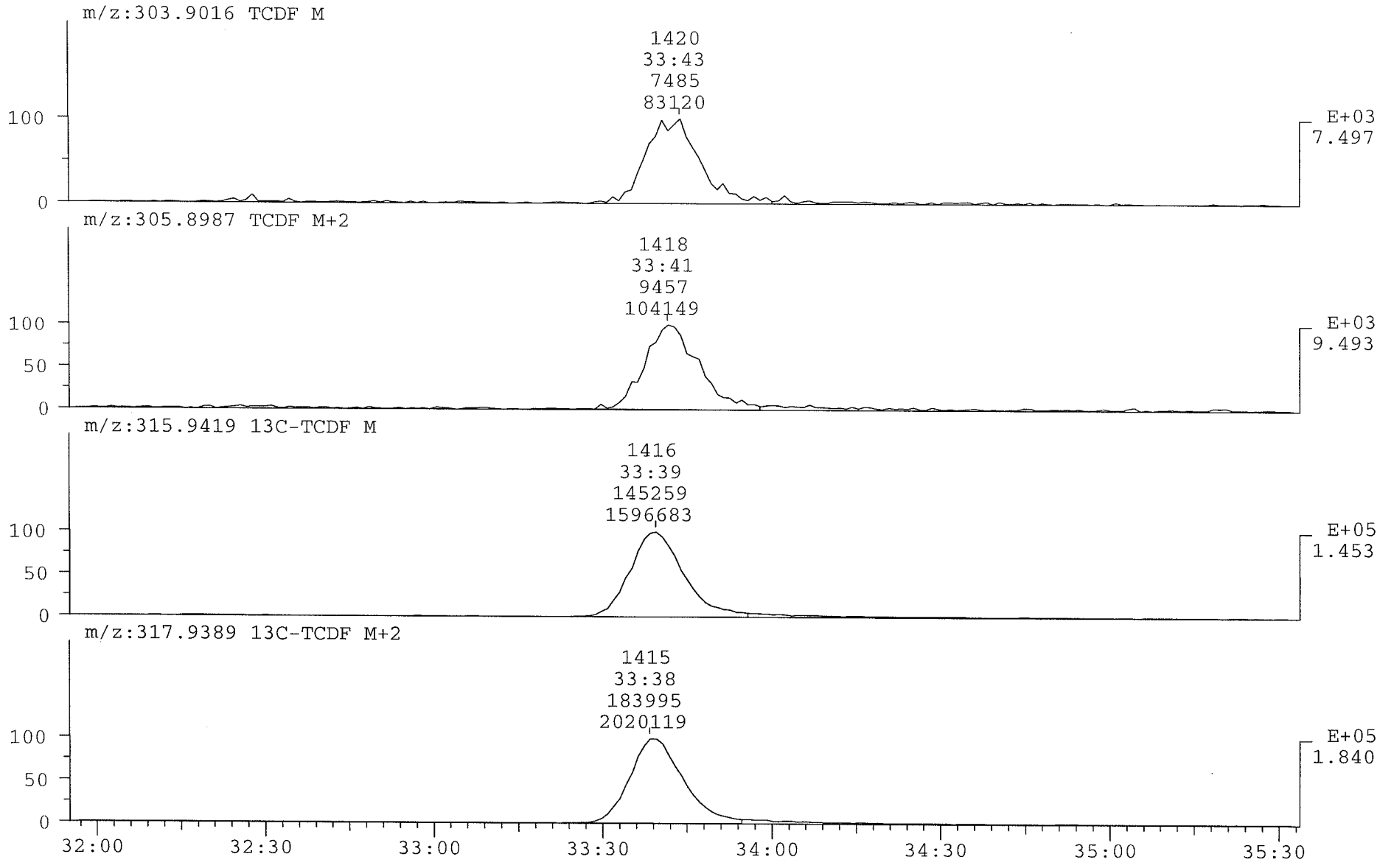

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CHRO:  b041108i3                                08-Nov-04   Elapse:  08:00.6        1
Samp:  Vial 14 WO=2960:59CS3 Meth=X8 Dil=1                  Start :  15:25:53    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  14
Peak:  100.00  ppm      Label wndw:   1020 > 1678           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
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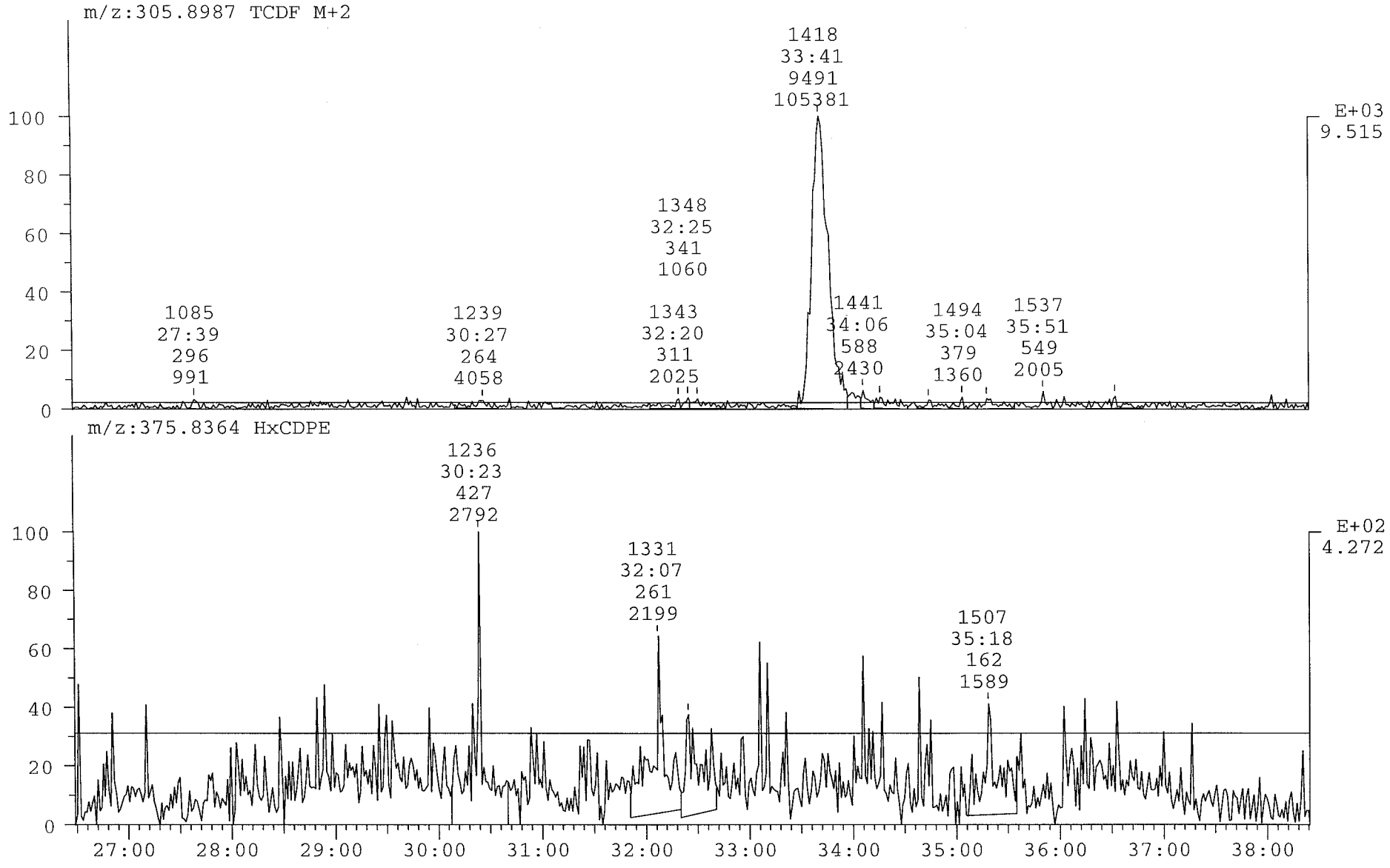

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CHRO:  b041108i3                                08-Nov-04   Elapse:  08:00.6        1
Samp:  Vial 14 WO=2960:59CS3 Meth=X8 Dil=1                  Start :  15:25:53    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  14
Peak:  100.00  ppm      Label wndw:   805 > 1703            Masses:  293 > 514
Area:  5, 0.50, 0       Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
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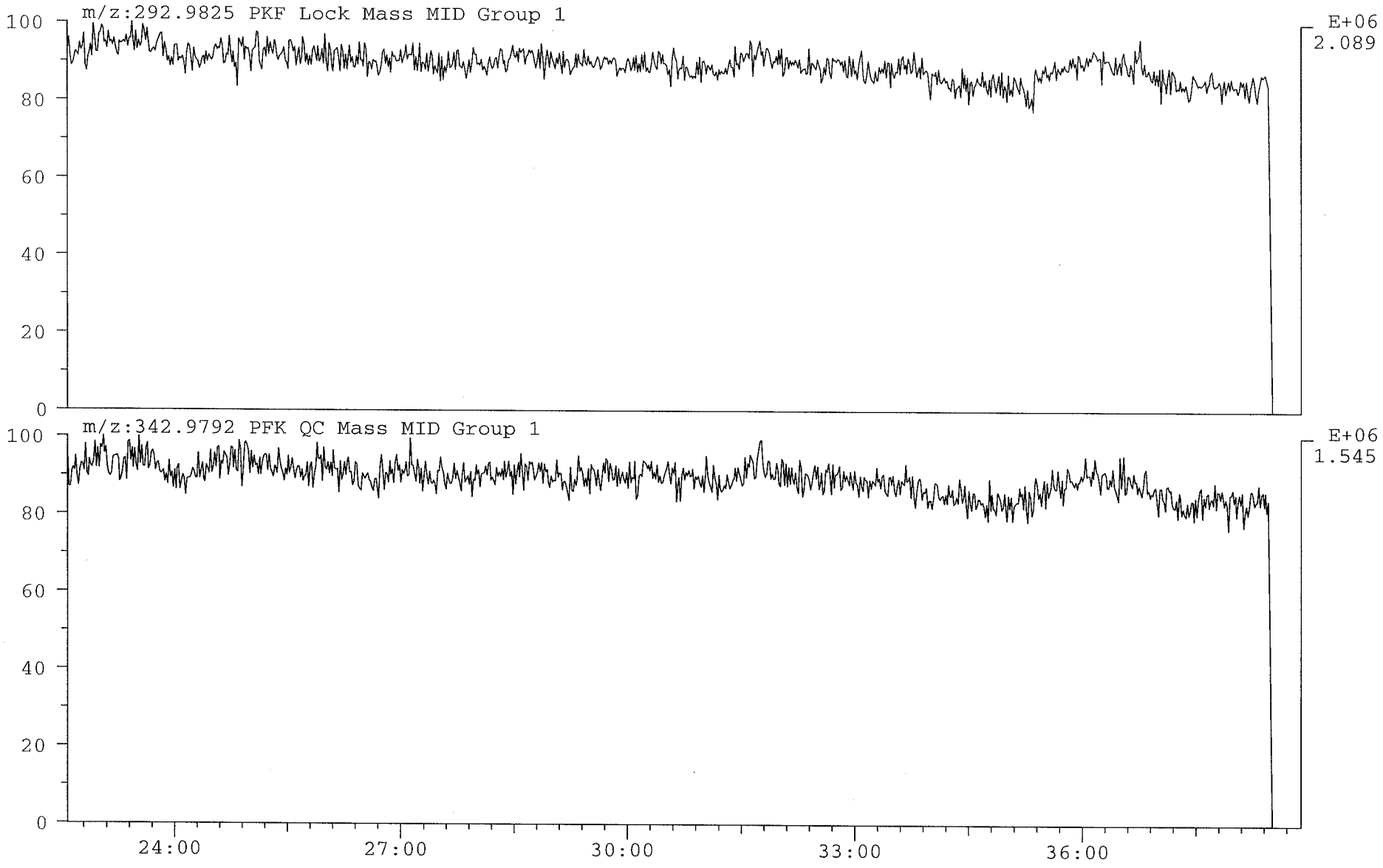
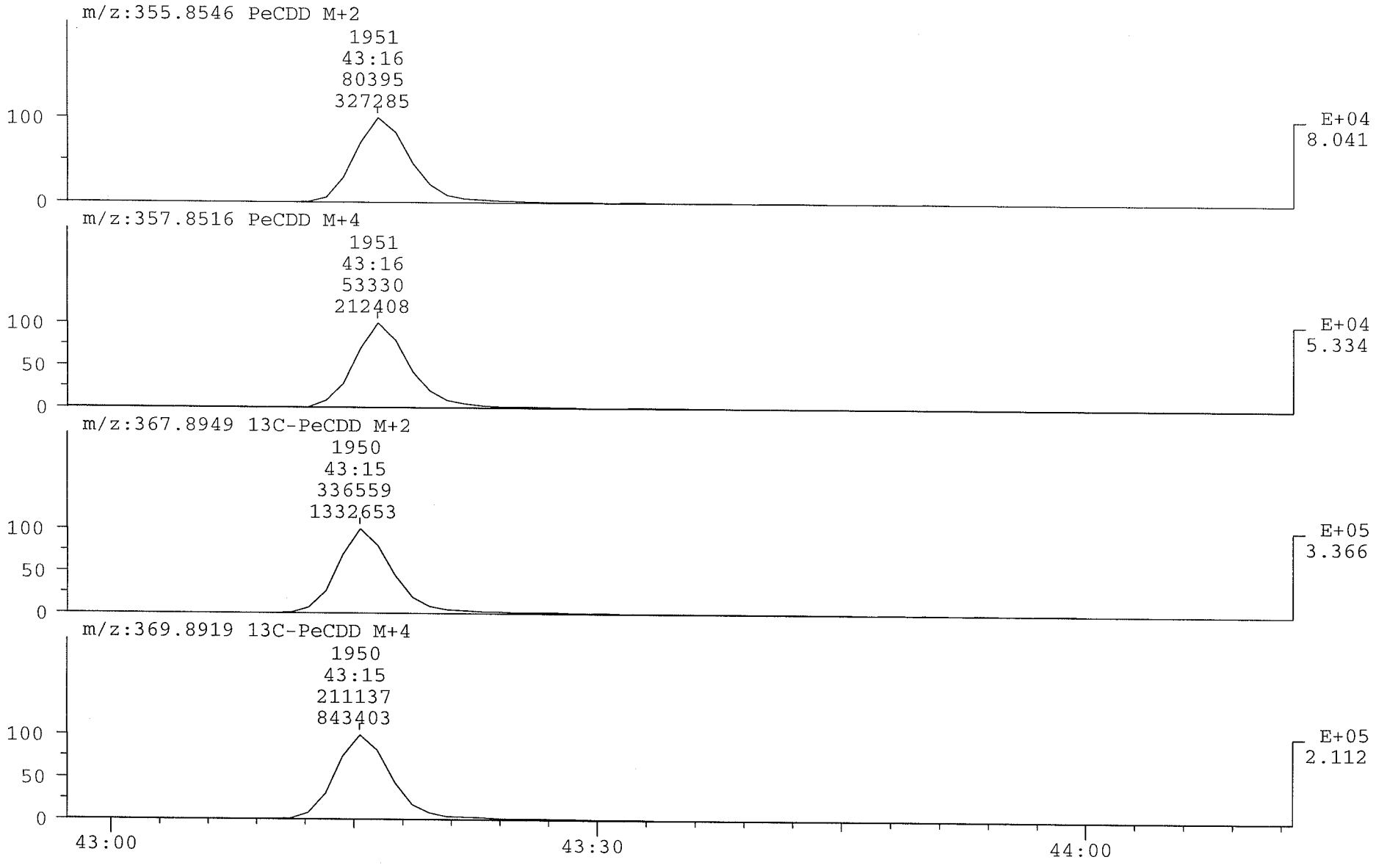


CHRO: b041108i3 08-Nov-04 Elapse: 08:00.6 1
Samp: Vial 14 WO=2960:59CS3 Meth=X8 Dil=1 Start : 15:25:53 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1942 > 2002 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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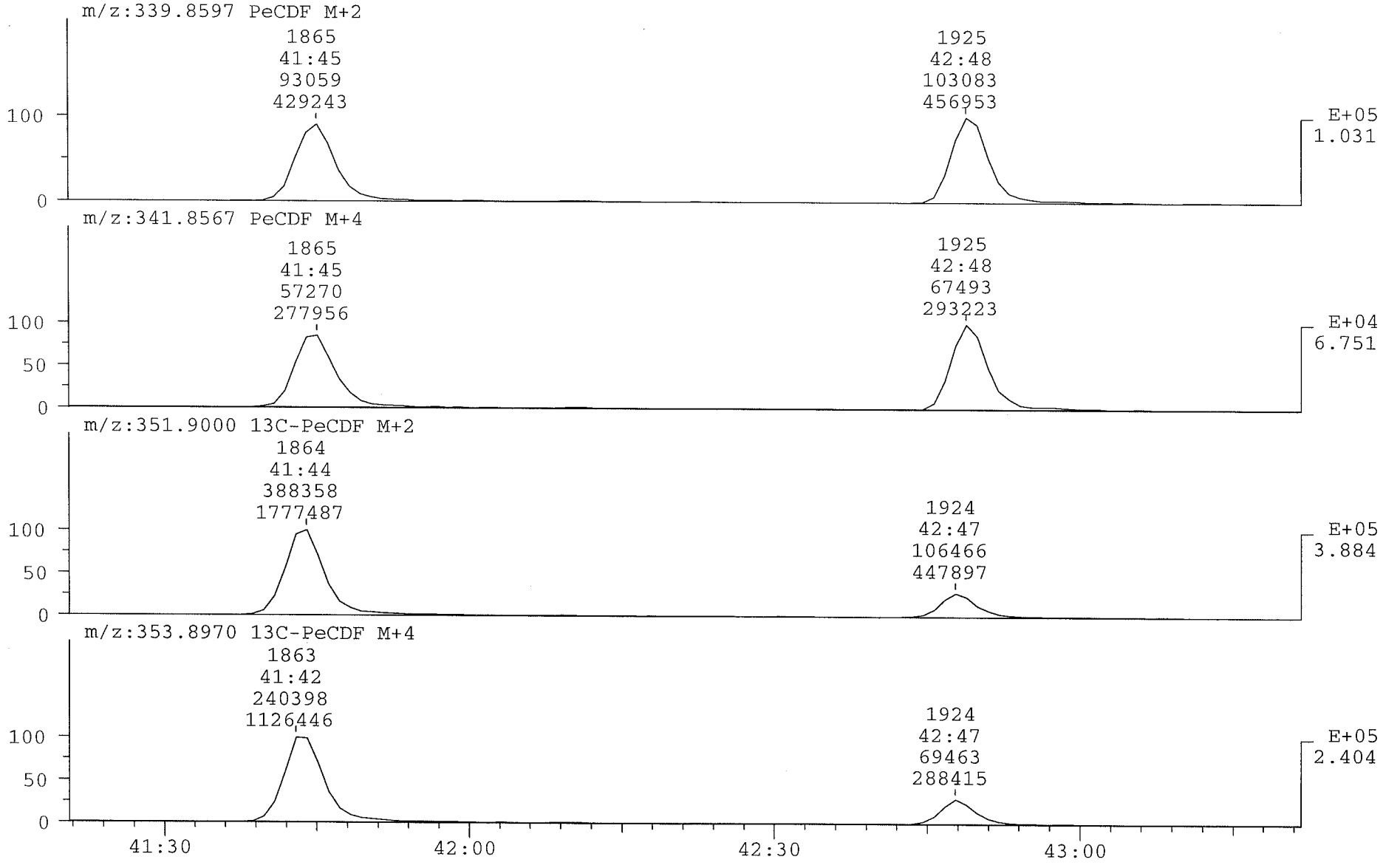
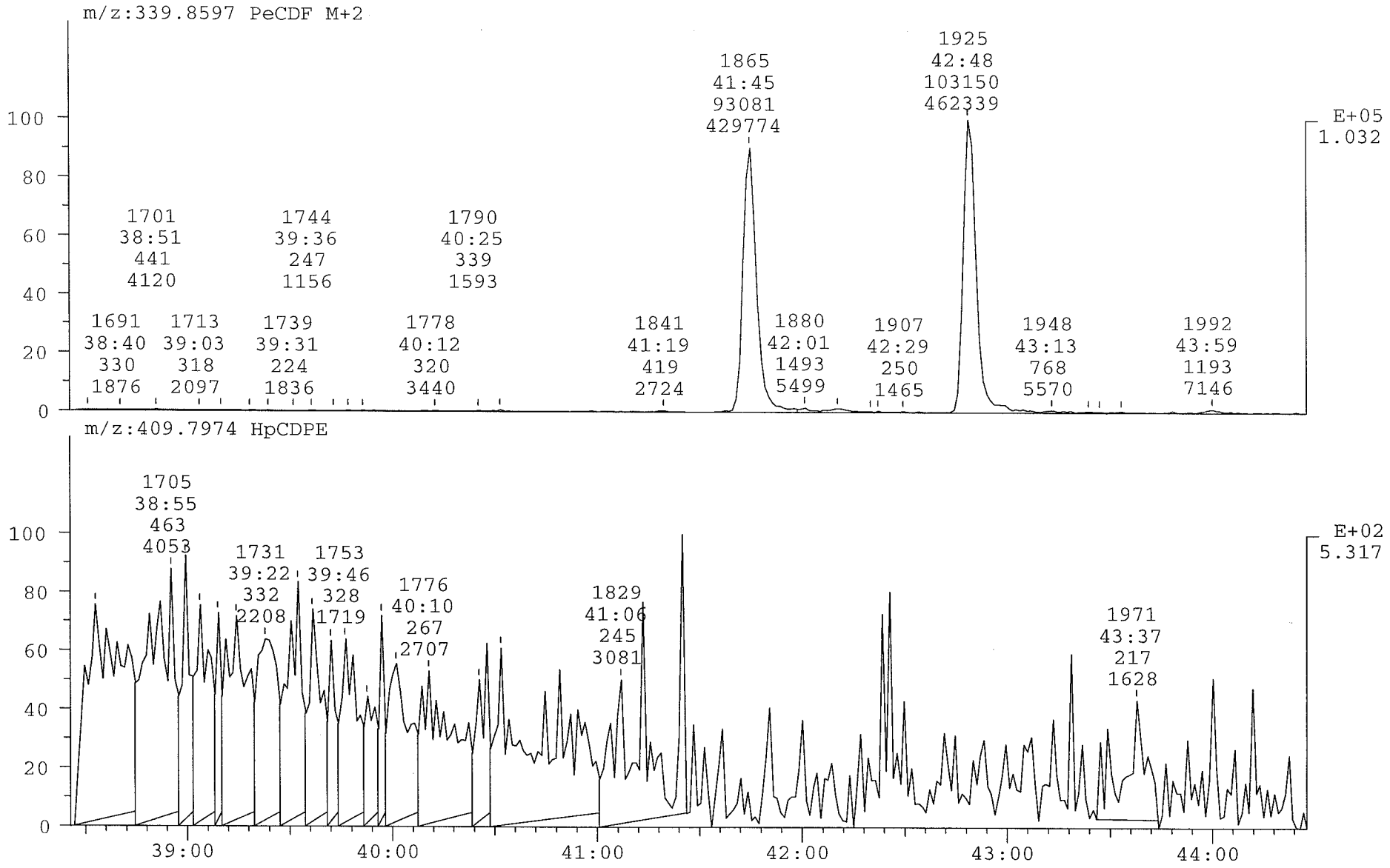
CHRO:  b041108i3                                08-Nov-04   Elapse:  08:00.6        1
Samp:  Vial 14 WO=2960:59CS3 Meth=X8 Dil=1                  Start :  15:25:53    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  14
Peak:  100.00  ppm      Label wndw:   1842 > 1956           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: b041108i3 08-Nov-04 Elapse: 08:00.6 1
Samp: Vial 14 WO=2960:59CS3 Meth=X8 Dil=1 Start : 15:25:53 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1679 > 2018 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



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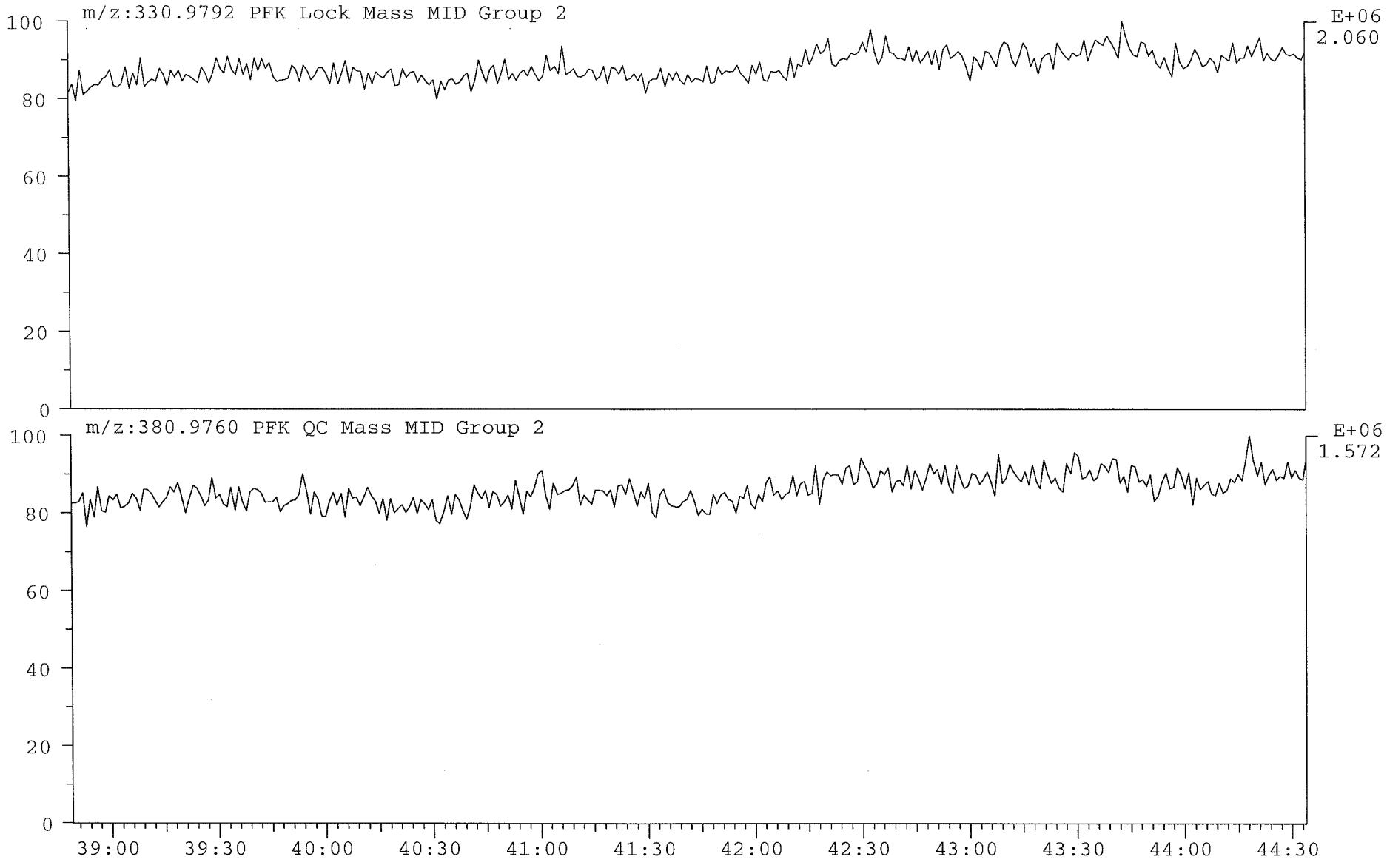
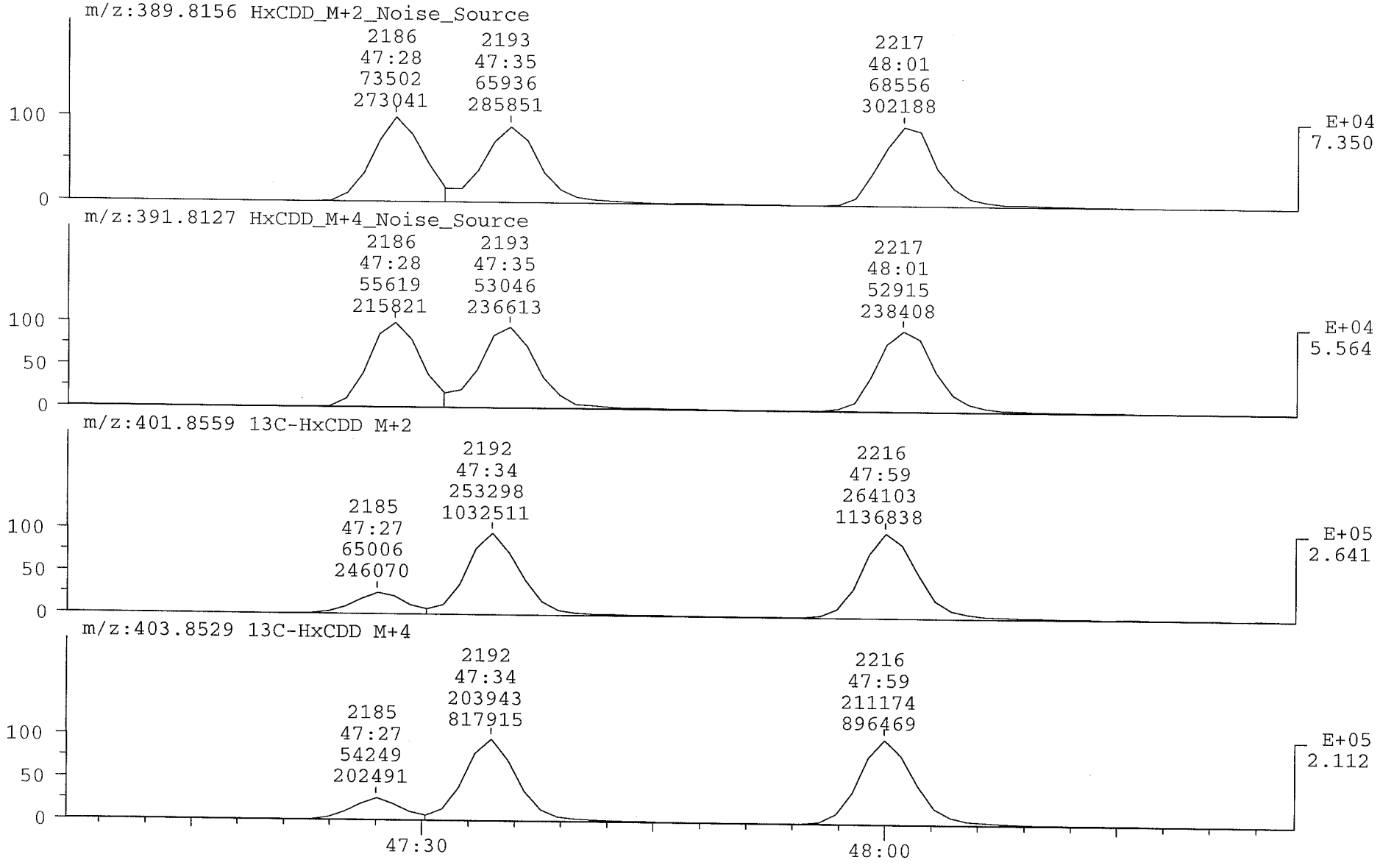
CHRO:  b041108i3                              08-Nov-04   Elapse:  08:00.6        1
Samp:  Vial 14 WO=2960:59CS3 Meth=X8 Dil=1                Start :  15:25:53    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville              Inlet :  GC     Vial  14
Peak:  100.00  ppm      Label wndw:   1699 > 2024         Masses:  293 > 514
Area:  0, 0.00, 0       Baseline  :   0, 3                Label :  0, 0.0
```



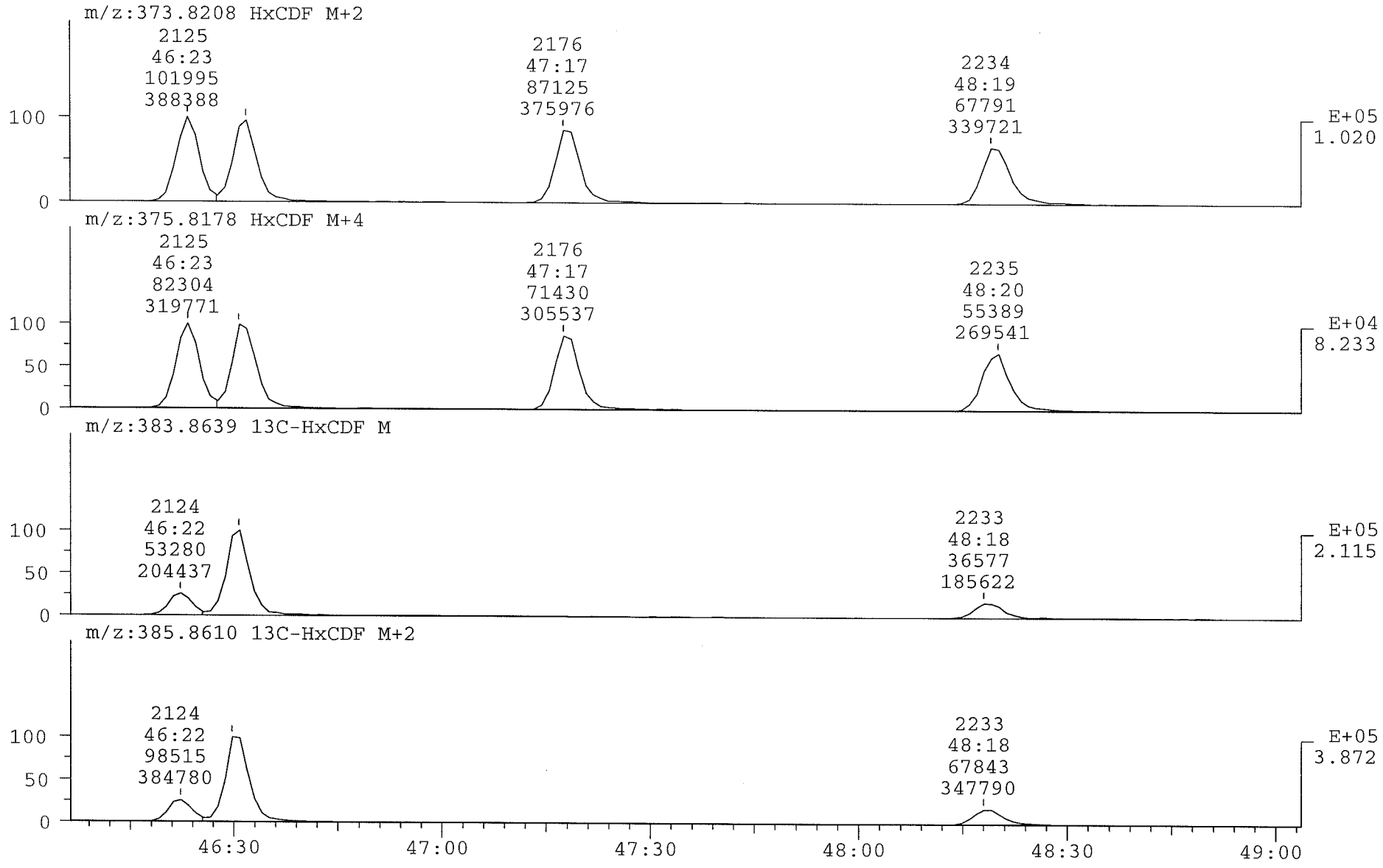
CHRO: b041108i3 08-Nov-04
Samp: Vial 14 WO=2960:59CS3 Meth=X8 Dil=1
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM
Oper: MSD Client: STL Knoxville
Peak: 100.00 ppm Label wndw: 2166 > 2241
Area: 5, 0.50, 15 Baseline : 100, 3
Disp: Height Area

Elapse: 08:00.6 1
Start : 15:25:53 2866

Study : M23 ICAL
Inlet : GC Vial 14
Masses: 293 > 514
Label : -2, 3.0



CHRO: b041108i3 08-Nov-04 Elapse: 08:00.6 1
Samp: Vial 14 WO=2960:59CS3 Meth=X8 Dil=1 Start : 15:25:53 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 2109 > 2276 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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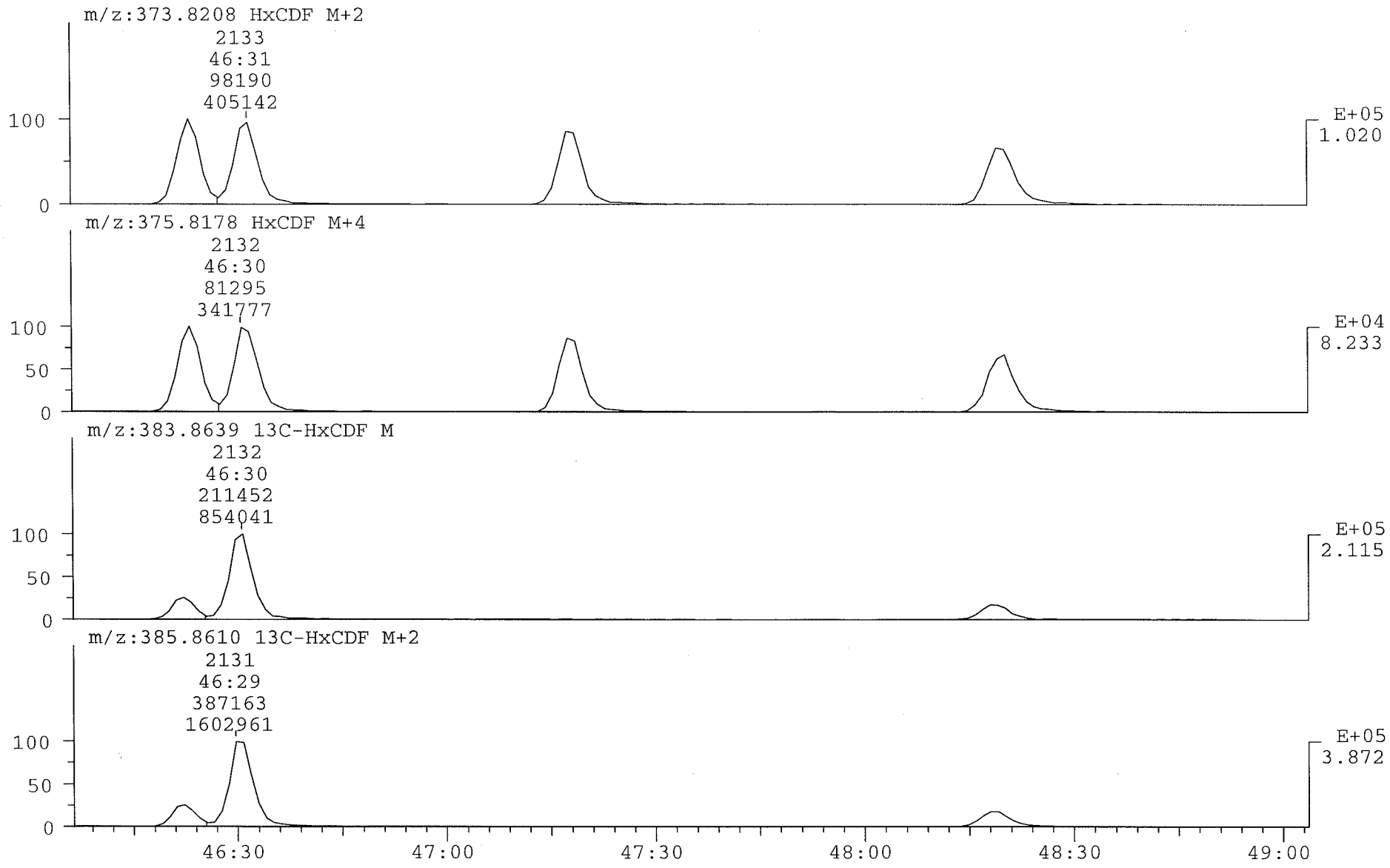
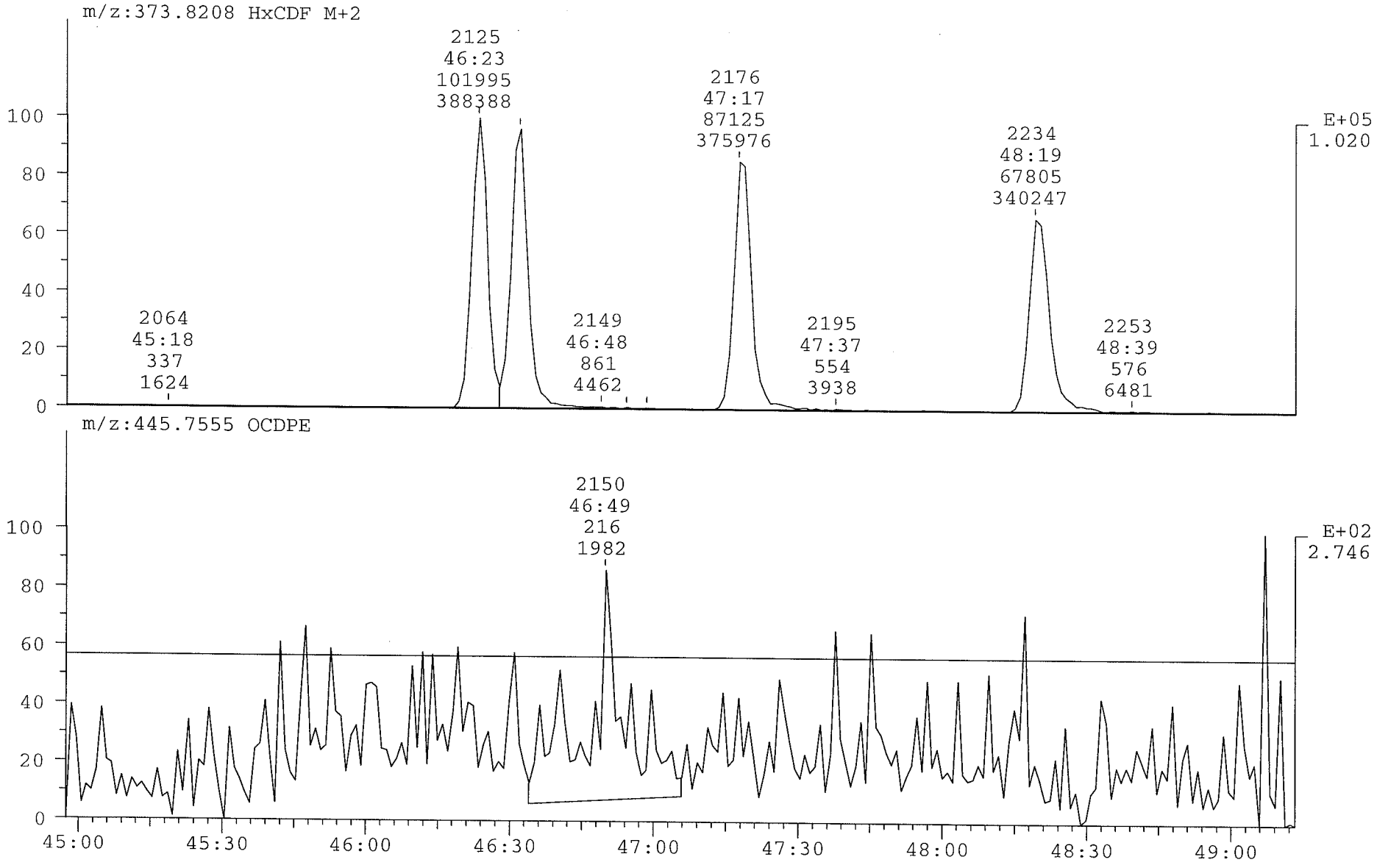
CHRO:  b041108i3                                08-Nov-04   Elapse:  46:31      2133
Samp:  Vial 14 WO=2960:59CS3 Meth=X8 Dil=1                  Start :  15:25:53   2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD          Client:  STL Knoxville                  Inlet :  GC     Vial  14
Peak:  100.00  ppm     Label wndw:   2130 > 2136            Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



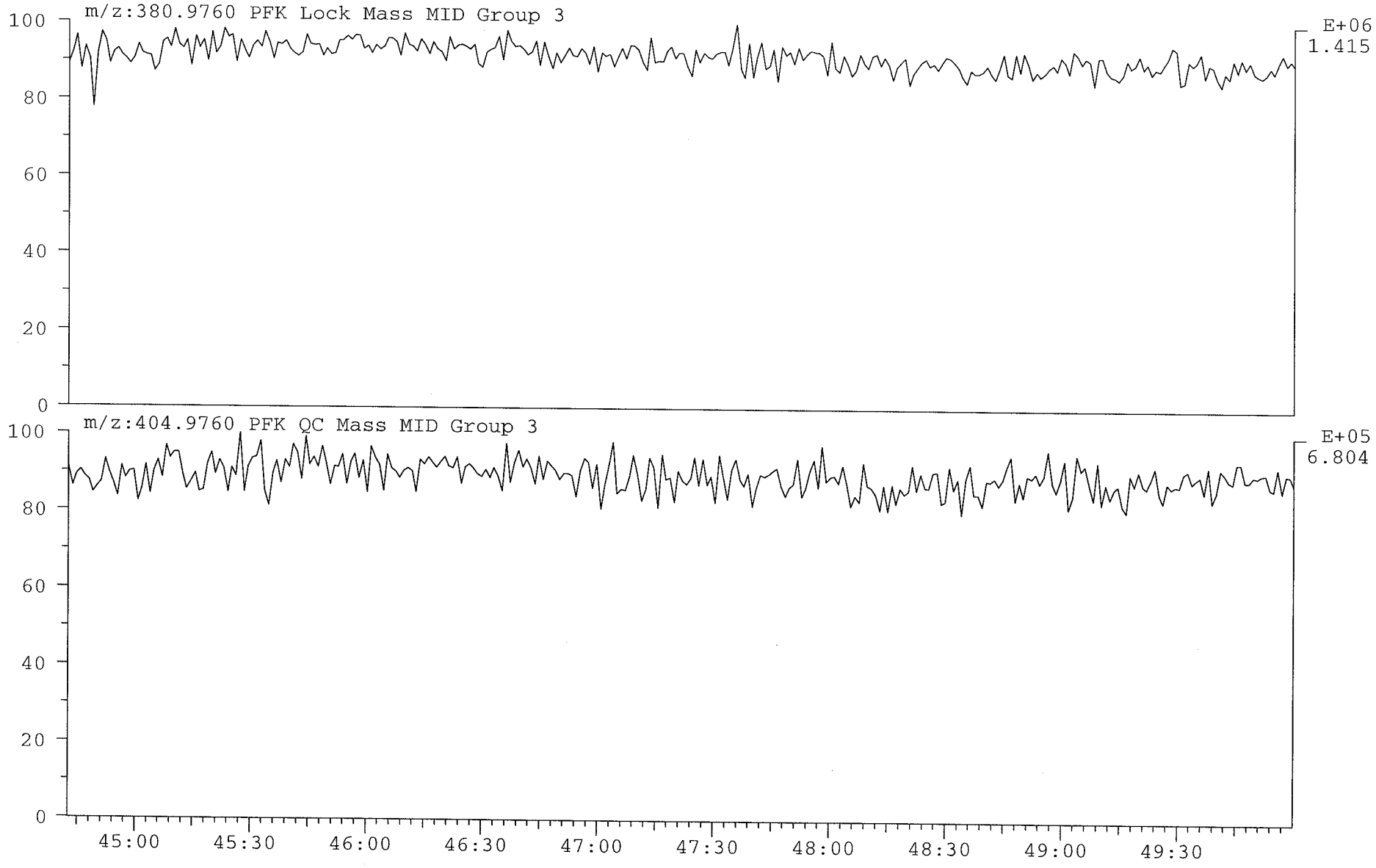
CHRO: b041108i3 08-Nov-04
Samp: Vial 14 WO=2960:59CS3 Meth=X8 Dil=1
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM
Oper: MSD Client: STL Knoxville
Peak: 100.00 ppm Label wndw: 2044 > 2285
Area: 5, 0.50, 15 Baseline : 100, 3
Disp: Height Area

Elapse: 46:31 2133
Start : 15:25:53 2866

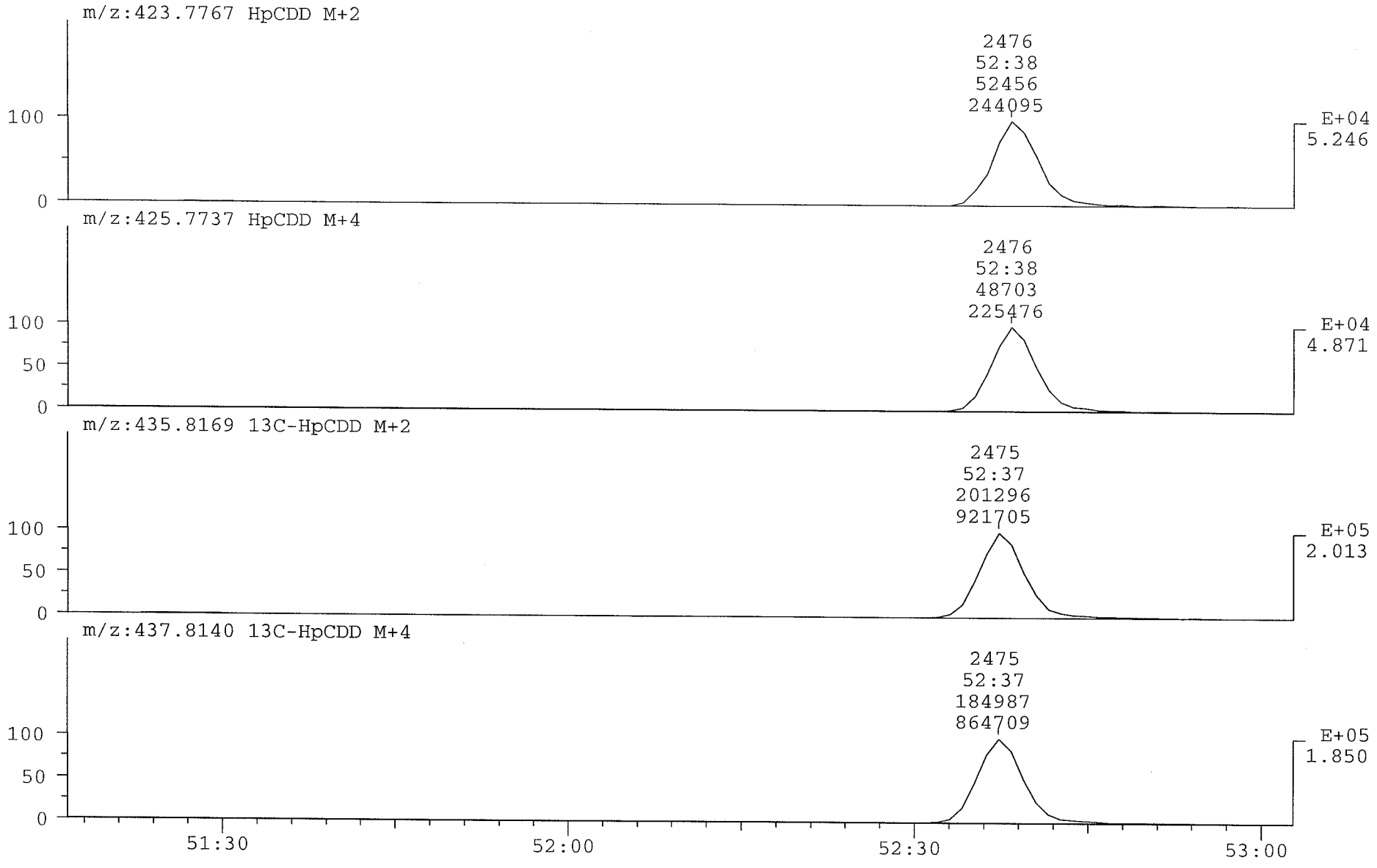
Study : M23 ICAL
Inlet : GC Vial 14
Masses: 293 > 514
Label : -2, 3.0



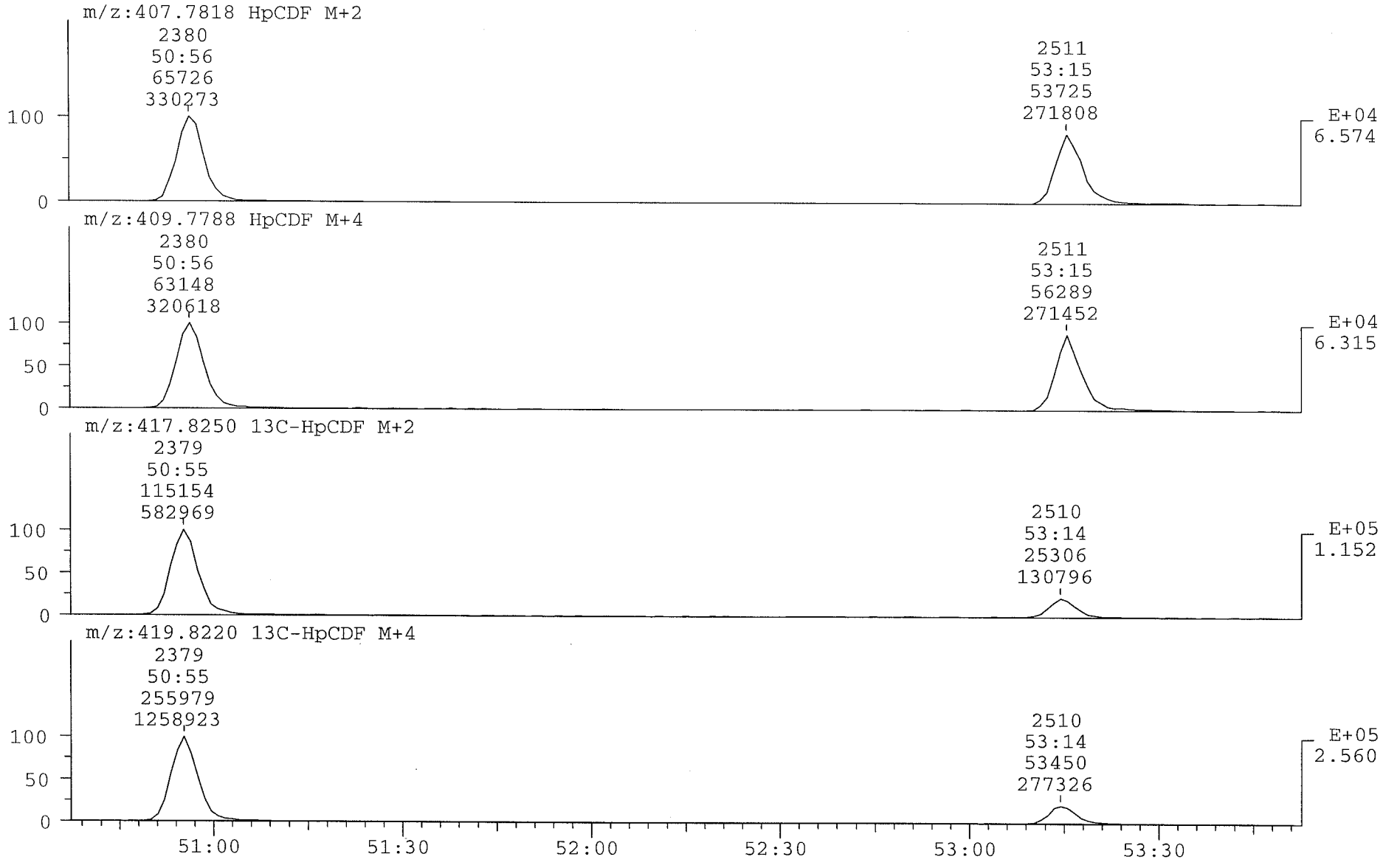
CHRO: b041108i3 08-Nov-04 Elapse: 08:00.6 1
Samp: Vial 14 WO=2960:59CS3 Meth=X8 Dil=1 Start : 15:25:53 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 2030 > 2329 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



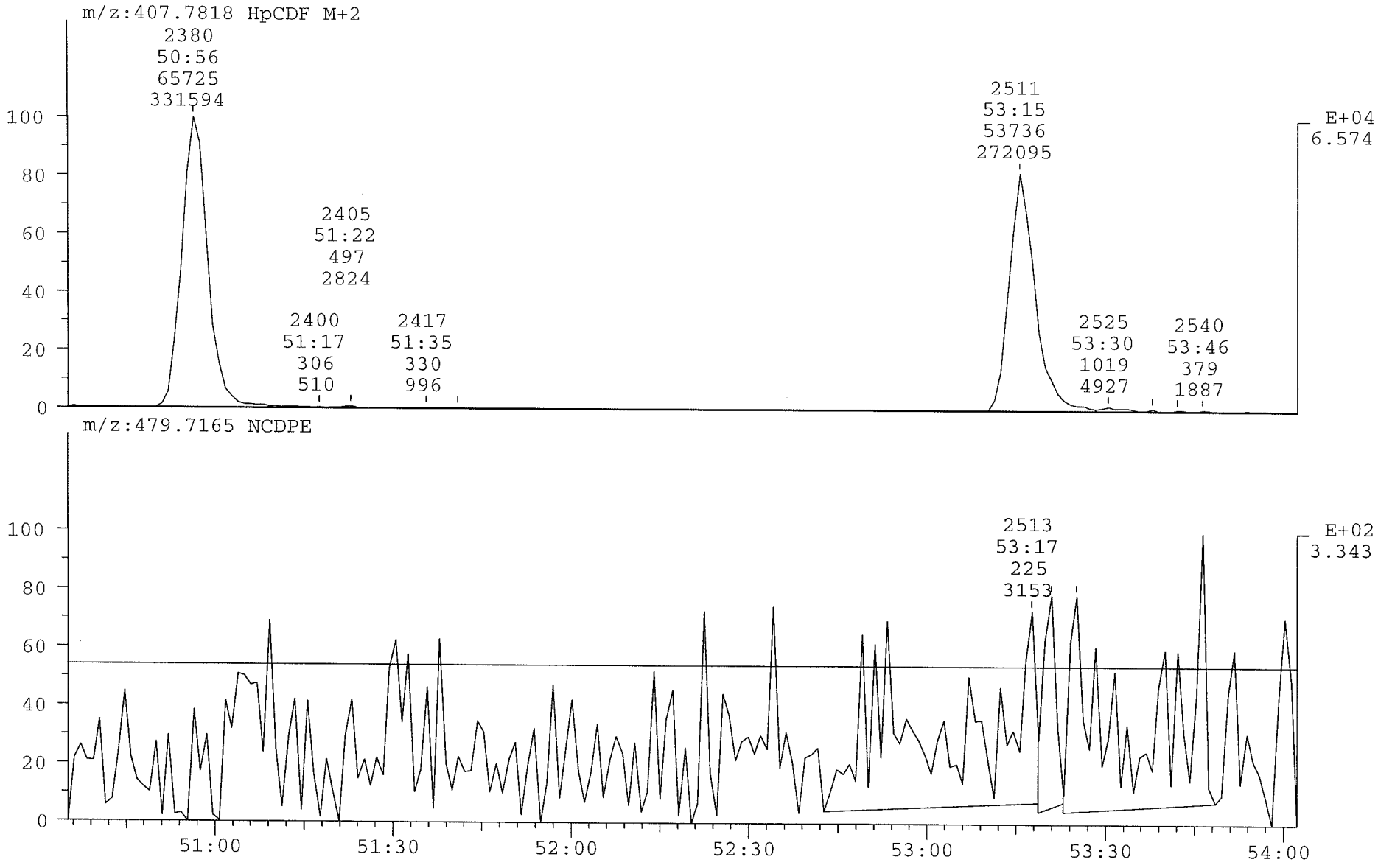
CHRO: b041108i3 08-Nov-04 Elapse: 46:31 2133
Samp: Vial 14 WO=2960:59CS3 Meth=X8 Dil=1 Start : 15:25:53 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 1 > 3000 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: b041108i3 08-Nov-04 Elapse: 08:00.6 1
Samp: Vial 14 WO=2960:59CS3 Meth=X8 Dil=1 Start : 15:25:53 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 2362 > 2546 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



CHRO: b041108i3 08-Nov-04 Elapse: 08:00.6 1
Samp: Vial 14 WO=2960:59CS3 Meth=X8 Dil=1 Start : 15:25:53 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 2360 > 2555 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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CHRO:  b041108i3                                08-Nov-04   Elapse:  08:00.6        1
Samp:  Vial 14 WO=2960:59CS3 Meth=X8 Dil=1                  Start :  15:25:53    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  14
Peak:  100.00  ppm      Label wndw:   2366 > 2625           Masses:  293 > 514
Area:  0, 0.00, 0       Baseline  :   0, 3                  Label :  0, 2.5
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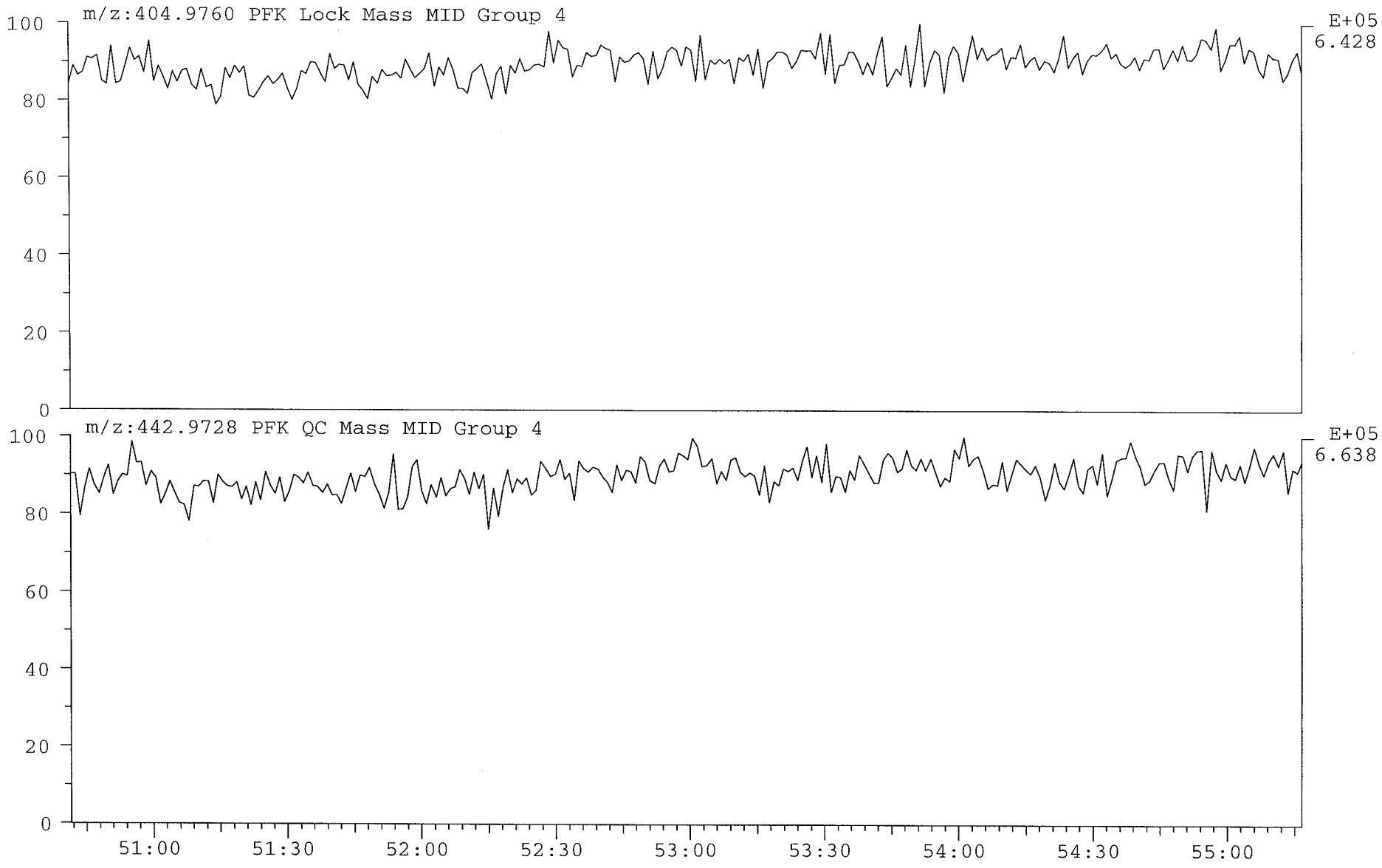

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CHRO:  b041108i3                                08-Nov-04   Elapse:  08:00.6        1
Samp:  Vial 14 WO=2960:59CS3 Meth=X8 Dil=1                  Start :  15:25:53    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  14
Peak:  100.00  ppm      Label wndw:   2684 > 2772           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
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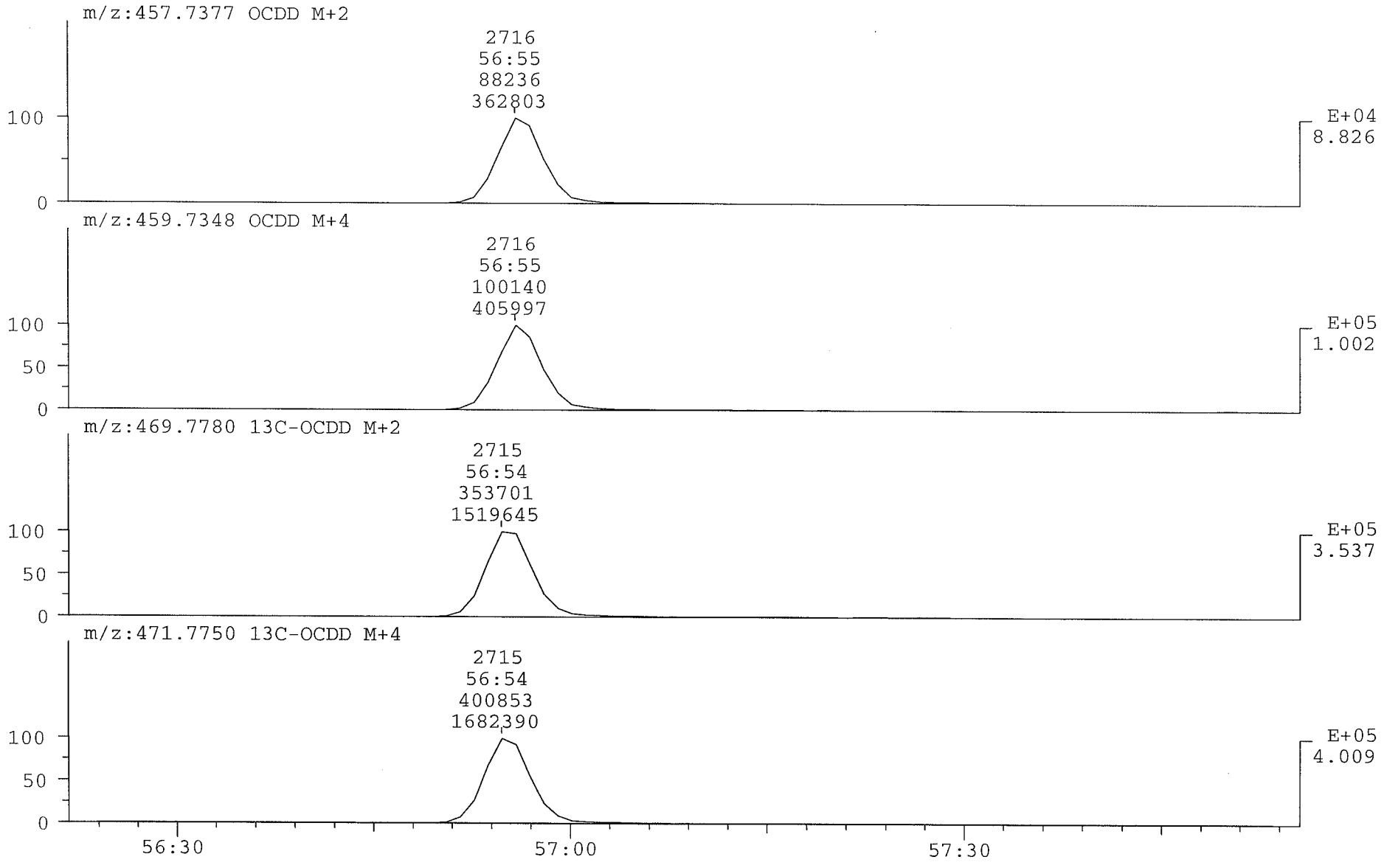

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CHRO:  b041108i3                                08-Nov-04   Elapse:  08:00.6        1
Samp:  Vial 14 WO=2960:59CS3 Meth=X8 Dil=1                  Start :  15:25:53    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  14
Peak:  100.00  ppm      Label wndw:   2694 > 2774           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
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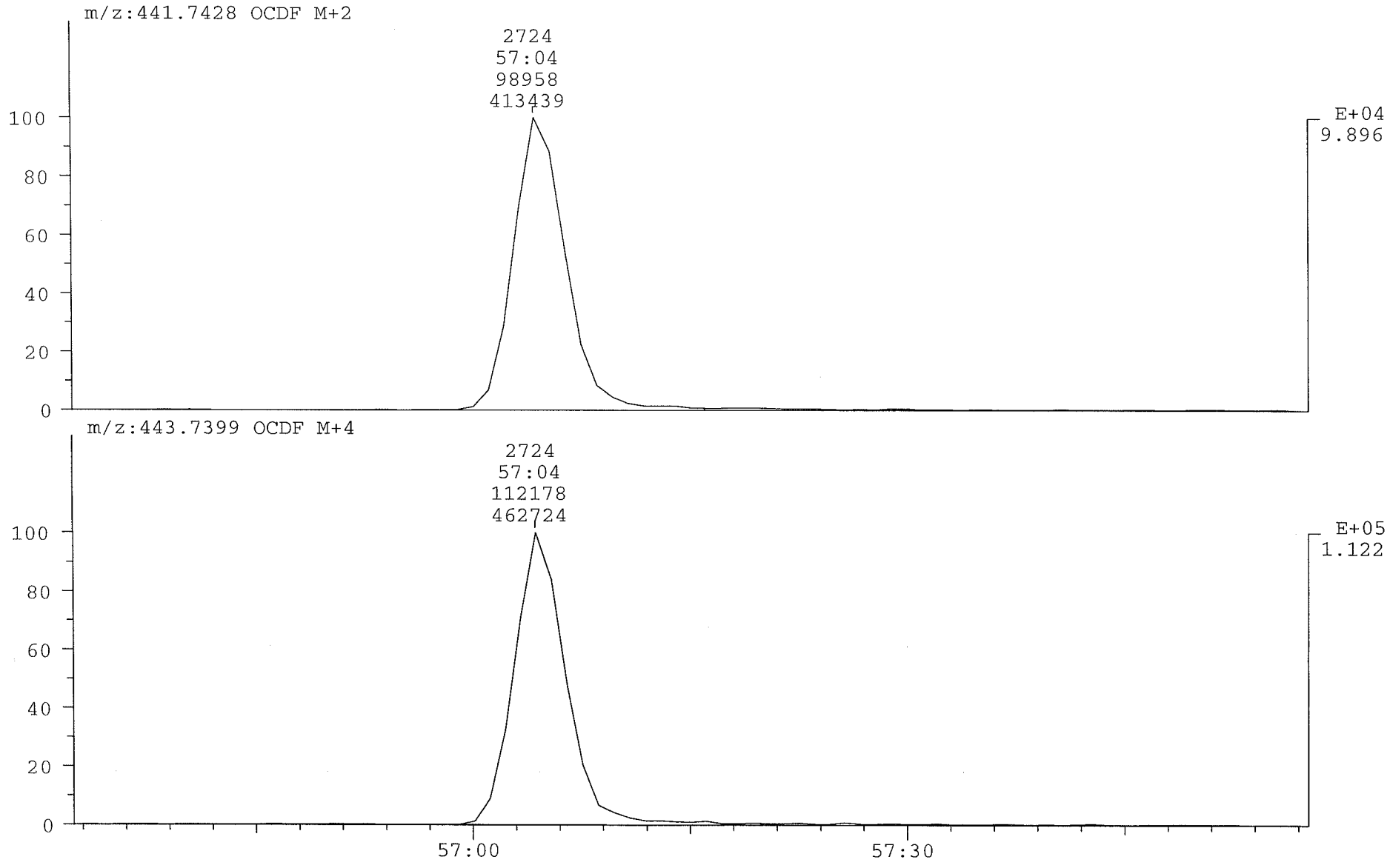
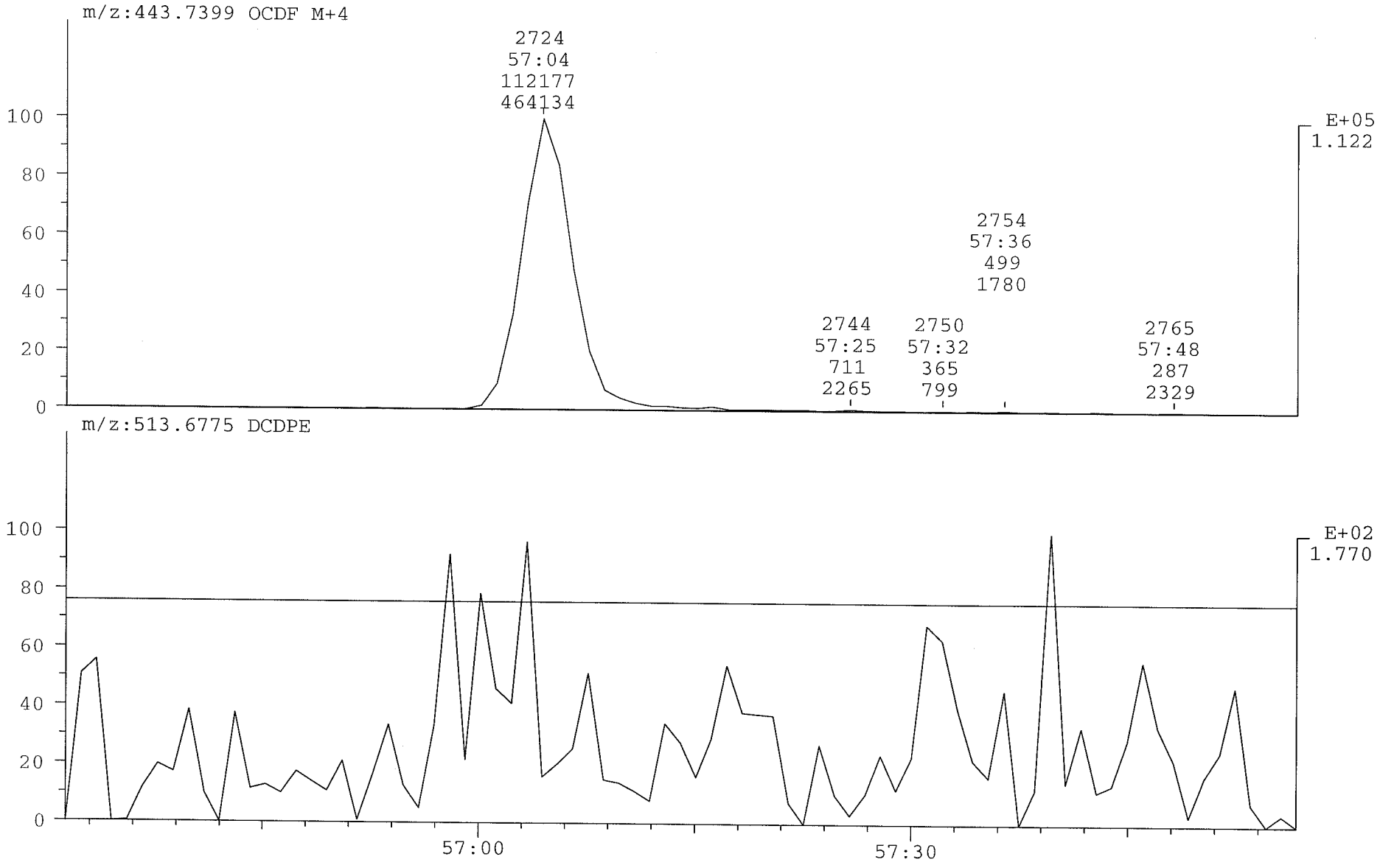
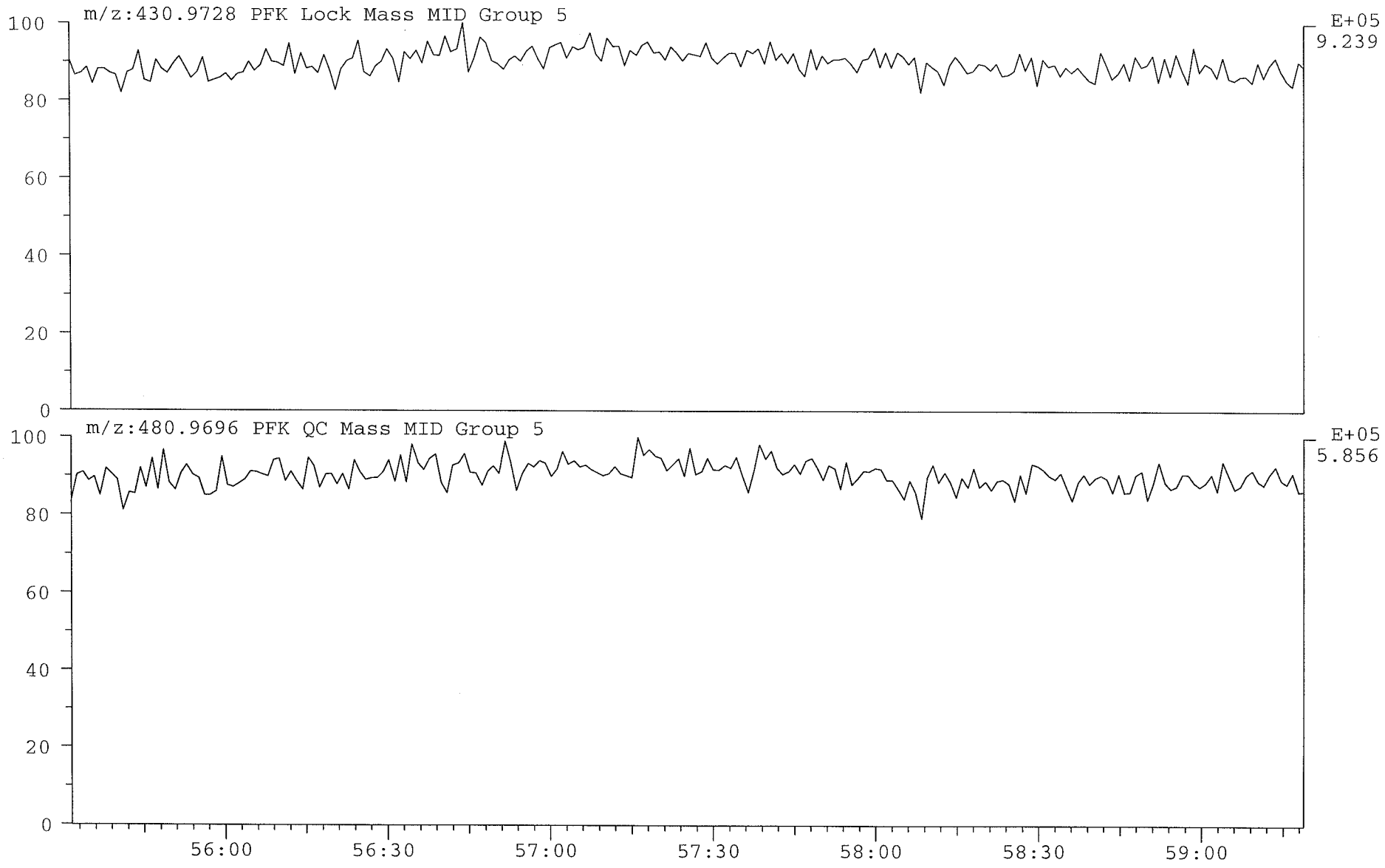


CHRO: b041108i3 08-Nov-04 Elapse: 08:00.6 1
Samp: Vial 14 WO=2960:59CS3 Meth=X8 Dil=1 Start : 15:25:53 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 2693 > 2773 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: b041108i3 08-Nov-04 Elapse: 08:00.6 1
Samp: Vial 14 WO=2960:59CS3 Meth=X8 Dil=1 Start : 15:25:53 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 14
Peak: 100.00 ppm Label wndw: 2637 > 2850 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 3.0
Disp: Height Area



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: b041108i3
Study: M23 ICAL
Sample: WO=2960:59CS3 Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: MSD
Client: STL Knoxville
Comments: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Injected volume: 2.0
Sample from Vial 14
Analysis will stop when MID run finishes
Tune file name: tune2
File 3 of list 041108i
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	FALSE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	100 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	30:26 min	38:26 min	1.00 sec
# 2	38:26 min	6:09 min	44:35 min	1.00 sec
# 3	44:35 min	5:24 min	50:00 min	1.00 sec
# 4	50:00 min	5:20 min	55:20 min	1.00 sec
# 5	55:20 min	4:15 min	59:35 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

351.9000		1	1	91.48
353.8970		1	1	91.48
355.8546		1	1	91.48
357.8516		1	1	91.48
367.8949		1	1	91.48
369.8919		1	1	91.48
380.9760	c	10	1	8.19
409.7974		1	1	91.48

Window # 3

mass	F	int	gr	time (ms)
373.8208		1	1	91.48
375.8178		1	1	91.48
380.9760	l	10	1	8.19
383.8639		1	1	91.48
385.8610		1	1	91.48
389.8156		1	1	91.48
391.8127		1	1	91.48
401.8559		1	1	91.48
403.8529		1	1	91.48
404.9760	c	10	1	8.19
445.7555		1	1	91.48

Window # 4

mass	F	int	gr	time (ms)
404.9760	l	10	1	8.19
407.7818		1	1	91.48
409.7788		1	1	91.48
417.8250		1	1	91.48
419.8220		1	1	91.48
423.7767		1	1	91.48
425.7737		1	1	91.48
435.8169		1	1	91.48
437.8140		1	1	91.48
442.9728	c	10	1	8.19
479.7165		1	1	91.48

Window # 5

mass	F	int	gr	time (ms)
430.9728	l	10	1	10.92
441.7428		1	1	120.15
443.7399		1	1	120.15
457.7377		1	1	120.15
459.7348		1	1	120.15
469.7780		1	1	120.15
471.7750		1	1	120.15
480.9696	c	10	1	10.92
513.6775		1	1	120.15

Auto Sampler descriptor: pcdd2ul

Injector A

Normal Injection

Slvnt A cln before inj	(K):	3	times
Slvnt B cln before inj	(L):	0	times
Sample rinse cycles	(R):	0	times
Syringe filling volume	(F):	1.0	ul
Pullup delay time	(D):	4	sec
Sample pullup speed	(E):	5.0	ul/sec
Slvnt aftr pre inj cln	(U):	0.0	ul
Air after pre inj cln	(G):	2.0	ul
Sample volume	(V):	2.0	ul
Sample air volume	(A):	2.0	ul
Sample pullup count	(P):	2	times
Injection speed	(S):	10.0	ul/sec
Injection wait time	(W):	10	sec
Injection hold time	(H):	3	sec
Solvent A clean cycles	(C):	15	times
Solvent B clean cycles	(B):	20	times
Loop clean w slvnt A	(LC):	0	times

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8407.0000
BDEV	8279.0000	BFM	2.0000	BLM	1038.6736
BMASS	304.9824	BQUAD	3.2750	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.5059
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.7814	DITSET	0.0000	DRAW	-19.3250
DRAWC	1.0000	DRAWS	0.0050	ECORR	1.0000
ECURR	1.0000	EDAC	7969177.0000	EDACG	0.9999
EDACR	20.0000	EDACZ	850.0000	ELEN	57.4000
EMULT	1.5500	ENS	146.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	176.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	3.3500	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	457.0000	FVINLET	870.0000
FVSRC	963.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.3823	HVANAL	1112.0000	HVSRC	2958.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4757.0160	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2587.0000	LENSS	154.0000	LKM	430.9728
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3475842.6628	MDACR	20.0000
MRANGE	1038.6736	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	2873.0000
NSMAX	14.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-6.9500	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10875.2257	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2720.0000	SHIELDS	0.2000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.7400	TCURR	0.9375	TD	50.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	80.1030	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.2550
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2159.0000	XLENSS	7.2000
YLENS	2834.0000	YLENSS	-148.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 08-Nov-04 15:25:53.9

Autosampler has injected sample from vial 14
Analysis stopped at: 08-Nov-04 16:25:30.5 (run time 59.60 minutes)
Analysis stopped because MID run finished

QUAN: b041108i3.q0 Entries: 69

Data file(s) used
File: b041108i3 08-Nov-04
Samp: Vial 14 WO=2960:59CS3 Meth=X8 Dil=1 Start : 15:25:53 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 14

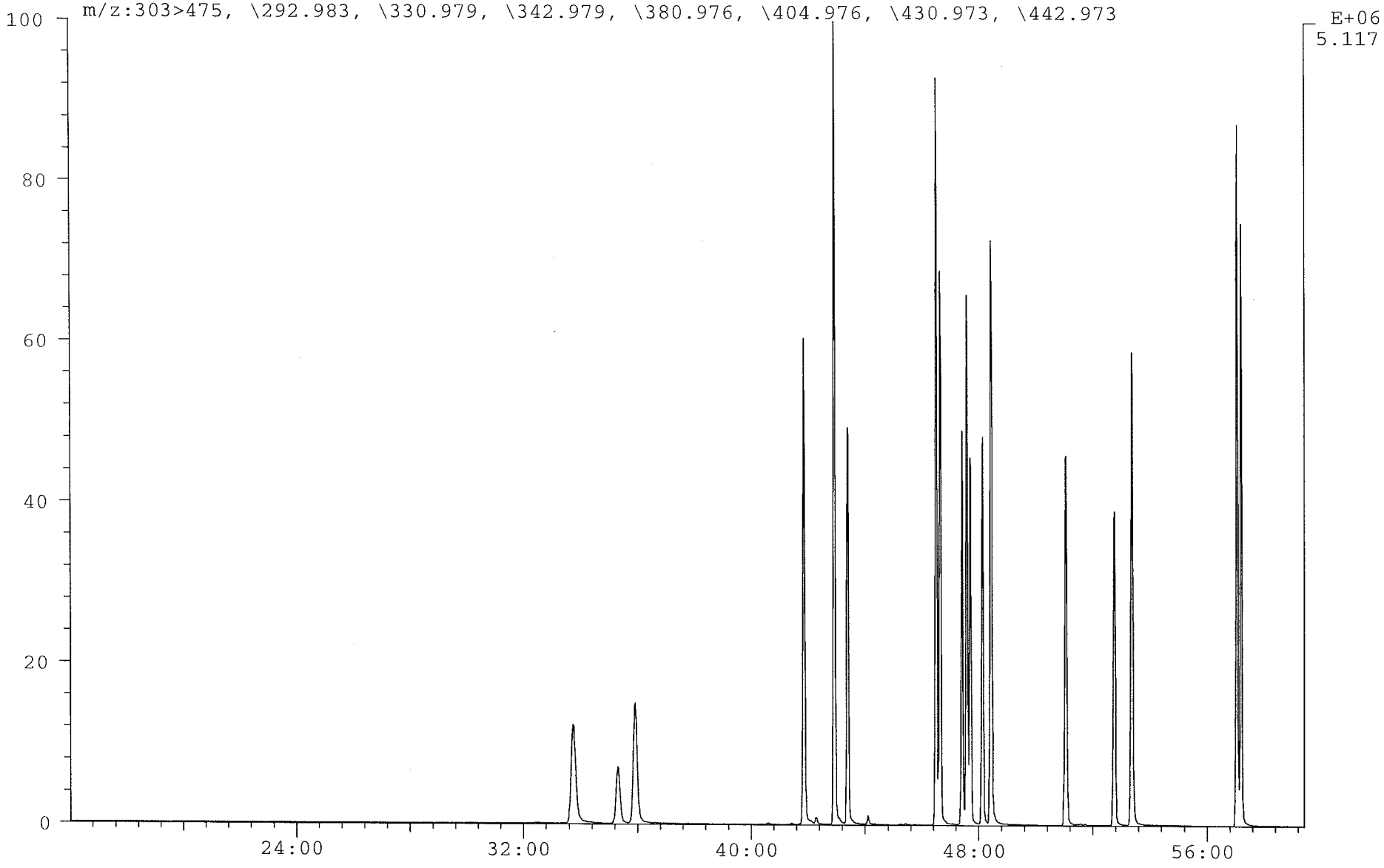
Disp: CHRO
Amount = (area * ref amnt) / (ref area * response factor); amount = f(reponse)
Response factors from quantitation file

Quan Masses	Actual Time	Area	Height	Peak Beginn	Peak End	Noise Value	La Pe	Lab Fac
319.8805	35:51	63565.	6830.	35:34	36:05	73.	2	3.0
321.8775	35:50	84907.	10135.	35:33	36:06	79.	2	3.0
331.9202	35:13	1125405.	116259.	34:56	35:29	200.	2	3.0
331.9202	35:47	1237209.	130685.	35:37	36:04	200.	2	3.0
333.9171	35:13	1398935.	144205.	34:57	35:29	209.	2	3.0
333.9171	35:47	1587607.	175730.	35:34	36:04	209.	2	3.0
327.8683	35:51	142222.	15984.	35:34	36:02	75.	2	3.0
303.8864	33:43	83120.	7485.	33:27	34:00	59.	2	3.0
305.8834	33:41	104149.	9457.	33:28	33:58	83.	2	3.0
315.9261	33:39	1596683.	145259.	33:24	33:55	107.	2	3.0
317.9230	33:38	2020119.	183995.	33:23	33:54	177.	2	3.0
355.8368	43:16	327285.	80395.	43:10	43:32	75.	2	3.0
357.8337	43:16	212408.	53330.	43:09	43:31	67.	2	3.0
367.8765	43:15	1332653.	336559.	43:06	43:31	79.	2	3.0
369.8734	43:15	843403.	211137.	43:09	43:26	87.	2	3.0
339.8427	41:45	429243.	93059.	41:34	41:58	92.	2	3.0
339.8427	42:48	456953.	103083.	42:41	43:04	92.	2	3.0
341.8396	41:45	277956.	57270.	41:31	42:01	87.	2	3.0
341.8396	42:48	293223.	67493.	42:42	43:04	87.	2	3.0
351.8824	41:44	1777487.	388358.	41:34	42:00	104.	2	3.0
351.8824	42:47	447897.	106466.	42:40	42:59	104.	2	3.0
353.8793	41:43	1126446.	240398.	41:35	41:58	94.	2	3.0
353.8793	42:47	288415.	69463.	42:39	43:03	94.	2	3.0
389.7961	47:28	273041.	73502.	47:21	47:31	86.	2	3.0
389.7961	47:35	285851.	65936.	47:31	47:46	86.	2	3.0
389.7961	48:01	302188.	68556.	47:53	48:15	86.	2	3.0
391.7931	47:28	215821.	55619.	47:21	47:31	86.	2	3.0
391.7931	47:35	236613.	53046.	47:31	47:50	86.	2	3.0
391.7931	48:01	238408.	52915.	47:53	48:15	86.	2	3.0
401.8358	47:27	246070.	65006.	47:20	47:30	87.	2	3.0
401.8358	47:34	1032511.	253298.	47:30	47:50	87.	2	3.0
401.8358	48:00	1136838.	264103.	47:51	48:15	87.	2	3.0
403.8327	47:27	202491.	54249.	47:20	47:30	61.	2	3.0
403.8327	47:34	817915.	203943.	47:30	47:45	61.	2	3.0
403.8327	48:00	896469.	211174.	47:51	48:15	61.	2	3.0
373.8021	46:23	388388.	101995.	46:10	46:27	95.	2	3.0
373.8021	46:31	405142.	98190.	46:27	46:45	95.	2	3.0
373.8021	47:17	375976.	87125.	47:10	47:33	95.	2	3.0
373.8021	48:19	339721.	67791.	48:12	48:35	95.	2	3.0
375.7990	46:23	319771.	82304.	46:15	46:27	85.	2	3.0
375.7990	46:30	341777.	81295.	46:27	46:46	85.	2	3.0
375.7990	47:17	305537.	71430.	47:05	47:32	85.	2	3.0
375.7990	48:20	269541.	55389.	48:12	48:36	85.	2	3.0
383.8447	46:22	204437.	53280.	46:12	46:25	78.	2	3.0
383.8447	46:30	854041.	211452.	46:25	46:46	78.	2	3.0
383.8447	47:09	3754.	499.	47:03	47:15	78.	2	3.0
383.8447	48:18	185622.	36577.	48:06	48:34	78.	2	3.0
385.8417	46:22	384780.	98515.	46:15	46:25	99.	2	3.0
385.8417	46:29	1602961.	387163.	46:25	46:45	99.	2	3.0

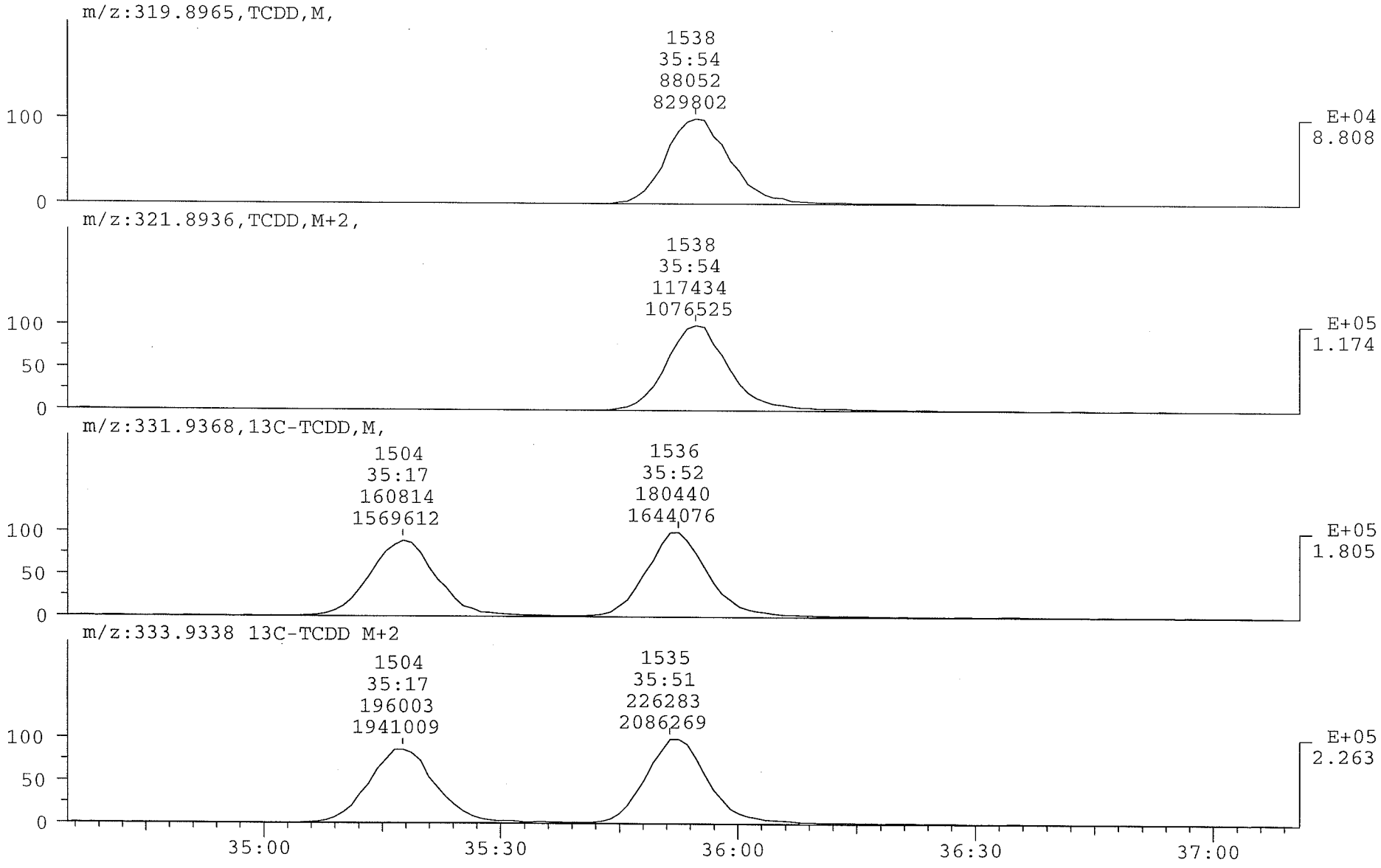
385.8417	46:49	8846.	1591.	46:48	46:59	99.	2	3.0
385.8417	48:18	347790.	67843.	48:09	48:32	99.	2	3.0
423.7555	52:38	244095.	52456.	52:30	52:54	63.	2	3.0
425.7524	52:38	225476.	48703.	52:32	52:54	52.	2	3.0
435.7951	52:37	921705.	201296.	52:29	52:53	73.	2	3.0
437.7921	52:37	864709.	184987.	52:29	52:53	65.	2	3.0
407.7614	50:56	330273.	65726.	50:48	51:12	65.	2	3.0
407.7614	53:15	271808.	53725.	53:07	53:28	65.	2	3.0
409.7583	50:56	320618.	63148.	50:48	51:08	83.	2	3.0
409.7583	53:15	271452.	56289.	53:08	53:31	83.	2	3.0
417.8041	50:55	582969.	115154.	50:47	51:11	84.	2	3.0
417.8041	53:14	130796.	25306.	53:04	53:30	84.	2	3.0
419.8010	50:55	1258923.	255979.	50:47	51:11	69.	2	3.0
419.8010	53:14	277326.	53450.	53:06	53:30	69.	2	3.0
457.7148	56:55	362803.	88236.	56:50	57:11	59.	2	3.0
459.7118	56:55	405997.	100140.	56:40	57:11	70.	2	3.0
469.7545	56:54	1519645.	353701.	56:48	57:10	120.	2	3.0
471.7514	56:54	1682390.	400853.	56:47	57:10	96.	2	3.0
441.7207	57:04	413439.	98958.	56:54	57:16	72.	2	3.0
443.7177	57:04	462724.	112178.	56:58	57:20	74.	2	3.0

Int. Calc DCG 11-8-04
QC PMP 11-9-04

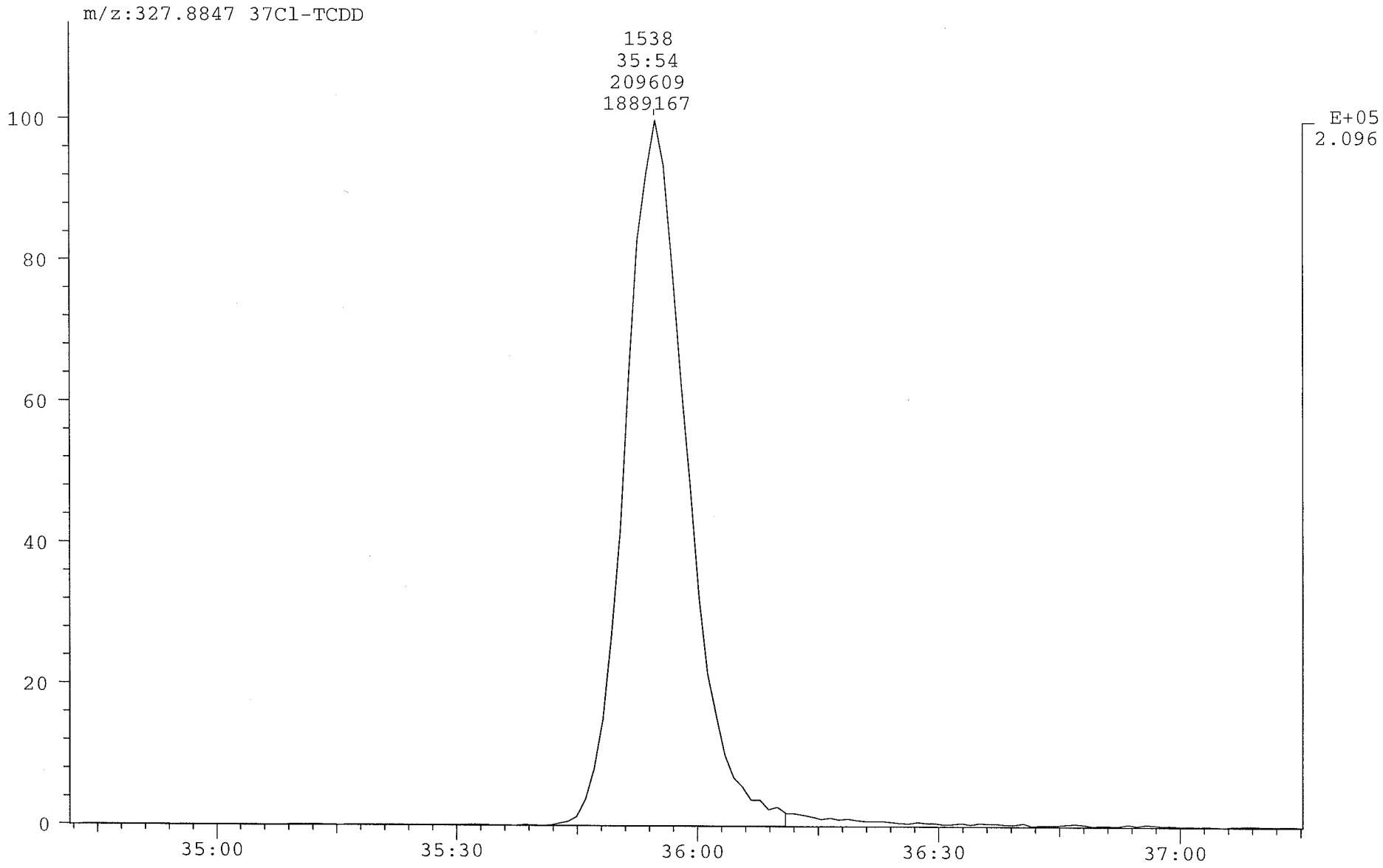
CHRO: b04110814 08-Nov-04 Elapse: 46:34 2133
Samp: Vial 15 WO=2960:59CS4 Meth=X8 Dil=1 Start : 16:29:35 2864
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 15
Peak: 100.00 ppm Label wndw: 442 > 2853 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



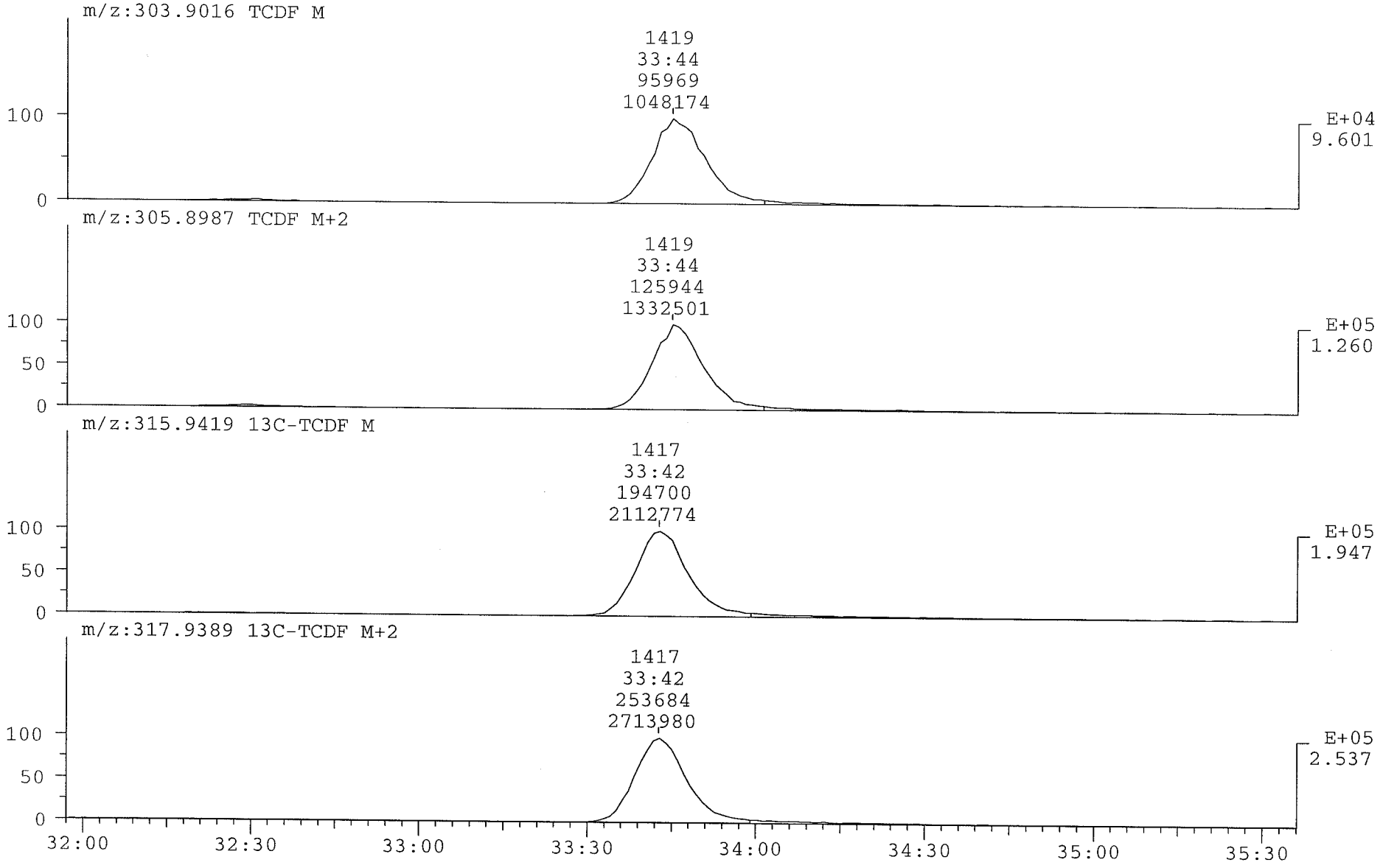
CHRO: b041108i4 08-Nov-04 Elapse: 46:34 2133
Samp: Vial 15 WO=2960:59CS4 Meth=X8 Dil=1 Start : 16:29:35 2864
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 15
Peak: 100.00 ppm Label wndw: 1465 > 1608 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



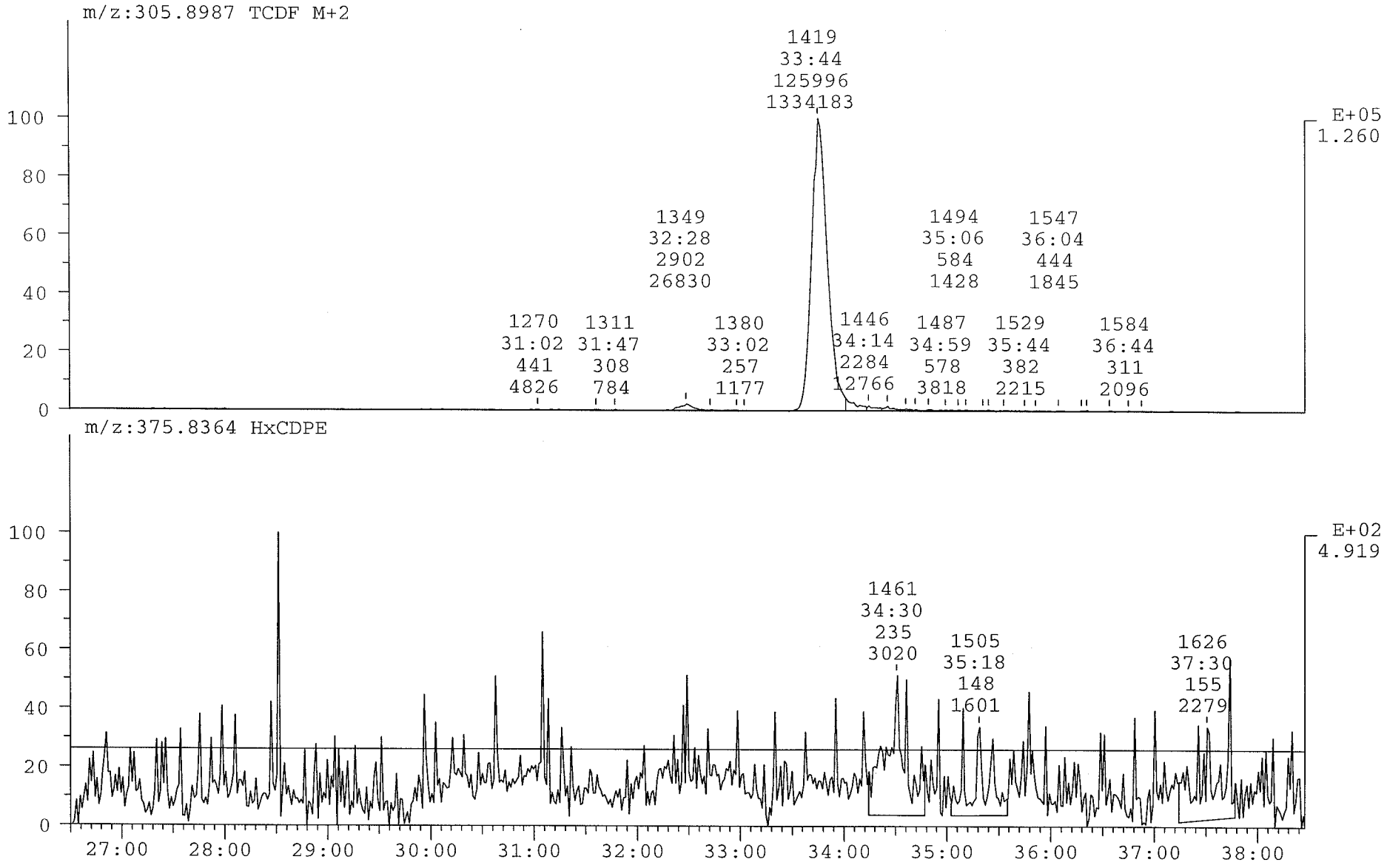
```
CHRO:  b041108i4                                08-Nov-04   Elapse:  46:34      2133
Samp:  Vial 15 WO=2960:59CS4 Meth=X8 Dil=1                  Start :  16:29:35   2864
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  15
Peak:  100.00  ppm      Label wndw:   1471 > 1612           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
```



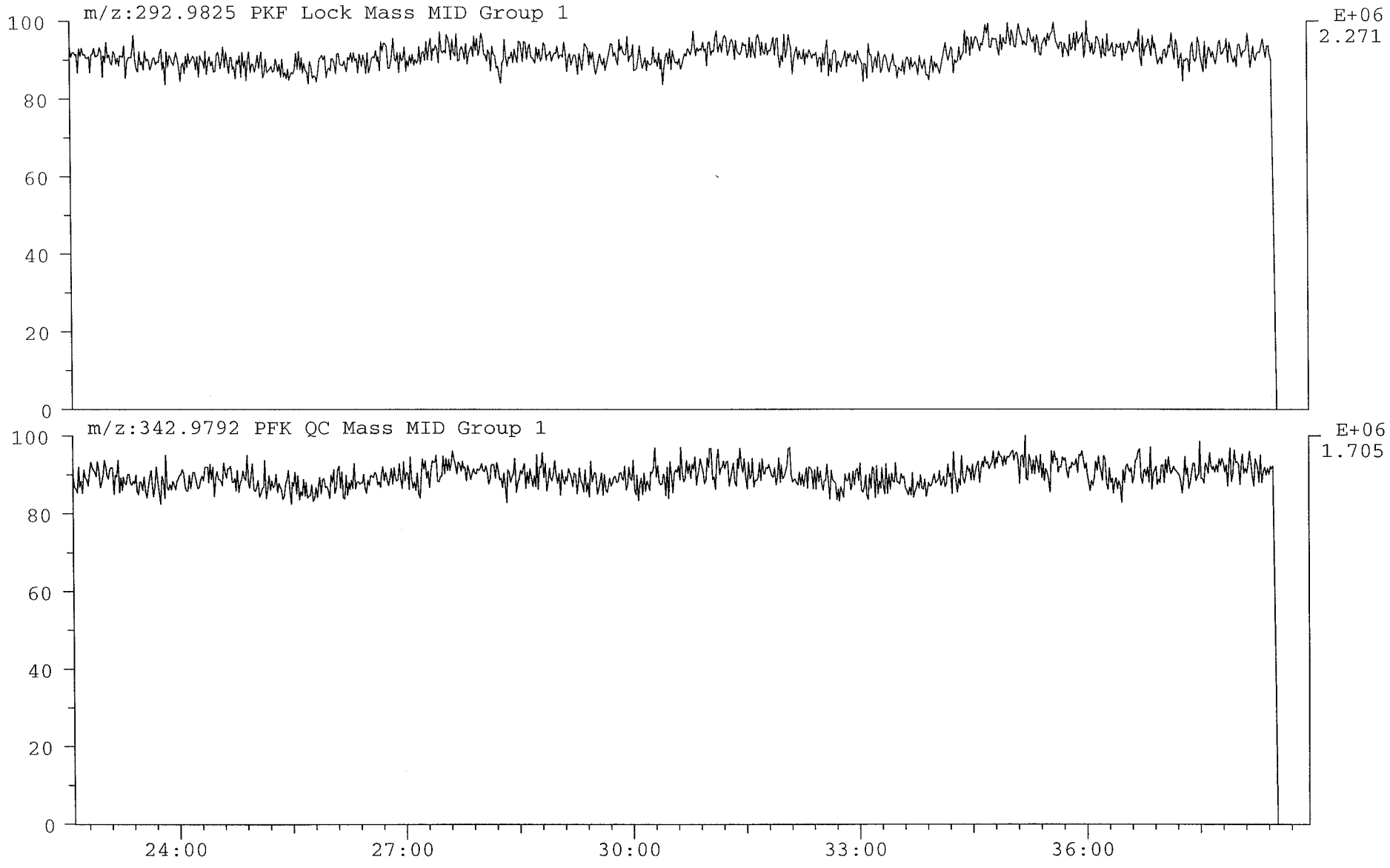
CHRO: b04110814 08-Nov-04 Elapse: 46:34 2133
Samp: Vial 15 WO=2960:59CS4 Meth=X8 Dil=1 Start : 16:29:35 2864
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 15
Peak: 100.00 ppm Label wndw: 1320 > 1521 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



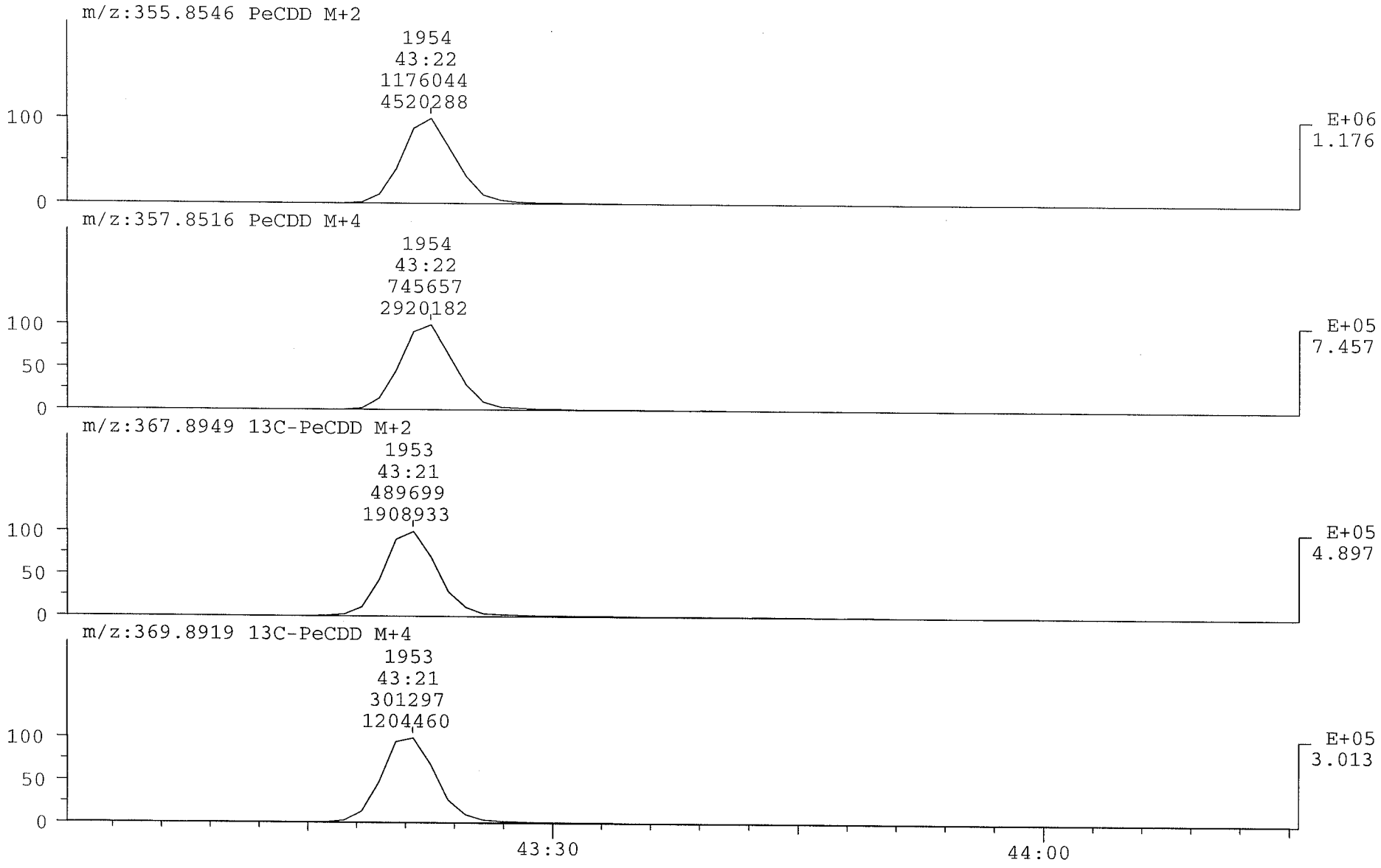
CHRO: b041108i4 08-Nov-04 Elapse: 46:34 2133
Samp: Vial 15 WO=2960:59CS4 Meth=X8 Dil=1 Start : 16:29:35 2864
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 15
Peak: 100.00 ppm Label wndw: 1020 > 1678 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



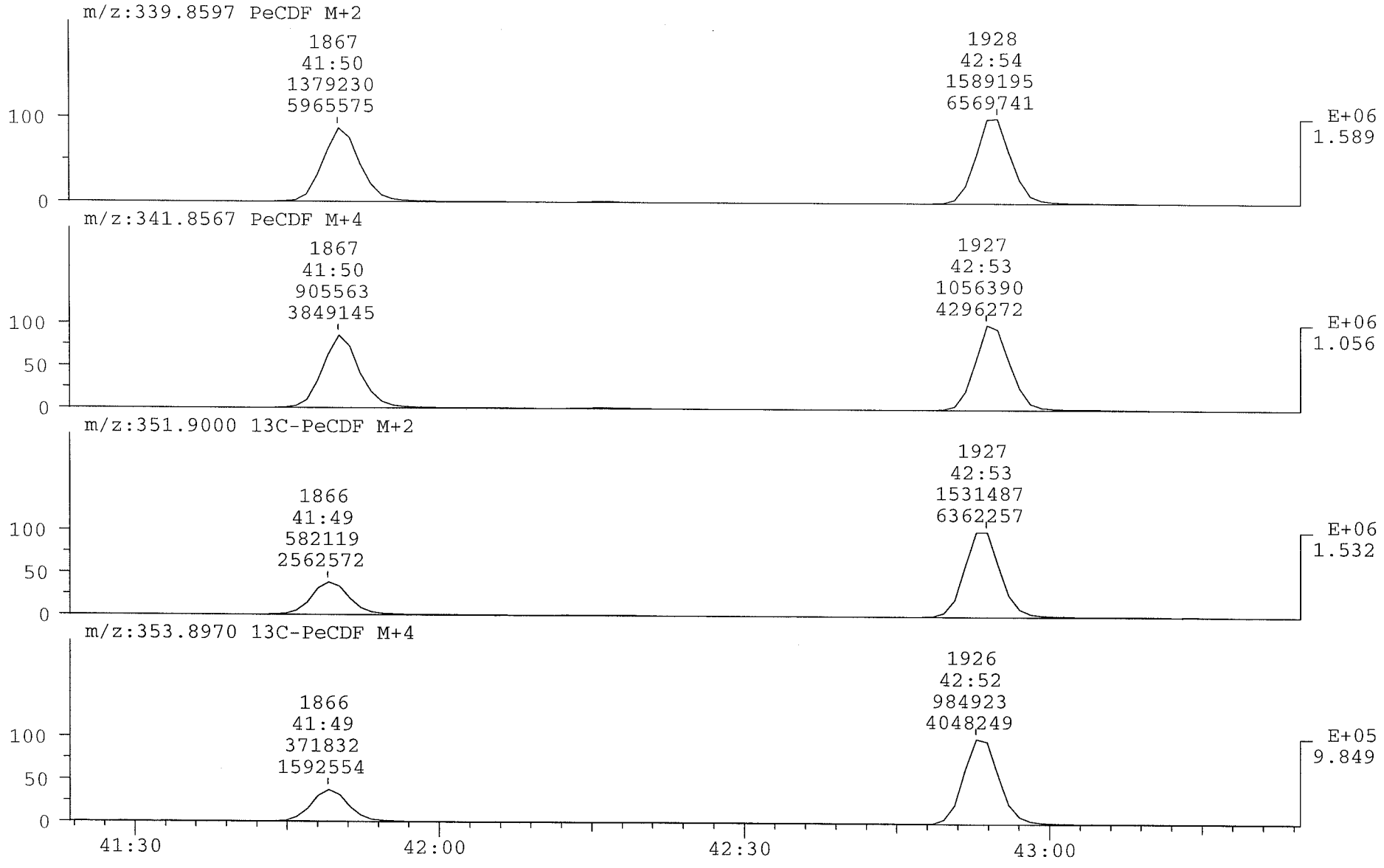
```
CHRO:  b041108i4                                08-Nov-04   Elapse:  46:34      2133
Samp:  Vial 15 WO=2960:59CS4 Meth=X8 Dil=1                  Start :  16:29:35   2864
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  15
Peak:  100.00  ppm      Label wndw:   805 > 1703            Masses:  293 > 514
Area:  5, 0.50, 0       Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```



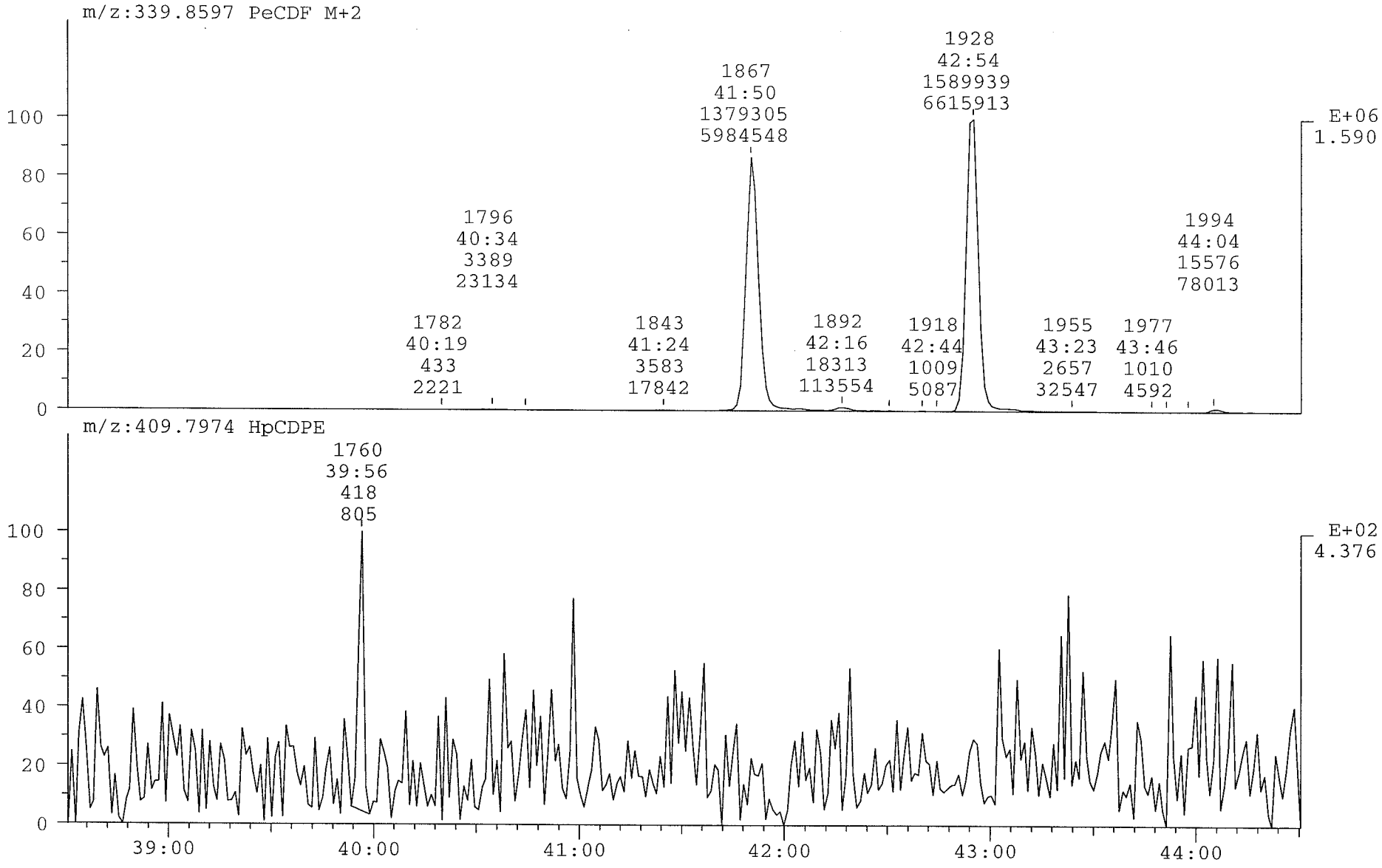
CHRO: b041108i4 08-Nov-04 Elapse: 46:34 2133
Samp: Vial 15 WO=2960:59CS4 Meth=X8 Dil=1 Start : 16:29:35 2864
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 15
Peak: 100.00 ppm Label wndw: 1942 > 2002 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



CHRO: b041108i4 08-Nov-04 Elapse: 46:34 2133
Samp: Vial 15 WO=2960:59CS4 Meth=X8 Dil=1 Start : 16:29:35 2864
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 15
Peak: 100.00 ppm Label wndw: 1842 > 1956 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



CHRO: b041108i4 08-Nov-04 Elapse: 46:34 2133
Samp: Vial 15 WO=2960:59CS4 Meth=X8 Dil=1 Start : 16:29:35 2864
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 15
Peak: 100.00 ppm Label wndw: 1679 > 2018 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



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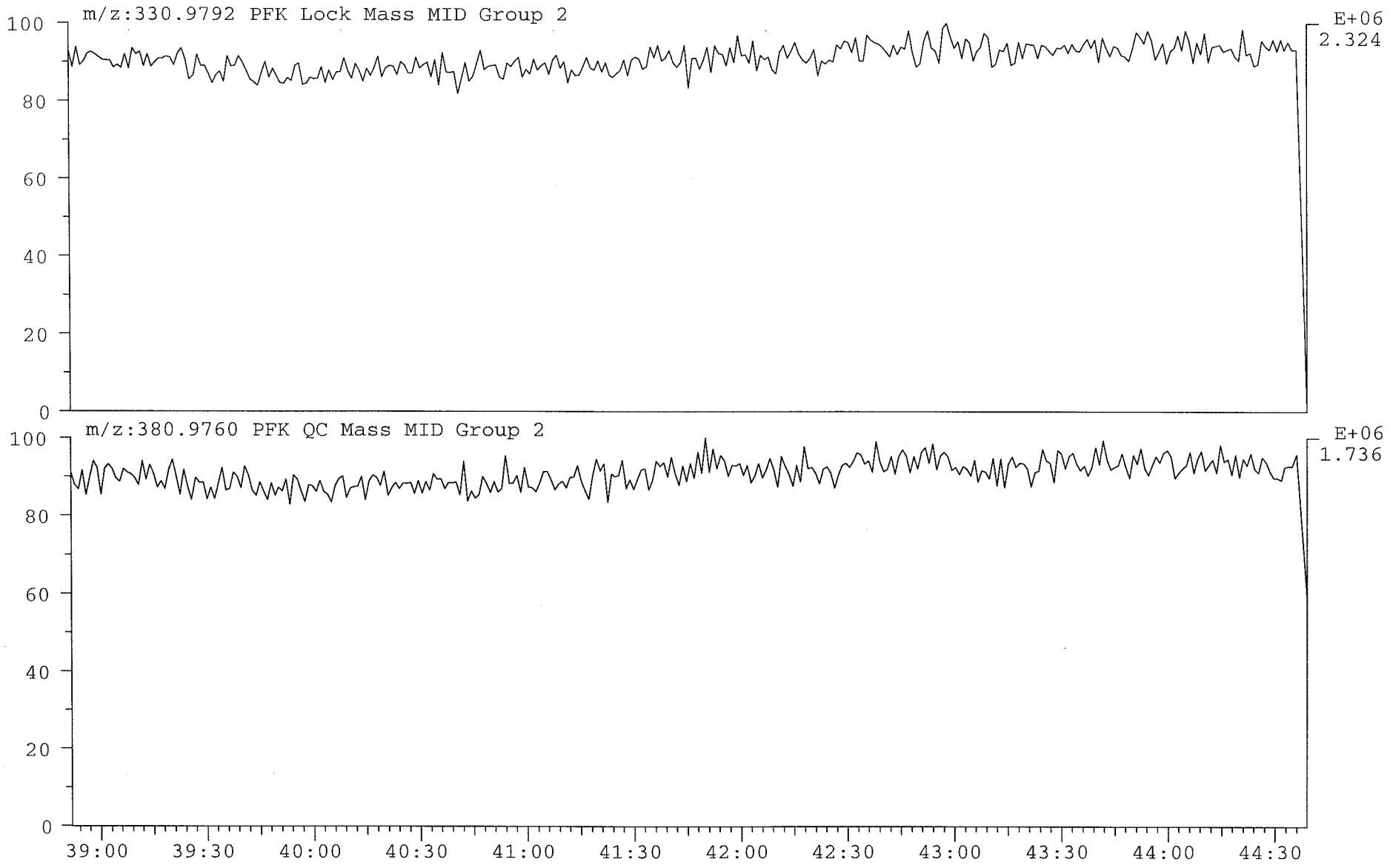
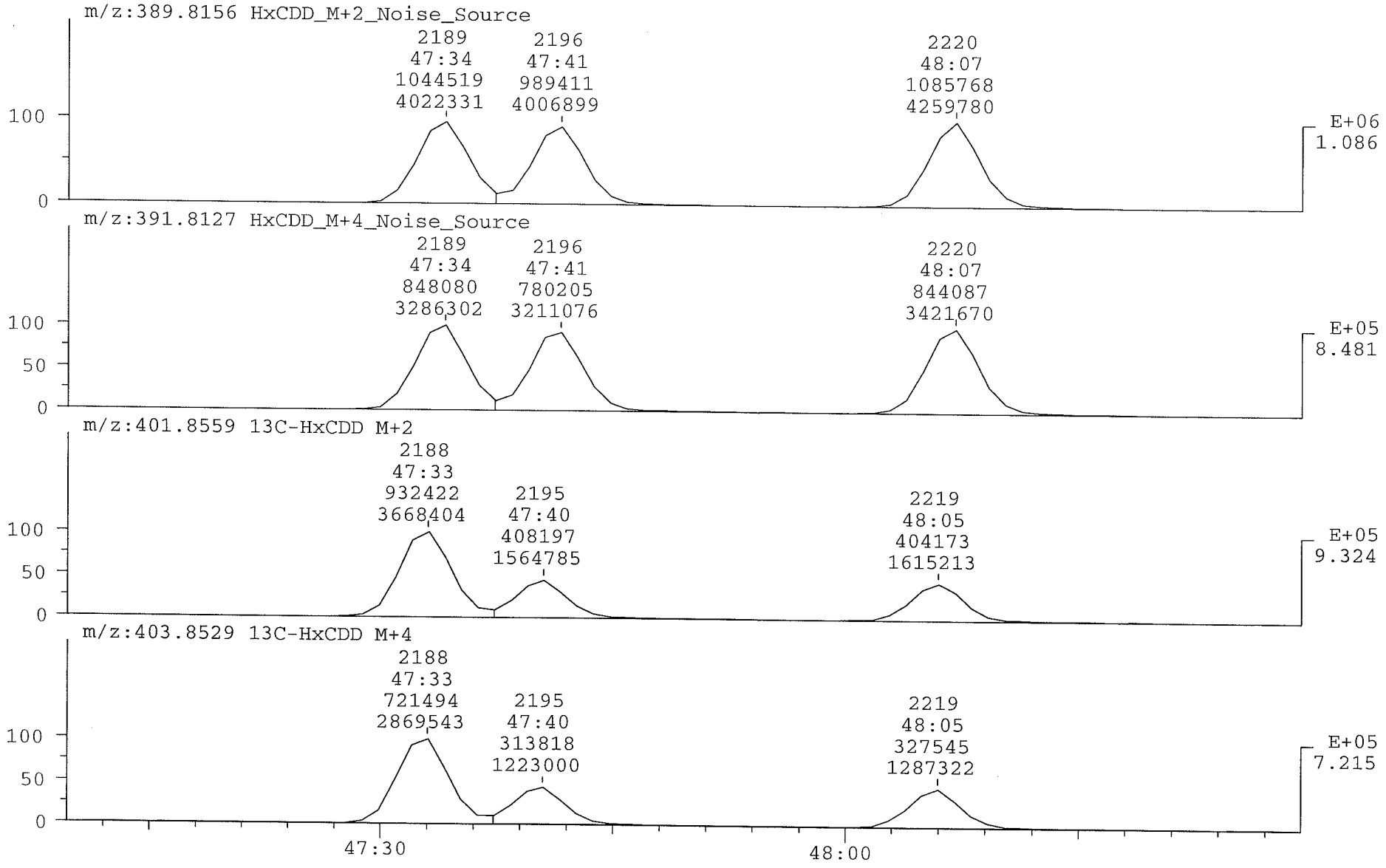
CHRO:  b041108i4                                08-Nov-04   Elapse:  46:34       2133
Samp:  Vial 15 WO=2960:59CS4 Meth=X8 Dil=1                  Start :  16:29:35    2864
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  15
Peak:  100.00  ppm      Label wndw:   1699 > 2024           Masses:  293 > 514
Area:  0, 0.00, 0       Baseline  :   0, 3                  Label :  0, 0.0
```



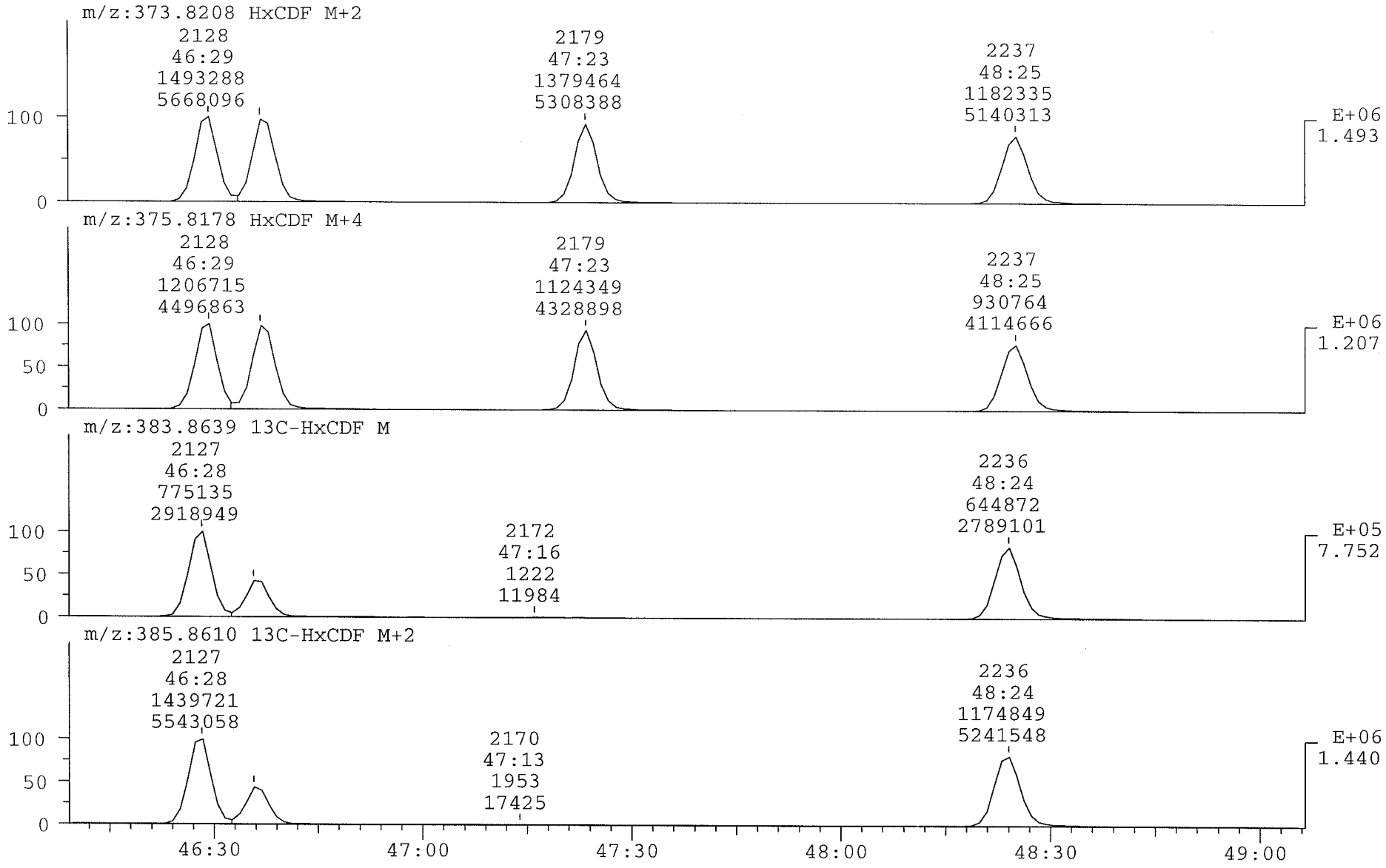
CHRO: b041108i4 08-Nov-04
Samp: Vial 15 WO=2960:59CS4 Meth=X8 Dil=1
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM
Oper: MSD Client: STL Knoxville
Peak: 100.00 ppm Label wndw: 2166 > 2241
Area: 5, 0.50, 15 Baseline : 100, 3
Disp: Height Area

Elapse: 46:34 2133
Start : 16:29:35 2864

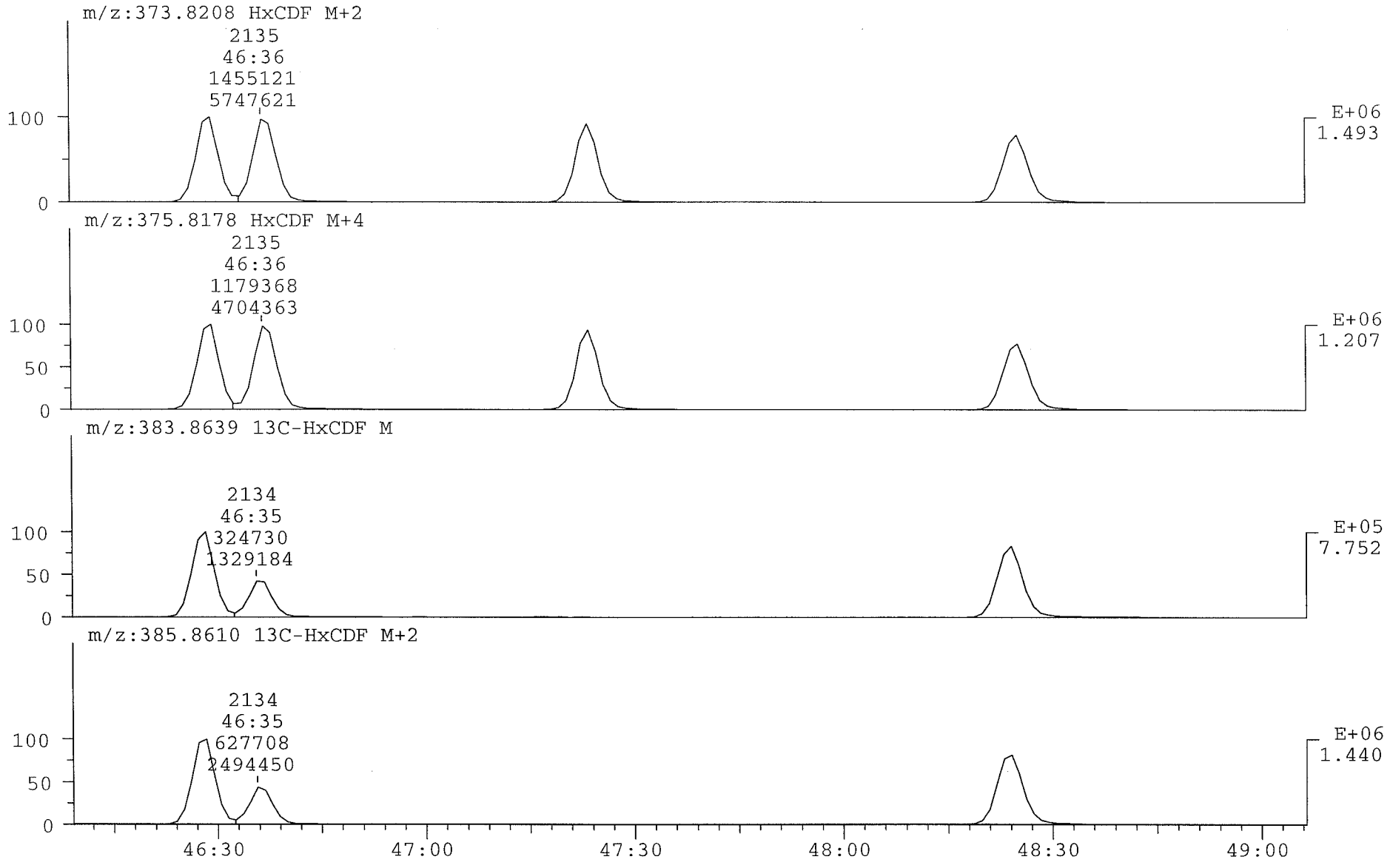
Study : M23 ICAL
Inlet : GC Vial 15
Masses: 293 > 514
Label : 2, 3.0



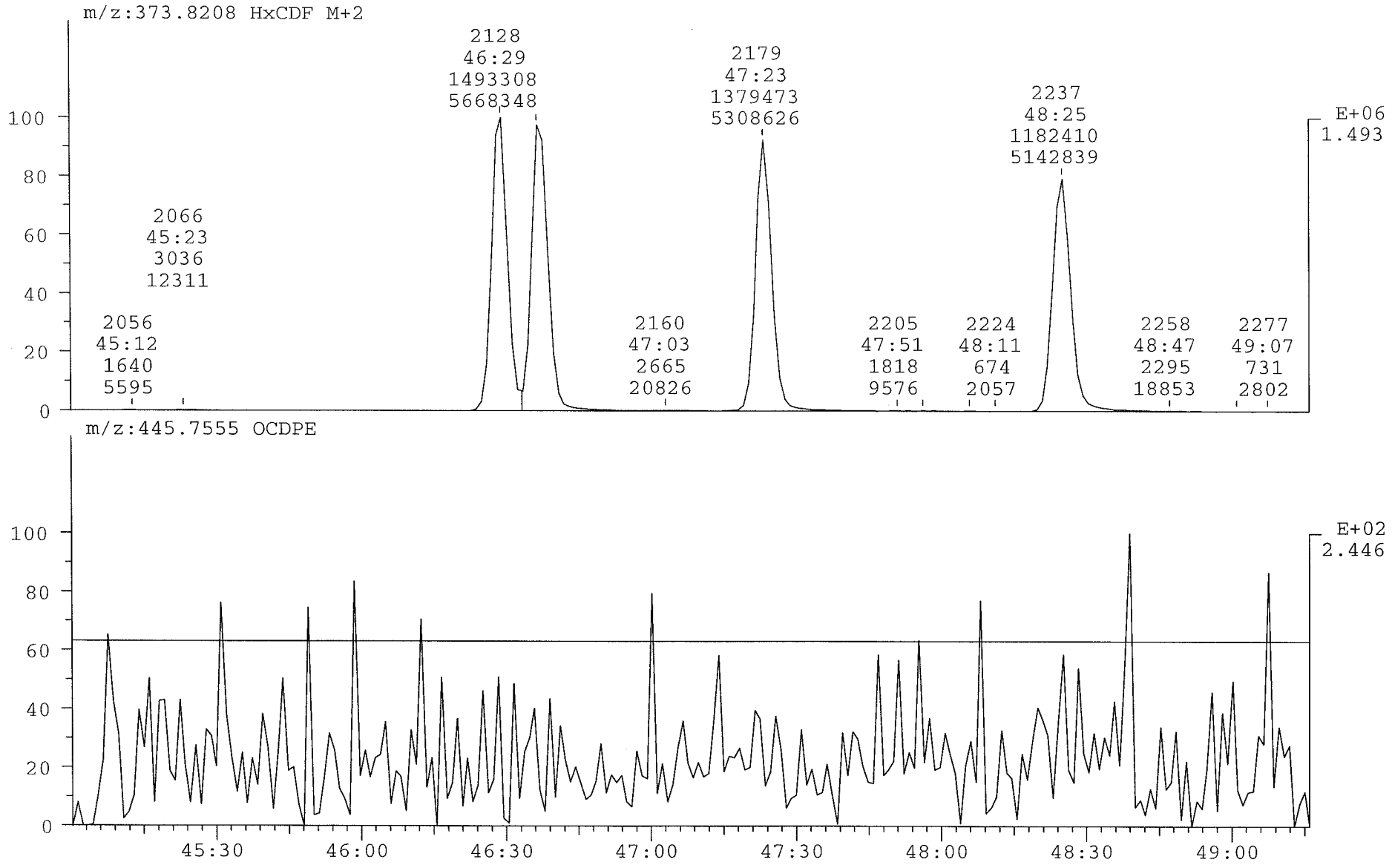
CHRO: b041108i4 08-Nov-04 Elapse: 46:34 2133
Samp: Vial 15 WO=2960:59CS4 Meth=X8 Dil=1 Start : 16:29:35 2864
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 15
Peak: 100.00 ppm Label wndw: 2109 > 2276 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



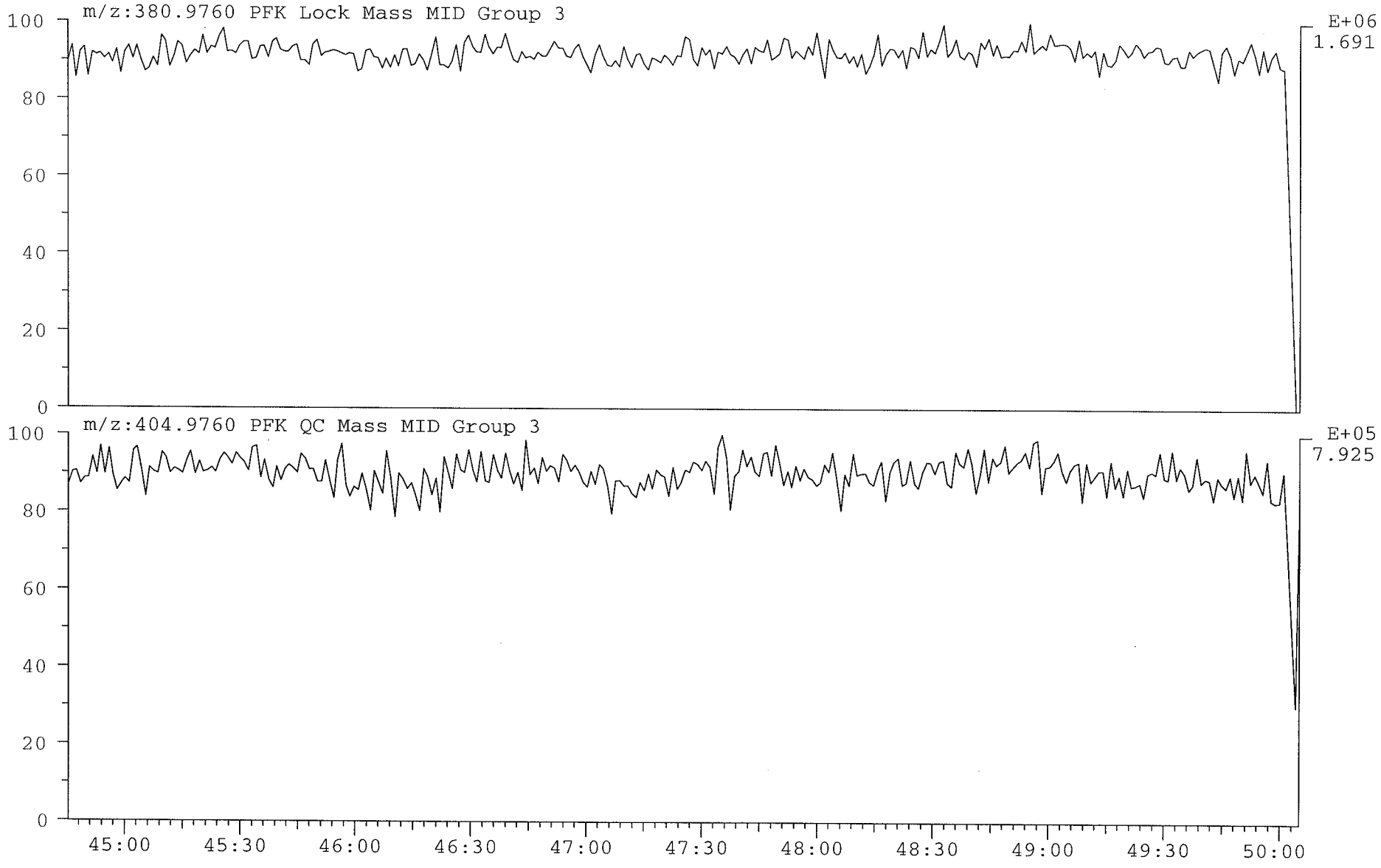
```
CHRO:  b041108i4                                08-Nov-04  Elapse:  46:34      2133
Samp:  Vial 15 WO=2960:59CS4 Meth=X8 Dil=1                 Start :  16:29:35   2864
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville               Inlet :  GC     Vial  15
Peak:  100.00  ppm      Label wndw:   2134 > 2144          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



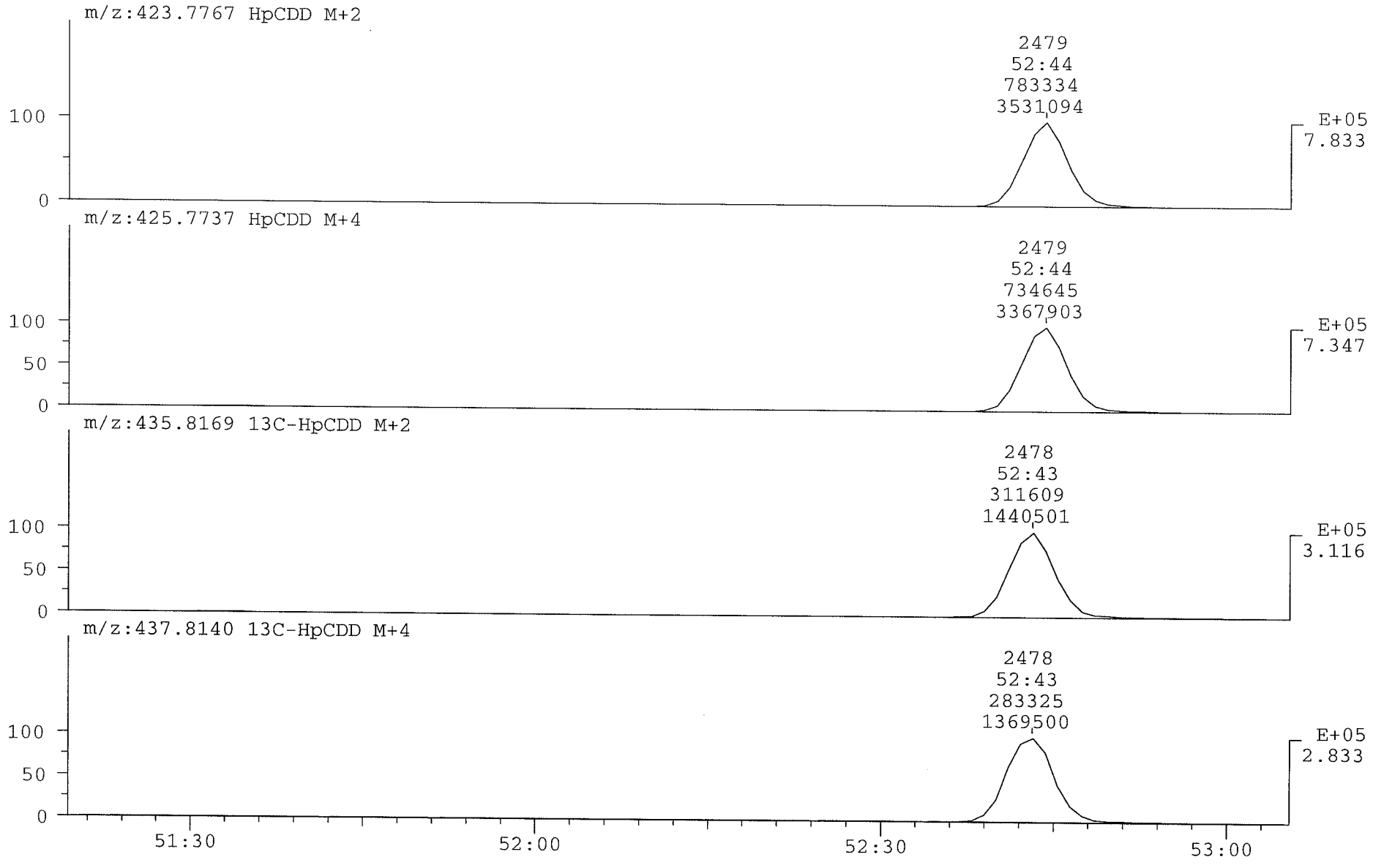
CHRO: b041108i4 08-Nov-04 Elapse: 46:34 2133
Samp: Vial 15 WO=2960:59CS4 Meth=X8 Dil=1 Start : 16:29:35 2864
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 15
Peak: 100.00 ppm Label wndw: 2044 > 2285 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: b041108i4 08-Nov-04 Elapse: 46:34 2133
Samp: Vial 15 WO=2960:59CS4 Meth=X8 Dil=1 Start : 16:29:35 2864
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 15
Peak: 100.00 ppm Label wndw: 2030 > 2329 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



CHRO: b041108i4 08-Nov-04 Elapse: 46:34 2133
Samp: Vial 15 WO=2960:59CS4 Meth=X8 Dil=1 Start : 16:29:35 2864
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 15
Peak: 100.00 ppm Label wndw: 1 > 3000 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



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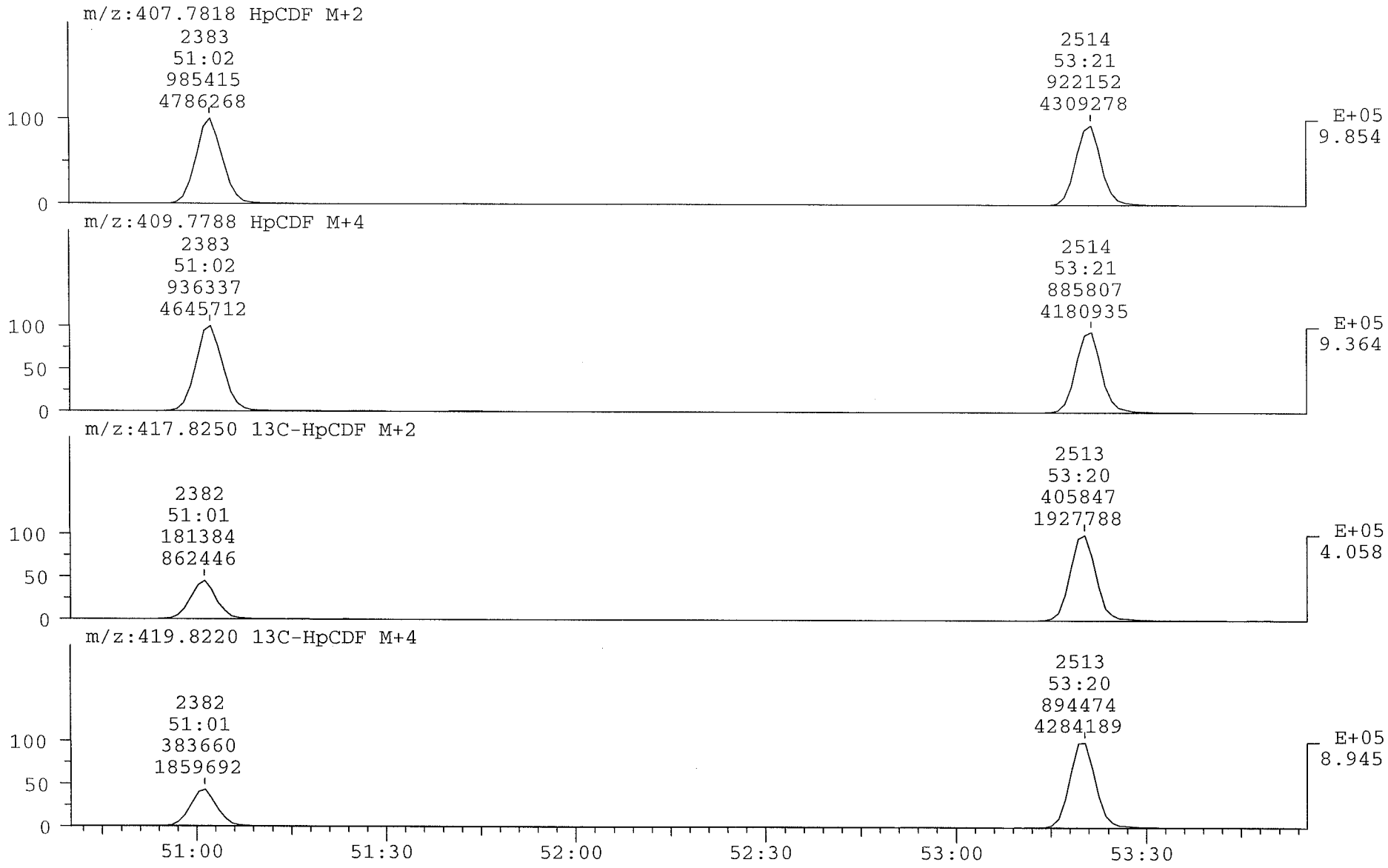
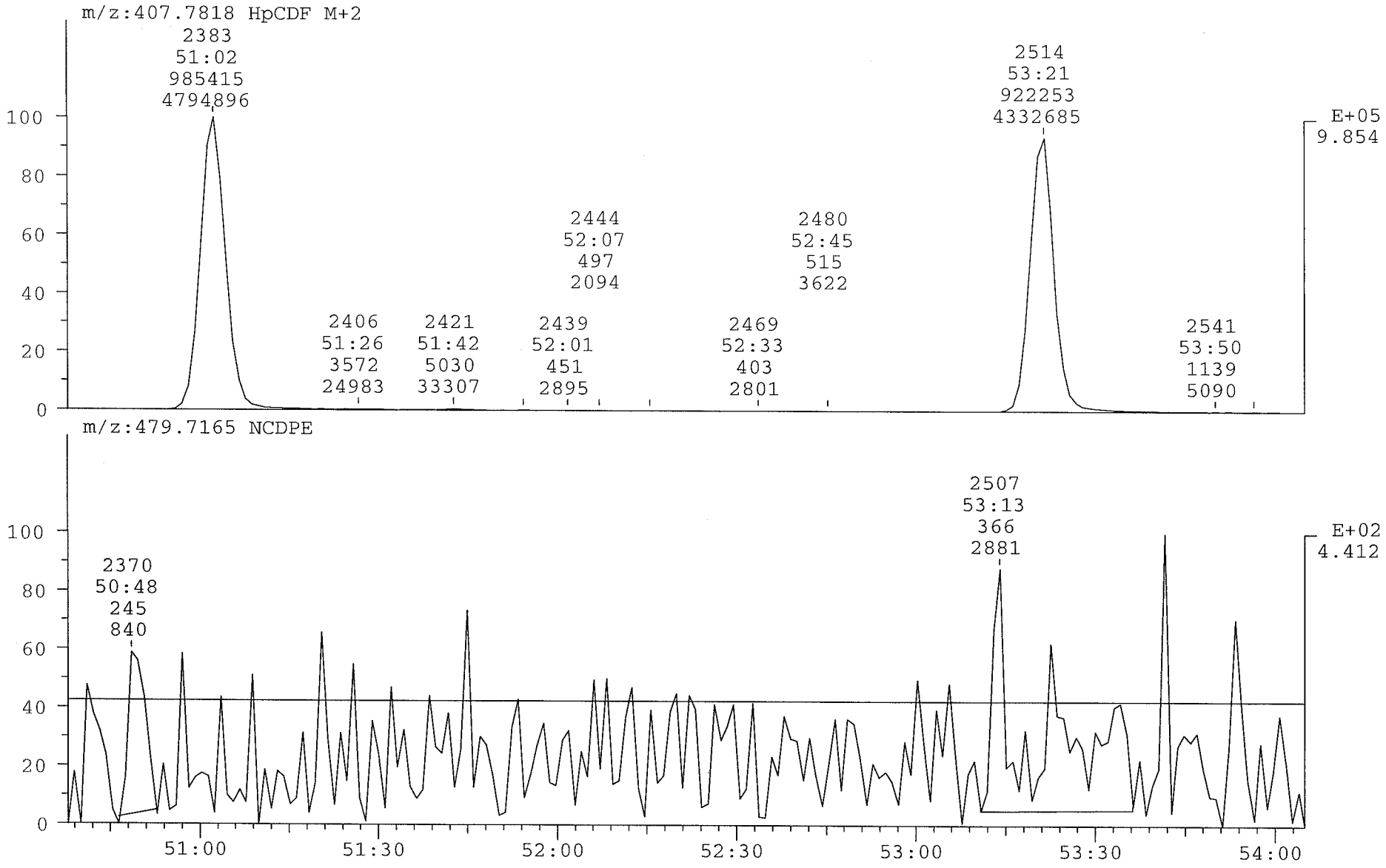
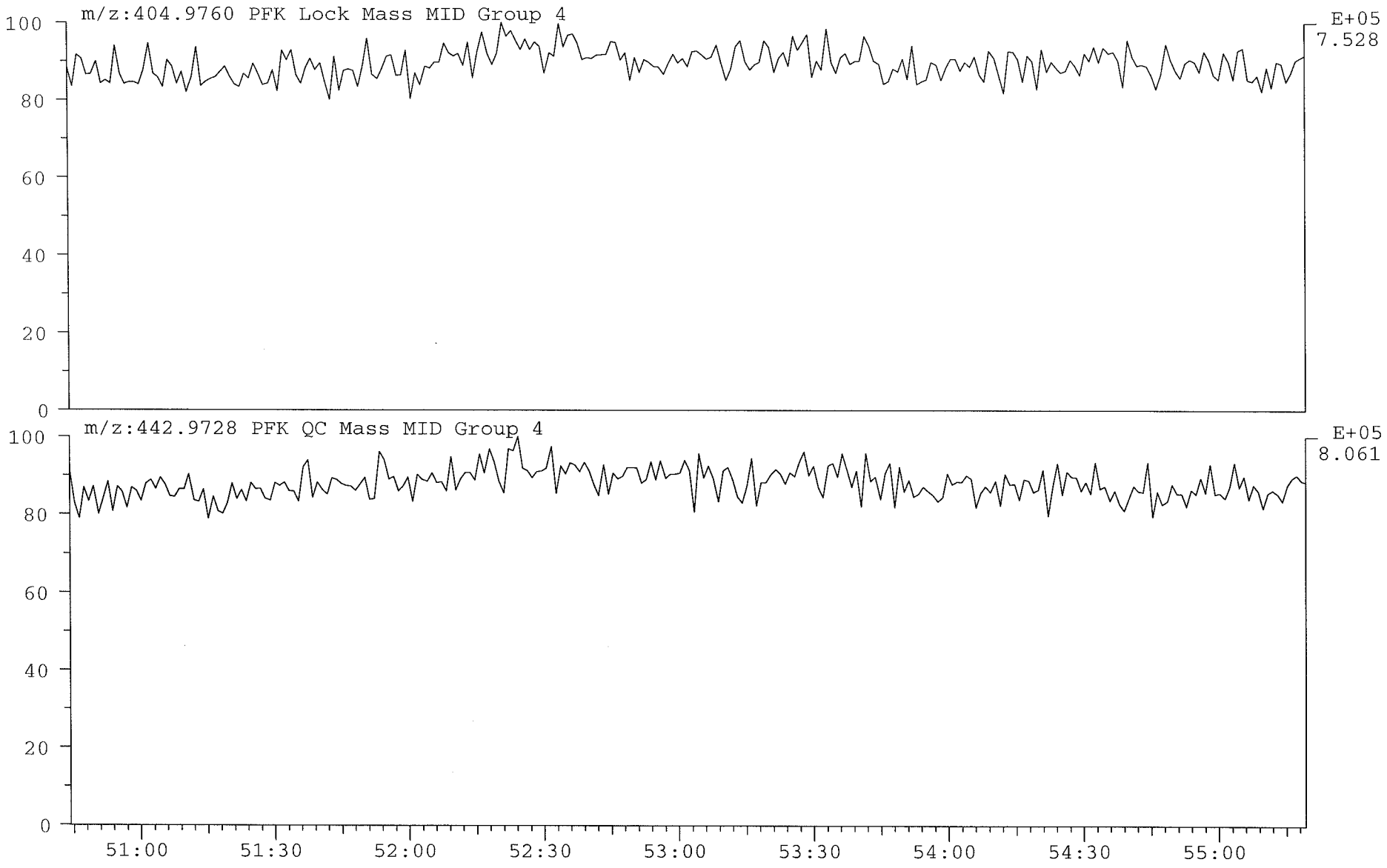
CHRO:  b041108i4                                08-Nov-04   Elapse:  46:34      2133
Samp:  Vial 15 WO=2960:59CS4 Meth=X8 Dil=1                  Start :  16:29:35   2864
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  15
Peak:  100.00  ppm      Label wndw:   2362 > 2546           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
```



CHRO: b041108i4 08-Nov-04 Elapse: 46:34 2133
Samp: Vial 15 WO=2960:59CS4 Meth=X8 Dil=1 Start : 16:29:35 2864
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 15
Peak: 100.00 ppm Label wndw: 2360 > 2555 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: b041108i4 08-Nov-04 Elapse: 46:34 2133
Samp: Vial 15 WO=2960:59CS4 Meth=X8 Dil=1 Start : 16:29:35 2864
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 15
Peak: 100.00 ppm Label wndw: 2366 > 2625 Masses: 293 > 514
Area: 0, 0.00, 0 Baseline : 0, 3 Label : 0, 2.5



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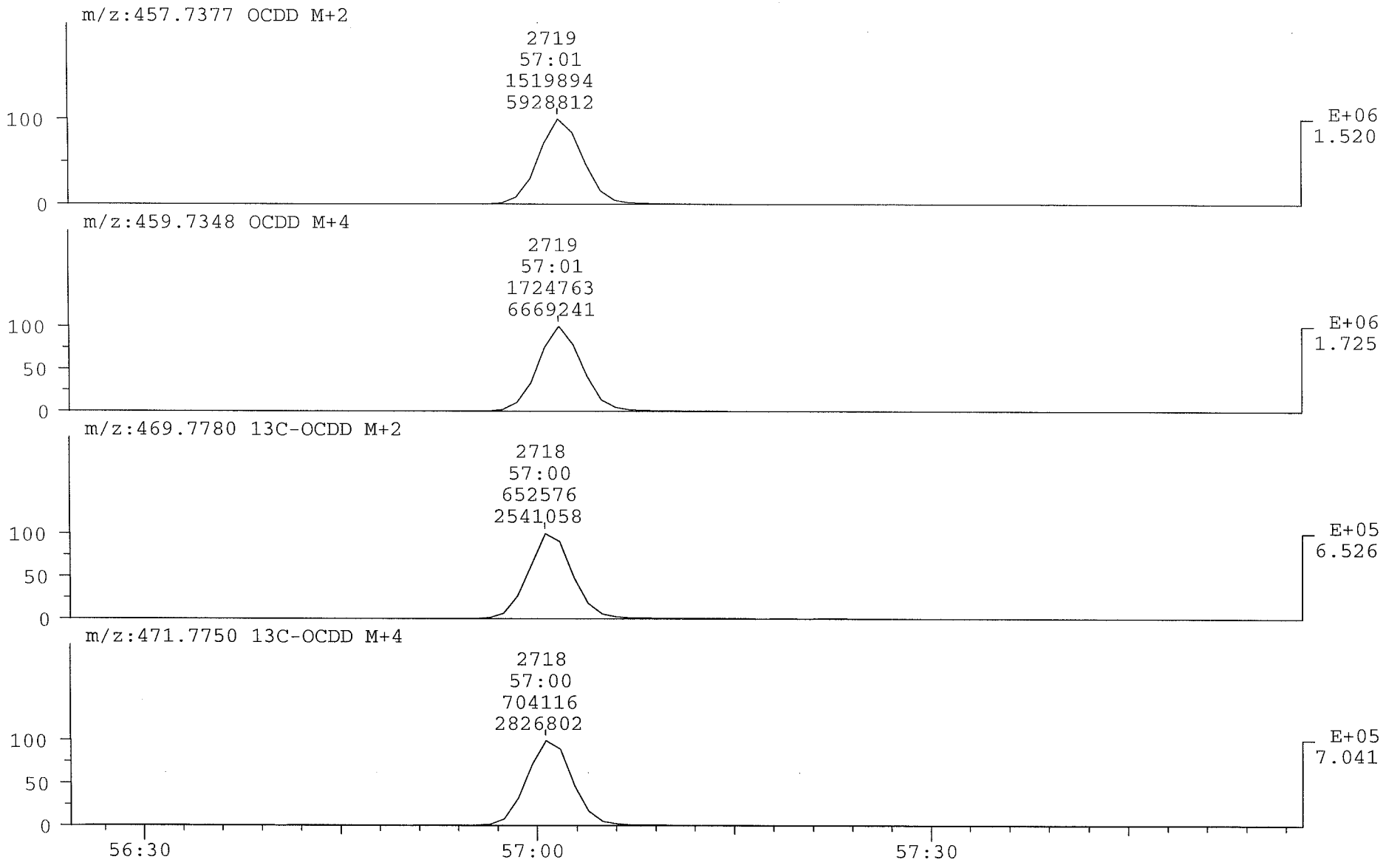
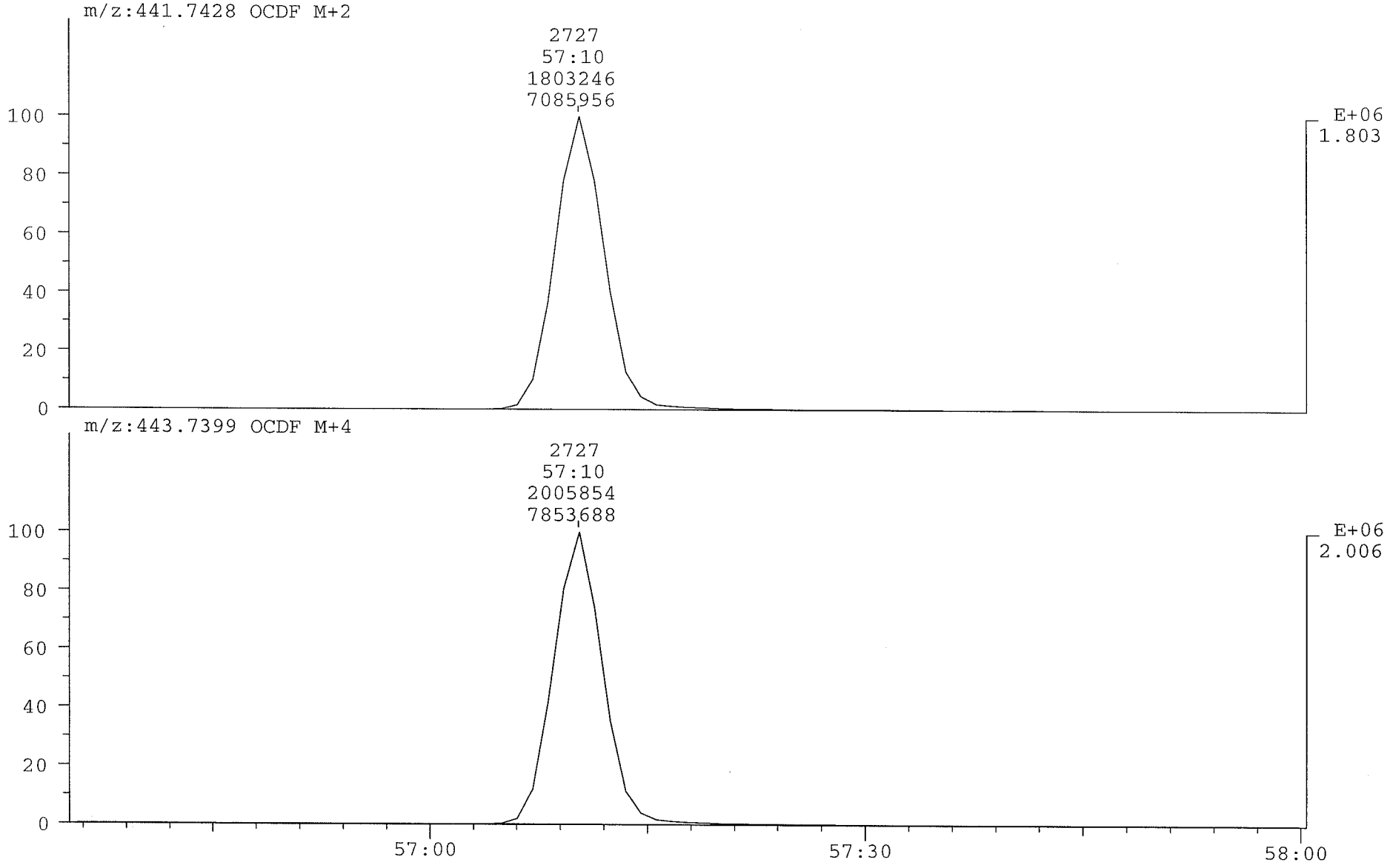
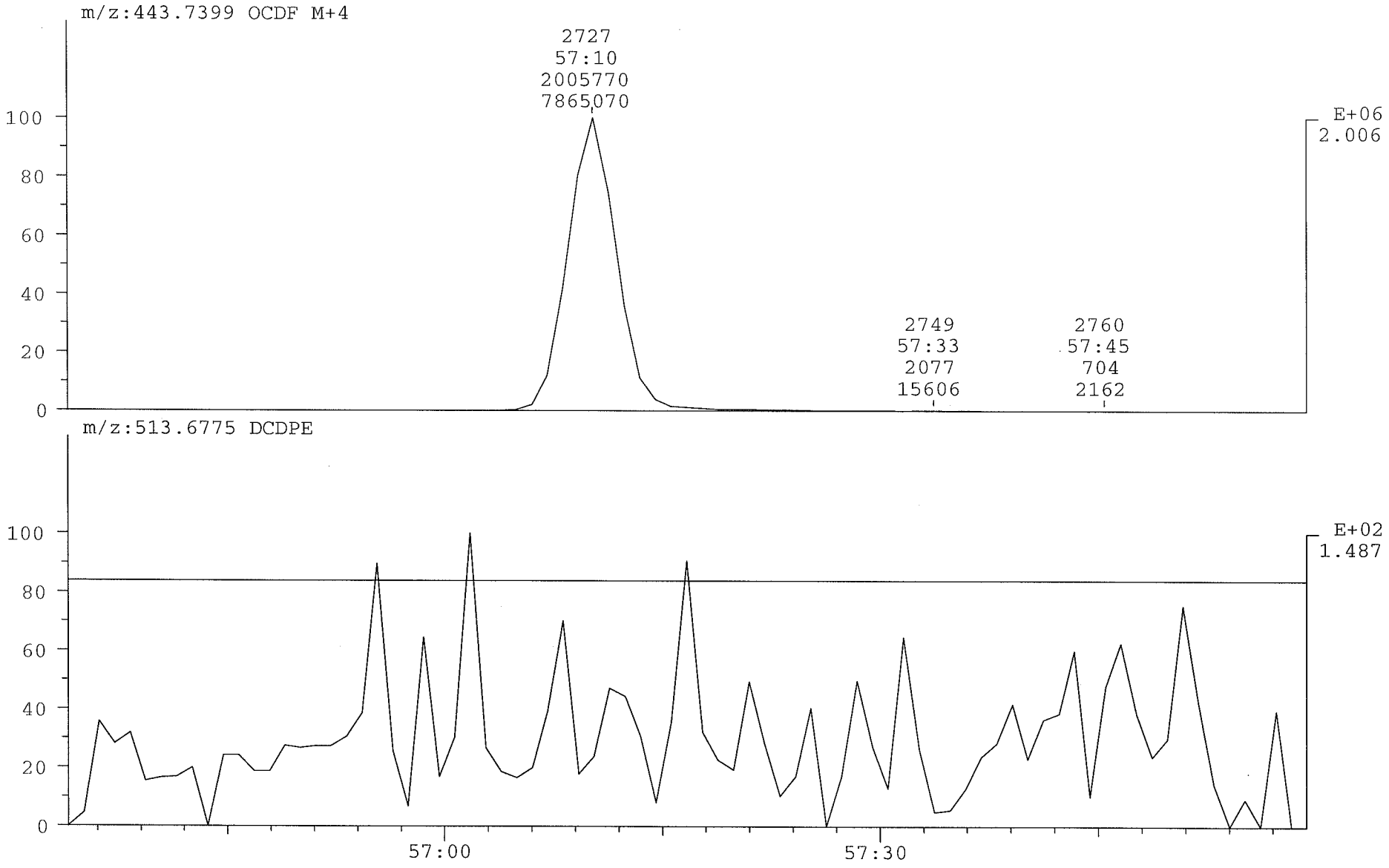
CHRO:  b041108i4                              08-Nov-04   Elapse:  46:34      2133
Samp:  Vial 15 WO=2960:59CS4 Meth=X8 Dil=1                Start :  16:29:35   2864
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville              Inlet :  GC     Vial  15
Peak:  100.00  ppm      Label wndw:   2684 > 2772         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  2, 3.0
Disp:  Height  Area
```



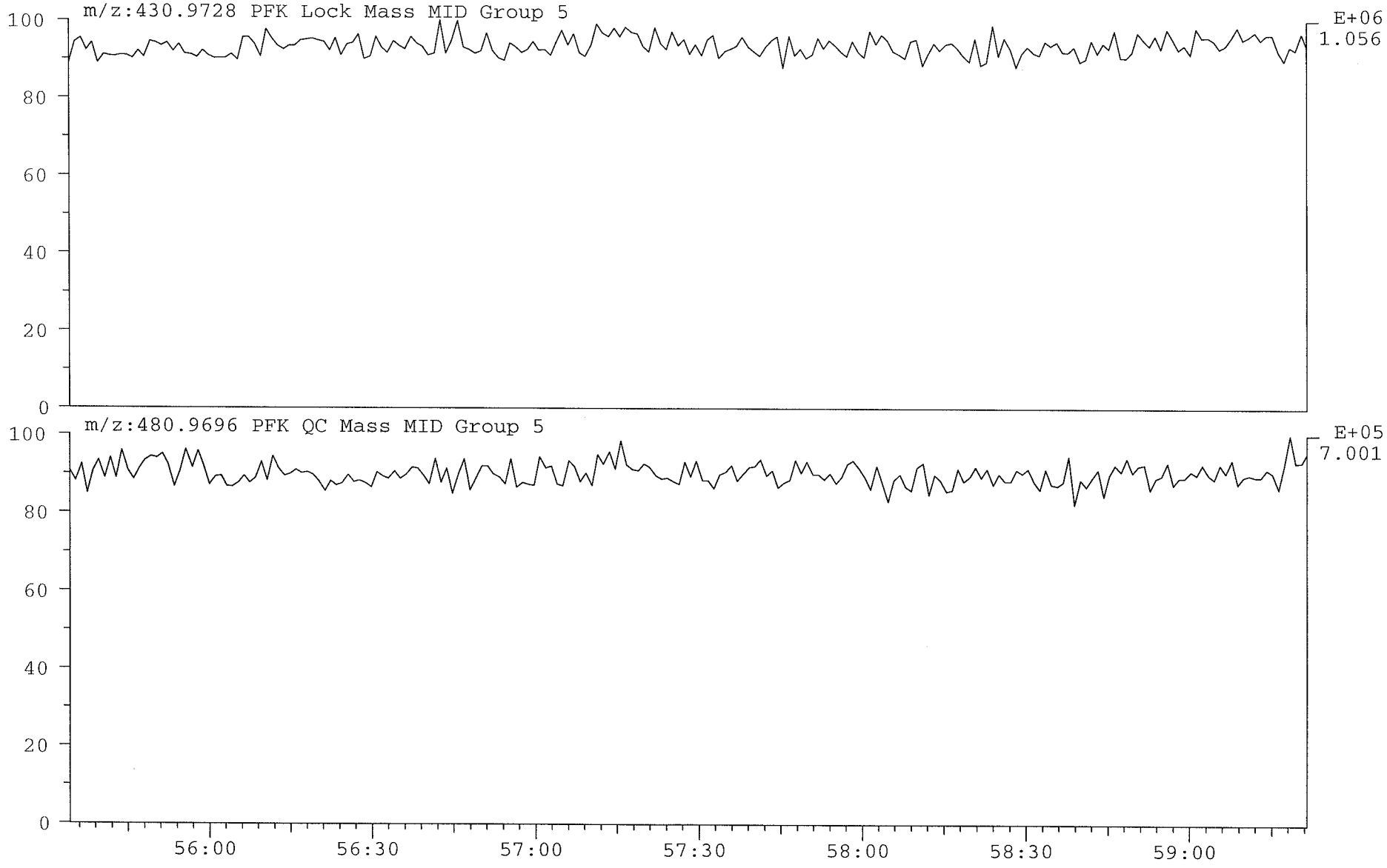
CHRO: b041108i4 08-Nov-04 Elapse: 46:34 2133
Samp: Vial 15 WO=2960:59CS4 Meth=X8 Dil=1 Start : 16:29:35 2864
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 15
Peak: 100.00 ppm Label wndw: 2694 > 2774 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



```
CHRO:  b041108i4                                08-Nov-04   Elapse:  46:34      2133
Samp:  Vial 15 WO=2960:59CS4 Meth=X8 Dil=1                  Start :  16:29:35   2864
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  15
Peak:  100.00  ppm      Label wndw:   2693 > 2773           Masses:  293 > 514
Area:  5, 0.50, 0       Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: b04110 8i4 08-Nov-04 Elapse: 46:34 2133
Samp: Vial 15 WO=2960:59CS4 Meth=X8 Dil=1 Start : 16:29:35 2864
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 15
Peak: 100.00 ppm Label wndw: 2637 > 2850 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 3.0
Disp: Height Area



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: b041108i4
Study: M23 ICAL
Sample: WO=2960:59CS4 Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: MSD
Client: STL Knoxville
Comments: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Injected volume: 2.0
Sample from Vial 15
Analysis will stop when MID run finishes
Tune file name: tune2
File 4 of list 041108i
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	FALSE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	100 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	30:26 min	38:26 min	1.00 sec
# 2	38:26 min	6:09 min	44:35 min	1.00 sec
# 3	44:35 min	5:24 min	50:00 min	1.00 sec
# 4	50:00 min	5:20 min	55:20 min	1.00 sec
# 5	55:20 min	4:15 min	59:35 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

```
  351.9000       1   1      91.48
  353.8970       1   1      91.48
  355.8546       1   1      91.48
  357.8516       1   1      91.48
  367.8949       1   1      91.48
  369.8919       1   1      91.48
  380.9760 c    10   1       8.19
  409.7974       1   1      91.48
 Window # 3
      mass F  int  gr  time (ms)
  373.8208       1   1      91.48
  375.8178       1   1      91.48
  380.9760 l    10   1       8.19
  383.8639       1   1      91.48
  385.8610       1   1      91.48
  389.8156       1   1      91.48
  391.8127       1   1      91.48
  401.8559       1   1      91.48
  403.8529       1   1      91.48
  404.9760 c    10   1       8.19
  445.7555       1   1      91.48
 Window # 4
      mass F  int  gr  time (ms)
  404.9760 l    10   1       8.19
  407.7818       1   1      91.48
  409.7788       1   1      91.48
  417.8250       1   1      91.48
  419.8220       1   1      91.48
  423.7767       1   1      91.48
  425.7737       1   1      91.48
  435.8169       1   1      91.48
  437.8140       1   1      91.48
  442.9728 c    10   1       8.19
  479.7165       1   1      91.48
 Window # 5
      mass F  int  gr  time (ms)
  430.9728 l    10   1      10.92
  441.7428       1   1     120.15
  443.7399       1   1     120.15
  457.7377       1   1     120.15
  459.7348       1   1     120.15
  469.7780       1   1     120.15
  471.7750       1   1     120.15
  480.9696 c    10   1      10.92
  513.6775       1   1     120.15

Auto Sampler descriptor: pcdd2ul
 Injector A
 Normal Injection
 Slvnt A cln before inj(K):     3 times
 Slvnt B cln before inj(L):     0 times
 Sample rinse cycles   (R):     0 times
 Syringe filling volume(F):   1.0 ul
 Pullup delay time     (D):     4 sec
 Sample pullup speed   (E):   5.0 ul/sec
 Slvnt aftr pre inj cln(U):   0.0 ul
 Air after pre inj cln (G):   2.0 ul
 Sample volume         (V):   2.0 ul
 Sample air volume     (A):   2.0 ul
 Sample pullup count   (P):     2 times
 Injection speed       (S):  10.0 ul/sec
 Injection wait time   (W):    10 sec
 Injection hold time   (H):     3 sec
 Solvent A clean cycles(C):    15 times
 Solvent B clean cycles(B):    20 times
 Loop clean w slvnt A (LC):     0 times
```

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8410.0000
BDEV	8282.0000	BFM	2.0000	BLM	1038.6736
BMASS	304.9824	BQUAD	3.2750	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.5059
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.7814	DITSET	0.0000	DRAW	-19.3250
DRAWC	1.0000	DRAWS	0.0050	ECORR	1.0000
ECURR	1.0000	EDAC	7969177.0000	EDACG	0.9999
EDACR	20.0000	EDACZ	850.0000	ELEN	57.4000
EMULT	1.5500	ENS	146.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	176.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	3.3500	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	437.0000	FVINLET	862.0000
FVSRC	972.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.3823	HVANAL	1110.0000	HVSRC	2958.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4757.0160	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2587.0000	LENSS	154.0000	LKM	430.9728
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3475842.6628	MDACR	20.0000
MRANGE	1038.6736	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	2872.0000
NSMAX	14.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-6.9500	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10875.2257	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2720.0000	SHIELDS	0.2000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.7600	TCURR	0.9375	TD	50.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	80.1030	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.2550
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2159.0000	XLENSS	7.2000
YLENS	2834.0000	YLENSS	-148.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 08-Nov-04 16:29:35.6

Autosampler has injected sample from vial 15
Analysis stopped at: 08-Nov-04 17:29:13.0 (run time 59.62 minutes)
Analysis stopped because MID run finished

QUAN: b041108i4.q0 Entries: 69

Data file(s) used
File: b041108i4 08-Nov-04
Samp: Vial 15 WO=2960:59CS4 Meth=X8 Dil=1 Start : 16:29:35 2864
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 15

Disp: CHRO
Amount = (area * ref amnt) / (ref area * response factor); amount = f(reponse)
Response factors from quantitation file

Quan Masses	Actual Time	Area	Height	Peak Beginn	Peak End	Noise Value	La Pe	Lab Fac
319.8805	35:54	829802.	88052.	35:40	36:11	95.	2	3.0
321.8775	35:54	1076525.	117434.	35:38	36:11	110.	2	3.0
331.9202	35:17	1569612.	160814.	35:01	35:34	239.	2	3.0
331.9202	35:52	1644076.	180440.	35:39	36:08	239.	2	3.0
333.9171	35:17	1941009.	196003.	35:02	35:34	242.	2	3.0
333.9171	35:51	2086269.	226283.	35:40	36:07	242.	2	3.0
327.8683	35:54	1889167.	209609.	35:40	36:11	104.	2	3.0
303.8864	33:45	1048174.	95969.	33:30	34:01	152.	2	3.0
305.8834	33:45	1332501.	125944.	33:28	34:01	142.	2	3.0
315.9261	33:42	2112774.	194700.	33:26	33:59	172.	2	3.0
317.9230	33:42	2713980.	253684.	33:26	33:59	173.	2	3.0
355.8368	43:22	4520288.	1176044.	43:15	43:38	240.	2	3.0
357.8337	43:22	2920182.	745657.	43:13	43:38	213.	2	3.0
367.8765	43:21	1908933.	489699.	43:14	43:37	96.	2	3.0
369.8734	43:21	1204460.	301297.	43:15	43:37	52.	2	3.0
339.8427	41:50	5965575.	1379230.	41:39	42:06	144.	2	3.0
339.8427	42:55	6569741.	1589195.	42:47	43:10	144.	2	3.0
341.8396	41:50	3849145.	905563.	41:39	42:01	150.	2	3.0
341.8396	42:54	4296272.	1056390.	42:46	43:09	150.	2	3.0
351.8824	41:49	2562572.	582119.	41:37	42:05	115.	2	3.0
351.8824	42:54	6362257.	1531487.	42:44	43:09	115.	2	3.0
353.8793	41:49	1592554.	371832.	41:36	42:05	85.	2	3.0
353.8793	42:52	4048249.	984923.	42:45	43:08	85.	2	3.0
389.7961	47:34	4022331.	1044519.	47:26	47:37	103.	2	3.0
389.7961	47:41	4006899.	989411.	47:37	47:57	103.	2	3.0
389.7961	48:07	4259780.	1085768.	47:58	48:21	103.	2	3.0
391.7931	47:34	3286302.	848080.	47:25	47:37	95.	2	3.0
391.7931	47:41	3211076.	780205.	47:37	47:54	95.	2	3.0
391.7931	48:07	3421670.	844087.	47:59	48:21	95.	2	3.0
401.8358	47:33	3668404.	932422.	47:25	47:37	93.	2	3.0
401.8358	47:40	1564785.	408197.	47:37	47:56	93.	2	3.0
401.8358	48:06	1615213.	404173.	47:56	48:17	93.	2	3.0
403.8327	47:33	2869543.	721494.	47:21	47:37	115.	2	3.0
403.8327	47:40	1223000.	313818.	47:37	47:56	115.	2	3.0
403.8327	48:06	1287322.	327545.	47:57	48:21	115.	2	3.0
373.8021	46:29	5668096.	1493288.	46:20	46:33	240.	2	3.0
373.8021	46:36	5747621.	1455121.	46:33	46:52	240.	2	3.0
373.8021	47:23	5308388.	1379464.	47:13	47:39	240.	2	3.0
373.8021	48:25	5140313.	1182335.	48:15	48:41	240.	2	3.0
375.7990	46:29	4496863.	1206715.	46:19	46:32	178.	2	3.0
375.7990	46:36	4704363.	1179368.	46:32	46:52	178.	2	3.0
375.7990	47:23	4328898.	1124349.	47:12	47:39	178.	2	3.0
375.7990	48:25	4114666.	930764.	48:16	48:41	178.	2	3.0
383.8447	46:28	2918949.	775135.	46:16	46:32	121.	2	3.0
383.8447	46:35	1329184.	324730.	46:32	46:51	121.	2	3.0
383.8447	47:16	11984.	1222.	47:12	47:29	121.	2	3.0
383.8447	48:24	2789101.	644872.	48:16	48:40	121.	2	3.0
385.8417	46:28	5543058.	1439721.	46:20	46:32	113.	2	3.0
385.8417	46:35	2494450.	627708.	46:32	46:51	113.	2	3.0

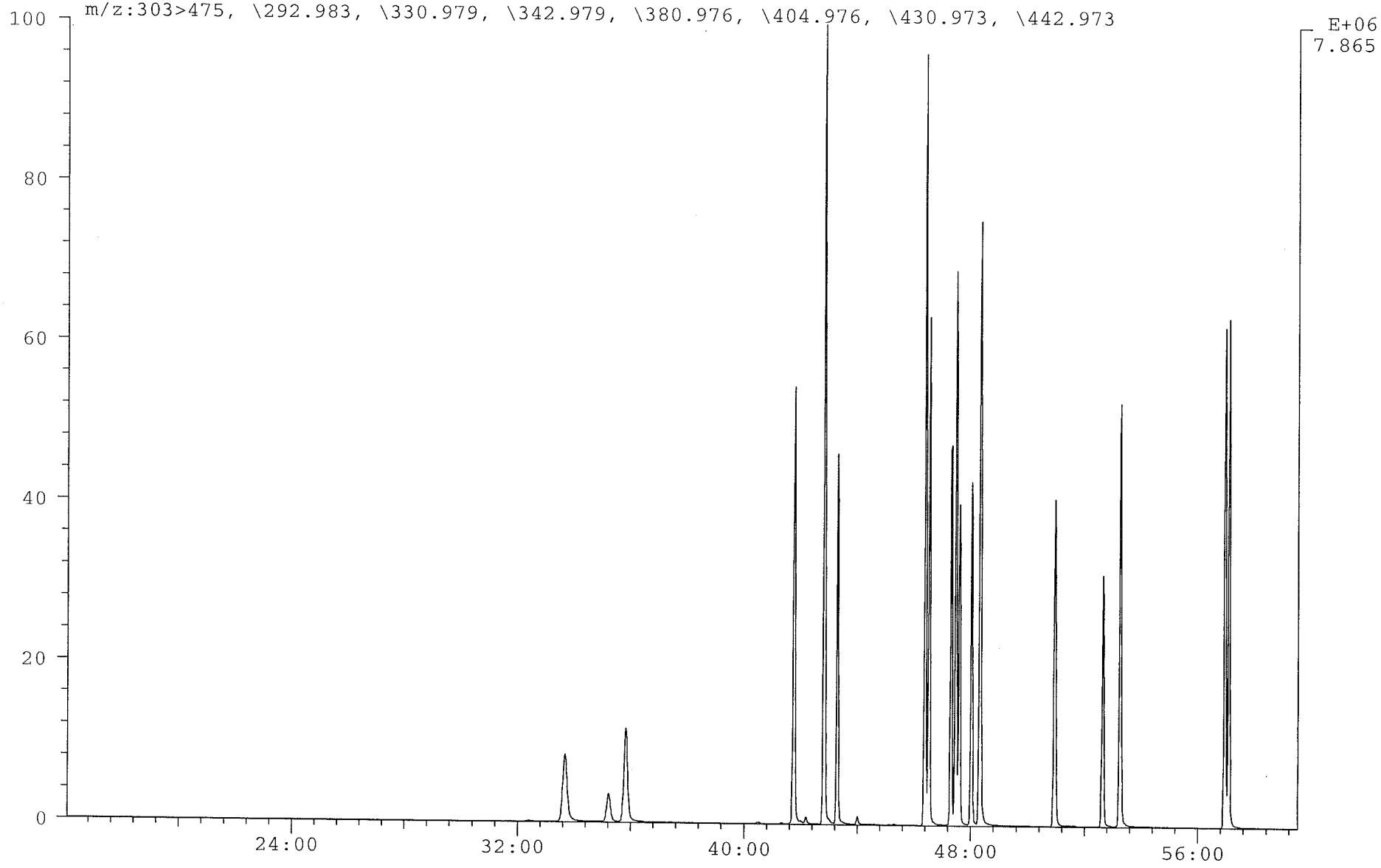
385.8417	47:14	17425.	1953.	47:07	47:22	113.	2	3.0
385.8417	48:24	5241548.	1174849.	48:11	48:40	113.	2	3.0
423.7555	52:44	3531094.	783334.	52:36	53:00	57.	2	3.0
425.7524	52:44	3367903.	734645.	52:36	53:00	68.	2	3.0
435.7951	52:43	1440501.	311609.	52:34	52:59	77.	2	3.0
437.7921	52:43	1369500.	283325.	52:35	52:59	52.	2	3.0
407.7614	51:02	4786268.	985415.	50:52	51:18	138.	2	3.0
407.7614	53:21	4309278.	922152.	53:12	53:37	138.	2	3.0
409.7583	51:02	4645712.	936337.	50:53	51:18	96.	2	3.0
409.7583	53:21	4180935.	885807.	53:11	53:37	96.	2	3.0
417.8041	51:01	862446.	181384.	50:51	51:17	76.	2	3.0
417.8041	53:20	1927788.	405847.	53:07	53:34	76.	2	3.0
419.8010	51:01	1859692.	383659.	50:51	51:17	119.	2	3.0
419.8010	53:20	4284189.	894474.	53:10	53:36	119.	2	3.0
457.7148	57:01	5928812.	1519894.	56:54	57:17	113.	2	3.0
459.7118	57:01	6669241.	1724763.	56:52	57:17	91.	2	3.0
469.7545	57:00	2541058.	652576.	56:52	57:16	78.	2	3.0
471.7514	57:00	2826802.	704116.	56:53	57:16	75.	2	3.0
441.7207	57:10	7085956.	1803246.	56:58	57:26	92.	2	3.0
443.7177	57:10	7853688.	2005854.	56:57	57:26	120.	2	3.0

CHRO: b041108i5 08-Nov-04
Samp: Vial 16 WO=2960:59CS5 Meth=X8 Dil=1
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM
Oper: MSD Client: STL Knoxville
Peak: 100.00 ppm Label wndw: 442 > 2853
Area: 5, 0.50, 0 Baseline : 100, 3
Disp: Height Area

Elapse: 46:40 2133
Start : 17:32:02 2858

Study : M23 ICAL
Inlet : GC Vial 16
Masses: 293 > 514
Label : 0, 0.0

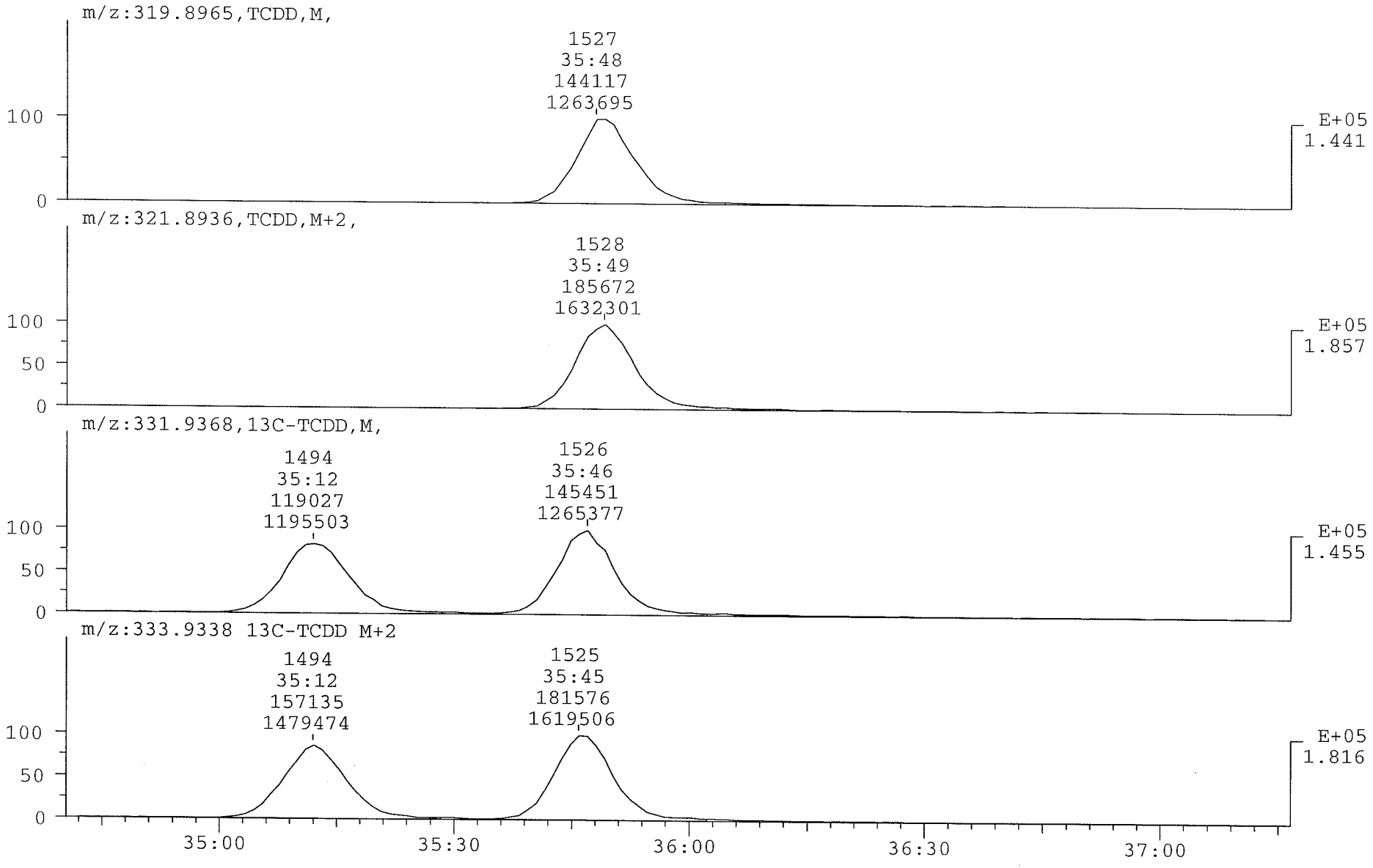
Int Calc PMP 11-8-04
QC MSD 11-9-04



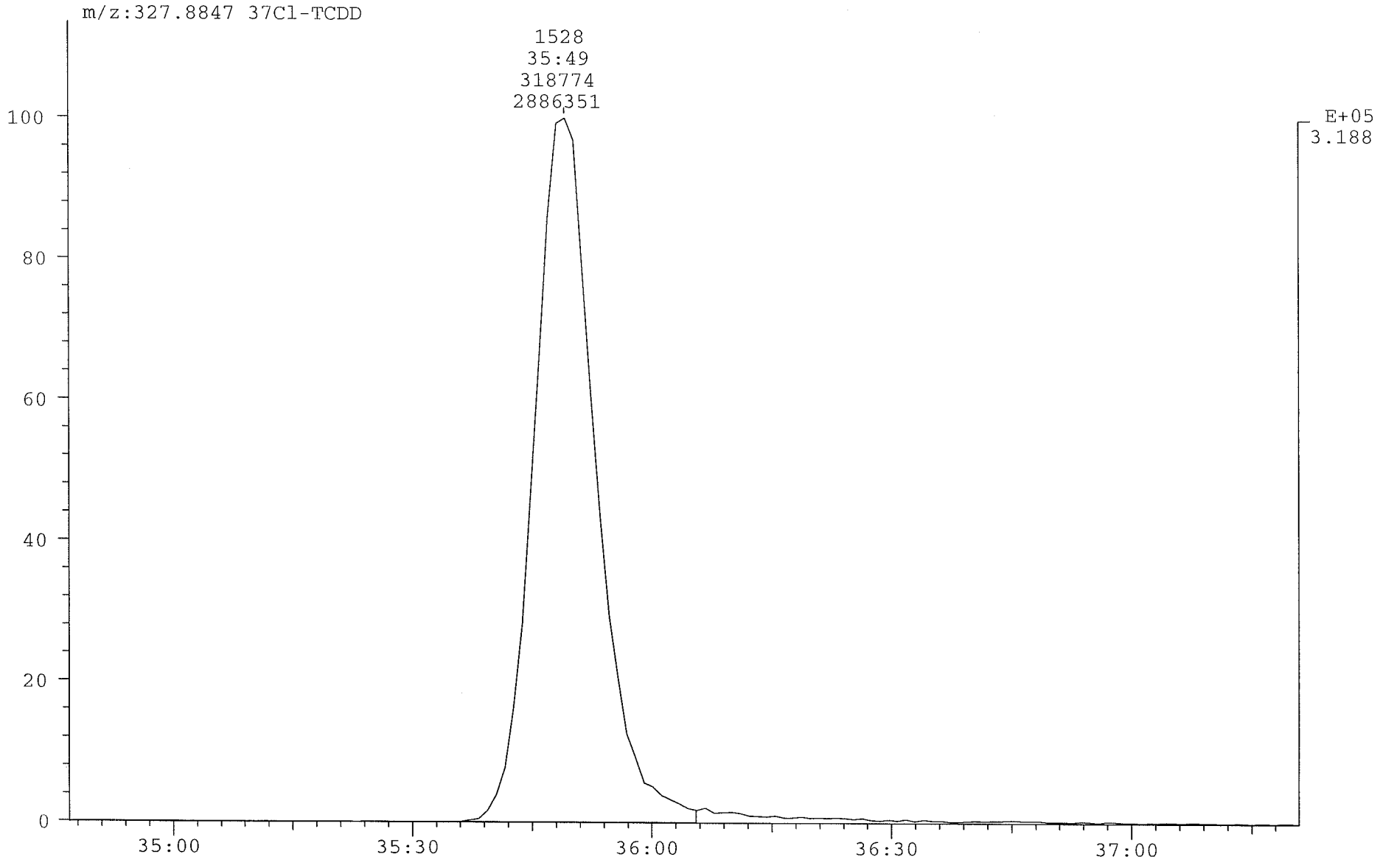
CHRO: b041108i5 08-Nov-04
Samp: Vial 16 WO=2960:59CS5 Meth=X8 Dil=1
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM
Oper: MSD Client: STL Knoxville
Peak: 100.00 ppm Label wndw: 1465 > 1608
Area: 5, 0.50, 15 Baseline : 100, 3
Disp: Height Area

Elapse: 46:40 2133
Start : 17:32:02 2858

Study : M23 ICAL
Inlet : GC Vial 16
Masses: 293 > 514
Label : 2, 3.0



CHRO: b041108i5 08-Nov-04 Elapse: 46:40 2133
Samp: Vial 16 WO=2960:59CS5 Meth=X8 Dil=1 Start : 17:32:02 2858
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 16
Peak: 100.00 ppm Label wndw: 1471 > 1612 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



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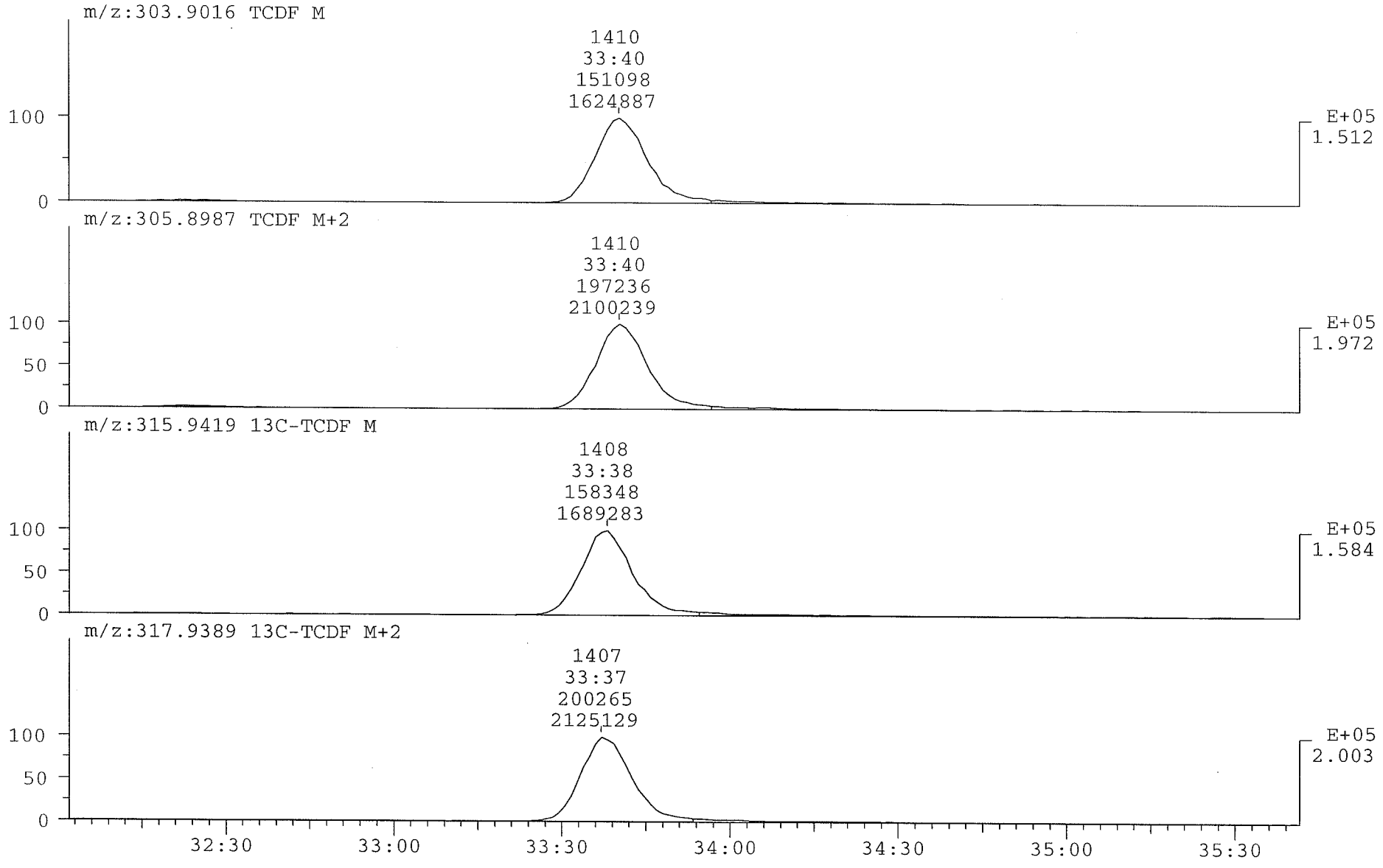
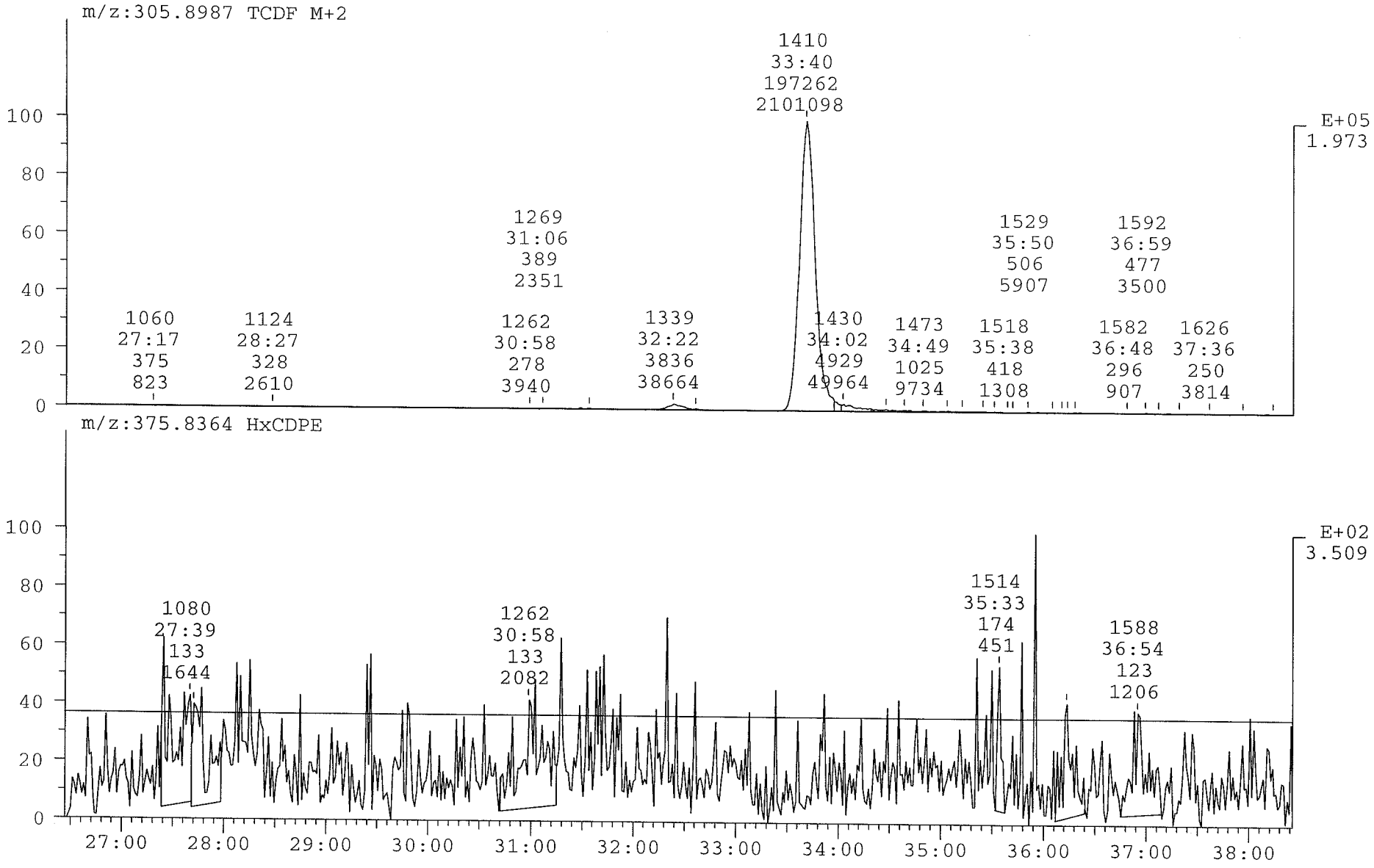
CHRO:  b041108i5                                08-Nov-04   Elapse:  46:40      2133
Samp:  Vial 16 WO=2960:59CS5 Meth=X8 Dil=1                  Start :  17:32:02   2858
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  16
Peak:  100.00  ppm      Label wndw:   1320 > 1521           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
```



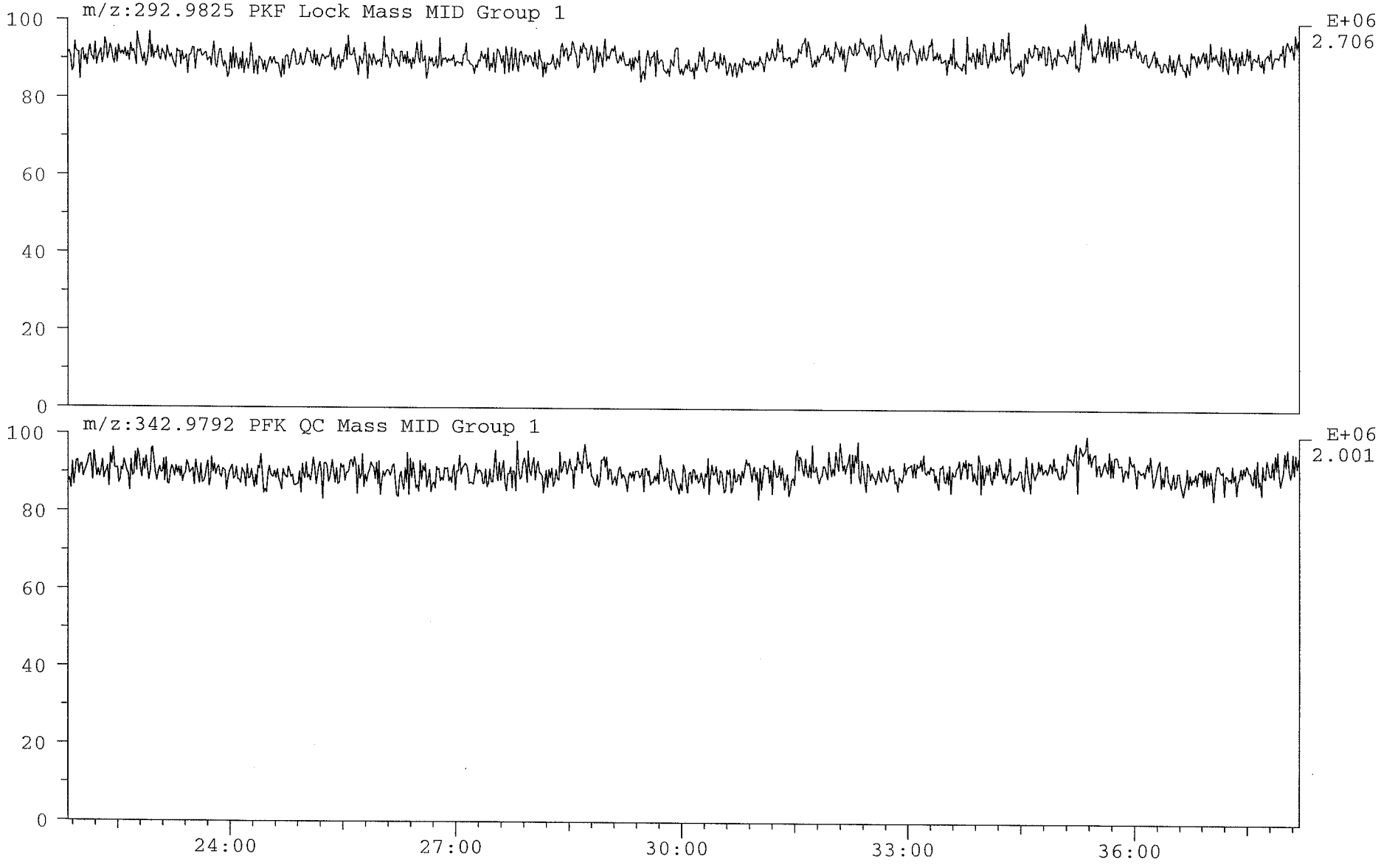
CHRO: b041108i5 08-Nov-04
Samp: Vial 16 WO=2960:59CS5 Meth=X8 Dil=1
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM
Oper: MSD Client: STL Knoxville
Peak: 100.00 ppm Label wndw: 1013 > 1671
Area: 5, 0.50, 15 Baseline : 100, 3
Disp: Height Area

Elapse: 46:30 2124
Start : 17:32:02 2858

Study : M23 ICAL
Inlet : GC Vial 16
Masses: 293 > 514
Label : -2, 3.0



CHRO: b041108i5 08-Nov-04 Elapse: 46:30 2124
Samp: Vial 16 WO=2960:59CS5 Meth=X8 Dil=1 Start : 17:32:02 2858
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 16
Peak: 100.00 ppm Label wndw: 760 > 1658 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



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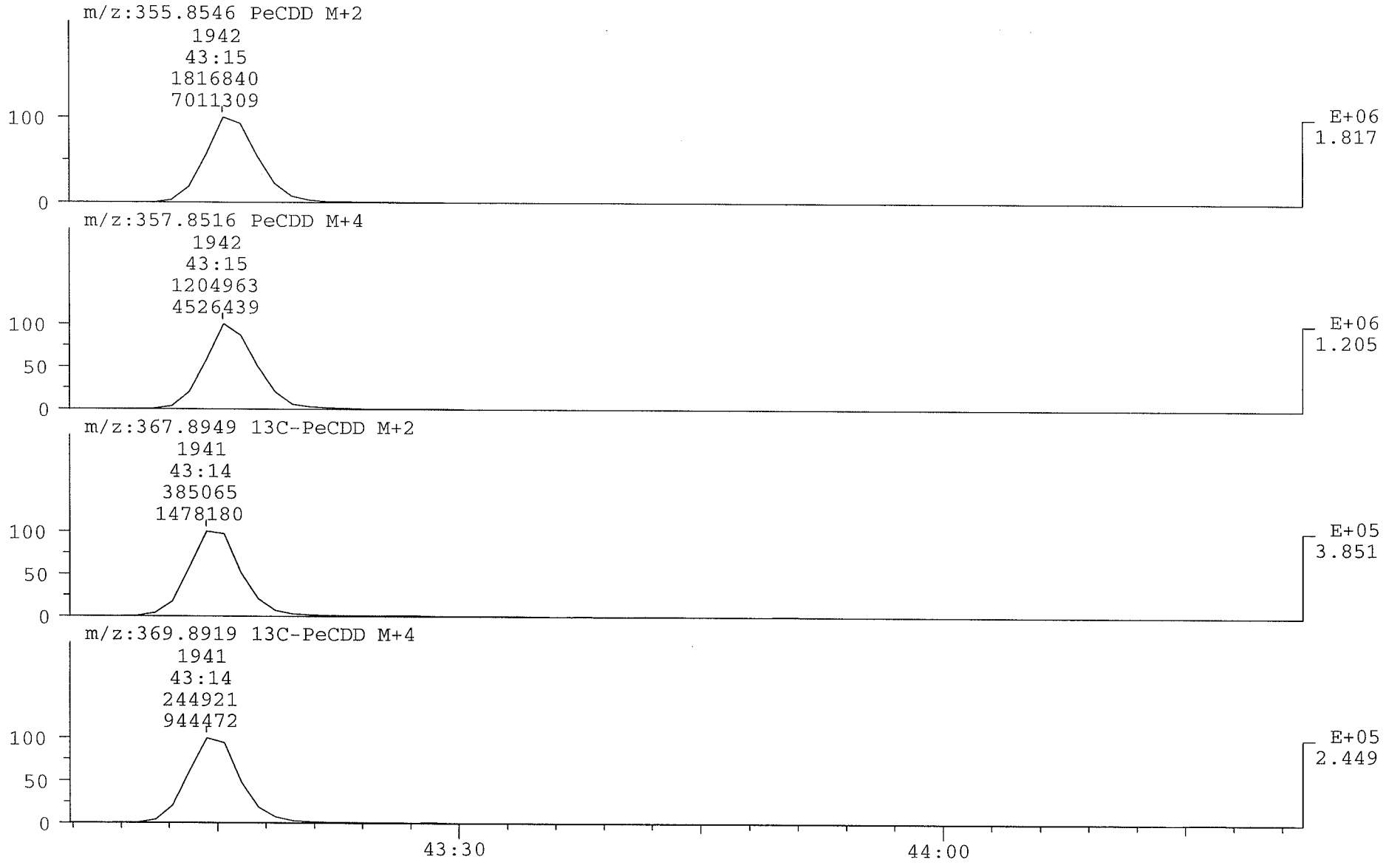
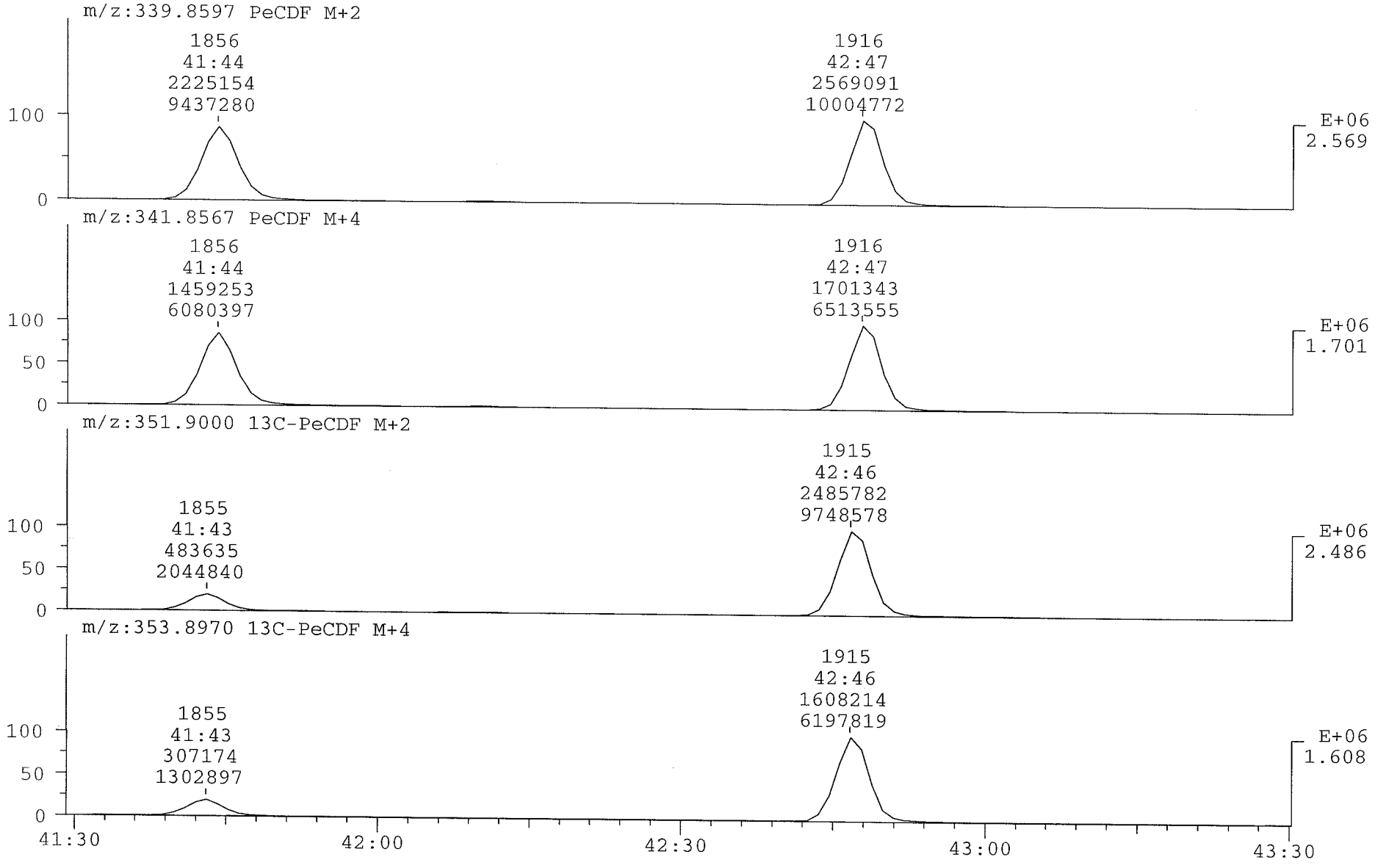
CHRO:  b041108i5                                08-Nov-04   Elapse:  46:40      2133
Samp:  Vial 16 WO=2960:59CS5 Meth=X8 Dil=1                  Start :  17:32:02   2858
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  16
Peak:  100.00  ppm      Label wndw:   1000 > 3500           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
```



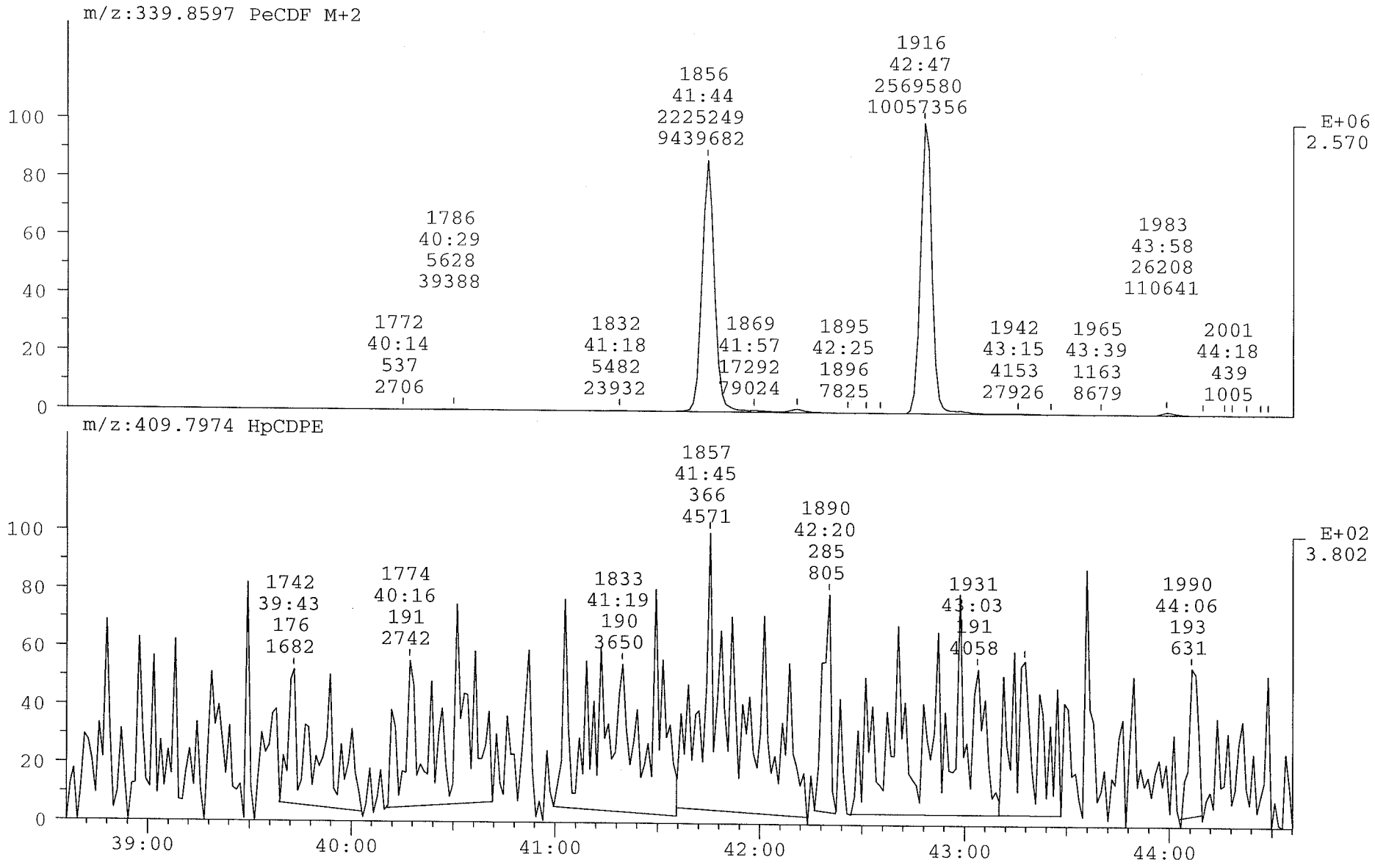
CHRO: b041108i5 08-Nov-04 Elapse: 46:40 2133
Samp: Vial 16 WO=2960:59CS5 Meth=X8 Dil=1 Start : 17:32:02 2858
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 16
Peak: 100.00 ppm Label wndw: 1842 > 1956 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



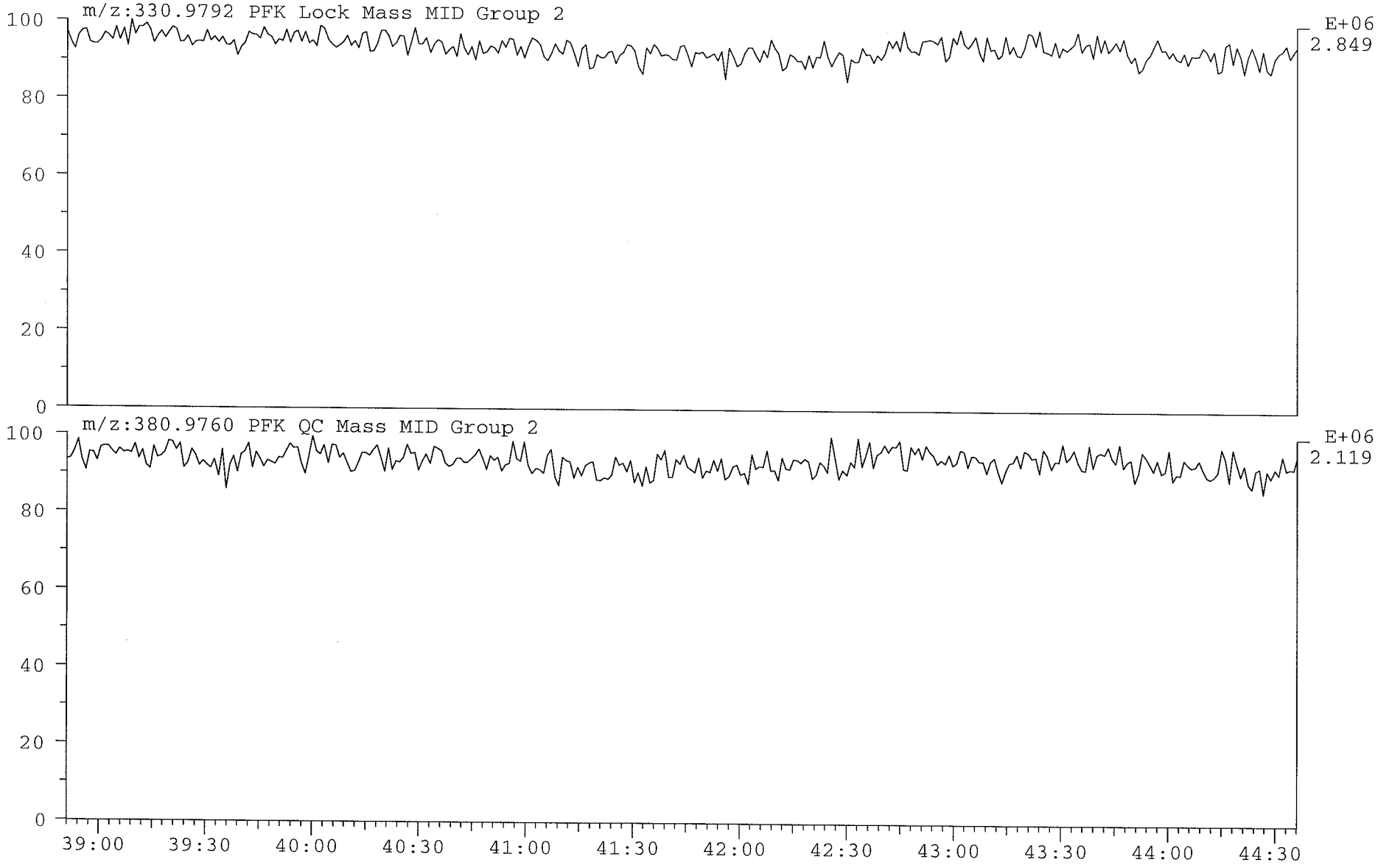
CHRO: b041108i5 08-Nov-04
Samp: Vial 16 WO=2960:59CS5 Meth=X8 Dil=1
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM
Oper: MSD Client: STL Knoxville
Peak: 100.00 ppm Label wndw: 1679 > 2018
Area: 5, 0.50, 0 Baseline : 100, 3
Disp: Height Area

Elapse: 46:30 2124
Start : 17:32:02 2858

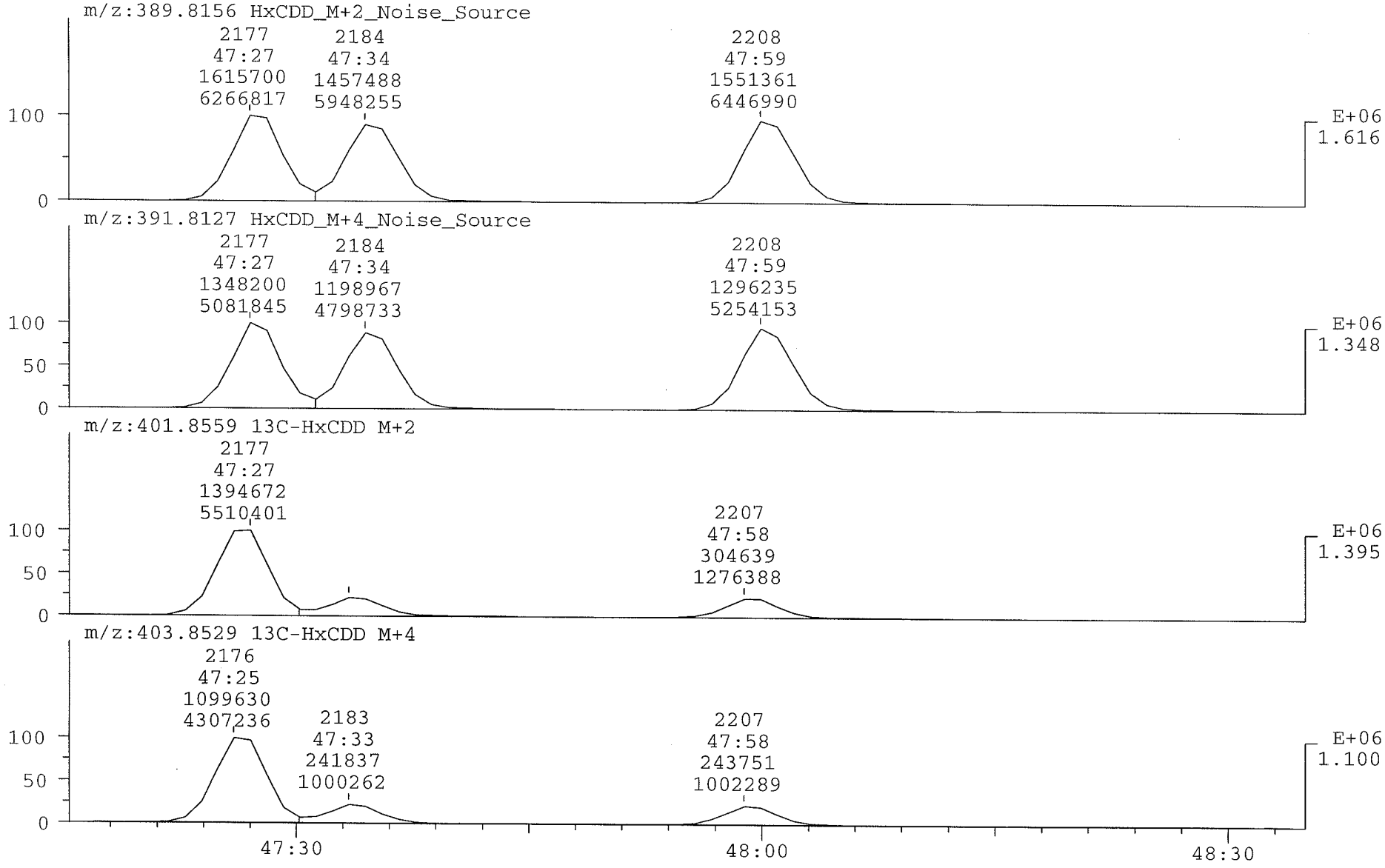
Study : M23 ICAL
Inlet : GC Vial 16
Masses: 293 > 514
Label : 2, 3.0



CHRO: b04110815 08-Nov-04 Elapse: 46:30 2124
Samp: Vial 16 WO=2960:59CS5 Meth=X8 Dil=1 Start : 17:32:02 2858
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 16
Peak: 100.00 ppm Label wndw: 1693 > 2018 Masses: 293 > 514
Area: 0, 0.00, 0 Baseline : 0, 3 Label : 0, 0.0



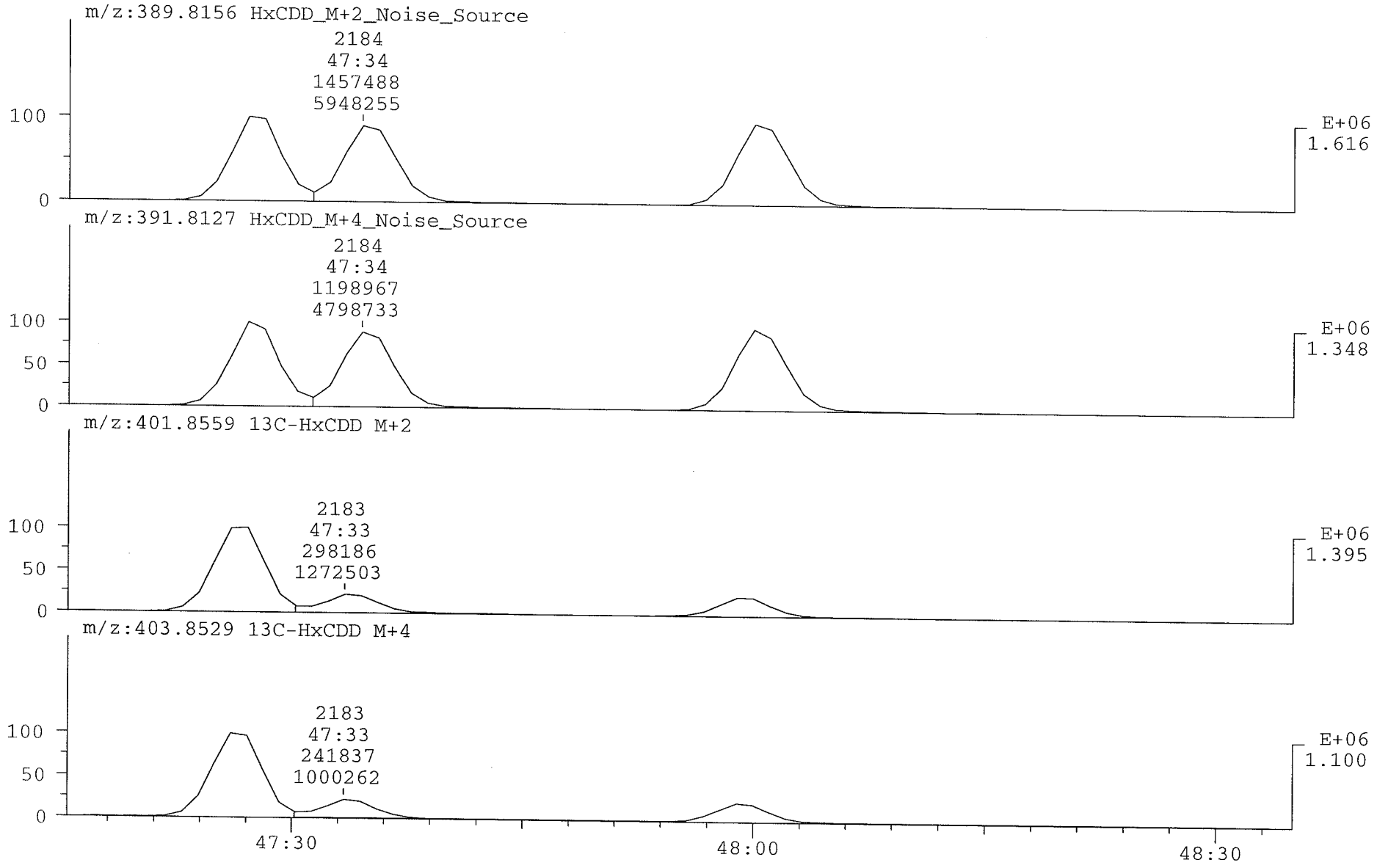
CHRO: b041108i5 08-Nov-04 Elapse: 46:40 2133
Samp: Vial 16 WO=2960:59CS5 Meth=X8 Dil=1 Start : 17:32:02 2858
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 16
Peak: 100.00 ppm Label wndw: 2166 > 2241 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



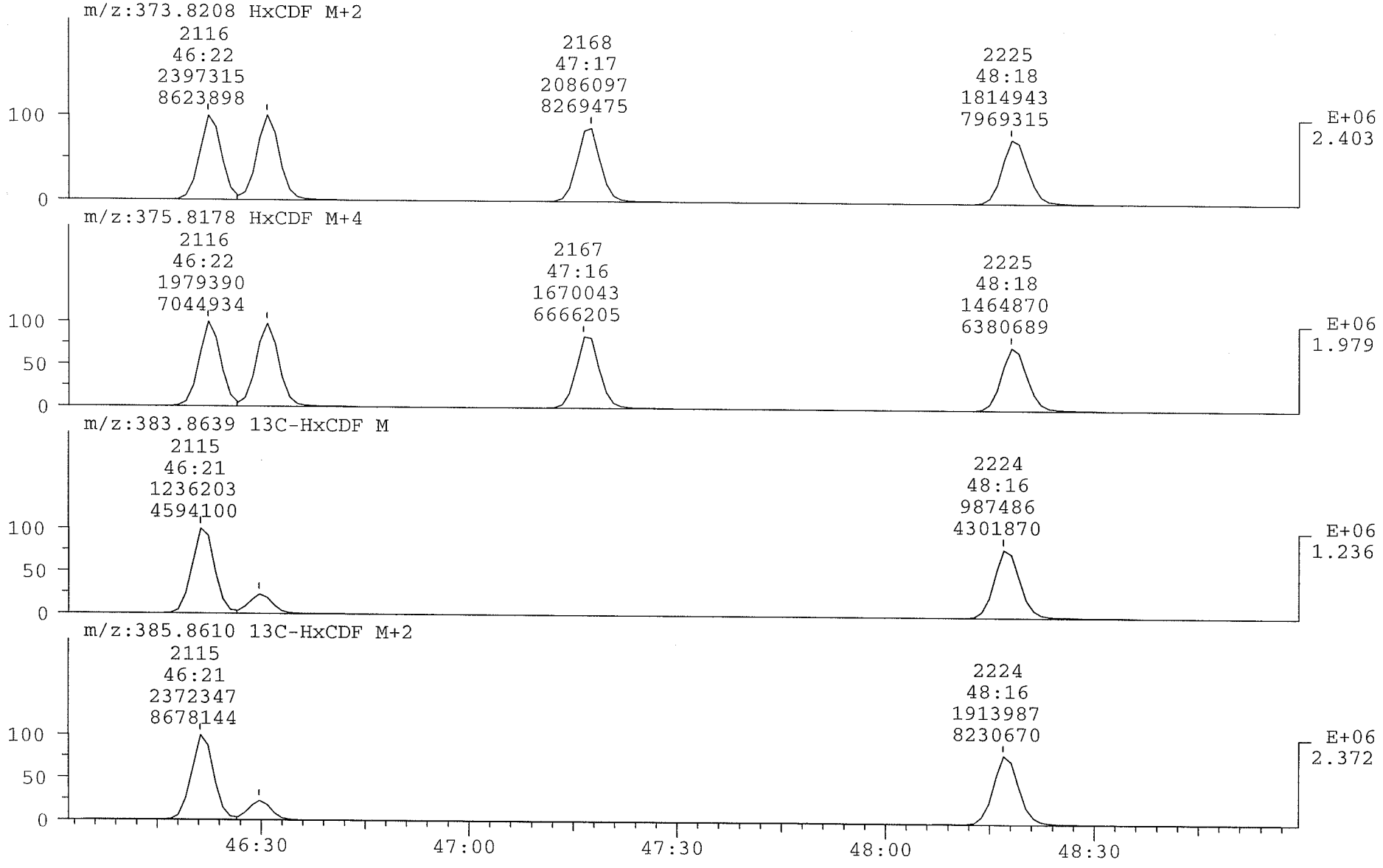
CHRO: b041108i5 08-Nov-04
Samp: Vial 16 WO=2960:59CS5 Meth=X8 Dil=1
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM
Oper: MSD Client: STL Knoxville
Peak: 100.00 ppm Label wndw: 2179 > 2189
Area: 5, 0.50, 15 Baseline : 100, 3
Disp: Height Area

Elapse: 47:34 2184
Start : 17:32:02 2858

Study : M23 ICAL
Inlet : GC Vial 16
Masses: 293 > 514
Label : 2, 3.0



CHRO: b041108i5 08-Nov-04 Elapse: 47:34 2184
Samp: Vial 16 WO=2960:59CS5 Meth=X8 Dil=1 Start : 17:32:02 2858
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 16
Peak: 100.00 ppm Label wndw: 2097 > 2264 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



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CHRO:  b041108i5                                08-Nov-04   Elapse:  46:30      2124
Samp:  Vial 16 WO=2960:59CS5 Meth=X8 Dil=1                  Start :  17:32:02   2858
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  16
Peak:  100.00  ppm      Label wndw:   2119 > 2129           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
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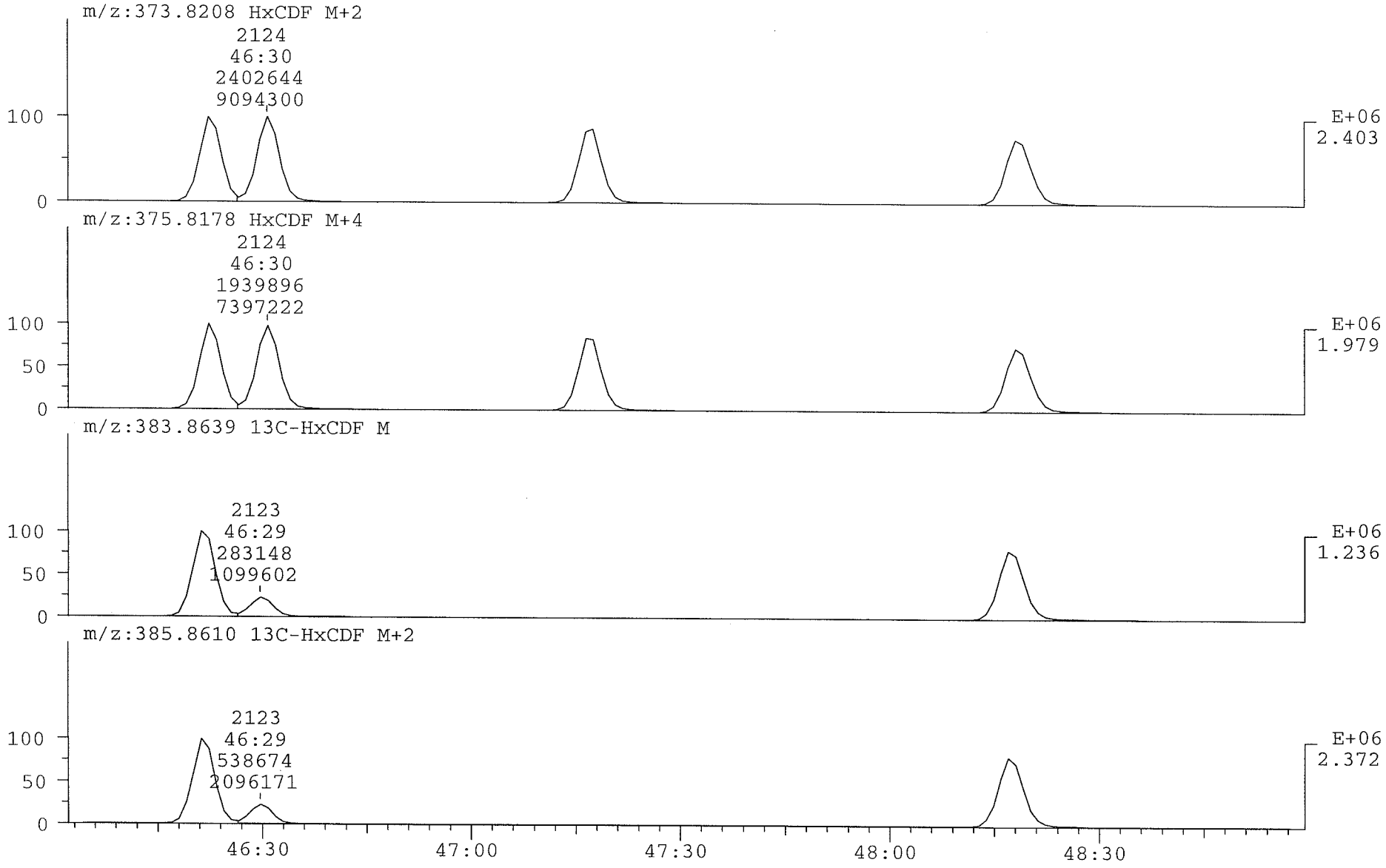
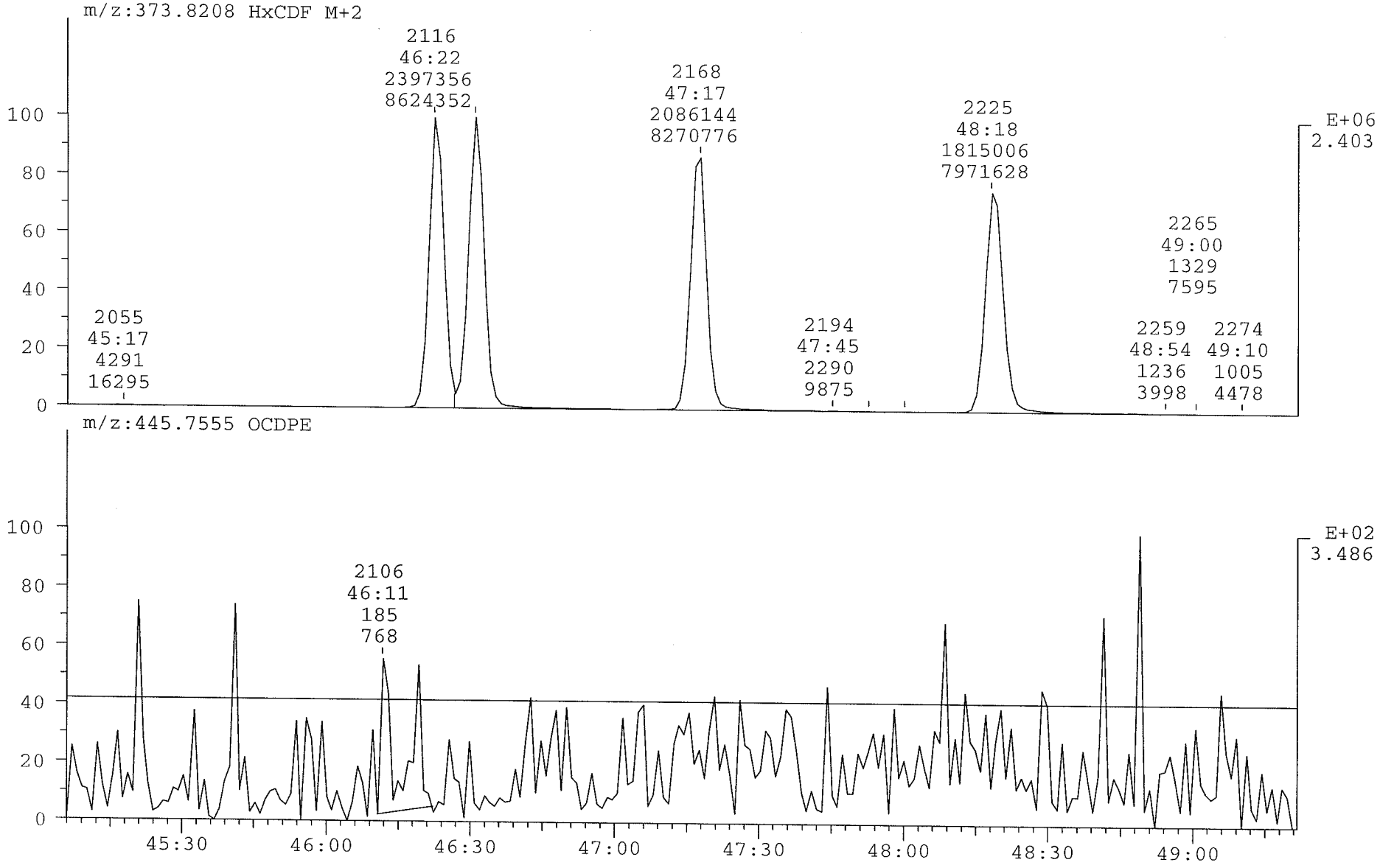


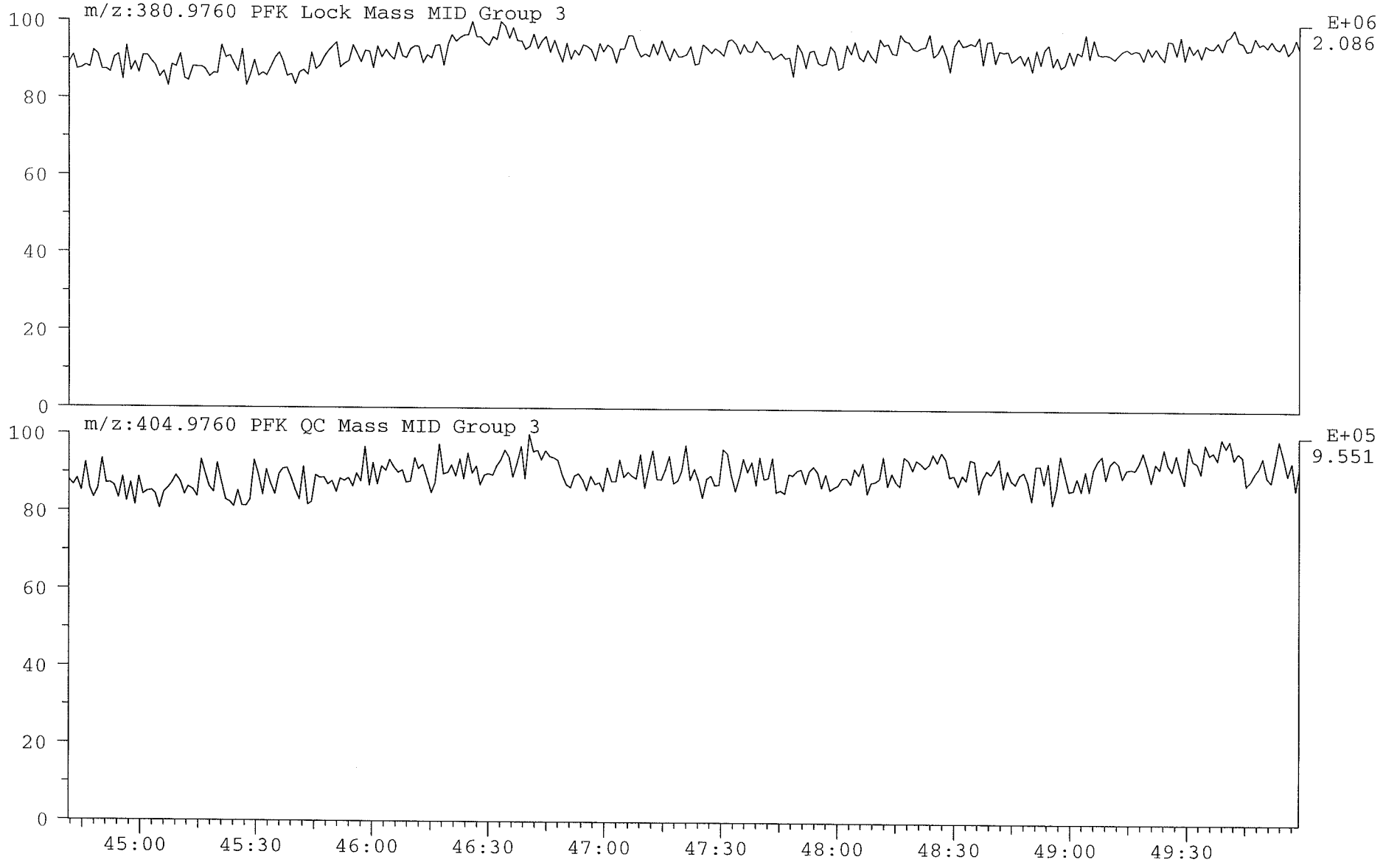
CHRO: b041108i5 08-Nov-04
Samp: Vial 16 WO=2960:59CS5 Meth=X8 Dil=1
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM
Oper: MSD Client: STL Knoxville
Peak: 100.00 ppm Label wndw: 2044 > 2285
Area: 5, 0.50, 15 Baseline : 100, 3
Disp: Height Area

Elapse: 46:30 2124
Start : 17:32:02 2858

Study : M23 ICAL
Inlet : GC Vial 16
Masses: 293 > 514
Label : -2, 3.0



CHRO: b041108i5 08-Nov-04 Elapse: 46:30 2124
Samp: Vial 16 WO=2960:59CS5 Meth=X8 Dil=1 Start : 17:32:02 2858
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 16
Peak: 100.00 ppm Label wndw: 2021 > 2320 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



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CHRO:  b041108i5                                08-Nov-04   Elapse:  46:40      2133
Samp:  Vial 16 WO=2960:59CS5 Meth=X8 Dil=1                  Start :  17:32:02   2858
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  16
Peak:  100.00  ppm      Label wndw:   1 > 3000              Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
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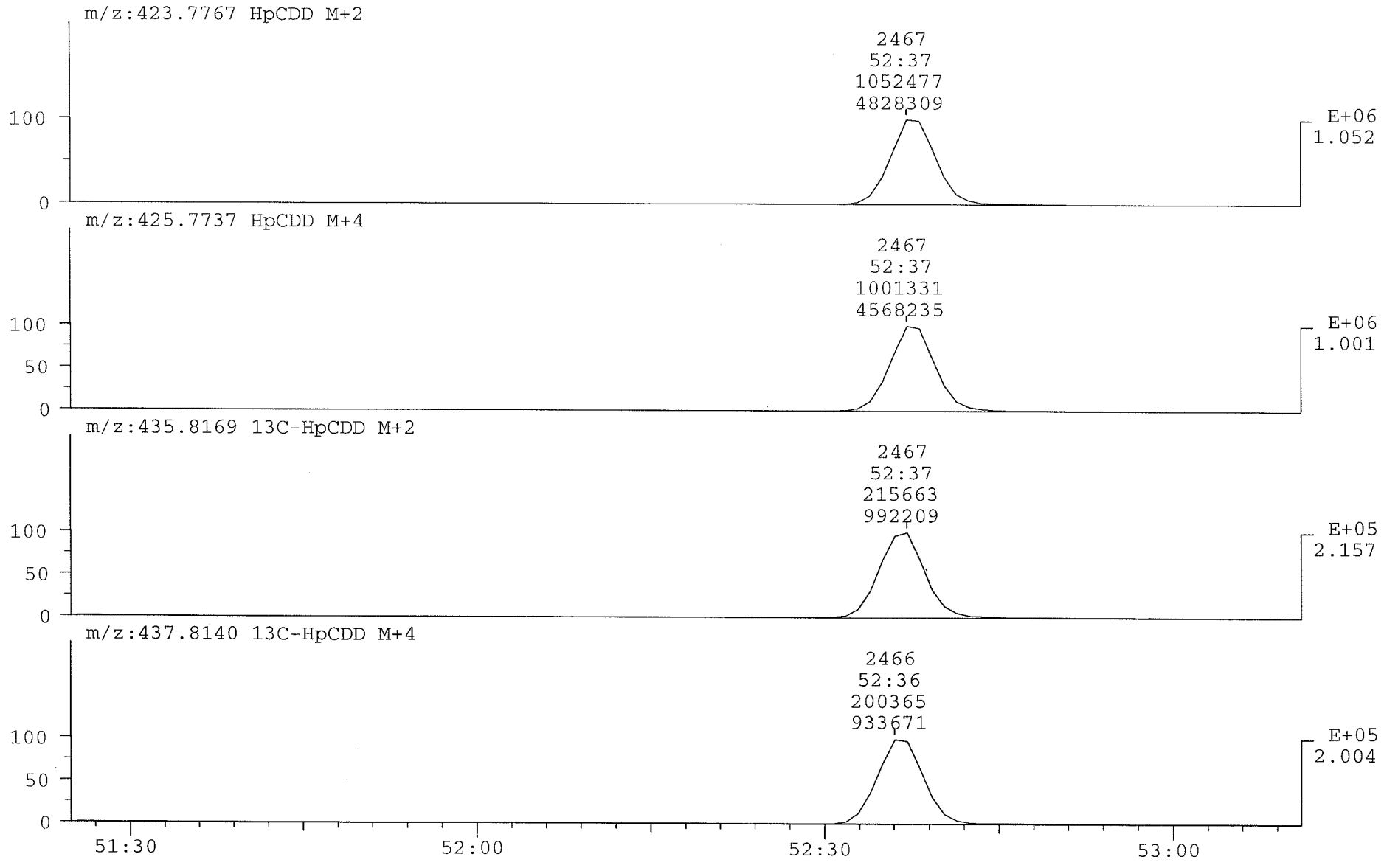
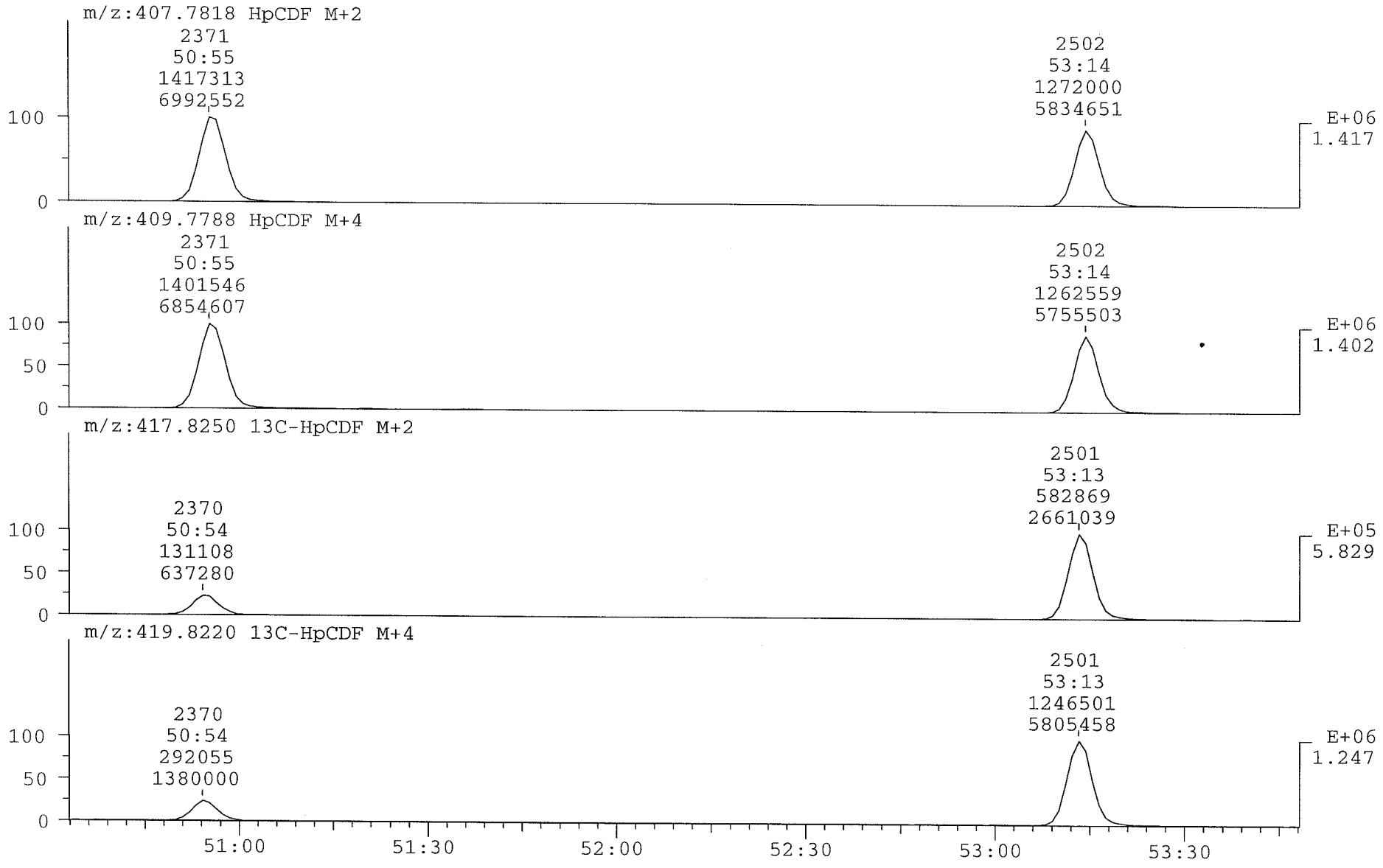
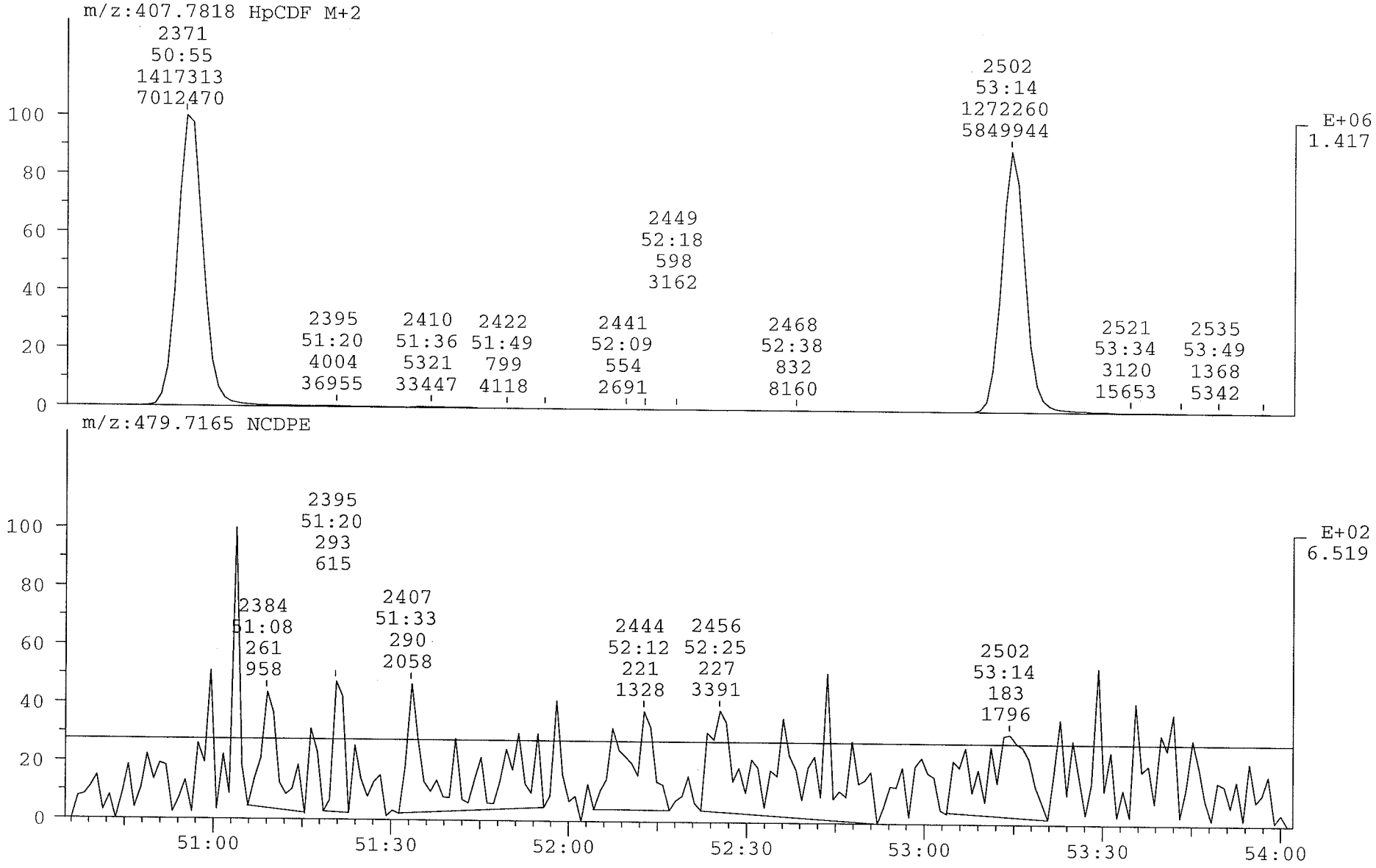


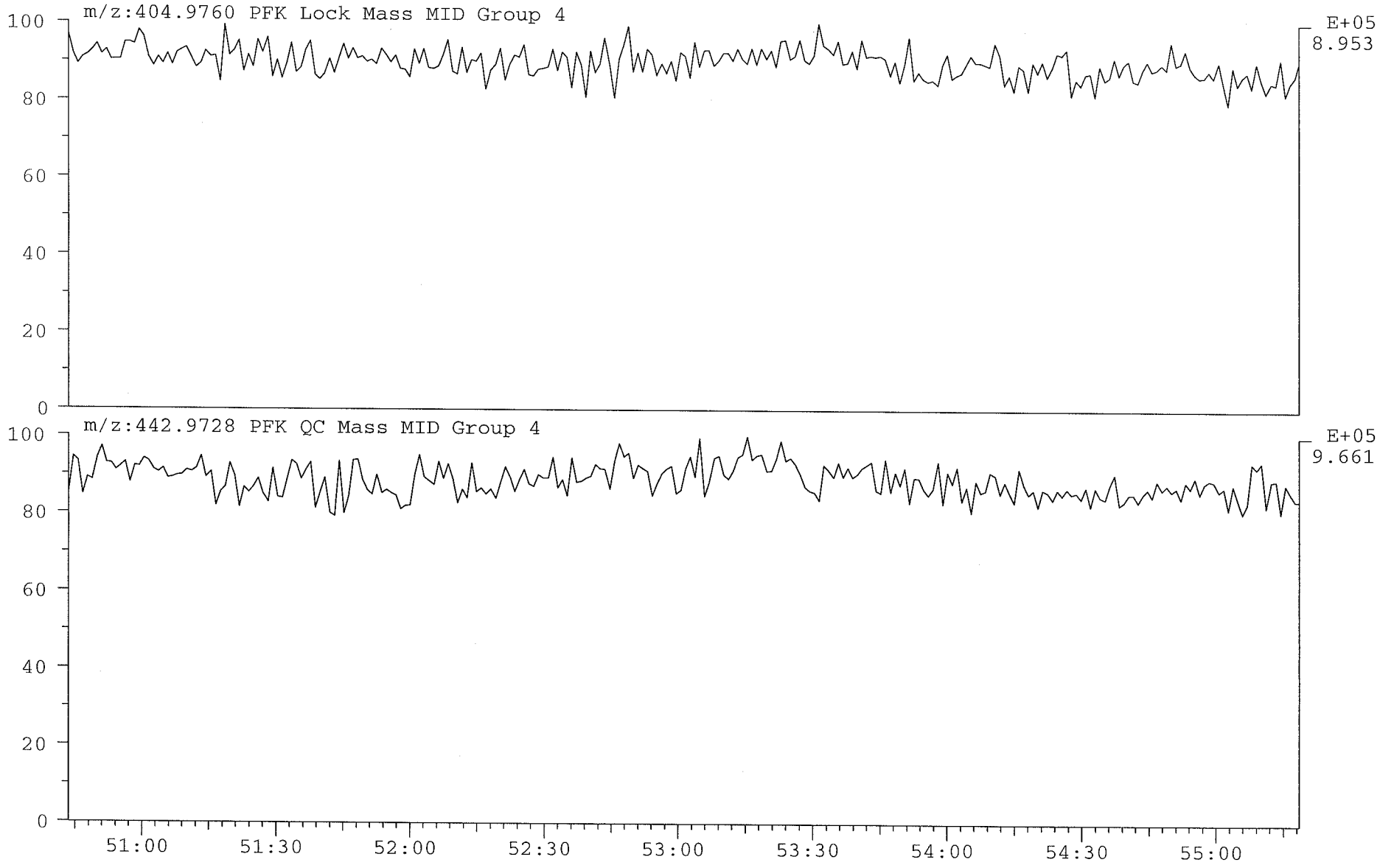
CHRO: b041108i5 08-Nov-04 Elapse: 46:30 2124
Samp: Vial 16 WO=2960:59CS5 Meth=X8 Dil=1 Start : 17:32:02 2858
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 16
Peak: 100.00 ppm Label wndw: 2350 > 2534 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



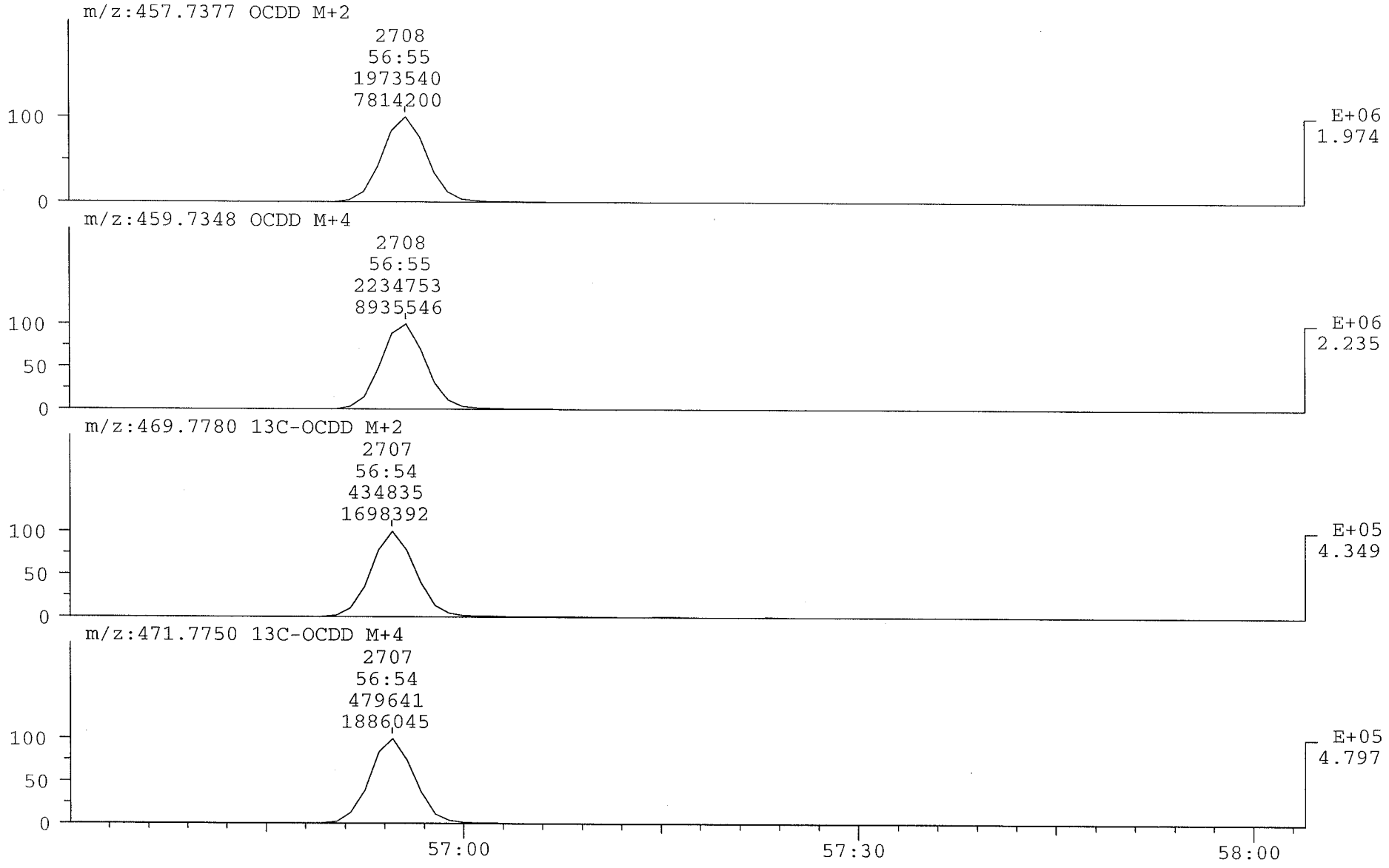
CHRO: b041108i5 08-Nov-04 Elapse: 46:30 2124
Samp: Vial 16 WO=2960:59CS5 Meth=X8 Dil=1 Start : 17:32:02 2858
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 16
Peak: 100.00 ppm Label wndw: 2352 > 2547 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



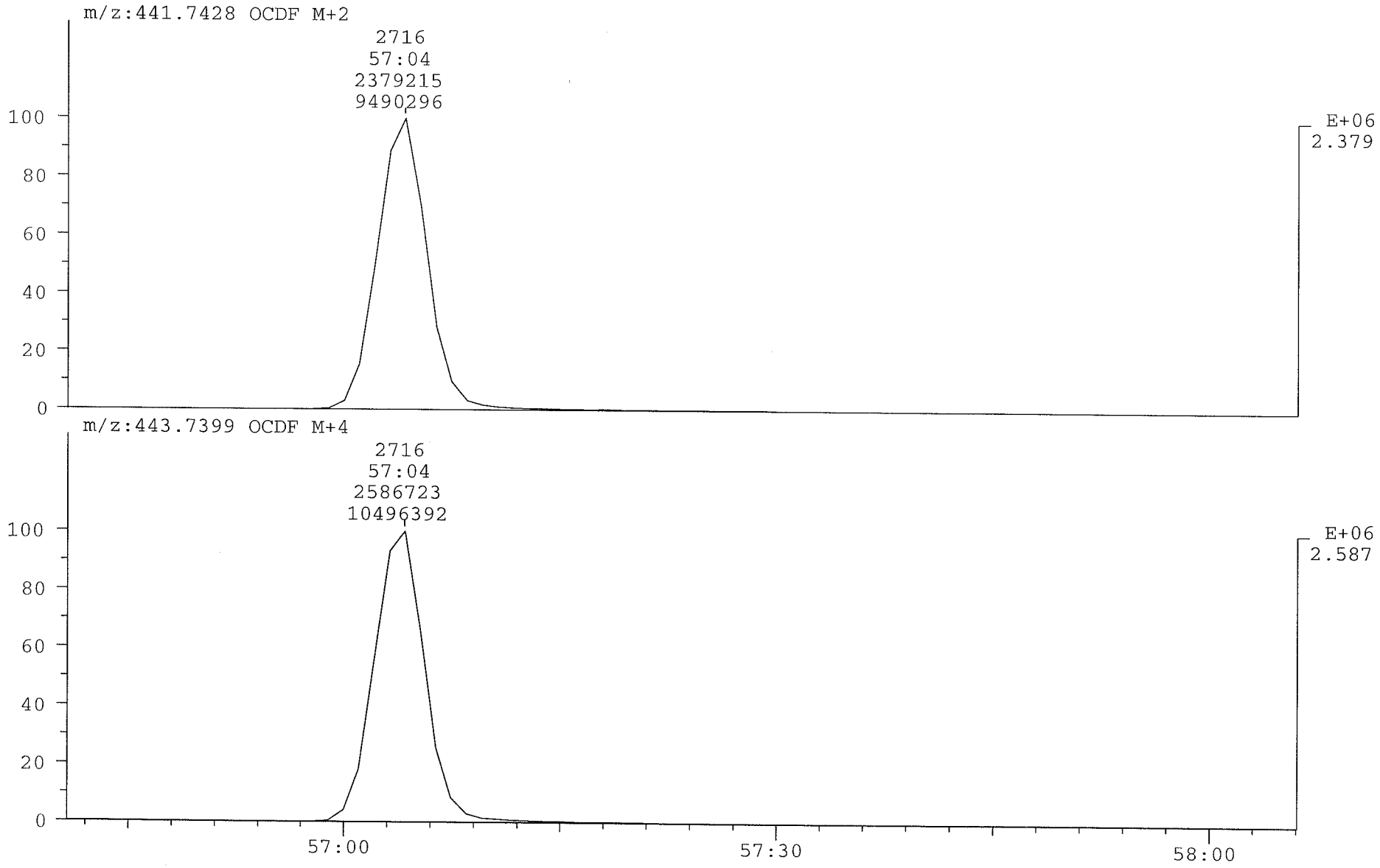
CHRO: b041108i5 08-Nov-04 Elapse: 46:30 2124
Samp: Vial 16 WO=2960:59CS5 Meth=X8 Dil=1 Start : 17:32:02 2858
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 16
Peak: 100.00 ppm Label wndw: 2360 > 2619 Masses: 293 > 514
Area: 0, 0.00, 0 Baseline : 0, 3 Label : 0, 2.5



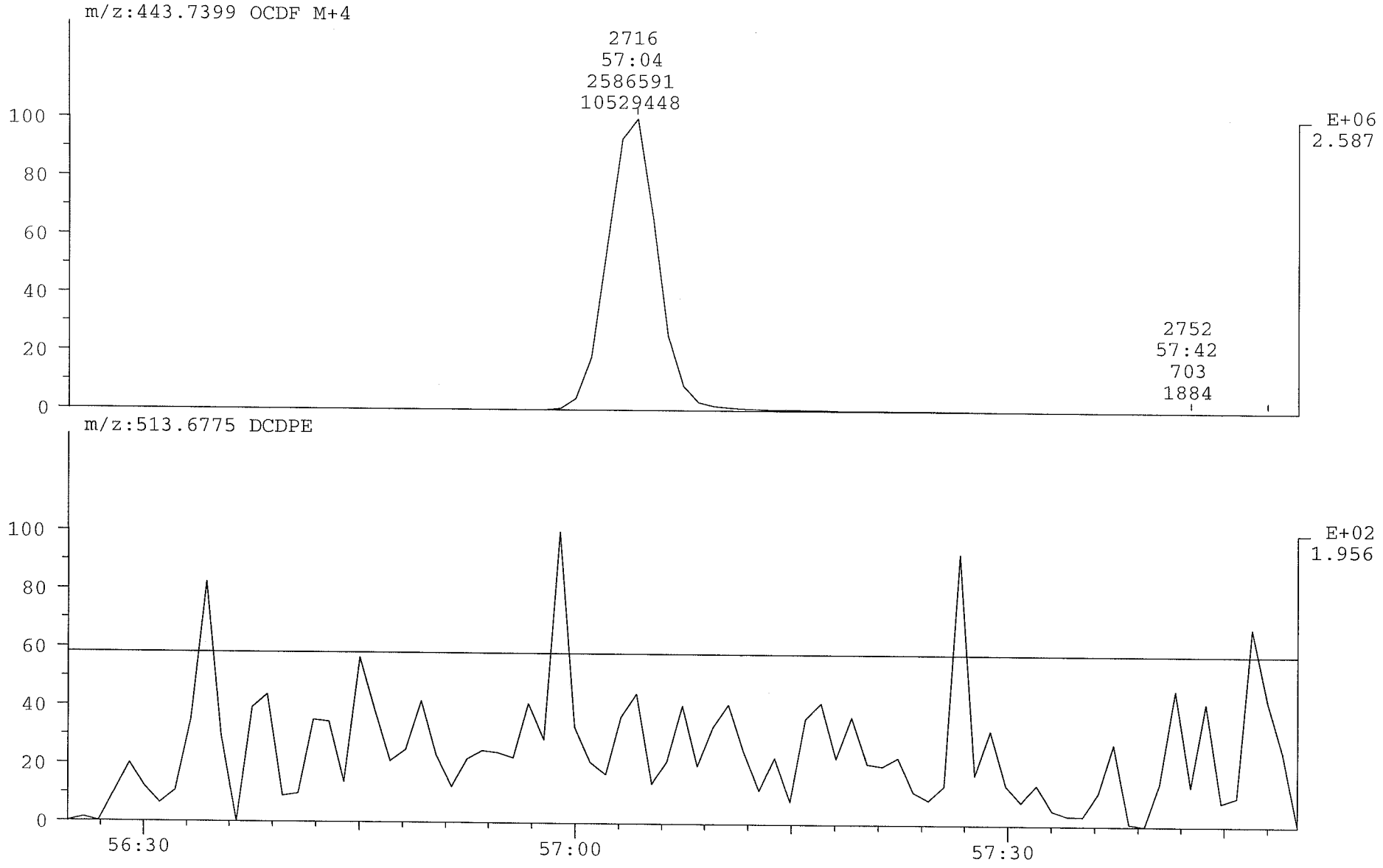
```
CHRO:  b041108i5                                08-Nov-04   Elapse:  46:40      2133
Samp:  Vial 16 WO=2960:59CS5 Meth=X8 Dil=1                  Start :  17:32:02   2858
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 ICAL
Oper:  MSD            Client:  STL Knoxville                Inlet :  GC     Vial  16
Peak:  100.00  ppm      Label wndw:   2684 > 2772           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
```



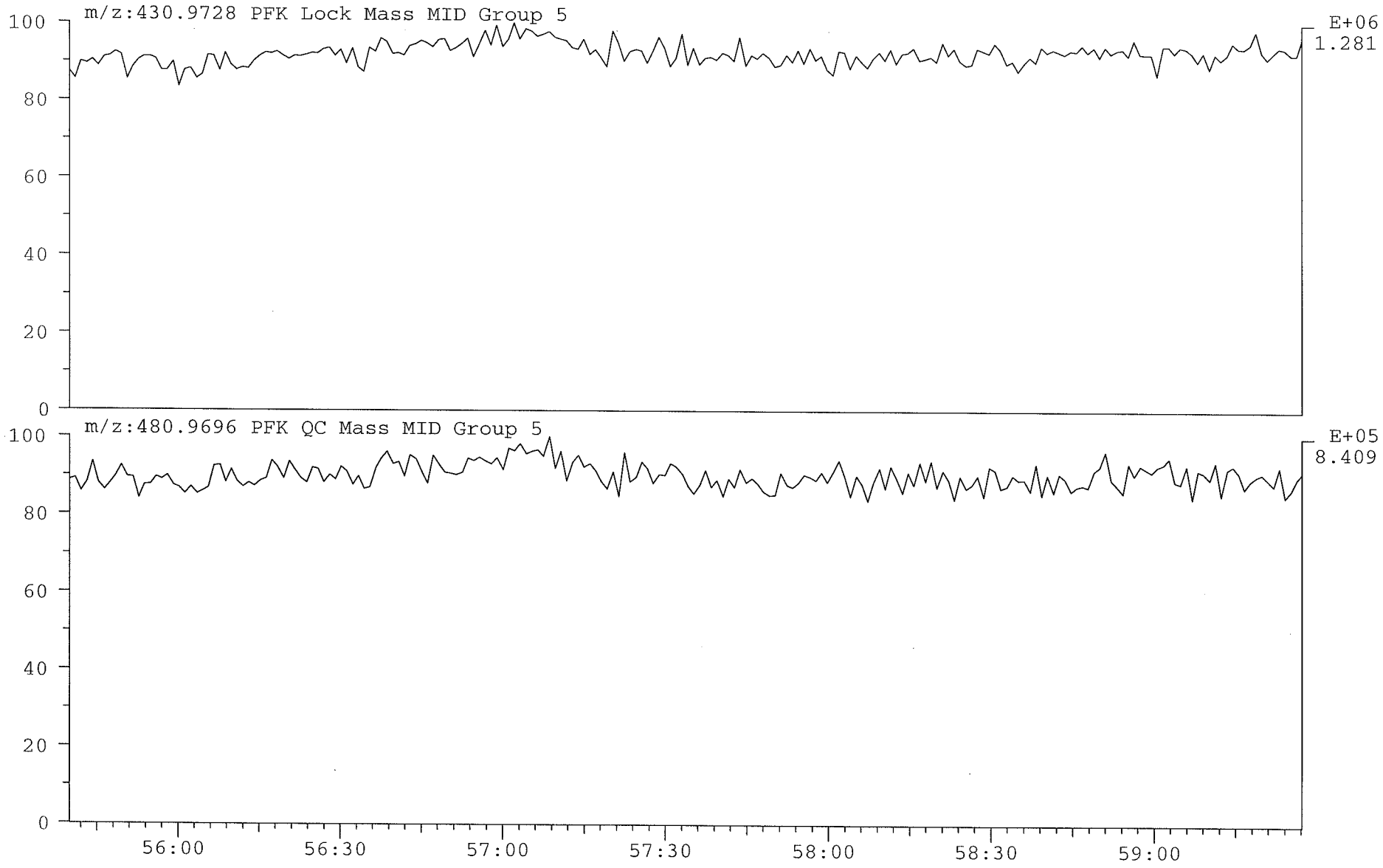
CHRO: b041108i5 08-Nov-04 Elapse: 46:30 2124
Samp: Vial 16 WO=2960:59CS5 Meth=X8 Dil=1 Start : 17:32:02 2858
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 16
Peak: 100.00 ppm Label wndw: 2694 > 2774 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: b041108i5 08-Nov-04 Elapse: 46:30 2124
Samp: Vial 16 WO=2960:59CS5 Meth=X8 Dil=1 Start : 17:32:02 2858
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 16
Peak: 100.00 ppm Label wndw: 2679 > 2759 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: b041108i5 08-Nov-04 Elapse: 46:30 2124
Samp: Vial 16 WO=2960:59CS5 Meth=X8 Dil=1 Start : 17:32:02 2858
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 16
Peak: 100.00 ppm Label wndw: 2637 > 2850 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 3.0
Disp: Height Area



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: b041108i5
Study: M23 ICAL
Sample: WO=2960:59CS5 Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: MSD
Client: STL Knoxville
Comments: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Injected volume: 2.0
Sample from Vial 16
Analysis will stop when MID run finishes
Tune file name: tune2
File 5 of list 041108i
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	FALSE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	100 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	30:26 min	38:26 min	1.00 sec
# 2	38:26 min	6:09 min	44:35 min	1.00 sec
# 3	44:35 min	5:24 min	50:00 min	1.00 sec
# 4	50:00 min	5:20 min	55:20 min	1.00 sec
# 5	55:20 min	4:15 min	59:35 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

```
  351.9000       1   1      91.48
  353.8970       1   1      91.48
  355.8546       1   1      91.48
  357.8516       1   1      91.48
  367.8949       1   1      91.48
  369.8919       1   1      91.48
  380.9760 c    10   1       8.19
  409.7974       1   1      91.48
 Window # 3
      mass F  int  gr  time (ms)
  373.8208       1   1      91.48
  375.8178       1   1      91.48
  380.9760 l    10   1       8.19
  383.8639       1   1      91.48
  385.8610       1   1      91.48
  389.8156       1   1      91.48
  391.8127       1   1      91.48
  401.8559       1   1      91.48
  403.8529       1   1      91.48
  404.9760 c    10   1       8.19
  445.7555       1   1      91.48
 Window # 4
      mass F  int  gr  time (ms)
  404.9760 l    10   1       8.19
  407.7818       1   1      91.48
  409.7788       1   1      91.48
  417.8250       1   1      91.48
  419.8220       1   1      91.48
  423.7767       1   1      91.48
  425.7737       1   1      91.48
  435.8169       1   1      91.48
  437.8140       1   1      91.48
  442.9728 c    10   1       8.19
  479.7165       1   1      91.48
 Window # 5
      mass F  int  gr  time (ms)
  430.9728 l    10   1      10.92
  441.7428       1   1     120.15
  443.7399       1   1     120.15
  457.7377       1   1     120.15
  459.7348       1   1     120.15
  469.7780       1   1     120.15
  471.7750       1   1     120.15
  480.9696 c    10   1      10.92
  513.6775       1   1     120.15

Auto Sampler descriptor: pcdd2ul
 Injector A
 Normal Injection
 Slvnt A cln before inj(K):      3 times
 Slvnt B cln before inj(L):      0 times
 Sample rinse cycles   (R):      0 times
 Syringe filling volume(F):    1.0 ul
 Pullup delay time     (D):      4 sec
 Sample pullup speed   (E):    5.0 ul/sec
 Slvnt aftr pre inj cln(U):    0.0 ul
 Air after pre inj cln (G):    2.0 ul
 Sample volume         (V):    2.0 ul
 Sample air volume     (A):    2.0 ul
 Sample pullup count   (P):      2 times
 Injection speed       (S):   10.0 ul/sec
 Injection wait time   (W):     10 sec
 Injection hold time   (H):      3 sec
 Solvent A clean cycles(C):     15 times
 Solvent B clean cycles(B):     20 times
 Loop clean w slvnt A (LC):      0 times
```

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8413.0000
BDEV	8282.0000	BFM	2.0000	BLM	1038.6736
BMASS	304.9824	BQUAD	3.2750	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.5059
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.7814	DITSET	0.0000	DRAW	-19.3250
DRAWC	1.0000	DRAWS	0.0050	ECORR	1.0001
ECURR	1.0000	EDAC	7969177.0000	EDACG	0.9999
EDACR	20.0000	EDACZ	850.0000	ELEN	57.4000
EMULT	1.5500	ENS	146.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	176.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	3.3500	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	446.0000	FVINLET	870.0000
FVSRC	972.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.3725	HVANAL	1115.0000	HVSRC	2958.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4757.0160	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2587.0000	LENSS	154.0000	LKM	430.9728
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3475842.6628	MDACR	20.0000
MRANGE	1038.6736	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	2874.0000
NSMAX	14.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-6.9500	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10875.2257	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2720.0000	SHIELDS	0.2000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.0900	TCURR	0.9375	TD	50.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	80.1030	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.2550
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2159.0000	XLENSS	7.2000
YLENS	2834.0000	YLENSS	-148.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 08-Nov-04 17:32:02.4

Autosampler has injected sample from vial 16
Analysis stopped at: 08-Nov-04 18:31:39.1 (run time 59.60 minutes)
Analysis stopped because MID run finished

QUAN: b041108i5.q0 Entries: 67

Data file(s) used
File: b041108i5 08-Nov-04
Samp: Vial 16 WO=2960:59CS5 Meth=X8 Dil=1 Start : 17:32:02 2858
Comm: Inst=m2a/656438 Batch=20041108i Ccal=METHOD
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 ICAL
Oper: MSD Client: STL Knoxville Inlet : GC Vial 16

Disp: CHRO
Amount = (area * ref amnt) / (ref area * response factor); amount = f(reponse)
Response factors from quantitation file

Quan Masses	Actual Time	Area	Height	Peak Beginn	Peak End	Noise Value	La Pe	Lab Fac
319.8805	35:48	1263695.	144117.	35:32	36:04	106.	2	3.0
321.8775	35:49	1632301.	185672.	35:32	36:05	80.	2	3.0
331.9202	35:12	1195503.	119027.	34:55	35:28	159.	2	3.0
331.9202	35:47	1265377.	145451.	35:31	36:02	159.	2	3.0
333.9171	35:12	1479474.	157135.	34:56	35:28	174.	2	3.0
333.9171	35:45	1619506.	181576.	35:31	36:02	174.	2	3.0
327.8683	35:49	2886351.	318774.	35:34	36:05	177.	2	3.0
303.8864	33:40	1624887.	151098.	33:23	33:56	139.	2	3.0
305.8834	33:40	2100239.	197236.	33:23	33:56	144.	2	3.0
315.9261	33:38	1689283.	158348.	33:21	33:54	123.	2	3.0
317.9230	33:37	2125129.	200265.	33:20	33:53	186.	2	3.0
355.8368	43:15	7011309.	1816840.	43:06	43:31	122.	2	3.0
357.8337	43:15	4526439.	1204963.	43:07	43:31	117.	2	3.0
367.8765	43:14	1478180.	385065.	43:09	43:24	97.	2	3.0
369.8734	43:14	944472.	244921.	43:09	43:30	52.	2	3.0
339.8427	41:44	9437280.	2225154.	41:32	41:56	190.	2	3.0
339.8427	42:47	10004771.	2569091.	42:39	43:03	190.	2	3.0
341.8396	41:44	6080397.	1459253.	41:31	41:55	195.	2	3.0
341.8396	42:47	6513555.	1701343.	42:37	43:03	195.	2	3.0
351.8824	41:43	2044840.	483635.	41:32	41:58	145.	2	3.0
351.8824	42:46	9748578.	2485782.	42:39	43:02	145.	2	3.0
353.8793	41:43	1302897.	307174.	41:31	41:58	127.	2	3.0
353.8793	42:46	6197819.	1608214.	42:39	43:02	127.	2	3.0
389.7961	47:27	6266817.	1615700.	47:19	47:31	236.	2	3.0
389.7961	47:34	5948255.	1457488.	47:31	47:50	236.	2	3.0
389.7961	48:00	6446990.	1551361.	47:52	48:15	236.	2	3.0
391.7931	47:27	5081845.	1348200.	47:18	47:31	215.	2	3.0
391.7931	47:34	4798733.	1198967.	47:31	47:50	215.	2	3.0
391.7931	48:00	5254153.	1296235.	47:51	48:11	215.	2	3.0
401.8358	47:27	5510401.	1394672.	47:19	47:30	156.	2	3.0
401.8358	47:33	1272503.	298186.	47:30	47:49	156.	2	3.0
401.8358	47:58	1276388.	304639.	47:50	48:14	156.	2	3.0
403.8327	47:26	4307236.	1099630.	47:19	47:30	150.	2	3.0
403.8327	47:33	1000262.	241837.	47:30	47:49	150.	2	3.0
403.8327	47:58	1002289.	243751.	47:52	48:14	150.	2	3.0
373.8021	46:22	8623898.	2397315.	46:14	46:26	249.	2	3.0
373.8021	46:30	9094299.	2402644.	46:26	46:46	249.	2	3.0
373.8021	47:17	8269475.	2086097.	47:05	47:33	249.	2	3.0
373.8021	48:18	7969315.	1814943.	48:10	48:33	249.	2	3.0
375.7990	46:22	7044934.	1979390.	46:14	46:26	214.	2	3.0
375.7990	46:30	7397222.	1939896.	46:26	46:46	214.	2	3.0
375.7990	47:16	6666205.	1670043.	47:06	47:32	214.	2	3.0
375.7990	48:18	6380689.	1464870.	48:10	48:33	214.	2	3.0
383.8447	46:21	4594100.	1236203.	46:13	46:26	101.	2	3.0
383.8447	46:29	1099602.	283148.	46:26	46:45	101.	2	3.0
383.8447	48:17	4301870.	987486.	48:09	48:32	101.	2	3.0
385.8417	46:21	8678143.	2372347.	46:13	46:26	146.	2	3.0
385.8417	46:29	2096171.	538674.	46:26	46:45	146.	2	3.0
385.8417	48:17	8230670.	1913987.	48:06	48:32	146.	2	3.0

423.7555	52:37	4828309.	1052477.	52:30	52:53	75.	2	3.0
425.7524	52:37	4568235.	1001331.	52:29	52:53	93.	2	3.0
435.7951	52:37	992209.	215663.	52:28	52:49	56.	2	3.0
437.7921	52:36	933671.	200365.	52:28	52:49	59.	2	3.0
407.7614	50:55	6992552.	1417313.	50:43	51:11	124.	2	3.0
407.7614	53:14	5834651.	1272000.	53:03	53:30	124.	2	3.0
409.7583	50:55	6854607.	1401546.	50:46	51:11	156.	2	3.0
409.7583	53:14	5755503.	1262559.	53:03	53:30	156.	2	3.0
417.8041	50:54	637280.	131108.	50:46	51:10	91.	2	3.0
417.8041	53:13	2661039.	582869.	53:05	53:29	91.	2	3.0
419.8010	50:54	1380000.	292055.	50:46	51:10	79.	2	3.0
419.8010	53:13	5805458.	1246501.	53:05	53:29	79.	2	3.0
457.7148	56:55	7814200.	1973540.	56:46	57:11	100.	2	3.0
459.7118	56:55	8935545.	2234753.	56:48	57:11	148.	2	3.0
469.7545	56:54	1698392.	434835.	56:43	57:10	67.	2	3.0
471.7514	56:54	1886045.	479641.	56:46	57:10	74.	2	3.0
441.7207	57:04	9490295.	2379215.	56:52	57:20	136.	2	3.0
443.7177	57:04	10496391.	2586723.	56:49	57:20	120.	2	3.0

STL - Knoxville

IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	1778:08CS3	**Prep Batch**		**Lot No**	
Data File	/20041108i/b041108ss.d	**Prep Date**		**SDG No**	
Analysis ID	79638	**Prep Exp Date**		**Date Received**	
Analysis Date	11/8/2004	**Matrix**	UNKNOWN	**Date Sampled**	
Analysis Time	21:35	**Initial Wt/Vol**		**Lims Test Code**	
Anal Exp Date		**Extract Vol**		**Method**	0023/8290
Instrument	M2A	**Dil Factor**	1.0	**Code**	X8
Analyst	PMP				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (ng/mL)		DL (ng/mL)
2,3,7,8-TCDD	35:53	1134595	126696	1.051	10.00	9.543004	95.43 ✓	9.543004		0.0438
Total TCDD				1.170		9.543004		9.543004		0.0394
2,3,7,8-TCDF	33:42	1648744	152173	1.036	10.00	10.135802	101.36 ✓	10.135802		0.0308
Total TCDF				1.102		10.135802		10.135802		0.0290
1,2,3,7,8-PeCDD	43:20	4169390	1104792	0.992	50.00	47.136817	94.27 ✓	47.136817		0.0250
Total PeCDD				1.064		47.136817		47.136817		0.0233
1,2,3,7,8-PeCDF	41:48	7272064	1590657	0.974	50.00	57.789172	115.58 ✓	57.789172		0.0318
2,3,4,7,8-PeCDF	42:53	7472212	1841663	1.033	50.00	55.988213	111.98 ✓	55.988213		0.0300
Total PeCDF				1.129		113.777385		113.777385		0.0274
1,2,3,4,7,8-HxCDD	47:32	4438140	1137856	1.057	50.00	42.040201	84.08 ✓	42.040201		0.0270
1,2,3,6,7,8-HxCDD	47:40	4542298	1095153	1.129	50.00	40.282875	80.57 ✓	40.282875		0.0253
1,2,3,7,8,9-HxCDD	48:05	4693219	1099151	1.169	50.00	40.197133	80.39 ✓	40.197133		0.0244
Total HxCDD				1.175		122.520209		122.520209		0.0243
1,2,3,4,7,8-HxCDF	46:26	6820452	1819788	1.153	50.00	47.216654	94.43 ✓	47.216654		0.0265
1,2,3,6,7,8-HxCDF	46:35	7319663	1892823	1.216	50.00	48.047287	96.09 ✓	48.047287		0.0252
2,3,4,6,7,8-HxCDF	47:22	6244083	1578472	1.110	50.00	44.901107	89.80 ✓	44.901107		0.0276
1,2,3,7,8,9-HxCDF	48:23	6002239	1325345	0.992	50.00	48.296201	96.59 ✓	48.296201		0.0308
Total HxCDF				1.243		188.461248		188.461248		0.0246
1,2,3,4,6,7,8-HpCDD	52:41	4382353	969154	1.051	50.00	52.280981	104.56 ✓	52.280981		0.0180
Total HpCDD				1.045		52.280981		52.280981		0.0181
1,2,3,4,6,7,8-HpCDF	50:59	6238645	1293073	1.414	50.00	48.047689	96.10 ✓	48.047689		0.0212
1,2,3,4,7,8,9-HpCDF	53:19	5582310	1175672	1.180	50.00	51.518544	103.04 ✓	51.518544		0.0254
Total HpCDF				1.553		99.566233	✓	99.566233		0.0193
OCDD	57:00	6796988	1633631	0.960	100.0	109.988417	109.99	109.988417		0.0278
OCDF	57:07	8571948	2108864	1.095	100.0	121.609385	121.61 ✓	121.609385		0.0325
13C-2,3,7,8-TCDD	35:51	11312356	1254095	1.119	100.0	111.387126	111.39	111.387126		0.159
13C-2,3,7,8-TCDF	33:41	15701291	1486884	1.433	100.0	120.726106	120.73	120.726106		0.0784
13C-1,2,3,7,8-PeCDD	43:19	8916627	2378597	0.862	100.0	113.973886	113.97	113.973886		0.0786
13C-1,2,3,7,8-PeCDF	41:47	12919695	2921816	1.150	100.0	123.784550	123.78	123.784550		0.0904
13C-1,2,3,6,7,8-HxCDD	47:39	9987602	2486482	0.910	100.0	106.522384	106.52	106.522384		0.0333
13C-1,2,3,6,7,8-HxCDF	46:34	12528199	3235952	1.208	100.0	100.656714	100.66	100.656714		0.0302
13C-1,2,3,4,6,7,8-HpCDD	52:40	7975555	1708139	0.879	100.0	88.062920	88.06	88.062920		0.0167
13C-1,2,3,4,6,7,8-HpCDF	50:58	9182657	1872006	0.906	100.0	98.369668	98.37	98.369668		0.0251
13C-OCDD	56:59	12874439	3143089	0.787	200.0	158.772259	79.39	158.772259		0.0325
37Cl4-2,3,7,8-TCDD	35:53	1175763	136237	1.007	10.00	10.321368	103.21	10.321368		0.0208
13C-2,3,4,7,8-PeCDF	42:52	14076447	3488045	1.014	100.0	107.449113	107.45	107.449113	E	0.0332
13C-1,2,3,4,7,8-HxCDD	47:31	8513717	2186037	0.970	100.0	87.879231	87.88	87.879231	✓ x5	0.0310
13C-1,2,3,4,7,8-HxCDF	46:26	11517313	3033334	0.959	100.0	95.861434	95.86	95.861434	✓	0.0290
13C-1,2,3,7,8,9-HxCDF	48:22	9568656	2029069	1.049	100.0	88.531229	88.53	88.531229	✓ MSD 11-9-04	0.0348
13C-1,2,3,4,7,8,9-HpCDF	53:17	7859255	1654524	0.886	100.0	96.600483	96.60	96.600483	✓	0.0338
13C-1,2,3,4-TCDD	35:16	9075864	945190	1.000	100.0	100.000000	100.00	100.000000		0.178
13C-1,2,3,7,8,9-HxCDD	48:04	10303362	2465514	1.000	100.0	100.000000	100.00	100.000000		0.0303

PMP 11-9-04

MSD 11-9-04

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	1778:08CS3	**Prep Batch**		**Lot No**	
Data File	/20041108i/b041108ss.d	**Prep Date**		**SDG No**	
Analysis ID	79638	**Prep Exp Date**		**Date Received**	
Analysis Date	11/08/04 21:35	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M2A	**Extract Vol**		**Method**	0023/8290
Analyst	PMP	**Diluton Factor**	1.00	**Code**	X8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	270	205	108	82	1.32 *	/	
	2,3,7,8-TCDF	33:42	00:00	0	718566	930178	66439	85734	0.77	AVV/AVV	
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	468	595	187	238	0.79	/	
	13C-2,3,7,8-TCDF	33:41	00:00	0	6894199	8807092	655894	830990	0.78	AVV/AVV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	270	308	108	123	0.88	/	
	2,3,7,8-TCDD	35:53	00:00	0	491022	643573	54721	71975	0.76	ABV/AVV	
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	263		105				
	37Cl4-2,3,7,8-TCDD	35:53	00:00	0	1175763		136237			ABV	
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	855	825	342	330	1.04 *	/	
	13C-1,2,3,4-TCDD	35:16	00:00	0	4024302	5051562	421015	524175	0.80	AVV/AVV	
	13C-2,3,7,8-TCDD	35:51	00:00	0	5000065	6312291	549782	704313	0.79	AVV/AVV	
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**		
	Noise	00:00	00:00	0	433	473	173	189	0.92 *	/	
	1,2,3,7,8-PeCDF	41:48	00:00	0	4414456	2857608	958014	632643	1.54	ABV/ABV	
	2,3,4,7,8-PeCDF	42:53	00:00	0	4543761	2928451	1127837	713826	1.55	ABV/ABV	
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**		
	Noise	00:00	00:00	0	503	480	201	192	1.05 *	/	
	13C-1,2,3,7,8-PeCDF	41:47	00:00	0	7877332	5042363	1772114	1149702	1.56	ABV/ABV	
	13C-2,3,4,7,8-PeCDF	42:52	00:00	0	8579799	5496648	2152088	1335957	1.56	ABV/ABV	
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**		
	Noise	00:00	00:00	0	378	213	151	85	1.78	/	
	1,2,3,7,8-PeCDD	43:20	00:00	0	2546557	1622833	674531	430261	1.57	ABV/ABV	
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**		
	Noise	00:00	00:00	0	358	283	143	113	1.27 *	/	
	13C-1,2,3,7,8-PeCDD	43:19	00:00	0	5457712	3458915	1457110	921487	1.58	ABV/ABV	
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	Noise	00:00	00:00	0	455	535	182	214	0.85 *	/	
	1,2,3,4,7,8-HxCDF	46:26	00:00	0	3779176	3041276	1002096	817692	1.24	ABV/ABV	
	1,2,3,6,7,8-HxCDF	46:35	00:00	0	4075463	3244200	1044089	848734	1.26	AVV/AVV	
	2,3,4,6,7,8-HxCDF	47:22	00:00	0	3468342	2775741	883798	694674	1.25	AVV/AVV	
	1,2,3,7,8,9-HxCDF	48:23	00:00	0	3322177	2680062	734603	590742	1.24	ABV/ABV	
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**		
	Noise	00:00	00:00	0	370	530	148	212	0.70 *	/	
	13C-1,2,3,4,7,8-HxCDF	46:26	00:00	0	3955218	7562095	1036290	1997044	0.52	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDF	46:34	00:00	0	4347892	8180307	1115733	2120219	0.53	AVV/AVV	
	Unidentified	47:20	00:00	0	3464269	6519014	887147	1637683	0.53	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDF	48:22	00:00	0	3334629	6234027	719494	1309575	0.53	ABV/ABV	
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	1778:08CS3	**Prep Batch**		**Lot No**	
Data File	/20041108i/b041108ss.d	**Prep Date**		**SDG No**	
Analysis ID	79638	**Prep Exp Date**		**Date Received**	
Analysis Date	11/08/04 21:35	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M2A	**Extract Vol**		**Method**	0023/8290
Analyst	PMP	**Diluton Factor**	1.00	**Code**	X8

View Small Peaks? False **View deleted peaks?** False

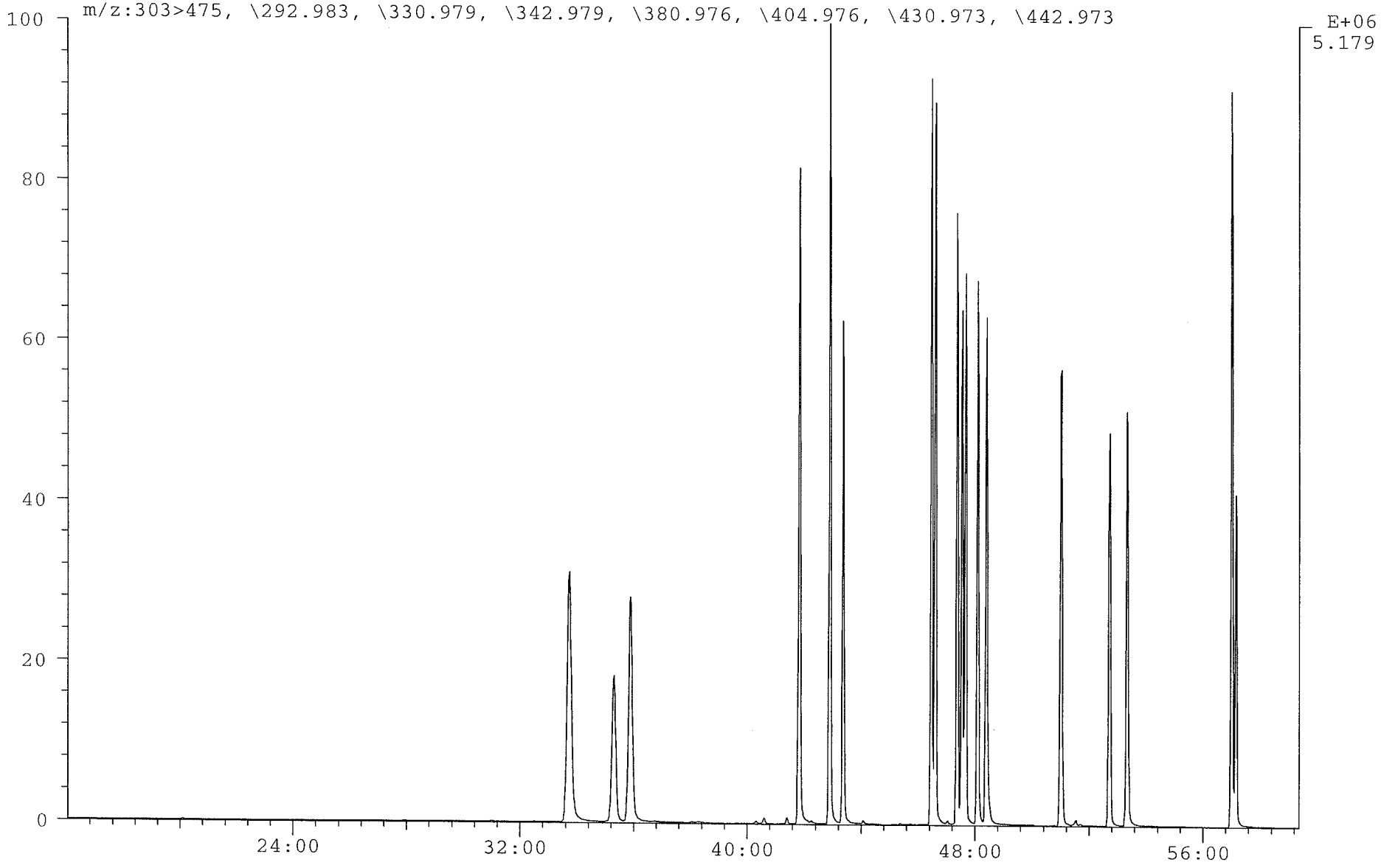
Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	Noise	00:00	00:00	0	358	353	143	141	1.01 *	/	
	1,2,3,4,7,8-HxCDD	47:32	00:00	0	2482186	1955954	632214	505642	1.27	ABV/ABV	
	1,2,3,6,7,8-HxCDD	47:40	00:00	0	2516186	2026112	609871	485282	1.24	AVV/AVV	
	1,2,3,7,8,9-HxCDD	48:05	00:00	0	2595129	2098090	610558	488593	1.24	ABV/AVV	
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**		
	Noise	00:00	00:00	0	370	378	148	151	0.98 *	/	
	13C-1,2,3,4,7,8-HxCDD	47:31	00:00	0	4740340	3773377	1216642	969395	1.26	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDD	47:39	00:00	0	5557233	4430369	1392341	1094141	1.25	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDD	48:04	00:00	0	5683523	4619839	1361900	1103614	1.23	AVV/AVV	
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**		
	Noise	00:00	00:00	0	238	323	95	129	0.74 *	/	
	1,2,3,4,6,7,8-HpCDF	50:59	00:00	0	3169128	3069517	654614	638459	1.03	ABV/AVV	
	1,2,3,4,7,8,9-HpCDF	53:19	00:00	0	2839978	2742332	598923	576749	1.04	ABV/ABV	
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	Noise	00:00	00:00	0	238	323	95	129	0.74 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	50:58	00:00	0	2869412	6313245	589418	1282588	0.45	AVV/ABV	
	13C-1,2,3,4,7,8,9-HpCDF	53:17	00:00	0	2466550	5392705	531894	1122630	0.46	AVV/ABV	
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**		
	Noise	00:00	00:00	0	165	158	66	63	1.05	/	
	1,2,3,4,6,7,8-HpCDD	52:41	00:00	0	2235676	2146677	491871	477283	1.04	ABV/AVV	
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**		
	Noise	00:00	00:00	0	168	195	67	78	0.86 *	/	
	13C-1,2,3,4,6,7,8-HpCDD	52:40	00:00	0	4082417	3893138	867579	840560	1.05	ABV/ABV	
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**		
	Noise	00:00	00:00	0	305	255	122	102	1.20 *	/	
	OCDF	57:07	00:00	0	4056597	4515351	980111	1128753	0.90	ABV/ABV	
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**		
	Noise	00:00	00:00	0	173	248	69	99	0.70 *	/	
	OCDD	57:00	00:00	0	3219207	3577781	780921	852710	0.90	ABV/ABV	
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**		
	Noise	00:00	00:00	0	388	243	155	97	1.60 *	/	
	13C-OCDD	56:59	00:00	0	6073039	6801400	1515848	1627241	0.89	ABV/ABV	

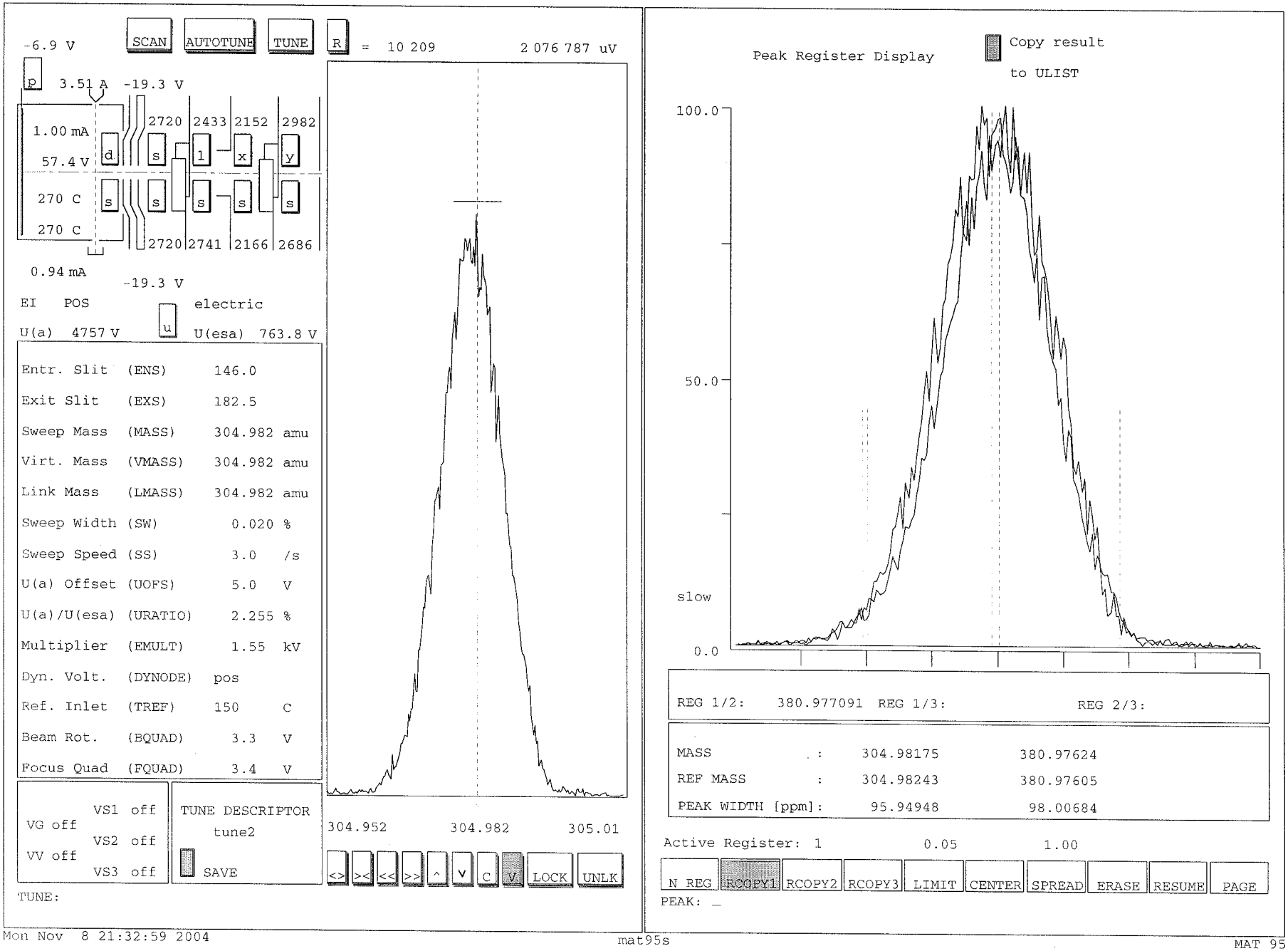
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

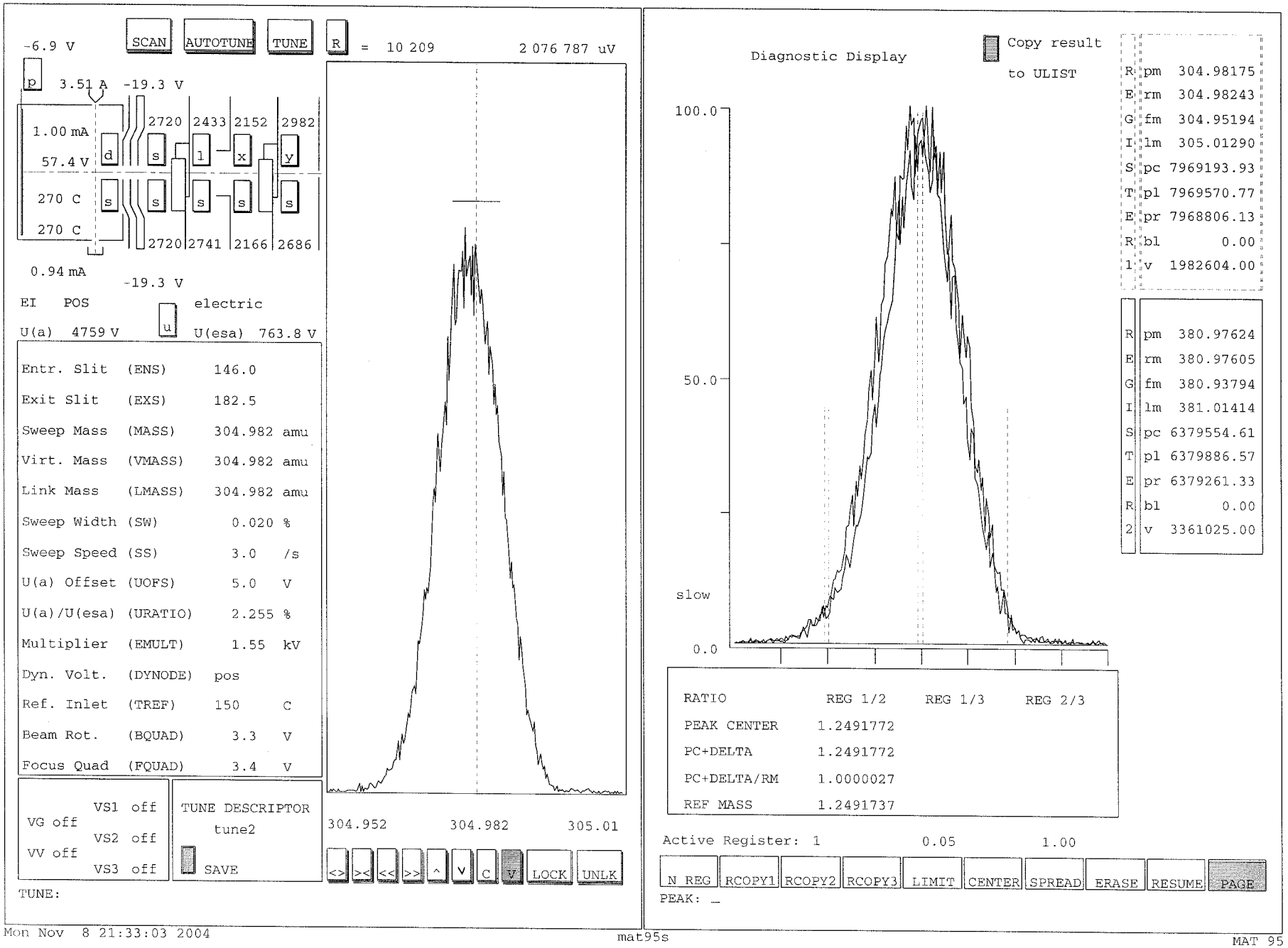
CHRO: b041108ss 08-Nov-04
Samp: Vial 30 WO=1778:08CS3 Meth=X8 Dil=1
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108I3
Mode: EI +VE +LMR ESCAN LR NRM
Oper: PMP Client: STL Knoxville
Peak: 100.00 ppm Label wndw: 442 > 2853
Area: 5, 0.50, 0 Baseline : 100, 3
Disp: Height Area

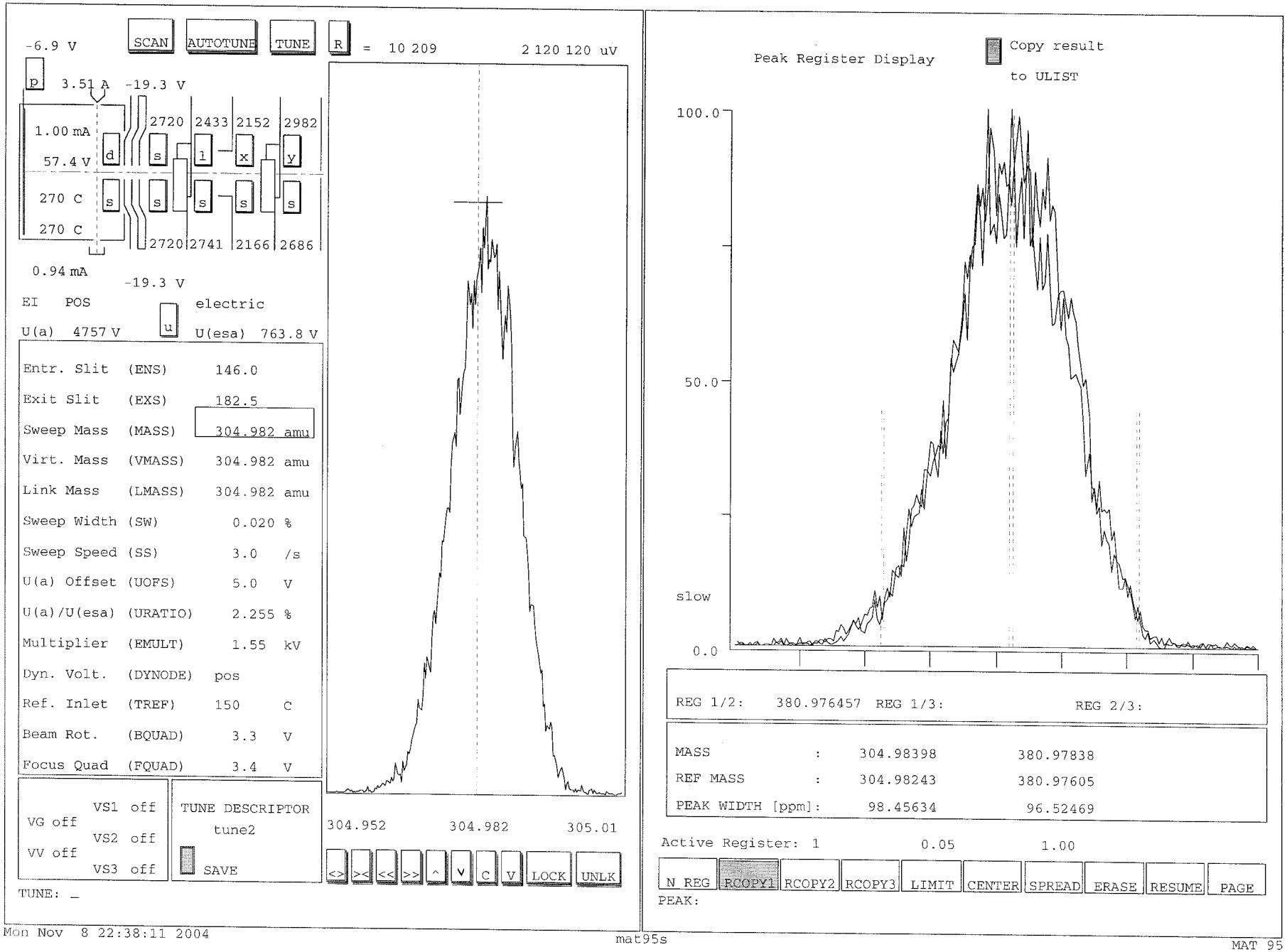
Elapse: 08:00.6 1
Start : 21:35:53 2866
Study : 2nd Source Ver
Inlet : GC Vial 30
Masses: 293 > 514
Label : 0, 0.0

Int/Calc PMP 11-9-04
QC USD 11-9-04




-6.9 V
SCAN
AUTOTUNE
TUNE
R
= 10 209
2 076 787 uV
p
3.51 A
-19.3 V
1.00 mA
57.4 V
270 C
270 C
0.94 mA
2720 2433 2152 2982
2720 2741 2166 2686
d
s
l
x
y
-19.3 V
EI POS
electric
U(a) 4757 V
u
U(esa) 763.8 V
Entr. Slit (ENS) 146.0
Exit Slit (EXS) 182.5
Sweep Mass (MASS) 304.982 amu
Virt. Mass (VMASS) 304.982 amu
Link Mass (LMASS) 304.982 amu
Sweep Width (SW) 0.020 %
Sweep Speed (SS) 3.0 /s
U(a) Offset (UOFS) 5.0 V
U(a)/U(esa) (URATIO) 2.255 %
Multiplier (EMULT) 1.55 kV
Dyn. Volt. (DYNODE) pos
Ref. Inlet (TREF) 150 C
Beam Rot. (BQUAD) 3.3 V
Focus Quad (FQUAD) 3.4 V
VS1 off
VG off
VS2 off
VV off
VS3 off
TUNE DESCRIPTOR
tune2
SAVE
304.952
304.982
305.01
<>
><
<<
>>
^
v
C
V
LOCK
UNLK
TUNE:
Peak Register Display
Copy result
to ULIST
100.0
50.0
slow
0.0
REG 1/2: 380.977091 REG 1/3: REG 2/3:
MASS : 304.98175 380.97624
REF MASS : 304.98243 380.97605
PEAK WIDTH [ppm]: 95.94948 98.00684
Active Register: 1 0.05 1.00
N REG
RCOPY1
RCOPY2
RCOPY3
LIMIT
CENTER
SPREAD
ERASE
RESUME
PAGE
PEAK: _
Mon Nov 8 21:32:59 2004
mat95s
MAT 95


-6.9 V
SCAN
AUTOTUNE
TUNE
R = 10 209
2 076 787 uV
p
3.51 A
-19.3 V
1.00 mA
57.4 V
270 C
270 C
2720 2433 2152 2982
2720 2741 2166 2686
0.94 mA
-19.3 V
EI POS
electric
U(a) 4759 V
U(esa) 763.8 V
Entr. Slit (ENS) 146.0
Exit Slit (EXS) 182.5
Sweep Mass (MASS) 304.982 amu
Virt. Mass (VMASS) 304.982 amu
Link Mass (LMASS) 304.982 amu
Sweep Width (SW) 0.020 %
Sweep Speed (SS) 3.0 /s
U(a) Offset (UOFS) 5.0 V
U(a)/U(esa) (URATIO) 2.255 %
Multiplier (EMULT) 1.55 kV
Dyn. Volt. (DYNODE) pos
Ref. Inlet (TREF) 150 C
Beam Rot. (BQUAD) 3.3 V
Focus Quad (FQUAD) 3.4 V
VG off
VV off
VS1 off
VS2 off
VS3 off
TUNE DESCRIPTOR
tune2
SAVE
304.952 304.982 305.01
LOCK
UNLK
TUNE:
Diagnostic Display
Copy result to ULIST
100.0
50.0
slow
0.0
R pm 304.98175
E rm 304.98243
G fm 304.95194
I lm 305.01290
S pc 7969193.93
T pl 7969570.77
E pr 7968806.13
R bl 0.00
1 v 1982604.00
R pm 380.97624
E rm 380.97605
G fm 380.93794
I lm 381.01414
S pc 6379554.61
T pl 6379886.57
E pr 6379261.33
R bl 0.00
2 v 3361025.00
RATIO REG 1/2 REG 1/3 REG 2/3
PEAK CENTER 1.2491772
PC+DELTA 1.2491772
PC+DELTA/RM 1.0000027
REF MASS 1.2491737
Active Register: 1 0.05 1.00
N REG
RCOPY1
RCOPY2
RCOPY3
LIMIT
CENTER
SPREAD
ERASE
RESUME
PAGE
PEAK: _
Mon Nov 8 21:33:03 2004
mat95s
MAT 95


-6.9 V
SCAN
AUTOTUNE
TUNE
R
= 10 209
2 120 120 uV
p
3.51 A
-19.3 V
1.00 mA
57.4 V
2720
2433
2152
2982
d
s
l
x
y
270 C
270 C
2720
2741
2166
2686
0.94 mA
-19.3 V
EI POS
electric
U(a) 4757 V
u
U(esa) 763.8 V
Entr. Slit (ENS) 146.0
Exit Slit (EXS) 182.5
Sweep Mass (MASS) 304.982 amu
Virt. Mass (VMASS) 304.982 amu
Link Mass (LMASS) 304.982 amu
Sweep Width (SW) 0.020 %
Sweep Speed (SS) 3.0 /s
U(a) Offset (UOFS) 5.0 V
U(a)/U(esa) (URATIO) 2.255 %
Multiplier (EMULT) 1.55 kV
Dyn. Volt. (DYNODE) pos
Ref. Inlet (TREF) 150 C
Beam Rot. (BQUAD) 3.3 V
Focus Quad (FQUAD) 3.4 V
VS1 off
VG off
VS2 off
VV off
VS3 off
TUNE DESCRIPTOR
tune2
SAVE
304.952
304.982
305.01
<>
><
<<
>>
^
v
C
V
LOCK
UNLK
TUNE: _
Mon Nov 8 22:38:11 2004
mat95s
Peak Register Display
Copy result
to ULIST
100.0
50.0
slow
0.0
REG 1/2: 380.976457 REG 1/3: REG 2/3:
MASS : 304.98398 380.97838
REF MASS : 304.98243 380.97605
PEAK WIDTH [ppm]: 98.45634 96.52469
Active Register: 1 0.05 1.00
N REG
RCOPY1
RCOPY2
RCOPY3
LIMIT
CENTER
SPREAD
ERASE
RESUME
PAGE
PEAK:
MAT 95

-6.9 V SCAN AUTOTUNE TUNE R = 10 209 2 120 120 uV

p 3.51 A -19.3 V

1.00 mA 2720 2433 2152 2982

57.4 V d s l x y

270 C s s s s s

270 C 2720 2741 2166 2686

0.94 mA -19.3 V

EI POS electric

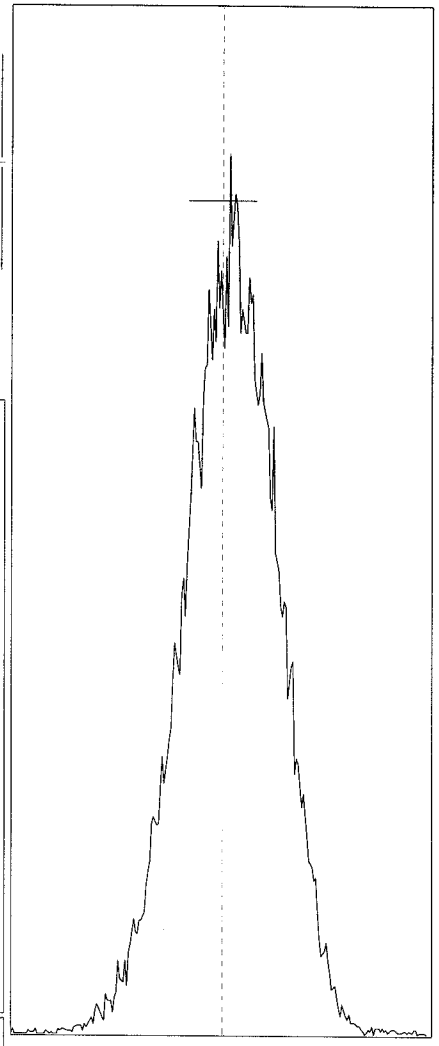
U(a) 4757 V u U(esa) 763.8 V

Entr. Slit	(ENS)	146.0	
Exit Slit	(EXS)	182.5	
Sweep Mass	(MASS)	304.982	amu
Virt. Mass	(VMASS)	304.982	amu
Link Mass	(LMASS)	304.982	amu
Sweep Width	(SW)	0.020	%
Sweep Speed	(SS)	3.0	/s
U(a) Offset	(UOFS)	5.0	V
U(a)/U(esa)	(URATIO)	2.255	%
Multiplier	(EMULT)	1.55	kV
Dyn. Volt.	(DYNODE)	pos	
Ref. Inlet	(TREF)	150	C
Beam Rot.	(BQUAD)	3.3	V
Focus Quad	(FQUAD)	3.4	V

VG off VS1 off VS2 off VV off VS3 off

TUNE DESCRIPTOR
tune2
SAVE

TUNE:

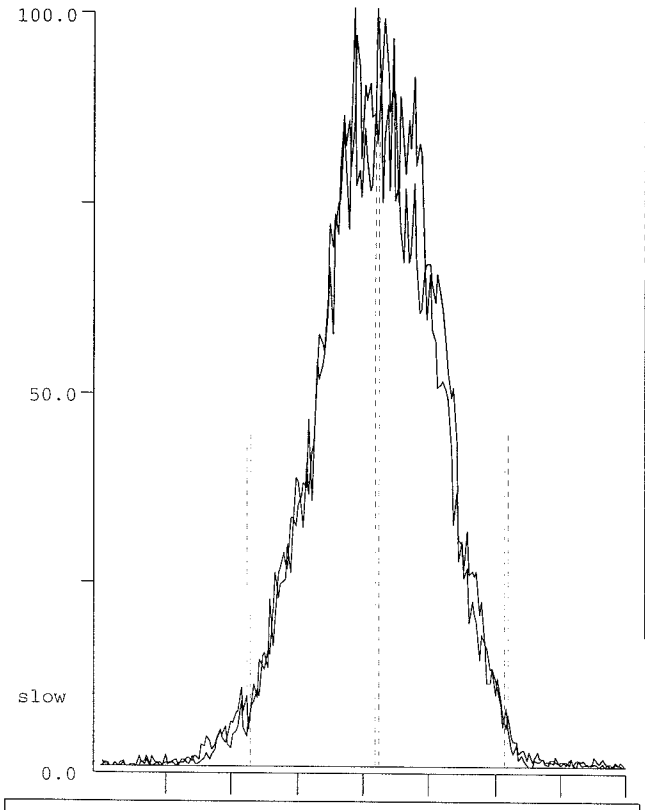


304.952 304.982 305.01

<> >> << >> ^ v C V LOCK UNLK

Diagnostic Display

Copy result to ULIST



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	rm	304.98243
	fm	304.95194
	lm	305.01290
	pc	7969135.82
	pl	7969525.22
	pr	7968740.60
	bl	0.00
	v	2327875.00

REGIST2	pm	380.97838
	rm	380.97605
	fm	380.93794
	lm	381.01414
	pc	6379518.71
	pl	6379830.98
	pr	6379215.19
	bl	0.00
	v	3699229.00

RATIO	REG 1/2	REG 1/3	REG 2/3
PEAK CENTER	1.2491751		
PC+DELTA	1.2491751		
PC+DELTA/RM	1.0000011		
REF MASS	1.2491737		

Active Register: 1 0.05 1.00

N_REG RCOPY1 RCOPY2 RCOPY3 LIMIT CENTER SPREAD ERASE RESUME PAGE

PEAK: _

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CHRO:  b041108ss                                08-Nov-04   Elapse:  08:00.6        1
Samp:  Vial 30 WO=1778:08CS3 Meth=X8 Dil=1                  Start :  21:35:53    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=B041108I3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  2nd Source Ver
Oper:  PMP            Client:  STL Knoxville                Inlet :  GC     Vial  30
Peak:  100.00  ppm      Label wndw:   1465 > 1608           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
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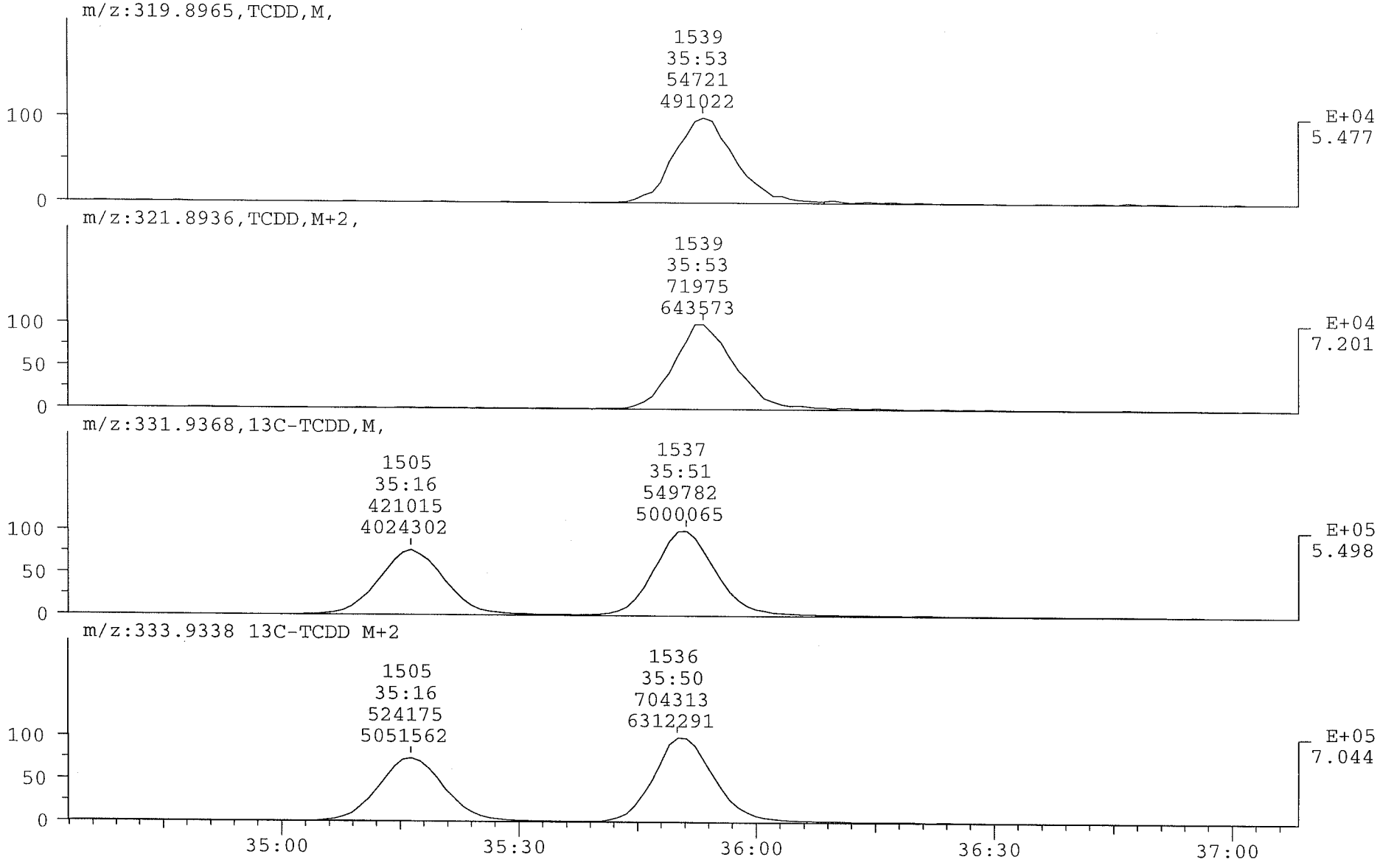
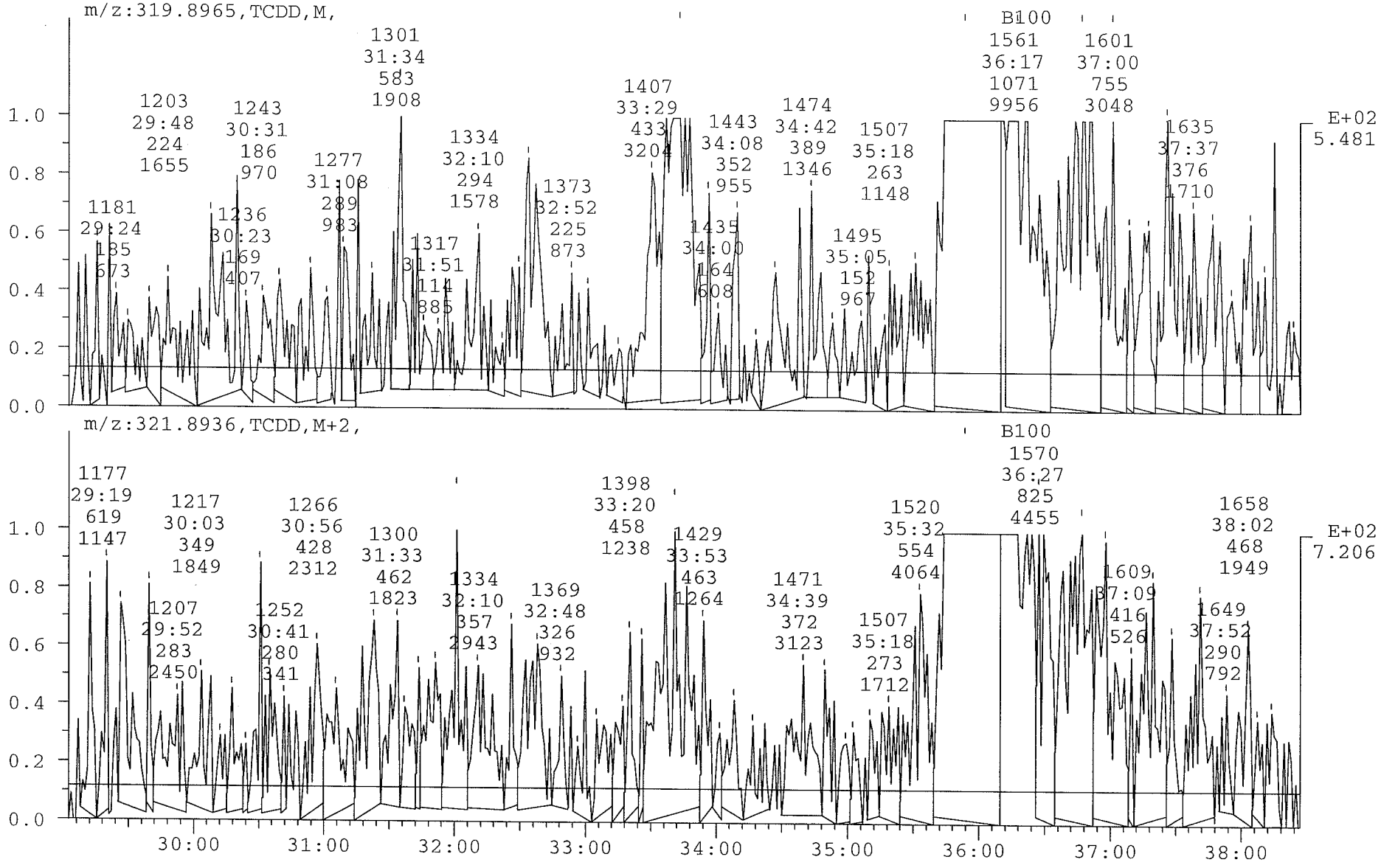


CHRO: b041108ss 08-Nov-04 Elapse: 08:00.6 1
Samp: Vial 30 WO=1778:08CS3 Meth=X8 Dil=1 Start : 21:35:53 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108I3
Mode: EI +VE +LMR ESCAN LR NRM Study : 2nd Source Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 30
Peak: 100.00 ppm Label wndw: 1161 > 1680 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 5 Label : -3, 1.0
Disp: Height Area



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Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108I3
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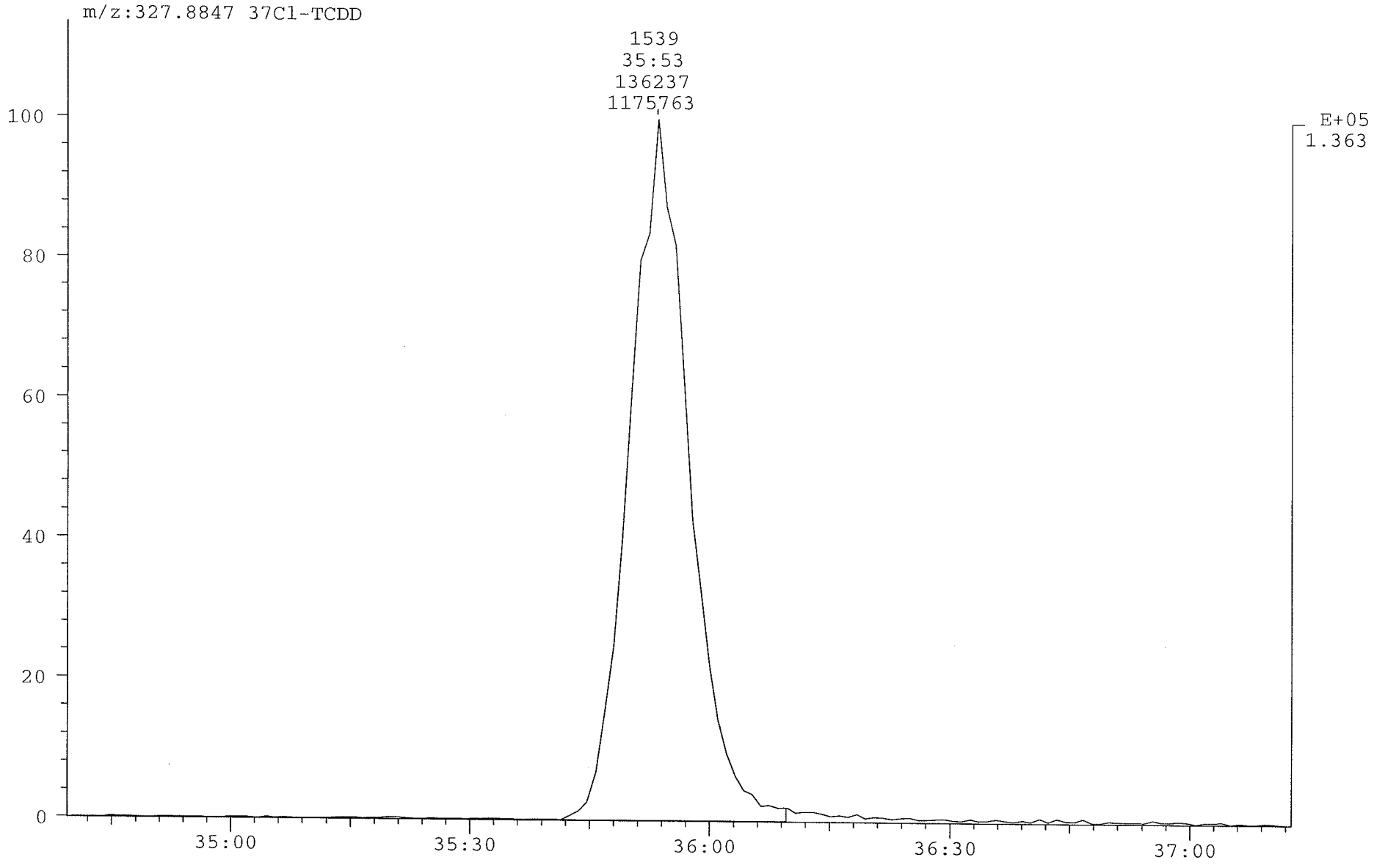
Oper: PMP Client: STL Knoxville Inlet : GC Vial 30
Peak: 100.00 ppm Label wndw: 1471 > 1612 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



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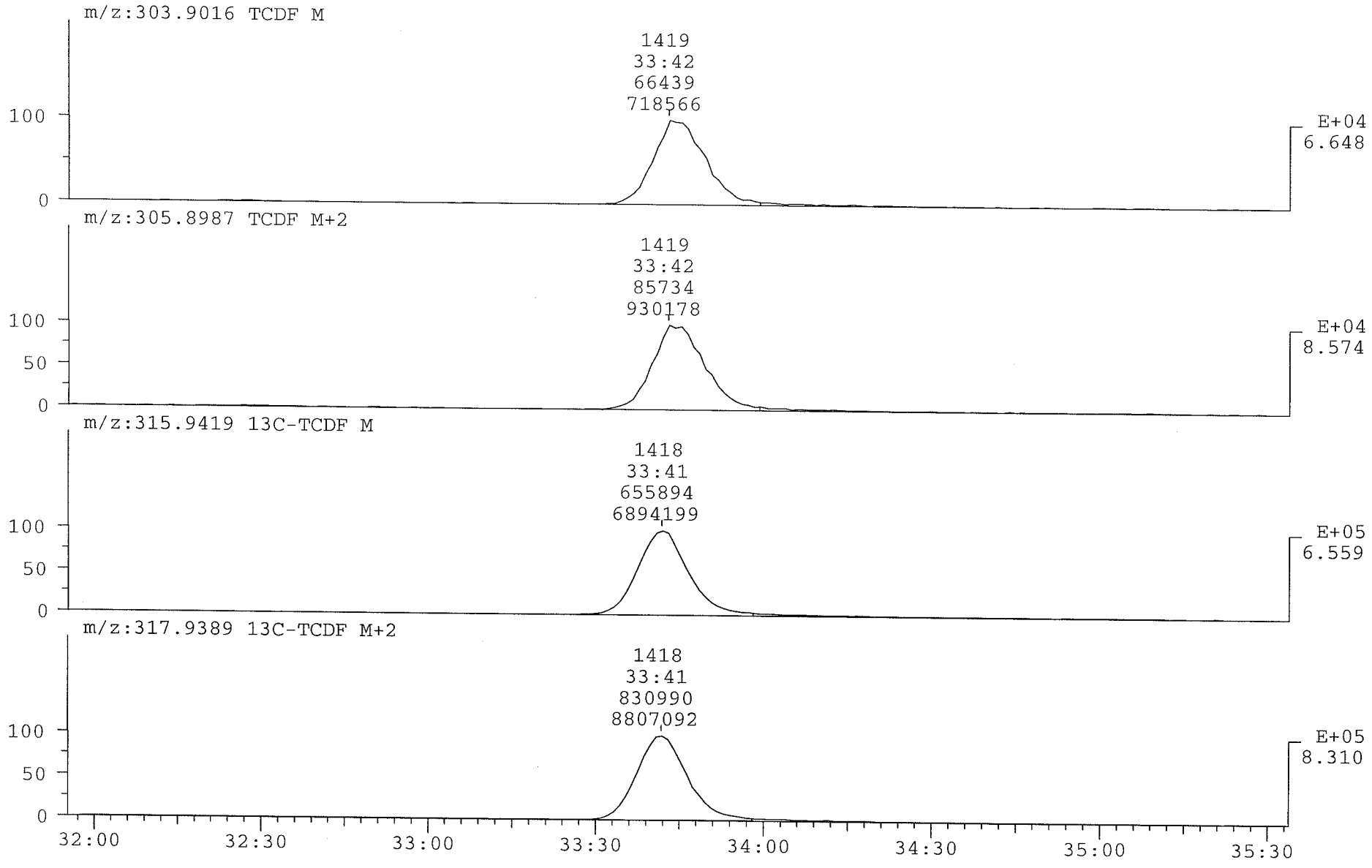
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108I3
Mode: EI +VE +LMR ESCAN LR NRM Study : 2nd Source Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 30
Peak: 100.00 ppm Label wndw: 1320 > 1521 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



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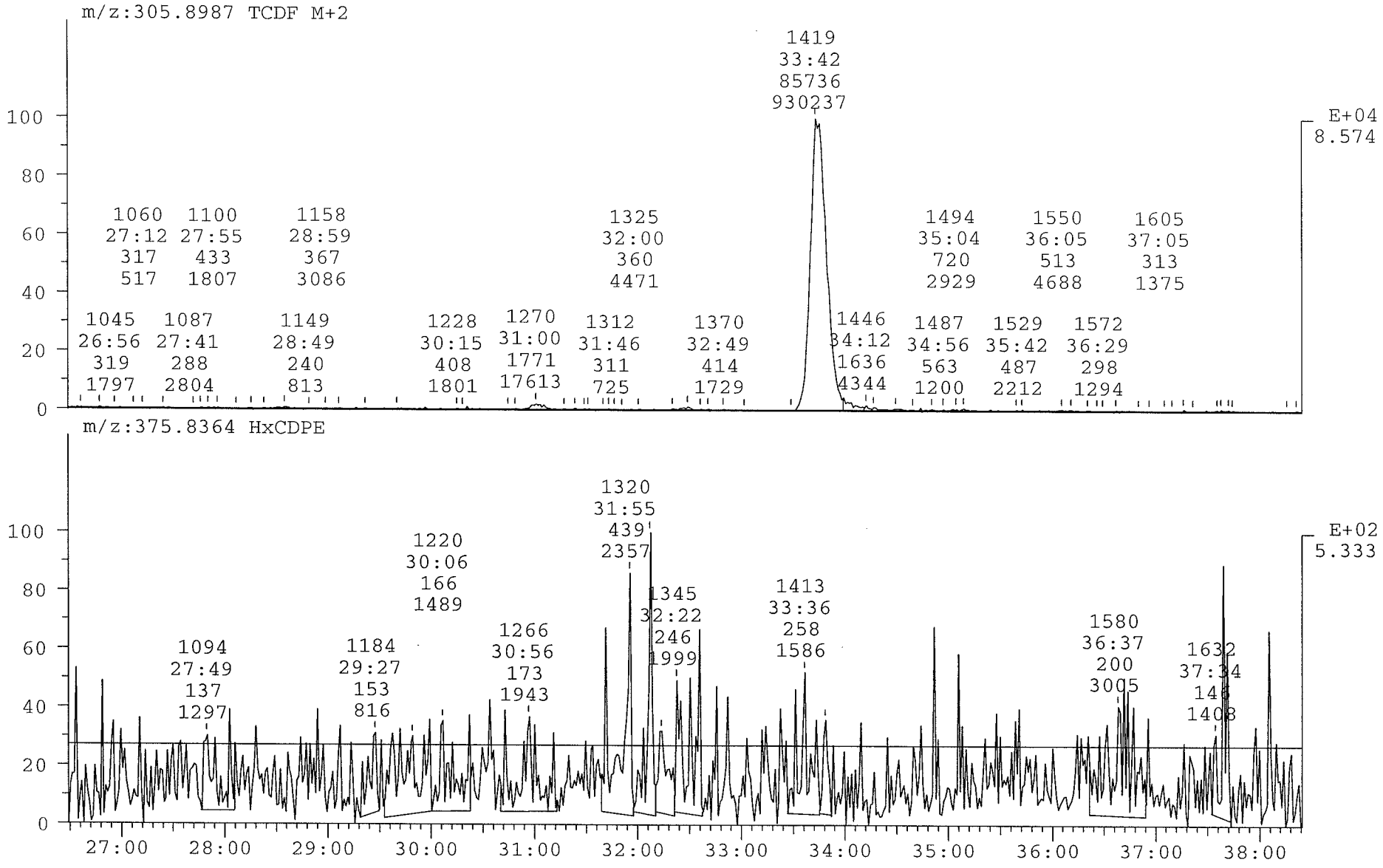
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108I3
Mode: EI +VE +LMR ESCAN LR NRM Study : 2nd Source Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 30
Peak: 100.00 ppm Label wndw: 1020 > 1678 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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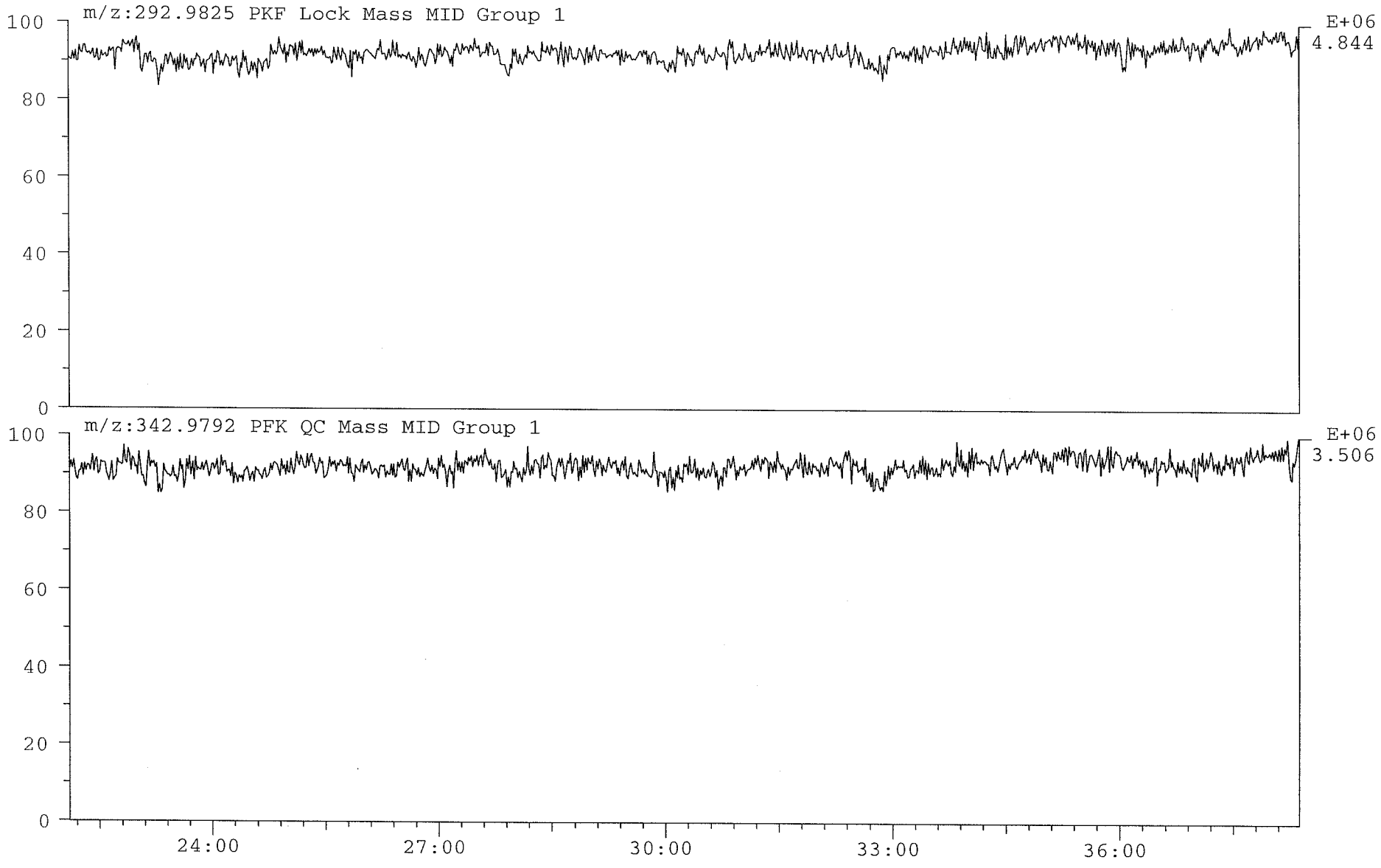
Samp: Vial 30 WO=1778:08CS3 Meth=X8 Dil=1 Start : 21:35:53 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108I3
Mode: EI +VE +LMR ESCAN LR NRM Study : 2nd Source Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 30
Peak: 100.00 ppm Label wndw: 778 > 1676 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



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Mode: EI +VE +LMR ESCAN LR NRM Study : 2nd Source Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 30
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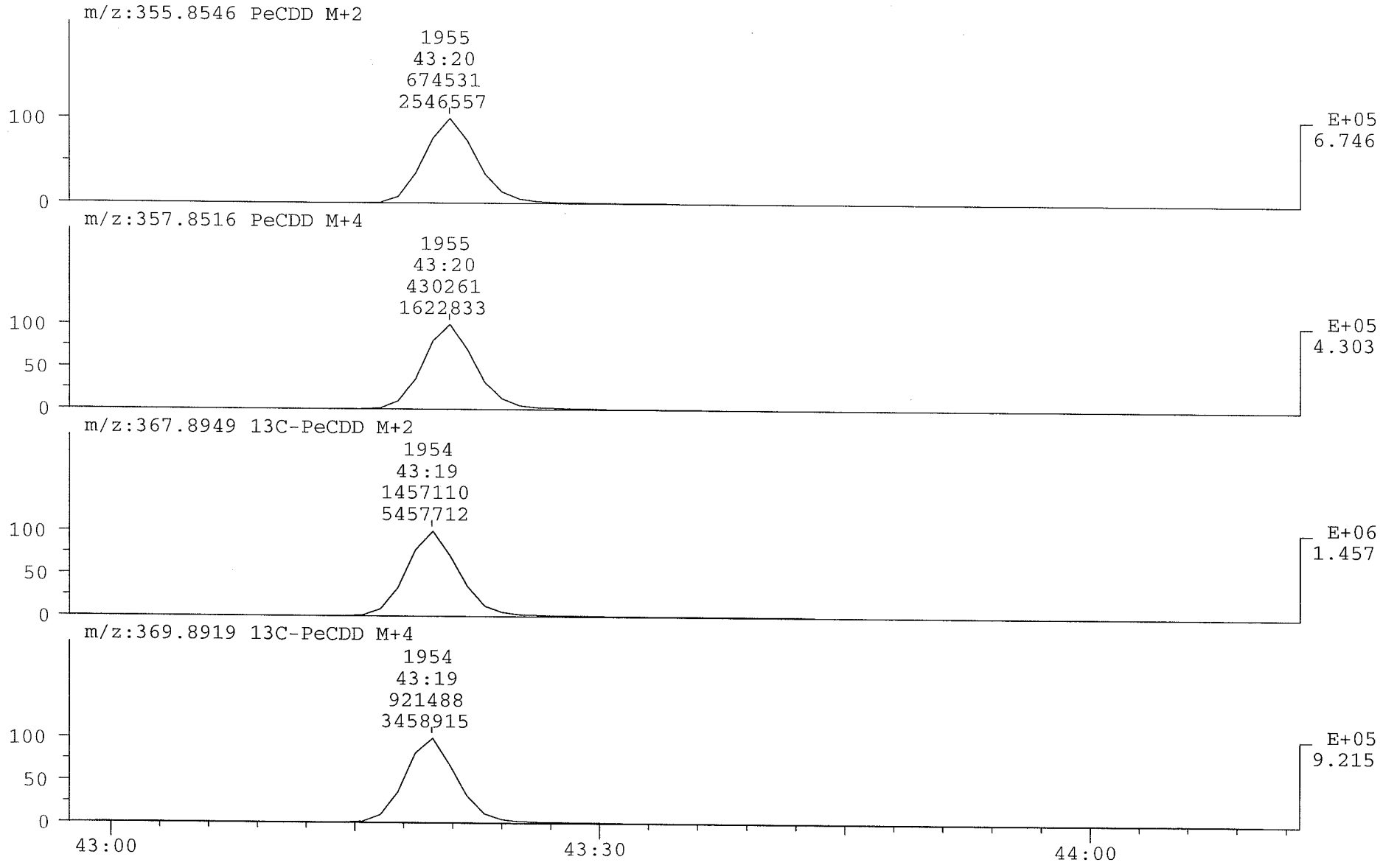
Disp: Height Area



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Samp:  Vial 30 WO=1778:08CS3 Meth=X8 Dil=1                  Start :  21:35:53    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=B041108I3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  2nd Source Ver
Oper:  PMP            Client:  STL Knoxville                Inlet :  GC     Vial  30
Peak:  100.00  ppm      Label wndw:   1842 > 1956           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
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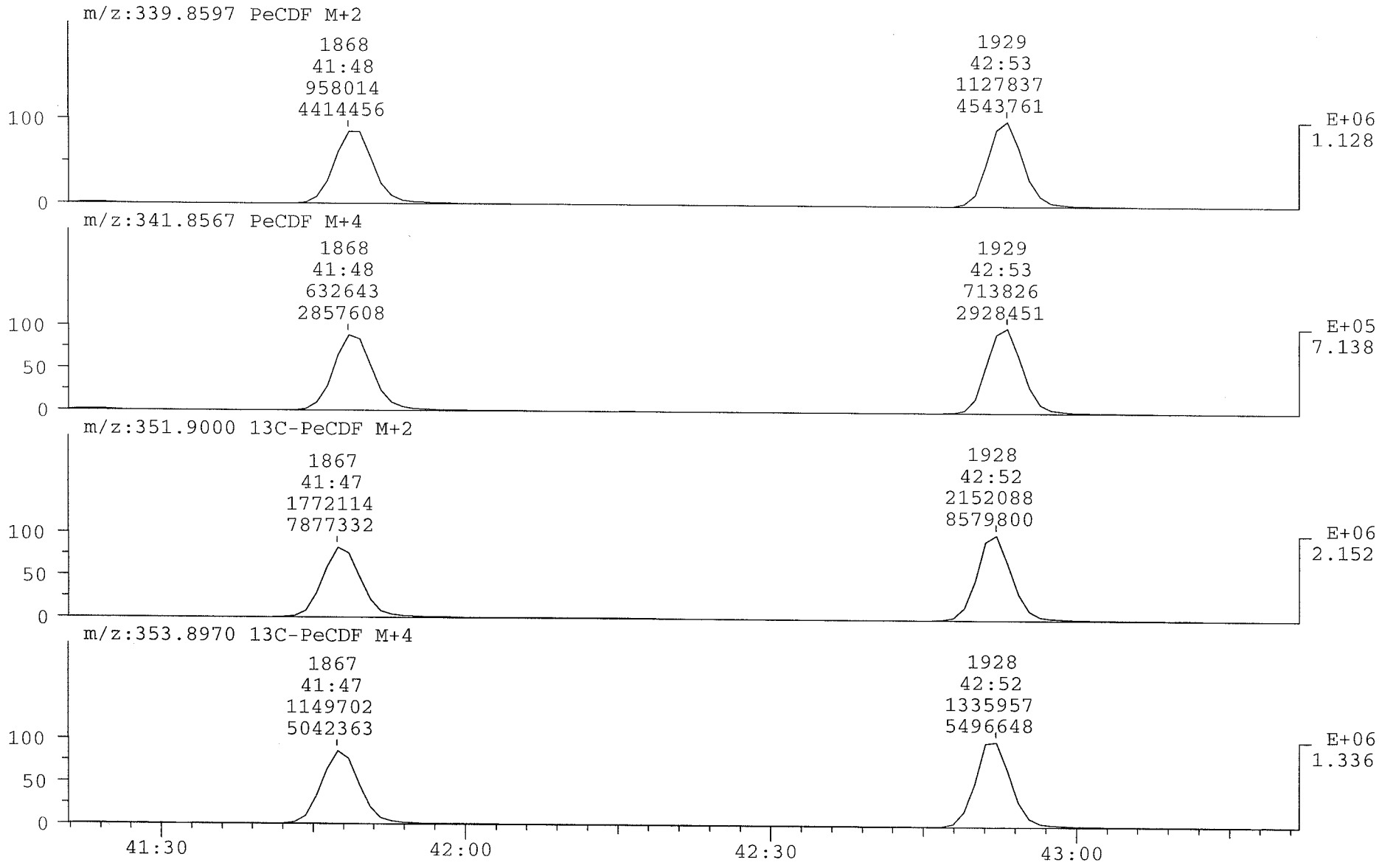

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Samp: Vial 30 WO=1778:08CS3 Meth=X8 Dil=1 Start : 21:35:53 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108I3
Mode: EI +VE +LMR ESCAN LR NRM Study : 2nd Source Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 30
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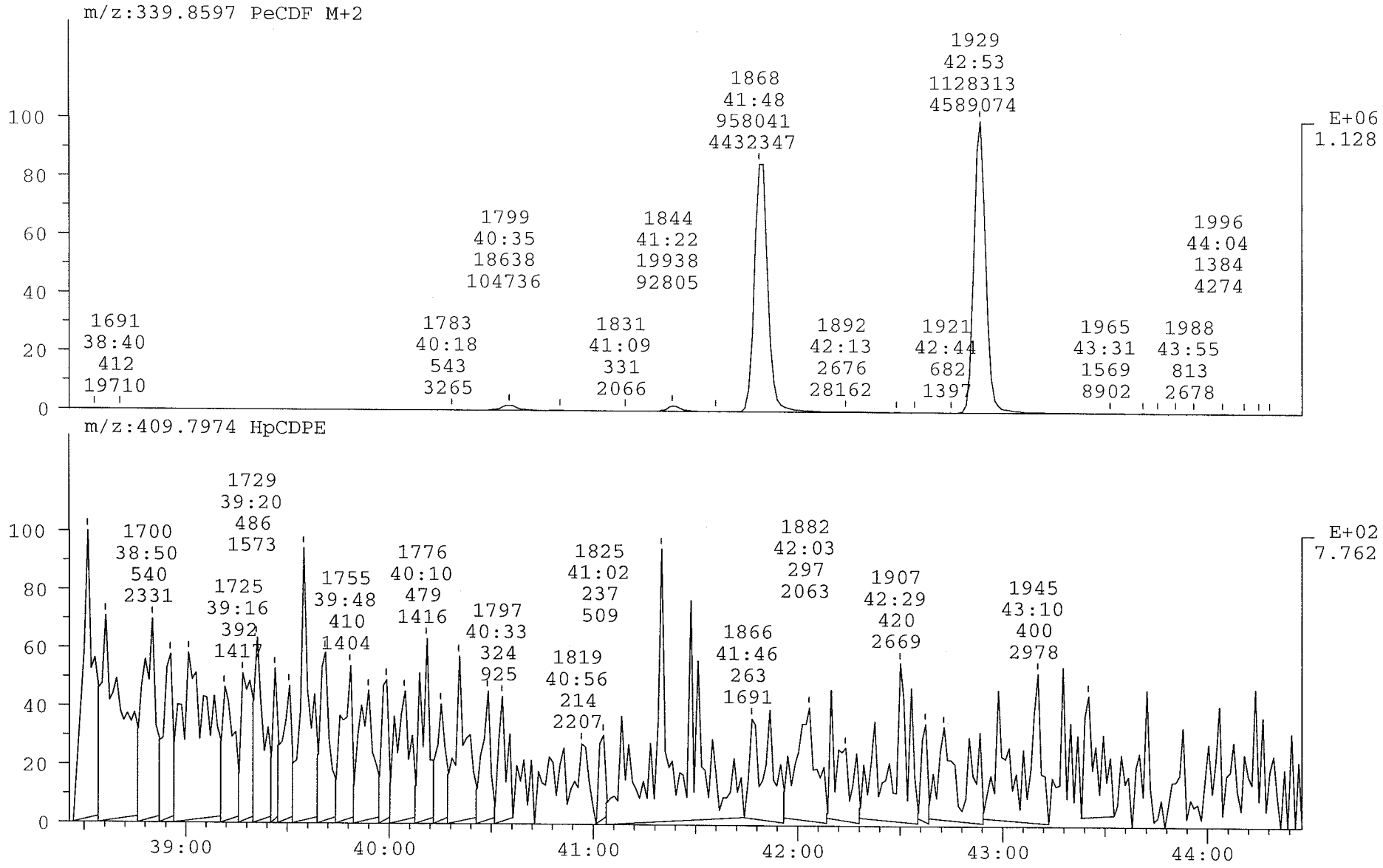
Disp: Height Area



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Mode: EI +VE +LMR ESCAN LR NRM Study : 2nd Source Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 30
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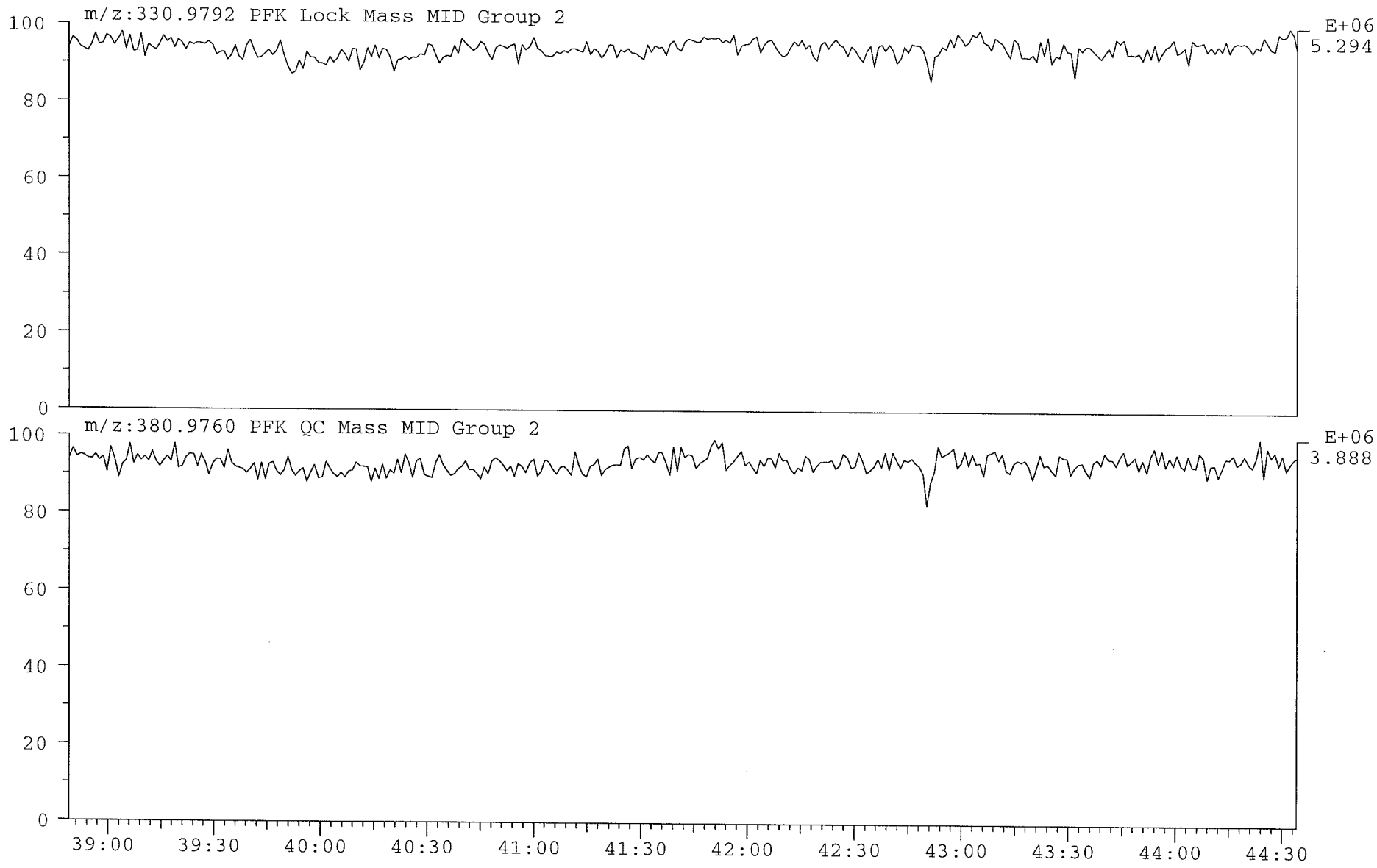

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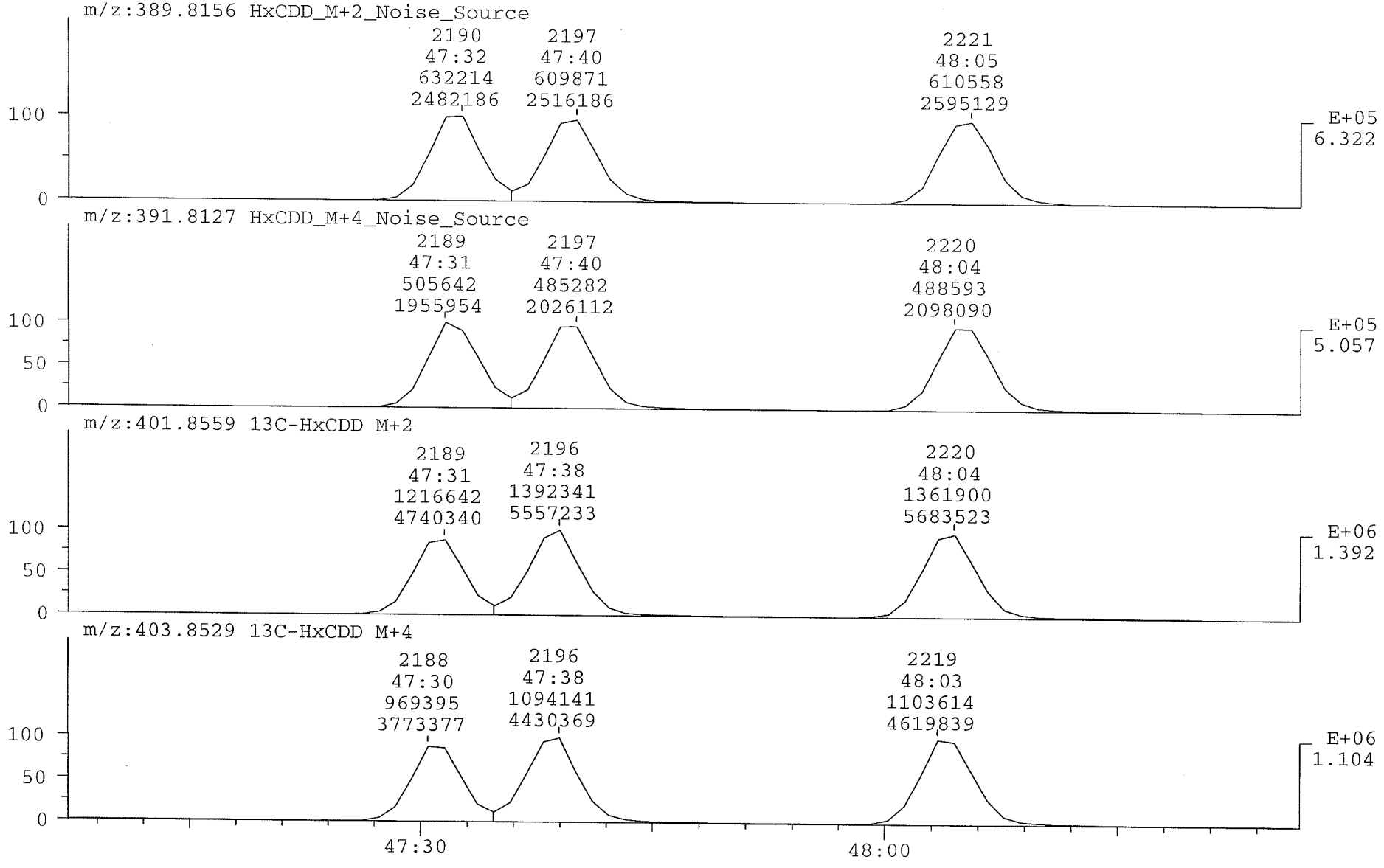
Mode: EI +VE +LMR ESCAN LR NRM
Oper: PMP Client: STL Knoxville
Peak: 100.00 ppm Label wndw: 2166 > 2241
Area: 5, 0.50, 15 Baseline : 100, 3
Disp: Height Area

Elapse: 08:00.6 1
Start : 21:35:53 2866
Study : 2nd Source Ver
Inlet : GC Vial 30
Masses: 293 > 514
Label : 2, 3.0



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Samp: Vial 30 WO=1778:08CS3 Meth=X8 Dil=1 Start : 21:35:53 2866
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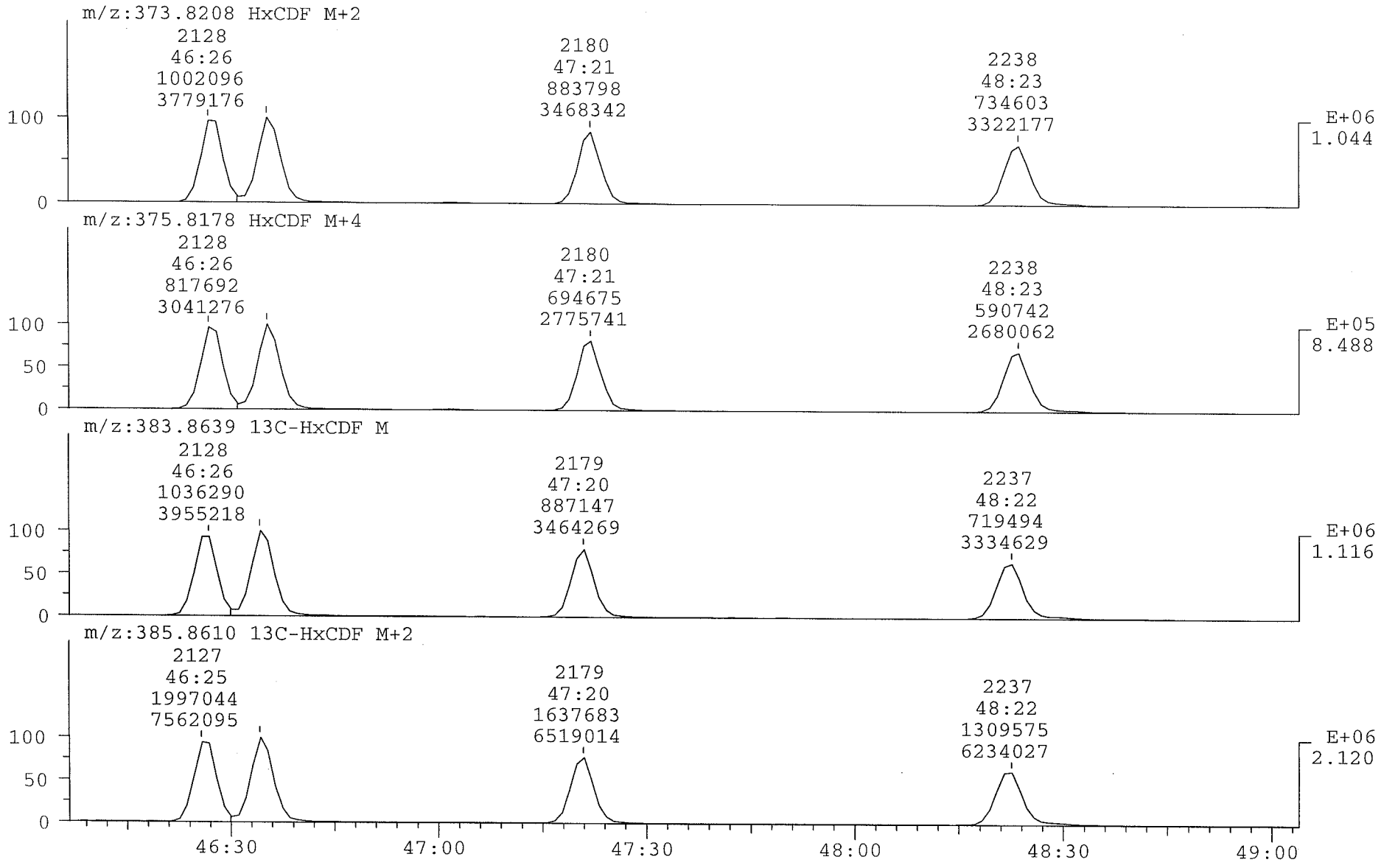
Mode: EI +VE +LMR ESCAN LR NRM Study : 2nd Source Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 30
Peak: 100.00 ppm Label wndw: 2109 > 2276 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



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Samp:  Vial 30 WO=1778:08CS3 Meth=X8 Dil=1                Start :  21:35:53    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=B041108I3
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  2nd Source Ver
Oper:  PMP            Client:  STL Knoxville              Inlet :  GC     Vial  30
Peak:  100.00  ppm      Label wndw:   2134 > 2144         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
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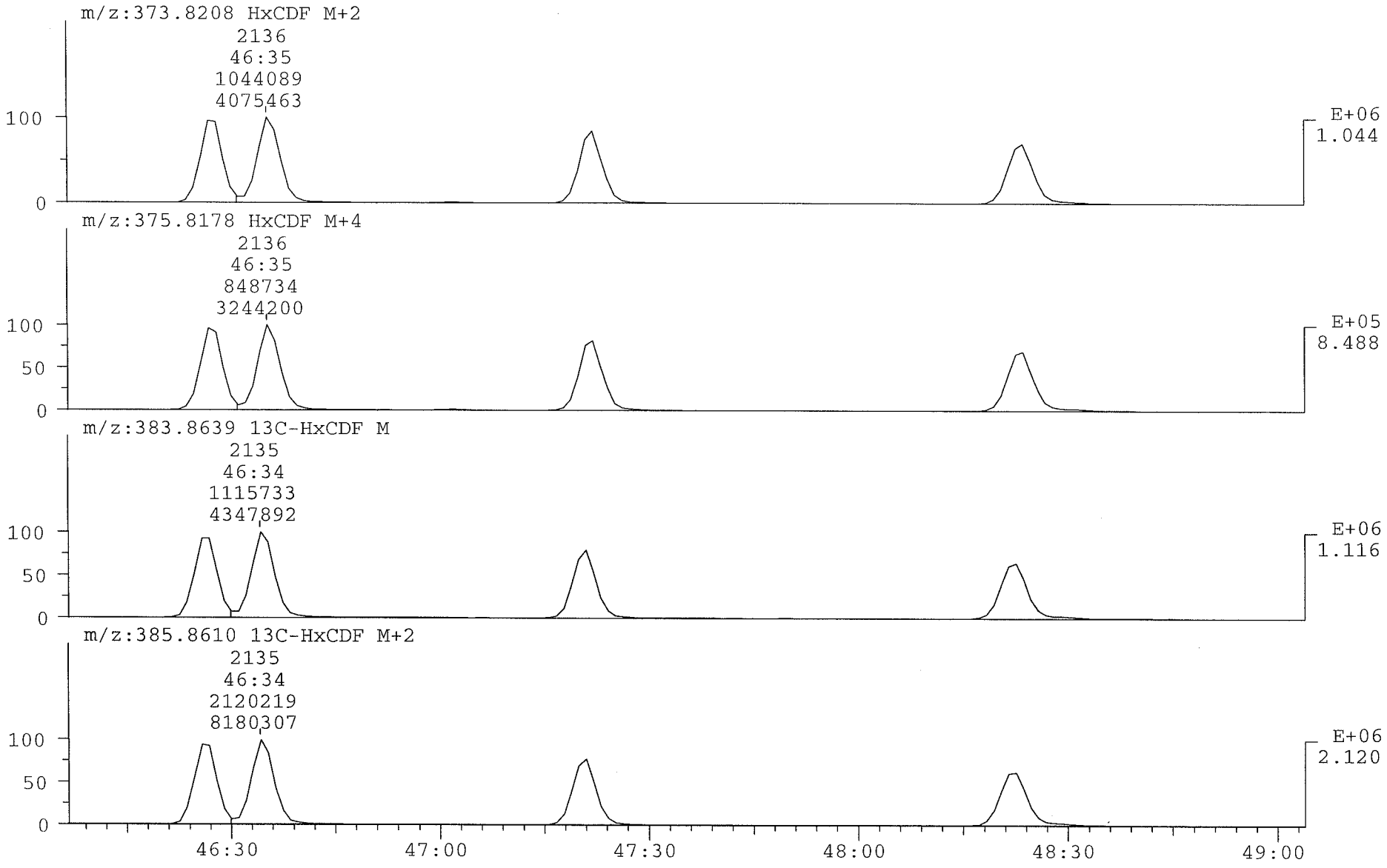

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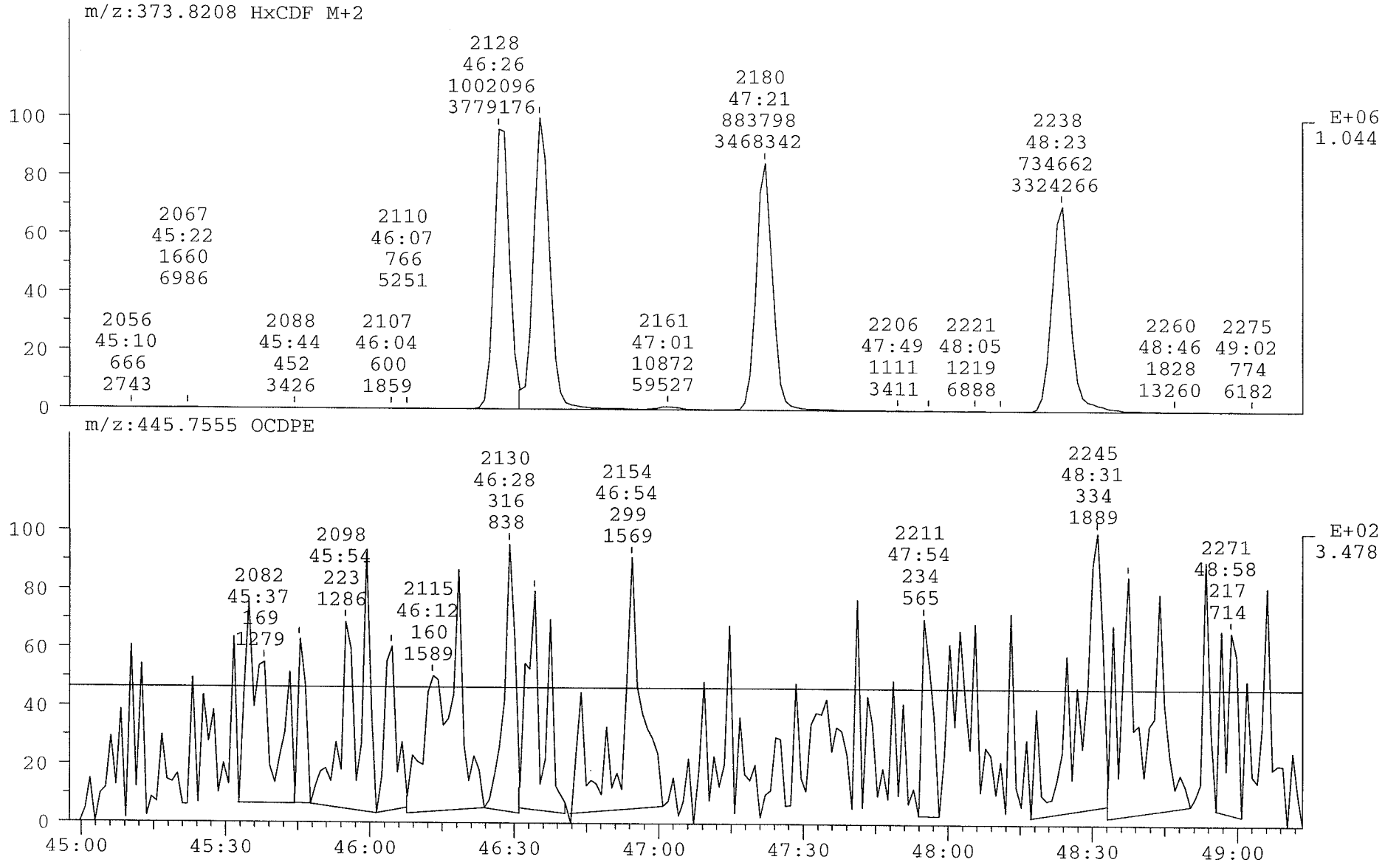
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108I3
Mode: EI +VE +LMR ESCAN LR NRM Study : 2nd Source Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 30
Peak: 100.00 ppm Label wndw: 2044 > 2285 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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Samp: Vial 30 WO=1778:08CS3 Meth=X8 Dil=1 Start : 21:35:53 2866
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Mode: EI +VE +LMR ESCAN LR NRM Study : 2nd Source Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 30
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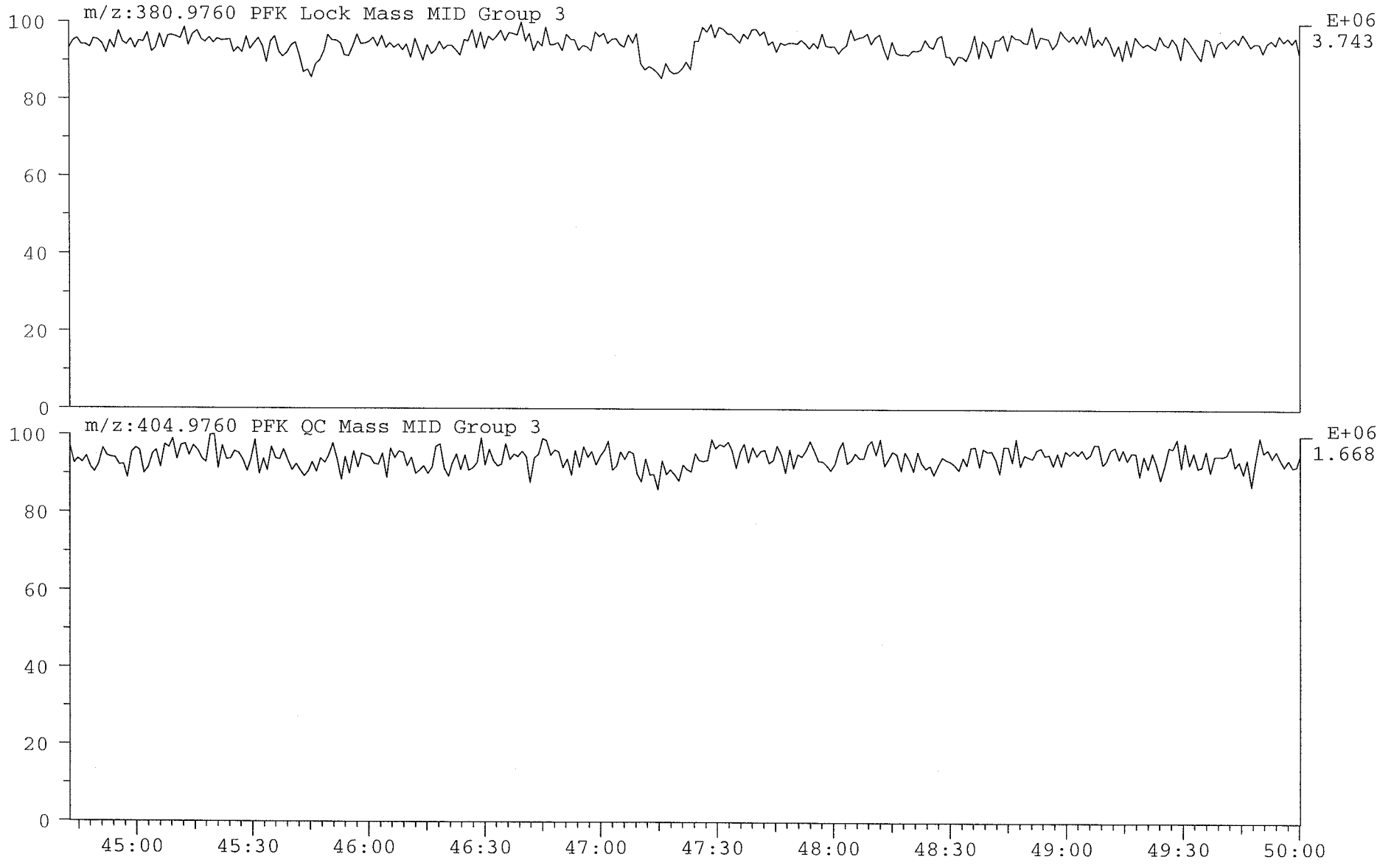
Disp: Height Area



888

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Comm:  Inst=m2a/656438 Batch=20041108i Ccal=B041108I3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  2nd Source Ver
Oper:  PMP            Client:  STL Knoxville                Inlet :  GC      Vial  30
Peak:  100.00  ppm      Label wndw:   1 > 3000              Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
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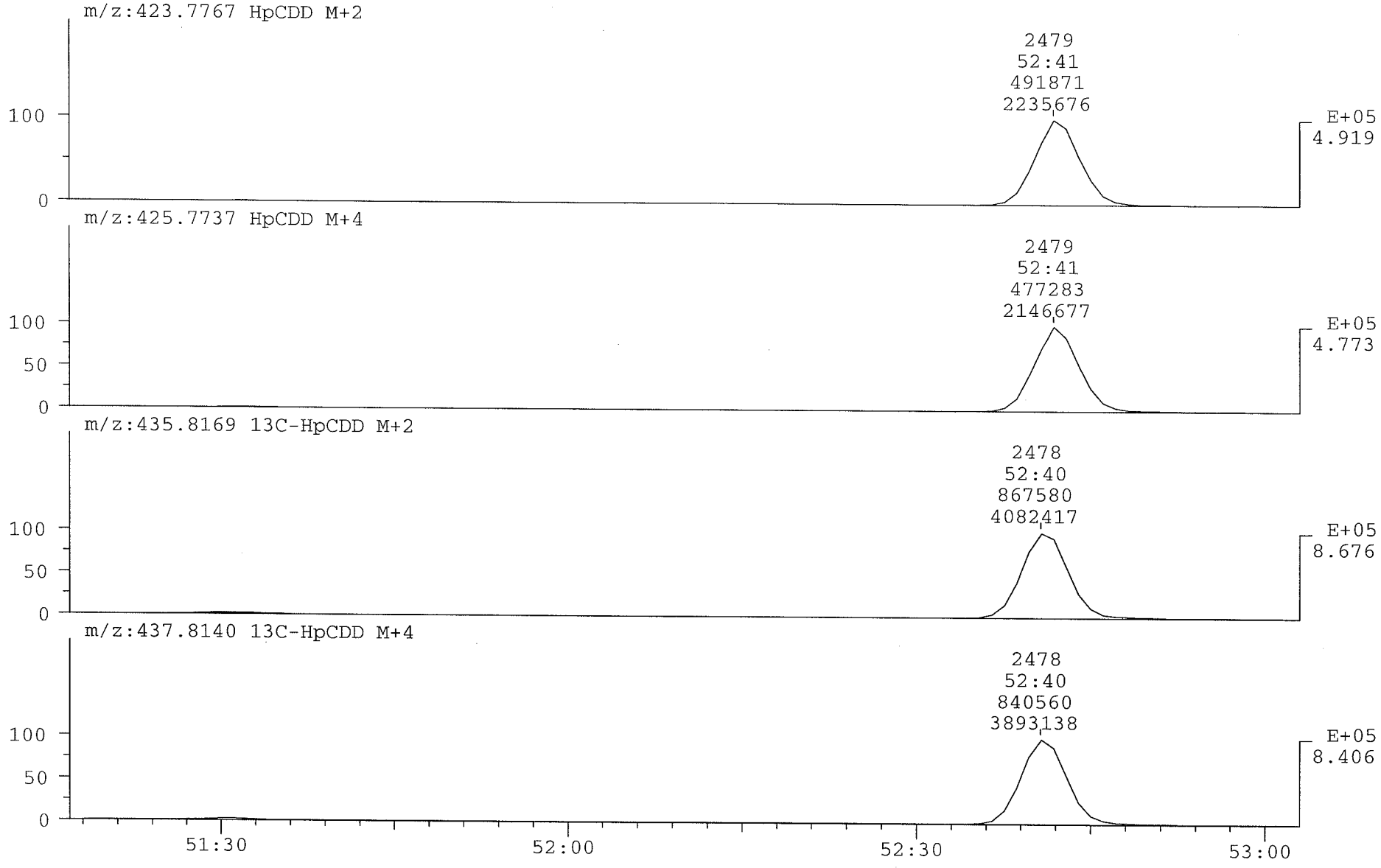

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Samp: Vial 30 WO=1778:08CS3 Meth=X8 Dil=1 Start : 21:35:53 2866
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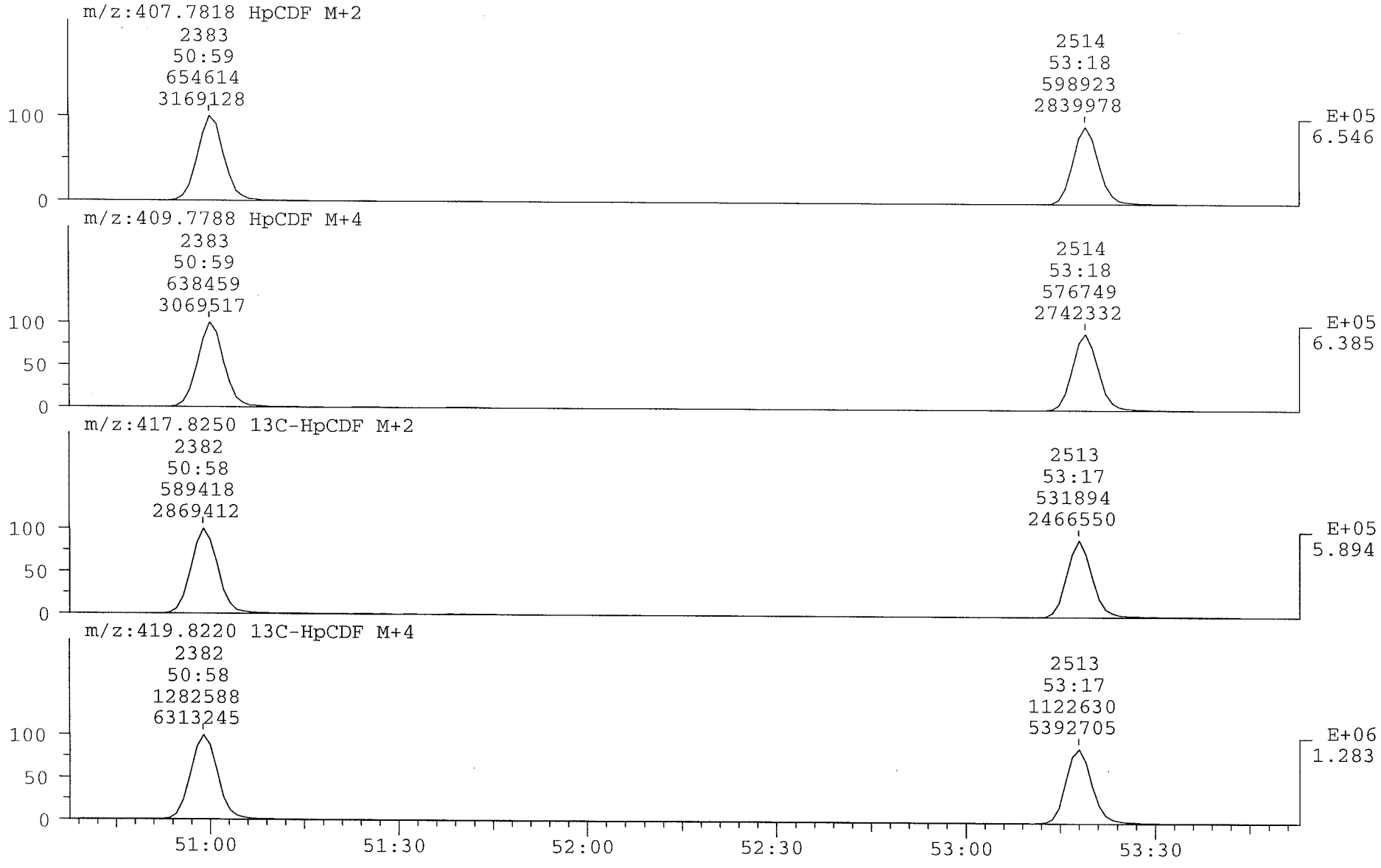
Mode: EI +VE +LMR ESCAN LR NRM Study : 2nd Source Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 30
Peak: 100.00 ppm Label wndw: 2362 > 2546 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



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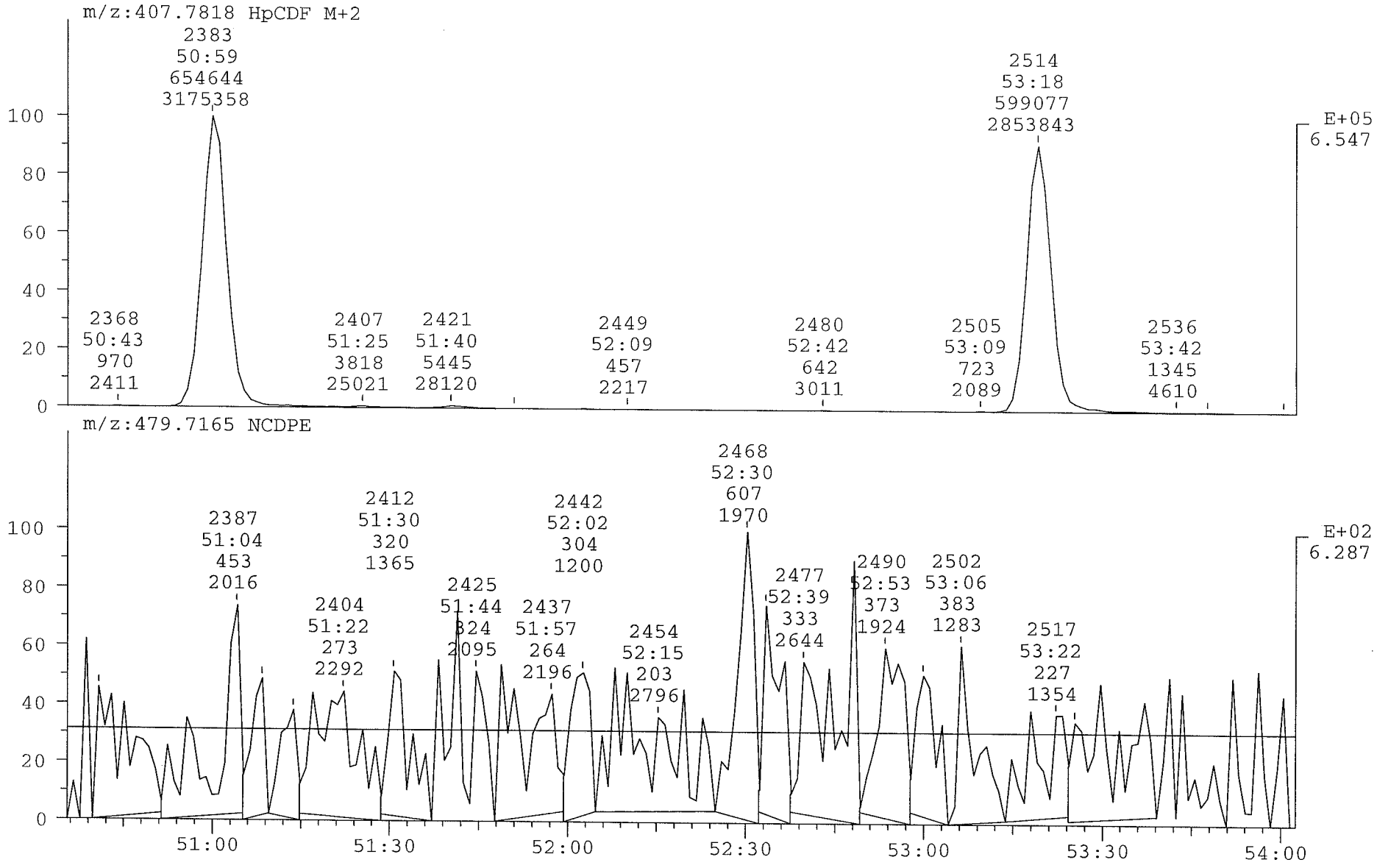
Samp: Vial 30 WO=1778:08CS3 Meth=X8 Dil=1 Start : 21:35:53 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108I3
Mode: EI +VE +LMR ESCAN LR NRM Study : 2nd Source Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 30
Peak: 100.00 ppm Label wndw: 2360 > 2555 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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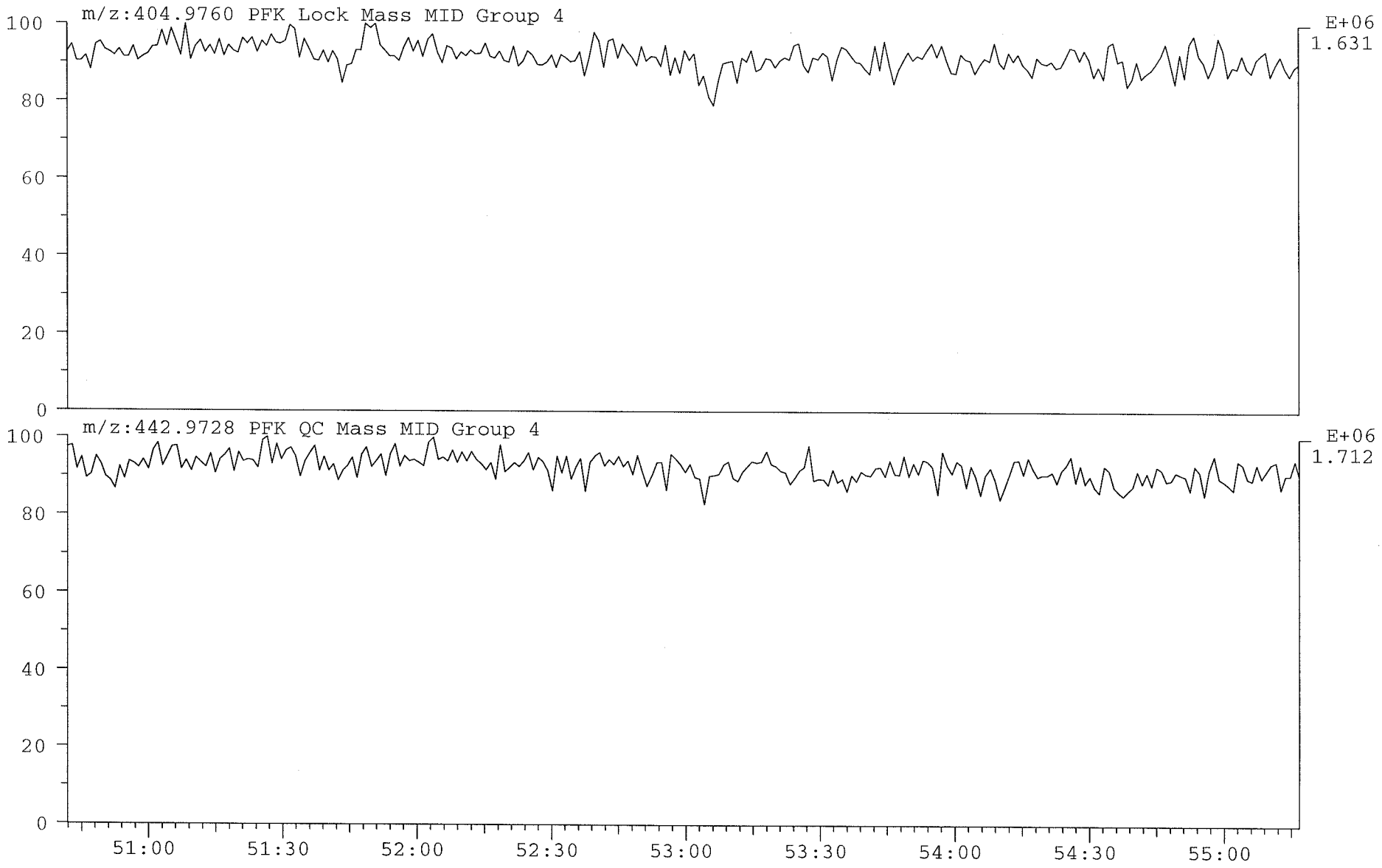
Mode: EI +VE +LMR ESCAN LR NRM Study : 2nd Source Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 30
Peak: 100.00 ppm Label wndw: 2366 > 2625 Masses: 293 > 514
Area: 0, 0.00, 0 Baseline : 0, 3 Label : 0, 2.5



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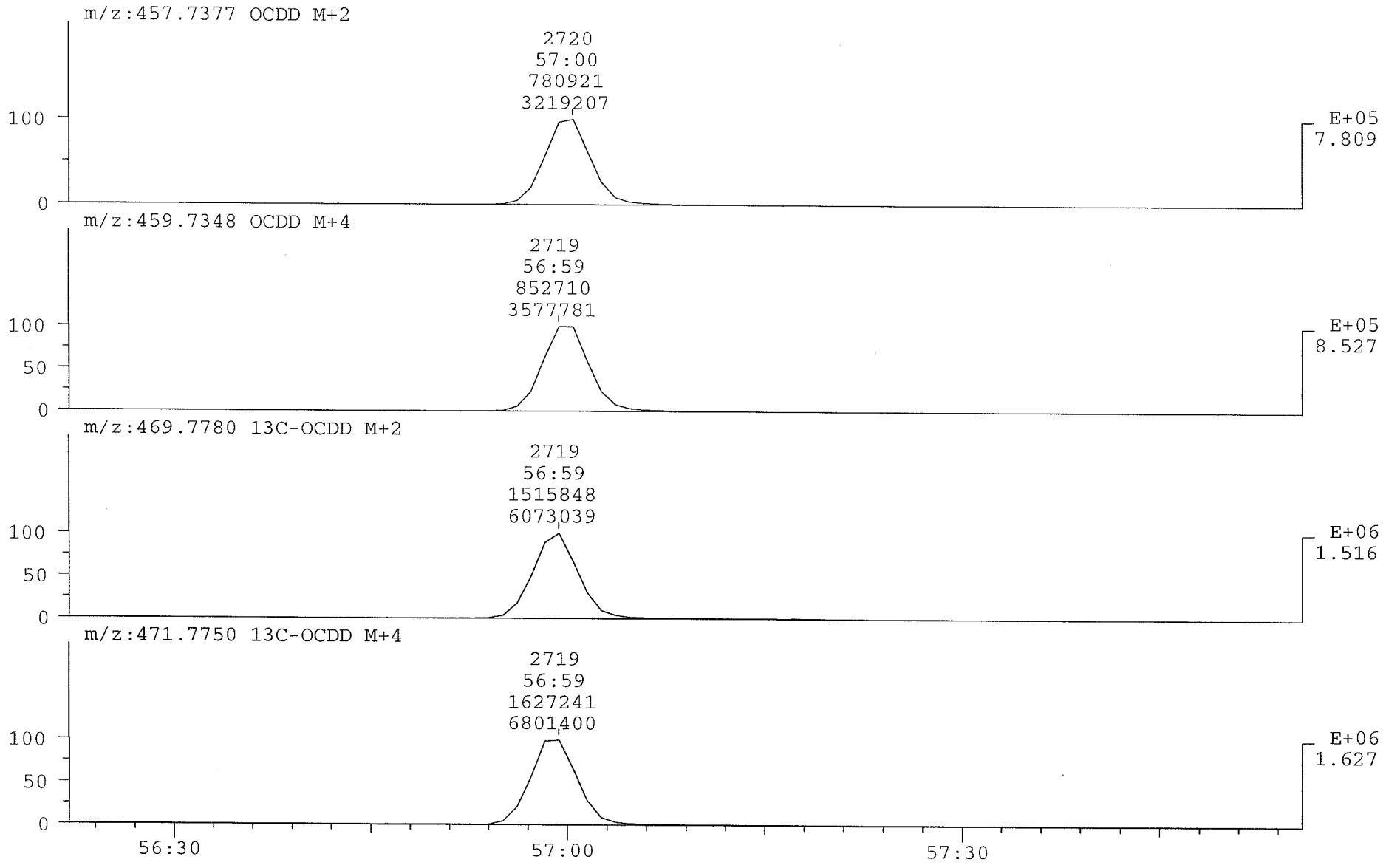
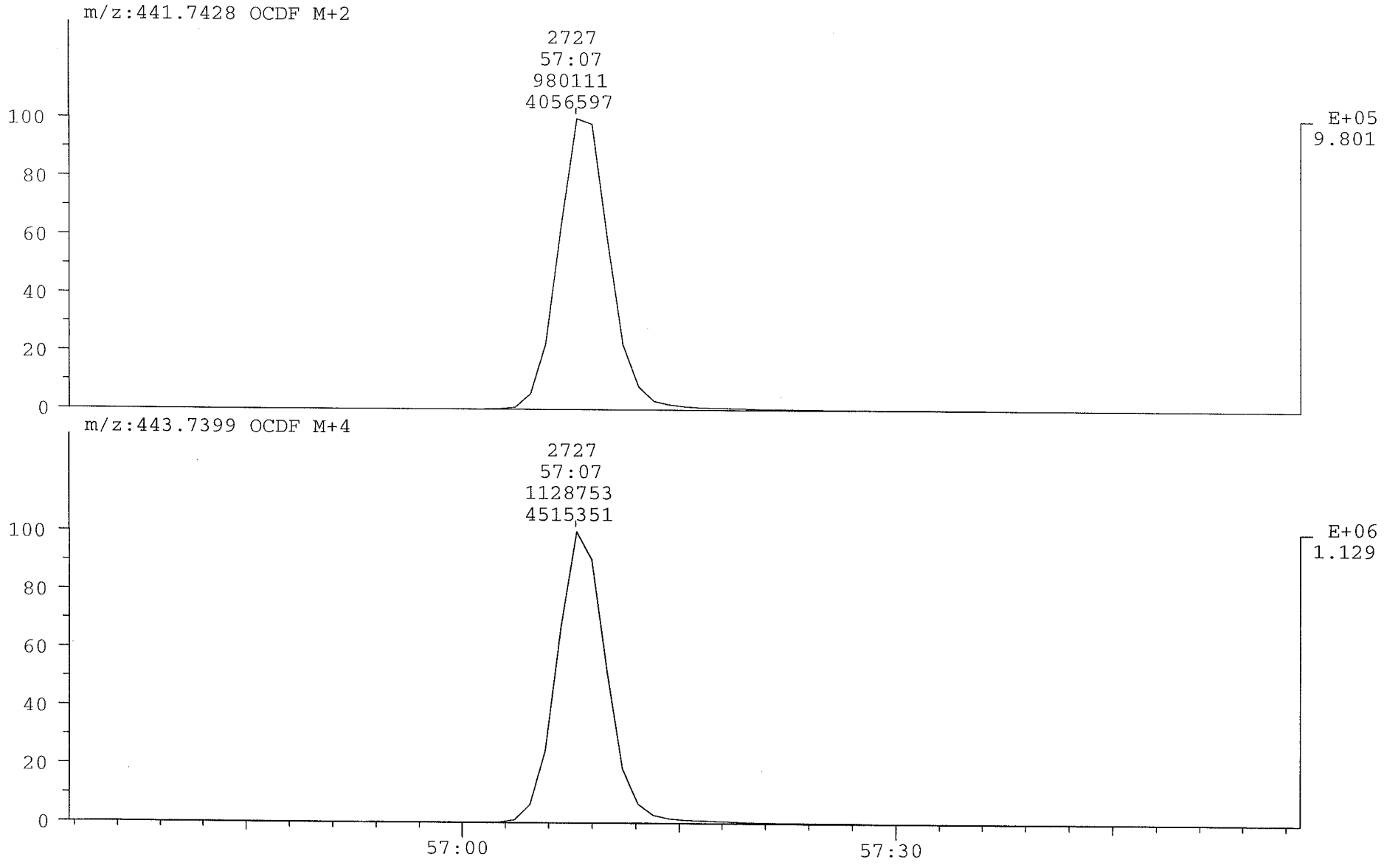
Samp:  Vial 30 WO=1778:08CS3 Meth=X8 Dil=1                  Start :  21:35:53    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=B041108I3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  2nd Source Ver
Oper:  PMP            Client:  STL Knoxville                Inlet :  GC     Vial  30
Peak:  100.00  ppm      Label wndw:   2684 > 2772           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
```



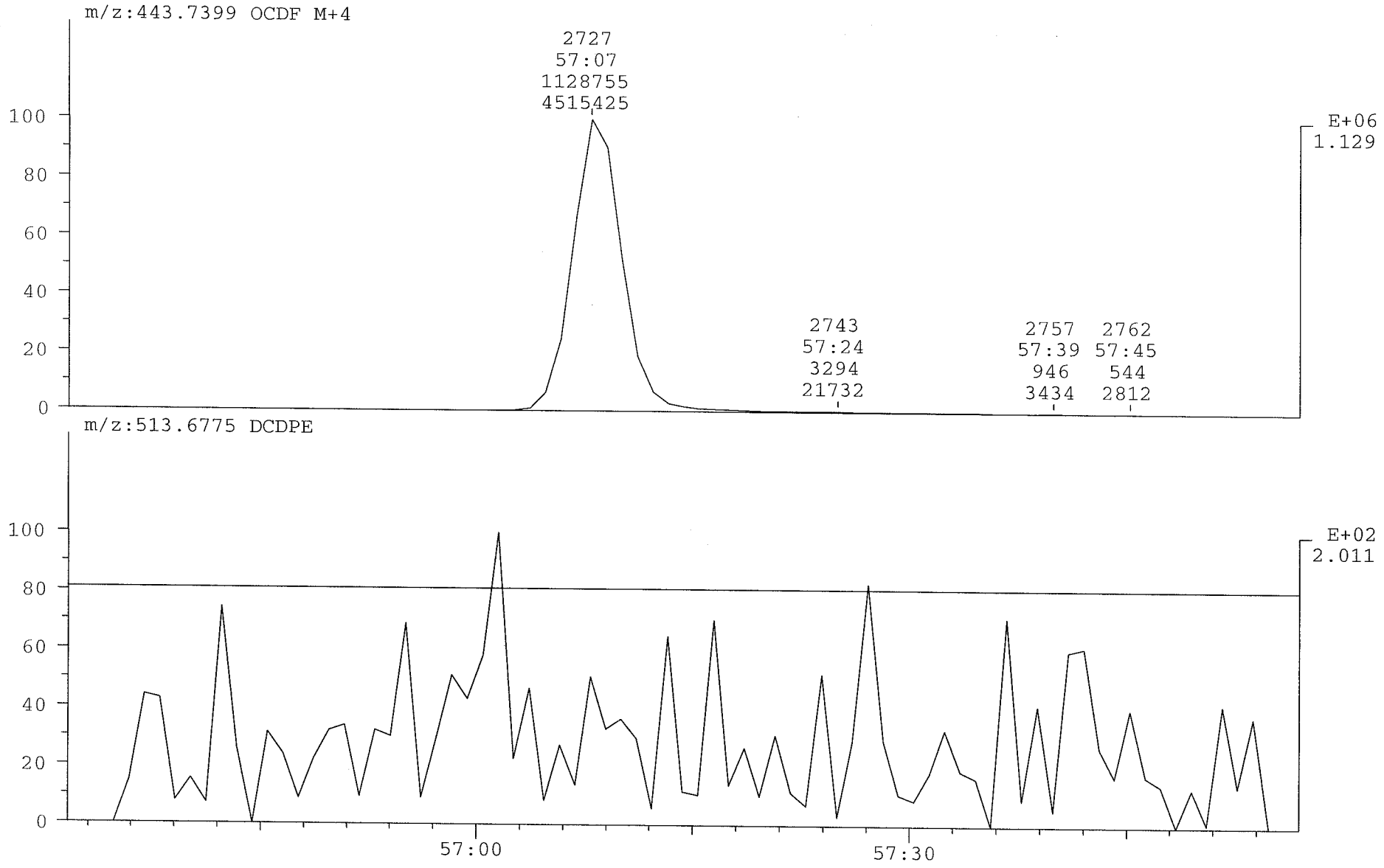
```
CHRO:  b041108ss                                08-Nov-04   Elapse:  08:00.6        1
Samp:  Vial 30 WO=1778:08CS3 Meth=X8 Dil=1                  Start :  21:35:53    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=B041108I3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  2nd Source Ver
Oper:  PMP            Client:  STL Knoxville                Inlet :  GC      Vial  30
Peak:  100.00  ppm      Label wndw:   2694 > 2774           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
```



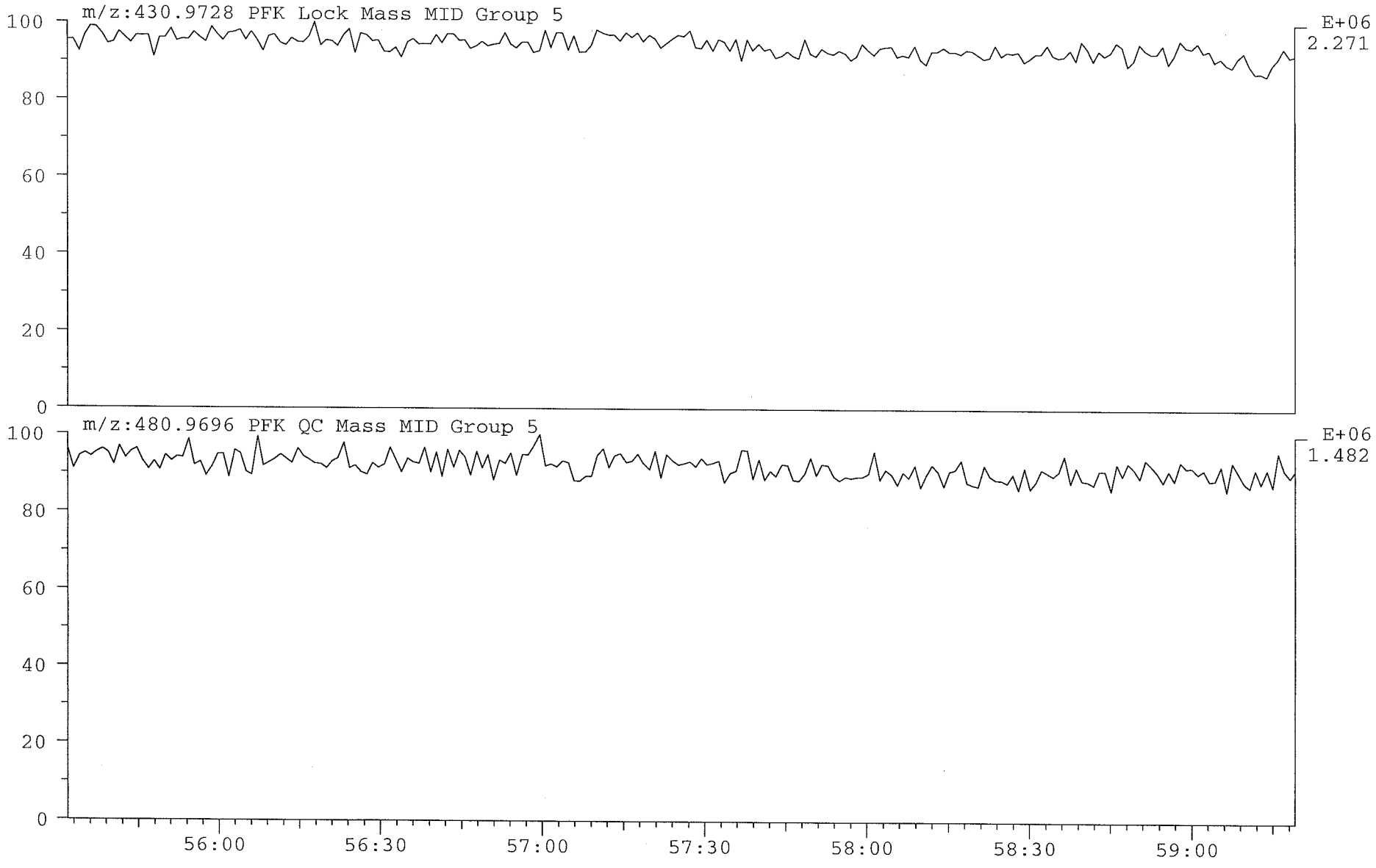
CHRO: b041108ss 08-Nov-04
Samp: Vial 30 WO=1778:08CS3 Meth=X8 Dil=1
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108I3
Mode: EI +VE +LMR ESCAN LR NRM
Oper: PMP Client: STL Knoxville
Peak: 100.00 ppm Label wndw: 2693 > 2773
Area: 5, 0.50, 0 Baseline : 100, 3
Disp: Height Area

Elapse: 57:05 2725
Start : 21:35:53 2866

Study : 2nd Source Ver
Inlet : GC Vial 30
Masses: 293 > 514
Label : -2, 3.0



```
CHRO:  b041108ss                                08-Nov-04   Elapse:  08:00.6        1
Samp:  Vial 30 WO=1778:08CS3 Meth=X8 Dil=1                  Start :  21:35:53    2866
Comm:  Inst=m2a/656438 Batch=20041108i Ccal=B041108I3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  2nd Source Ver
Oper:  PMP            Client:  STL Knoxville                Inlet :  GC     Vial  30
Peak:  100.00  ppm      Label wndw:   2637 > 2850           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  0, 3.0
Disp:  Height  Area
```



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: b041108ss
Study: 2nd Source Ver
Sample: WO=1778:08CS3 Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: PMP
Client: STL Knoxville
Comments: Inst=m2a/656438 Batch=20041108i Ccal=B041108I3
Injected volume: 2.0
Sample from Vial 30
Analysis will stop when MID run finishes
Tune file name: tune2
Single File
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	FALSE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	100 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	30:26 min	38:26 min	1.00 sec
# 2	38:26 min	6:09 min	44:35 min	1.00 sec
# 3	44:35 min	5:24 min	50:00 min	1.00 sec
# 4	50:00 min	5:20 min	55:20 min	1.00 sec
# 5	55:20 min	4:15 min	59:35 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

351.9000		1	1	91.48
353.8970		1	1	91.48
355.8546		1	1	91.48
357.8516		1	1	91.48
367.8949		1	1	91.48
369.8919		1	1	91.48
380.9760	c	10	1	8.19
409.7974		1	1	91.48

Window # 3

mass	F	int	gr	time (ms)
373.8208		1	1	91.48
375.8178		1	1	91.48
380.9760	1	10	1	8.19
383.8639		1	1	91.48
385.8610		1	1	91.48
389.8156		1	1	91.48
391.8127		1	1	91.48
401.8559		1	1	91.48
403.8529		1	1	91.48
404.9760	c	10	1	8.19
445.7555		1	1	91.48

Window # 4

mass	F	int	gr	time (ms)
404.9760	1	10	1	8.19
407.7818		1	1	91.48
409.7788		1	1	91.48
417.8250		1	1	91.48
419.8220		1	1	91.48
423.7767		1	1	91.48
425.7737		1	1	91.48
435.8169		1	1	91.48
437.8140		1	1	91.48
442.9728	c	10	1	8.19
479.7165		1	1	91.48

Window # 5

mass	F	int	gr	time (ms)
430.9728	1	10	1	10.92
441.7428		1	1	120.15
443.7399		1	1	120.15
457.7377		1	1	120.15
459.7348		1	1	120.15
469.7780		1	1	120.15
471.7750		1	1	120.15
480.9696	c	10	1	10.92
513.6775		1	1	120.15

Auto Sampler descriptor: pcdd2ul

Injector A

Normal Injection

Slvnt A cln before inj	(K):	3	times
Slvnt B cln before inj	(L):	0	times
Sample rinse cycles	(R):	0	times
Syringe filling volume	(F):	1.0	ul
Pullup delay time	(D):	4	sec
Sample pullup speed	(E):	5.0	ul/sec
Slvnt aftr pre inj cln	(U):	0.0	ul
Air after pre inj cln	(G):	2.0	ul
Sample volume	(V):	2.0	ul
Sample air volume	(A):	2.0	ul
Sample pullup count	(P):	2	times
Injection speed	(S):	10.0	ul/sec
Injection wait time	(W):	10	sec
Injection hold time	(H):	3	sec
Solvent A clean cycles	(C):	15	times
Solvent B clean cycles	(B):	20	times
Loop clean w slvnt A	(LC):	0	times

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8387.0000
BDEV	8280.0000	BFM	2.0000	BLM	1038.6736
BMASS	304.9824	BQUAD	3.2750	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.5059
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.7814	DITSET	0.0000	DRAW	-19.3250
DRAWC	1.0000	DRAWS	0.0050	ECORR	0.9999
ECURR	1.0000	EDAC	7969177.0000	EDACG	0.9999
EDACR	20.0000	EDACZ	850.0000	ELEN	57.4000
EMULT	1.5500	ENS	146.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	182.5000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	3.3500	FREQ	600.9615
FSLOPE	36000000.0000	FVANAL	448.0000	FVINLET	864.0000
FVSRC	970.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	156.0000
HCURR	1.3725	HVANAL	1113.0000	HVSRC	2958.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4757.0160	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2587.0000	LENSS	154.0000	LKM	304.9824
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3475842.6628	MDACR	20.0000
MRANGE	1038.6736	MSFM	2.0000	MSLM	3790.0000
NPEAK	200.0000	NSAM	200.0000	NSCAN	6912.0000
NSMAX	14.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-6.9500	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10209.4351	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	2.0000
SCIDLE	1.0000	SHIELD	2720.0000	SHIELDS	0.2000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.2400	TCURR	0.9375	TD	50.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	80.1030	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.2550
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2159.0000	XLENSS	7.2000
YLENS	2834.0000	YLENSS	-148.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 08-Nov-04 21:35:53.5

Autosampler has injected sample from vial 30
Analysis stopped at: 08-Nov-04 22:35:30.6 (run time 59.61 minutes)
Analysis stopped because MID run finished

QUAN: b041108ss.q0 Entries: 69

Data file(s) used
File: b041108ss 08-Nov-04
Samp: Vial 30 WO=1778:08CS3 Meth=X8 Dil=1 Start : 21:35:53 2866
Comm: Inst=m2a/656438 Batch=20041108i Ccal=B041108I3
Mode: EI +VE +LMR ESCAN LR NRM Study : 2nd Source
Oper: PMP Client: STL Knoxville Inlet : GC Vial 30

Disp: CHRO
Amount = (area * ref amnt) / (ref area * response factor); amount = f(reponse)
Response factors from quantitation file

Quan Masses	Actual Time	Area	Height	Peak Beginn	Peak End	Noise Value	La Pe	Lab Fac
319.8805	35:53	491022.	54721.	35:39	36:08	108.	2	3.0
321.8775	35:53	643573.	71975.	35:39	36:09	123.	2	3.0
331.9202	35:16	4024302.	421015.	35:00	35:32	342.	2	3.0
331.9202	35:51	5000065.	549782.	35:37	36:07	342.	2	3.0
333.9171	35:16	5051562.	524175.	35:00	35:32	330.	2	3.0
333.9171	35:50	6312291.	704313.	35:38	36:06	330.	2	3.0
303.8864	33:42	718566.	66439.	33:26	33:59	108.	2	3.0
305.8834	33:42	930178.	85734.	33:30	33:59	82.	2	3.0
315.9261	33:41	6894199.	655894.	33:25	33:58	187.	2	3.0
317.9230	33:41	8807092.	830990.	33:25	33:58	238.	2	3.0
355.8368	43:20	2546557.	674531.	43:14	43:36	151.	2	3.0
357.8337	43:20	1622833.	430261.	43:13	43:36	85.	2	3.0
367.8765	43:19	5457712.	1457110.	43:13	43:35	143.	2	3.0
369.8734	43:19	3458915.	921487.	43:13	43:35	113.	2	3.0
339.8427	41:48	4414456.	958014.	41:41	42:04	173.	2	3.0
339.8427	42:53	4543761.	1127837.	42:45	43:09	173.	2	3.0
341.8396	41:48	2857608.	632643.	41:37	42:04	189.	2	3.0
341.8396	42:53	2928451.	713826.	42:46	43:09	189.	2	3.0
351.8824	41:47	7877332.	1772114.	41:37	42:03	201.	2	3.0
351.8824	42:52	8579799.	2152088.	42:43	43:08	201.	2	3.0
353.8793	41:47	5042363.	1149702.	41:38	42:00	192.	2	3.0
353.8793	42:52	5496648.	1335957.	42:44	43:08	192.	2	3.0
389.7961	47:32	2482186.	632214.	47:25	47:35	143.	2	3.0
389.7961	47:40	2516186.	609871.	47:35	47:56	143.	2	3.0
389.7961	48:05	2595129.	610558.	47:58	48:19	143.	2	3.0
391.7931	47:31	1955954.	505642.	47:25	47:35	141.	2	3.0
391.7931	47:40	2026112.	485282.	47:35	47:56	141.	2	3.0
391.7931	48:04	2098090.	488593.	47:58	48:20	141.	2	3.0
401.8358	47:31	4740340.	1216642.	47:24	47:34	148.	2	3.0
401.8358	47:39	5557233.	1392341.	47:34	47:54	148.	2	3.0
401.8358	48:04	5683523.	1361900.	47:56	48:20	148.	2	3.0
403.8327	47:30	3773377.	969395.	47:23	47:34	151.	2	3.0
403.8327	47:39	4430369.	1094141.	47:34	47:54	151.	2	3.0
403.8327	48:03	4619839.	1103614.	47:54	48:19	151.	2	3.0
373.8021	46:26	3779176.	1002096.	46:20	46:31	182.	2	3.0
373.8021	46:35	4075463.	1044089.	46:31	46:51	182.	2	3.0
373.8021	47:22	3468342.	883798.	47:10	47:37	182.	2	3.0
373.8021	48:23	3322177.	734603.	48:15	48:39	182.	2	3.0
375.7990	46:26	3041276.	817692.	46:21	46:31	214.	2	3.0
375.7990	46:35	3244200.	848734.	46:31	46:51	214.	2	3.0
375.7990	47:22	2775741.	694674.	47:15	47:37	214.	2	3.0
375.7990	48:23	2680062.	590742.	48:16	48:39	214.	2	3.0
383.8447	46:26	3955218.	1036290.	46:17	46:30	148.	2	3.0
383.8447	46:34	4347892.	1115733.	46:30	46:50	148.	2	3.0
383.8447	47:20	3464269.	887147.	47:11	47:36	148.	2	3.0
383.8447	48:22	3334629.	719494.	48:15	48:38	148.	2	3.0
385.8417	46:25	7562095.	1997044.	46:17	46:30	212.	2	3.0
385.8417	46:34	8180307.	2120219.	46:30	46:50	212.	2	3.0
385.8417	47:20	6519014.	1637683.	47:10	47:36	212.	2	3.0

385.8417	48:22	6234027.	1309575.	48:14	48:38	212.	2	3.0
423.7555	52:41	2235676.	491871.	52:35	52:57	66.	2	3.0
425.7524	52:41	2146677.	477283.	52:33	52:57	63.	2	3.0
435.7951	52:40	4082417.	867579.	52:33	52:56	67.	2	3.0
437.7921	52:40	3893138.	840560.	52:33	52:56	78.	2	3.0
407.7614	50:59	3169128.	654614.	50:50	51:15	95.	2	3.0
407.7614	53:19	2839978.	598923.	53:11	53:34	95.	2	3.0
409.7583	50:59	3069517.	638459.	50:49	51:15	129.	2	3.0
409.7583	53:19	2742332.	576749.	53:10	53:34	129.	2	3.0
417.8041	50:58	2869412.	589418.	50:42	51:14	95.	2	3.0
417.8041	53:17	2466550.	531894.	53:02	53:33	95.	2	3.0
419.8010	50:58	6313245.	1282588.	50:48	51:14	129.	2	3.0
419.8010	53:17	5392705.	1122630.	53:10	53:33	129.	2	3.0
457.7148	57:00	3219207.	780921.	56:51	57:16	69.	2	3.0
459.7118	56:59	3577781.	852710.	56:51	57:15	99.	2	3.0
469.7545	56:59	6073039.	1515848.	56:49	57:15	155.	2	3.0
471.7514	56:59	6801400.	1627241.	56:47	57:15	97.	2	3.0
441.7207	57:07	4056597.	980111.	56:56	57:23	122.	2	3.0
443.7177	57:07	4515351.	1128753.	56:55	57:23	102.	2	3.0
327.8683	35:53	1175763.	136237.	35:41	36:09	105.	2	3.0

STL Knoxville Dioxin GC/MS Continuing Calibration Review / Narrative Checklist

KNOX-ID-0004-R6 Method: ☒ 0023A/8290 ☐ EPA 23

Start PFK:	22:41	VER Filename:	b060503s3	Win Filename:	b060503w1	Inst:	MAT95S
End PFK:	10:00	VER Filename:	b060504s1	Col Perf Filename:	1	ICAL Date:	11-8-04

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd Level
1. Was the mass resolution documented at both the beginning and end of the 12 hour shift?		✓			✓
2. Was the instrument resolution >10,000 (<100 ppm) on PFK m/z 304.9824 and m/z 380.9760 (at reduced voltage)?		✓			✓
3. Was the measured exact mass of m/z 380.9760 (PFK) within 5 ppm at reduced accelerating voltage?		✓			✓
4. Was date/time of analysis verified between analysis header and logbook as correct?		✓			✓
5. Was the Window Defining Mixture analyzed and the MID switchpoints set to encompass the retention time windows of each congener group?		✓			✓
6. Was the Column Performance solution analyzed and the %Valley ≤25 for separation between 2378-TCDD/F and the closest eluting non-2378 isomer?		✓			✓
7. Were continuing calibrations performed at the beginning and end of the 12-hour period, with successful mass resolution and GC resolution performance checks?		✓			✓
8. Were the response factors calculated for each labeled standard and unlabeled native analyte using the SOP specified reference compound (Table 4), quantitation ions (Table 22), and formula (Section 10.2.6)?		✓			✓
9. Are the measured RRFs for each compound within the specified control limits in Table 8 for all PCDDs/PCDFs?					✓
10. Are the relative retention times of all PCDDs/PCDFs and all labeled compounds within the limits specified in Table 3?		✓			✓
11. Are all S/N ratios ≥10 for the GC signals in each EICP (extracted ion chromatographic profile) including internal standards?		✓			✓
12. Are the ion abundance ratios for all labeled and unlabeled analytes within the control limits specified in Table 22 of the SOP?		✓			✓
13. If manual integrations were performed, are they clearly identified, initialed and dated?	✓				✓
14. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				✓
15. Does the CCAL folder contain **complete** data in the following order: Data review checklist, a **complete** runlog, CCAL summary, Ratio summary, Calculation summary, PFK resolution/peak match documentation; Total RIC, EICP's and manual integration - for window and all standards?		✓			✓

Analyst: PMP	Date: 5-4-06	2nd Level Reviewer : BW	Date: 5/4/06
Comments:		Comments:	

STL KNOXVILLE
SPECIALTY ORGANICS INSTRUMENT MAT 95S RUN LOG

Date	Time	Opr	Sample ID	Filename	Code	Matrix	Type	Tape	Lot#/Comments
5-3-06	22:41	PMP	PFK	—	OK	–	Res		Mass Res Chk
5-3-06	22:44	PMP	3262:44	b060503w1	OK	–	WIN		M23 wm
5-3-06	23:46	PMP	Noname	r	OK	–	QC		flush
5-3-06	23:58	PMP	3123:75	b060503s3	OK	–	ver		M23ver
5-4-06	01:11	PMP	H3EDD1AC	bth3eddc	OK	Air	QC		H6D170000-079C
5-4-06	02:14	PMP	H3EDD1AD	bth3eddd	OK	Air	QC		↓ 079L
5-4-06	03:19	PMP	Noname	r	OK	–	QC		flush
5-4-06	03:35	PMP	↓	r	OK	–	QC		↓
5-4-06	03:50	PMP	↓	r	OK	–	QC		↓
5-4-06	04:05	PMP	H3EDD1AA	bth3eddb	OK	Air	QC		H6D170000-079B
5-4-06	05:09	PMP	H2H1X1AA	bth2h1X	OK	Air	SAM		H6D030236-0011
5-4-06	06:13	PMP	H2H1N1AA	bth2h1n	OK	Air	SAM		↓ – 007
5-4-06	07:16	PMP	Noname	r	OK	–	QC		flush
5-4-06	07:31	PMP	3123:75	b060504s1	OK	–	ver		M23ver
5/4/06	10:00	BFW	PFK	—	OK	–	Res		Mass Res Check

Read and Understood by:

_____ Date: _____

STL - Knoxville

IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 1613B

IsoCalc

Workorder	3262:44	**Prep Batch**		**Lot No**	
Data File	/20060503s3/b060503w1.d	**Prep Date**		**SDG No**	
Analysis ID	90472	**Prep Exp Date**		**Date Received**	
Analysis Date	5/3/2006	**Matrix**	UNKNOWN	**Date Sampled**	
Analysis Time	22:44	**Initial Wt/Vol**		**Lims Test Code**	
Anal Exp Date		**Extract Vol**		**Method**	DX1613B
Instrument	M2A	**Dil Factor**	1.0	**Code**	F8
Analyst	PMP				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (ng/mL)		DL (ng/mL)
2,3,7,8-TCDD	35:21	323529	36496	1.052	10.00	9.837361	98.37	9.837361	E	0.104
Total TCDD		1474514	189521	1.052		54.672063		54.672063	E	0.104
2,3,7,8-TCDF	33:08	422928	46793	0.984	10.00	10.093962	100.94	10.093962	E	0.0718
Total TCDF		838927	124072	0.984		30.116511		30.116511	E	0.0718
1,2,3,7,8-PeCDD	43:05	1351621	371277	0.998	50.00	48.272958	96.55	48.272958	E	0.0504
Total PeCDD		2701970	643506	0.998		144.773445		144.773445	E	0.0504
1,2,3,7,8-PeCDF	41:30	1876001	455416	1.024	50.00	47.725605	95.45	47.725605	E	0.0349
2,3,4,7,8-PeCDF	42:35	1905660	508777	1.100	50.00	46.724842	93.45	46.724842	E	0.0305
Total PeCDF		3628050	847696	1.062		184.991052		184.991052	E	0.0326
1,2,3,4,7,8-HxCDD	47:16	1336352	381077	1.186	50.00	45.439902	90.88	45.439902	E	0.0509
1,2,3,6,7,8-HxCDD	47:23	1326338	364137	0.963	50.00	50.239046	100.48	50.239046	E	0.0588
1,2,3,7,8,9-HxCDD	47:47	1412291	356799	1.145	50.00	47.280242	94.56	47.280242	E	0.0510
Total HxCDD		1418605	430633	1.098		192.461810		192.461810	E	0.0532
1,2,3,4,7,8-HxCDF	46:11	1871248	543138	1.264	50.00	47.809573	95.62	47.809573	E	0.0346
1,2,3,6,7,8-HxCDF	46:19	1905852	534824	1.239	50.00	47.652725	95.31	47.652725	E	0.0352
2,3,4,6,7,8-HxCDF	47:05	1769060	491063	1.196	50.00	46.802279	93.60	46.802279	E	0.0377
1,2,3,7,8,9-HxCDF	48:06	1603817	417274	1.212	50.00	47.273093	94.55	47.273093	E	0.0457
Total HxCDF		3240300	915857	1.228		275.477945		275.477945	E	0.0379
1,2,3,4,6,7,8-HpCDD	52:23	1266701	290026	1.056	50.00	46.501473	93.00	46.501473	E	0.0545
Total HpCDD		1297400	283918	1.056		94.129928		94.129928	E	0.0545
1,2,3,4,6,7,8-HpCDF	50:40	1759932	391932	1.467	50.00	46.292036	92.58	46.292036	E	0.0383
1,2,3,4,7,8,9-HpCDF	53:00	1470037	353345	1.451	50.00	47.322265	94.64	47.322265	E	0.0436
Total HpCDF				1.459		93.614301		93.614301	E	0.0408
OCDD	56:42	2388732	663825	1.041	100.0	94.791649	94.79	94.791649	E	0.0442
OCDF	56:51	2443167	661683	1.253	100.0	80.529172	80.53	80.529172	E	0.0410
13C-2,3,7,8-TCDD	35:19	3125289	353440	1.048	100.0	100.814136	100.81	100.814136		0.133
13C-2,3,7,8-TCDF	33:05	4258836	452836	1.492	100.0	96.512971	96.51	96.512971		0.0722
13C-1,2,3,7,8-PeCDD	43:04	2804726	770668	1.117	100.0	84.908430	84.91	84.908430		0.0849
13C-1,2,3,7,8-PeCDF	41:29	3838591	917054	1.616	100.0	80.292892	80.29	80.292892		0.0547
13C-2,3,4,7,8-PeCDF	42:34	3708698	976650	1.580	100.0	79.349539	79.35	79.349539		0.0559
13C-1,2,3,4,7,8-HxCDD	47:15	2479103	716927	0.891	100.0	101.373807	101.37	101.373807		0.0503
13C-1,2,3,6,7,8-HxCDD	47:22	2740333	763659	1.031	100.0	96.898610	96.90	96.898610		0.0435
13C-1,2,3,4,7,8-HxCDF	46:10	3095586	901998	1.235	100.0	91.350908	91.35	91.350908		0.0438
13C-1,2,3,6,7,8-HxCDF	46:18	3227908	906439	1.370	100.0	85.903594	85.90	85.903594		0.0395
13C-2,3,4,6,7,8-HxCDF	47:04	3159113	875583	1.285	100.0	89.635926	89.64	89.635926		0.0421
13C-1,2,3,7,8,9-HxCDF	48:04	2800323	713813	1.167	100.0	87.503321	87.50	87.503321		0.0464
13C-1,2,3,4,6,7,8-HpCDD	52:22	2578983	586585	0.947	100.0	99.232719	99.23	99.232719		0.0421
13C-1,2,3,4,6,7,8-HpCDF	50:39	2592236	574080	1.069	100.0	88.426812	88.43	88.426812		0.0453
13C-1,2,3,4,7,8,9-HpCDF	52:59	2141559	509996	0.898	100.0	86.952570	86.95	86.952570		0.0539
13C-OCDD	56:41	4842092	1304772	1.024	200.0	172.373567	86.19	172.373567		0.0389
37Cl4-2,3,7,8-TCDD	35:21	329552	38087	1.123	10.00	9.916375	99.16	9.916375	E	0.0694
13C-1,2,3,4-TCDD	34:44	2958551	311223	1.000	100.0	100.000000	100.00	100.000000		0.140
13C-1,2,3,7,8,9-HxCDD	47:47	2743212	702391	1.000	100.0	100.000000	100.00	100.000000		0.0448

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 1613B

IsoCalc

Workorder	3262:44	Prep Batch		Lot No	
Data File	/20060503s3/b060503w1.	Prep Date		SDG No	
Analysis ID	90472	Prep Exp Date		Date Received	
Analysis Date	05/03/06 22:44	Matrix	UNKNOWN	Date Sampled	
Anal Exp Date		Initial Wt/Vol		Lims Test Code	
Instrument	M2A	Extract Vol		Method	DX1613B
Analyst	PMP	Diluton Factor	1.00	Code	F8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	140	180	56	72	0.78	/	
	Unidentified	25:58	00:00	0	203056	271374	26863	38541	0.75	ABV/ABB	
	2,3,7,8-TCDF	33:08	33:02	6	183784	239144	20457	26336	0.77	ABV/ABV	M
	Unidentified	37:38	00:00	0	159194	205303	25826	32842	0.78	ABB/ABV	
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	158	178	63	71	0.89 *	/	
	13C-2,3,7,8-TCDF	33:05	32:59	6	1865699	2393137	198583	254253	0.78	ABV/AVV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	193	193	77	77	1.00 *	/	
	Unidentified	28:42	00:00	0	128244	177732	16294	22928	0.72	ABV/ABB	
	Unidentified	34:47	00:00	0	118255	160160	14157	17888	0.74	ABV/AVV	
	Unidentified	35:04	00:00	0	130294	160044	14114	16040	0.81	AVV/AVV	DM
	2,3,7,8-TCDD	35:21	35:05	16	141040	182489	16256	20240	0.77	AVV/AVB	M
	Unidentified	35:46	00:00	0	134439	171955	16916	22612	0.78	AVB/ABB	
	Unidentified	37:45	00:00	0	130682	162709	22839	25733	0.80	ABB/ABB	
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	243		97				
	37Cl4-2,3,7,8-TCDD	35:21	35:05	16	329552		38087			AVV	M
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	270	165	108	66	1.64 *	/	
	13C-1,2,3,4-TCDD	34:44	34:24	20	1310612	1647939	137691	173532	0.80	ABV/ABV	
	13C-2,3,7,8-TCDD	35:19	35:02	17	1380715	1744574	156452	196988	0.79	AVV/AVV	
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**		
	Noise	00:00	00:00	0	168	160	67	64	1.05 *	/	
	Unidentified	38:13	00:00	0	1188595	761767	211206	134715	1.56	ABB/ABB	
	1,2,3,7,8-PeCDF	41:30	41:47	-17	1140366	735635	277349	178067	1.55	ABV/ABV	M
	2,3,4,7,8-PeCDF	42:35	42:52	-17	1160122	745538	306744	202033	1.56	ABV/ABV	M
	Unidentified	43:47	00:00	0	1020096	657592	304000	197775	1.55	ABV/AVV	
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**		
	Noise	00:00	00:00	0	128	148	51	59	0.86 *	/	
	13C-1,2,3,7,8-PeCDF	41:29	41:45	-16	2349394	1489197	564504	352550	1.58	ABV/ABV	
	13C-2,3,4,7,8-PeCDF	42:34	42:51	-17	2267182	1441516	594540	382110	1.57	ABV/ABV	
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**		
	Noise	00:00	00:00	0	190	198	76	79	0.96 *	/	
	Unidentified	40:30	00:00	0	804122	528708	157742	101226	1.52	ABV/ABV	
	1,2,3,7,8-PeCDD	43:05	43:20	-15	823000	528621	226888	144389	1.56	ABV/ABV	M
	Unidentified	43:40	00:00	0	831879	537261	231264	153274	1.55	ABB/ABB	
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**		
	Noise	00:00	00:00	0	163	133	65	53	1.23 *	/	
	13C-1,2,3,7,8-PeCDD	43:04	43:19	-15	1714594	1090132	471852	298816	1.57	ABV/ABV	
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	Noise	00:00	00:00	0	203	193	81	77	1.05	/	
	Unidentified	44:54	00:00	0	998537	795606	292160	241256	1.26	ABV/ABV	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 1613B

IsoCalc

Workorder	3262:44	**Prep Batch**		**Lot No**	
Data File	/20060503s3/b060503w1.d	**Prep Date**		**SDG No**	
Analysis ID	90472	**Prep Exp Date**		**Date Received**	
Analysis Date	05/03/06 22:44	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M2A	**Extract Vol**		**Method**	DX1613B
Analyst	PMP	**Diluton Factor**	1.00	**Code**	F8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	1,2,3,4,7,8-HxCDF	46:11	46:22	-11	1047150	824098	307632	235506	1.27	ABV/ABV	M
	1,2,3,6,7,8-HxCDF	46:19	46:29	-10	1055352	850500	294857	239967	1.24	AVB/AVV	M
	2,3,4,6,7,8-HxCDF	47:05	47:12	-7	980363	788697	272674	218389	1.24	ABV/ABV	M
	1,2,3,7,8,9-HxCDF	48:06	48:08	-2	892556	711261	234886	182388	1.25	ABV/ABV	
	Unidentified	48:13	00:00	0	804064	642093	214150	168291	1.25	AVB/AVV	
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**		
	Noise	00:00	00:00	0	158	223	63	89	0.71 *	/	
	13C-1,2,3,4,7,8-HxCDF	46:10	46:21	-11	1059384	2036202	310660	591338	0.52	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDF	46:18	46:28	-10	1110557	2117351	312092	594347	0.52	AVV/AVV	
	13C-2,3,4,6,7,8-HxCDF	47:04	47:11	-7	1080451	2078662	302292	573291	0.52	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDF	48:04	48:07	-3	964559	1835764	246914	466899	0.53	ABV/ABV	
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	Noise	00:00	00:00	0	220	213	88	85	1.04 *	/	
	Unidentified	45:36	00:00	0	783286	635319	237664	192969	1.23	ABV/ABV	
	1,2,3,4,7,8-HxCDD	47:16	47:22	-6	738941	597411	213576	167501	1.24	ABV/ABV	M
	1,2,3,6,7,8-HxCDD	47:23	47:28	-5	733800	592538	202130	162007	1.24	AVV/AVB	DM
	1,2,3,7,8,9-HxCDD	47:47	47:52	-5	783585	628706	197876	158923	1.25	AVV/ABV	M
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**		
	Noise	00:00	00:00	0	148	168	59	67	0.88 *	/	
	13C-1,2,3,4,7,8-HxCDD	47:15	47:20	-5	1393734	1085369	402011	314916	1.28	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDD	47:22	47:28	-6	1509516	1230817	423604	340055	1.23	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDD	47:47	47:51	-4	1519803	1223409	388109	314282	1.24	AVV/AVV	
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**		
	Noise	00:00	00:00	0	153	170	61	68	0.90	/	
	1,2,3,4,6,7,8-HpCDF	50:40	50:33	7	899148	860784	201261	190671	1.04	ABV/ABV	M
	1,2,3,4,7,8,9-HpCDF	53:00	52:45	15	747100	722937	180610	172735	1.03	ABB/ABV	M
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	Noise	00:00	00:00	0	155	185	62	74	0.84 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	50:39	50:32	7	809380	1782856	182213	391867	0.45	ABV/ABV	
	13C-1,2,3,4,7,8,9-HpCDF	52:59	52:44	15	661318	1480241	155771	354225	0.45	ABV/ABV	
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**		
	Noise	00:00	00:00	0	173	165	69	66	1.05	/	
	Unidentified	51:10	00:00	0	657017	640383	142845	141073	1.03	ABV/ABV	
	1,2,3,4,6,7,8-HpCDD	52:23	52:11	12	651459	615242	149875	140151	1.06	ABV/ABV	M
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**		
	Noise	00:00	00:00	0	178	103	71	41	1.73 *	/	
	13C-1,2,3,4,6,7,8-HpCDD	52:22	52:10	12	1318571	1260412	299788	286797	1.05	ABV/ABV	
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**		
	Noise	00:00	00:00	0	170	165	68	66	1.03 *	/	
	OCDF	56:51	56:32	19	1162918	1280249	312614	349069	0.91	ABV/ABV	M
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**		
	Noise	00:00	00:00	0	165	135	66	54	1.22 *	/	
	OCDD	56:42	56:25	17	1122647	1266085	312386	351439	0.89	ABV/ABV	M

Notes:
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STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 1613B

IsoCalc

Workorder	3262:44	Prep Batch		Lot No	
Data File	/20060503s3/b060503w1.	Prep Date		SDG No	
Analysis ID	90472	Prep Exp Date		Date Received	
Analysis Date	05/03/06 22:44	Matrix	UNKNOWN	Date Sampled	
Anal Exp Date		Initial Wt/Vol		Lims Test Code	
Instrument	M2A	Extract Vol		Method	DX1613B
Analyst	PMP	Diluton Factor	1.00	Code	F8

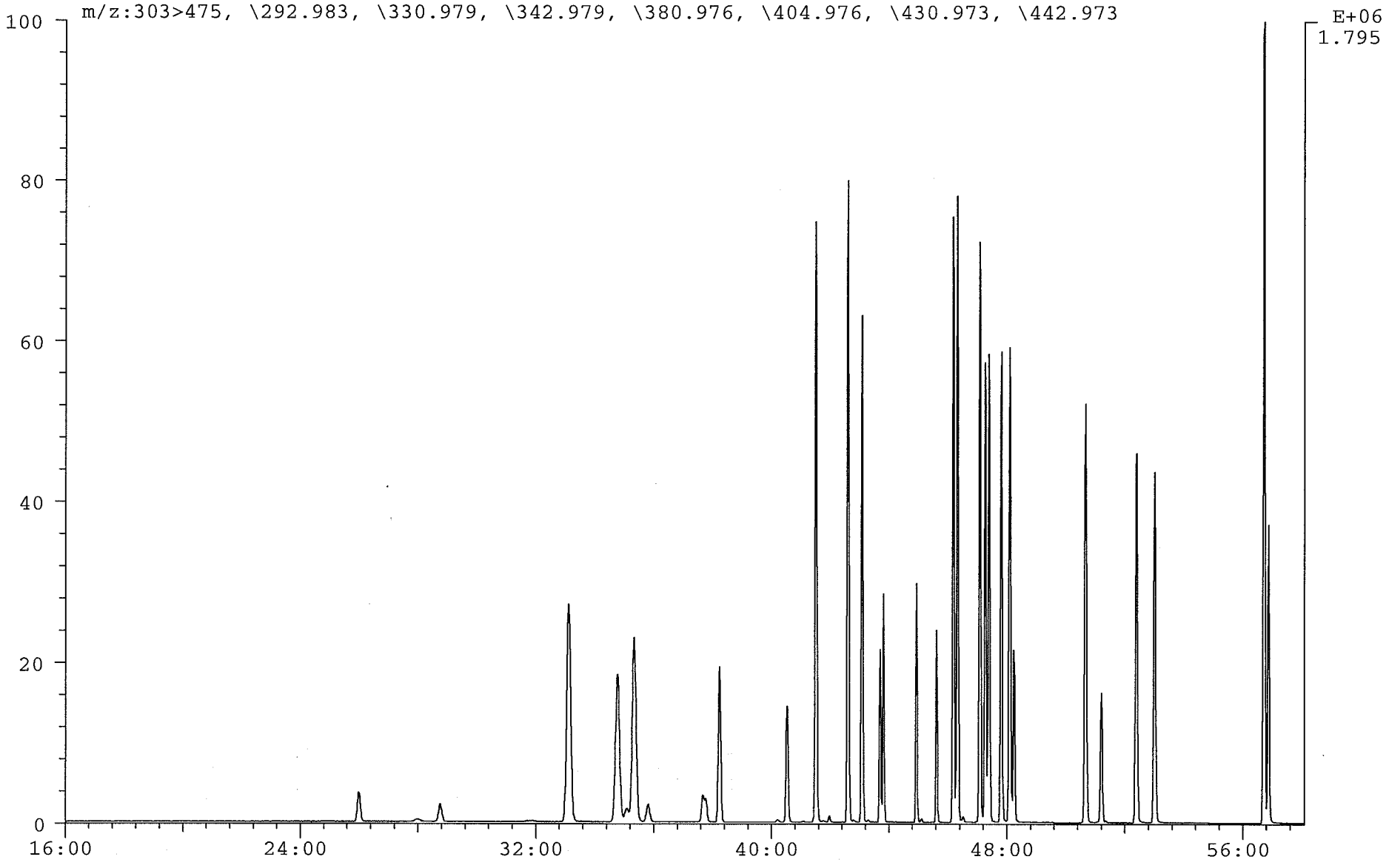
View Small Peaks? False View deleted peaks? False

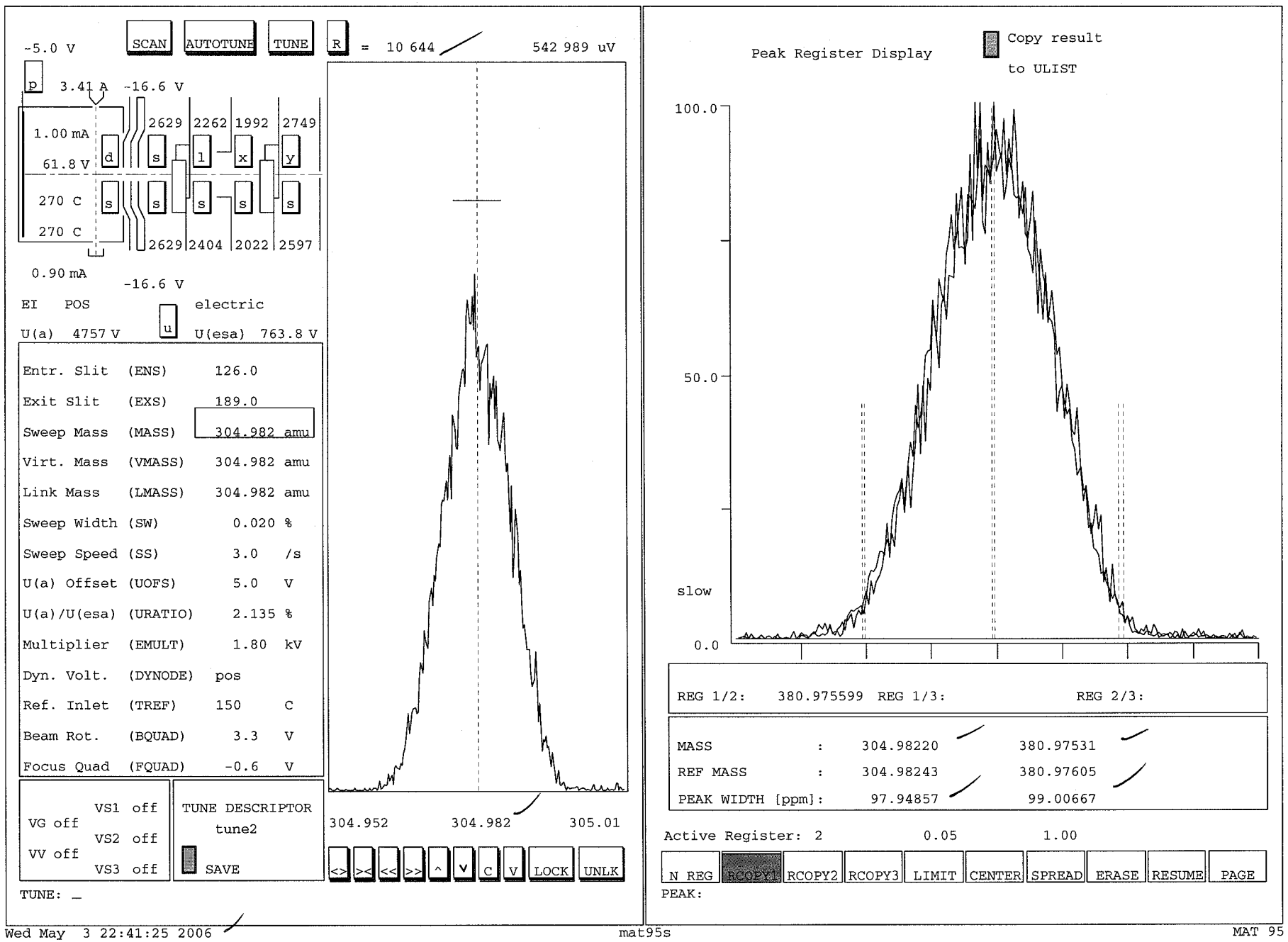
Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
470					469.7780	471.7750	469.7780	471.7750	0.76-1.02		
	Noise	00:00	00:00	0	130	150	52	60	0.87	/	
	13C-OCDD	56:41	56:24	17	2280966	2561126	606716	698056	0.89	ABV/ABV	

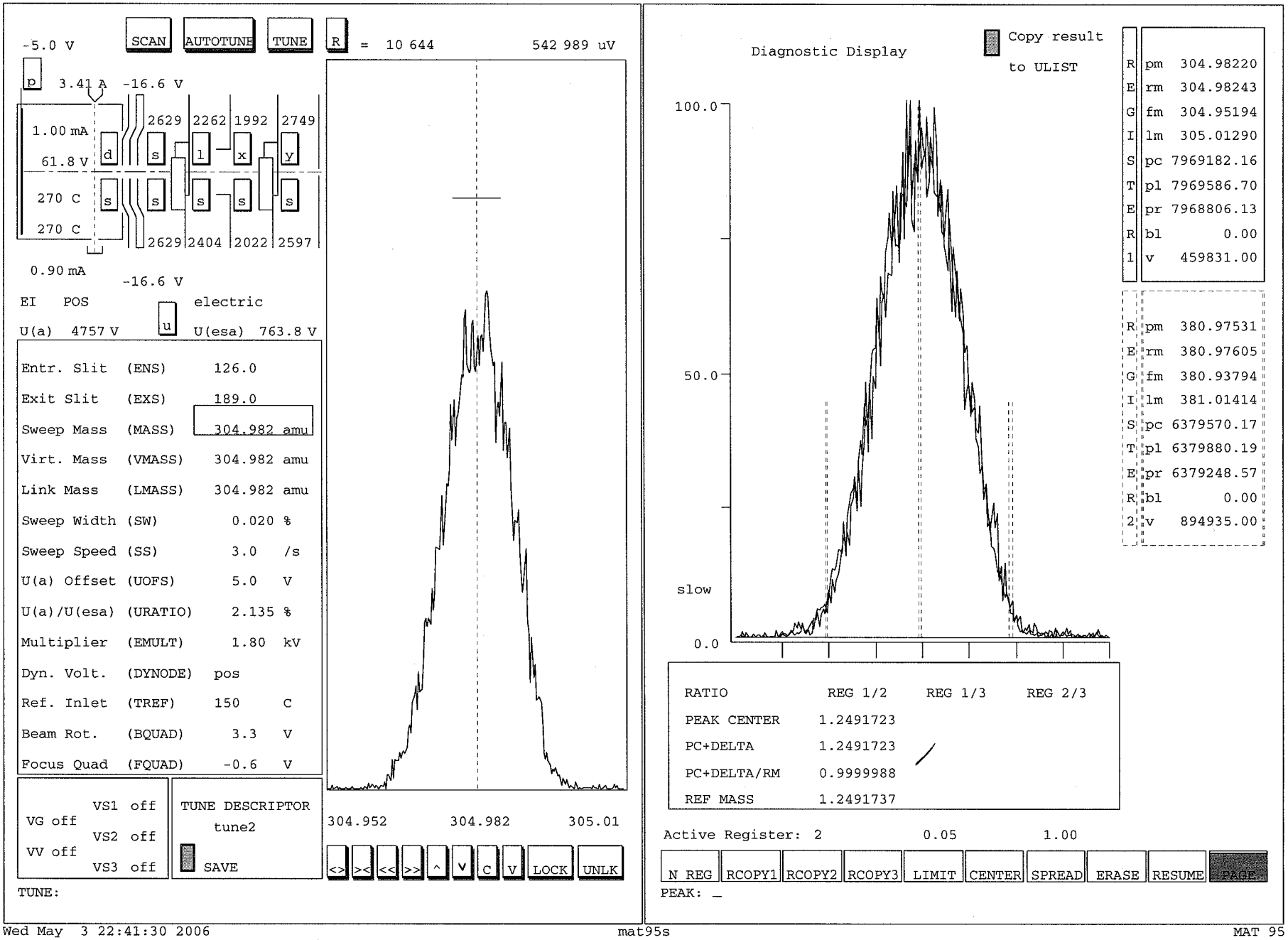
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

CHRO: b060503w1 03-May-06 Elapse: 08:00.4 1
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 22:44:18 2781
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: PMP Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 442 > 2781 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

Int/Cal PMP 5-4-06
QC BRW 5/4/06

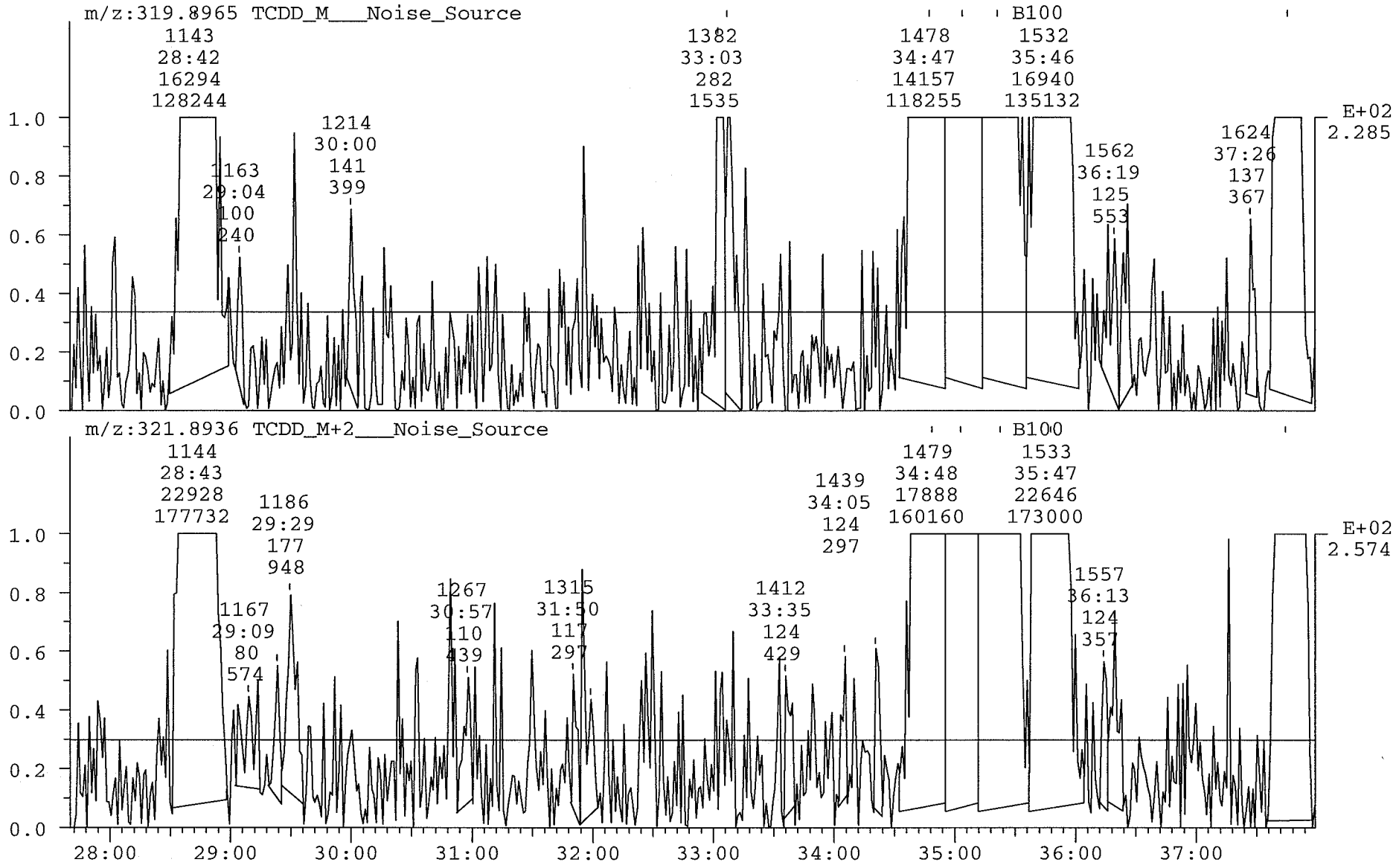



-5.0 V
SCAN
AUTOTUNE
TUNE
R
= 10 644
542 989 uV
p
3.41 A
-16.6 V
1.00 mA
61.8 V
2629
2262
1992
2749
d
s
l
x
y
270 C
270 C
2629
2404
2022
2597
0.90 mA
-16.6 V
EI POS
electric
U(a) 4757 V
u
U(esa) 763.8 V
Entr. Slit (ENS) 126.0
Exit Slit (EXS) 189.0
Sweep Mass (MASS) 304.982 amu
Virt. Mass (VMASS) 304.982 amu
Link Mass (LMASS) 304.982 amu
Sweep Width (SW) 0.020 %
Sweep Speed (SS) 3.0 /s
U(a) Offset (UOFS) 5.0 V
U(a)/U(esa) (URATIO) 2.135 %
Multiplier (EMULT) 1.80 kV
Dyn. Volt. (DYNODE) pos
Ref. Inlet (TREF) 150 C
Beam Rot. (BQUAD) 3.3 V
Focus Quad (FQUAD) -0.6 V
VS1 off
VG off
VS2 off
VV off
VS3 off
TUNE DESCRIPTOR
tune2
SAVE
304.952
304.982
305.01
<> >< << >> ^ v C V LOCK UNLK
TUNE: _
Peak Register Display
Copy result
to ULIST
100.0
50.0
slow
0.0
REG 1/2: 380.975599 REG 1/3: REG 2/3:
MASS : 304.98220 380.97531
REF MASS : 304.98243 380.97605
PEAK WIDTH [ppm]: 97.94857 99.00667
Active Register: 2 0.05 1.00
N REG
RCOPY1
RCOPY2
RCOPY3
LIMIT
CENTER
SPREAD
ERASE
RESUME
PAGE
PEAK:
Wed May 3 22:41:25 2006
mat95s
MAT 95

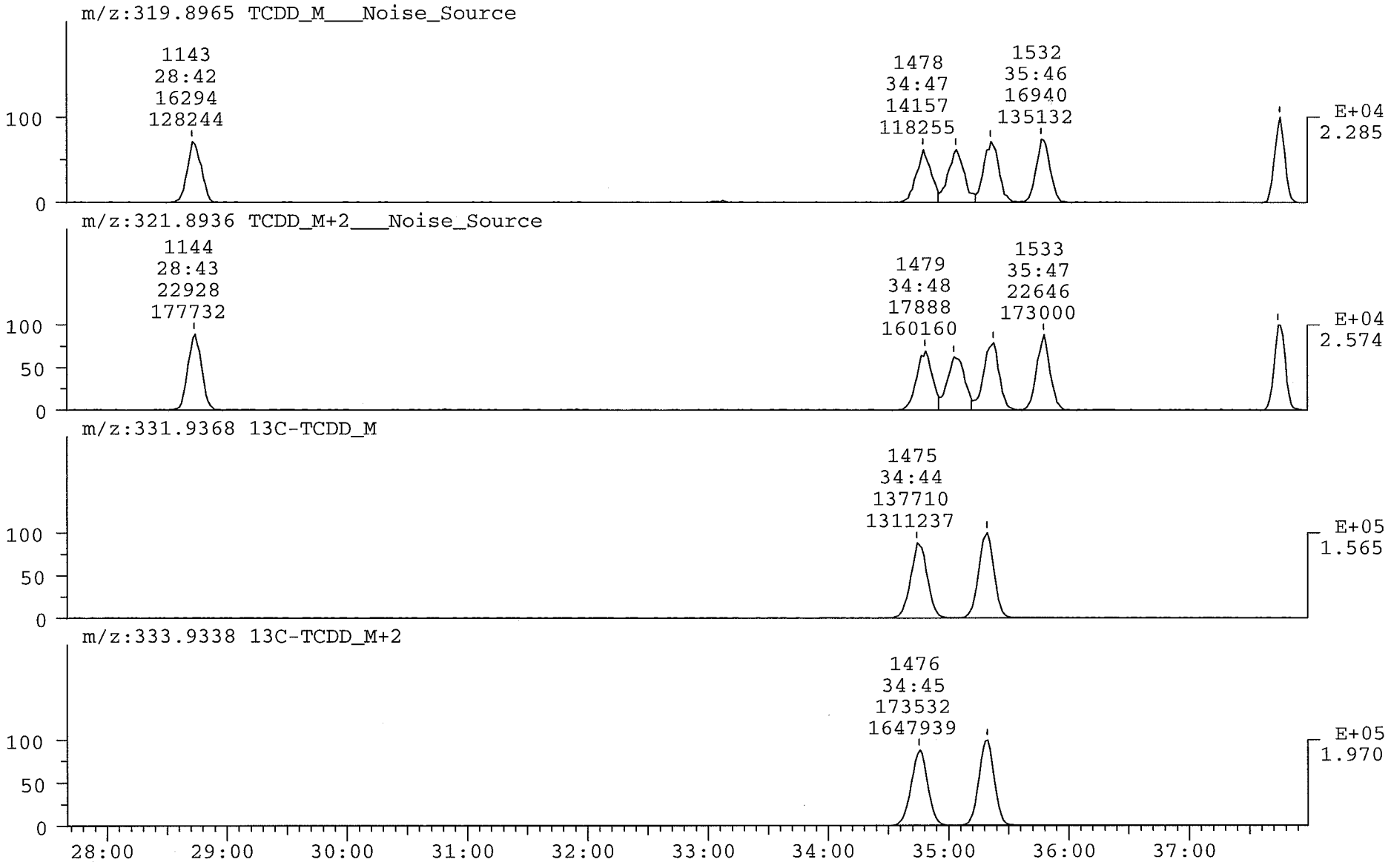


-5.0 V
SCAN
AUTOTUNE
TUNE
R = 10 644
542 989 uV
p
3.41 A
-16.6 V
1.00 mA
61.8 V
270 C
270 C
2629 2262 1992 2749
2629 2404 2022 2597
0.90 mA
-16.6 V
EI POS
electric
U(a) 4757 V
U(esa) 763.8 V
Entr. Slit (ENS) 126.0
Exit Slit (EXS) 189.0
Sweep Mass (MASS) 304.982 amu
Virt. Mass (VMASS) 304.982 amu
Link Mass (LMASS) 304.982 amu
Sweep Width (SW) 0.020 %
Sweep Speed (SS) 3.0 /s
U(a) Offset (UOFS) 5.0 V
U(a)/U(esa) (URATIO) 2.135 %
Multiplier (EMULT) 1.80 kV
Dyn. Volt. (DYNODE) pos
Ref. Inlet (TREF) 150 C
Beam Rot. (BQUAD) 3.3 V
Focus Quad (FQUAD) -0.6 V
VG off
VV off
VS1 off
VS2 off
VS3 off
TUNE DESCRIPTOR
tune2
SAVE
TUNE:
304.952
304.982
305.01
LOCK
UNLK
Diagnostic Display
Copy result
to ULIST
100.0
50.0
slow
0.0
R pm 304.98220
E rm 304.98243
G fm 304.95194
I lm 305.01290
S pc 7969182.16
T pl 7969586.70
E pr 7968806.13
R bl 0.00
1 v 459831.00
R pm 380.97531
E rm 380.97605
G fm 380.93794
I lm 381.01414
S pc 6379570.17
T pl 6379880.19
E pr 6379248.57
R bl 0.00
2 v 894935.00
RATIO REG 1/2 REG 1/3 REG 2/3
PEAK CENTER 1.2491723
PC+DELTA 1.2491723
PC+DELTA/RM 0.9999988
REF MASS 1.2491737
Active Register: 2 0.05 1.00
N REG
RCOPY1
RCOPY2
RCOPY3
LIMIT
CENTER
SPREAD
ERASE
RESUME
PAGE
PEAK: _
Wed May 3 22:41:30 2006
mat95s
MAT 95

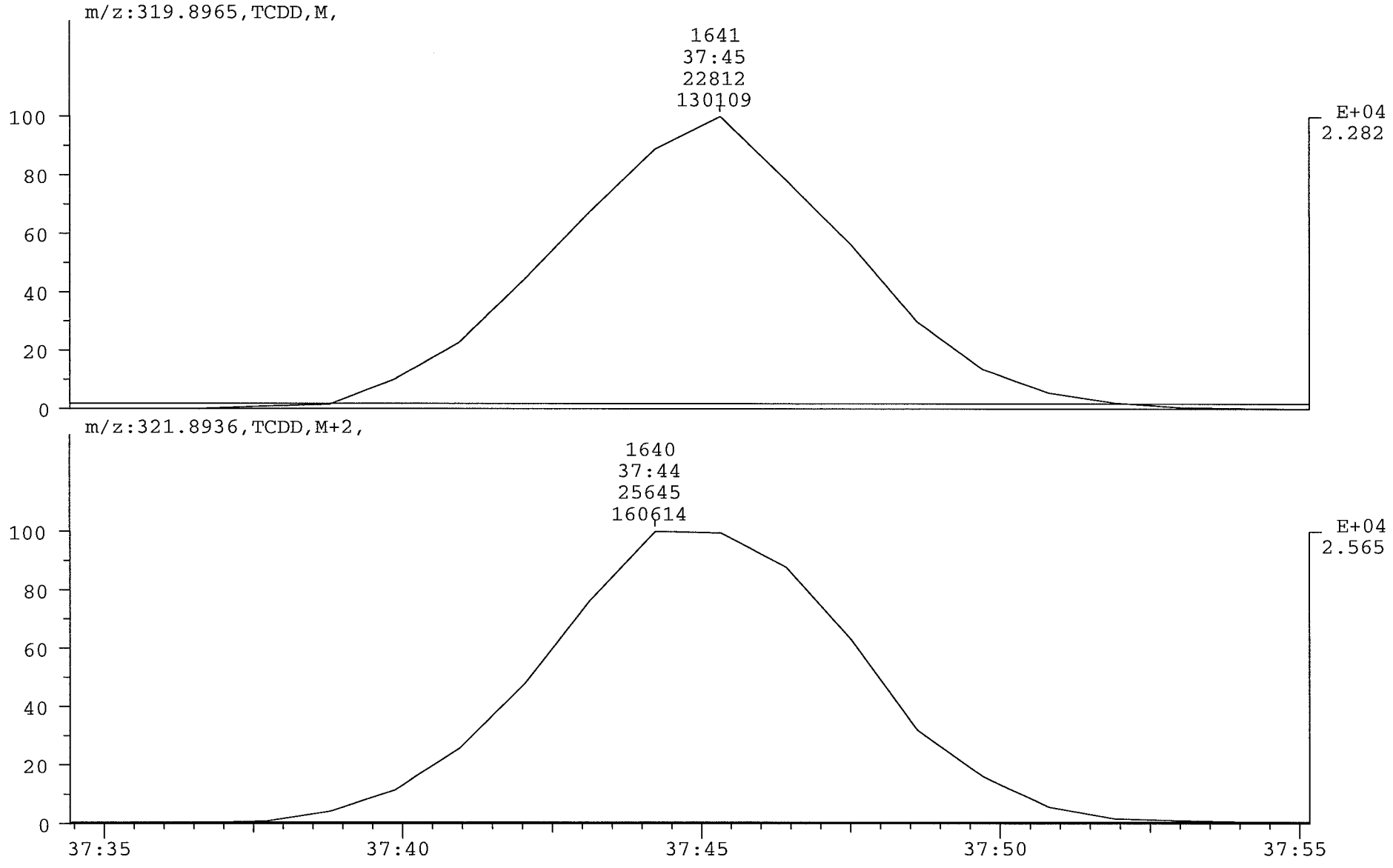
CHRO: b060503w1 03-May-06 Elapse: 08:00.4 1
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 22:44:18 2781
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: PMP Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1085 > 1654 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -3, 1.0
Disp: Height Area



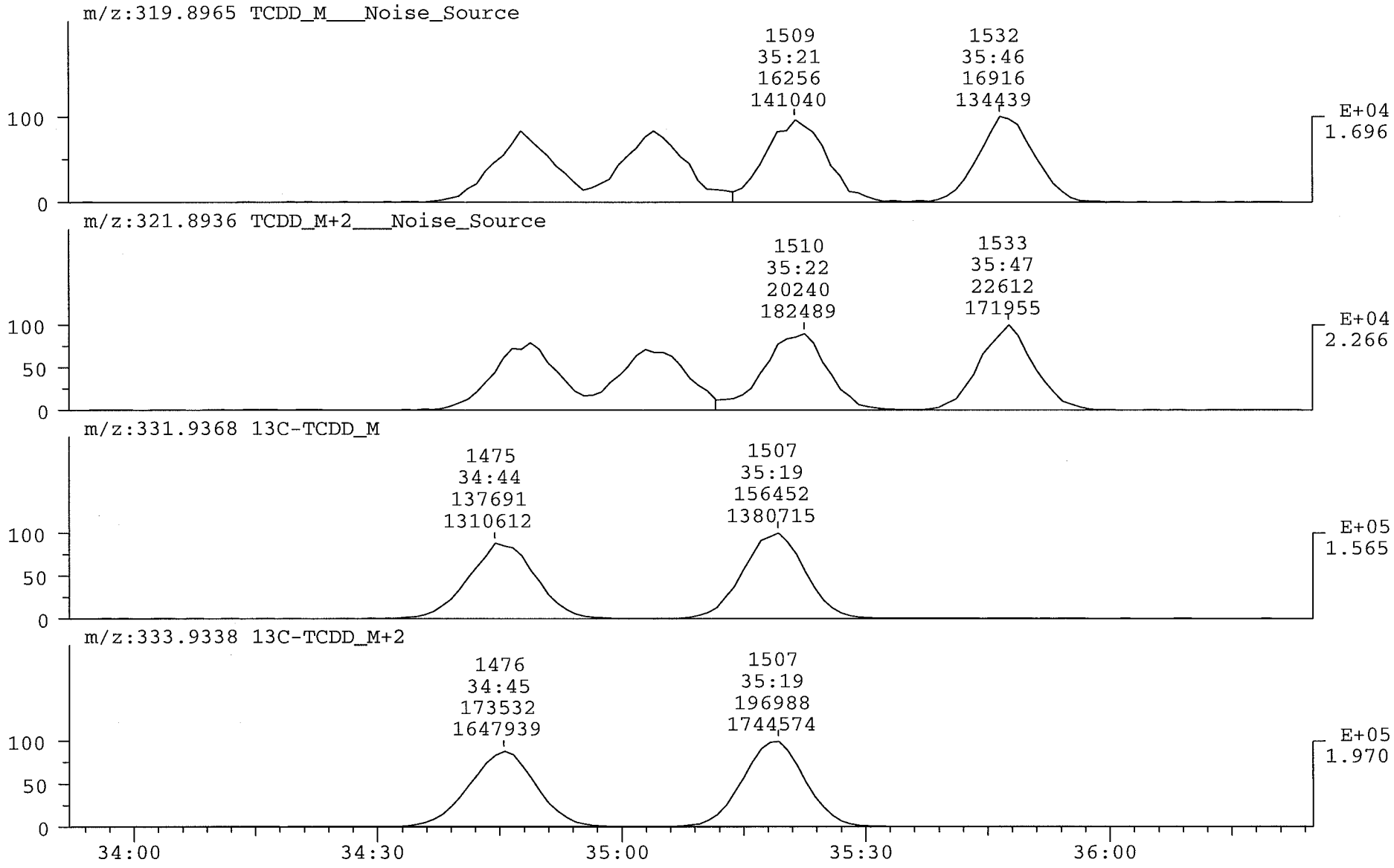
```
CHRO:  b060503w1                          03-May-06   Elapse:  08:00.4        1
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  22:44:18    2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP           Client:  STL Knoxville           Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1085 > 1654      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



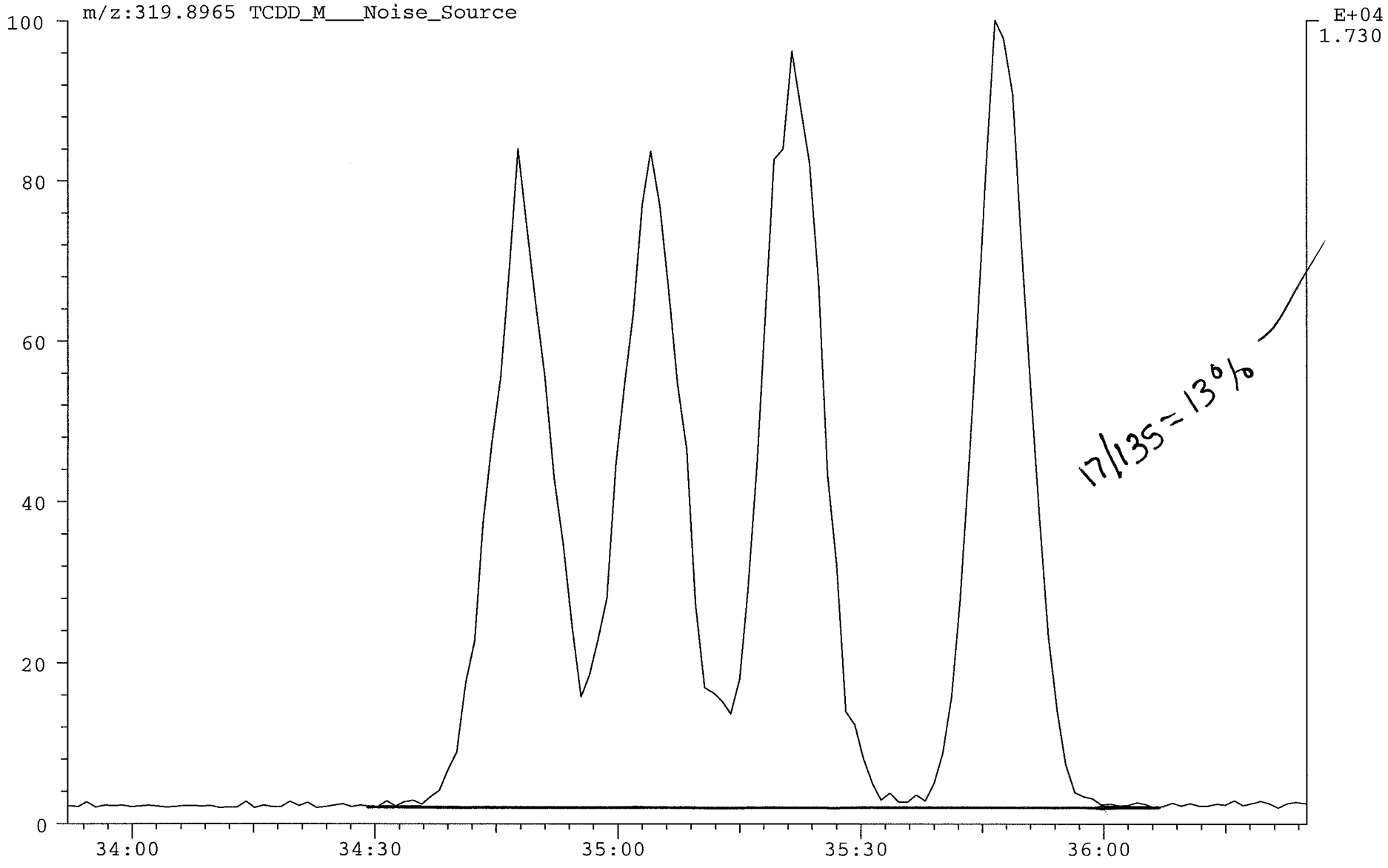
```
CHRO:  b060503w1                              03-May-06   Elapse:  56:51      2711
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                    Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville                Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1631 > 1650          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



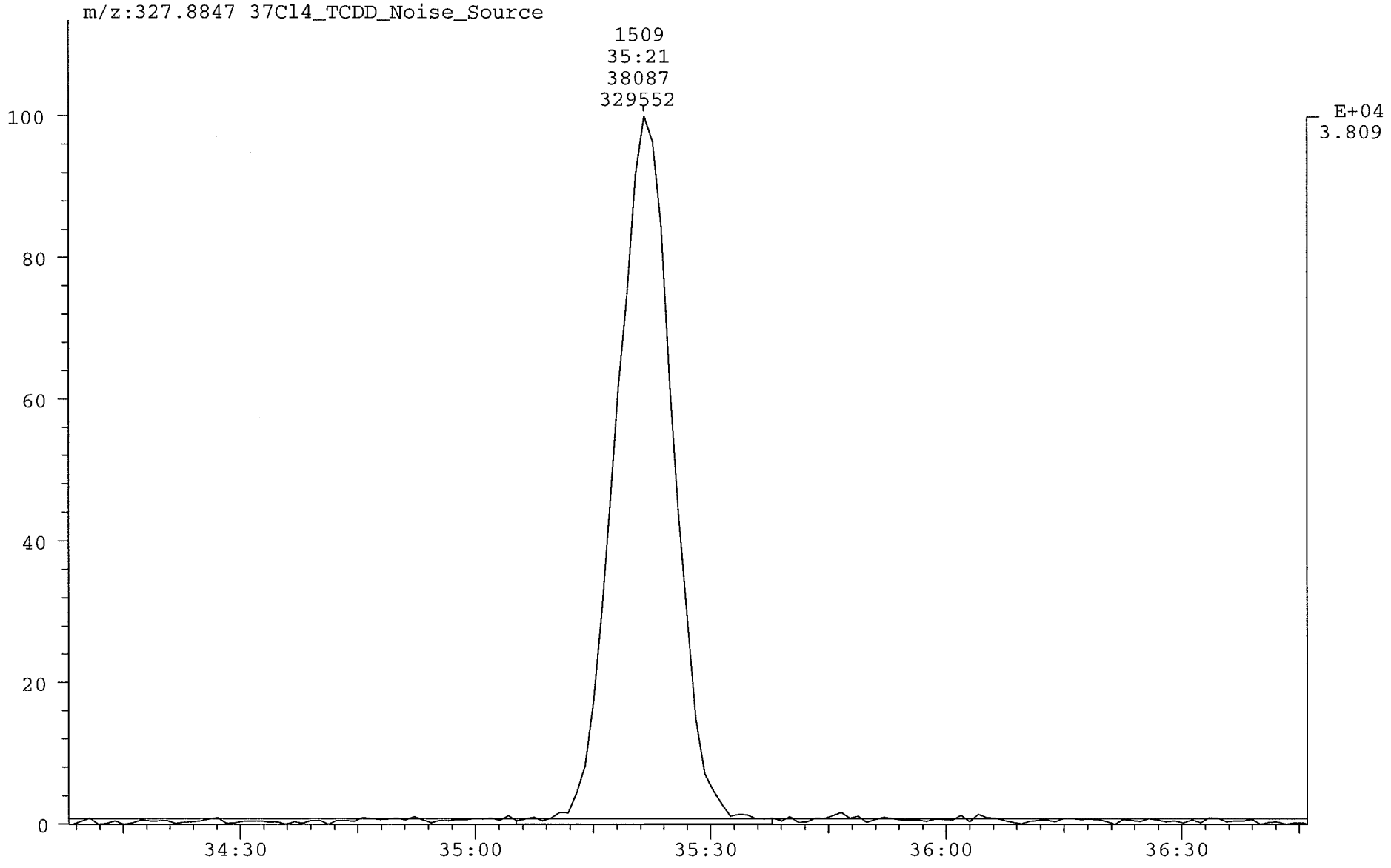
```
CHRO:  b060503w1                          03-May-06   Elapse:  35:08      1497
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1427 > 1567      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



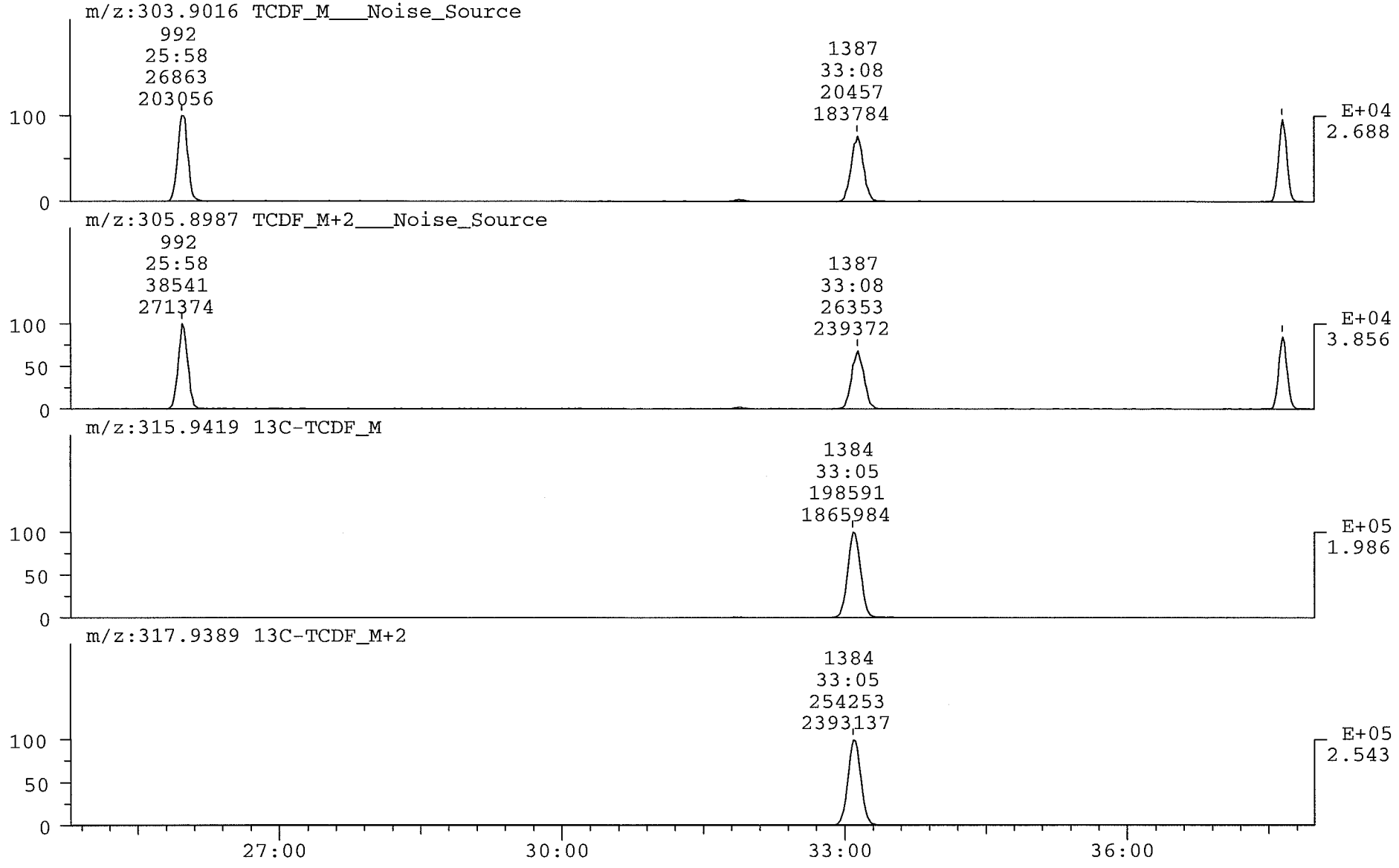
```
CHRO:  b060503w1                          03-May-06   Elapse:  35:08      1497
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1427 > 1567      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  0, 0.0
Disp:  Height  Area
```



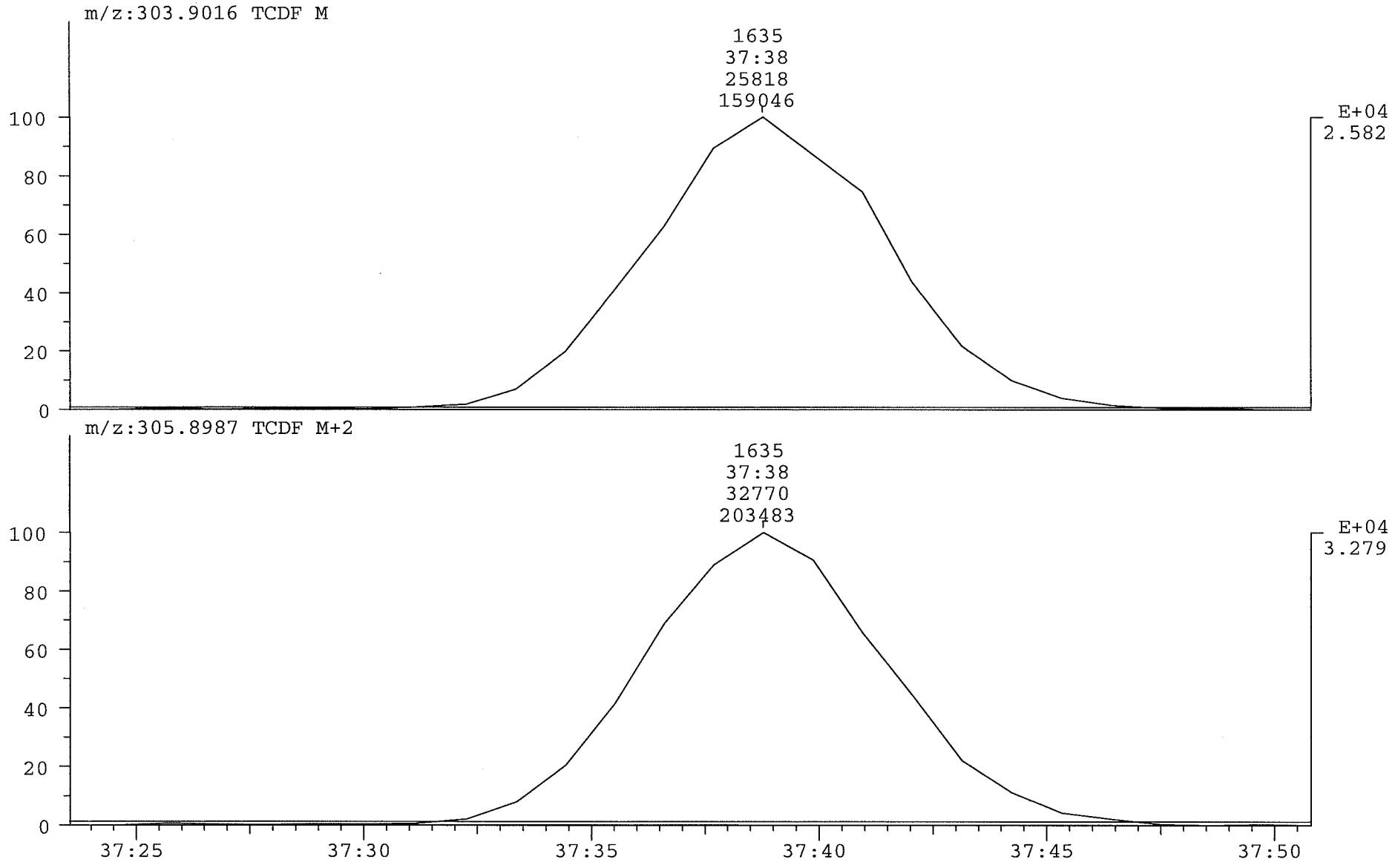
CHRO: b060503w1 03-May-06 Elapse: 35:23 1511
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 22:44:18 2781
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: PMP Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1442 > 1587 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



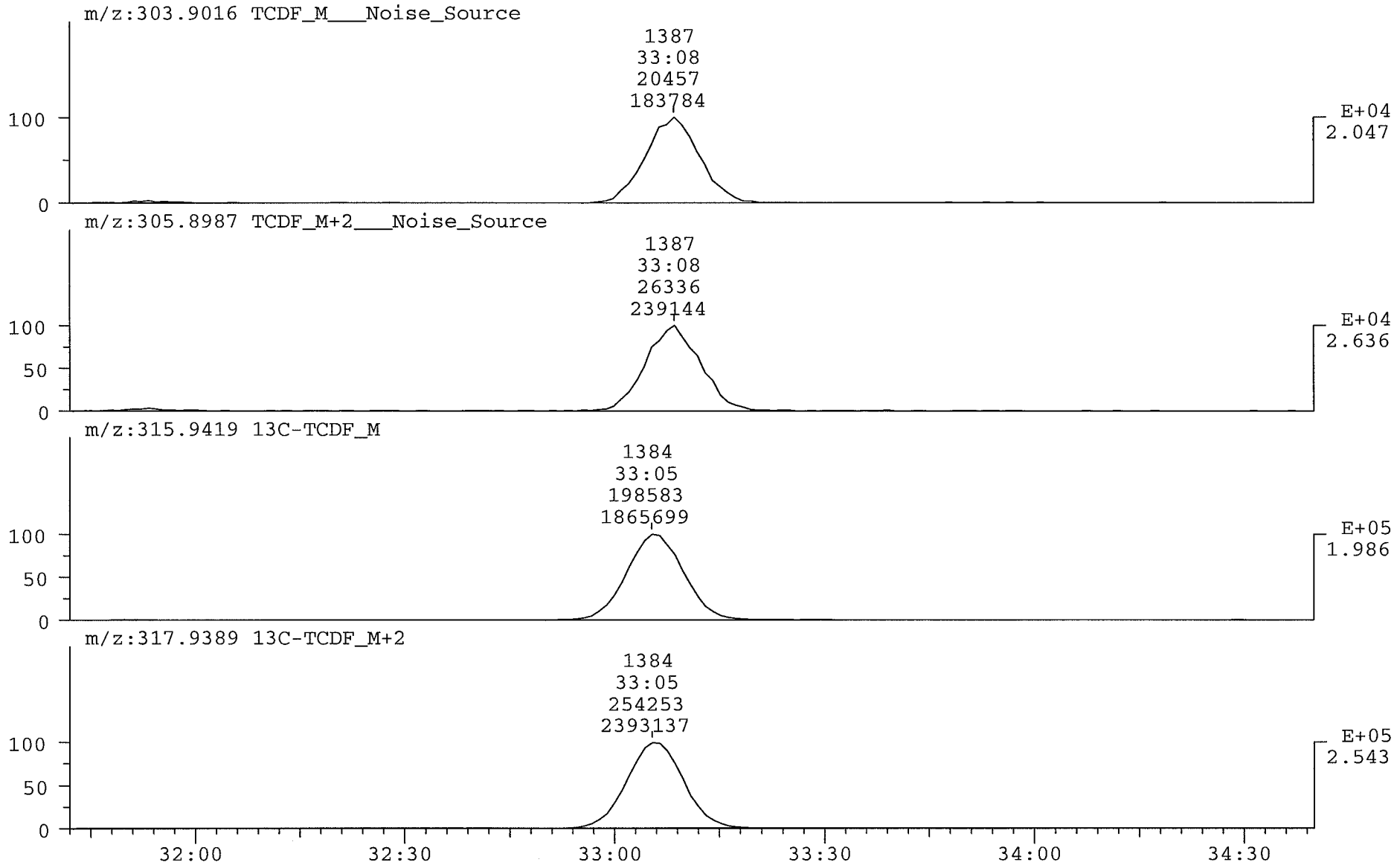
```
CHRO:  b060503w1                          03-May-06  Elapse:  35:23      1511
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1               Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                     Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville           Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   927 > 1654      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3          Label :  2, 3.0
Disp:  Height  Area
```



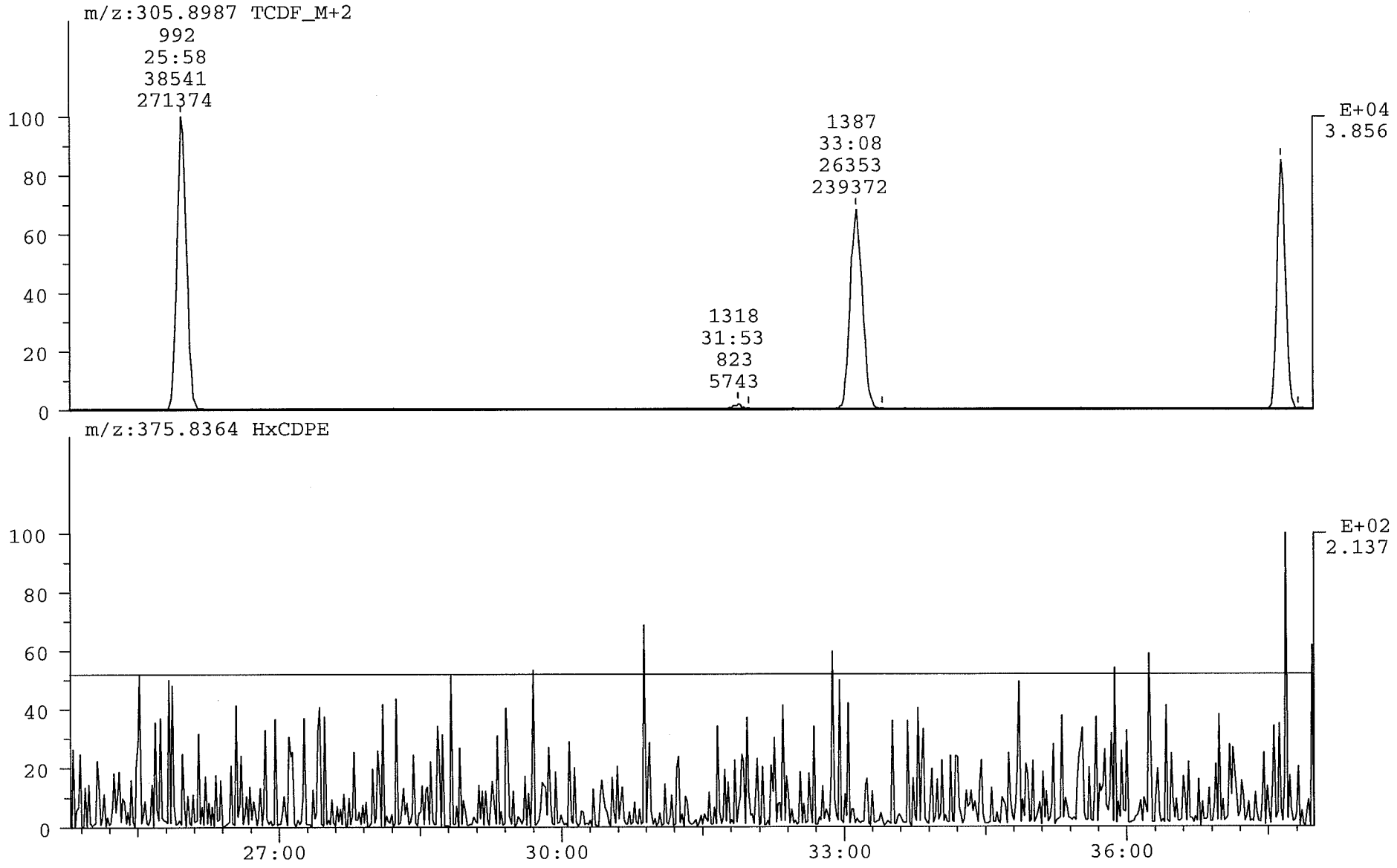
```
CHRO:  b060503w1                                03-May-06  Elapse:  56:51      2711
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                     Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville                 Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1621 > 1646           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



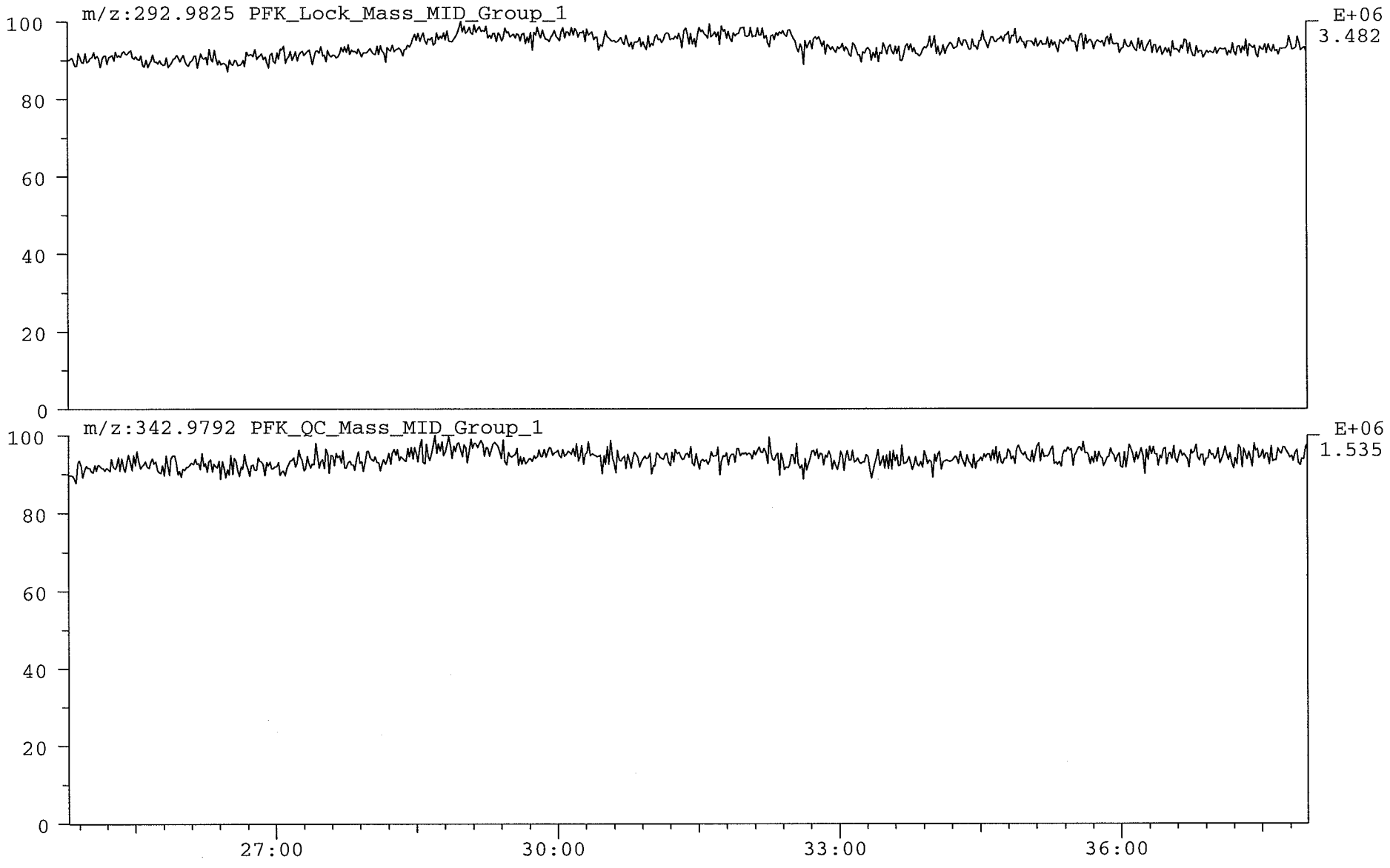
```
CHRO:  b060503w1                          03-May-06   Elapse:  33:07      1386
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1308 > 1471      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



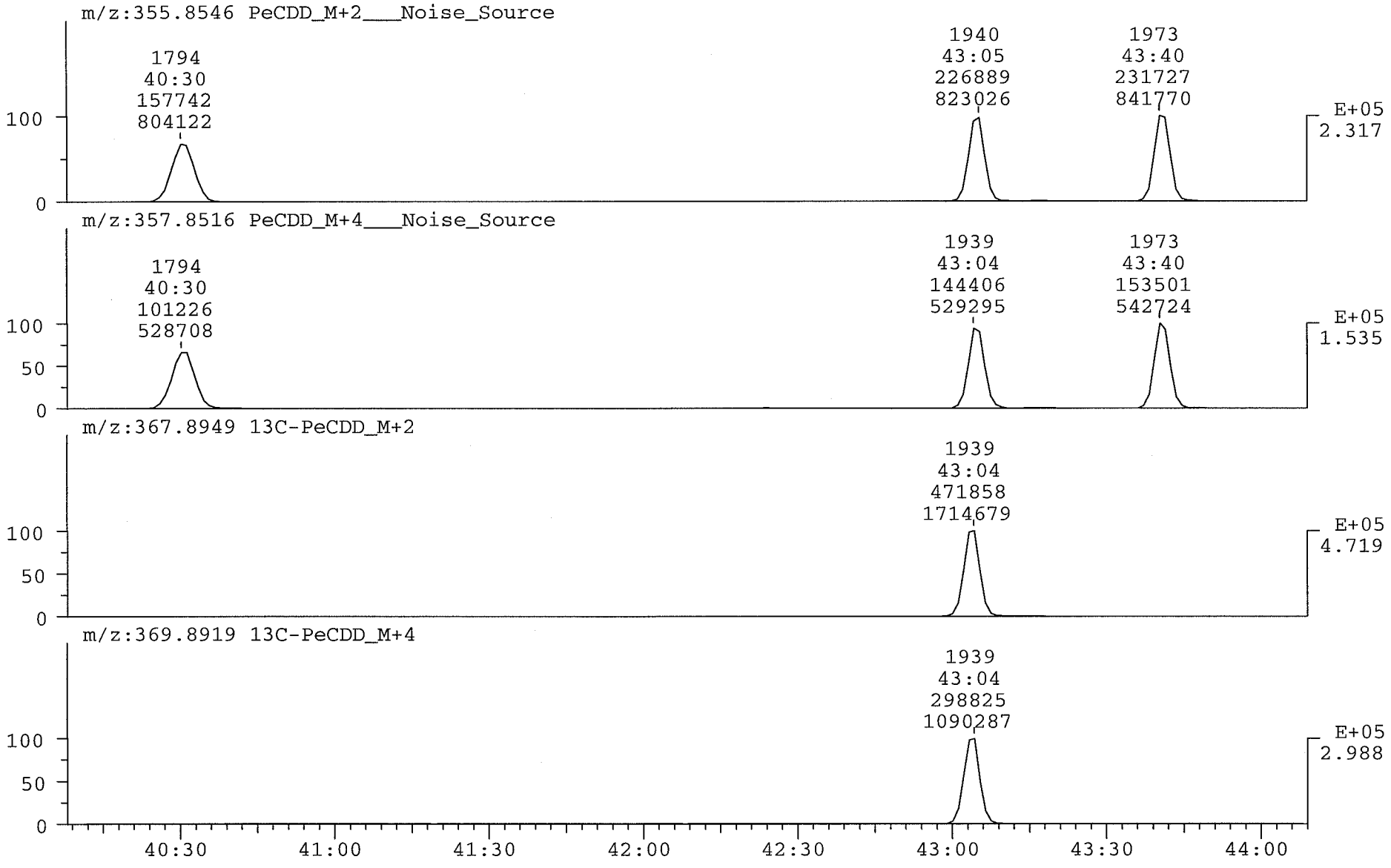
```
CHRO:  b060503w1                              03-May-06   Elapse:  33:07      1386
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                    Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  Ver/Win
Oper:  PMP            Client:  STL Knoxville              Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   927 > 1654          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



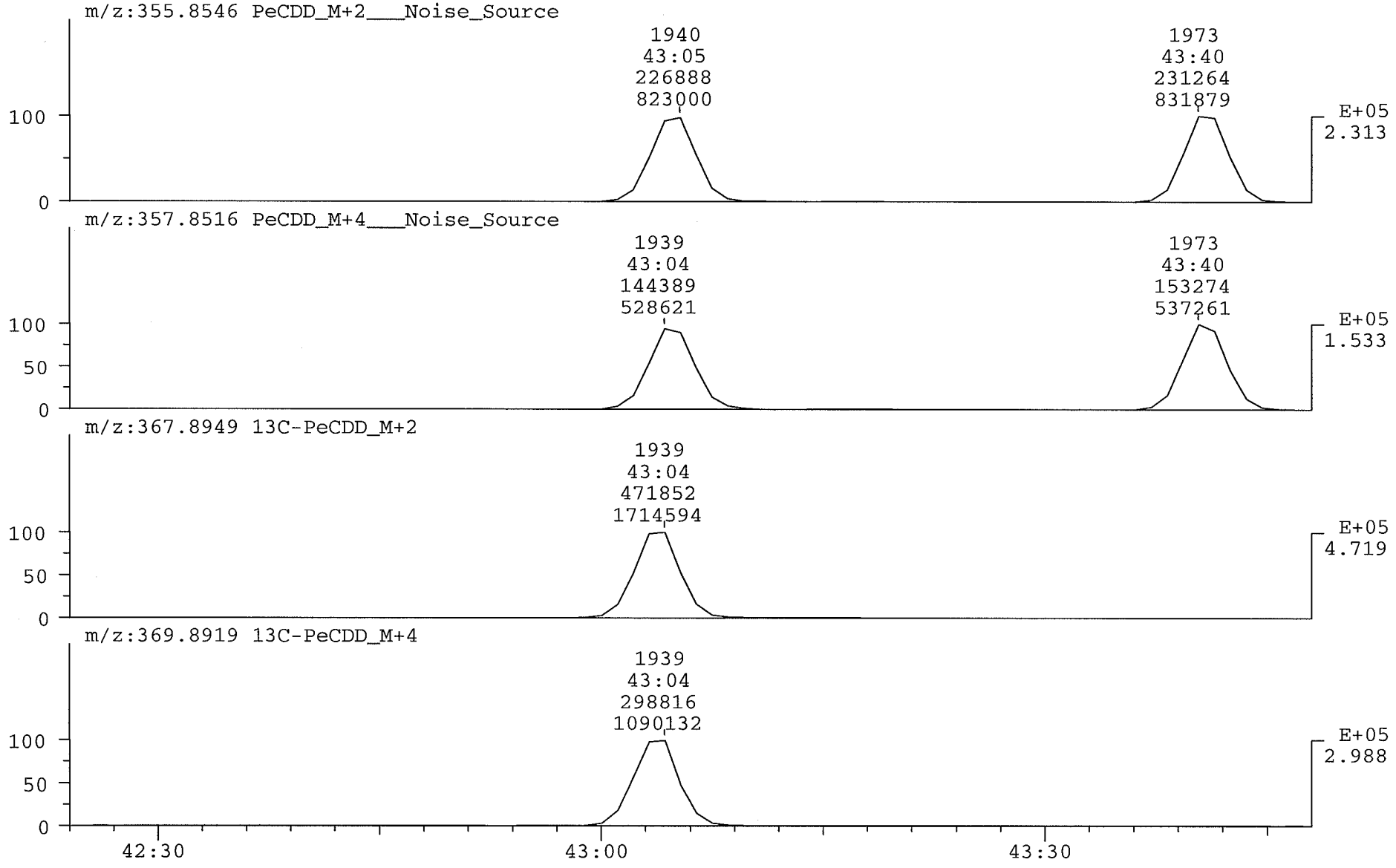
```
CHRO:  b060503w1                          03-May-06   Elapse:  33:07      1386
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   927 > 1654       Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  0, 0.0
Disp:  Height  Area
```



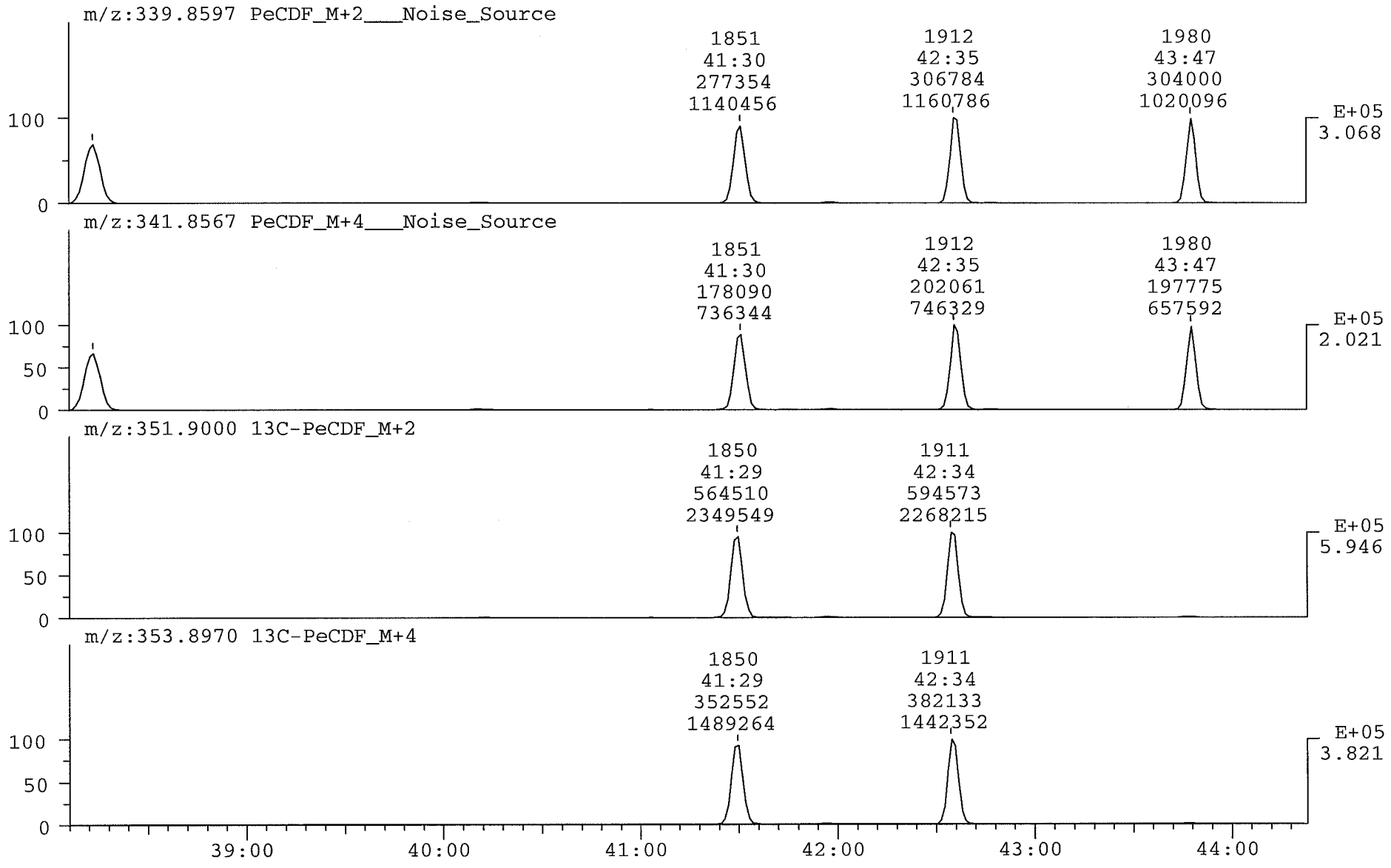
```
CHRO:  b060503w1                          03-May-06   Elapse:  33:07      1386
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1773 > 2000      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



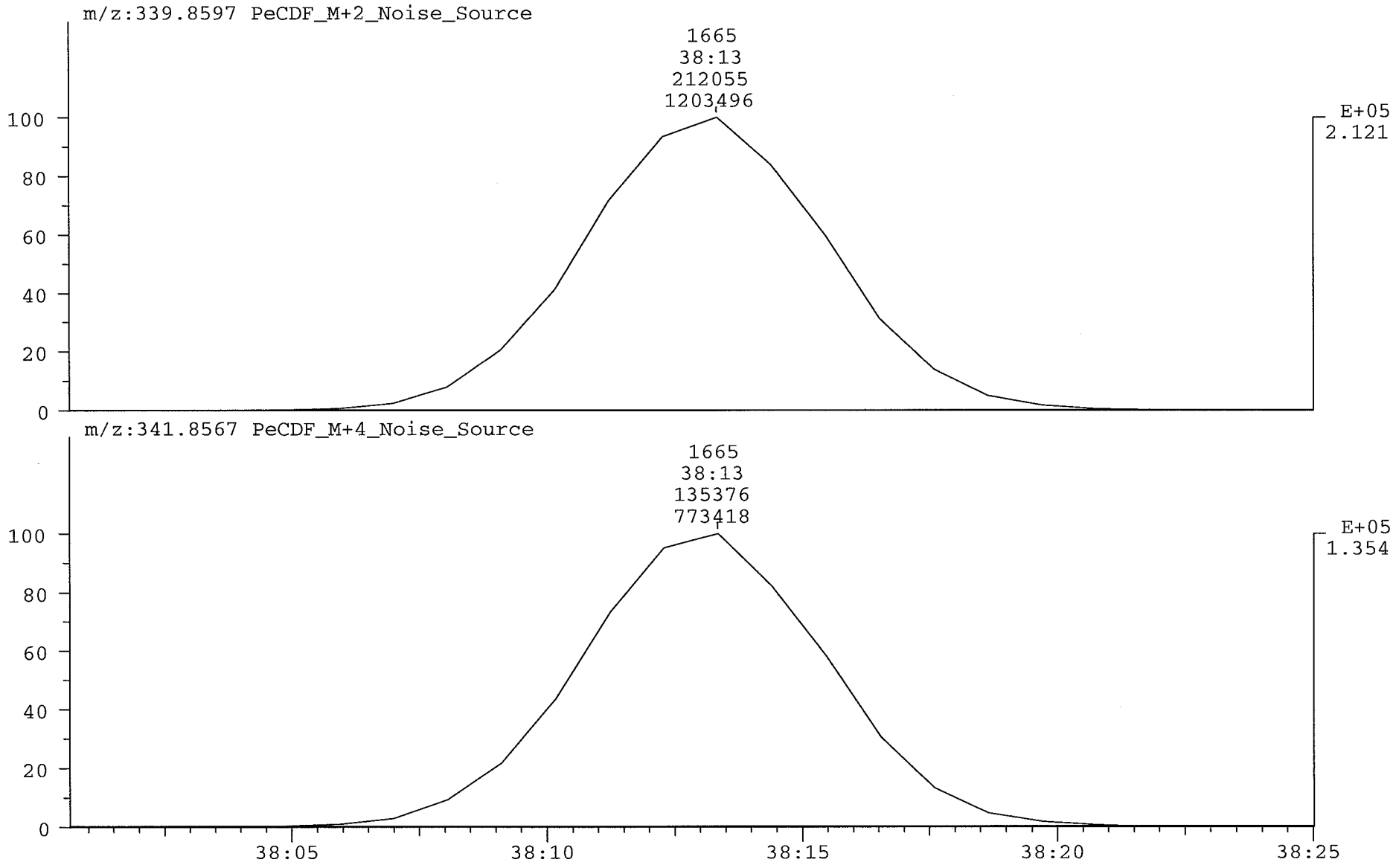
```
CHRO:  b060503w1                          03-May-06  Elapse:  43:03      1938
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1               Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                     Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville           Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1901 > 1980     Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3          Label :  2, 3.0
Disp:  Height  Area
```



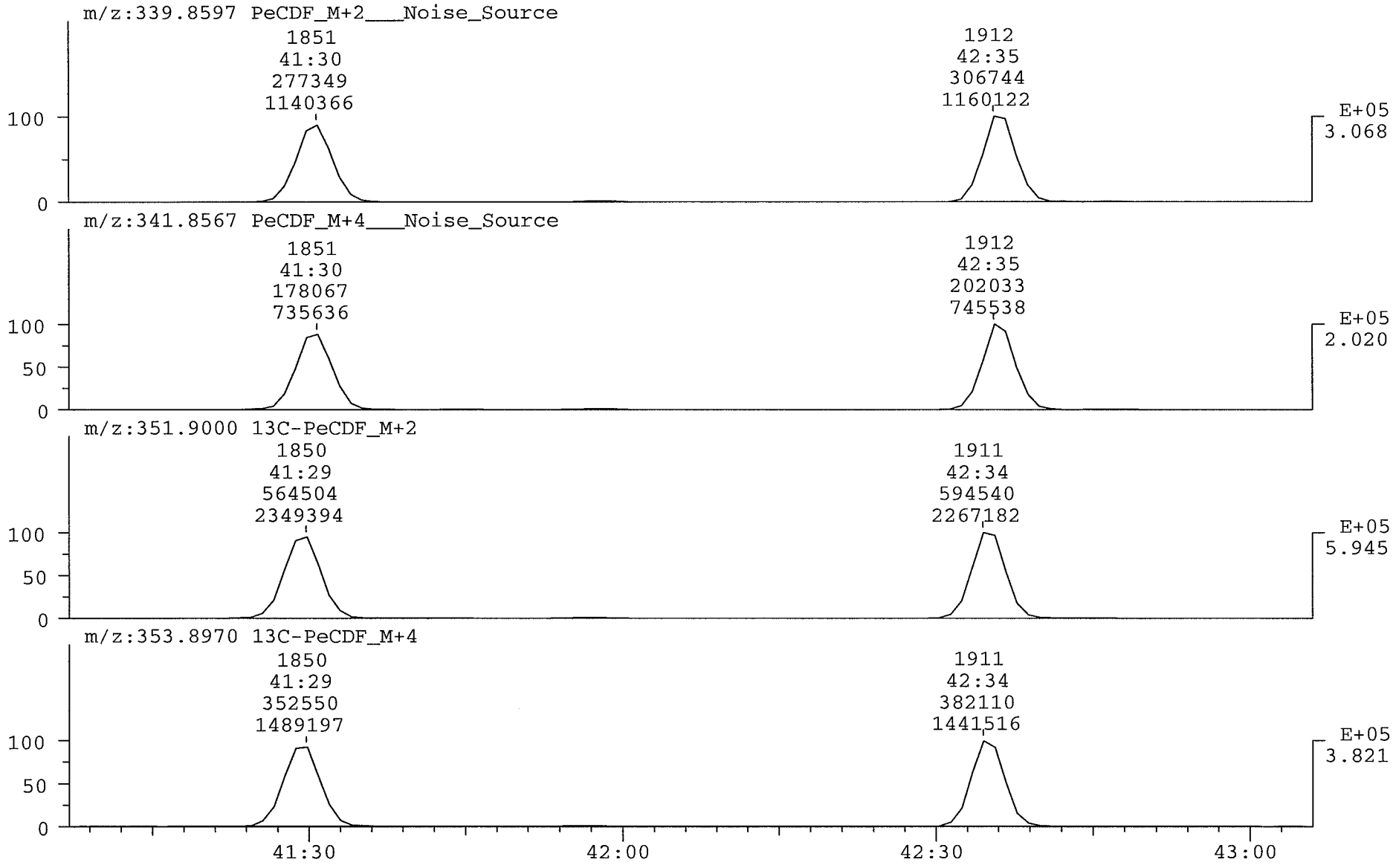
```
CHRO:  b060503w1                          03-May-06   Elapse:  43:03      1938
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1658 > 2013      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



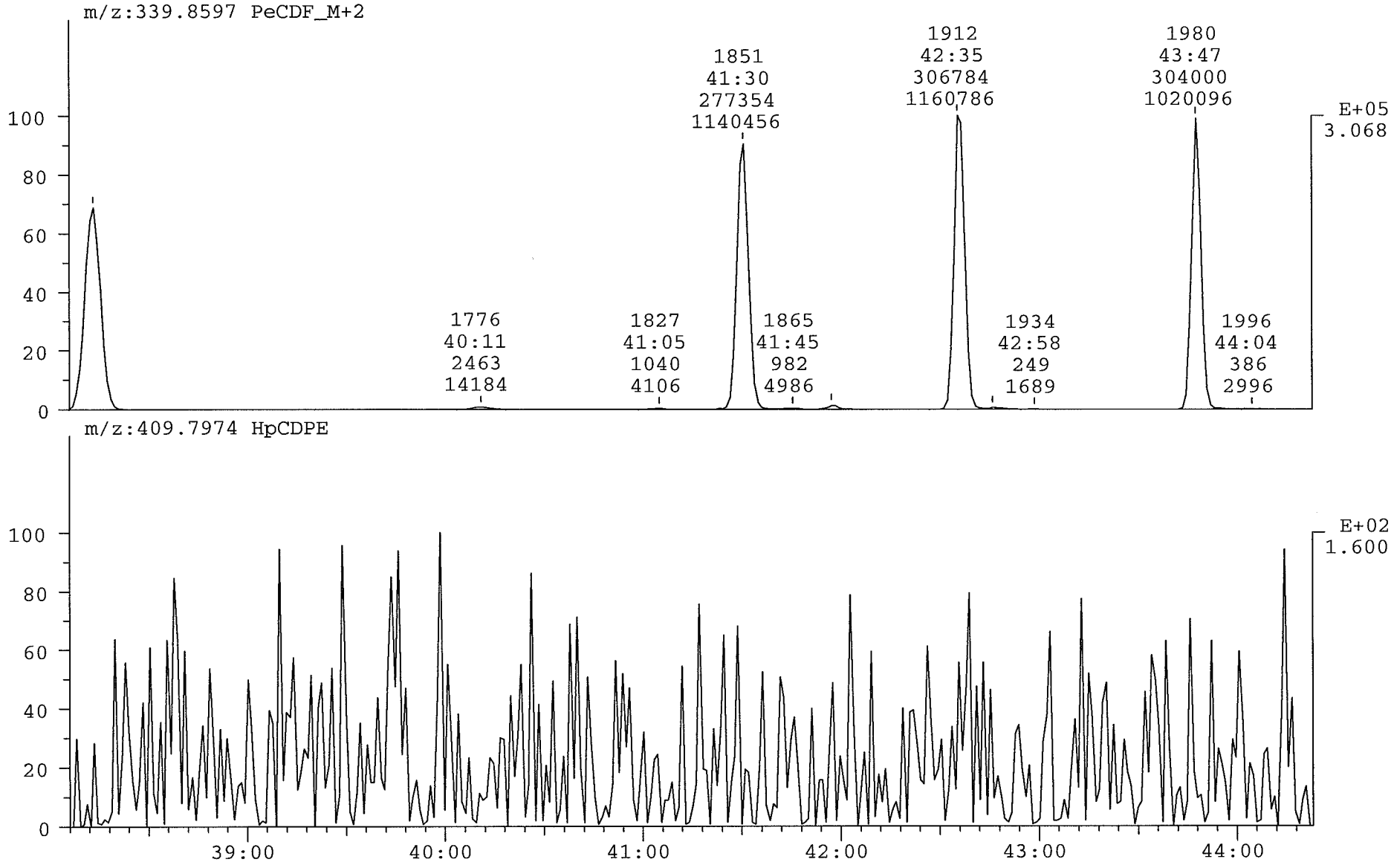
```
CHRO:  b060503w1                          03-May-06   Elapse:  56:51      2711
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1655 > 1676      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



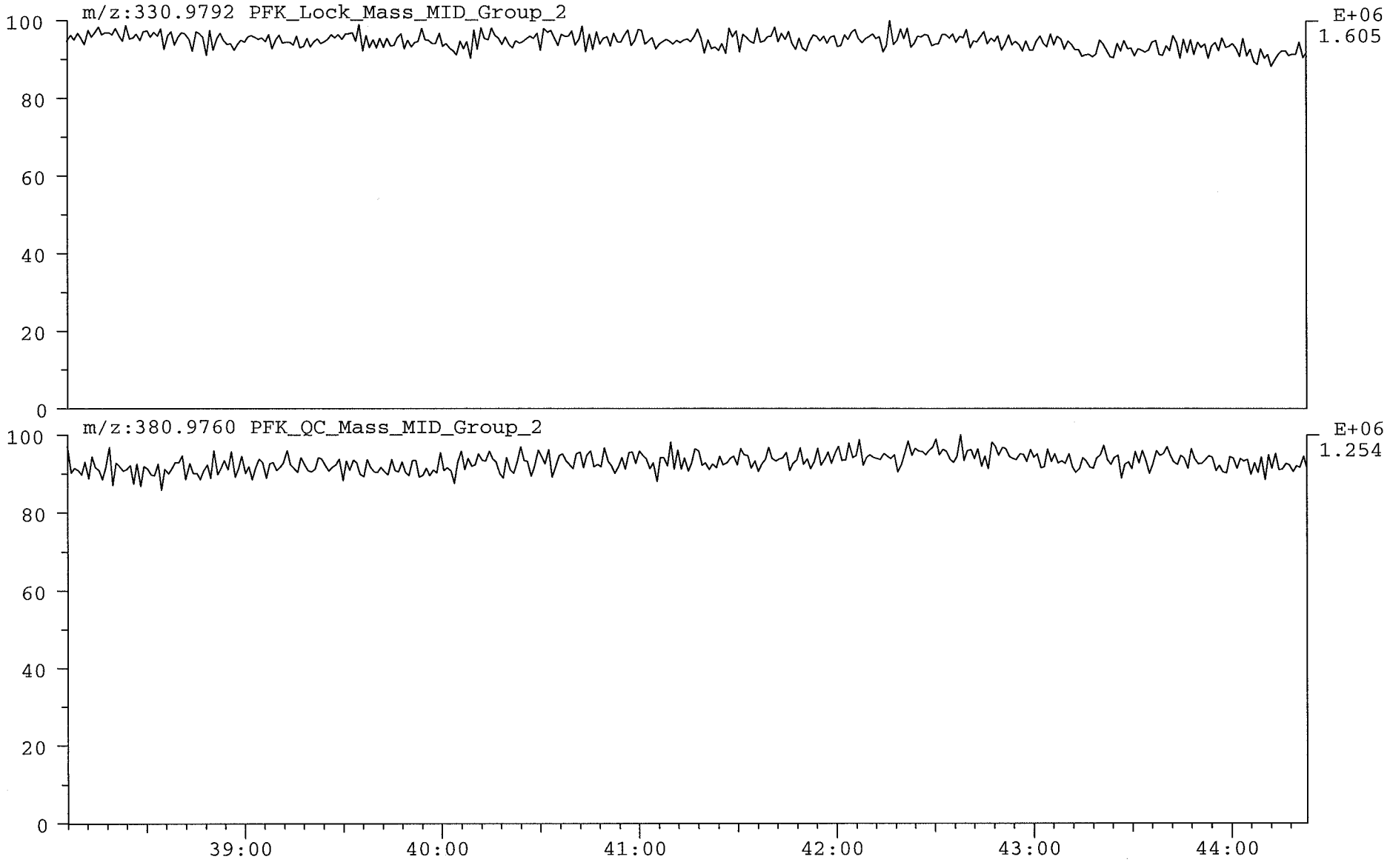
```
CHRO:  b060503w1                          03-May-06   Elapse:  42:05      1884
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1829 > 1941      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



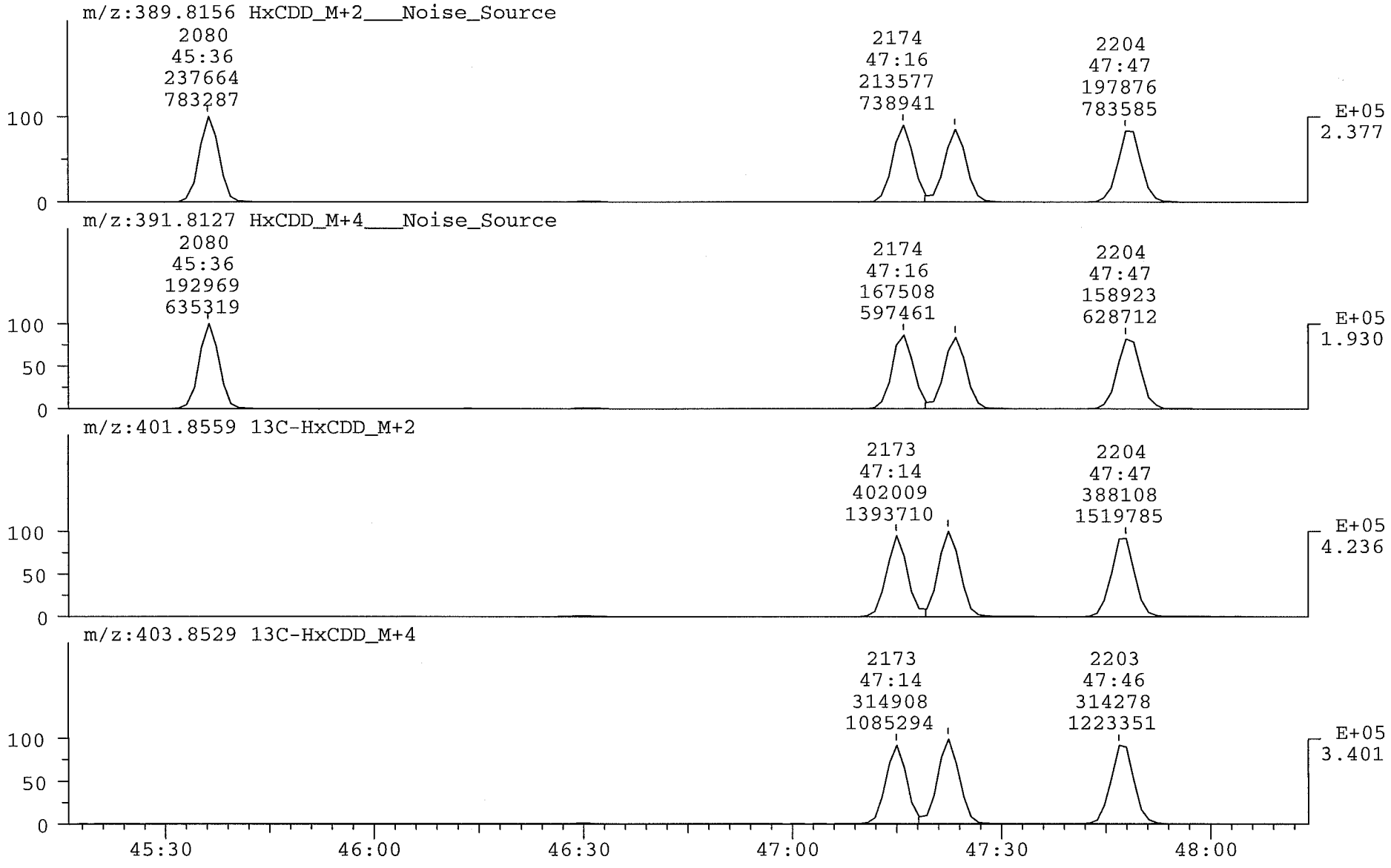
```
CHRO:  b060503w1                                03-May-06  Elapse:  42:05      1884
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                     Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville                 Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1658 > 2013           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



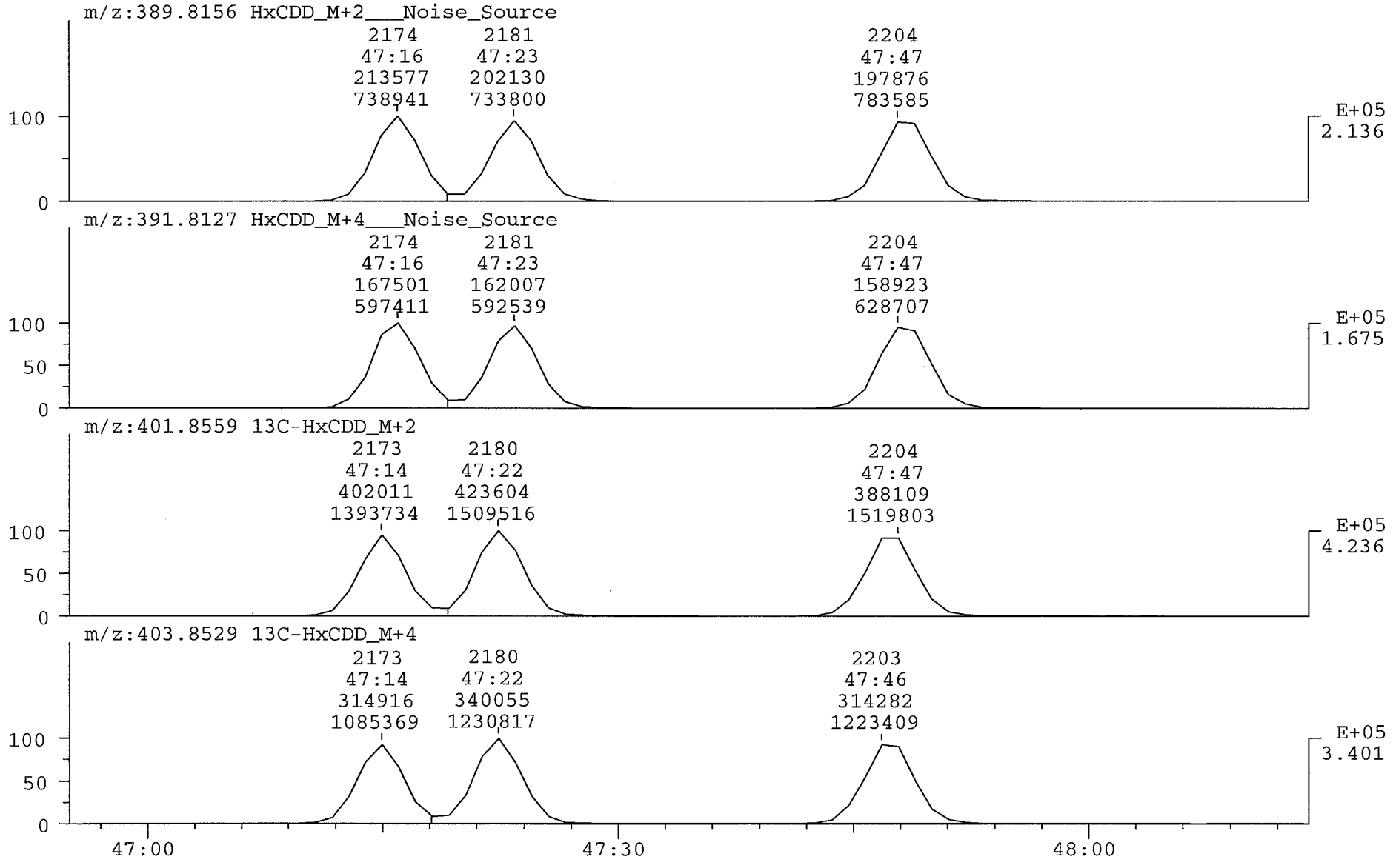
```
CHRO:  b060503w1                          03-May-06   Elapse:  42:05      1884
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1658 > 2013      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  0, 0.0
Disp:  Height  Area
```



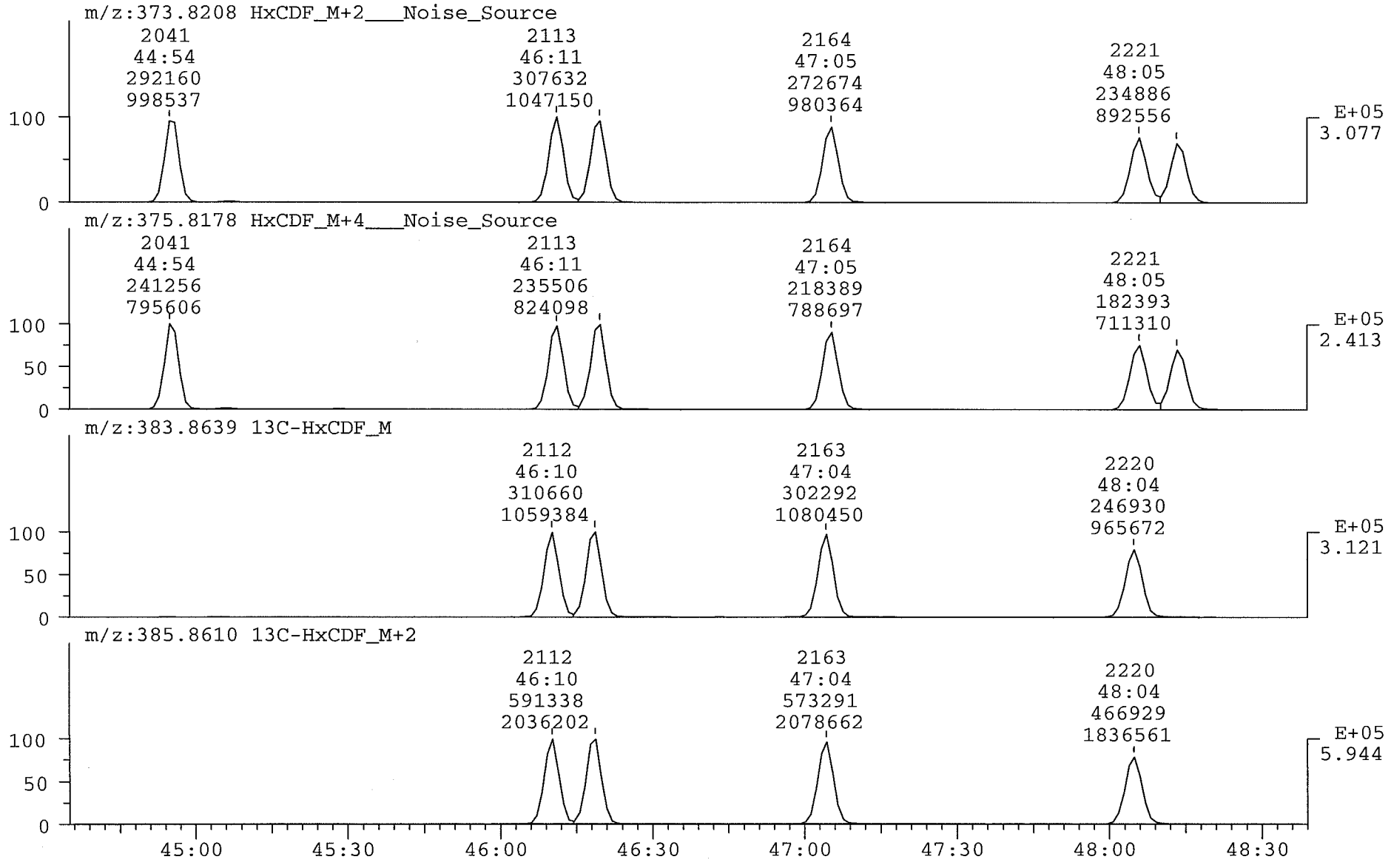
CHRO: b060503w1 03-May-06 Elapse: 42:05 1884
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 22:44:18 2781
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: PMP Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2061 > 2229 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



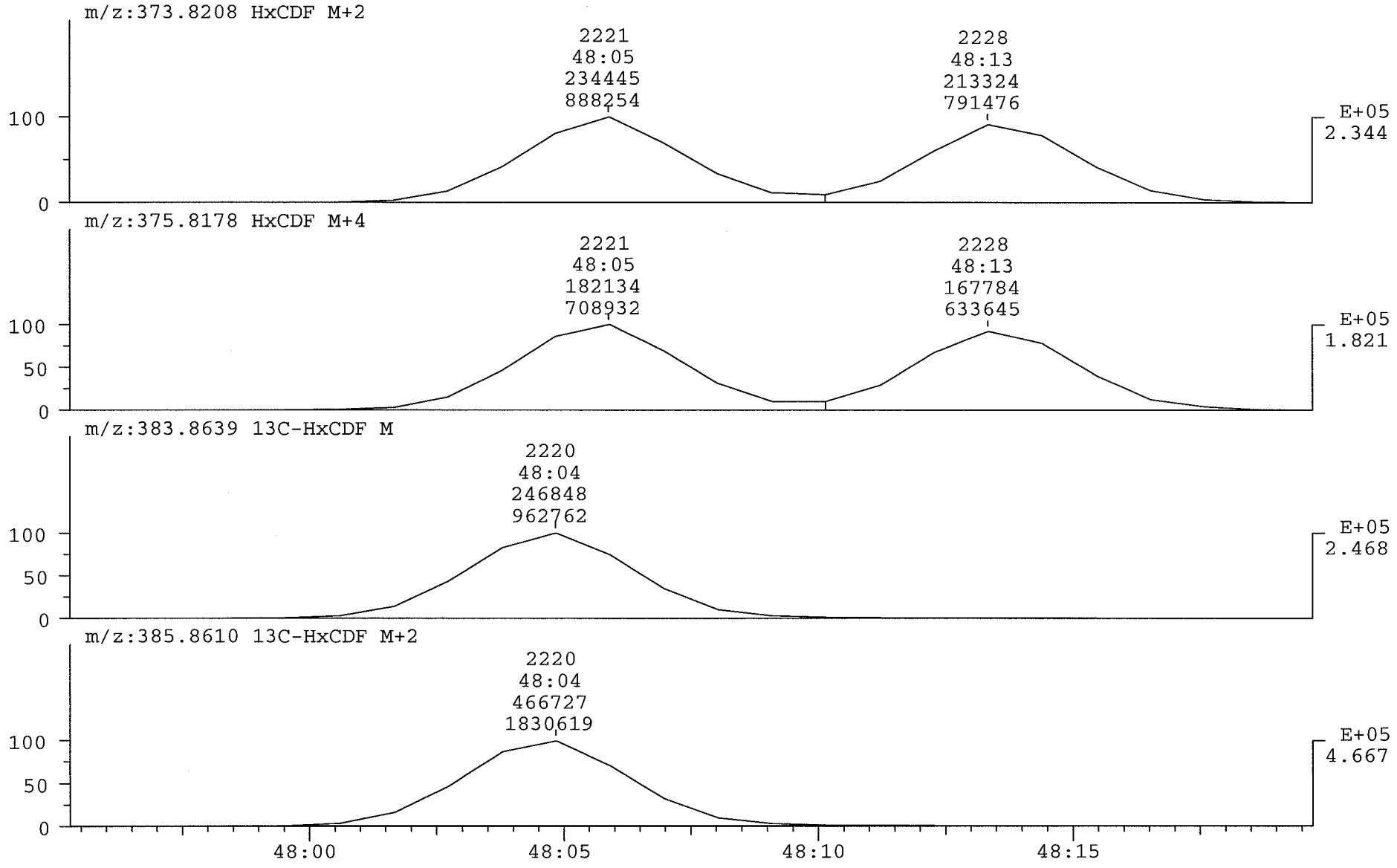
```
CHRO:  b060503w1                              03-May-06   Elapse:  47:34      2191
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                    Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  Ver/Win
Oper:  PMP            Client:  STL Knoxville              Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   2154 > 2229         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  2, 3.0
Disp:  Height  Area
```



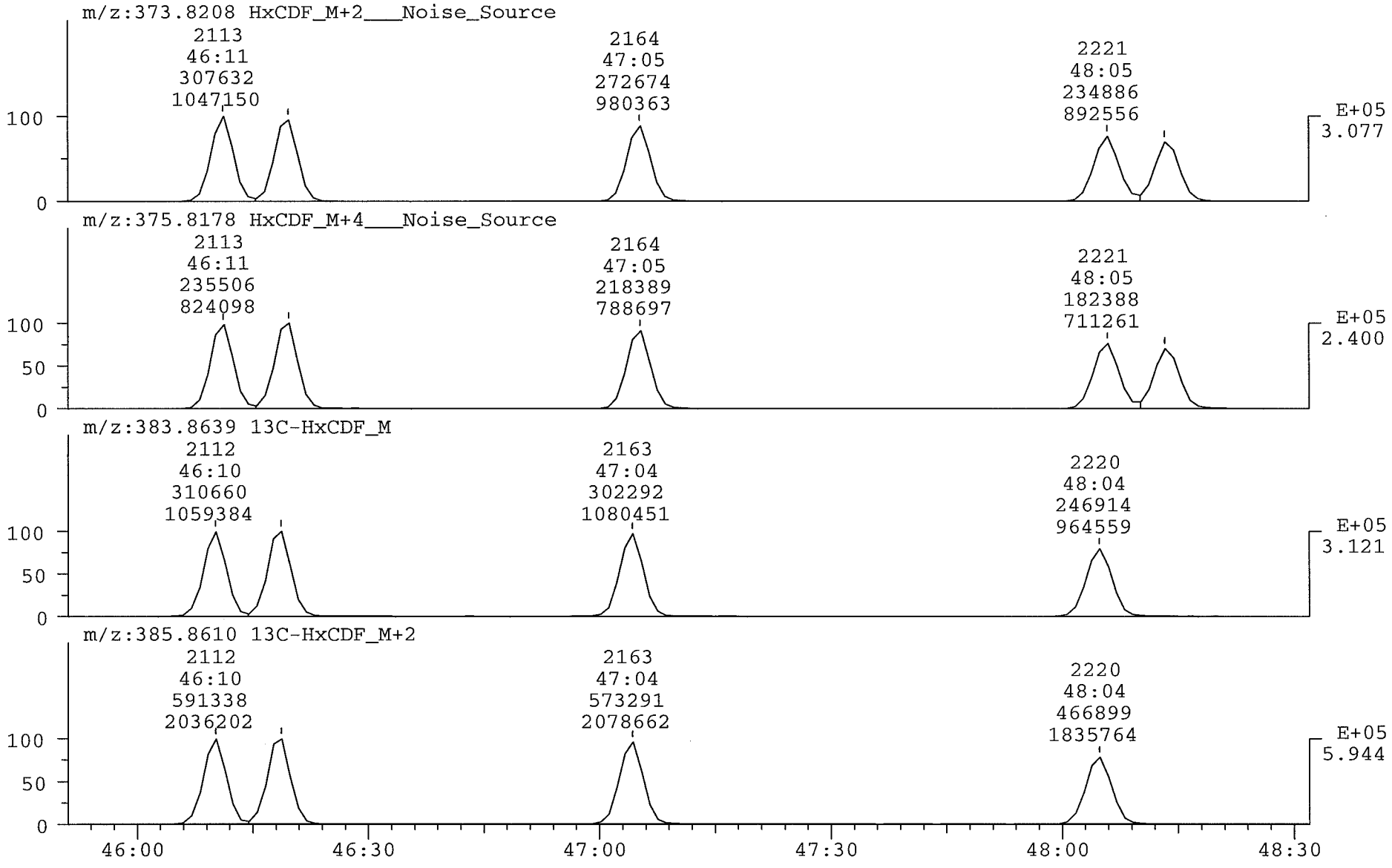
```
CHRO:  b060503w1                          03-May-06   Elapse:  47:34      2191
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2022 > 2252      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



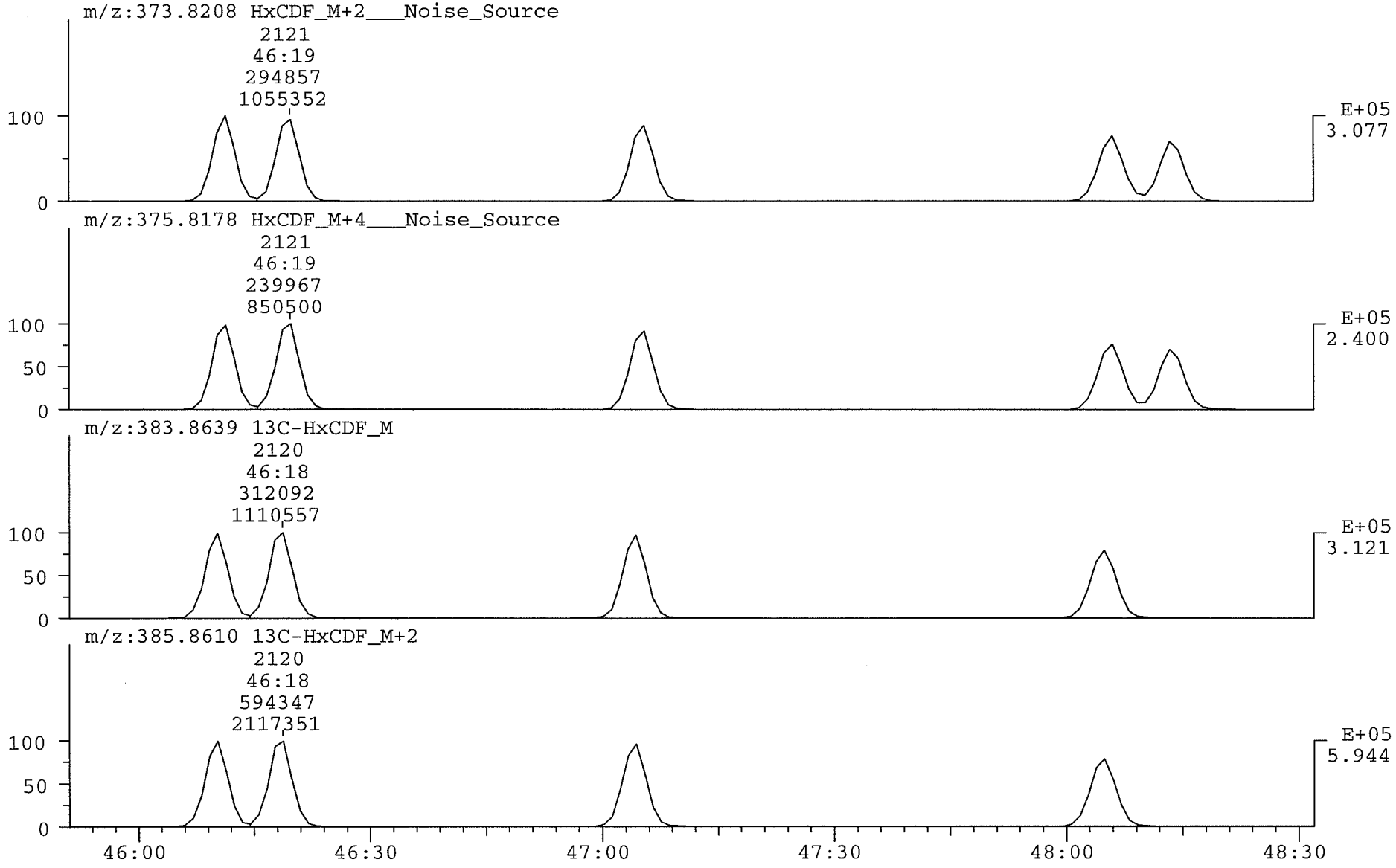
```
CHRO:  b060503w1                          03-May-06   Elapse:  56:51      2711
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2211 > 2234      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



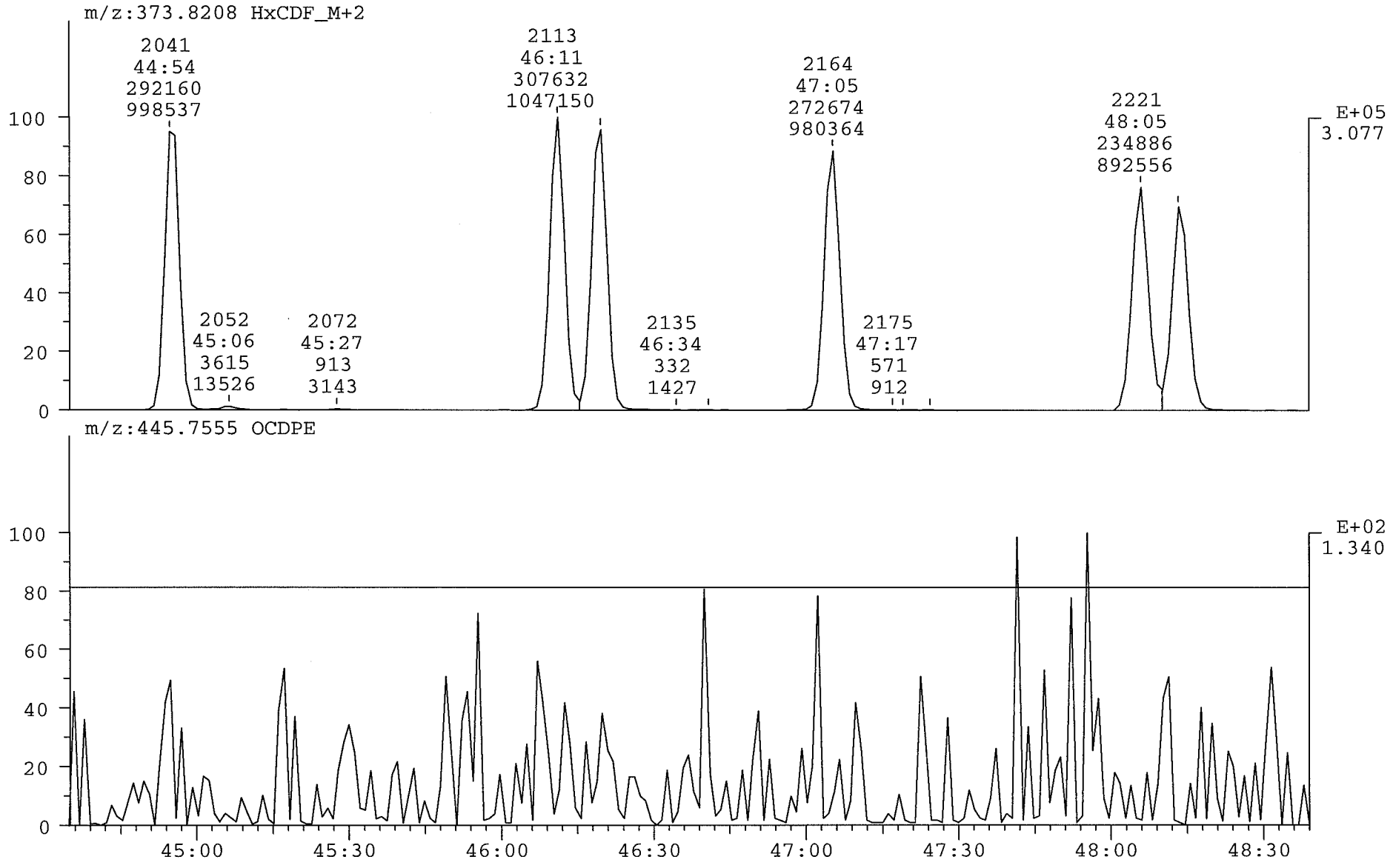
```
CHRO:  b060503w1                          03-May-06   Elapse:  47:10      2169
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2094 > 2246      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



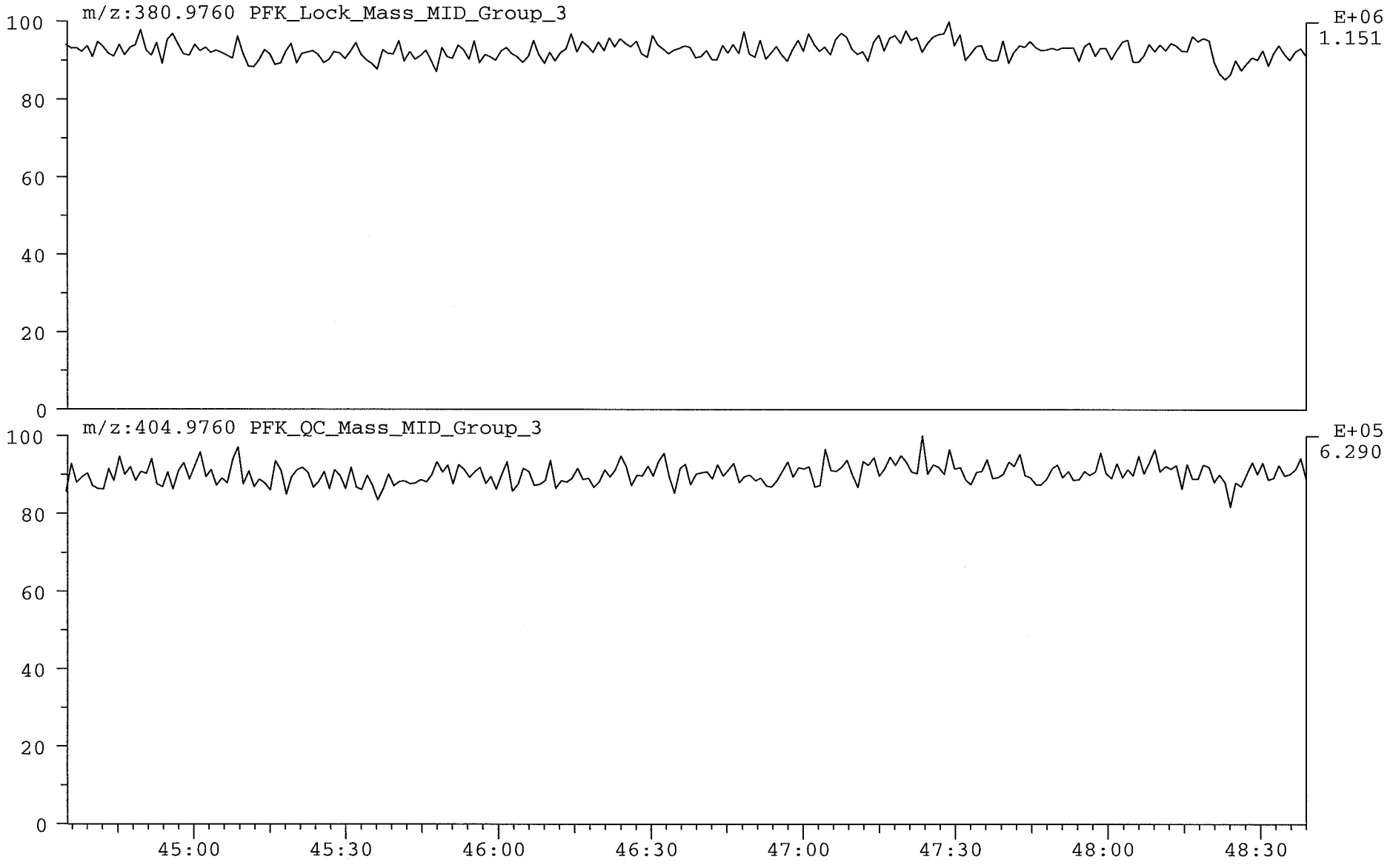
```
CHRO:  b060503w1                              03-May-06   Elapse:  46:18      2120
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                    Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville                Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2116 > 2124          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



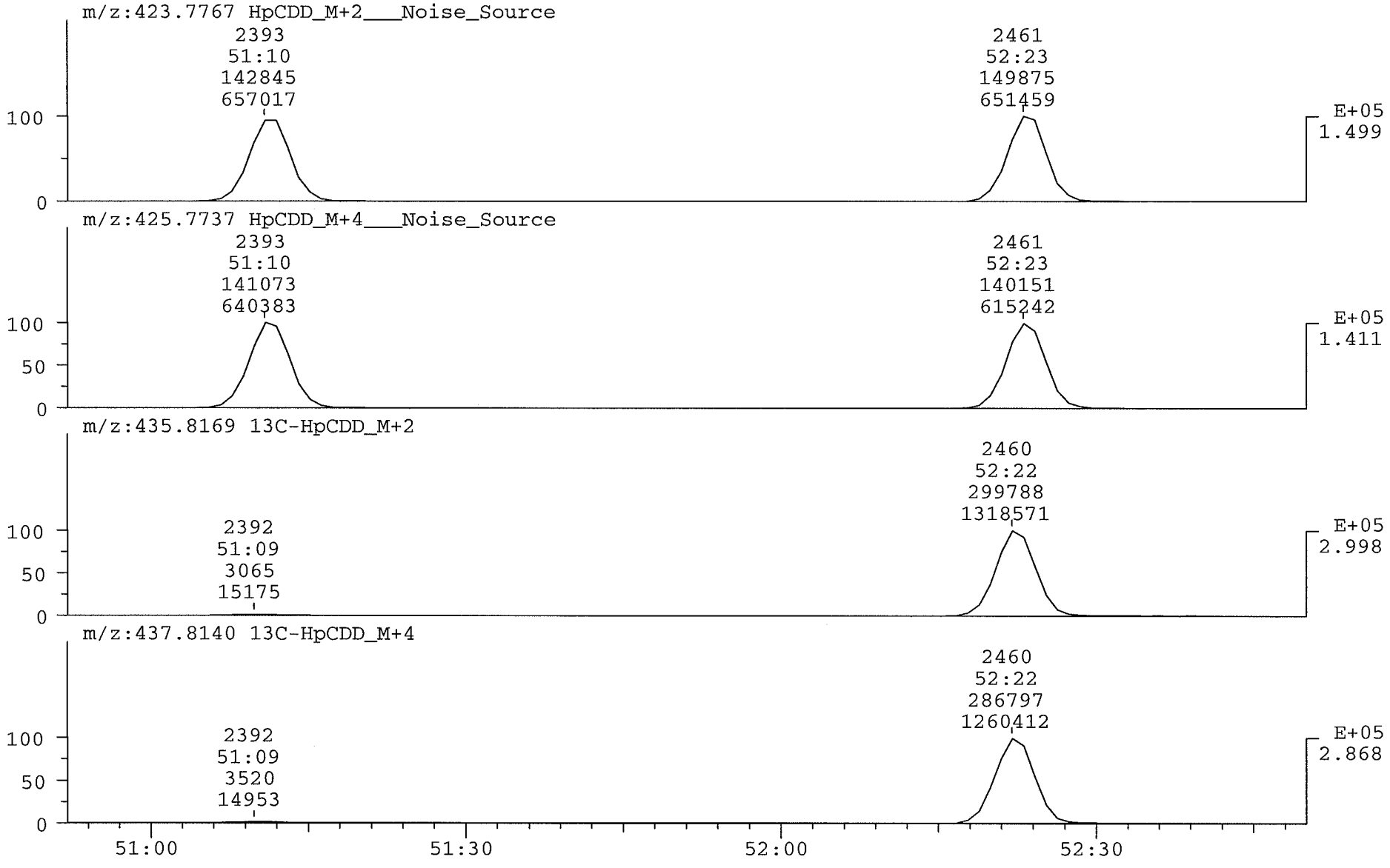
```
CHRO:  b060503w1                          03-May-06   Elapse:  46:18      2120
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2022 > 2252      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



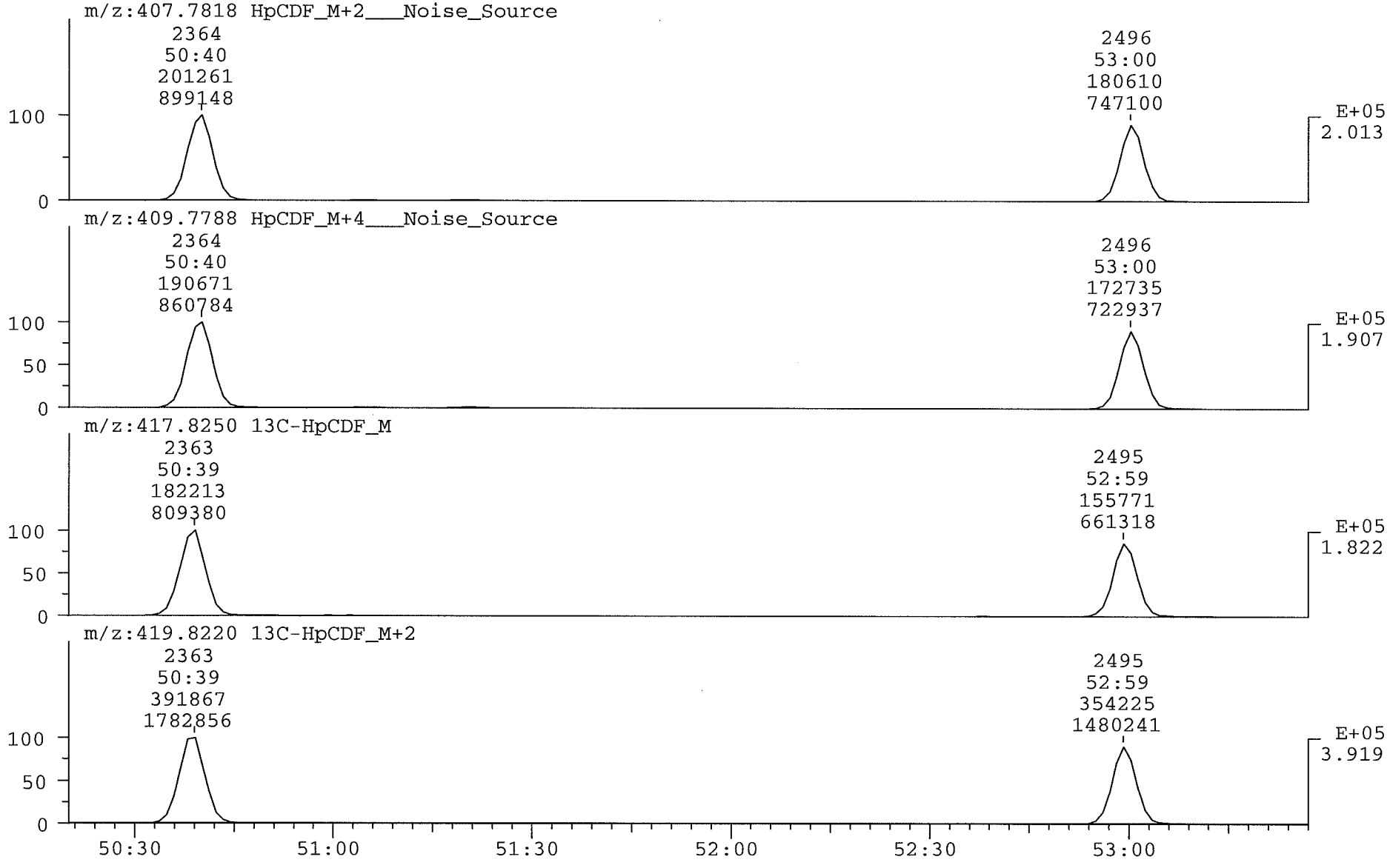
```
CHRO:  b060503w1                          03-May-06   Elapse:  46:18      2120
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2022 > 2252      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  0, 0.0
Disp:  Height  Area
```



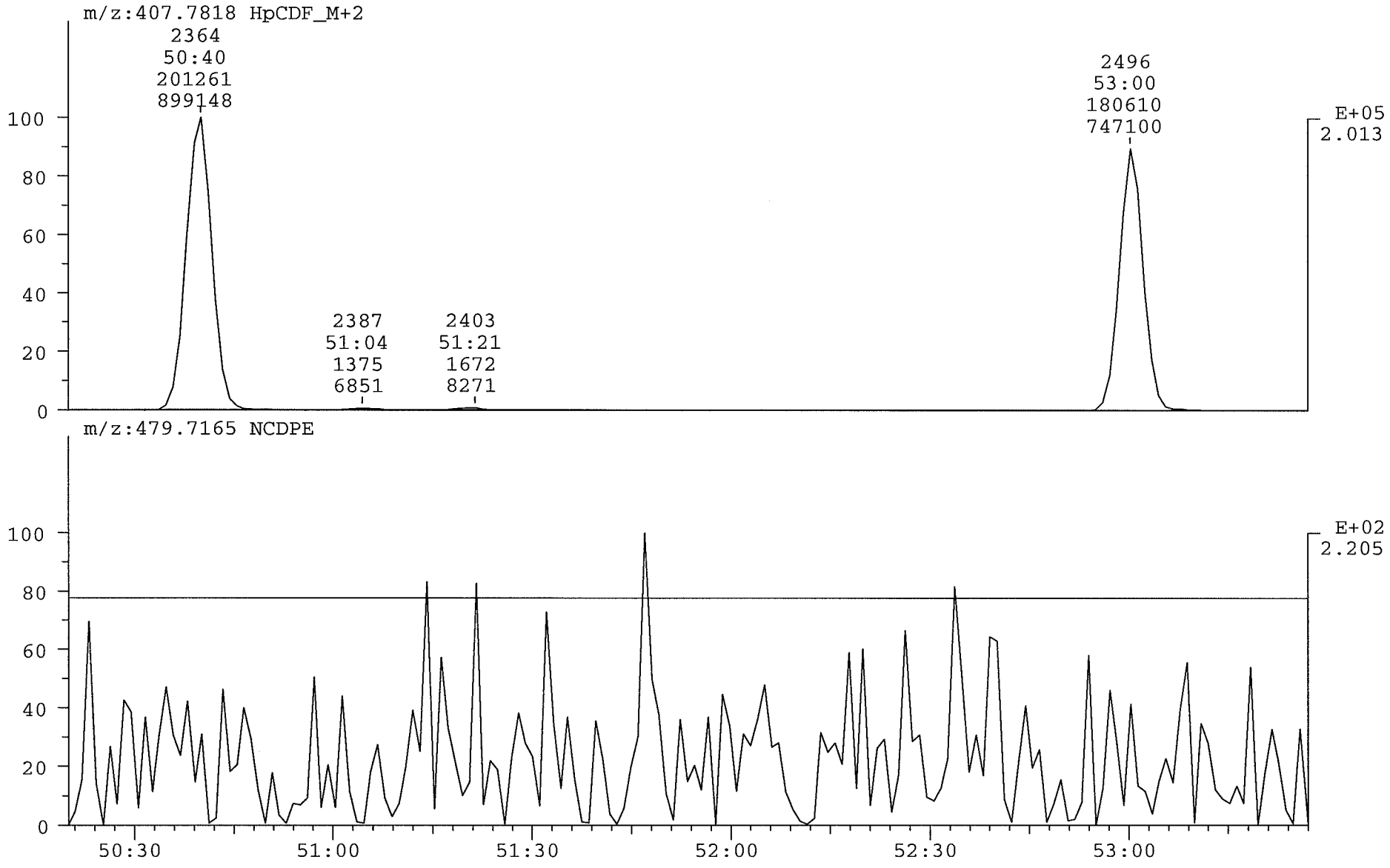
```
CHRO:  b060503w1                          03-May-06   Elapse:  46:18      2120
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2375 > 2486      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



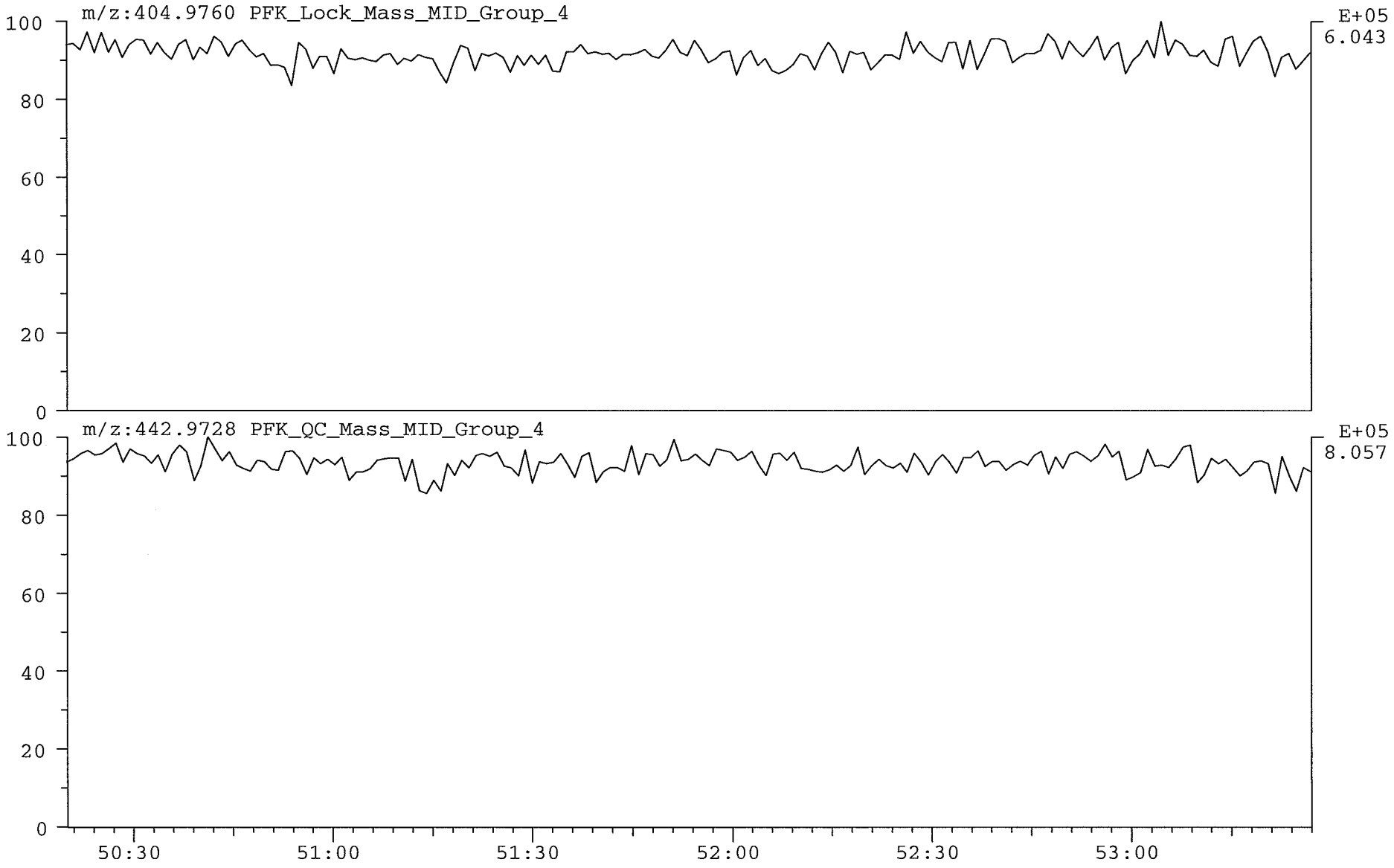
```
CHRO:  b060503w1                          03-May-06   Elapse:  51:53      2433
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2345 > 2521      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



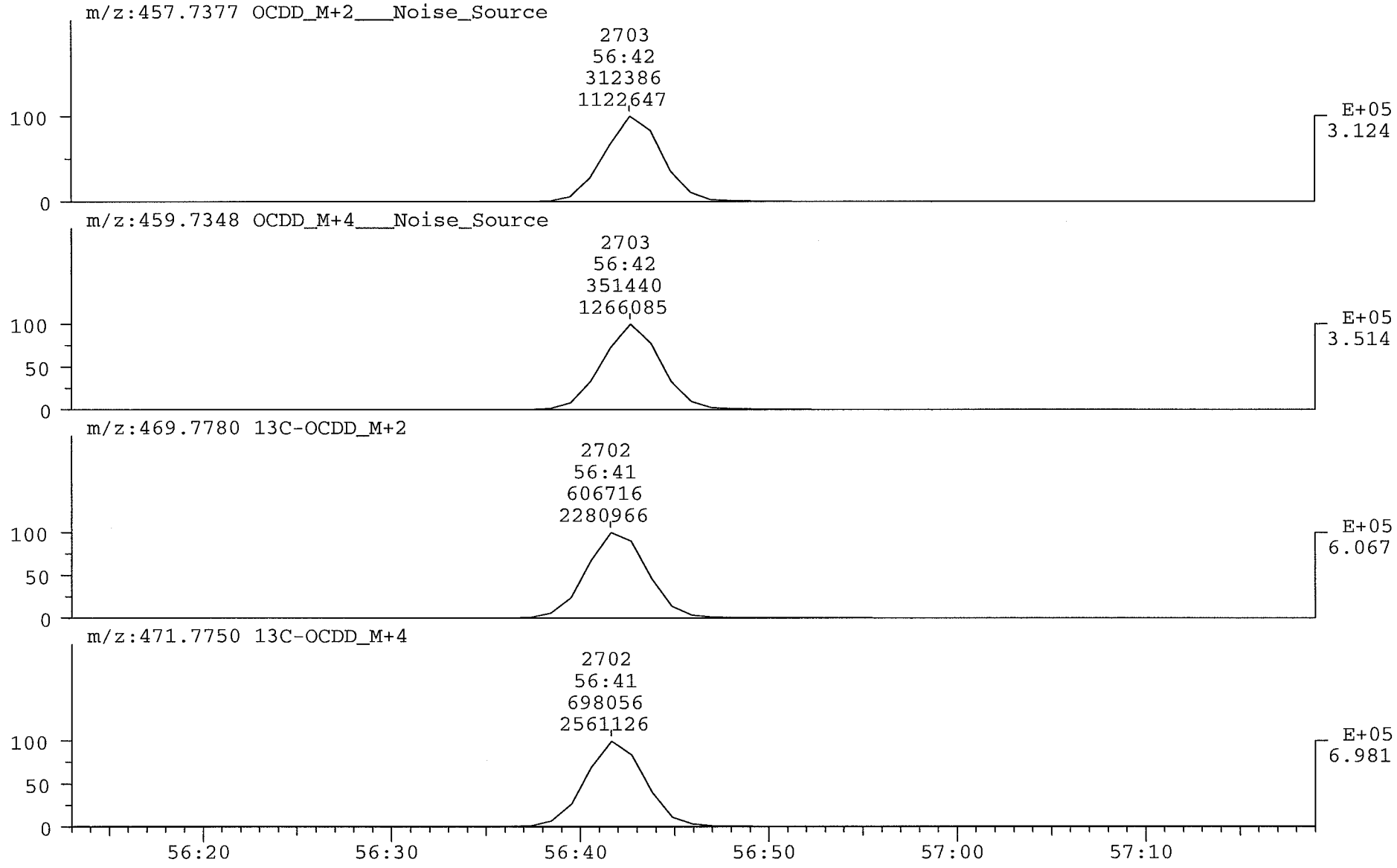
```
CHRO:  b060503w1                          03-May-06   Elapse:   51:53      2433
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :   22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :   Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :   GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2345 > 2521      Masses:   293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :   -2, 3.0
Disp:  Height  Area
```



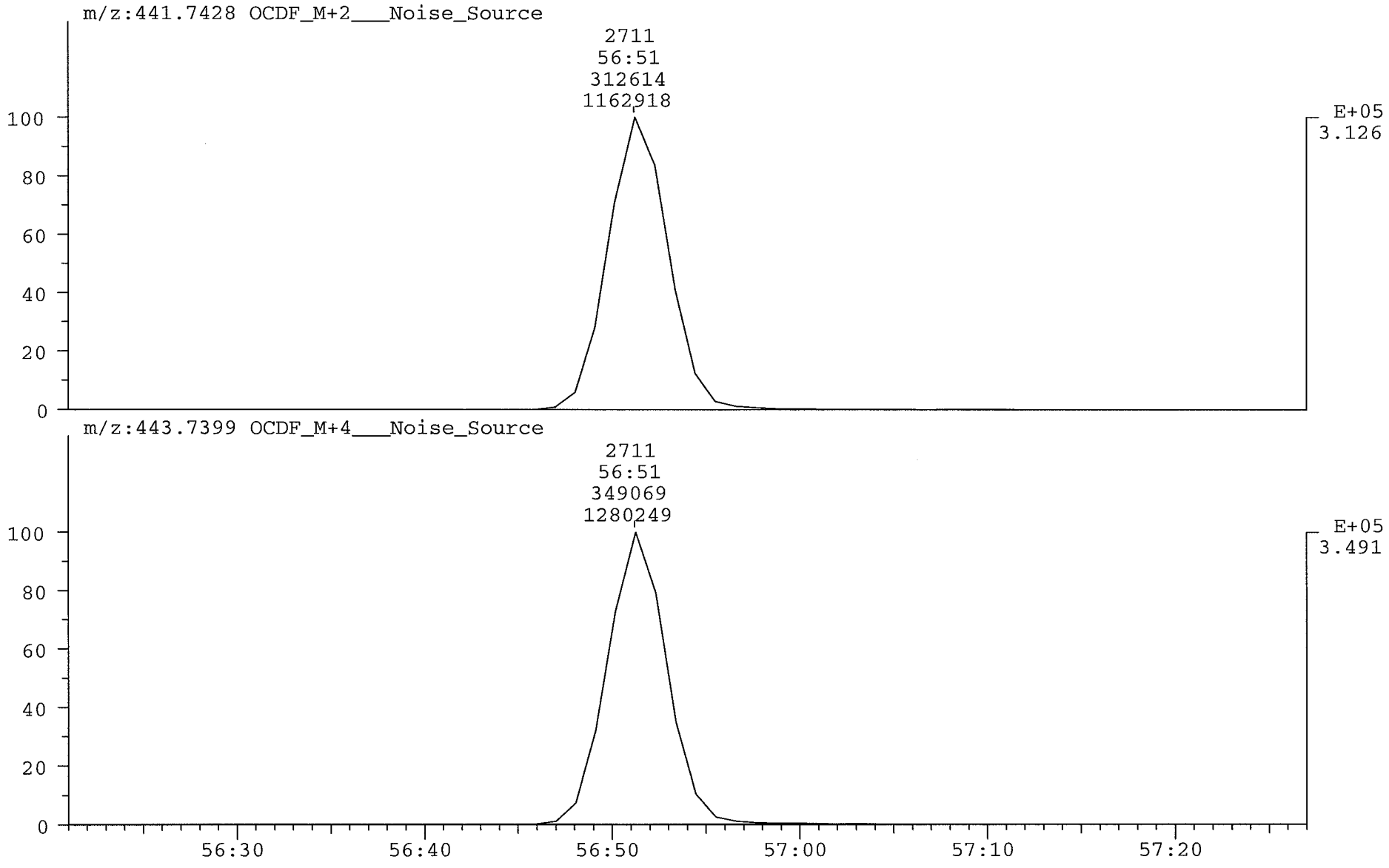
```
CHRO:  b060503w1                          03-May-06   Elapse:  51:53      2433
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2345 > 2521      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  0, 0.0
Disp:  Height  Area
```



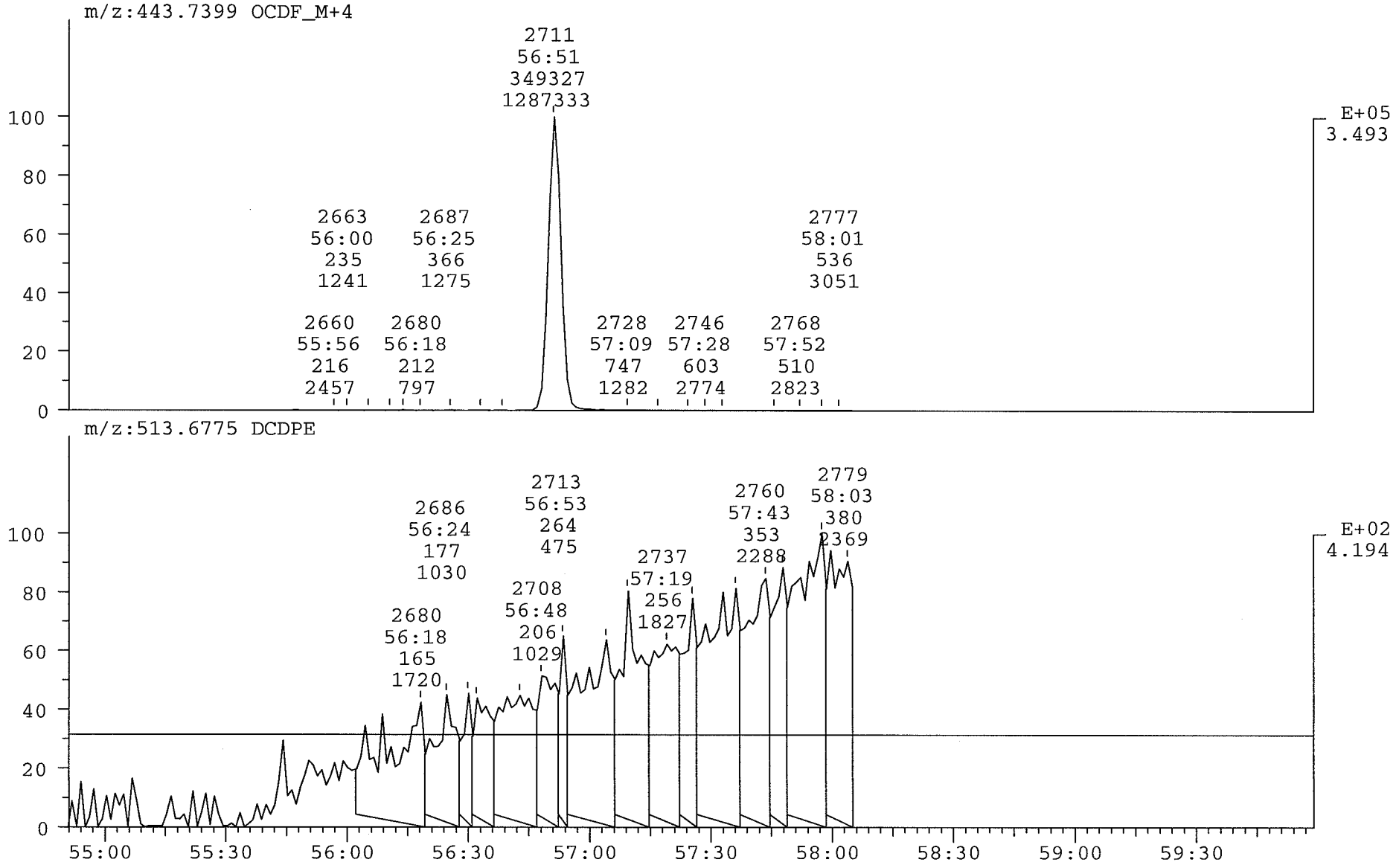
```
CHRO:  b060503w1                          03-May-06   Elapse:  56:42      2703
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2675 > 2737      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



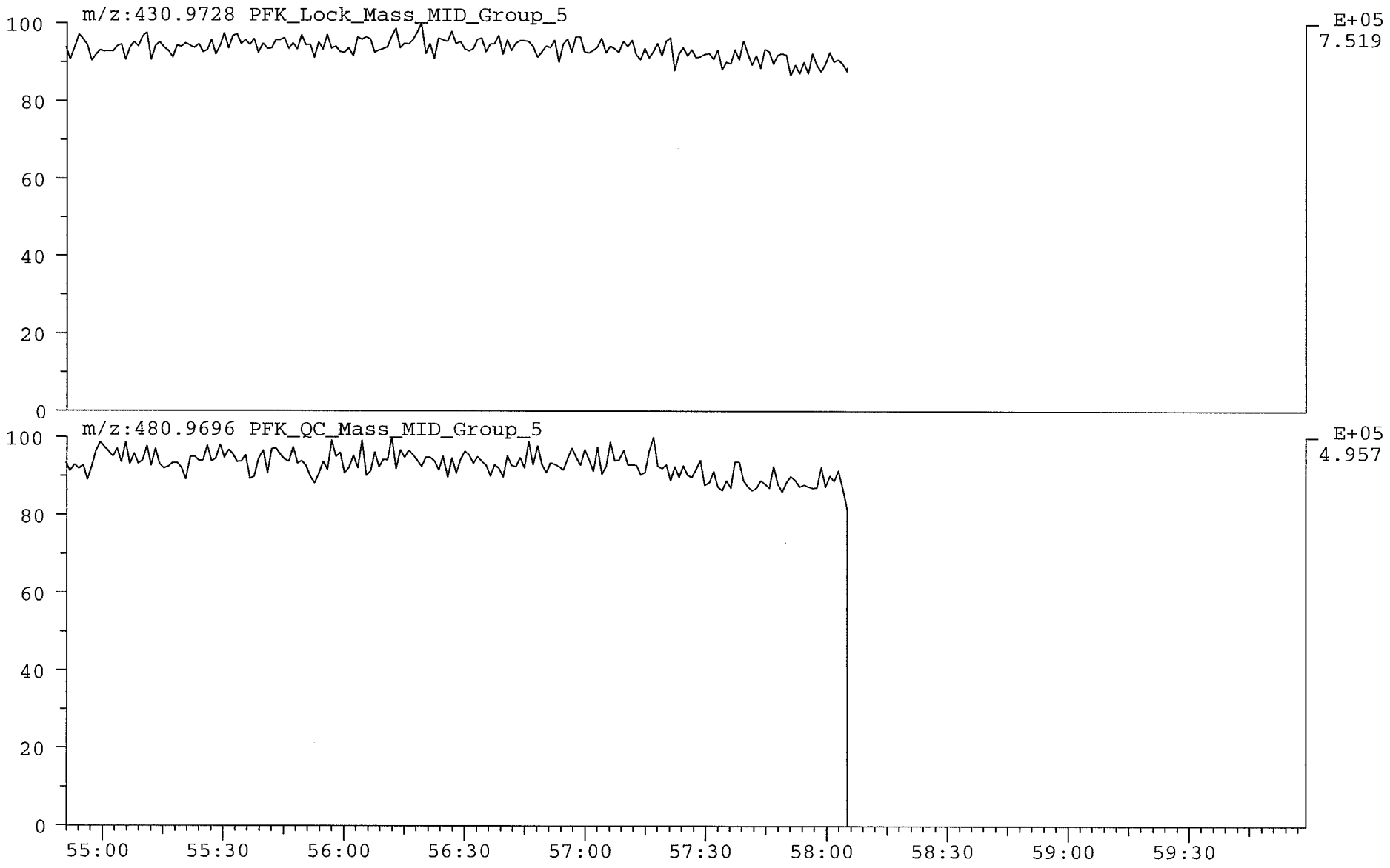
```
CHRO:  b060503w1                          03-May-06   Elapse:  56:51      2711
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2683 > 2745      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  b060503w1                                03-May-06  Elapse:  56:51      2711
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                     Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville                 Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2598 > 2886           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  b060503w1                              03-May-06   Elapse:  56:51      2711
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                    Start :  22:44:18   2781
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville                Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2598 > 2886          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
```



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: b060503w1
Study: Ver/Win
Sample: WO=3262:44 Meth=F8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: PMP
Client: STL Knoxville
Comments: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Injected volume: 2.0
Sample from Vial 1
Analysis will stop when MID run finishes
Tune file name: tune2
Single File
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	TRUE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	140 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	30:00 min	38:00 min	1.00 sec
# 2	38:00 min	6:25 min	44:25 min	1.00 sec
# 3	44:25 min	5:05 min	49:30 min	1.00 sec
# 4	49:30 min	5:15 min	54:45 min	1.00 sec
# 5	54:45 min	5:15 min	60:00 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

```
  351.9000       1   1      91.48
  353.8970       1   1      91.48
  355.8546       1   1      91.48
  357.8516       1   1      91.48
  367.8949       1   1      91.48
  369.8919       1   1      91.48
  380.9760 c    10   1       8.19
  409.7974       1   1      91.48
 Window # 3
      mass F  int  gr  time (ms)
  373.8208       1   1      91.48
  375.8178       1   1      91.48
  380.9760 l    10   1       8.19
  383.8639       1   1      91.48
  385.8610       1   1      91.48
  389.8156       1   1      91.48
  391.8127       1   1      91.48
  401.8559       1   1      91.48
  403.8529       1   1      91.48
  404.9760 c    10   1       8.19
  445.7555       1   1      91.48
 Window # 4
      mass F  int  gr  time (ms)
  404.9760 l    10   1       8.19
  407.7818       1   1      91.48
  409.7788       1   1      91.48
  417.8250       1   1      91.48
  419.8220       1   1      91.48
  423.7767       1   1      91.48
  425.7737       1   1      91.48
  435.8169       1   1      91.48
  437.8140       1   1      91.48
  442.9728 c    10   1       8.19
  479.7165       1   1      91.48
 Window # 5
      mass F  int  gr  time (ms)
  430.9728 l    10   1      10.92
  441.7428       1   1     120.15
  443.7399       1   1     120.15
  457.7377       1   1     120.15
  459.7348       1   1     120.15
  469.7780       1   1     120.15
  471.7750       1   1     120.15
  480.9696 c    10   1      10.92
  513.6775       1   1     120.15

Auto Sampler descriptor: pcdd2ul
 Injector A
 Normal Injection
 Slvnt A cln before inj(K):      3 times
 Slvnt B cln before inj(L):      0 times
 Sample rinse cycles   (R):      0 times
 Syringe filling volume(F):    1.0 ul
 Pullup delay time     (D):      4 sec
 Sample pullup speed   (E):    5.0 ul/sec
 Slvnt aftr pre inj cln(U):    0.0 ul
 Air after pre inj cln (G):    2.0 ul
 Sample volume         (V):    2.0 ul
 Sample air volume     (A):    2.0 ul
 Sample pullup count   (P):      2 times
 Injection speed       (S):   10.0 ul/sec
 Injection wait time   (W):     10 sec
 Injection hold time   (H):      3 sec
 Solvent A clean cycles(C):     15 times
 Solvent B clean cycles(B):     20 times
 Loop clean w slvnt A (LC):      0 times
```

```
Loop clean w slvnt B (LB):      0 times
Standard sample volume(X):    0.0 ul
Standard air volume   (Y):    0.0 ul
2nd Injection volume  (I):    0.0 ul
Air volume of 2nd inj (J):    0.0 ul
Time btwn 2 injections(T):      0 sec

GC descriptor :  epa1613
  Injector:        270 deg                      300 deg max
  Transfer Line:   290 deg                      300 deg max
  Column:          140 deg at   0.0 minutes     330 deg max
                   140 deg at   3.0 minutes
                   210 deg at   6.5 minutes
                   210 deg at  34.5 minutes
                   280 deg at  44.5 minutes
                   280 deg at  51.0 minutes
                   325 deg at  60.0 minutes
  Inlet    :
  Pressure       18.0 psi
  Splitless mode
  Purge time      1.5 min
  Purge flow     40.0 mL/min

   Gas saver is on
   Saver time      3.0 min
   Saver flow     15.0 mL/min

  Stabilize time   0.5 minutes
```

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8514.0000
BDEV	8289.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.5861	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9992
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-738.5000	ELEN	61.7750
EMULT	1.8000	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	189.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	600.9615
FSLOPE	36000000.0000	FVANAL	547.0000	FVINLET	563.0000
FVSRC	996.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	156.0000
HCURR	1.6667	HVANAL	1585.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4757.0160	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	304.9824
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	200.0000	NSAM	200.0000	NSCAN	538.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10643.8407	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	2.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.7900	TCURR	0.8984	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 03-May-06 22:44:18.7

Autosampler has injected sample from vial 1
Analysis stopped at: 03-May-06 23:42:24.5 (run time 58.09 minutes)
Analysis stopped because MID run finished

STL - Knoxville IsoCalc Continuing Calibration Report

PCDD/PCDF by EPA Method 0023/8290

CCAL ID: 17071 - B060503S3
ICAL Date: 11/08/04
CCAL Filename: b060503s3
Method: X8 - 0023/8290
CCAL Sample ID: 3123:75
Instrument: M2A
CCAL Result Dir: /20060503s3/b060503s3.d
Column SN: 718320
CCAL Date/Time: 05/03/06 23:58
Column Desc: Rtx-5 60m x 0.32mm ID x 0.25um

Analytes	m/z's Forming Ratio	Ion Abund Ratio	QC Limits	Calc Conc (ng/mL)	ICAL RF	CCAL RF	%D	QC Limit	Valid?
2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	4.9	1.060	1.038	-2.1	20.0	True
2,3,7,8-TCDF	M/M+2	0.77	0.65-0.89	4.5	1.064	0.949	-10.8	20.0	True
1,2,3,7,8-PeCDD	M+2/M+4	1.56	1.32-1.78	24.2	0.977	0.944	-3.4	20.0	True
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	27	0.955	1.018	6.6	20.0	True
2,3,4,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	25	1.018	1.030	1.2	20.0	True
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	23.4	1.047	0.982	-6.3	20.0	True
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	24.1	1.055	1.016	-3.6	20.0	True
1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05-1.43	23.8	1.146	1.090	-4.9	20.0	True
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	26	1.101	1.151	4.5	20.0	True
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	26	1.184	1.210	2.2	20.0	True
2,3,4,6,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	26	1.052	1.113	5.7	20.0	True
1,2,3,7,8,9-HxCDF	M+2/M+4	1.22	1.05-1.43	26	0.982	1.026	4.5	20.0	True
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	23.5	1.018	0.955	-6.2	20.0	True
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88-1.20	25	1.403	1.429	1.9	20.0	True
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88-1.20	24.3	1.197	1.161	-2.9	20.0	True
OCDD	M+2/M+4	0.88	0.76-1.02	51	0.965	0.983	1.8	20.0	True
OCDF	M+2/M+4	0.92	0.76-1.02	44	1.103	0.974	-11.7	20.0	True
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	101	1.068	1.081	1.2	30.0	True
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	101	1.413	1.431	1.3	30.0	True
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32-1.78	104	0.882	0.913	3.6	30.0	True
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	95	1.188	1.134	-4.5	30.0	True
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.23	1.05-1.43	103	0.943	0.972	3.1	30.0	True
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	93	1.272	1.185	-6.8	30.0	True
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.03	0.88-1.20	112	0.918	1.033	12.5	30.0	True
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37-0.51	105	0.916	0.964	5.2	30.0	True
13C-OCDD	M+2/M+4	0.90	0.76-1.02	239	0.850	1.014	19.4	30.0	True
37Cl4-2,3,7,8-TCDD			-	4.8	1.046	1.006	-3.9	30.0	
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	24.5	1.010	0.990	-2.0	30.0	True
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.23	1.05-1.43	26	0.902	0.949	5.1	30.0	True
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43-0.59	24.9	0.988	0.983	-0.5	30.0	True
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.55	0.43-0.59	22.7	1.113	1.012	-9.1	30.0	True
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37-0.51	22.4	0.912	0.819	-10.2	30.0	True

PMP 5-4-06

BRW 5/4/06

STL - Knoxville

IsoCalc Continuing Calibration Report

PCDD/PCDF by EPA Method 0023/8290

CCAL ID: 17071 - B060503S3

CCAL Filename: b060503s3

CCAL Sample ID: 3123:75

CCAL Result Dir: /20060503s3/b060503s3.d

CCAL Date/Time: 05/03/06 23:58

ICAL Date: 11/08/04

Method: X8 - 0023/8290

Instrument: M2A

Column SN: 718320

Column Desc: Rtx-5 60m x 0.32mm ID x 0.25um

Analytes	ICAL RT	CCAL RT	RT Diff	ICAL RRT	CCAL RRT	RRT QC Limit	Valid?
2,3,7,8-TCDD	35:52	35:15	-37	1.001	1.001	-	
2,3,7,8-TCDF	33:43	33:05	-38	1.001	1.002	-	
1,2,3,7,8-PeCDD	43:18	42:58	-20	1.000	1.000	-	
1,2,3,7,8-PeCDF	41:47	41:25	-22	1.000	1.001	-	
2,3,4,7,8-PeCDF	42:51	42:30	-21	1.026	1.027	-	
1,2,3,4,7,8-HxCDD	47:30	47:10	-20	0.998	0.998	-	
1,2,3,6,7,8-HxCDD	47:37	47:17	-20	1.000	1.000	-	
1,2,3,7,8,9-HxCDD	48:03	47:42	-21	1.010	1.009	-	
1,2,3,4,7,8-HxCDF	46:25	46:04	-21	0.997	0.997	-	
1,2,3,6,7,8-HxCDF	46:33	46:13	-20	1.000	1.001	-	
2,3,4,6,7,8-HxCDF	47:20	46:58	-22	1.017	1.017	-	
1,2,3,7,8,9-HxCDF	48:22	47:59	-23	1.039	1.039	-	
1,2,3,4,6,7,8-HpCDD	52:40	52:17	-23	1.000	1.000	-	
1,2,3,4,6,7,8-HpCDF	50:58	50:33	-25	1.000	1.000	-	
1,2,3,4,7,8,9-HpCDF	53:18	52:54	-24	1.046	1.047	-	
OCDD	56:58	56:36	-22	1.000	1.000	-	
OCDF	57:06	56:45	-21	1.003	1.003	-	
13C-2,3,7,8-TCDD	35:50	35:13	-37	1.016	1.016	-	
13C-2,3,7,8-TCDF	33:40	33:02	-38	0.955	0.953	-	
13C-1,2,3,7,8-PeCDD	43:17	42:57	-20	1.228	1.239	-	
13C-1,2,3,7,8-PeCDF	41:46	41:23	-23	1.185	1.194	-	
13C-1,2,3,6,7,8-HxCDD	47:36	47:16	-20	0.991	0.991	-	
13C-1,2,3,6,7,8-HxCDF	46:32	46:11	-21	0.969	0.969	-	
13C-1,2,3,4,6,7,8-HpCDD	52:39	52:16	-23	1.096	1.096	-	
13C-1,2,3,4,6,7,8-HpCDF	50:57	50:32	-25	1.061	1.060	-	
13C-OCDD	56:57	56:35	-22	1.186	1.187	-	
37Cl4-2,3,7,8-TCDD	35:52	35:15	-37	1.001	1.001	-	
13C-2,3,4,7,8-PeCDF	42:50	42:28	-22	1.026	1.026	-	
13C-1,2,3,4,7,8-HxCDD	47:30	47:09	-21	0.998	0.998	-	
13C-1,2,3,4,7,8-HxCDF	46:24	46:04	-20	0.997	0.997	-	
13C-1,2,3,7,8,9-HxCDF	48:20	47:58	-22	1.006	1.006	-	
13C-1,2,3,4,7,8,9-HpCDF	53:16	52:53	-23	1.046	1.047	-	

STL - Knoxville IsoCalc Continuing Calibration Report

PCDD/PCDF by EPA Method 0023/8290

CCAL ID: 17071 - B060503S3

WIN Filename: b060503w1 **Method:** X8 - 0023/8290

WIN Sample ID: 3262:44 **Instrument:** M2A

WIN Result Dir: /20060503s3/b060503w1.d **Column SN:** 718320

WIN Date/Time: 05/03/06 22:44 **Column Desc:** Rtx-5 60m x 0.32mm ID x 0.25um

Window Defining First/Last Eluter Retention Times

Analyte	Reference	M/Z	Ref RT	First Eluter RT	First Eluter RRT	Last Eluter RT	Last Eluter RRT
Total TCDD	13C-2,3,7,8-TCDD	320	35:19	28:42	0.8126	37:45	1.0689
Total TCDF	13C-2,3,7,8-TCDF	304	33:05	25:58	0.7849	37:38	1.1375
Total PeCDD	13C-1,2,3,7,8-PeCDD	356	43:04	40:30	0.9404	43:40	1.0139
Total PeCDF	13C-1,2,3,7,8-PeCDF	340	41:29	38:13	0.9213	43:47	1.0554
Total HxCDD	13C-1,2,3,6,7,8-HxCDD	390	47:22	45:36	0.9627	47:47	1.0088
Total HxCDF	13C-1,2,3,6,7,8-HxCDF	374	46:18	44:54	0.9698	48:13	1.0414
Total HpCDD	13C-1,2,3,4,6,7,8-HpCDD	424	52:22	51:10	0.9771	52:23	1.0003
Total HpCDF	13C-1,2,3,4,6,7,8-HpCDF	408	50:39	50:40	1.0003	53:00	1.0464
OCDD	13C-OCDD	458	56:41	56:42	1.0003	56:42	1.0003
OCDF	13C-OCDD	442	56:41	56:51	1.0029	56:51	1.0029

STL - Knoxville

IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	3123:75	**Prep Batch**		**Lot No**	
Data File	/20060503s3/b060503s3.d	**Prep Date**		**SDG No**	
Analysis ID	90473	**Prep Exp Date**		**Date Received**	
Analysis Date	5/3/2006	**Matrix**	UNKNOWN	**Date Sampled**	
Analysis Time	23:58	**Initial Wt/Vol**		**Lims Test Code**	
Anal Exp Date		**Extract Vol**		**Method**	0023/8290
Instrument	M2A	**Dil Factor**	1.0	**Code**	X8
Analyst	PMP				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (ng/mL)		DL (ng/mL)
2,3,7,8-TCDD	35:15	159242	18662	1.060	5.000	4.894573	97.89	4.894573	E	0.0885
Total TCDD				1.060		4.894573		4.894573	E	0.0885
2,3,7,8-TCDF	33:05	192760	20457	1.064	5.000	4.460254	89.21	4.460254	E	0.0696
Total TCDF				1.064		4.460254		4.460254	E	0.0696
1,2,3,7,8-PeCDD	42:58	611616	172390	0.977	25.00	24.157256	96.63	24.157256	E	0.0491
Total PeCDD				0.977		24.157256		24.157256	E	0.0491
1,2,3,7,8-PeCDF	41:25	819113	200489	0.955	25.00	26.638492	106.55	26.638492	E	0.0491
2,3,4,7,8-PeCDF	42:30	828734	231059	1.018	25.00	25.297171	101.19	25.297171	E	0.0461
Total PeCDF				0.987		51.935663		51.935663	E	0.0475
1,2,3,4,7,8-HxCDD	47:10	554125	147312	1.047	25.00	23.437473	93.75	23.437473	E	0.0568
1,2,3,6,7,8-HxCDD	47:17	573647	152164	1.055	25.00	24.089893	96.36	24.089893	E	0.0564
1,2,3,7,8,9-HxCDD	47:42	615042	159460	1.146	25.00	23.776457	95.11	23.776457	E	0.0519
Total HxCDD				1.083		71.303823		71.303823	E	0.0550
1,2,3,4,7,8-HxCDF	46:04	791598	224486	1.101	25.00	26.130426	104.52	26.130426	E	0.0380
1,2,3,6,7,8-HxCDF	46:13	832521	235143	1.184	25.00	25.547904	102.19	25.547904	E	0.0353
2,3,4,6,7,8-HxCDF	46:58	765492	205939	1.052	25.00	26.432540	105.73	26.432540	E	0.0397
1,2,3,7,8,9-HxCDF	47:59	705727	174330	0.982	25.00	26.117088	104.47	26.117088	E	0.0426
Total HxCDF				1.080		104.227957		104.227957	E	0.0387
1,2,3,4,6,7,8-HpCDD	52:17	572380	131090	1.018	25.00	23.454569	93.82	23.454569	E	0.0571
Total HpCDD				1.018		23.454569		23.454569	E	0.0571
1,2,3,4,6,7,8-HpCDF	50:33	799737	182609	1.403	25.00	25.466496	101.87	25.466496	E	0.0431
1,2,3,4,7,8,9-HpCDF	52:54	649769	146908	1.197	25.00	24.263728	97.05	24.263728	E	0.0505
Total HpCDF				1.300		49.730224		49.730224	E	0.0465
OCDD	56:36	1157215	327827	0.965	50.00	50.920167	101.84	50.920167	E	0.0453
OCDF	56:45	1147375	305074	1.103	50.00	44.143220	88.29	44.143220	E	0.0610
13C-2,3,7,8-TCDD	35:13	3068129	348821	1.068	100.0	101.222298	101.22	101.222298		0.225
13C-2,3,7,8-TCDF	33:02	4062684	438766	1.413	100.0	101.276579	101.28	101.276579		0.122
13C-1,2,3,7,8-PeCDD	42:57	2592202	744746	0.882	100.0	103.564639	103.56	103.564639		0.133
13C-1,2,3,7,8-PeCDF	41:23	3218870	788894	1.188	100.0	95.457436	95.46	95.457436		0.103
13C-1,2,3,6,7,8-HxCDD	47:16	2257681	600747	0.943	100.0	103.069881	103.07	103.069881		0.0743
13C-1,2,3,6,7,8-HxCDF	46:11	2751813	771223	1.272	100.0	93.160193	93.16	93.160193		0.0450
13C-1,2,3,4,6,7,8-HpCDD	52:16	2398233	559246	0.918	100.0	112.463084	112.46	112.463084		0.0732
13C-1,2,3,4,6,7,8-HpCDF	50:32	2237834	504244	0.916	100.0	105.194994	105.19	105.194994		0.0572
13C-OCDD	56:35	4711290	1291622	0.850	200.0	238.738467	119.37	238.738467		0.0455
37Cl4-2,3,7,8-TCDD	35:15	154259	16918	1.046	5.000	4.806964	96.14	4.806964	E	0.0733
13C-2,3,4,7,8-PeCDF	42:28	796382	213618	1.010	25.00	24.490323	97.96	24.490323	E	0.0445
13C-1,2,3,4,7,8-HxCDD	47:09	535386	142376	0.902	25.00	26.284047	105.14	26.284047	E	0.0803
13C-1,2,3,4,7,8-HxCDF	46:04	676180	185412	0.988	25.00	24.866198	99.46	24.866198	E	0.0466
13C-1,2,3,7,8,9-HxCDF	47:58	587462	146151	1.113	25.00	22.736909	90.95	22.736909	E	0.0514
13C-1,2,3,4,7,8,9-HpCDF	52:53	458102	104812	0.912	25.00	22.442411	89.77	22.442411	E	0.0707
13C-1,2,3,4-TCDD	34:40	2838131	290709	1.000	100.0	100.000000	100.00	100.000000		0.241
13C-1,2,3,7,8,9-HxCDD	47:41	2322185	620711	1.000	100.0	100.000000	100.00	100.000000		0.0701

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	3123:75	**Prep Batch**		**Lot No**	
Data File	/20060503s3/b060503s3.	**Prep Date**		**SDG No**	
Analysis ID	90473	**Prep Exp Date**		**Date Received**	
Analysis Date	05/03/06 23:58	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M2A	**Extract Vol**		**Method**	0023/8290
Analyst	PMP	**Diluton Factor**	1.00	**Code**	X8

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**	
	Noise	00:00	00:00	0	143	183	57	73	0.78	/
	2,3,7,8-TCDF	33:05	33:04	1	83930	108830	8992	11465	0.77	AVB/ABV
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**	
	Noise	00:00	00:00	0	168	335	67	134	0.50 *	/
	13C-2,3,7,8-TCDF	33:02	33:01	1	1795639	2267045	193364	245402	0.79	AVV/AVV
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**	
	Noise	00:00	00:00	0	140	188	56	75	0.75	/
	2,3,7,8-TCDD	35:15	35:18	-3	69899	89343	8079	10583	0.78	ABB/ABB
328					**327.8847**		**327.8847**			
	Noise	00:00	00:00	0	268		107			
	37Cl4-2,3,7,8-TCDD	35:15	35:18	-3	154259		16918			AVV
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**	
	Noise	00:00	00:00	0	448	253	179	101	1.77 *	/
	13C-1,2,3,4-TCDD	34:40	34:40	0	1255293	1582838	128393	162316	0.79	ABV/AVV
	13C-2,3,7,8-TCDD	35:13	35:16	-3	1342885	1725244	152598	196223	0.78	AVV/AVV
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**	
	Noise	00:00	00:00	0	158	213	63	85	0.74 *	/
	1,2,3,7,8-PeCDF	41:25	41:23	2	500567	318546	121121	79368	1.57	ABV/ABV
	2,3,4,7,8-PeCDF	42:30	42:28	2	502847	325887	138508	92551	1.54	ABV/ABV
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**	
	Noise	00:00	00:00	0	165	190	66	76	0.87 *	/
	13C-1,2,3,7,8-PeCDF	41:23	41:22	1	1960623	1258247	477096	311798	1.56	ABV/ABV
	13C-2,3,4,7,8-PeCDF	42:28	42:27	1	485565	310817	126908	86710	1.56	ABV/ABV
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**	
	Noise	00:00	00:00	0	163	195	65	78	0.83 *	/
	1,2,3,7,8-PeCDD	42:58	42:55	3	372741	238875	103721	68669	1.56	ABV/ABV
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**	
	Noise	00:00	00:00	0	180	160	72	64	1.13 *	/
	13C-1,2,3,7,8-PeCDD	42:57	42:54	3	1574715	1017487	455222	289524	1.55	ABV/ABV
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**	
	Noise	00:00	00:00	0	138	185	55	74	0.74 *	/
	1,2,3,4,7,8-HxCDF	46:04	46:05	-1	438293	353305	121304	103182	1.24	ABV/ABV
	1,2,3,6,7,8-HxCDF	46:13	46:13	0	464949	367572	127459	107684	1.26	AVV/AVV
	2,3,4,6,7,8-HxCDF	46:58	47:00	-2	426492	339000	112999	92940	1.26	ABV/ABB
	1,2,3,7,8,9-HxCDF	47:59	48:02	-3	388307	317420	94231	80099	1.22	ABV/ABV
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**	
	Noise	00:00	00:00	0	178	178	71	71	1.00 *	/
	13C-1,2,3,4,7,8-HxCDF	46:04	46:04	0	235956	440224	64451	120961	0.54	ABV/ABV
	13C-1,2,3,6,7,8-HxCDF	46:11	46:12	-1	948505	1803308	259474	511749	0.53	AVV/AVV
	13C-1,2,3,7,8,9-HxCDF	47:58	48:00	-2	208019	379443	51853	94298	0.55	ABB/ABV
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**	
	Noise	00:00	00:00	0	163	195	65	78	0.83 *	/

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	3123:75	Prep Batch		Lot No	
Data File	/20060503s3/b060503s3.d	Prep Date		SDG No	
Analysis ID	90473	Prep Exp Date		Date Received	
Analysis Date	05/03/06 23:58	Matrix	UNKNOWN	Date Sampled	
Anal Exp Date		Initial Wt/Vol		Lims Test Code	
Instrument	M2A	Extract Vol		Method	0023/8290
Analyst	PMP	Diluton Factor	1.00	Code	X8

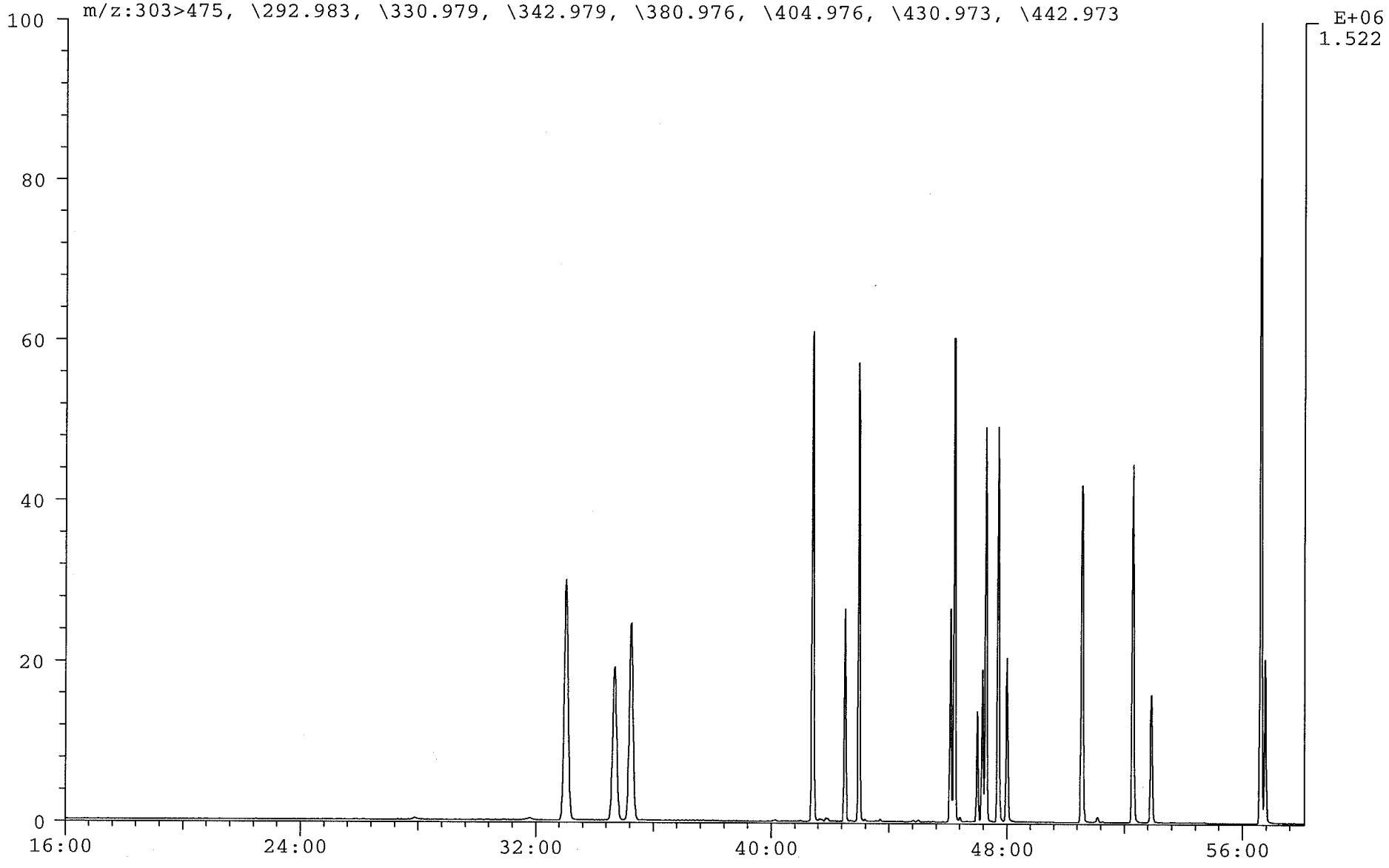
View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	1,2,3,4,7,8-HxCDD	47:10	47:10	0	307670	246455	79596	67716	1.25	ABV/ABV	
	1,2,3,6,7,8-HxCDD	47:17	47:17	0	320930	252717	86286	65878	1.27	AVB/AVV	
	1,2,3,7,8,9-HxCDD	47:42	47:43	-1	342008	273034	88810	70650	1.25	ABV/ABV	
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**		
	Noise	00:00	00:00	0	210	225	84	90	0.93 *	/	
	13C-1,2,3,4,7,8-HxCDD	47:09	47:10	-1	294782	240604	78863	63513	1.23	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDD	47:16	47:16	0	1246357	1011324	333276	267471	1.23	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDD	47:41	47:42	-1	1289670	1032515	344833	275878	1.25	AVV/AVV	
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**		
	Noise	00:00	00:00	0	140	165	56	66	0.85 *	/	
	1,2,3,4,6,7,8-HpCDF	50:33	50:38	-5	406099	393638	91178	91431	1.03	ABV/ABV	M
	1,2,3,4,7,8,9-HpCDF	52:54	52:58	-4	333424	316345	76092	70816	1.05	ABV/ABV	
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	Noise	00:00	00:00	0	148	178	59	71	0.83 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	50:32	50:37	-5	703122	1534712	156678	347566	0.46	ABV/ABV	M
	13C-1,2,3,4,7,8,9-HpCDF	52:53	52:56	-3	143219	314883	32508	72304	0.45	ABV/ABV	
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**		
	Noise	00:00	00:00	0	155	170	62	68	0.91	/	
	1,2,3,4,6,7,8-HpCDD	52:17	52:20	-3	292253	280127	67194	63896	1.04	ABV/ABB	
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**		
	Noise	00:00	00:00	0	208	210	83	84	0.99	/	
	13C-1,2,3,4,6,7,8-HpCDD	52:16	52:19	-3	1217709	1180524	283404	275842	1.03	ABV/ABV	
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**		
	Noise	00:00	00:00	0	165	270	66	108	0.61 *	/	
	OCDF	56:45	56:42	3	550331	597044	147734	157340	0.92	ABV/ABV	
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**		
	Noise	00:00	00:00	0	153	130	61	52	1.17 *	/	
	OCDD	56:36	56:35	1	541835	615380	153382	174445	0.88	ABV/ABV	
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**		
	Noise	00:00	00:00	0	103	138	41	55	0.75 *	/	
	13C-OCDD	56:35	56:34	1	2227291	2483999	608821	682801	0.90	ABV/ABV	

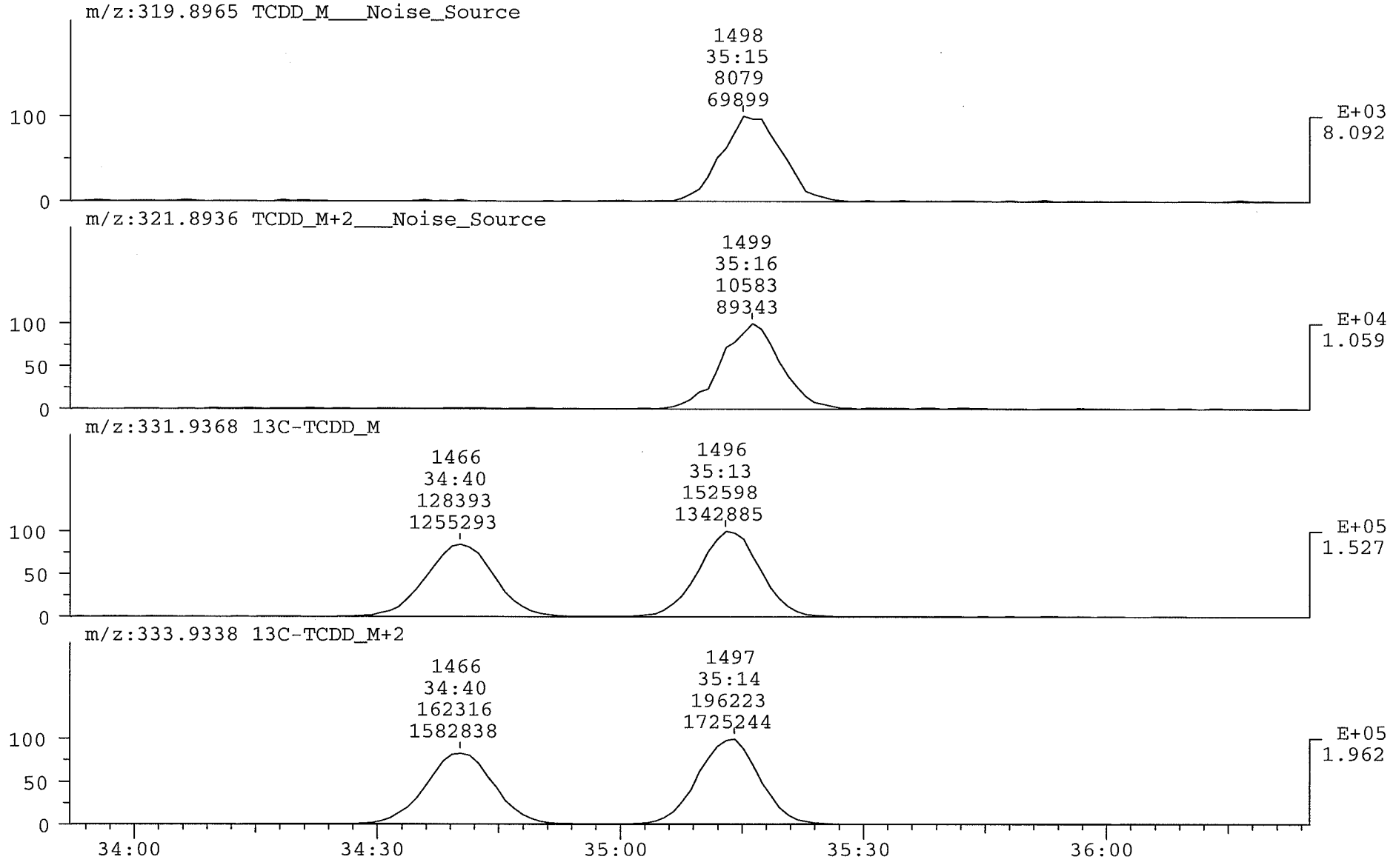
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

```
CHRO:  b060503s3                                03-May-06  Elapse:  08:00.4        1
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                     Start :  23:58:48    2776
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  M23 Ver
Oper:  PMP            Client:  STL Knoxville               Inlet :  GC     Vial   3
Peak:  100.00  ppm      Label wndw:   440 > 2776           Masses:  293 > 514
Area:  5, 0.50, 0       Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```

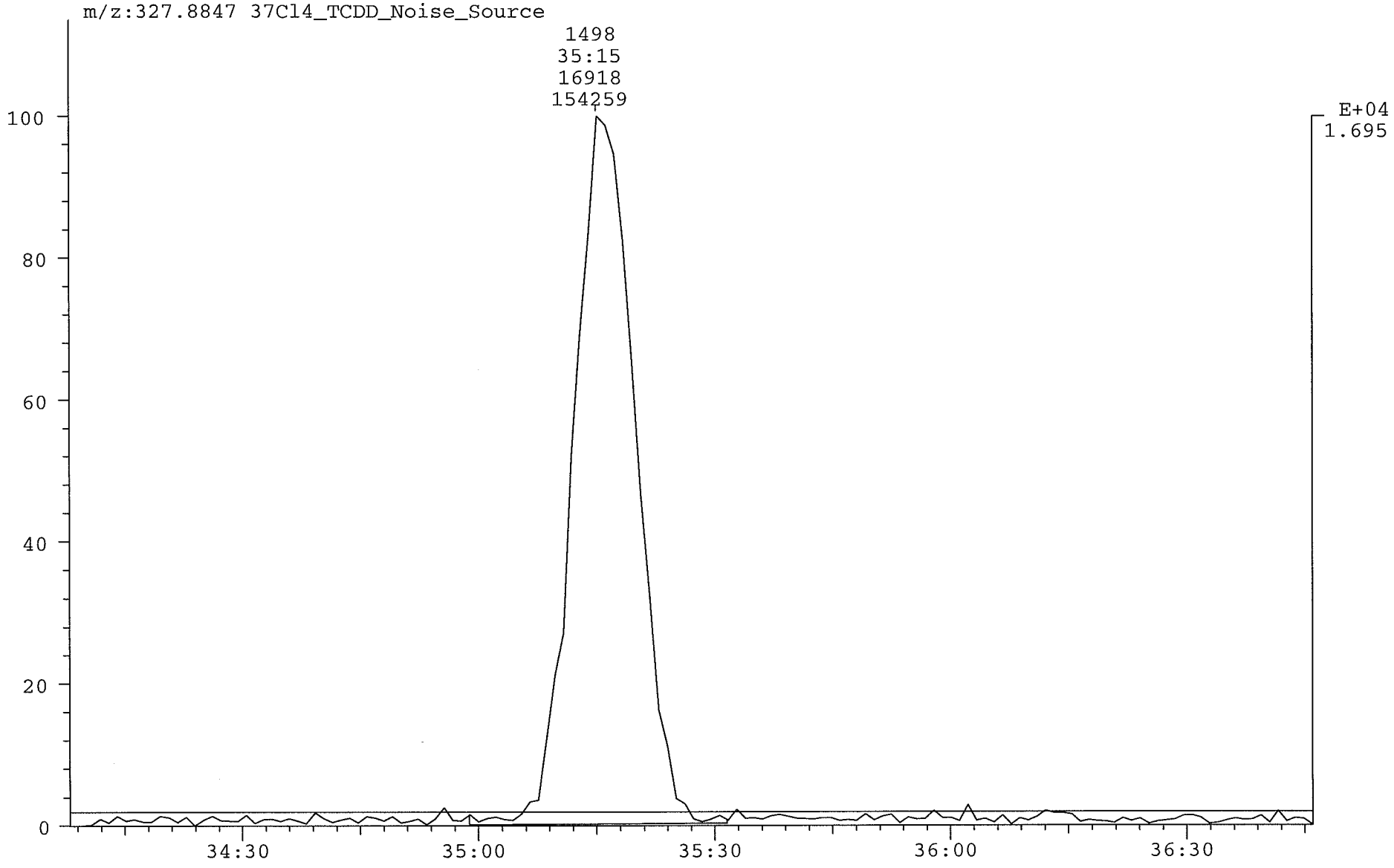
Int/Calc PMP 5-4-06
GC BFW 5/4/06



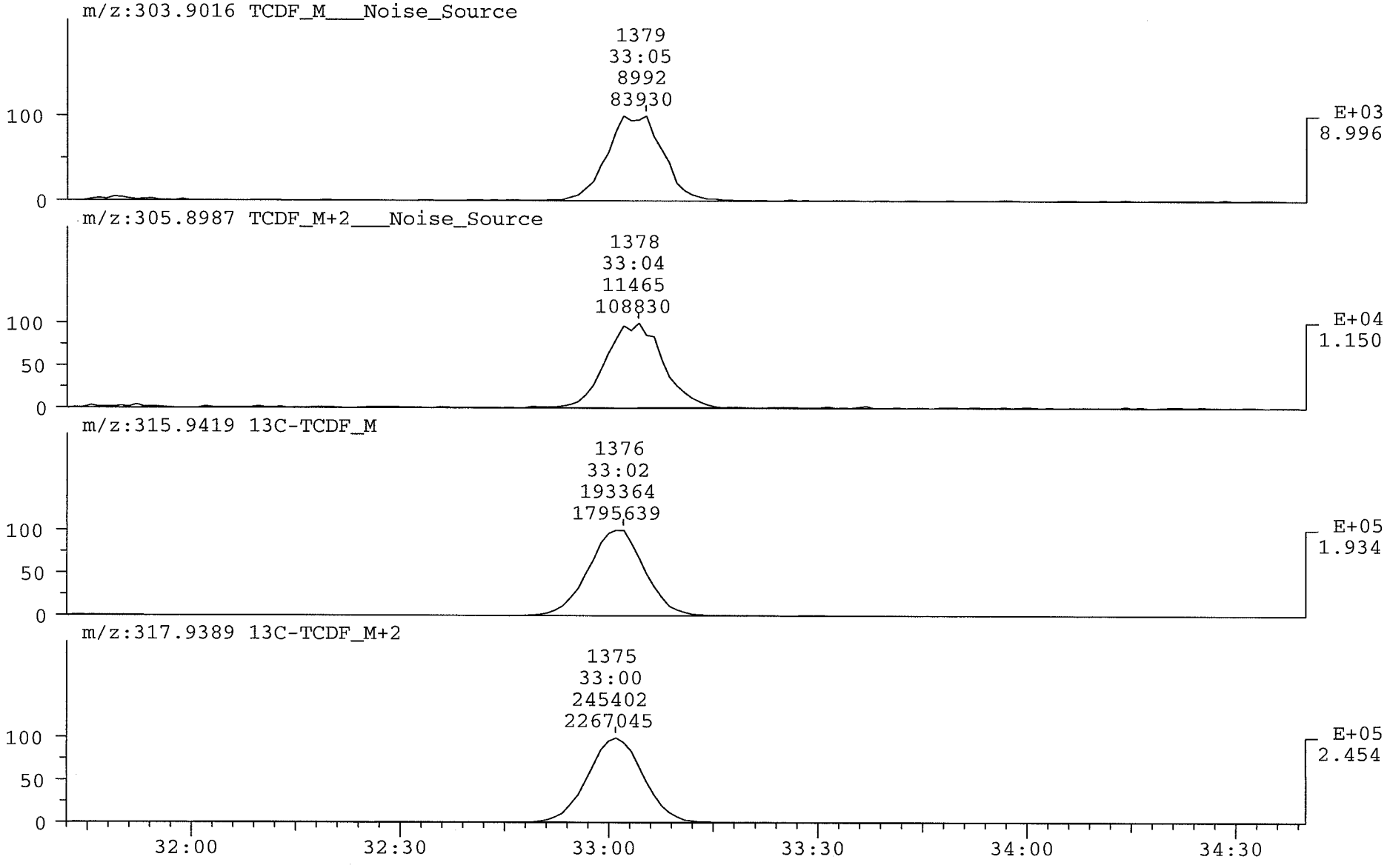
```
CHRO:  b060503s3                          03-May-06   Elapse:  35:07      1491
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  23:58:48   2776
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1422 > 1562      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



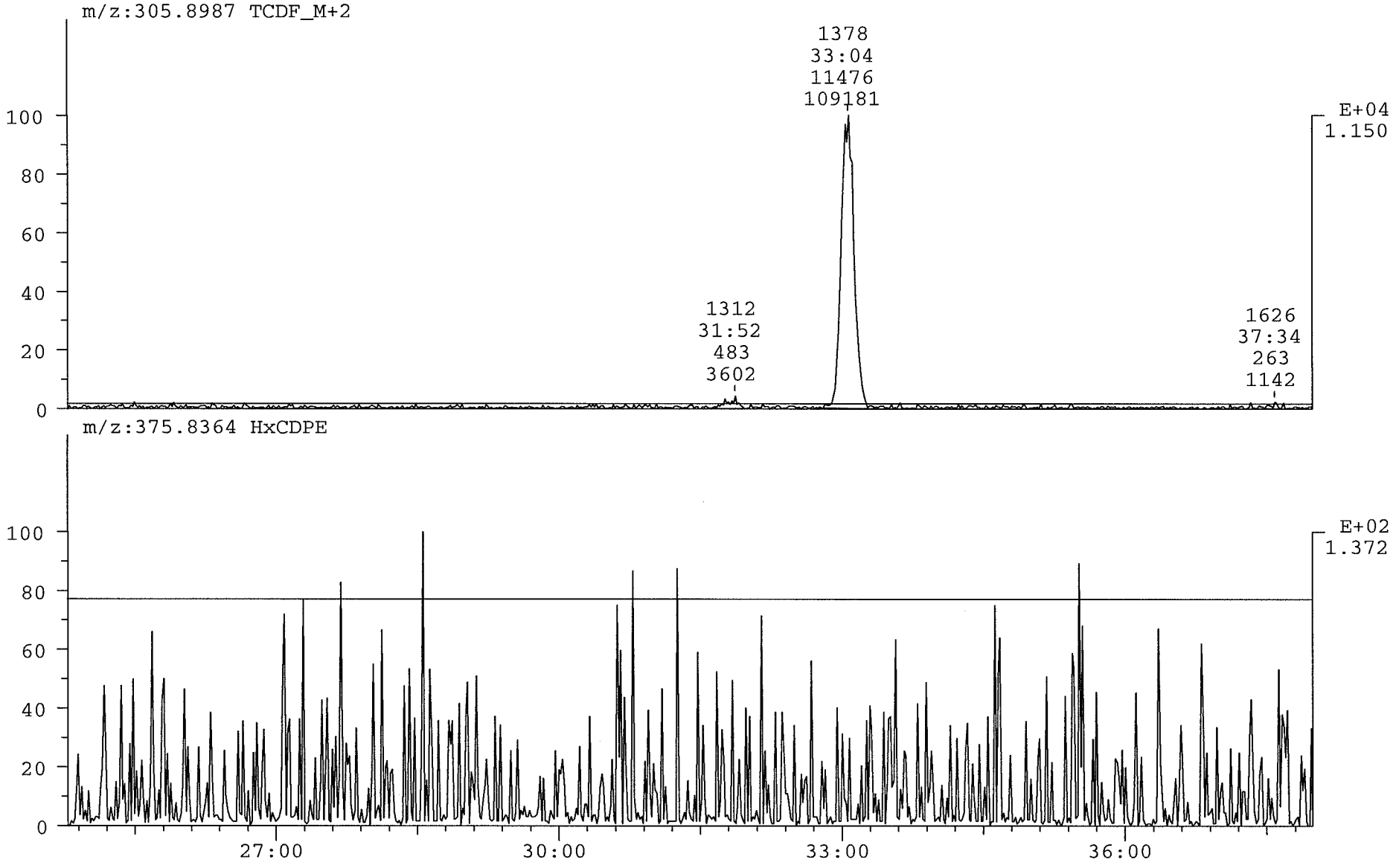
```
CHRO:  b060503s3                          03-May-06   Elapse:  35:23      1506
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  23:58:48   2776
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1437 > 1581      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



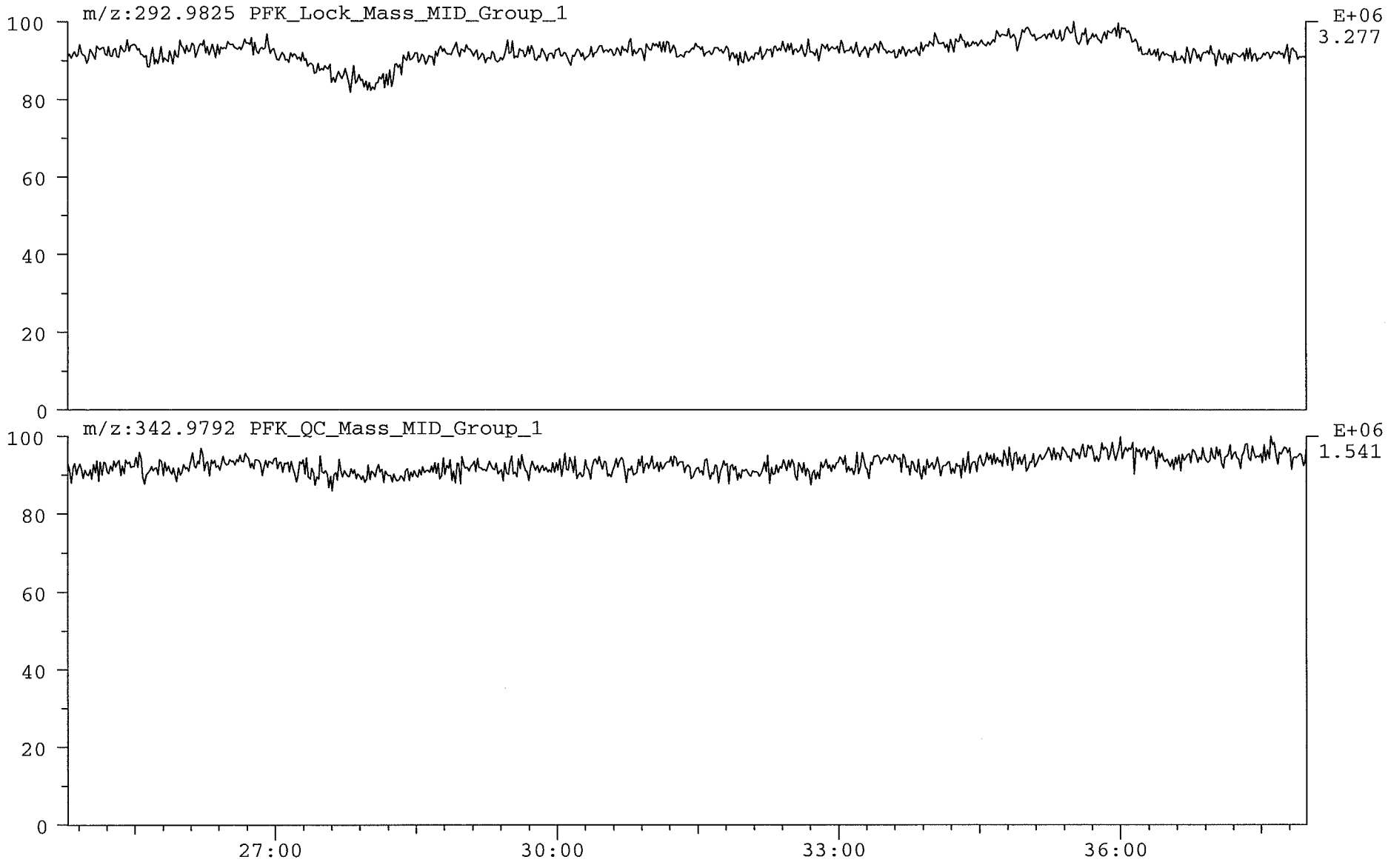
```
CHRO:  b060503s3                              03-May-06  Elapse:  33:08      1382
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                   Start :  23:58:48   2776
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville               Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1303 > 1466         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  2, 3.0
Disp:  Height  Area
```



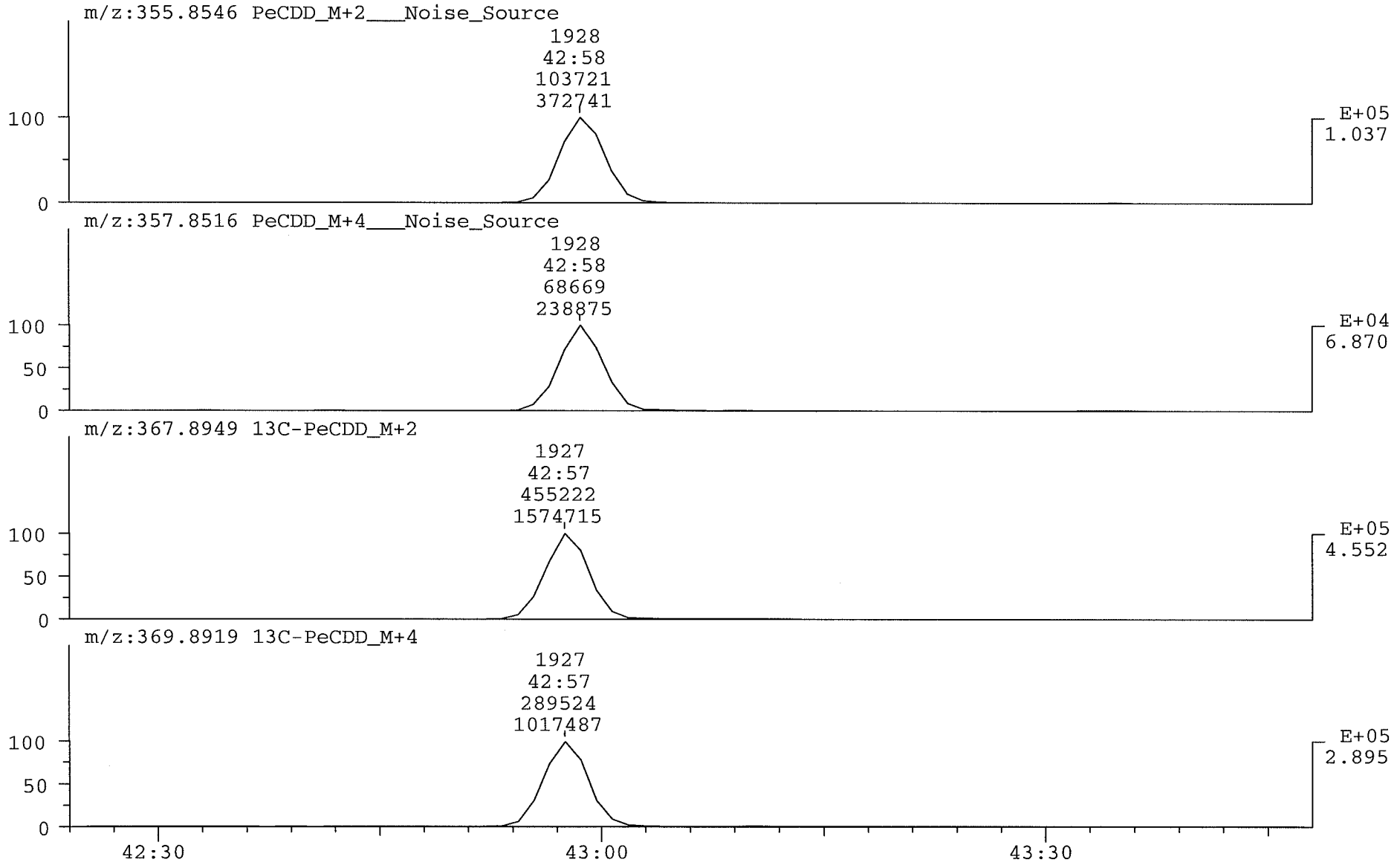
```
CHRO:  b060503s3                                03-May-06  Elapse:  33:08      1382
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                     Start :  23:58:48   2776
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  M23 Ver
Oper:  PMP            Client:  STL Knoxville               Inlet :  GC     Vial   3
Peak:  100.00  ppm      Label wndw:   923 > 1648           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



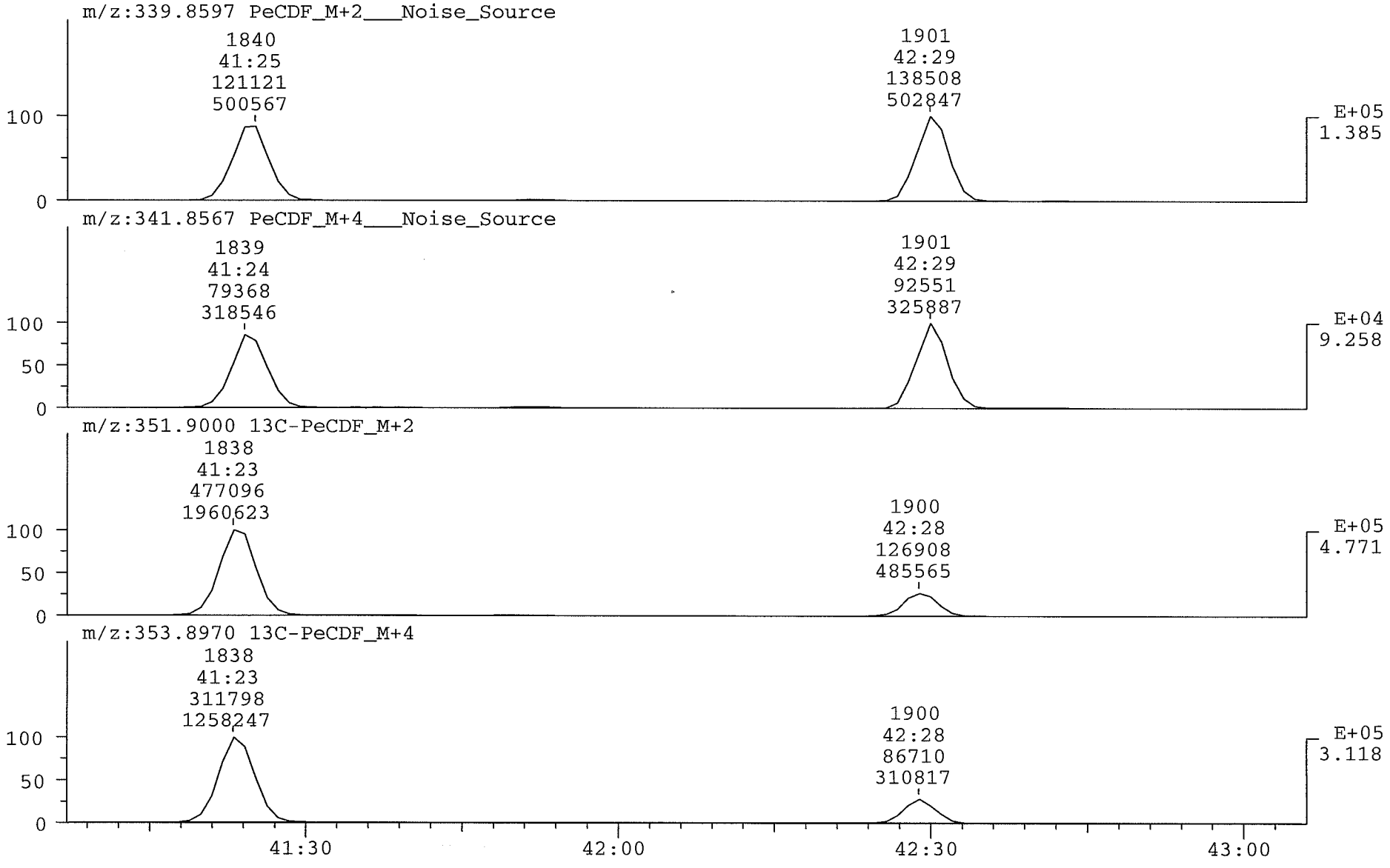
```
CHRO:  b060503s3                          03-May-06   Elapse:  33:08      1382
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  23:58:48   2776
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   923 > 1648       Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  0, 0.0
Disp:  Height  Area
```



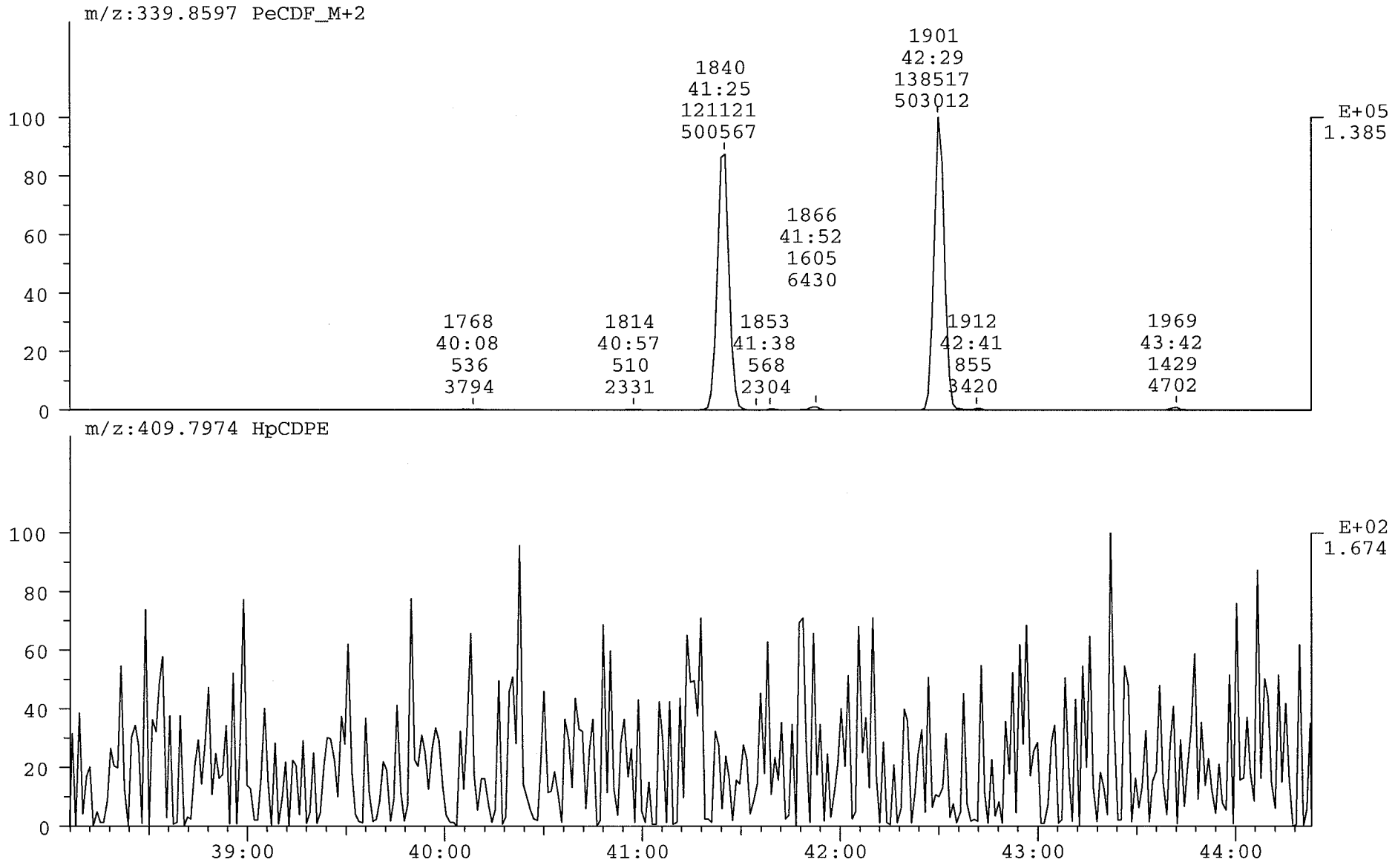
```
CHRO:  b060503s3                          03-May-06   Elapse:  43:02      1932
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  23:58:48   2776
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1895 > 1975      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



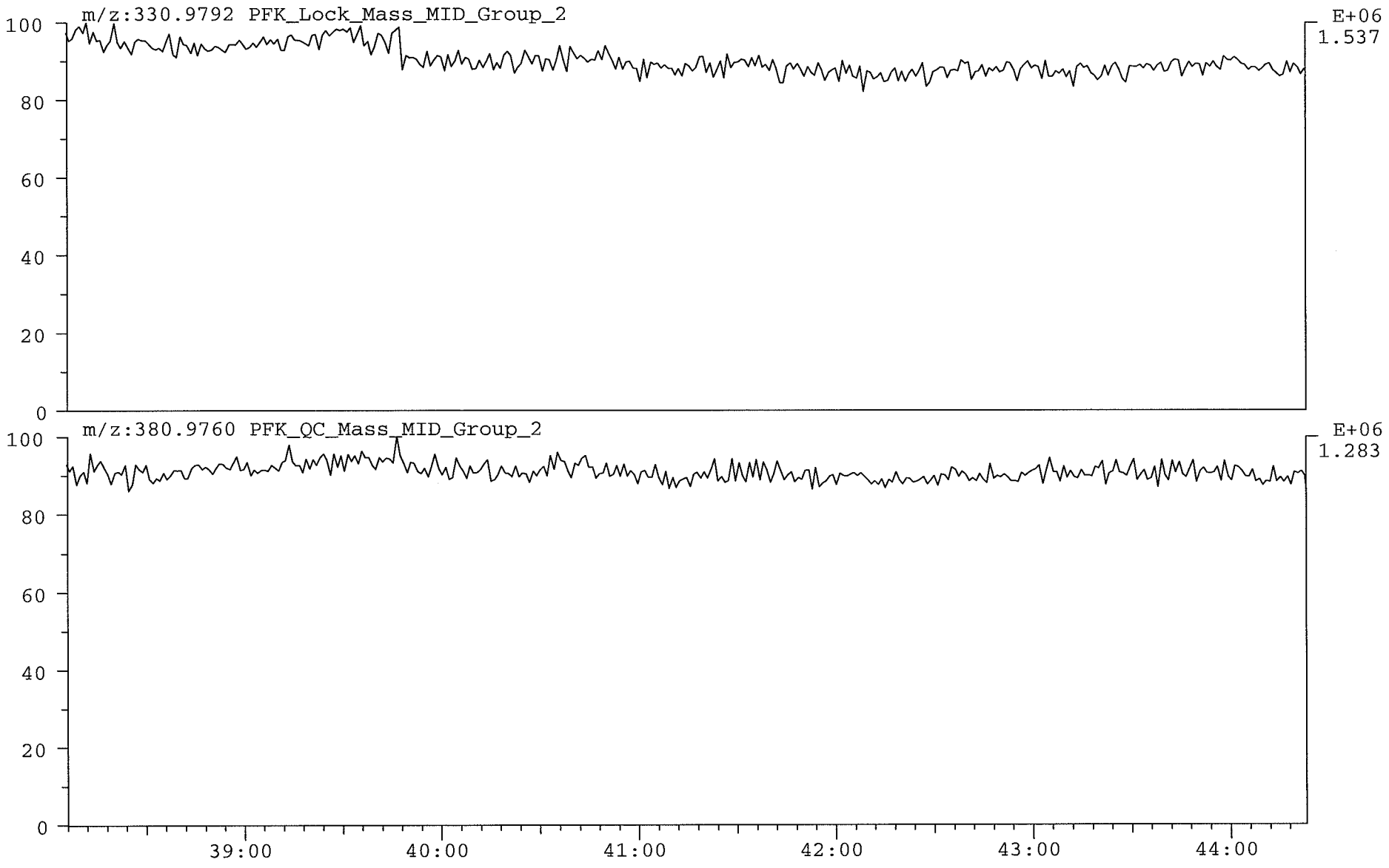
```
CHRO:  b060503s3                          03-May-06   Elapse:  42:05      1878
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  23:58:48   2776
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1823 > 1935      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



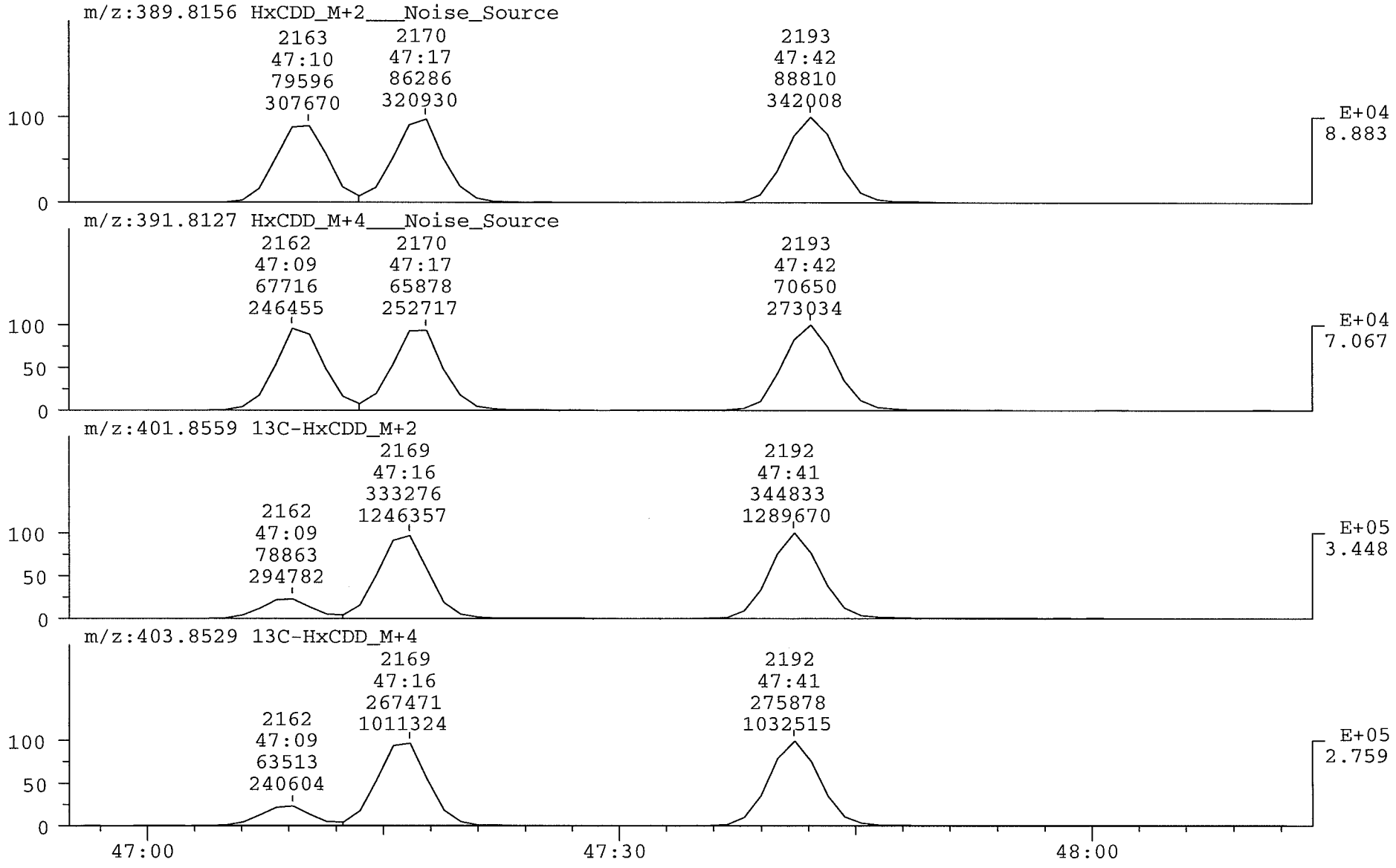
```
CHRO:  b060503s3                                03-May-06  Elapse:  42:05      1878
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                     Start :  23:58:48   2776
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville                 Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1652 > 2008           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



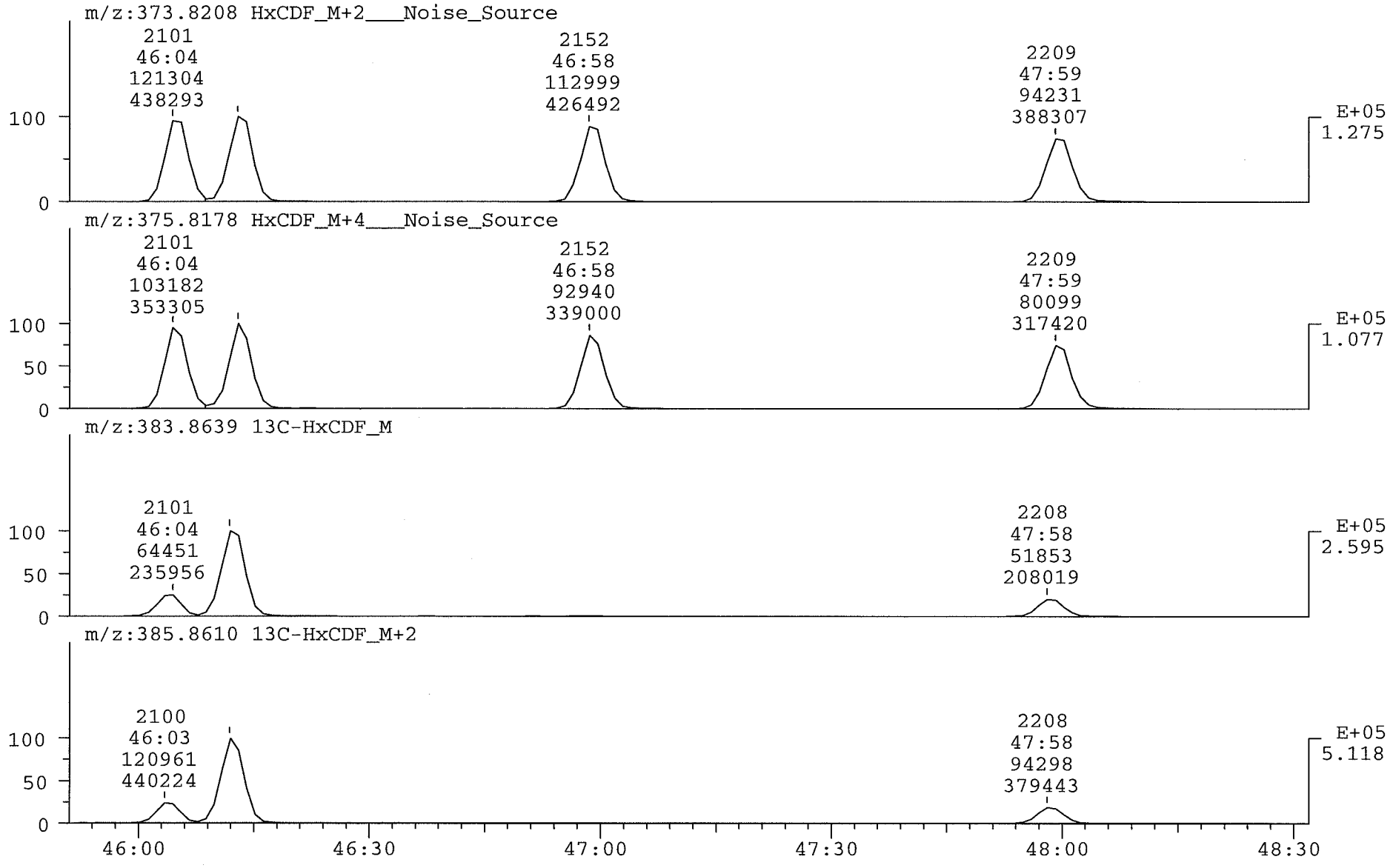
```
CHRO:  b060503s3                          03-May-06   Elapse:  42:05      1878
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  23:58:48   2776
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1652 > 2008      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  0, 0.0
Disp:  Height  Area
```



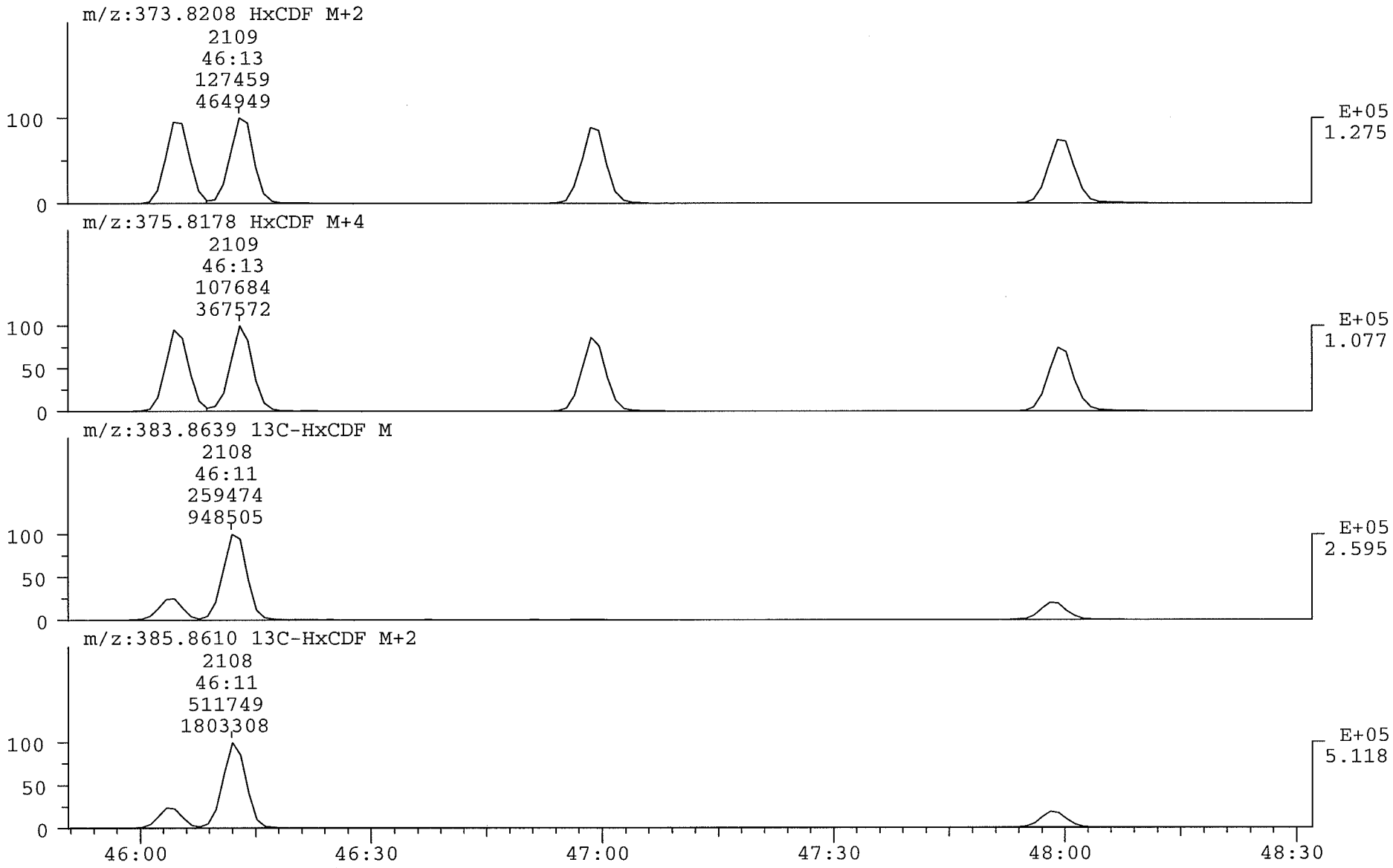
```
CHRO:  b060503s3                          03-May-06   Elapse:  47:33      2185
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  23:58:48   2776
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2149 > 2223      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



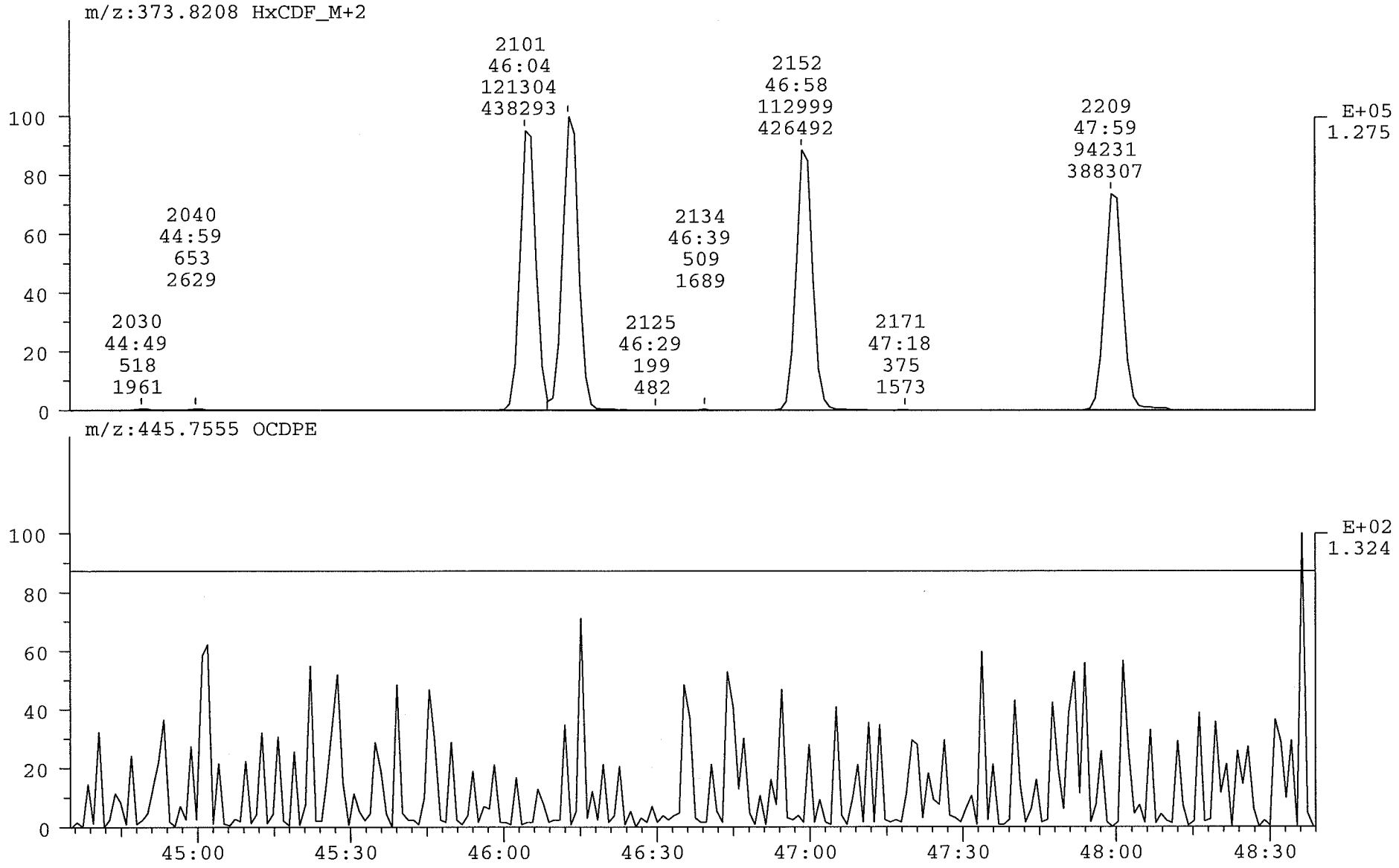
```
CHRO:  b060503s3                          03-May-06   Elapse:  47:11      2164
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  23:58:48   2776
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2088 > 2240      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



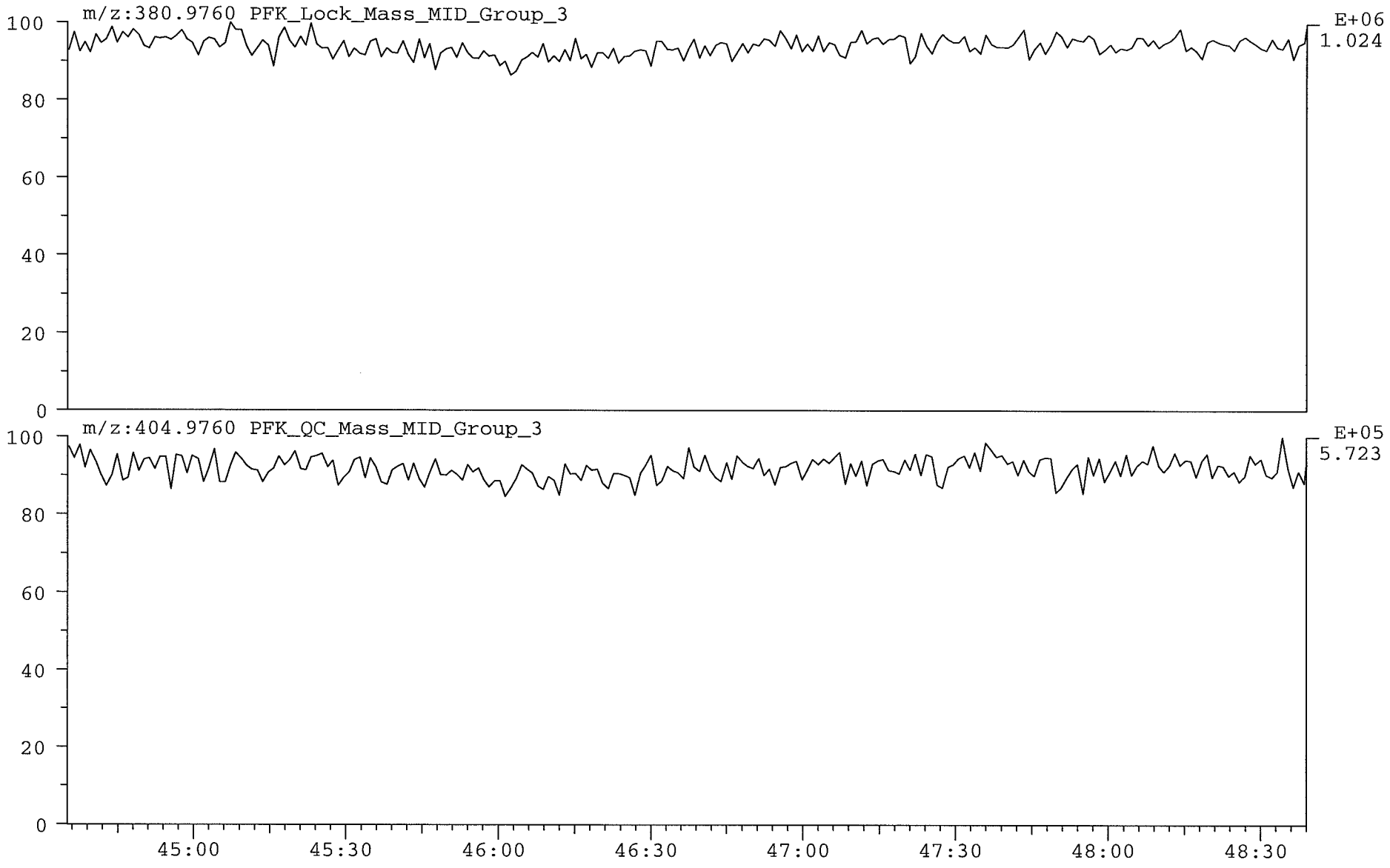
```
CHRO:  b060503s3                          03-May-06   Elapse:  46:11      2108
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  23:58:48   2776
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2105 > 2111      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



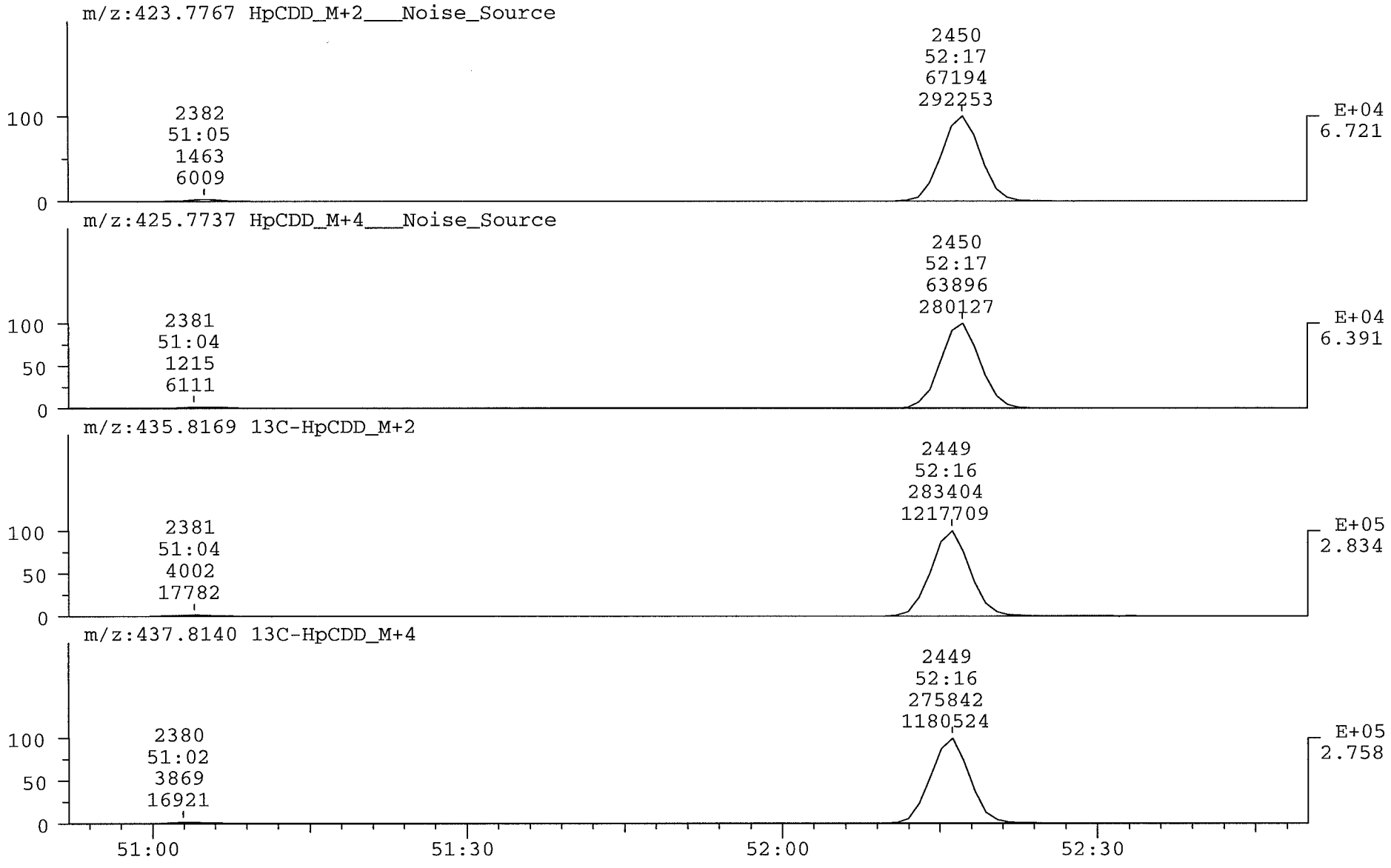
```
CHRO:  b060503s3                          03-May-06   Elapse:  46:19      2115
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  23:58:48   2776
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2017 > 2247      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



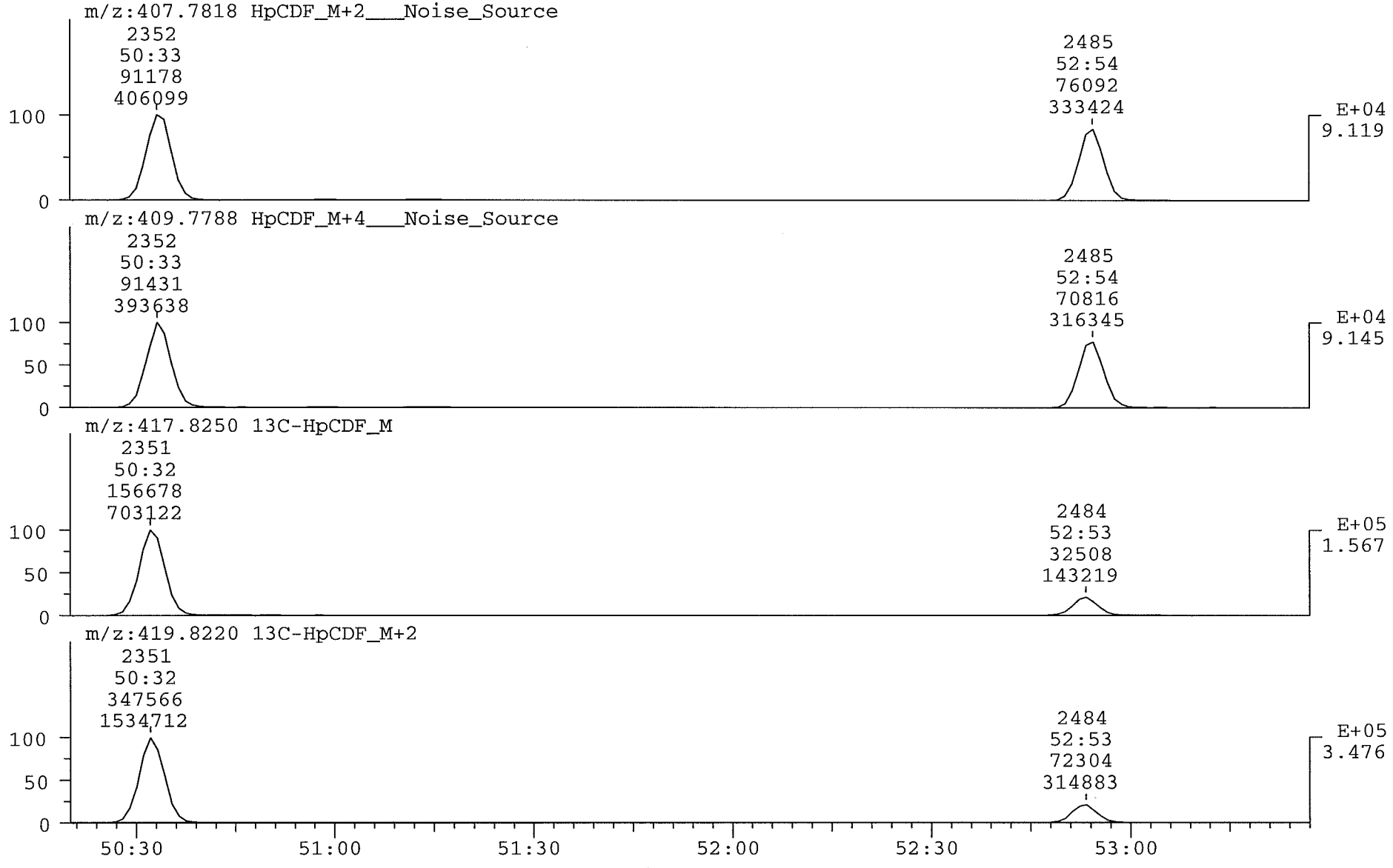
CHRO: b060503s3 03-May-06 Elapse: 46:19 2115
Samp: Vial 3 WO=3123:75 Meth=X8 Dil=1 Start : 23:58:48 2776
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 3
Peak: 100.00 ppm Label wndw: 2017 > 2247 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



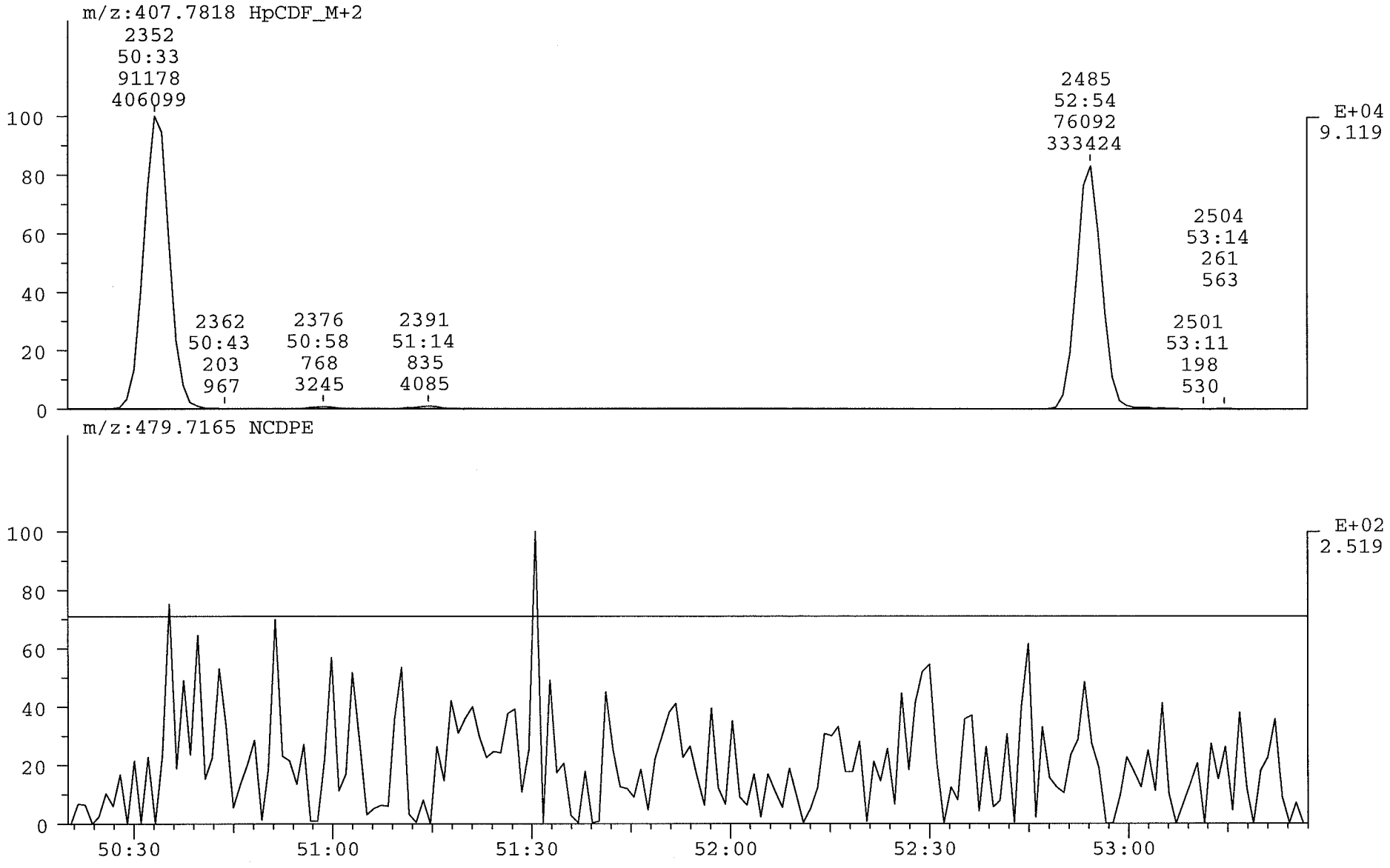
```
CHRO:  b060503s3                          03-May-06   Elapse:  46:19      2115
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  23:58:48   2776
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2370 > 2481      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



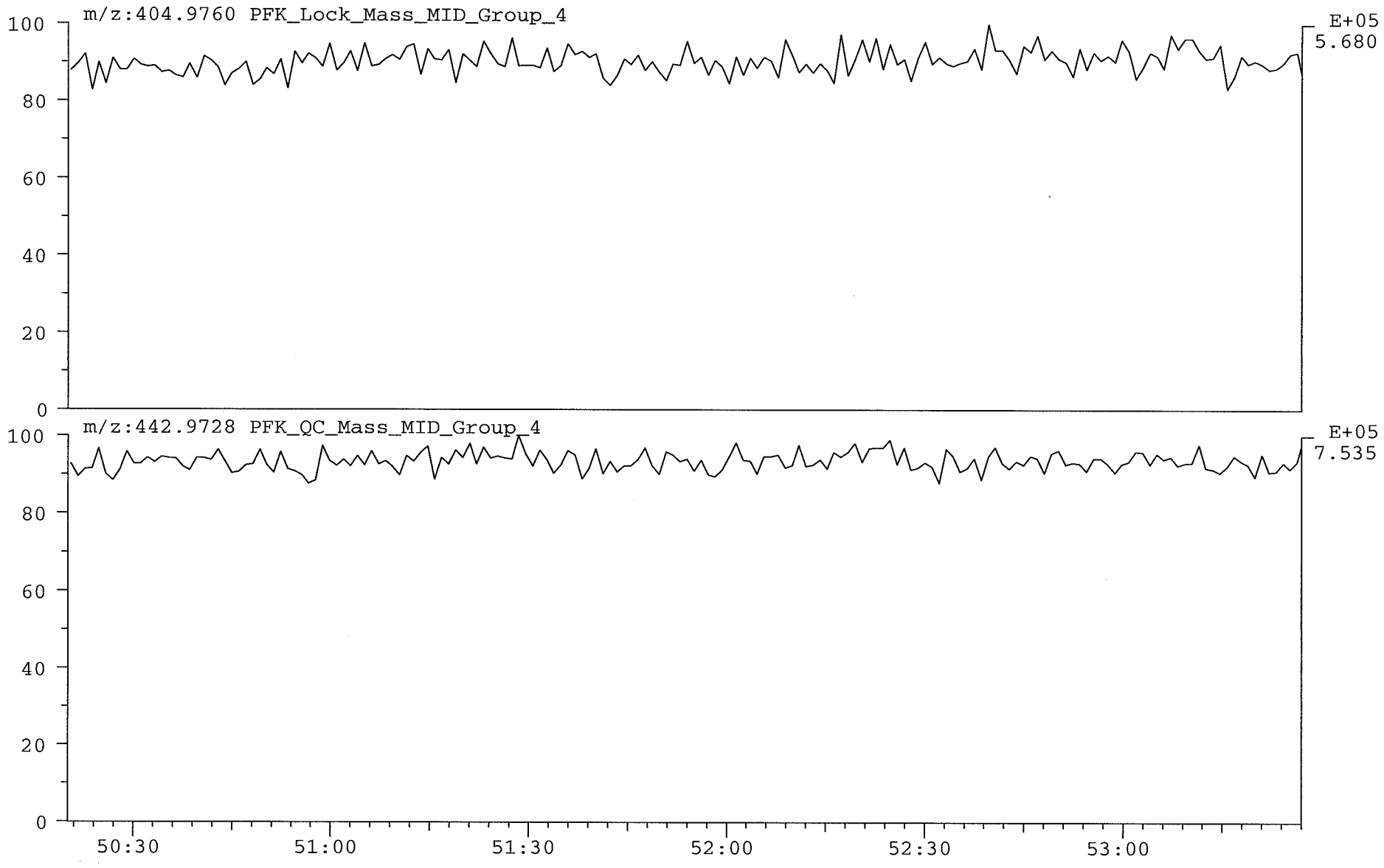
```
CHRO:  b060503s3                          03-May-06   Elapse:  51:52      2427
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  23:58:48   2776
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2340 > 2516      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



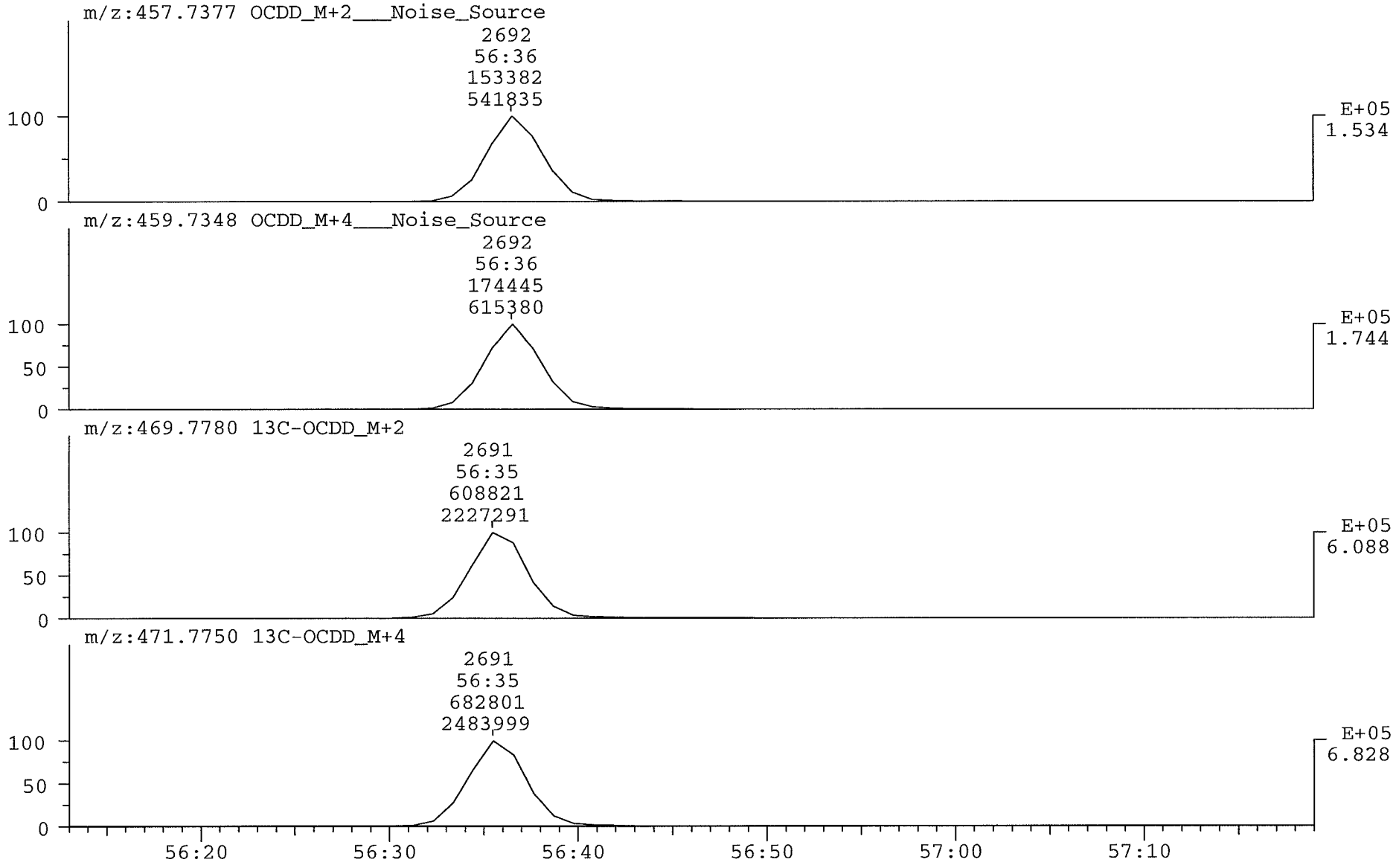
```
CHRO:  b060503s3                          03-May-06   Elapse:  51:52      2427
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  23:58:48   2776
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2340 > 2516      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



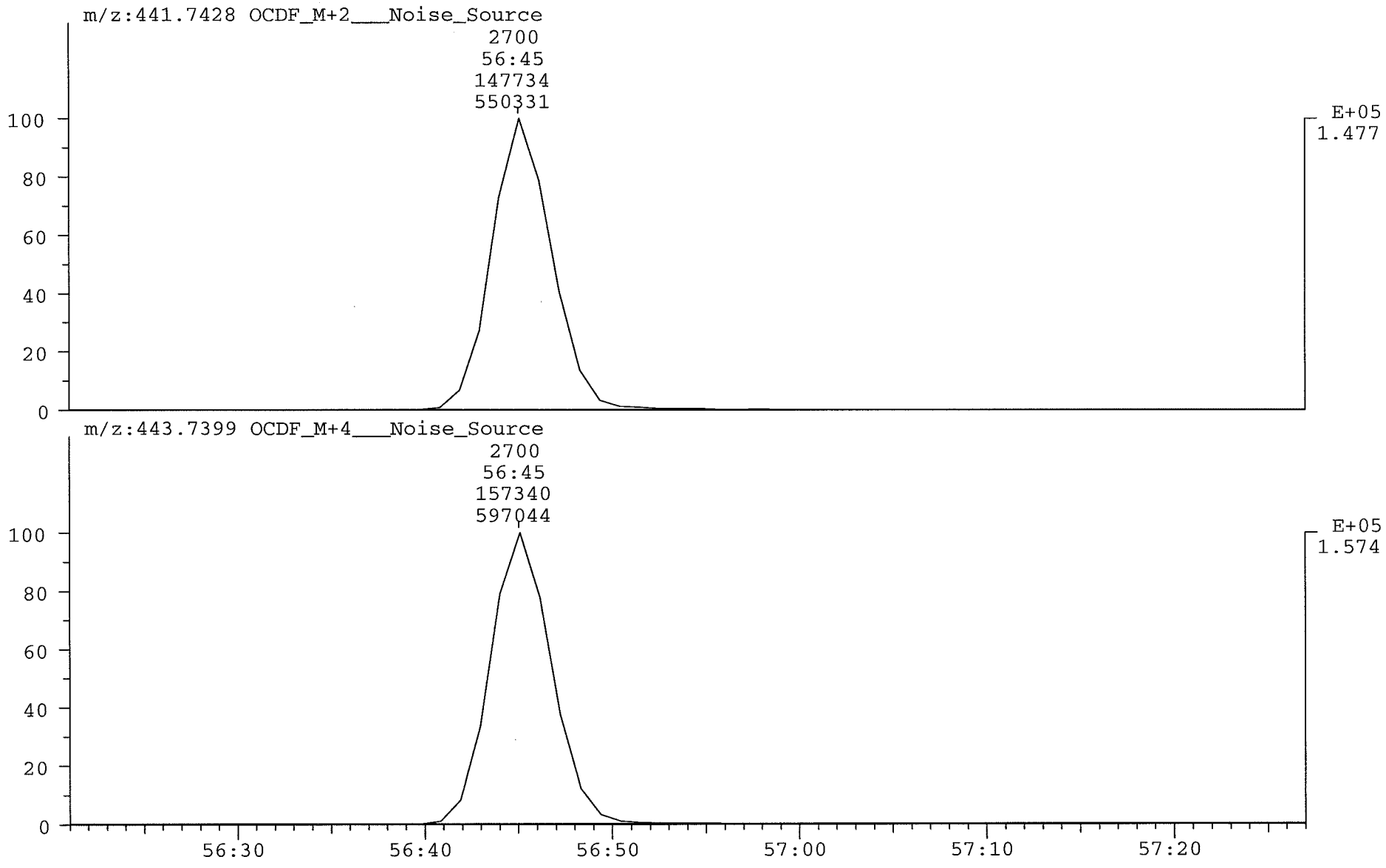
```
CHRO:  b060503s3                              03-May-06   Elapse:  51:52      2427
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                    Start :  23:58:48   2776
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville                Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2340 > 2516          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
```



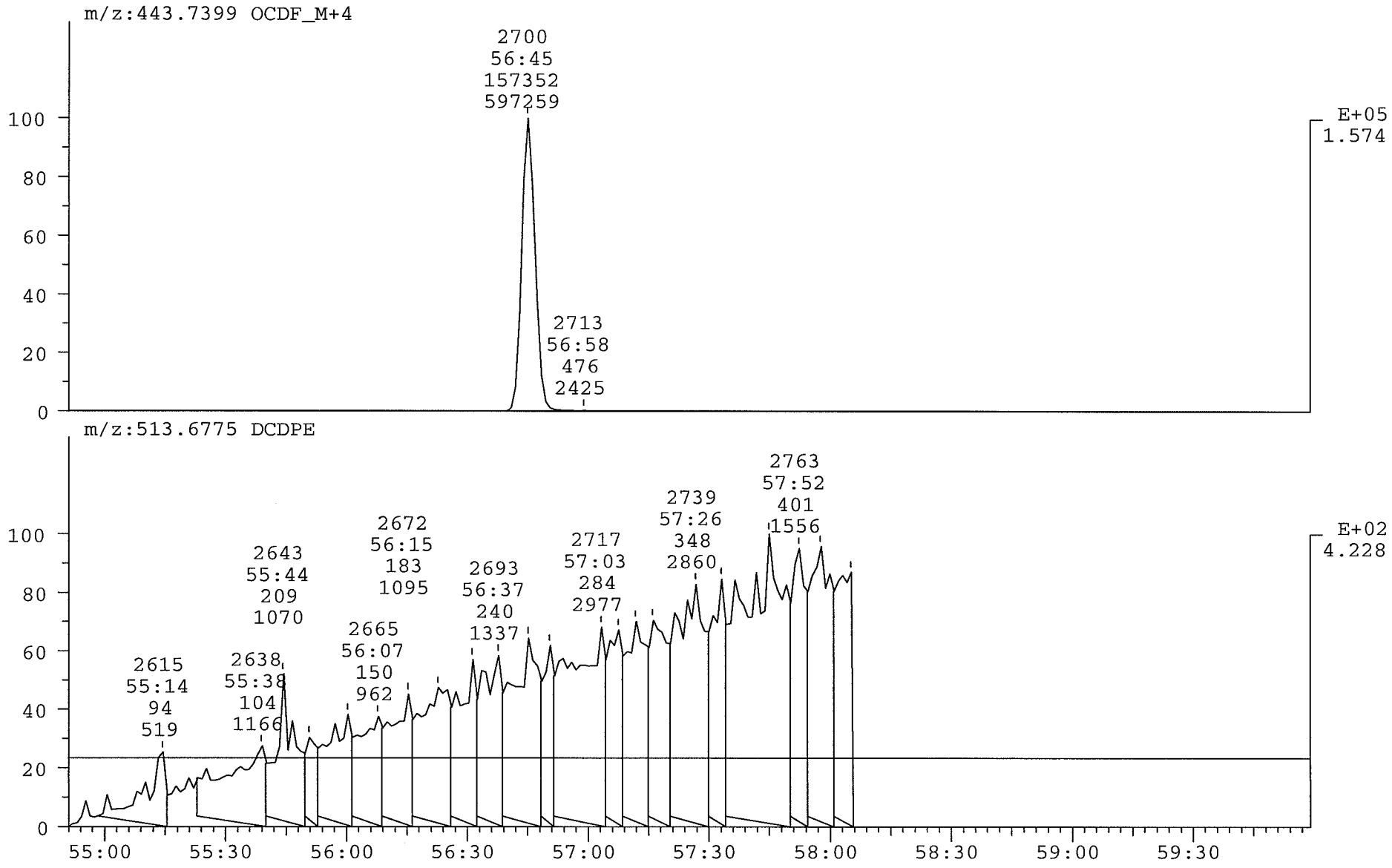
```
CHRO:  b060503s3                              03-May-06   Elapse:  56:42      2698
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                    Start :  23:58:48   2776
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  M23 Ver
Oper:  PMP            Client:  STL Knoxville              Inlet :  GC     Vial   3
Peak:  100.00  ppm      Label wndw:   2670 > 2732         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



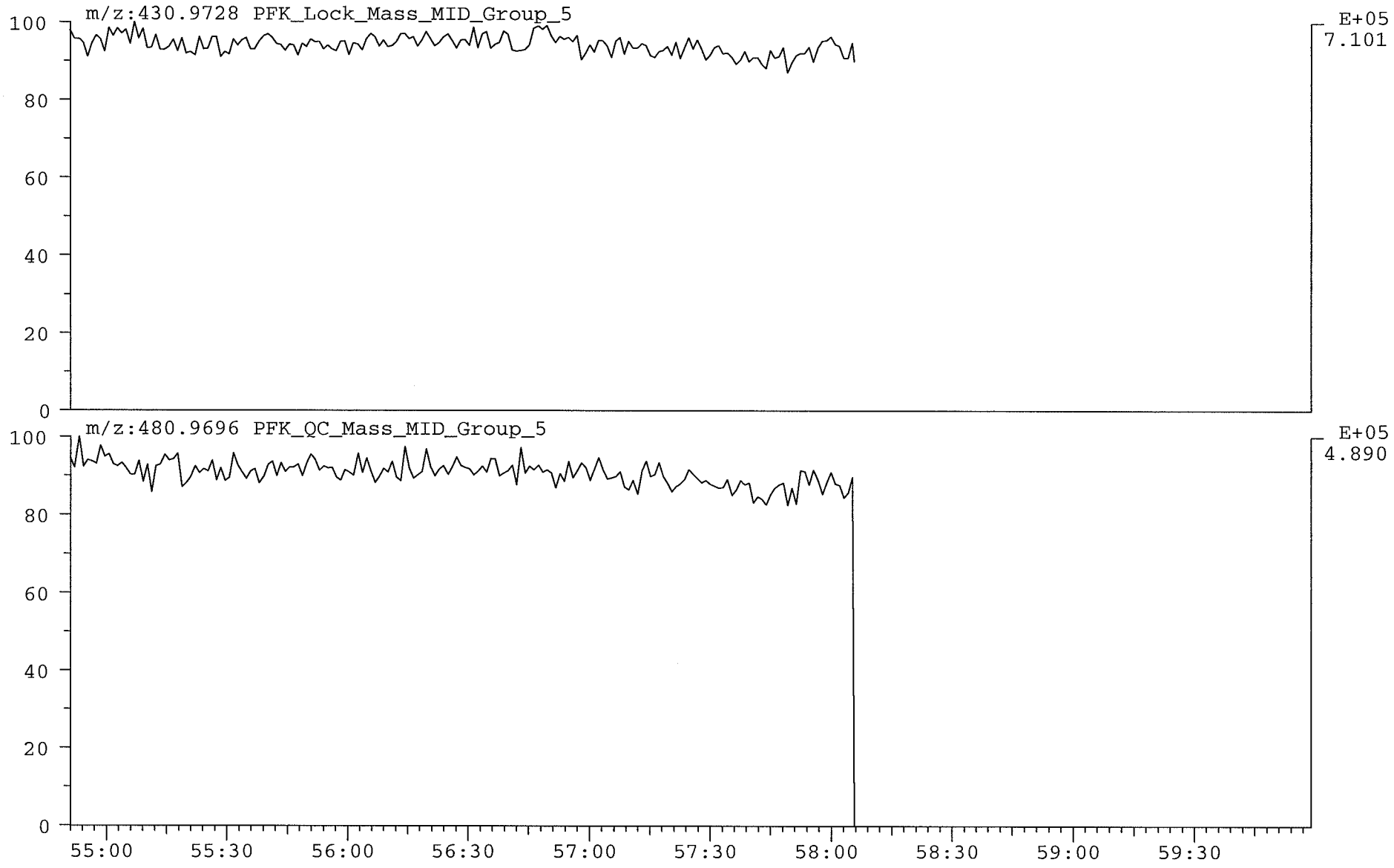
```
CHRO:  b060503s3                          03-May-06   Elapse:  56:51      2706
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  23:58:48   2776
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2677 > 2739      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: b060503s3 03-May-06 Elapse: 56:51 2706
Samp: Vial 3 WO=3123:75 Meth=X8 Dil=1 Start : 23:58:48 2776
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 3
Peak: 100.00 ppm Label wndw: 2593 > 2880 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  b060503s3                              03-May-06   Elapse:  56:51      2706
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                    Start :  23:58:48   2776
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  M23 Ver
Oper:  PMP           Client:  STL Knoxville               Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2593 > 2880          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
```



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: b060503s3
Study: M23 Ver
Sample: WO=3123:75 Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: PMP
Client: STL Knoxville
Comments: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S2
Injected volume: 2.0
Sample from Vial 3
Analysis will stop when MID run finishes
Tune file name: tune2
Single File
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	TRUE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	140 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	30:00 min	38:00 min	1.00 sec
# 2	38:00 min	6:25 min	44:25 min	1.00 sec
# 3	44:25 min	5:05 min	49:30 min	1.00 sec
# 4	49:30 min	5:15 min	54:45 min	1.00 sec
# 5	54:45 min	5:15 min	60:00 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

351.9000		1	1	91.48
353.8970		1	1	91.48
355.8546		1	1	91.48
357.8516		1	1	91.48
367.8949		1	1	91.48
369.8919		1	1	91.48
380.9760	c	10	1	8.19
409.7974		1	1	91.48

Window # 3

mass	F	int	gr	time (ms)
373.8208		1	1	91.48
375.8178		1	1	91.48
380.9760	1	10	1	8.19
383.8639		1	1	91.48
385.8610		1	1	91.48
389.8156		1	1	91.48
391.8127		1	1	91.48
401.8559		1	1	91.48
403.8529		1	1	91.48
404.9760	c	10	1	8.19
445.7555		1	1	91.48

Window # 4

mass	F	int	gr	time (ms)
404.9760	1	10	1	8.19
407.7818		1	1	91.48
409.7788		1	1	91.48
417.8250		1	1	91.48
419.8220		1	1	91.48
423.7767		1	1	91.48
425.7737		1	1	91.48
435.8169		1	1	91.48
437.8140		1	1	91.48
442.9728	c	10	1	8.19
479.7165		1	1	91.48

Window # 5

mass	F	int	gr	time (ms)
430.9728	1	10	1	10.92
441.7428		1	1	120.15
443.7399		1	1	120.15
457.7377		1	1	120.15
459.7348		1	1	120.15
469.7780		1	1	120.15
471.7750		1	1	120.15
480.9696	c	10	1	10.92
513.6775		1	1	120.15

Auto Sampler descriptor: pcdd2ul

Injector A

Normal Injection

Slvnt A cln before inj	(K):	3	times
Slvnt B cln before inj	(L):	0	times
Sample rinse cycles	(R):	0	times
Syringe filling volume	(F):	1.0	ul
Pullup delay time	(D):	4	sec
Sample pullup speed	(E):	5.0	ul/sec
Slvnt aftr pre inj cln	(U):	0.0	ul
Air after pre inj cln	(G):	2.0	ul
Sample volume	(V):	2.0	ul
Sample air volume	(A):	2.0	ul
Sample pullup count	(P):	2	times
Injection speed	(S):	10.0	ul/sec
Injection wait time	(W):	10	sec
Injection hold time	(H):	3	sec
Solvent A clean cycles	(C):	15	times
Solvent B clean cycles	(B):	20	times
Loop clean w slvnt A	(LC):	0	times

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8430.0000
BDEV	8285.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.5861	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9992
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-738.5000	ELEN	61.7750
EMULT	1.8000	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	189.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	537.0000	FVINLET	559.0000
FVSRC	997.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.5980	HVANAL	1582.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4757.0160	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	292.9825
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	133.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10643.8407	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.7700	TCURR	0.8984	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 03-May-06 23:58:48.5

Autosampler has injected sample from vial 3
Analysis stopped at: 04-May-06 00:56:55.1 (run time 58.10 minutes)
Analysis stopped because MID run finished

STL Knoxville Dioxin GC/MS Continuing Calibration Review / Narrative Checklist

KNOX-ID-0004-R6 **Method:** ☒ 0023A/8290 □ EPA 23

Start PFK:	10:00	VER Filename:	606050451	Win Filename:	606064W1	Inst:	UMA795
End PFK:	21:34	VER Filename:	606050452	Col Perf Filename:	✓	ICAL Date:	5/- 11-8-04

BFW 5/4/06

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd Level
1. Was the mass resolution documented at both the beginning and end of the 12 hour shift?		✓			✓
2. Was the instrument resolution >10,000 (<100 ppm) on PFK m/z 304.9824 and m/z 380.9760 (at reduced voltage)?		✓			✓
3. Was the measured exact mass of m/z 380.9760 (PFK) within 5 ppm at reduced accelerating voltage?		✓			✓
4. Was date/time of analysis verified between analysis header and logbook as correct?		✓			✓
5. Was the Window Defining Mixture analyzed and the MID switchpoints set to encompass the retention time windows of each congener group?		✓			✓
6. Was the Column Performance solution analyzed and the %Valley ≤25 for separation between 2378-TCDD/F and the closest eluting non-2378 isomer?		✓			✓
7. Were continuing calibrations performed at the beginning and end of the 12-hour period, with successful mass resolution and GC resolution performance checks?		✓			✓
8. Were the response factors calculated for each labeled standard and unlabeled native analyte using the SOP specified reference compound (Table 4), quantitation ions (Table 22), and formula (Section 10.2.6)?		✓			✓
9. Are the measured RRFs for each compound within the specified control limits in Table 8 for all PCDDs/PCDFs?					✓
10. Are the relative retention times of all PCDDs/PCDFs and all labeled compounds within the limits specified in Table 3?		✓			✓
11. Are all S/N ratios ≥10 for the GC signals in each EICP (extracted ion chromatographic profile) including internal standards?		✓			✓
12. Are the ion abundance ratios for all labeled and unlabeled analytes within the control limits specified in Table 22 of the SOP?		✓			✓
13. If manual integrations were performed, are they clearly identified, initialed and dated?	✓				✓
14. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				✓
15. Does the CCAL folder contain **complete** data in the following order: Data review checklist, a **complete** runlog, CCAL summary, Ratio summary, Calculation summary, PFK resolution/peak match documentation; Total RIC, EICP's and manual integration - for window and all standards?		✓			✓

Analyst: BFW	Date: 5/4/06	2nd Level Reviewer : PMP	Date: 5-4-06
Comments:		Comments:	

STL KNOXVILLE
SPECIALTY ORGANICS INSTRUMENT MAT 95S RUN LOG

Date	Time	Opr	Sample ID	Filename	Code	Matrix	Type	Tape	Lot#/Comments
5-3-06	22:41	PMP	PFK	—	OK	–	Res		Mass Res Chk
5-3-06	22:44	PMP	3262:44	b060503w1	OK	–	WIN		M23 win
5-3-06	23:46	PMP	Nonane	r	OK	–	QC		flush
5-3-06	23:58	PMP	3123:75	b060503s3	OK	–	ver		M23 ver
5-4-06	01:11	PMP	H3EDD1AC	bth3eddc	OK	Air	QC		H6D170000-079C
5-4-06	02:14	PMP	H3EDD1AD	bth3eddl	OK	Air	QC		↓ 079L
5-4-06	03:19	PMP	Nonane	r	OK	–	QC		flush
5-4-06	03:35	PMP	↓	r	OK	–	QC		↓
5-4-06	03:50	PMP	↓	r	OK	–	QC		↓
5-4-06	04:05	PMP	H3EDD1AA	bth3eddb	OK	Air	QC		H6D170000-079B
5-4-06	05:09	PMP	H2H1X1AA	bth2h1x	OK	Air	SAM		H6D030236-0011
5-4-06	06:13	PMP	H2H1N1AA	bth2h1n	OK	Air	SAM		↓ -007
5-4-06	07:16	PMP	Nonane	r	OK	–	QC		flush
5-4-06	07:31	PMP	3123:75	b060504s1	OK	–	ver		M23 ver
5/4/06	10:00	BFW	PFK	—	OK	–	Res		Mass Res Check
5/4/06	10:02	BFW	3262:44	b060504w1	OK	–	WIN		M23 WIN
5/4/06	11:06	BFW	H3ED8IAC	bth3ed8c	OK	Air	QC		H6D170000-092C
5/4/06	12:10	BFW	H3ED8IAD	bth3ed8l	OK	Air	QC		↓ 092L
5/4/06	13:15	BFW	Nonane	r	OK	–	QC		Flush
5/4/06	13:30	BFW	↓	r	OK	–	QC		↓
5/4/06	13:45	BFW	↓	r	OK	–	QC		↓
5/4/06	14:02	BFW	H3ED8IAA	bth3ed8b	OK	Air	QC		H6D170000-092B
5/4/06	15:05	BFW	H2H1W1AA	bth2h1w	OK	Air	SAM		H6D030236-010
5/4/06	16:08	BFW	H2H1D1AA	bth2h1d	OK	Air	SAM		-001
5/4/06	17:12	BFW	H2H1G1AA	bth2h1g	OK	Air	SAM		↓ -003
5/4/06	18:16	BFW	H2H1K1AA	bth2h1k	OK	Air	SAM		↓ -005
5/4/06	19:19	BFW	Nonane	r	OK	–	QC		Flush
5/4/06	19:34	BFW	3123:75	b060504s2	OK	–	Ver		M23 Ver
5-4-06	21:36	PMP	PFK	—	OK	–	Res		Mass Res Chk

Read and Understood by:

_____ Date: _____

STL - Knoxville

IsoCalc Continuing Calibration Report

PCDD/PCDF by EPA Method 0023/8290

CCAL ID: 17074 - B060504S1
ICAL Date: 11/08/04
CCAL Filename: b060504s1
Method: X8 - 0023/8290
CCAL Sample ID: 3123:75
Instrument: M2A
CCAL Result Dir: /20060504s1/b060504s1.d
Column SN: 718320
CCAL Date/Time: 05/04/06 07:31
Column Desc: Rtx-5 60m x 0.32mm ID x 0.25um

Analytes	m/z's Forming Ratio	Ion Abund Ratio	QC Limits	Calc Conc (ng/mL)	ICAL RF	CCAL RF	%D	QC Limit	Valid?
2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	4.5	1.060	0.957	-9.7	20.0	True
2,3,7,8-TCDF	M/M+2	0.77	0.65-0.89	4.6	1.064	0.973	-8.5	20.0	True
1,2,3,7,8-PeCDD	M+2/M+4	1.53	1.32-1.78	24.6	0.977	0.963	-1.4	20.0	True
1,2,3,7,8-PeCDF	M+2/M+4	1.53	1.32-1.78	27	0.955	1.021	6.9	20.0	True
2,3,4,7,8-PeCDF	M+2/M+4	1.53	1.32-1.78	26	1.018	1.048	3.0	20.0	True
1,2,3,4,7,8-HxCDD	M+2/M+4	1.30	1.05-1.43	24.2	1.047	1.013	-3.3	20.0	True
1,2,3,6,7,8-HxCDD	M+2/M+4	1.20	1.05-1.43	24.6	1.055	1.038	-1.6	20.0	True
1,2,3,7,8,9-HxCDD	M+2/M+4	1.22	1.05-1.43	23.9	1.146	1.097	-4.2	20.0	True
1,2,3,4,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	27	1.101	1.175	6.7	20.0	True
1,2,3,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	26	1.184	1.209	2.1	20.0	True
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	26	1.052	1.083	2.9	20.0	True
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05-1.43	24.8	0.982	0.973	-0.9	20.0	True
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	0.88-1.20	23.3	1.018	0.947	-7.0	20.0	True
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.01	0.88-1.20	26	1.403	1.466	4.5	20.0	True
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88-1.20	23.8	1.197	1.140	-4.7	20.0	True
OCDD	M+2/M+4	0.91	0.76-1.02	51	0.965	0.984	2.0	20.0	True
OCDF	M+2/M+4	0.90	0.76-1.02	46	1.103	1.021	-7.5	20.0	True
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	102	1.068	1.085	1.6	30.0	True
13C-2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	96	1.413	1.359	-3.9	30.0	True
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32-1.78	104	0.882	0.920	4.3	30.0	True
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	97	1.188	1.148	-3.4	30.0	True
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	102	0.943	0.959	1.6	30.0	True
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	99	1.272	1.257	-1.2	30.0	True
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	107	0.918	0.987	7.4	30.0	True
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37-0.51	104	0.916	0.956	4.4	30.0	True
13C-OCDD	M+2/M+4	0.89	0.76-1.02	225	0.850	0.956	12.5	30.0	True
37Cl4-2,3,7,8-TCDD			-	4.6	1.046	0.958	-8.4	30.0	
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	24.4	1.010	0.987	-2.3	30.0	True
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	26	0.902	0.921	2.1	30.0	True
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43-0.59	24.9	0.988	0.986	-0.3	30.0	True
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.43-0.59	22.2	1.113	0.988	-11.2	30.0	True
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37-0.51	22.3	0.912	0.813	-10.8	30.0	True

BW 5/4/06
PMP 5-4-06

STL - Knoxville IsoCalc Continuing Calibration Report

PCDD/PCDF by EPA Method 0023/8290

CCAL ID: 17074 - B060504S1
CCAL Filename: b060504s1
CCAL Sample ID: 3123:75
CCAL Result Dir: /20060504s1/b060504s1.d
CCAL Date/Time: 05/04/06 07:31

ICAL Date: 11/08/04
Method: X8 - 0023/8290
Instrument: M2A
Column SN: 718320
Column Desc: Rtx-5 60m x 0.32mm ID x 0.25um

Analytes	ICAL RT	CCAL RT	RT Diff	ICAL RRT	CCAL RRT	RRT QC Limit	Valid?
2,3,7,8-TCDD	35:52	35:13	-39	1.001	1.001	-	
2,3,7,8-TCDF	33:43	33:01	-42	1.001	1.002	-	
1,2,3,7,8-PeCDD	43:18	42:56	-22	1.000	1.000	-	
1,2,3,7,8-PeCDF	41:47	41:22	-25	1.000	1.000	-	
2,3,4,7,8-PeCDF	42:51	42:28	-23	1.026	1.027	-	
1,2,3,4,7,8-HxCDD	47:30	47:08	-22	0.998	0.998	-	
1,2,3,6,7,8-HxCDD	47:37	47:15	-22	1.000	1.000	-	
1,2,3,7,8,9-HxCDD	48:03	47:40	-23	1.010	1.009	-	
1,2,3,4,7,8-HxCDF	46:25	46:03	-22	0.997	0.997	-	
1,2,3,6,7,8-HxCDF	46:33	46:12	-21	1.000	1.000	-	
2,3,4,6,7,8-HxCDF	47:20	46:57	-23	1.017	1.017	-	
1,2,3,7,8,9-HxCDF	48:22	47:58	-24	1.039	1.039	-	
1,2,3,4,6,7,8-HpCDD	52:40	52:15	-25	1.000	1.000	-	
1,2,3,4,6,7,8-HpCDF	50:58	50:31	-27	1.000	1.000	-	
1,2,3,4,7,8,9-HpCDF	53:18	52:52	-26	1.046	1.047	-	
OCDD	56:58	56:35	-23	1.000	1.000	-	
OCDF	57:06	56:43	-23	1.003	1.003	-	
13C-2,3,7,8-TCDD	35:50	35:10	-40	1.016	1.016	-	
13C-2,3,7,8-TCDF	33:40	32:57	-43	0.955	0.952	-	
13C-1,2,3,7,8-PeCDD	43:17	42:55	-22	1.228	1.240	-	
13C-1,2,3,7,8-PeCDF	41:46	41:21	-25	1.185	1.195	-	
13C-1,2,3,6,7,8-HxCDD	47:36	47:14	-22	0.991	0.991	-	
13C-1,2,3,6,7,8-HxCDF	46:32	46:11	-21	0.969	0.969	-	
13C-1,2,3,4,6,7,8-HpCDD	52:39	52:14	-25	1.096	1.096	-	
13C-1,2,3,4,6,7,8-HpCDF	50:57	50:31	-26	1.061	1.060	-	
13C-OCDD	56:57	56:34	-23	1.186	1.187	-	
37Cl4-2,3,7,8-TCDD	35:52	35:13	-39	1.001	1.001	-	
13C-2,3,4,7,8-PeCDF	42:50	42:27	-23	1.026	1.027	-	
13C-1,2,3,4,7,8-HxCDD	47:30	47:07	-23	0.998	0.998	-	
13C-1,2,3,4,7,8-HxCDF	46:24	46:02	-22	0.997	0.997	-	
13C-1,2,3,7,8,9-HxCDF	48:20	47:57	-23	1.006	1.006	-	
13C-1,2,3,4,7,8,9-HpCDF	53:16	52:51	-25	1.046	1.046	-	

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IsoCalc Continuing Calibration Report

PCDD/PCDF by EPA Method 0023/8290

CCAL ID: 17074 - B060504S1

WIN Filename: b060504w1

Method: X8 - 0023/8290

WIN Sample ID: 3262:44

Instrument: M2A

WIN Result Dir: /20060504s1/b060504w1.d

Column SN: 718320

WIN Date/Time: 05/04/06 10:02

Column Desc: Rtx-5 60m x 0.32mm ID x 0.25um

Window Defining First/Last Eluter Retention Times

Analyte	Reference	M/Z	Ref RT	First Eluter RT	First Eluter RRT	Last Eluter RT	Last Eluter RRT
Total TCDD	13C-2,3,7,8-TCDD	320	35:12	28:39	0.8139	37:38	1.0691
Total TCDF	13C-2,3,7,8-TCDF	304	32:59	25:54	0.7852	37:33	1.1385
Total PeCDD	13C-1,2,3,7,8-PeCDD	356	42:56	40:23	0.9406	43:34	1.0148
Total PeCDF	13C-1,2,3,7,8-PeCDF	340	41:23	38:08	0.9215	43:41	1.0556
Total HxCDD	13C-1,2,3,6,7,8-HxCDD	390	47:15	45:29	0.9626	47:41	1.0092
Total HxCDF	13C-1,2,3,6,7,8-HxCDF	374	46:11	44:48	0.9700	48:06	1.0415
Total HpCDD	13C-1,2,3,4,6,7,8-HpCDD	424	52:15	51:04	0.9774	52:16	1.0003
Total HpCDF	13C-1,2,3,4,6,7,8-HpCDF	408	50:31	50:32	1.0003	52:53	1.0468
OCDD	13C-OCDD	458	56:34	56:35	1.0003	56:35	1.0003
OCDF	13C-OCDD	442	56:34	56:44	1.0029	56:44	1.0029

STL - Knoxville

IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	3123:75	**Prep Batch**		**Lot No**	
Data File	/20060504s1/b060504s1.d	**Prep Date**		**SDG No**	
Analysis ID	90480	**Prep Exp Date**		**Date Received**	
Analysis Date	5/4/2006	**Matrix**	UNKNOWN	**Date Sampled**	
Analysis Time	07:31	**Initial Wt/Vol**		**Lims Test Code**	
Anal Exp Date		**Extract Vol**		**Method**	0023/8290
Instrument	M2A	**Dil Factor**	1.0	**Code**	X8
Analyst	PMP				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (ng/mL)		DL (ng/mL)
2,3,7,8-TCDD	35:13	129000	14896	1.060	5.000	4.513626	90.27	4.513626	E	0.101
Total TCDD				1.060		4.513626		4.513626	E	0.101
2,3,7,8-TCDF	33:01	164206	17922	1.064	5.000	4.573574	91.47	4.573574	E	0.0777
Total TCDF				1.064		4.573574		4.573574	E	0.0777
1,2,3,7,8-PeCDD	42:56	549984	154346	0.977	25.00	24.642282	98.57	24.642282	E	0.0553
Total PeCDD				0.977		24.642282		24.642282	E	0.0553
1,2,3,7,8-PeCDF	41:22	727860	172887	0.955	25.00	26.728678	106.91	26.728678	E	0.0497
2,3,4,7,8-PeCDF	42:28	747170	202671	1.018	25.00	25.753724	103.01	25.753724	E	0.0467
Total PeCDF				0.987		52.482401		52.482401	E	0.0482
1,2,3,4,7,8-HxCDD	47:08	493047	138114	1.047	25.00	24.184907	96.74	24.184907	E	0.0583
1,2,3,6,7,8-HxCDD	47:15	505111	136127	1.055	25.00	24.599712	98.40	24.599712	E	0.0579
1,2,3,7,8,9-HxCDD	47:40	534129	138439	1.146	25.00	23.946474	95.79	23.946474	E	0.0533
Total HxCDD				1.083		72.731094		72.731094	E	0.0564
1,2,3,4,7,8-HxCDF	46:03	749645	227213	1.101	25.00	26.673511	106.69	26.673511	E	0.0507
1,2,3,6,7,8-HxCDF	46:12	771581	212398	1.184	25.00	25.522566	102.09	25.522566	E	0.0471
2,3,4,6,7,8-HxCDF	46:57	691250	186894	1.052	25.00	25.728598	102.91	25.728598	E	0.0530
1,2,3,7,8,9-HxCDF	47:58	620788	155595	0.982	25.00	24.763616	99.05	24.763616	E	0.0569
Total HxCDF				1.080		102.688290		102.688290	E	0.0517
1,2,3,4,6,7,8-HpCDD	52:15	474116	110773	1.018	25.00	23.260367	93.04	23.260367	E	0.0689
Total HpCDD				1.018		23.260367		23.260367	E	0.0689
1,2,3,4,6,7,8-HpCDF	50:31	711642	160744	1.403	25.00	26.113449	104.45	26.113449	E	0.0533
1,2,3,4,7,8,9-HpCDF	52:52	553596	128936	1.197	25.00	23.821666	95.29	23.821666	E	0.0625
Total HpCDF				1.300		49.935115		49.935115	E	0.0576
OCDD	56:35	955226	255781	0.965	50.00	51.023541	102.05	51.023541	E	0.0578
OCDF	56:43	990302	259787	1.103	50.00	46.250345	92.50	46.250345	E	0.0649
13C-2,3,7,8-TCDD	35:10	2695224	305108	1.068	100.0	101.601096	101.60	101.601096		0.246
13C-2,3,7,8-TCDF	32:57	3375119	363093	1.413	100.0	96.135994	96.14	96.135994		0.146
13C-1,2,3,7,8-PeCDD	42:55	2285108	639290	0.882	100.0	104.315858	104.32	104.315858		0.164
13C-1,2,3,7,8-PeCDF	41:21	2850622	694506	1.188	100.0	96.593280	96.59	96.593280		0.115
13C-1,2,3,6,7,8-HxCDD	47:14	1946747	544382	0.943	100.0	101.644346	101.64	101.644346		0.112
13C-1,2,3,6,7,8-HxCDF	46:11	2552914	720960	1.272	100.0	98.844422	98.84	98.844422		0.0622
13C-1,2,3,4,6,7,8-HpCDD	52:14	2003099	456328	0.918	100.0	107.429992	107.43	107.429992		0.0667
13C-1,2,3,4,6,7,8-HpCDF	50:31	1941991	424243	0.916	100.0	104.404431	104.40	104.404431		0.0604
13C-OCDD	56:34	3881067	1040374	0.850	200.0	224.925253	112.46	224.925253		0.0861
37Cl4-2,3,7,8-TCDD	35:13	129069	14357	1.046	5.000	4.578477	91.57	4.578477	E	0.0635
13C-2,3,4,7,8-PeCDF	42:27	703230	187511	1.010	25.00	24.419360	97.68	24.419360	E	0.0499
13C-1,2,3,4,7,8-HxCDD	47:07	448203	129166	0.902	25.00	25.518377	102.07	25.518377	E	0.108
13C-1,2,3,4,7,8-HxCDF	46:02	629090	180280	0.988	25.00	24.936907	99.75	24.936907	E	0.0561
13C-1,2,3,7,8,9-HxCDF	47:57	501568	122315	1.113	25.00	22.201687	88.81	22.201687	E	0.0711
13C-1,2,3,4,7,8,9-HpCDF	52:51	394839	91930	0.912	25.00	22.289895	89.16	22.289895	E	0.0724
13C-1,2,3,4-TCDD	34:37	2483885	256493	1.000	100.0	100.000000	100.00	100.000000		0.263
13C-1,2,3,7,8,9-HxCDD	47:40	2030450	505897	1.000	100.0	100.000000	100.00	100.000000		0.105

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	3123:75	Prep Batch		Lot No	
Data File	/20060504s1/b060504s1.	Prep Date		SDG No	
Analysis ID	90480	Prep Exp Date		Date Received	
Analysis Date	05/04/06 07:31	Matrix	UNKNOWN	Date Sampled	
Anal Exp Date		Initial Wt/Vol		Lims Test Code	
Instrument	M2A	Extract Vol		Method	0023/8290
Analyst	PMP	Diluton Factor	1.00	Code	X8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**	
	Noise	00:00	00:00	0	125	175	50	70	0.71	/
	2,3,7,8-TCDF	33:01	33:00	1	71598	92608	7760	10162	0.77	ABB/ABB
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**	
	Noise	00:00	00:00	0	305	223	122	89	1.37 *	/
	13C-2,3,7,8-TCDF	32:57	32:57	0	1484039	1891080	163223	199870	0.78	ABV/ABV
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**	
	Noise	00:00	00:00	0	148	180	59	72	0.82	/
	2,3,7,8-TCDD	35:13	35:14	-1	56940	72060	6990	7906	0.79	ABB/AVB
328					**327.8847**		**327.8847**			
	Noise	00:00	00:00	0	203		81			
	37Cl4-2,3,7,8-TCDD	35:13	35:14	-1	129069		14357			ABV
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**	
	Noise	00:00	00:00	0	370	305	148	122	1.21 *	/
	13C-1,2,3,4-TCDD	34:37	34:36	1	1102185	1381700	113551	142942	0.80	ABV/ABV
	13C-2,3,7,8-TCDD	35:10	35:12	-2	1178614	1516610	134621	170487	0.78	AVV/AVV
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**	
	Noise	00:00	00:00	0	185	145	74	58	1.28 *	/
	1,2,3,7,8-PeCDF	41:22	41:20	2	440533	287327	104800	68087	1.53	ABV/ABV
	2,3,4,7,8-PeCDF	42:28	42:26	2	451769	295401	121333	81338	1.53	ABV/ABV
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**	
	Noise	00:00	00:00	0	185	165	74	66	1.12 *	/
	13C-1,2,3,7,8-PeCDF	41:21	41:19	2	1733016	1117606	421557	272949	1.55	ABV/ABV
	13C-2,3,4,7,8-PeCDF	42:27	42:25	2	429395	273835	115460	72051	1.57	ABV/ABB
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**	
	Noise	00:00	00:00	0	215	130	86	52	1.65	/
	1,2,3,7,8-PeCDD	42:56	42:53	3	332897	217087	91630	62716	1.53	ABB/ABB
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**	
	Noise	00:00	00:00	0	188	183	75	73	1.03 *	/
	13C-1,2,3,7,8-PeCDD	42:55	42:52	3	1397416	887692	384956	254334	1.57	ABV/ABV
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**	
	Noise	00:00	00:00	0	203	200	81	80	1.01 *	/
	1,2,3,4,7,8-HxCDF	46:03	46:03	0	414002	335643	124410	102803	1.23	ABV/ABV
	1,2,3,6,7,8-HxCDF	46:12	46:11	1	426898	344683	118653	93745	1.24	AVB/AVV
	2,3,4,6,7,8-HxCDF	46:57	46:58	-1	384591	306659	104746	82148	1.25	AVV/ABB
	1,2,3,7,8,9-HxCDF	47:58	48:01	-3	346230	274558	87416	68179	1.26	ABV/ABV
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**	
	Noise	00:00	00:00	0	163	238	65	95	0.68 *	/
	13C-1,2,3,4,7,8-HxCDF	46:02	46:02	0	219790	409300	61683	118597	0.54	ABV/ABV
	13C-1,2,3,6,7,8-HxCDF	46:11	46:10	1	868022	1684892	248581	472379	0.52	AVV/AVV
	13C-1,2,3,7,8,9-HxCDF	47:57	47:59	-2	175431	326137	43831	78484	0.54	ABV/ABB
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**	
	Noise	00:00	00:00	0	145	188	58	75	0.77 *	/

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	3123:75	**Prep Batch**		**Lot No**	
Data File	/20060504s1/b060504s1.	**Prep Date**		**SDG No**	
Analysis ID	90480	**Prep Exp Date**		**Date Received**	
Analysis Date	05/04/06 07:31	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M2A	**Extract Vol**		**Method**	0023/8290
Analyst	PMP	**Diluton Factor**	1.00	**Code**	X8

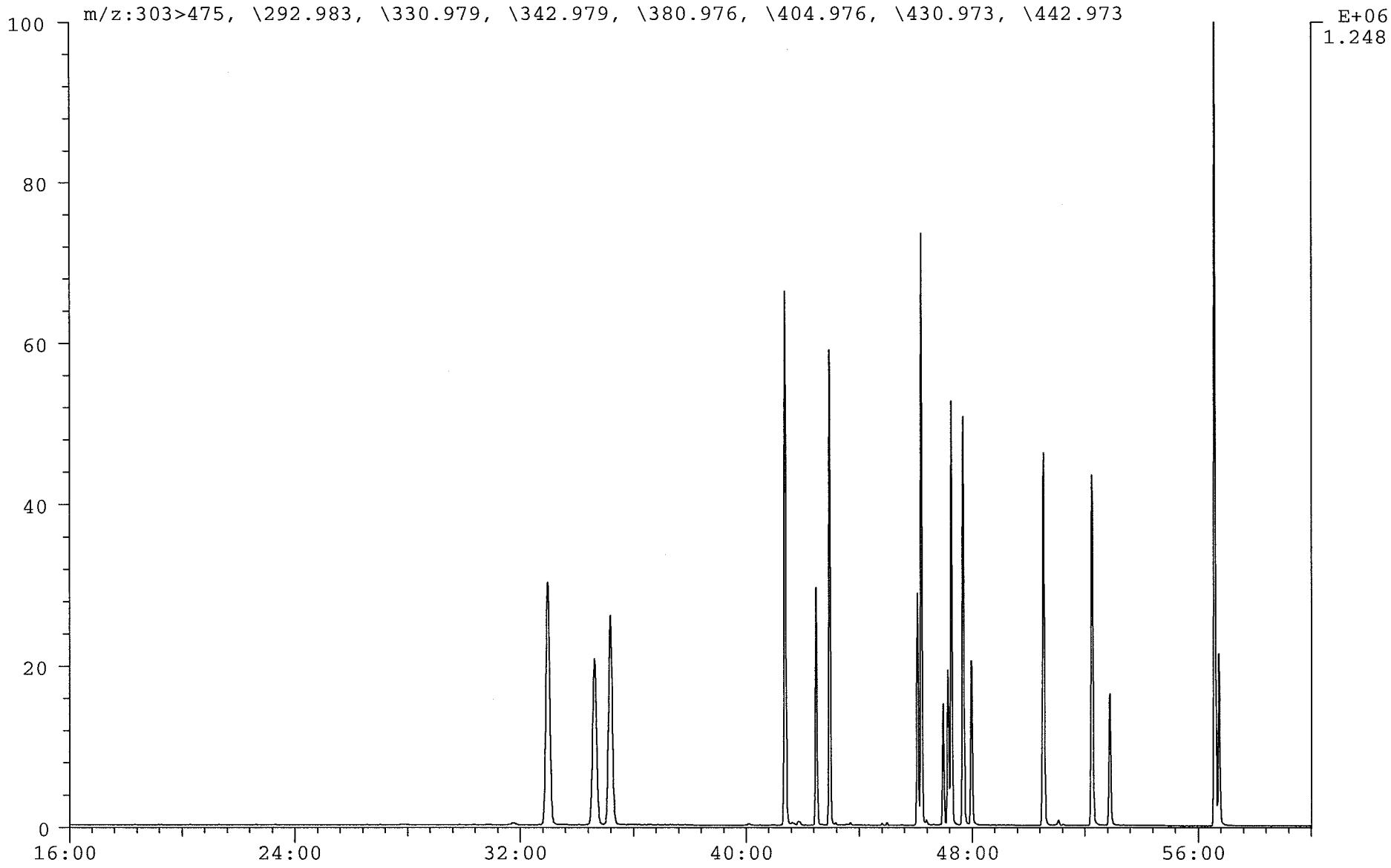
View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	1,2,3,4,7,8-HxCDD	47:08	47:09	-1	278441	214606	77115	60999	1.30	ABV/ABV	
	1,2,3,6,7,8-HxCDD	47:15	47:16	-1	275647	229464	74736	61391	1.20	AVV/AVB	
	1,2,3,7,8,9-HxCDD	47:40	47:42	-2	293429	240700	75549	62890	1.22	AVB/ABV	
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**		
	Noise	00:00	00:00	0	185	348	74	139	0.53 *	/	
	13C-1,2,3,4,7,8-HxCDD	47:07	47:09	-2	248473	199730	72514	56652	1.24	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDD	47:14	47:15	-1	1079775	866972	302367	242015	1.25	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDD	47:40	47:41	-1	1123810	906640	279966	225931	1.24	AVV/AVV	
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**		
	Noise	00:00	00:00	0	173	145	69	58	1.19	/	
	1,2,3,4,6,7,8-HpCDF	50:31	50:37	-6	357957	353685	80271	80473	1.01	ABV/ABV	M
	1,2,3,4,7,8,9-HpCDF	52:52	52:56	-4	283335	270261	66295	62641	1.05	ABV/ABV	
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	Noise	00:00	00:00	0	140	140	56	56	1.00 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	50:31	50:36	-5	608853	1333138	132679	291564	0.46	ABV/ABV	M
	13C-1,2,3,4,7,8,9-HpCDF	52:51	52:54	-3	121653	273186	28907	63023	0.45	ABB/ABV	
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**		
	Noise	00:00	00:00	0	170	150	68	60	1.13	/	
	1,2,3,4,6,7,8-HpCDD	52:15	52:19	-4	239372	234744	56778	53995	1.02	ABB/ABV	
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**		
	Noise	00:00	00:00	0	175	135	70	54	1.30 *	/	
	Unidentified	51:03	00:00	0	15178	14457	3313	2992	1.05	ABB/ABB	
	13C-1,2,3,4,6,7,8-HpCDD	52:14	52:18	-4	1028489	974610	236950	219378	1.06	ABV/ABV	
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**		
	Noise	00:00	00:00	0	160	213	64	85	0.75 *	/	
	OCDF	56:43	56:41	2	468661	521641	122428	137359	0.90	ABV/ABV	
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**		
	Noise	00:00	00:00	0	150	140	60	56	1.07 *	/	
	OCDD	56:35	56:33	2	454444	500782	121788	133993	0.91	ABV/ABV	
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**		
	Noise	00:00	00:00	0	143	228	57	91	0.63 *	/	
	13C-OCDD	56:34	56:32	2	1826640	2054427	488718	551656	0.89	ABV/ABV	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

Int/Calc BW 5/4/06
QCPMP 5.4.06

```
CHRO:  b060504s1                          04-May-06   Elapse:  08:00.4        1
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  07:31:39    2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   442 > 2890       Masses:  293 > 514
Area:  5, 0.50, 0      Baseline  :   100, 3           Label :  0, 0.0
Disp:  Height  Area
```



-5.0 V SCAN AUTOTUNE TUNE R = 10 100 1 126 995 uV

p 3.41 A -16.6 V

1.00 mA 61.8 V d s 2629 2262 1992 2749 l x y

270 C s s s s s

270 C 2629 2404 2022 2597

0.90 mA -16.6 V

EI POS electric

U(a) 3810 V u U(esa) 611.4 V

Entr. Slit	(ENS)	126.0	
Exit Slit	(EXS)	188.0	
Sweep Mass	(MASS)	304.982	amu
Virt. Mass	(VMASS)	380.976	amu
Link Mass	(LMASS)	304.982	amu
Sweep Width	(SW)	0.020	%
Sweep Speed	(SS)	3.0	/s
U(a) Offset	(UOFS)	5.0	V
U(a)/U(esa)	(URATIO)	2.135	%
Multiplier	(EMULT)	1.80	kV
Dyn. Volt.	(DYNODE)	pos	
Ref. Inlet	(TREF)	150	C
Beam Rot.	(BQUAD)	3.3	V
Focus Quad	(FQUAD)	-0.6	V

VG off VS1 off VS2 off VS3 off VV off

TUNE DESCRIPTOR tune2

SAVE

TUNE:

380.938 380.976 381.01

<> >< << >> ^ v C V LOCK UNLK

Peak Register Display

Copy result to ULIST

100.0 50.0 slow 0.0

REG 1/2: 380.977172 REG 1/3: REG 2/3:

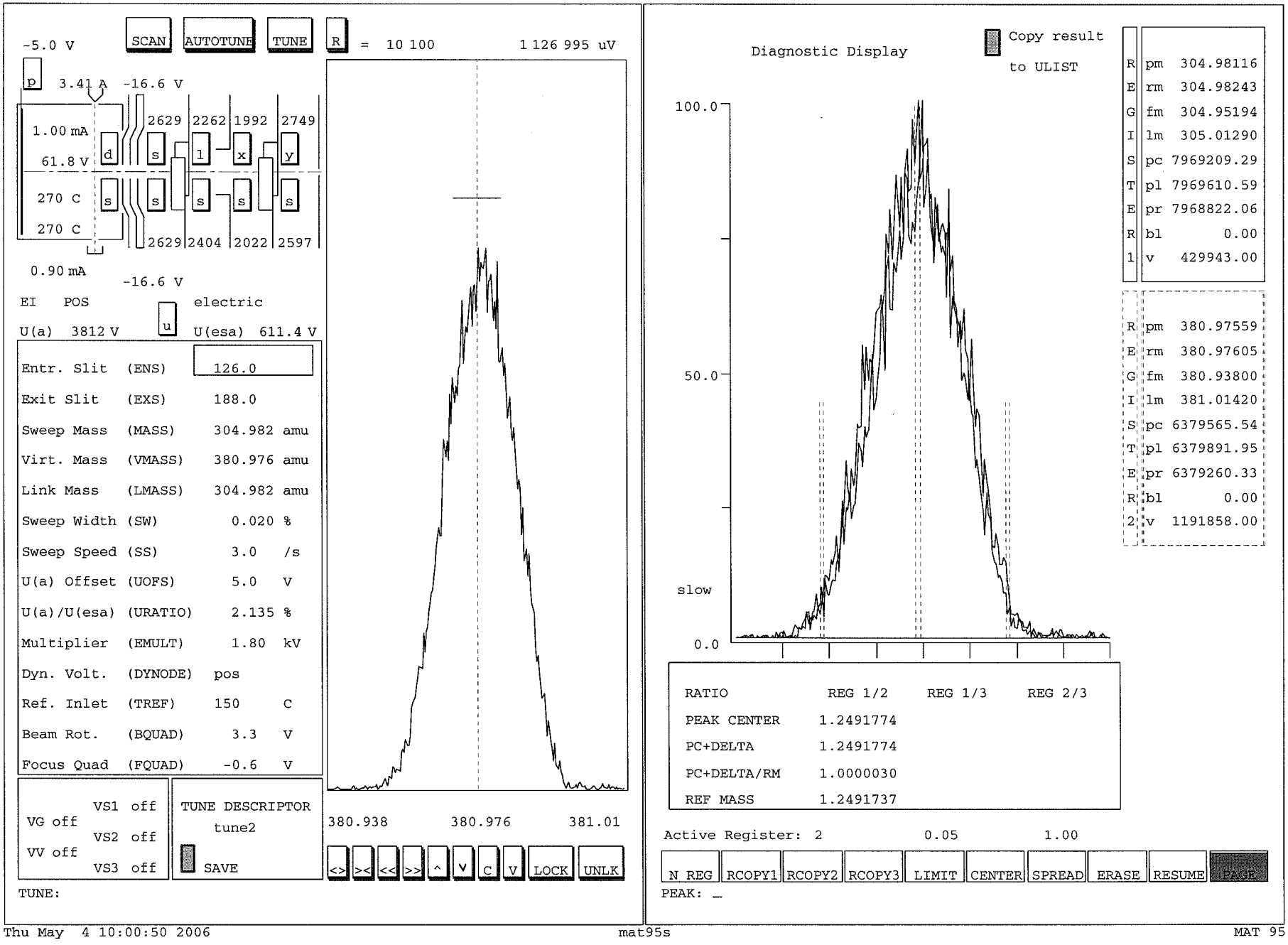
MASS	:	304.98116	380.97559
REF MASS	:	304.98243	380.97605
PEAK WIDTH [ppm]	:	98.94771	99.00674

Active Register: 2 0.05 1.00

N REG RCOPY1 RCOPY2 RCOPY3 LIMIT CENTER SPREAD ERASE RESUME PAGE

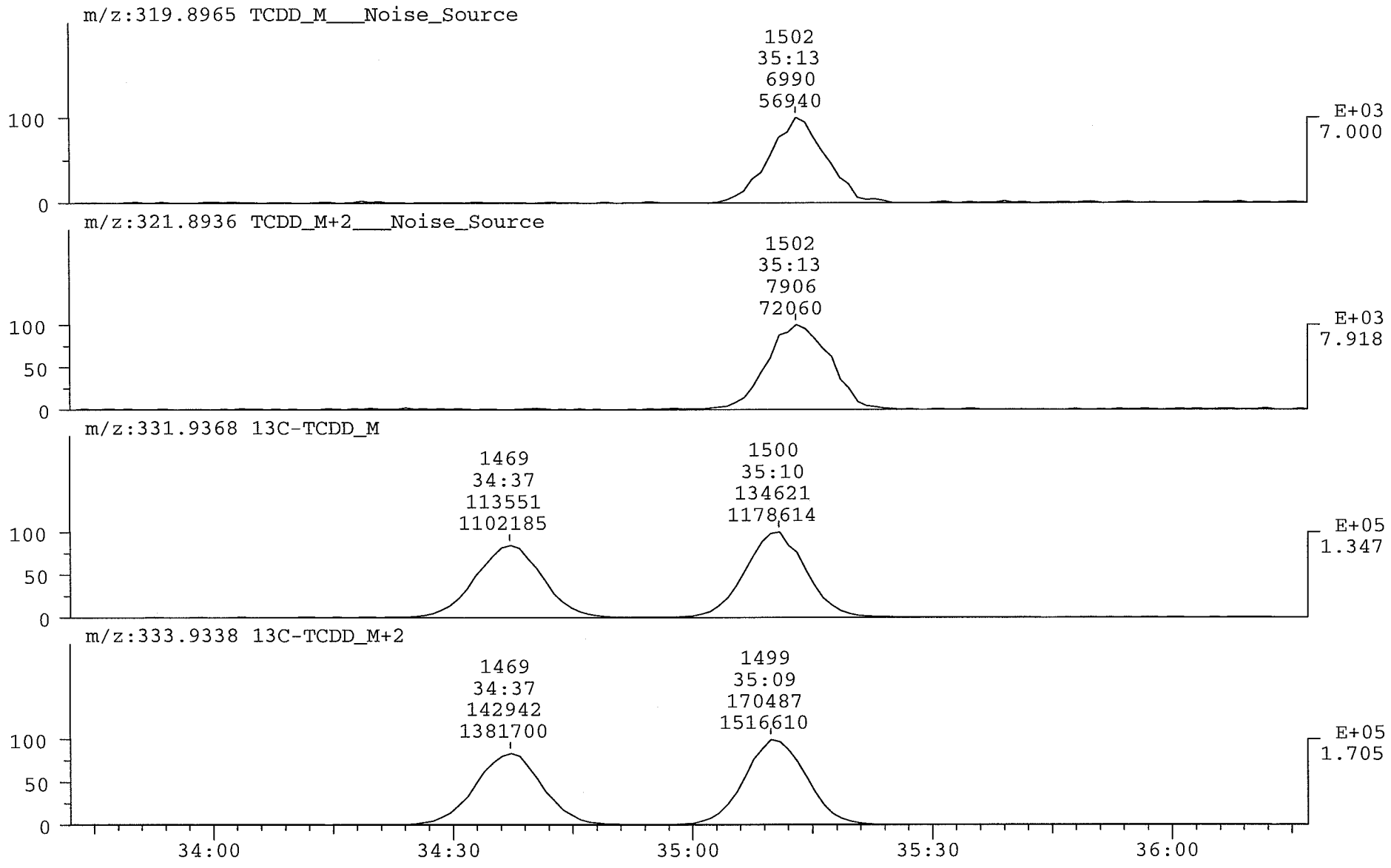
PEAK: _

Thu May 4 10:00:45 2006 mat95s MAT 95

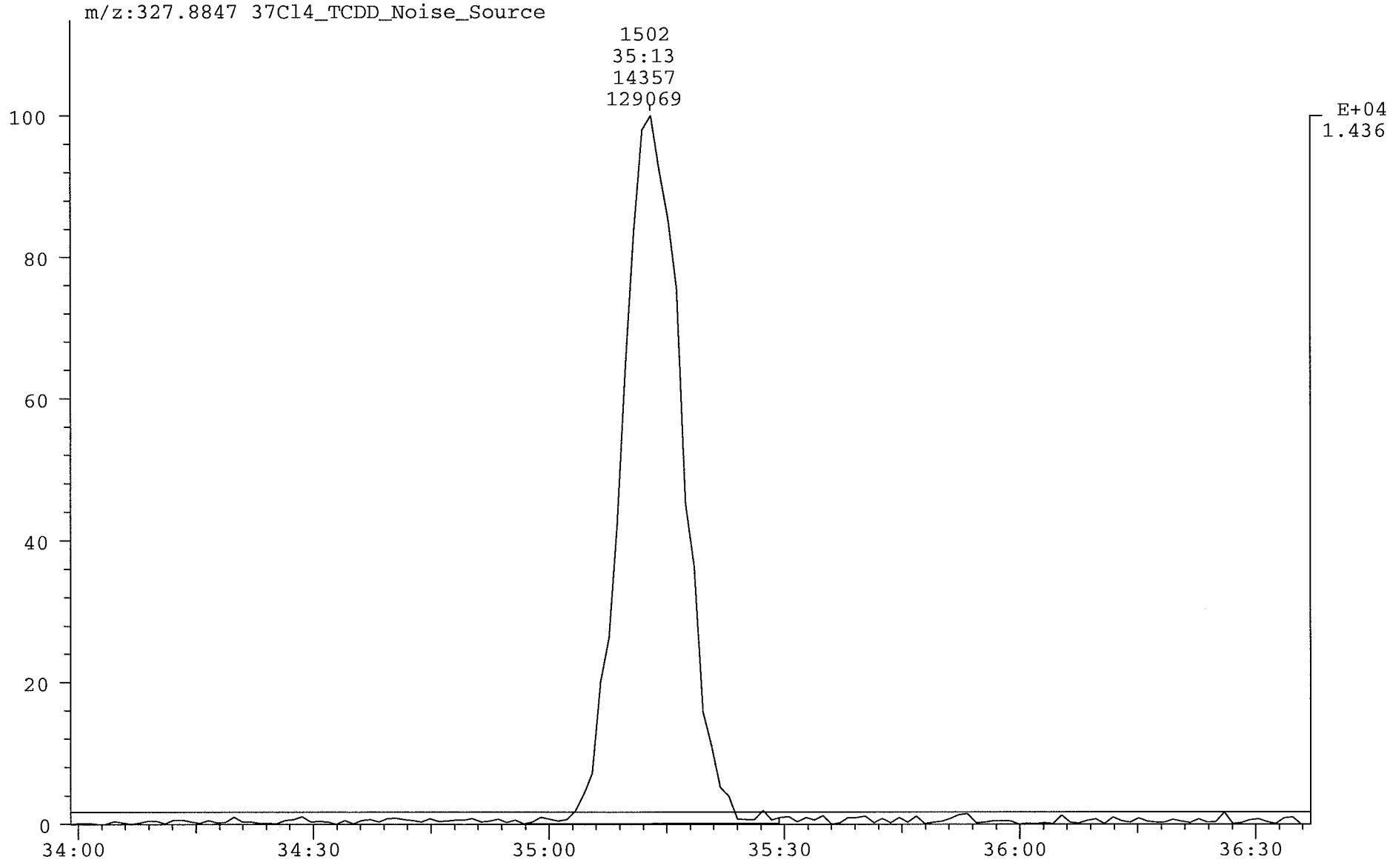


-5.0 V
SCAN
AUTOTUNE
TUNE
R = 10 100
1 126 995 uV
p
3.41 A
-16.6 V
1.00 mA
61.8 V
270 C
270 C
2629 2262 1992 2749
2629 2404 2022 2597
0.90 mA
-16.6 V
EI POS
electric
U(a) 3812 V
U(esa) 611.4 V
Entr. Slit (ENS) 126.0
Exit Slit (EXS) 188.0
Sweep Mass (MASS) 304.982 amu
Virt. Mass (VMASS) 380.976 amu
Link Mass (LMASS) 304.982 amu
Sweep Width (SW) 0.020 %
Sweep Speed (SS) 3.0 /s
U(a) Offset (UOFS) 5.0 V
U(a)/U(esa) (URATIO) 2.135 %
Multiplier (EMULT) 1.80 kV
Dyn. Volt. (DYNODE) pos
Ref. Inlet (TREF) 150 C
Beam Rot. (BQUAD) 3.3 V
Focus Quad (FQUAD) -0.6 V
VG off
VS1 off
VS2 off
VV off
VS3 off
TUNE DESCRIPTOR
tune2
SAVE
TUNE:
380.938
380.976
381.01
LOCK
UNLK
Diagnostic Display
Copy result
to ULIST
100.0
50.0
slow
0.0
R pm 304.98116
E rm 304.98243
G fm 304.95194
I lm 305.01290
S pc 7969209.29
T pl 7969610.59
E pr 7968822.06
R bl 0.00
1 v 429943.00
R pm 380.97559
E rm 380.97605
G fm 380.93800
I lm 381.01420
S pc 6379565.54
T pl 6379891.95
E pr 6379260.33
R bl 0.00
2 v 1191858.00
RATIO REG 1/2 REG 1/3 REG 2/3
PEAK CENTER 1.2491774
PC+DELTA 1.2491774
PC+DELTA/RM 1.0000030
REF MASS 1.2491737
Active Register: 2 0.05 1.00
N REG
RCOPY1
RCOPY2
RCOPY3
LIMIT
CENTER
SPREAD
ERASE
RESUME
PAGE
PEAK: _
Thu May 4 10:00:50 2006
mat95s
MAT 95

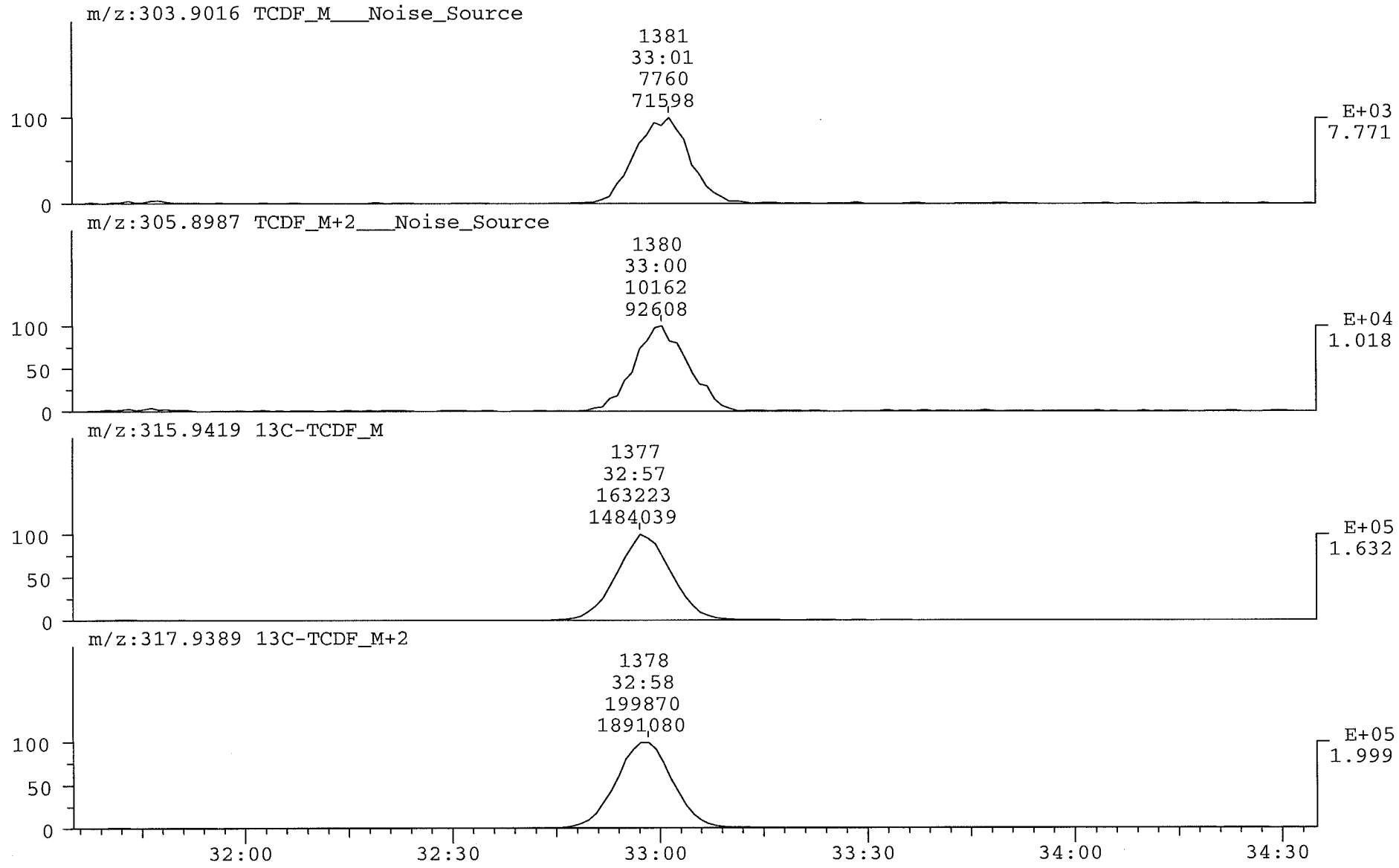
```
CHRO:  b060504s1                          04-May-06   Elapse:  34:58      1489
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  07:31:39   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1418 > 1561      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



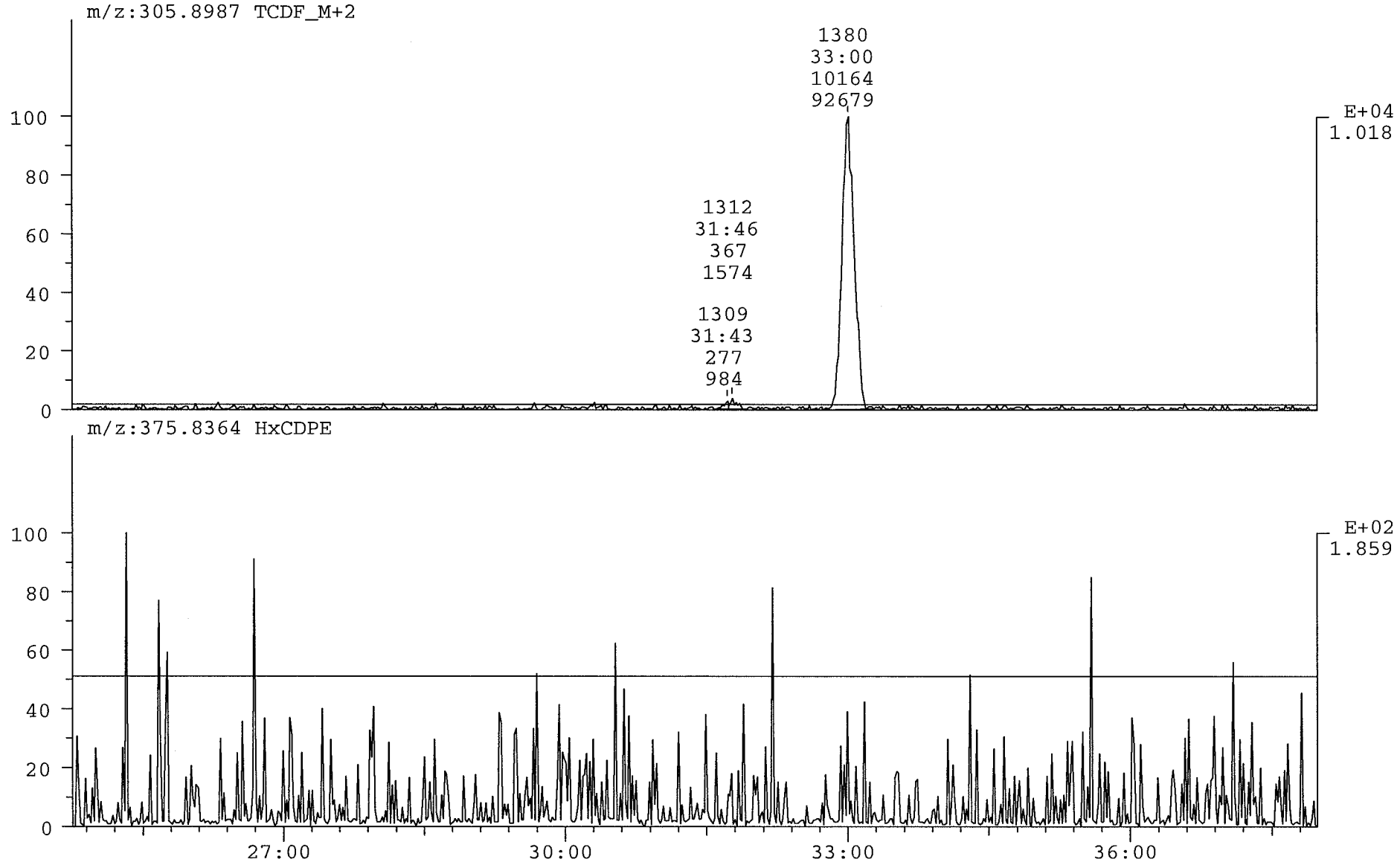
```
CHRO:  b060504s1                          04-May-06   Elapse:  35:15      1504
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  07:31:39   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1434 > 1579      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  b060504s1                          04-May-06  Elapse:  33:01      1381
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1               Start :  07:31:39   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                     Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville           Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1301 > 1467     Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3          Label :  2, 3.0
Disp:  Height  Area
```

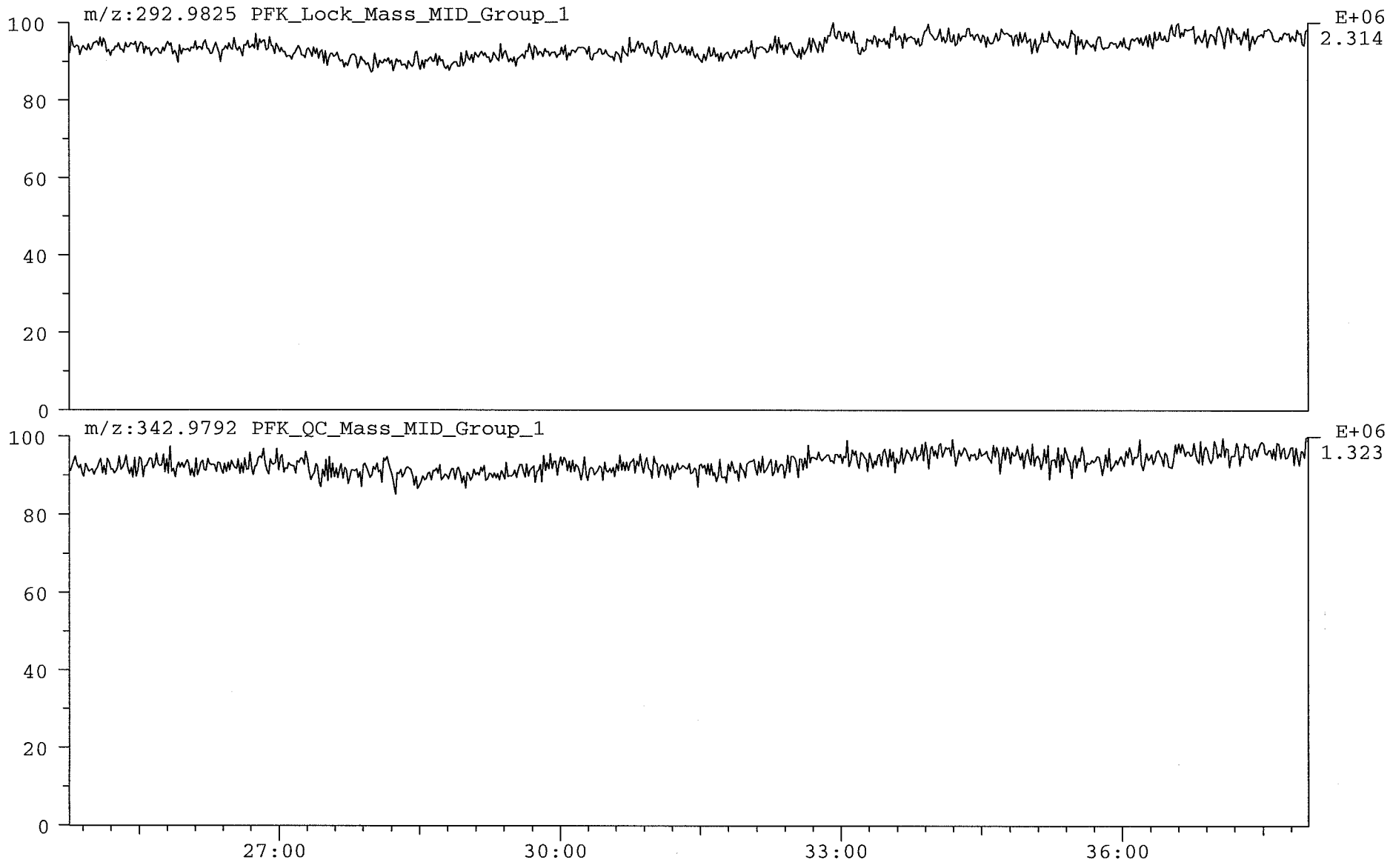


```
CHRO:  b060504s1                              04-May-06   Elapse:  33:01      1381
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                    Start :  07:31:39   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville                Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   925 > 1655           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```

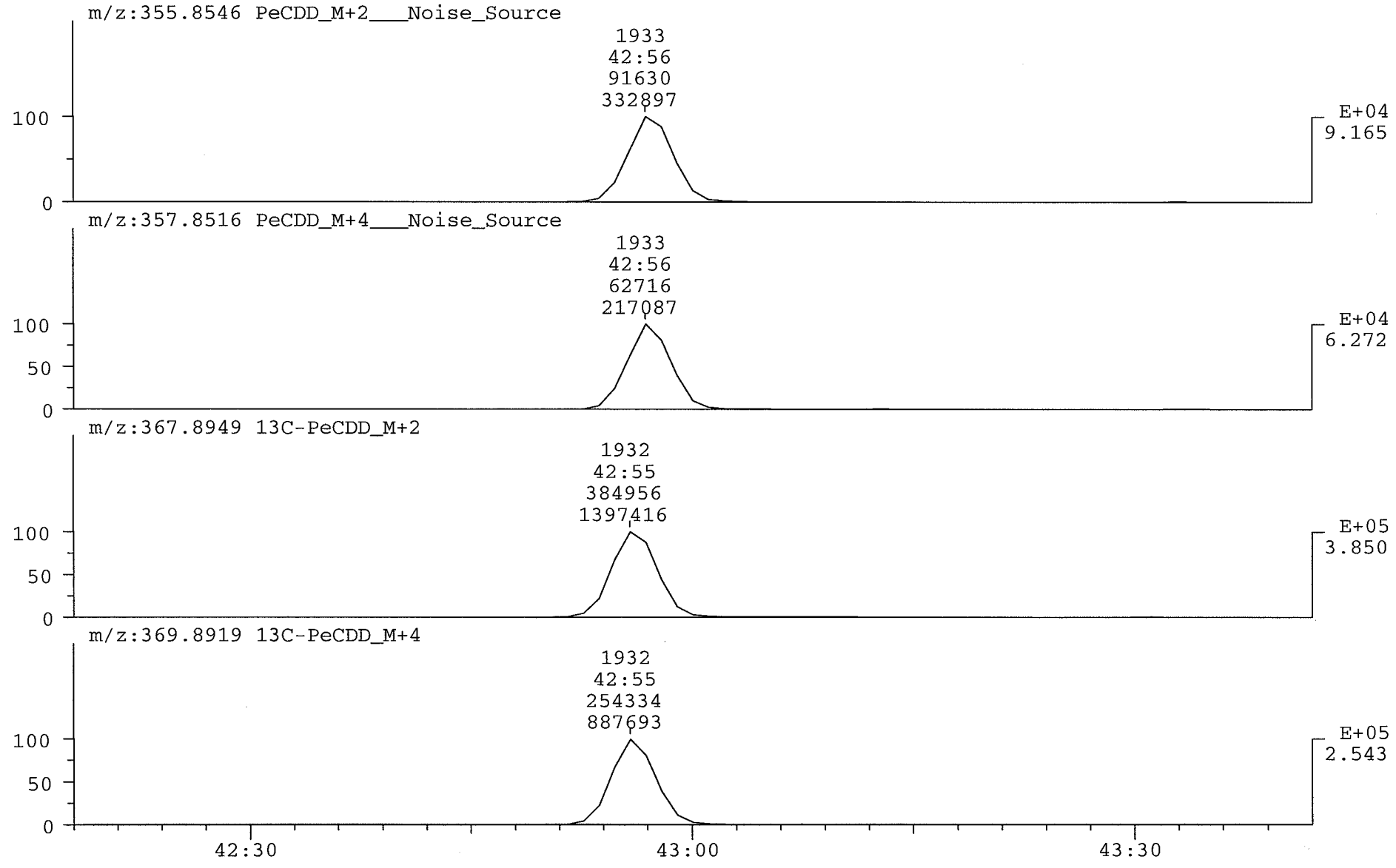


997

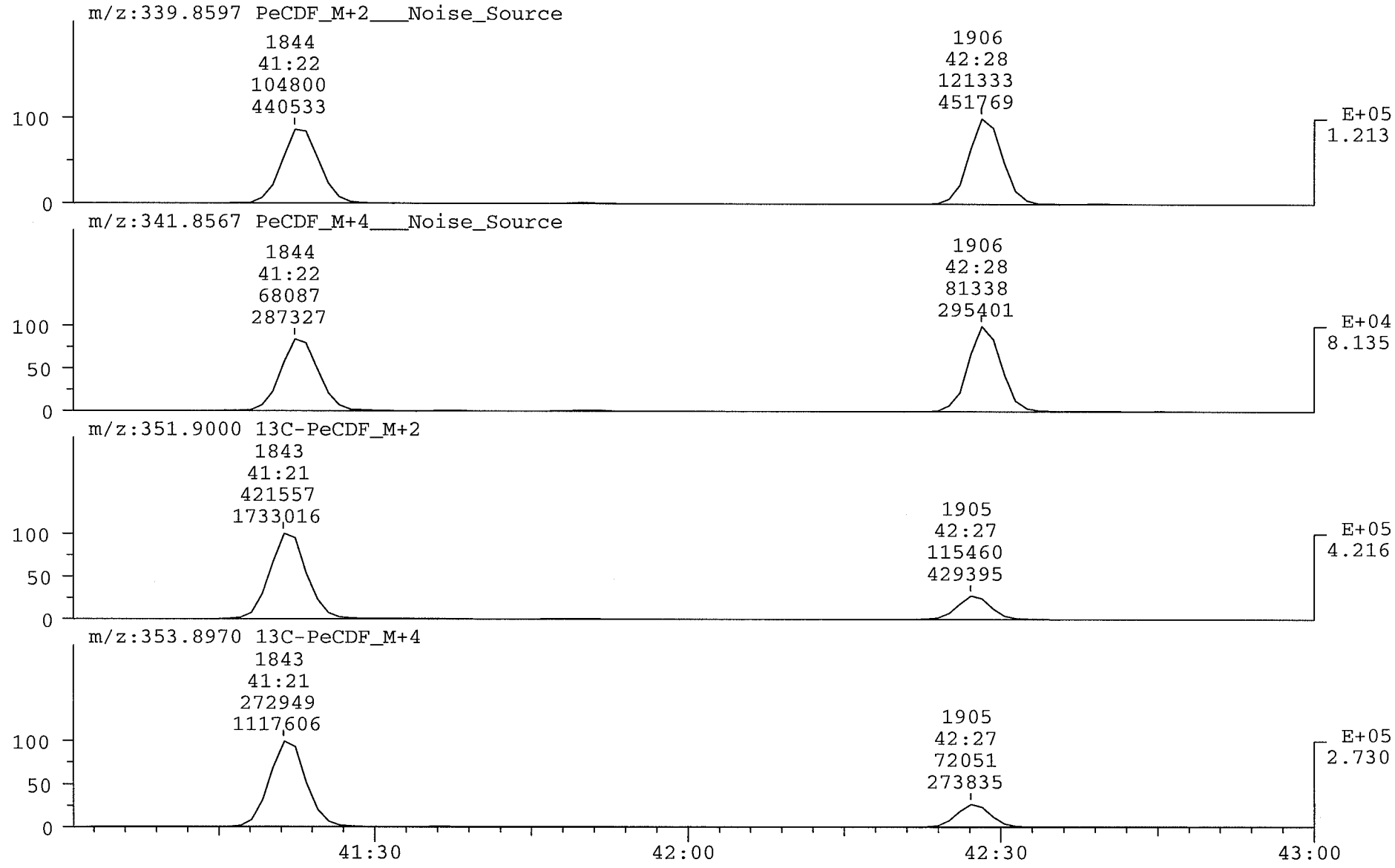
```
CHRO:  b060504s1                          04-May-06   Elapse:  33:01      1381
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  07:31:39   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   925 > 1655       Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  0, 0.0
Disp:  Height  Area
```



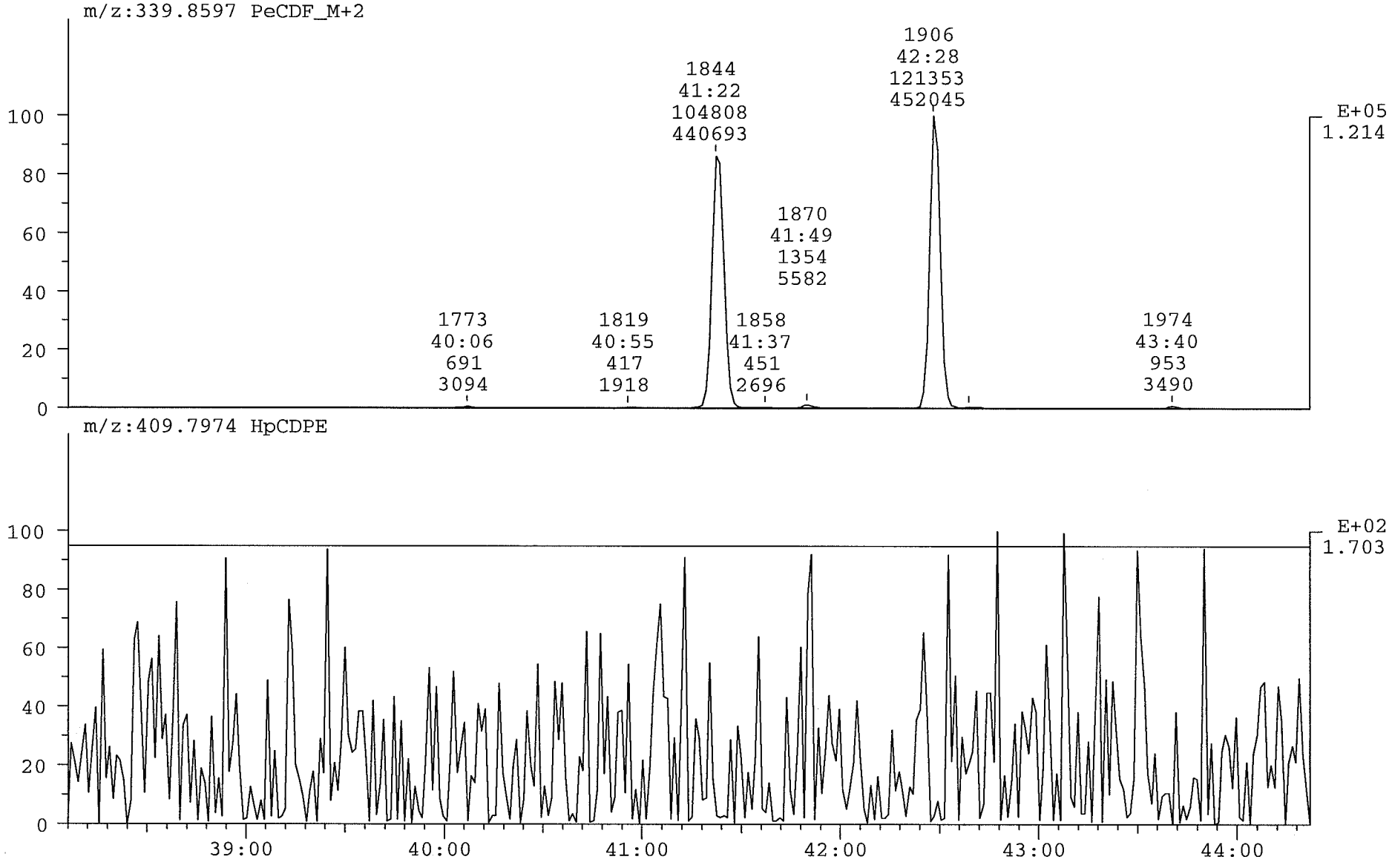
```
CHRO:  b060504s1                          04-May-06   Elapse:  42:56      1933
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  07:31:39   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1896 > 1976      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



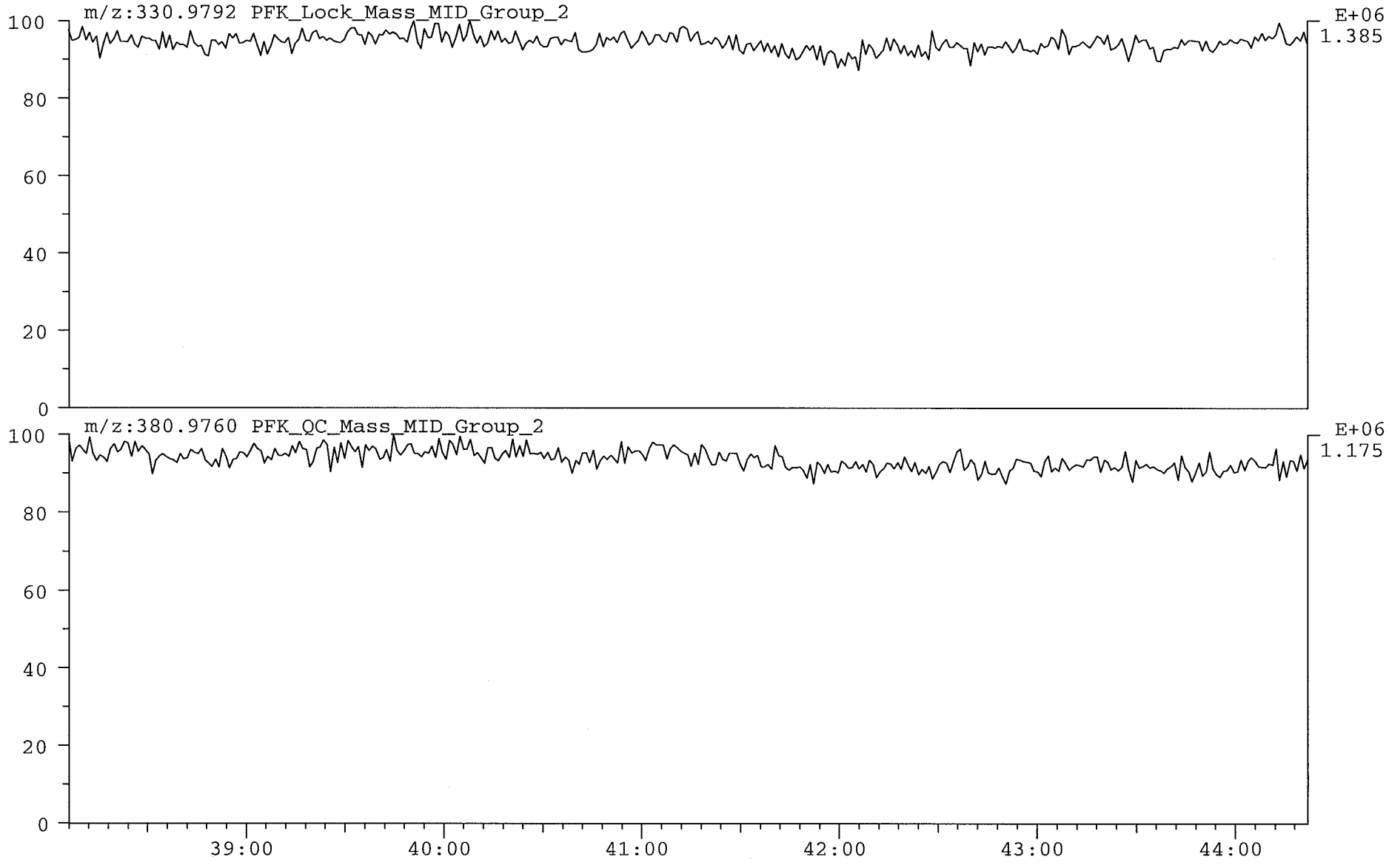
```
CHRO:  b060504s1                          04-May-06   Elapse:  41:59      1879
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  07:31:39   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1824 > 1936      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



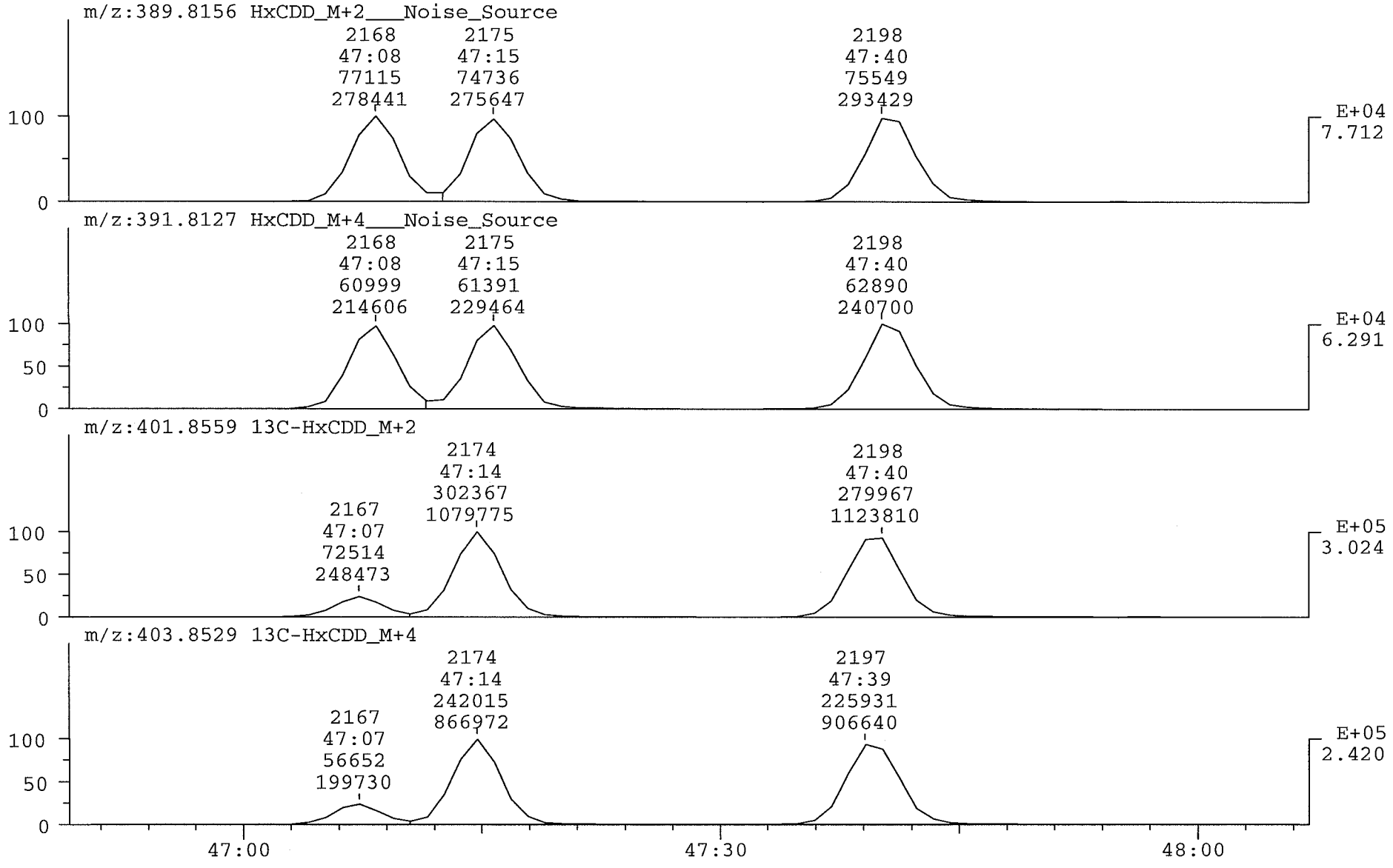
```
CHRO:  b060504s1                                04-May-06  Elapse:  41:59      1879
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                     Start :  07:31:39   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville                 Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1659 > 2013           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



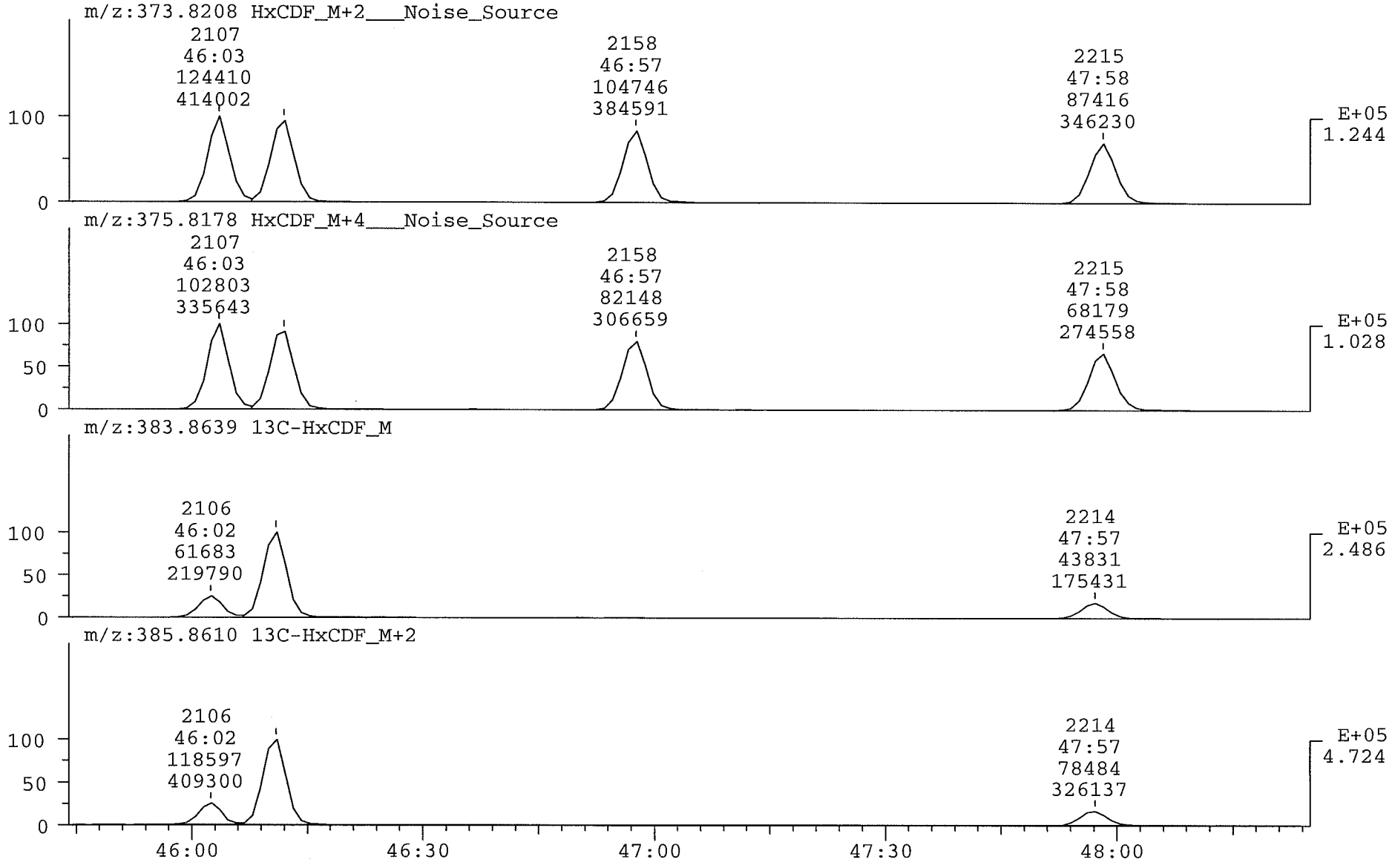
```
CHRO:  b060504s1                          04-May-06   Elapse:  41:59      1879
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  07:31:39   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1659 > 2013      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  0, 0.0
Disp:  Height  Area
```



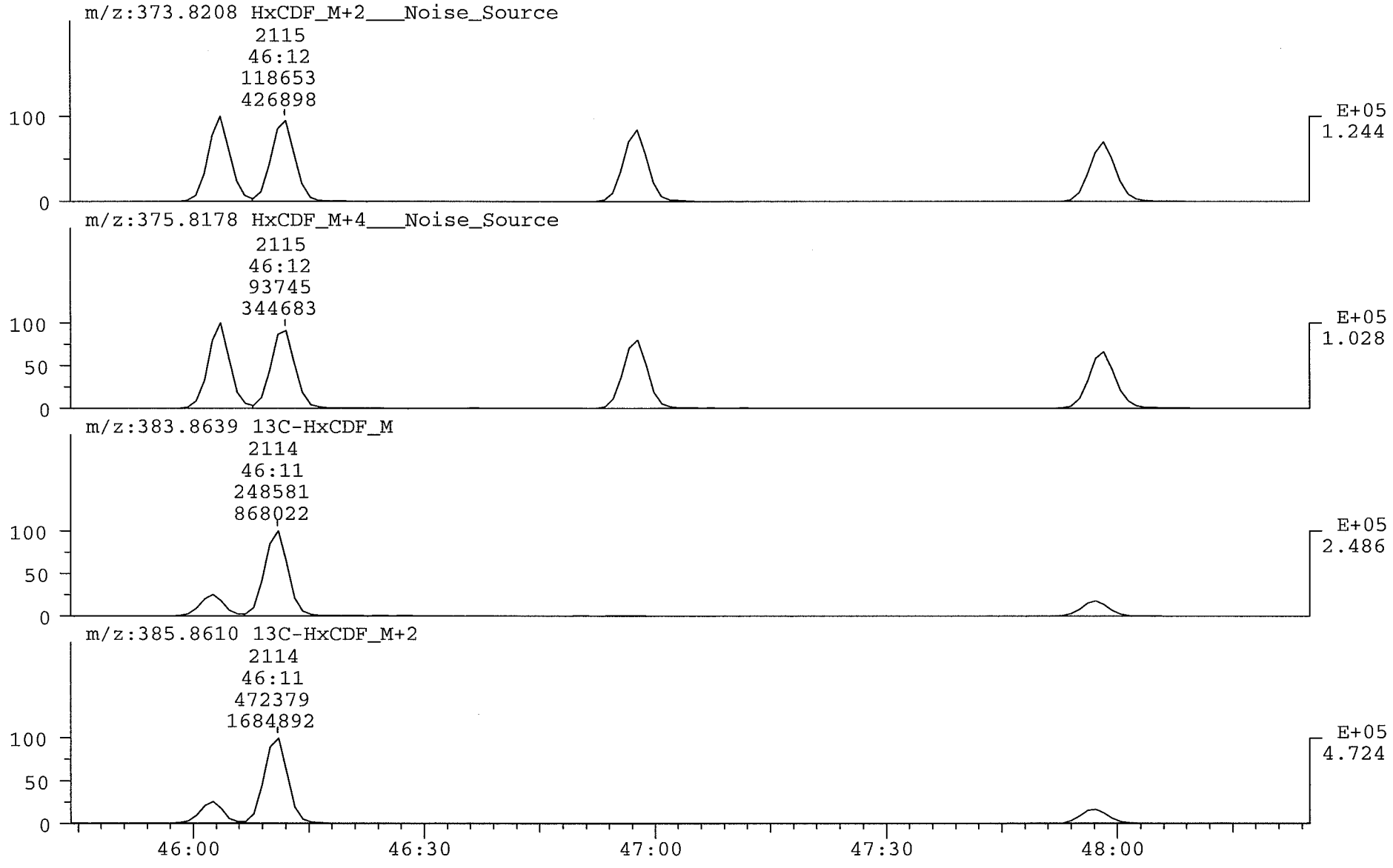
```
CHRO:  b060504s1                          04-May-06   Elapse:  47:28      2187
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  07:31:39   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2150 > 2223      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



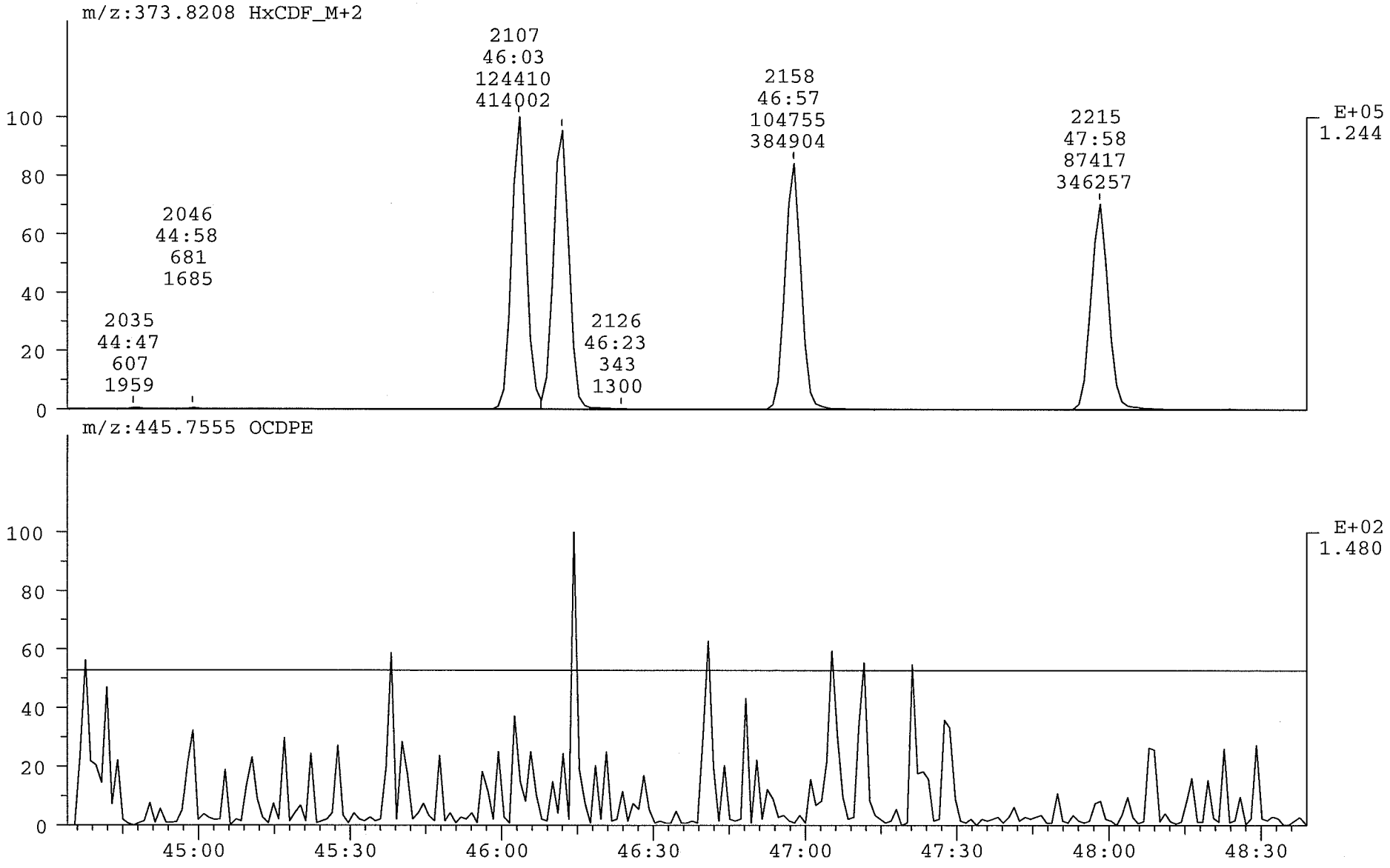
CHRO: b060504s1 04-May-06 Elapse: 47:04 2164
Samp: Vial 3 WO=3123:75 Meth=X8 Dil=1 Start : 07:31:39 2890
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 3
Peak: 100.00 ppm Label wndw: 2089 > 2240 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



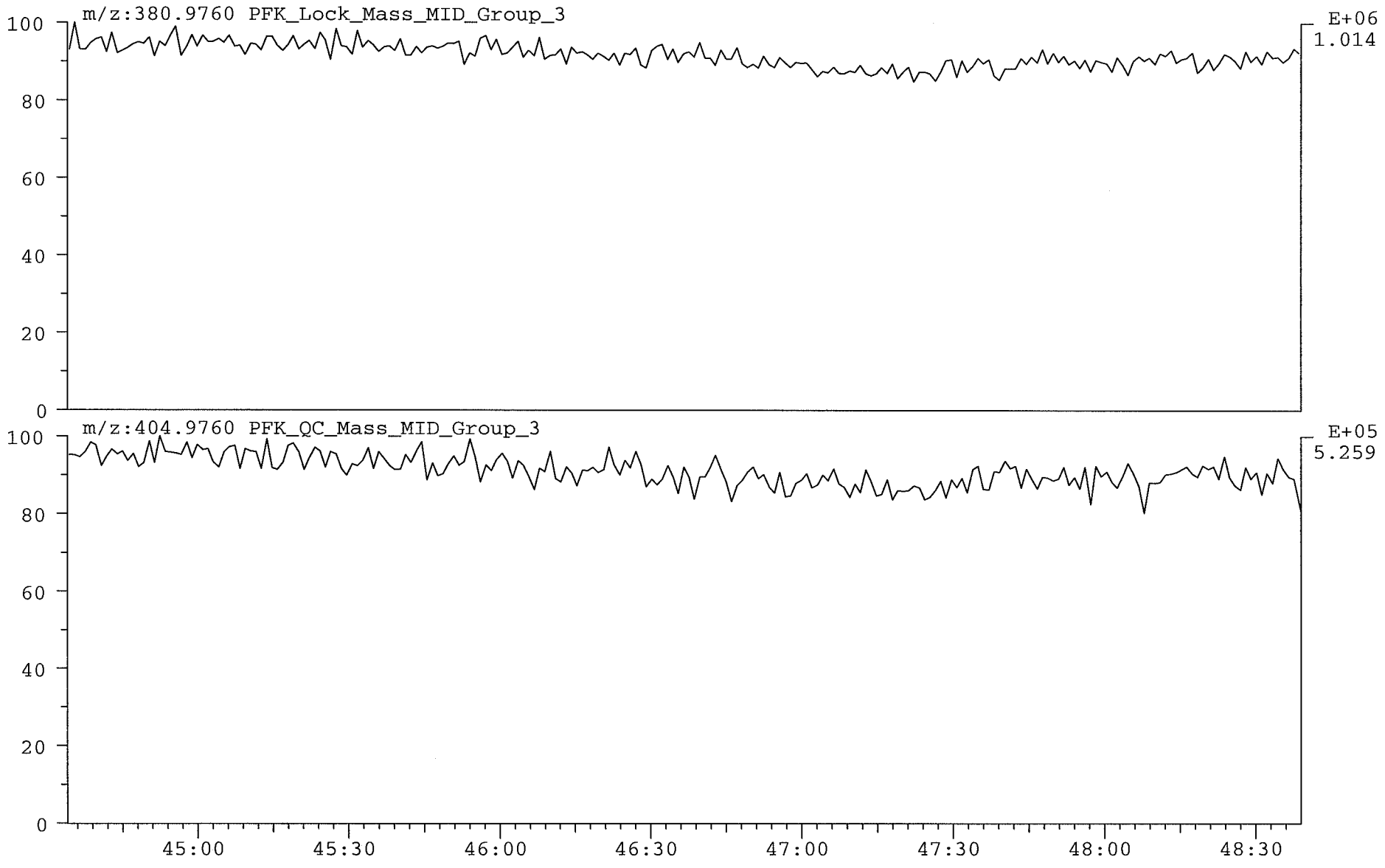
```
CHRO:  b060504s1                          04-May-06   Elapse:  46:13      2116
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  07:31:39   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2112 > 2120      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



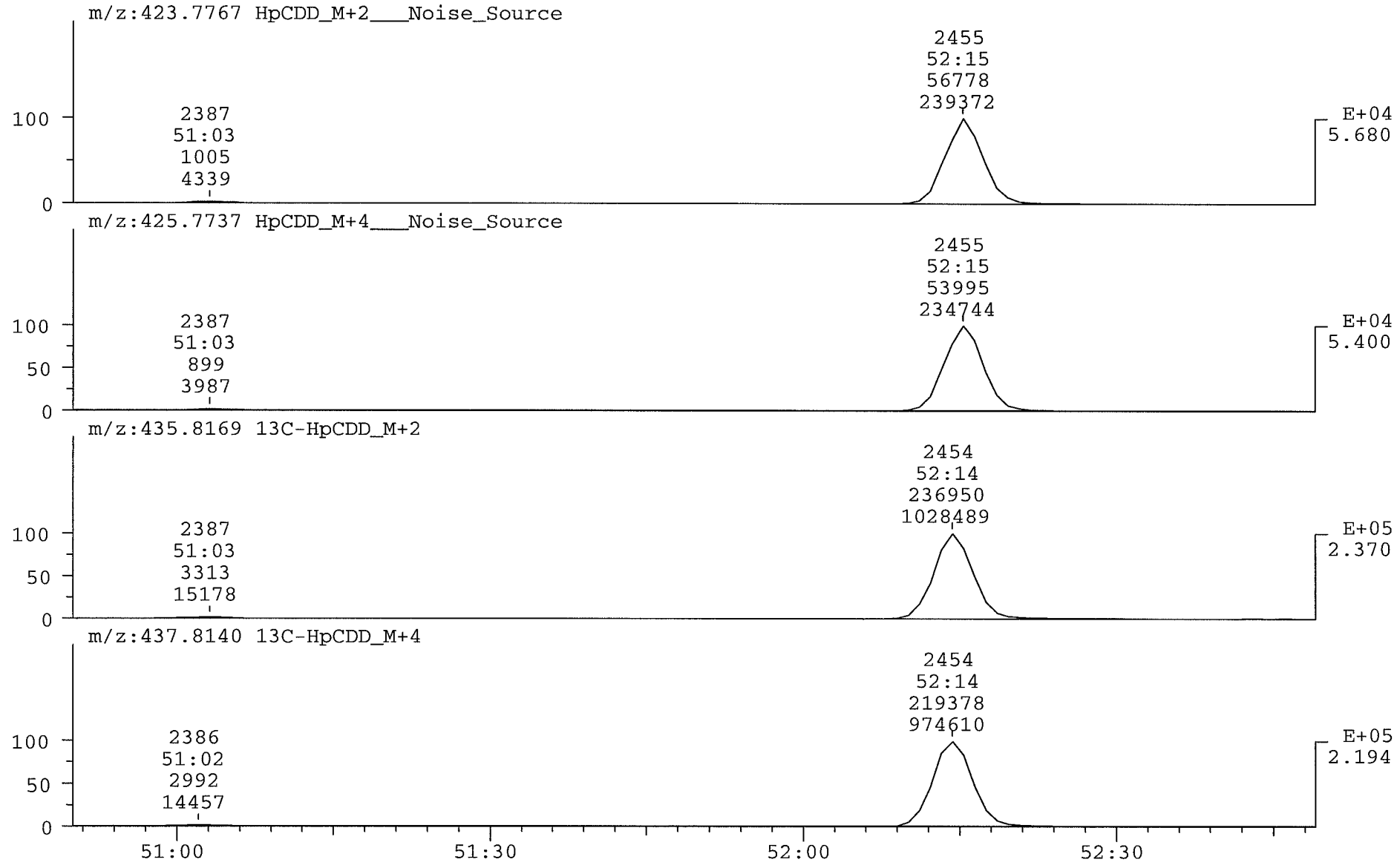
```
CHRO:  b060504s1                              04-May-06   Elapse:  46:13      2116
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                    Start :  07:31:39   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville                Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2023 > 2253          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



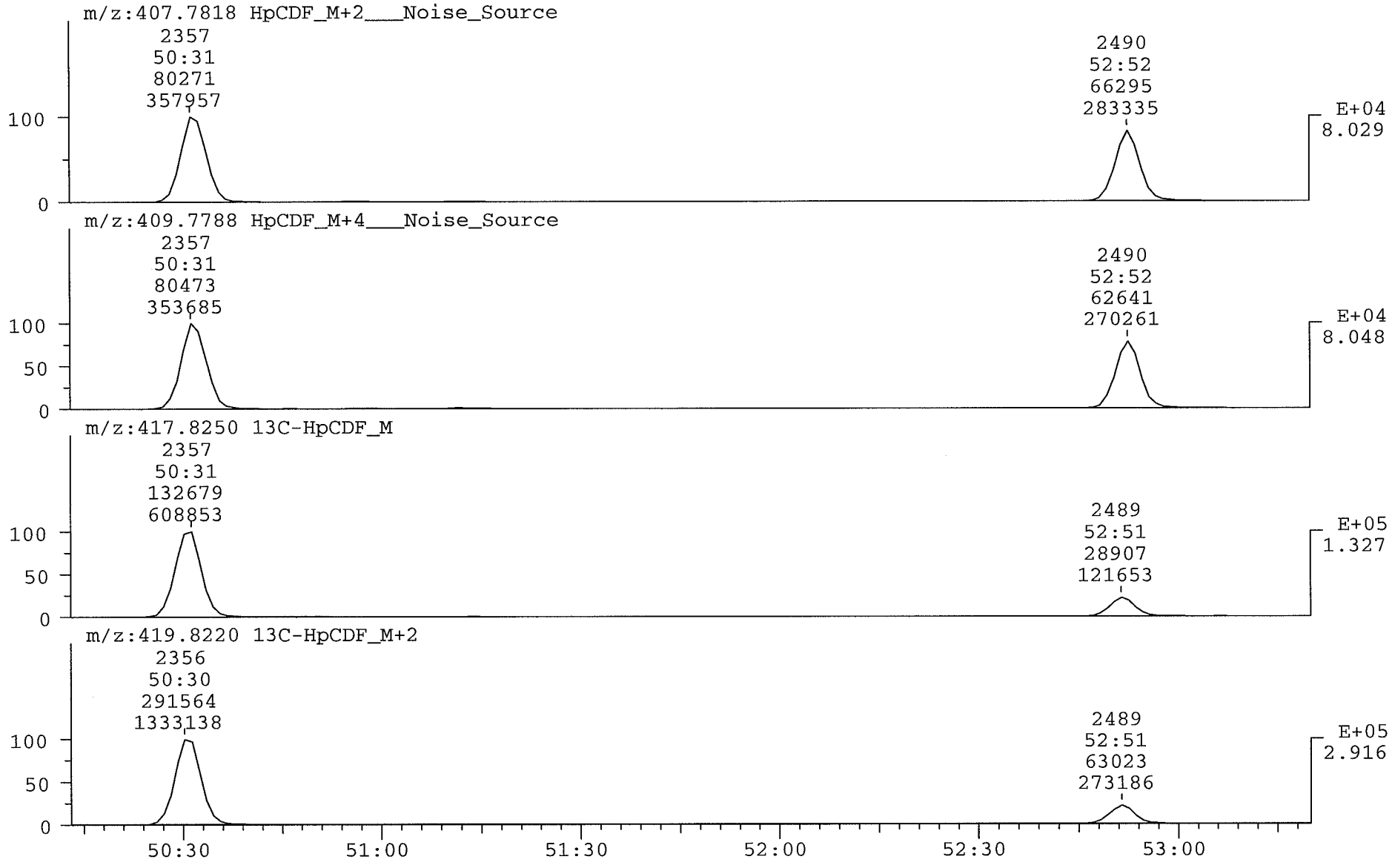
```
CHRO:  b060504s1                          04-May-06   Elapse:  46:13      2116
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  07:31:39   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2023 > 2253      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  0, 0.0
Disp:  Height  Area
```



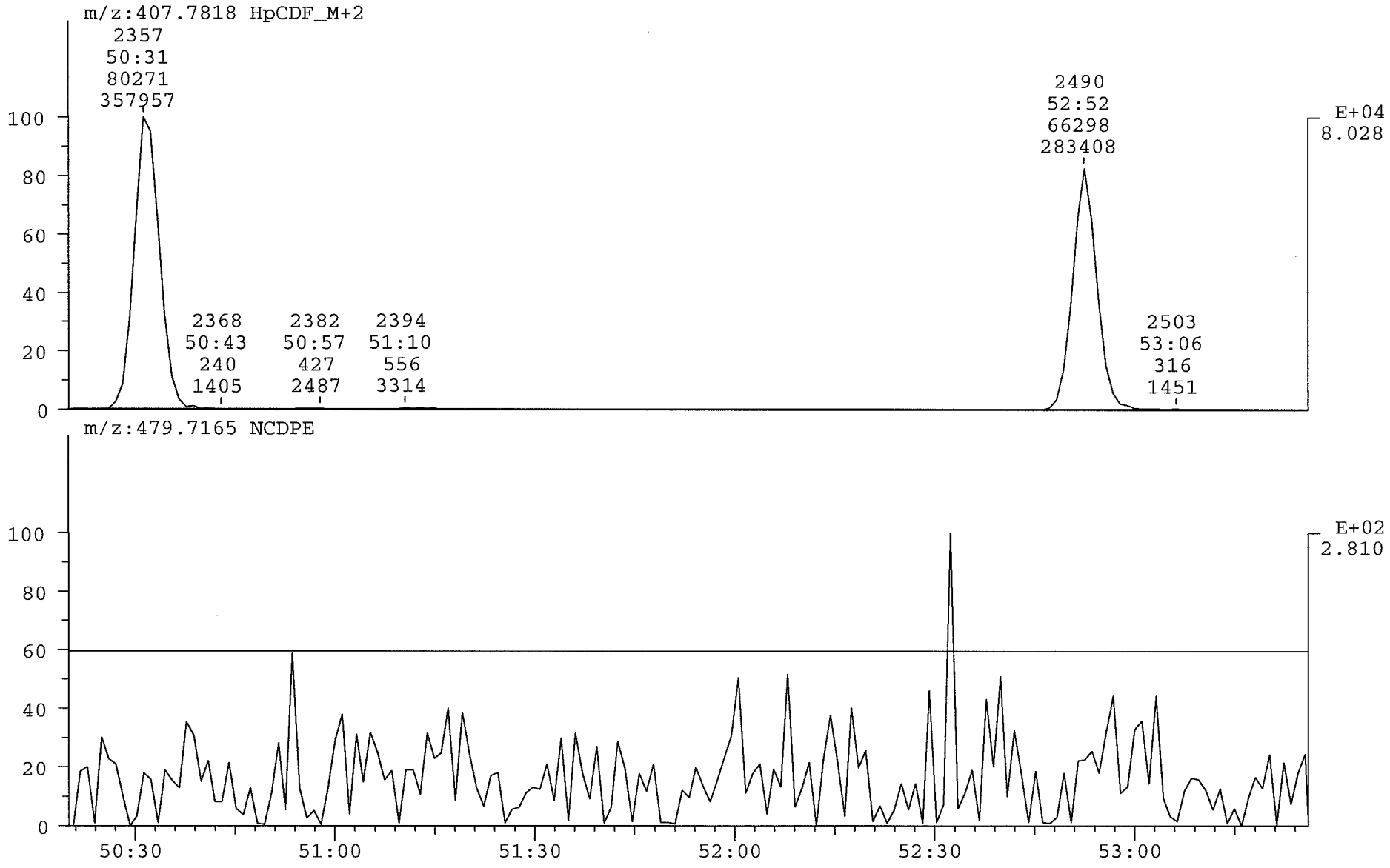
```
CHRO:  b060504s1                                04-May-06   Elapse:  46:13      2116
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                      Start :  07:31:39   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville                  Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2375 > 2487            Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



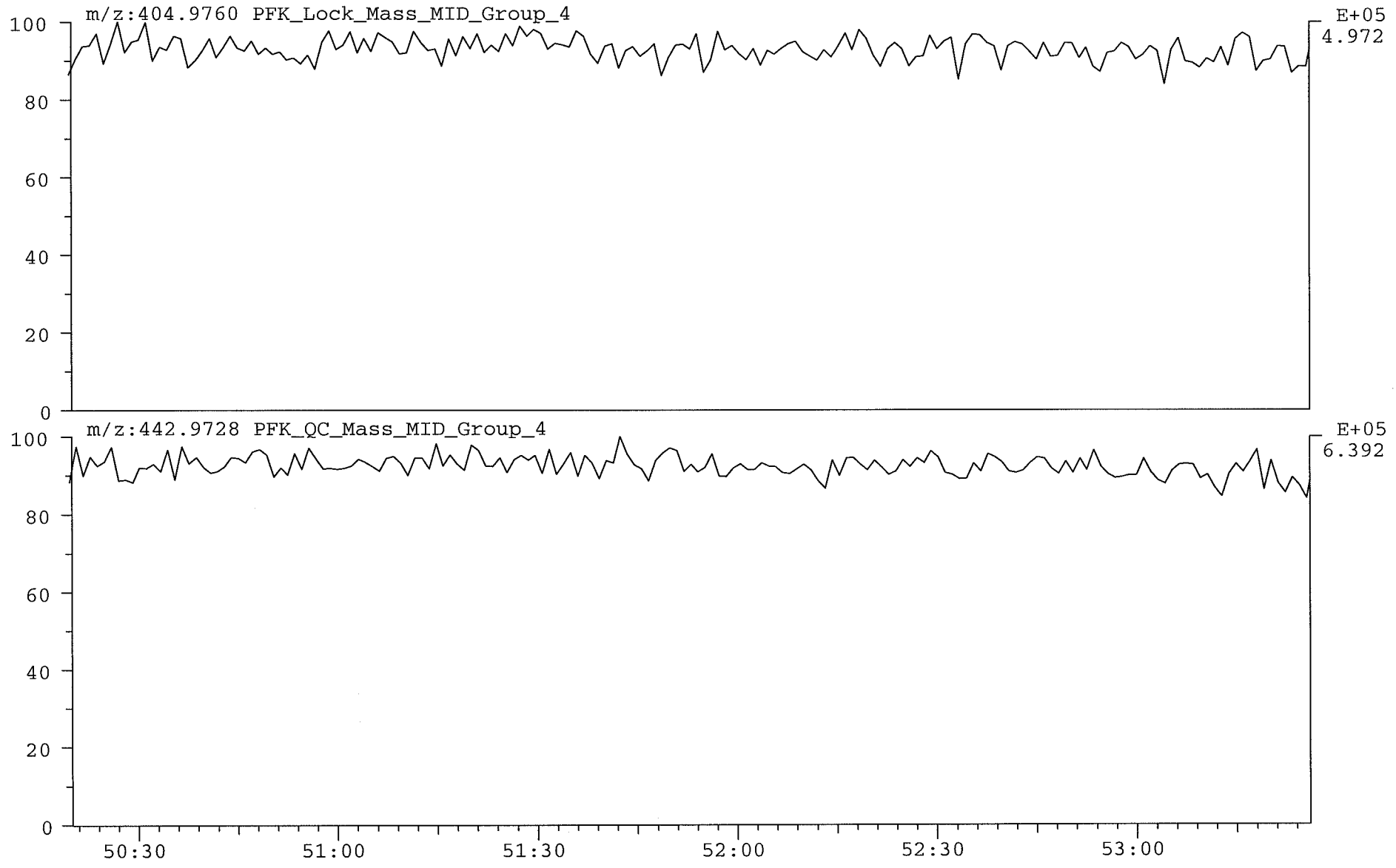
```
CHRO:  b060504s1                          04-May-06   Elapse:  51:45      2427
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  07:31:39   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP           Client:  STL Knoxville           Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2340 > 2516      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



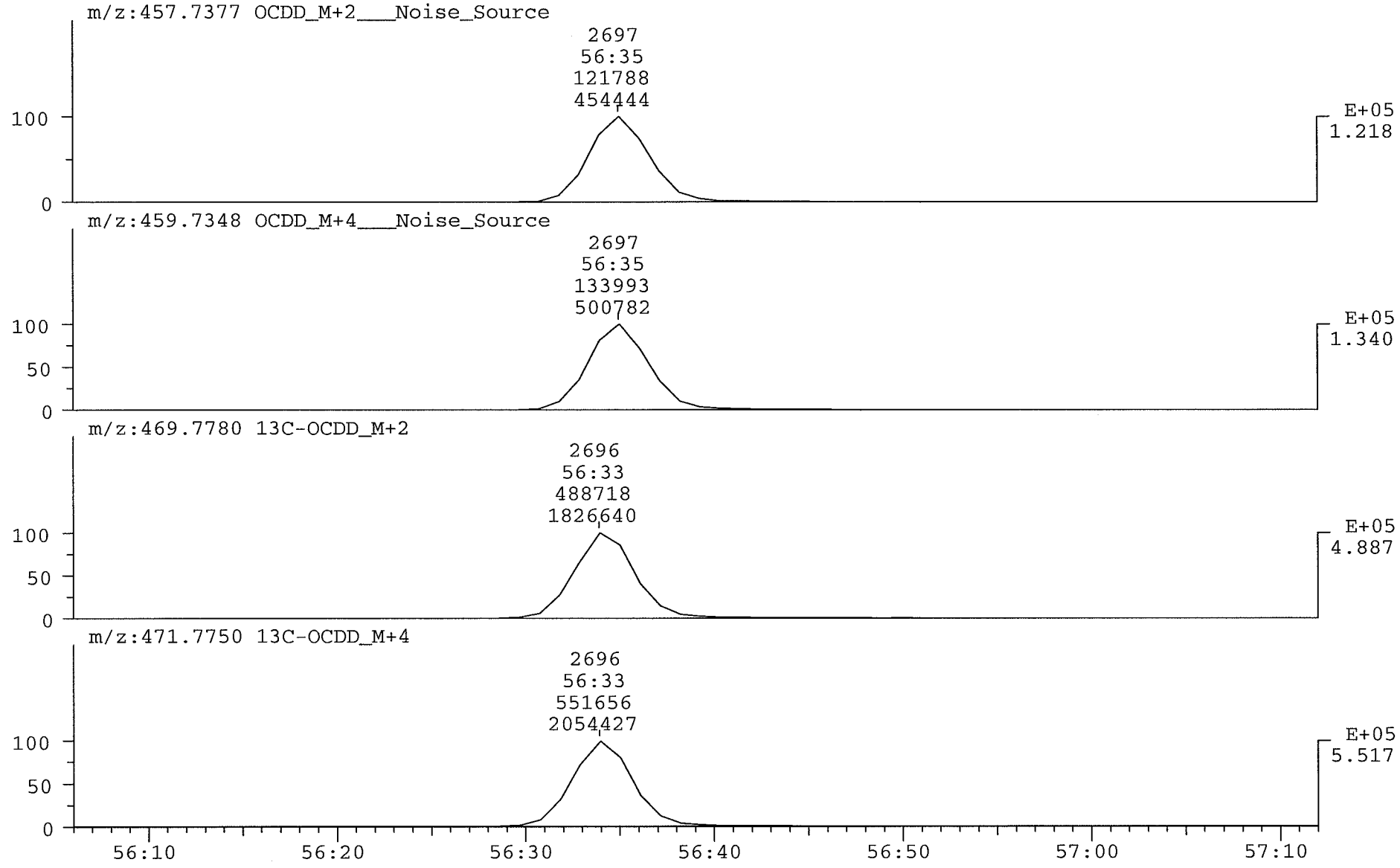
```
CHRO:  b060504s1                              04-May-06   Elapse:  51:45      2427
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                    Start :  07:31:39   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville                Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2346 > 2522          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



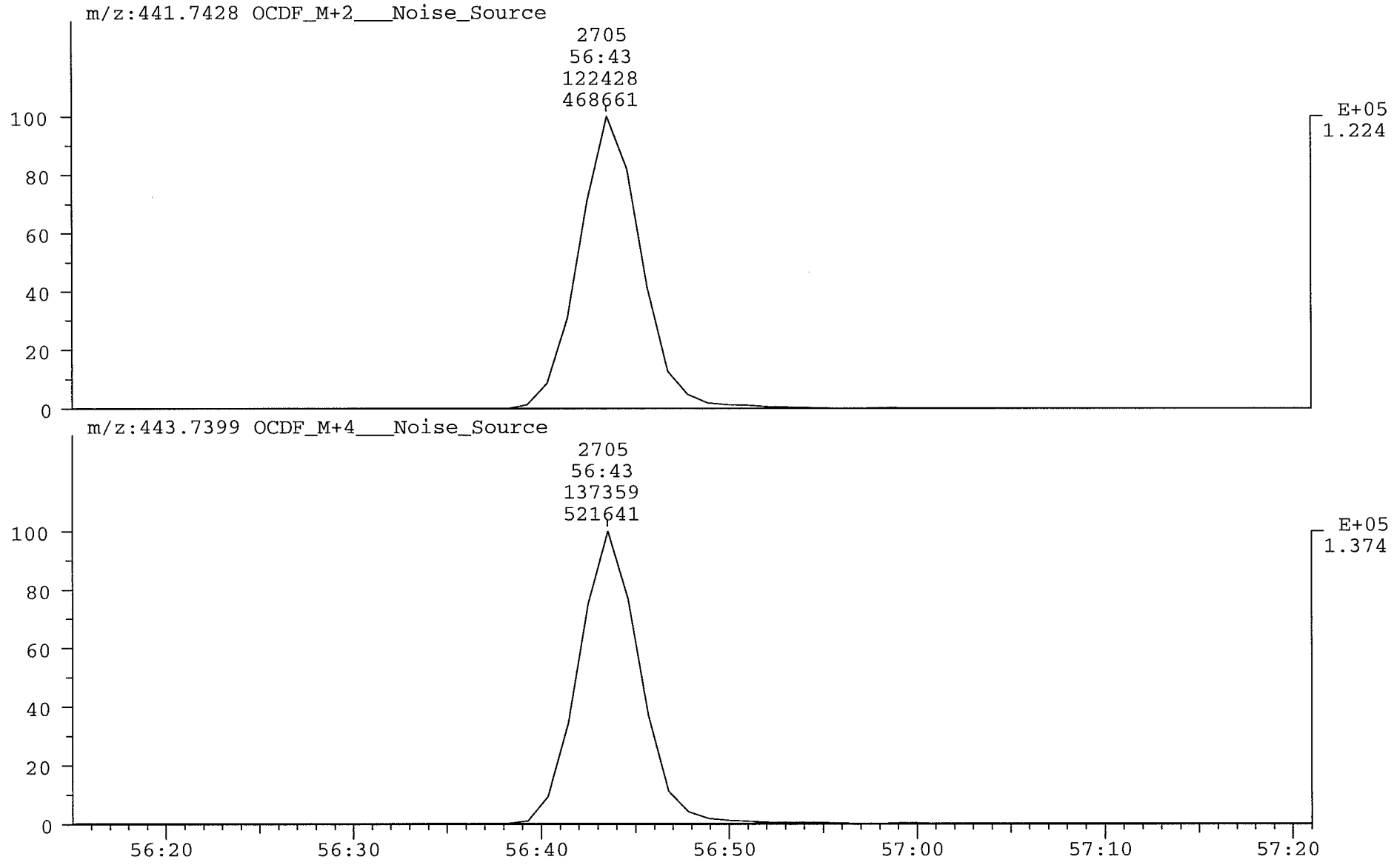
```
CHRO:  b060504s1                              04-May-06   Elapse:  51:45      2427
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                    Start :  07:31:39   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  M23 Ver
Oper:  PMP            Client:  STL Knoxville              Inlet :  GC     Vial   3
Peak:  100.00  ppm      Label wndw:   2346 > 2522         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



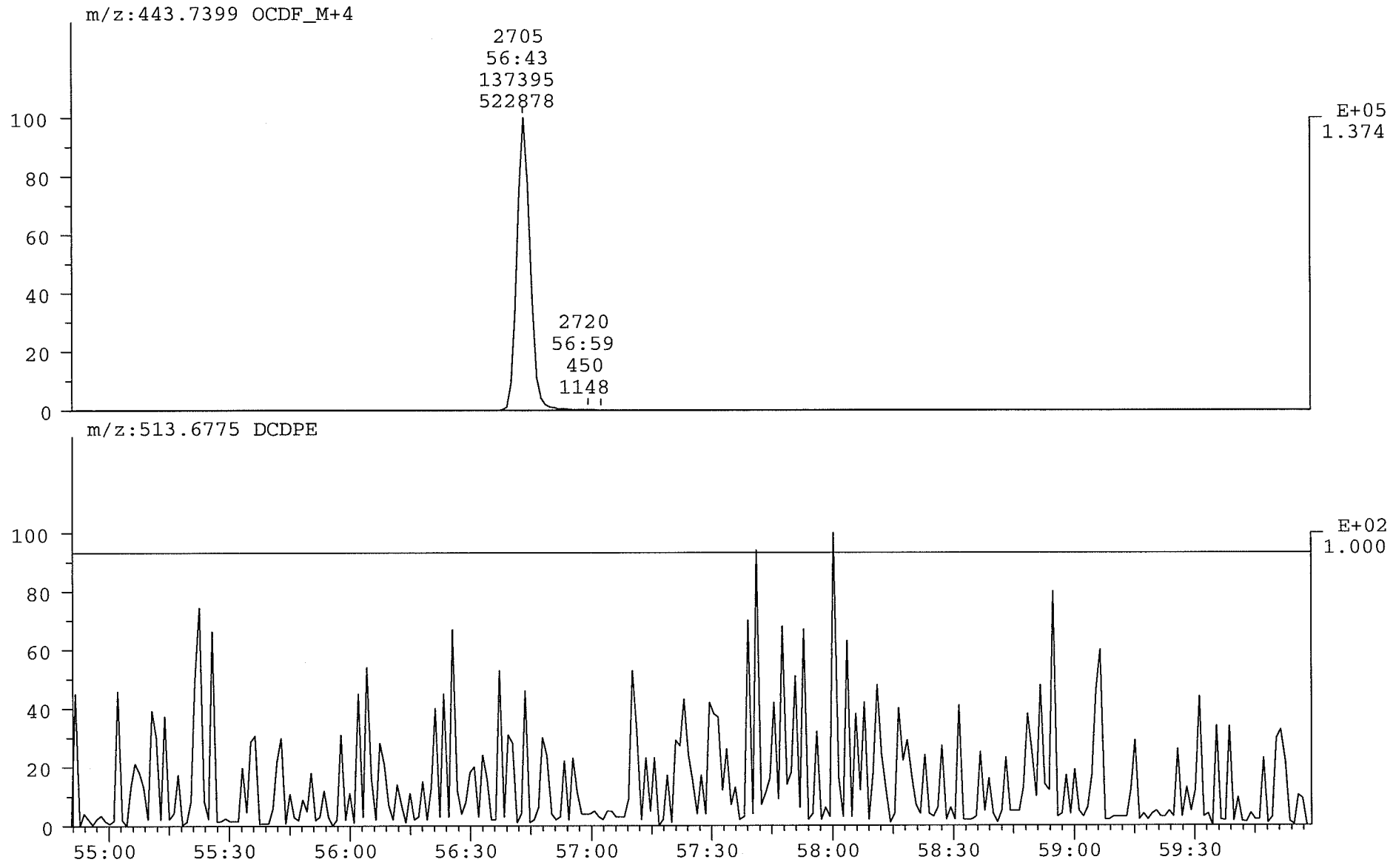
```
CHRO:  b060504s1                          04-May-06   Elapse:  56:36      2698
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  07:31:39   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2670 > 2732      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



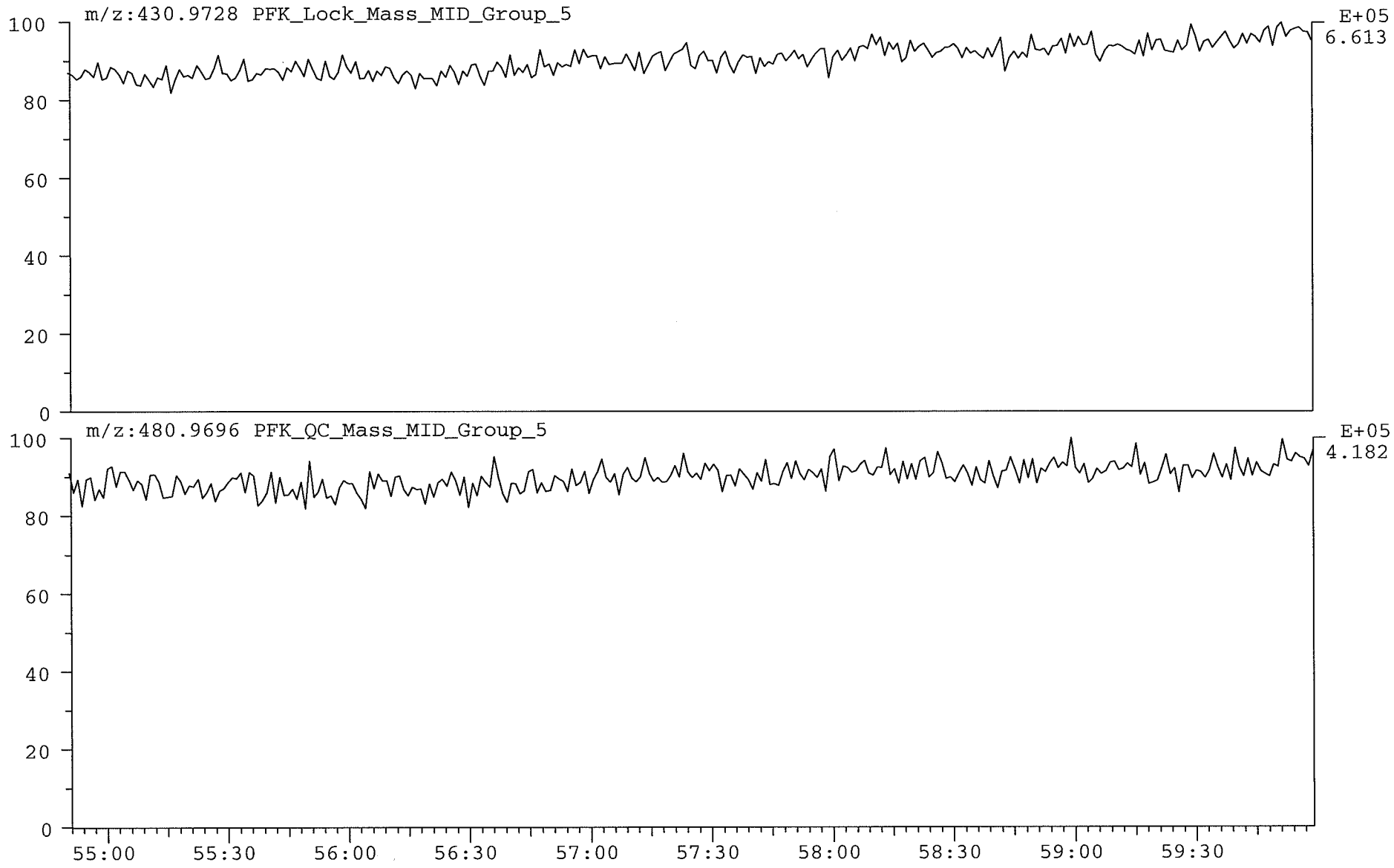
```
CHRO:  b060504s1                                04-May-06  Elapse:  56:44      2706
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                     Start :  07:31:39   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville                 Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2678 > 2740           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: b060504s1 04-May-06 Elapse: 56:44 2706
Samp: Vial 3 WO=3123:75 Meth=X8 Dil=1 Start : 07:31:39 2890
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 3
Peak: 100.00 ppm Label wndw: 2599 > 2888 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  b060504s1                              04-May-06   Elapse:  56:44      2706
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                    Start :  07:31:39   2890
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville                Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2599 > 2888          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
```



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: b060504s1
Study: M23 Ver
Sample: WO=3123:75 Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: PMP
Client: STL Knoxville
Comments: Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Injected volume: 2.0
Sample from Vial 3
Analysis will stop when MID run finishes
Tune file name: tune2
File 10 of list 060503
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	TRUE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	140 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	30:00 min	38:00 min	1.00 sec
# 2	38:00 min	6:25 min	44:25 min	1.00 sec
# 3	44:25 min	5:05 min	49:30 min	1.00 sec
# 4	49:30 min	5:15 min	54:45 min	1.00 sec
# 5	54:45 min	5:15 min	60:00 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

351.9000		1	1	91.48
353.8970		1	1	91.48
355.8546		1	1	91.48
357.8516		1	1	91.48
367.8949		1	1	91.48
369.8919		1	1	91.48
380.9760	c	10	1	8.19
409.7974		1	1	91.48

Window # 3

mass	F	int	gr	time (ms)
373.8208		1	1	91.48
375.8178		1	1	91.48
380.9760	1	10	1	8.19
383.8639		1	1	91.48
385.8610		1	1	91.48
389.8156		1	1	91.48
391.8127		1	1	91.48
401.8559		1	1	91.48
403.8529		1	1	91.48
404.9760	c	10	1	8.19
445.7555		1	1	91.48

Window # 4

mass	F	int	gr	time (ms)
404.9760	1	10	1	8.19
407.7818		1	1	91.48
409.7788		1	1	91.48
417.8250		1	1	91.48
419.8220		1	1	91.48
423.7767		1	1	91.48
425.7737		1	1	91.48
435.8169		1	1	91.48
437.8140		1	1	91.48
442.9728	c	10	1	8.19
479.7165		1	1	91.48

Window # 5

mass	F	int	gr	time (ms)
430.9728	1	10	1	10.92
441.7428		1	1	120.15
443.7399		1	1	120.15
457.7377		1	1	120.15
459.7348		1	1	120.15
469.7780		1	1	120.15
471.7750		1	1	120.15
480.9696	c	10	1	10.92
513.6775		1	1	120.15

Auto Sampler descriptor: pcdd2ul

Injector A

Normal Injection

Slvnt A cln before inj	(K):	3	times
Slvnt B cln before inj	(L):	0	times
Sample rinse cycles	(R):	0	times
Syringe filling volume	(F):	1.0	ul
Pullup delay time	(D):	4	sec
Sample pullup speed	(E):	5.0	ul/sec
Slvnt aftr pre inj cln	(U):	0.0	ul
Air after pre inj cln	(G):	2.0	ul
Sample volume	(V):	2.0	ul
Sample air volume	(A):	2.0	ul
Sample pullup count	(P):	2	times
Injection speed	(S):	10.0	ul/sec
Injection wait time	(W):	10	sec
Injection hold time	(H):	3	sec
Solvent A clean cycles	(C):	15	times
Solvent B clean cycles	(B):	20	times
Loop clean w slvnt A	(LC):	0	times

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8421.0000
BDEV	8286.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.7814	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9992
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-738.5000	ELEN	61.7750
EMULT	1.8000	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	189.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	530.0000	FVINLET	588.0000
FVSRC	994.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.5490	HVANAL	1572.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4757.0160	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	292.9825
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	224.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10643.8407	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.7800	TCURR	0.8984	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 04-May-06 07:31:39.7

Autosampler has injected sample from vial 3
Analysis stopped at: 04-May-06 08:31:41.5 (run time 60.02 minutes)
Analysis stopped because MID run finished

STL - Knoxville

IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 1613B

IsoCalc

Workorder	3262:44	**Prep Batch**		**Lot No**	
Data File	/20060504s1/b060504w1.d	**Prep Date**		**SDG No**	
Analysis ID	90492	**Prep Exp Date**		**Date Received**	
Analysis Date	5/4/2006	**Matrix**	UNKNOWN	**Date Sampled**	
Analysis Time	10:02	**Initial Wt/Vol**		**Lims Test Code**	
Anal Exp Date		**Extract Vol**		**Method**	DX1613B
Instrument	M2A	**Dil Factor**	1.0	**Code**	F8
Analyst	BFW				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (ng/mL)		DL (ng/mL)
2,3,7,8-TCDD	35:15	213292	24448	1.052	10.00	9.809803	98.10	9.809803	E	0.145
Total TCDD		906283	114798	1.052		51.491902		51.491902	E	0.145
2,3,7,8-TCDF	33:03	272279	30767	0.984	10.00	9.944851	99.45	9.944851	E	0.0977
Total TCDF		520264	79024	0.984		28.947228		28.947228	E	0.0977
1,2,3,7,8-PeCDD	42:57	821507	228906	0.998	50.00	47.399384	94.80	47.399384	E	0.0666
Total PeCDD		1589082	378667	0.998		139.086380		139.086380	E	0.0666
1,2,3,7,8-PeCDF	41:24	1144542	276414	1.024	50.00	47.028835	94.06	47.028835	E	0.0605
2,3,4,7,8-PeCDF	42:29	1158431	321157	1.100	50.00	45.907582	91.82	45.907582	E	0.0503
Total PeCDF		1092480	318736	1.062		136.986224		136.986224	E	0.0550
1,2,3,4,7,8-HxCDD	47:08	783450	206531	1.186	50.00	46.886248	93.77	46.886248	E	0.0797
1,2,3,6,7,8-HxCDD	47:15	763450	198328	0.963	50.00	49.268761	98.54	49.268761	E	0.0896
1,2,3,7,8,9-HxCDD	47:41	809199	208822	1.145	50.00	46.866364	93.73	46.866364	E	0.0788
Total HxCDD		834506	241569	1.098		193.400031		193.400031	E	0.0822
1,2,3,4,7,8-HxCDF	46:03	1094558	309355	1.264	50.00	47.518717	95.04	47.518717	E	0.0584
1,2,3,6,7,8-HxCDF	46:12	1170458	321080	1.239	50.00	47.237750	94.48	47.237750	E	0.0546
2,3,4,6,7,8-HxCDF	46:57	1068112	287791	1.196	50.00	48.477566	96.96	48.477566	E	0.0637
1,2,3,7,8,9-HxCDF	47:58	931394	239602	1.212	50.00	46.799583	93.60	46.799583	E	0.0767
Total HxCDF		1949035	536731	1.228		276.943045		276.943045	E	0.0624
1,2,3,4,6,7,8-HpCDD	52:16	717619	158390	1.056	50.00	47.460148	94.92	47.460148	E	0.132
Total HpCDD		700893	145729	1.056		93.814113		93.814113	E	0.132
1,2,3,4,6,7,8-HpCDF	50:32	1043627	228634	1.467	50.00	45.705581	91.41	45.705581	E	0.0608
1,2,3,4,7,8,9-HpCDF	52:53	849786	182830	1.451	50.00	48.476826	96.95	48.476826	E	0.0809
Total HpCDF				1.459		94.182407		94.182407	E	0.0695
OCDD	56:35	1413871	349418	1.041	100.0	94.524098	94.52	94.524098	E	0.102
OCDF	56:44	1539841	380975	1.253	100.0	85.507865	85.51	85.507865	E	0.0716
13C-2,3,7,8-TCDD	35:12	2066188	231991	1.048	100.0	103.058737	103.06	103.058737		0.202
13C-2,3,7,8-TCDF	32:59	2782928	296584	1.492	100.0	97.517031	97.52	97.517031		0.105
13C-1,2,3,7,8-PeCDD	42:56	1736113	481431	1.117	100.0	81.268471	81.27	81.268471		0.131
13C-1,2,3,7,8-PeCDF	41:23	2376609	544654	1.616	100.0	76.868203	76.87	76.868203		0.0746
13C-2,3,4,7,8-PeCDF	42:28	2294614	610115	1.580	100.0	75.913027	75.91	75.913027		0.0763
13C-1,2,3,4,7,8-HxCDD	47:07	1408565	370351	0.891	100.0	101.414552	101.41	101.414552		0.0903
13C-1,2,3,6,7,8-HxCDD	47:15	1608420	405507	1.031	100.0	100.139603	100.14	100.139603		0.0781
13C-1,2,3,4,7,8-HxCDF	46:02	1821799	507483	1.235	100.0	94.659161	94.66	94.659161		0.0871
13C-1,2,3,6,7,8-HxCDF	46:11	1999799	554742	1.370	100.0	93.706287	93.71	93.706287		0.0785
13C-2,3,4,6,7,8-HxCDF	46:56	1841474	492281	1.285	100.0	91.997227	92.00	91.997227		0.0837
13C-1,2,3,7,8,9-HxCDF	47:57	1642702	403625	1.167	100.0	90.378971	90.38	90.378971		0.0922
13C-1,2,3,4,6,7,8-HpCDD	52:15	1431548	305254	0.947	100.0	96.984990	96.98	96.984990		0.0931
13C-1,2,3,4,6,7,8-HpCDF	50:31	1556901	344798	1.069	100.0	93.510984	93.51	93.510984		0.0820
13C-1,2,3,4,7,8,9-HpCDF	52:52	1208489	262098	0.898	100.0	86.394735	86.39	86.394735		0.0976
13C-OCDD	56:34	2874107	719300	1.024	200.0	180.149376	90.07	180.149376		0.114
37Cl4-2,3,7,8-TCDD	35:15	213214	24890	1.123	10.00	9.920383	99.20	9.920383	E	0.0829
13C-1,2,3,4-TCDD	34:40	1913354	201240	1.000	100.0	100.000000	100.00	100.000000		0.211
13C-1,2,3,7,8,9-HxCDD	47:40	1557999	388104	1.000	100.0	100.000000	100.00	100.000000		0.0805

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 1613B

IsoCalc

Workorder	3262:44	Prep Batch		Lot No	
Data File	/20060504s1/b060504w1.	Prep Date		SDG No	
Analysis ID	90492	Prep Exp Date		Date Received	
Analysis Date	05/04/06 10:02	Matrix	UNKNOWN	Date Sampled	
Anal Exp Date		Initial Wt/Vol		Lims Test Code	
Instrument	M2A	Extract Vol		Method	DX1613B
Analyst	BFW	Diluton Factor	1.00	Code	F8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	123	163	49	65	0.75	/	
	Unidentified	25:54	00:00	0	129320	169024	18121	25176	0.77	ABB/ABB	
	2,3,7,8-TCDF	33:03	32:56	7	116692	155587	12974	17793	0.75	AVV/ABB	M
	Unidentified	37:33	00:00	0	96612	125308	15128	20599	0.77	ABV/ABV	
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	128	188	51	75	0.68	/	
	13C-2,3,7,8-TCDF	32:59	32:53	6	1222115	1560813	129717	166867	0.78	ABV/ABV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	170	185	68	74	0.92 *	/	
	Unidentified	28:39	00:00	0	83557	109905	10665	14067	0.76	ABB/ABB	
	Unidentified	34:43	00:00	0	76042	98589	8286	10769	0.77	ABV/ABV	
	Unidentified	34:58	00:00	0	77073	97122	8977	10478	0.79	AVV/AVV	M
	2,3,7,8-TCDD	35:15	34:59	16	91835	121457	10347	14101	0.76	AVB/AVB	M
	Unidentified	35:41	00:00	0	83940	106234	10367	13102	0.79	ABB/ABB	
	Unidentified	37:38	00:00	0	75852	97969	12339	15748	0.77	ABB/ABB	
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	188		75				
	37Cl4-2,3,7,8-TCDD	35:15	34:59	16	213214		24890			AVV	M
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	245	180	98	72	1.36 *	/	
	13C-1,2,3,4-TCDD	34:40	34:18	22	846765	1066589	87529	113711	0.79	ABB/ABV	
	13C-2,3,7,8-TCDD	35:12	34:56	16	917195	1148993	105129	126862	0.80	AVV/AVV	
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**		
	Noise	00:00	00:00	0	160	178	64	71	0.90 *	/	
	Unidentified	38:08	00:00	0	70094	47727	26679	19226	1.47	ABB/ABB	
	1,2,3,7,8-PeCDF	41:24	41:40	-16	693527	451015	170143	106271	1.54	ABV/ABV	M
	2,3,4,7,8-PeCDF	42:29	42:45	-16	713384	445047	197380	123777	1.60	ABV/ABV	M
	Unidentified	43:41	00:00	0	595632	379027	168206	104625	1.57	ABV/ABV	
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**		
	Noise	00:00	00:00	0	108	135	43	54	0.80 *	/	
	13C-1,2,3,7,8-PeCDF	41:23	41:38	-15	1458804	917805	334501	210153	1.59	ABV/ABV	
	13C-2,3,4,7,8-PeCDF	42:28	42:44	-16	1398740	895874	370101	240014	1.56	ABV/ABV	
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**		
	Noise	00:00	00:00	0	175	145	70	58	1.21 *	/	
	Unidentified	40:23	00:00	0	492161	318504	97680	61667	1.55	ABV/ABV	
	1,2,3,7,8-PeCDD	42:57	43:14	-17	494515	326992	137660	91246	1.51	ABV/ABV	M
	Unidentified	43:34	00:00	0	475612	302805	133087	86233	1.57	ABB/ABB	
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**		
	Noise	00:00	00:00	0	168	128	67	51	1.31 *	/	
	13C-1,2,3,7,8-PeCDD	42:56	43:13	-17	1057165	678948	293582	187849	1.56	ABV/ABV	
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	Noise	00:00	00:00	0	220	155	88	62	1.42	/	
	Unidentified	44:48	00:00	0	587691	474163	184775	145737	1.24	ABV/ABV	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 1613B

IsoCalc

Workorder	3262:44	Prep Batch		Lot No	
Data File	/20060504s1/b060504w1.	Prep Date		SDG No	
Analysis ID	90492	Prep Exp Date		Date Received	
Analysis Date	05/04/06 10:02	Matrix	UNKNOWN	Date Sampled	
Anal Exp Date		Initial Wt/Vol		Lims Test Code	
Instrument	M2A	Extract Vol		Method	DX1613B
Analyst	BFW	Diluton Factor	1.00	Code	F8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	1,2,3,4,7,8-HxCDF	46:03	46:15	-12	610450	484108	172278	137077	1.26	ABV/ABV	M
	1,2,3,6,7,8-HxCDF	46:12	46:22	-10	654054	516404	178593	142487	1.27	AVV/AVV	M
	2,3,4,6,7,8-HxCDF	46:57	47:05	-8	595820	472292	161172	126619	1.26	AVV/AVV	M
	1,2,3,7,8,9-HxCDF	47:58	48:00	-2	516687	414707	130982	108620	1.25	ABV/ABV	
	Unidentified	48:06	00:00	0	498361	388820	115596	90623	1.28	AVV/AVV	
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**		
	Noise	00:00	00:00	0	193	225	77	90	0.86 *	/	
	13C-1,2,3,4,7,8-HxCDF	46:02	46:14	-12	623271	1198528	169907	337576	0.52	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDF	46:11	46:21	-10	683474	1316325	190920	363822	0.52	AVV/AVV	
	13C-2,3,4,6,7,8-HxCDF	46:56	47:04	-8	634138	1207336	168298	323983	0.53	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDF	47:57	47:59	-2	561387	1081315	138197	265428	0.52	ABV/ABV	
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	Noise	00:00	00:00	0	185	165	74	66	1.12	/	
	Unidentified	45:29	00:00	0	463138	371368	134760	106809	1.25	ABV/ABV	
	1,2,3,4,7,8-HxCDD	47:08	47:15	-7	433663	349787	114595	91936	1.24	ABV/ABV	M
	1,2,3,6,7,8-HxCDD	47:15	47:21	-6	422236	341214	108889	89439	1.24	AVV/AVV	M
	1,2,3,7,8,9-HxCDD	47:41	47:45	-4	446466	362733	115979	92843	1.23	AVV/ABV	M
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**		
	Noise	00:00	00:00	0	135	178	54	71	0.76 *	/	
	13C-1,2,3,4,7,8-HxCDD	47:07	47:13	-6	779677	628888	201570	168781	1.24	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDD	47:15	47:20	-5	899577	708843	223338	182169	1.27	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDD	47:40	47:44	-4	866980	691019	212989	175115	1.25	AVV/AVV	
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**		
	Noise	00:00	00:00	0	158	150	63	60	1.05	/	
	1,2,3,4,6,7,8-HpCDF	50:32	50:25	7	536983	506644	117569	111065	1.06	ABV/ABV	M
	1,2,3,4,7,8,9-HpCDF	52:53	52:38	15	435609	414177	94200	88630	1.05	ABV/ABV	M
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	Noise	00:00	00:00	0	165	175	66	70	0.94 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	50:31	50:24	7	483224	1073677	109113	235685	0.45	ABV/ABV	
	13C-1,2,3,4,7,8,9-HpCDF	52:52	52:37	15	370430	838059	81884	180214	0.44	ABV/ABV	
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**		
	Noise	00:00	00:00	0	195	230	78	92	0.85 *	/	
	Unidentified	51:04	00:00	0	363223	337670	77583	68146	1.08	ABV/ABV	
	1,2,3,4,6,7,8-HpCDD	52:16	52:03	13	363131	354488	81247	77143	1.02	ABV/ABV	M
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**		
	Noise	00:00	00:00	0	200	143	80	57	1.40 *	/	
	Unidentified	51:02	00:00	0	8182	8035	1676	1767	1.02	ABB/ABB	
	13C-1,2,3,4,6,7,8-HpCDD	52:15	52:03	12	731222	700326	155578	149676	1.04	ABV/ABV	
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**		
	Noise	00:00	00:00	0	138	185	55	74	0.74 *	/	
	OCDF	56:44	56:24	20	734867	804974	185619	195356	0.91	ABV/ABV	M
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**		
	Noise	00:00	00:00	0	198	185	79	74	1.07 *	/	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 1613B

IsoCalc

Workorder	3262:44	**Prep Batch**		**Lot No**	
Data File	/20060504s1/b060504w1.	**Prep Date**		**SDG No**	
Analysis ID	90492	**Prep Exp Date**		**Date Received**	
Analysis Date	05/04/06 10:02	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M2A	**Extract Vol**		**Method**	DX1613B
Analyst	BFW	**Diluton Factor**	1.00	**Code**	F8

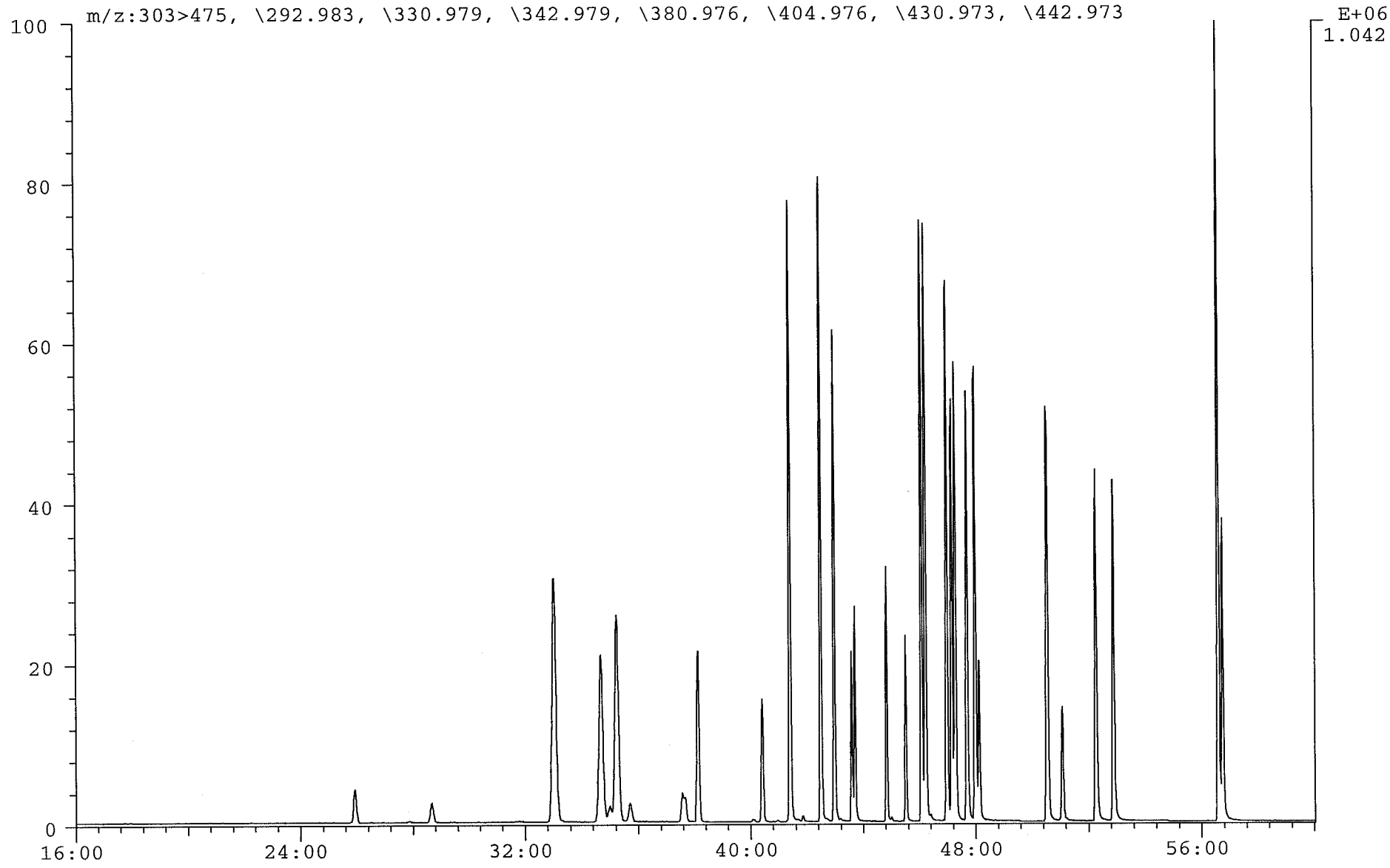
View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**		
	OCDD	56:35	56:17	18	668911	744960	165620	183798	0.90	ABV/ABV	M
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**		
	Noise	00:00	00:00	0	220	235	88	94	0.94	/	
	13C-OCDD	56:34	56:16	18	1354093	1520014	338737	380563	0.89	ABV/ABV	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

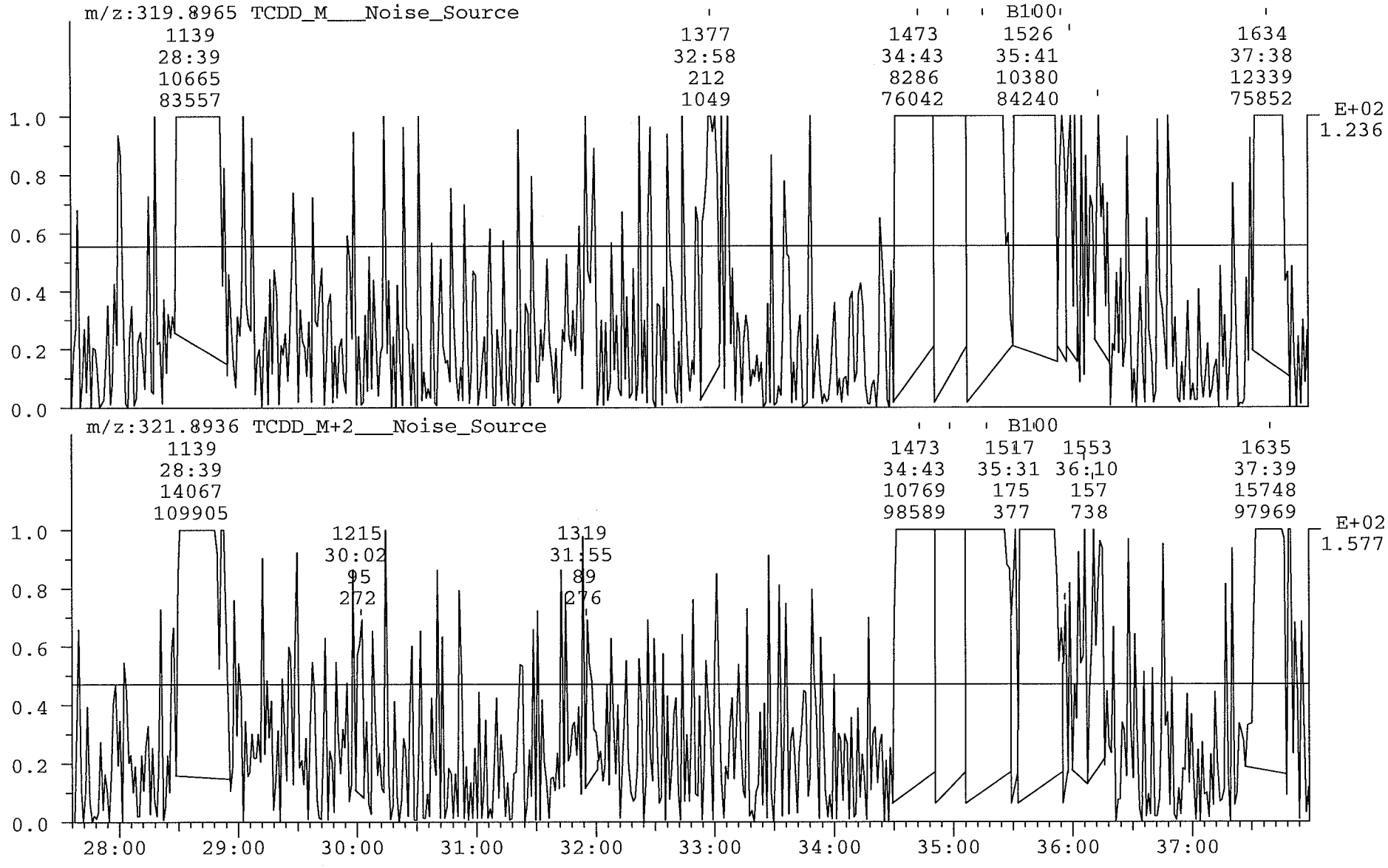
CHRO: b060504w1 04-May-06 Elapse: 08:00.5 1
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 10:02:53 2889
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 442 > 2889 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

Int/Calc BFW 5/4/06
QC Pmp 5-4-06

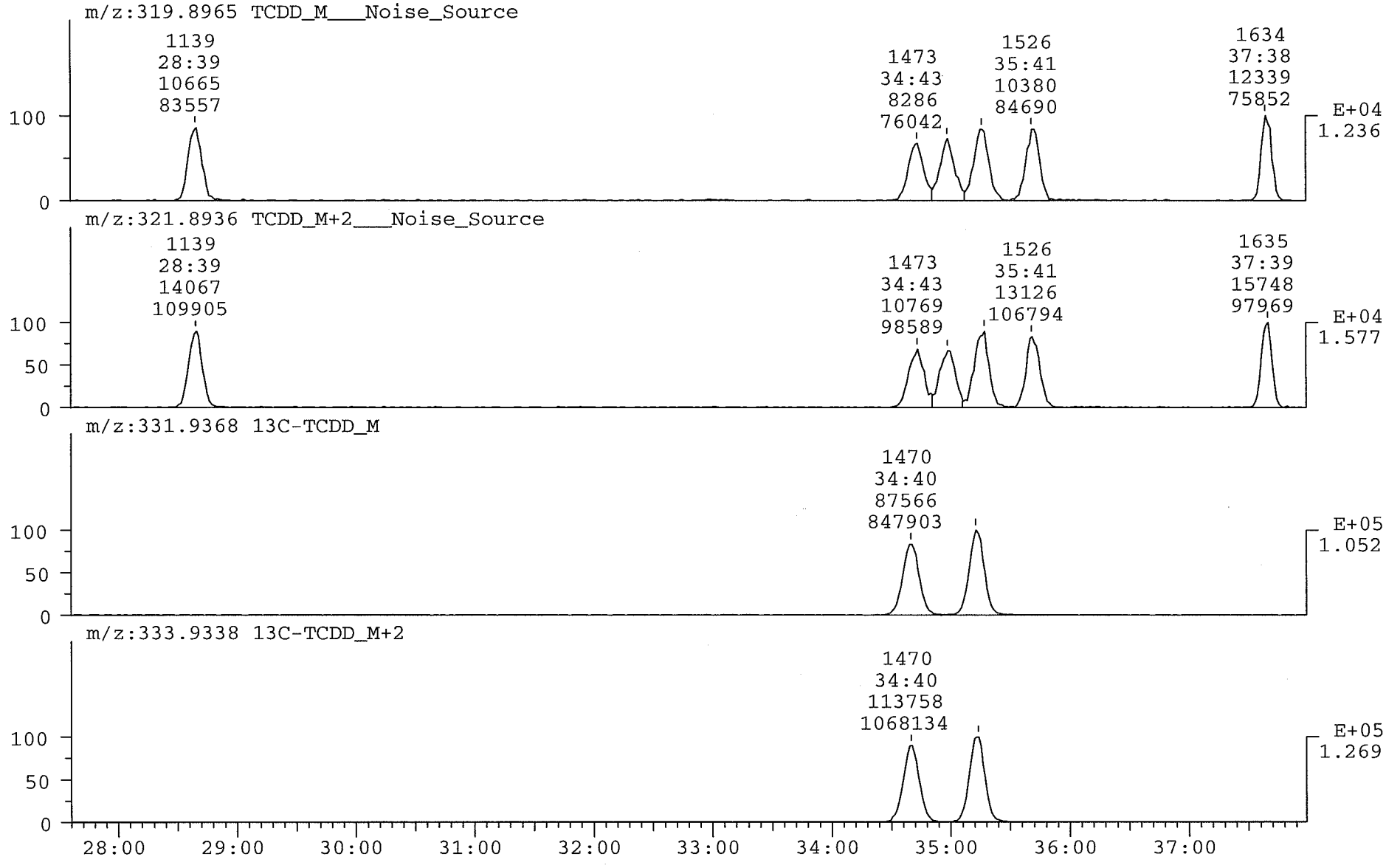


1024

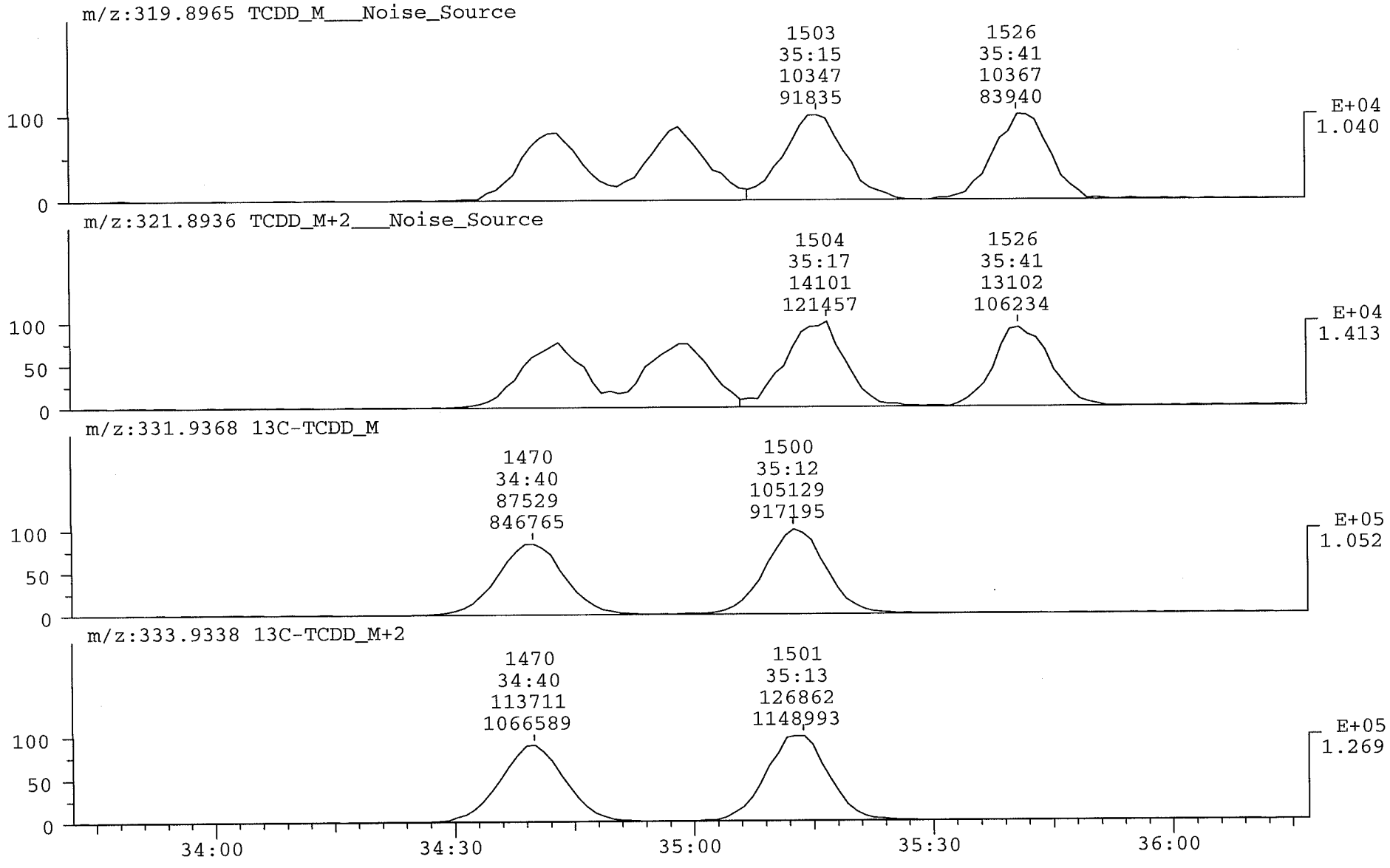
CHRO: b060504w1 04-May-06 Elapse: 08:00.5 1
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 10:02:53 2889
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1081 > 1653 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -3, 1.0
Disp: Height Area



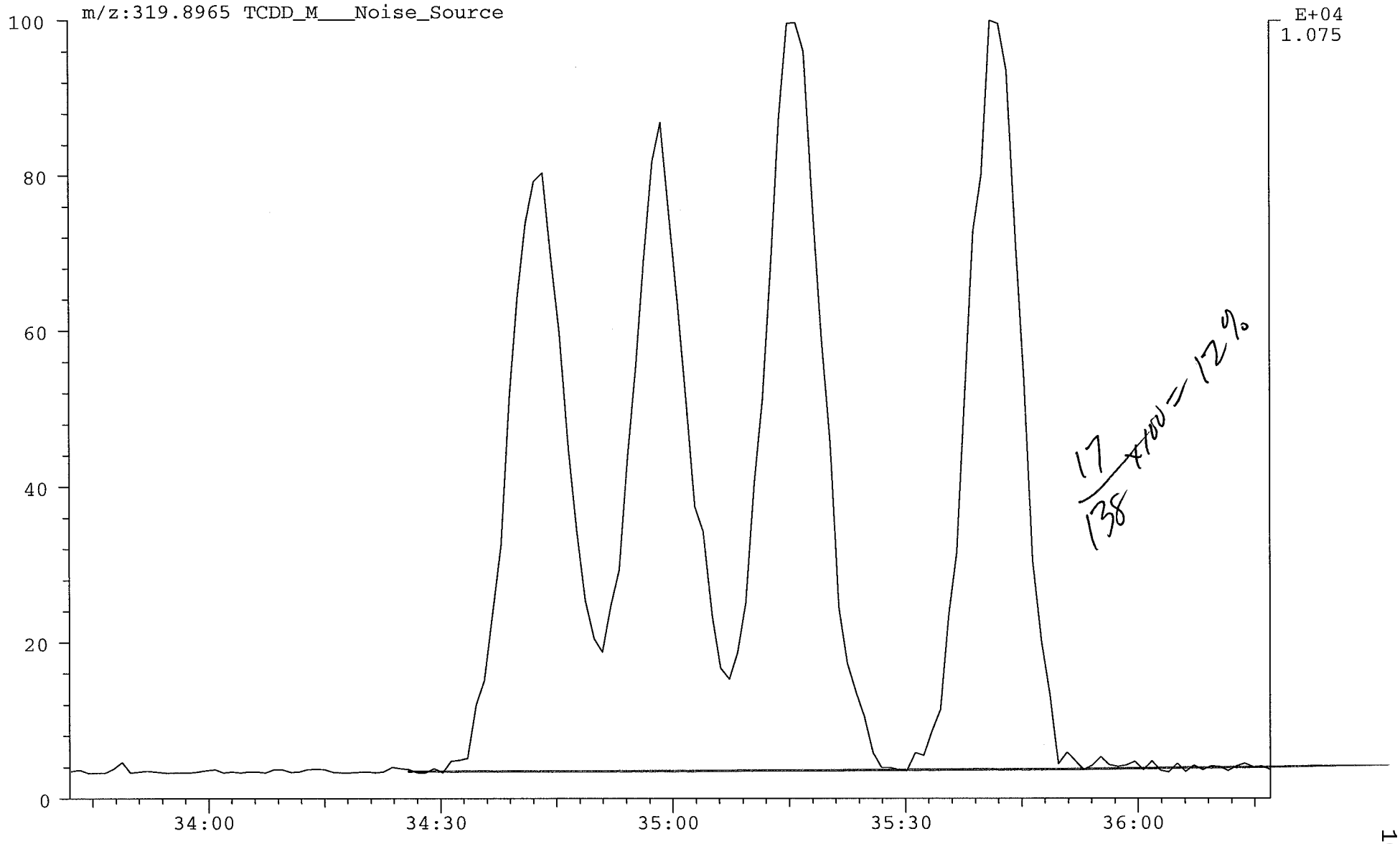
```
CHRO:  b060504w1                              04-May-06   Elapse:  08:00.5        1
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                    Start :  10:02:53    2889
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  Ver/Win
Oper:  BFW            Client:  STL Knoxville              Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   1081 > 1653         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  2, 3.0
Disp:  Height  Area
```



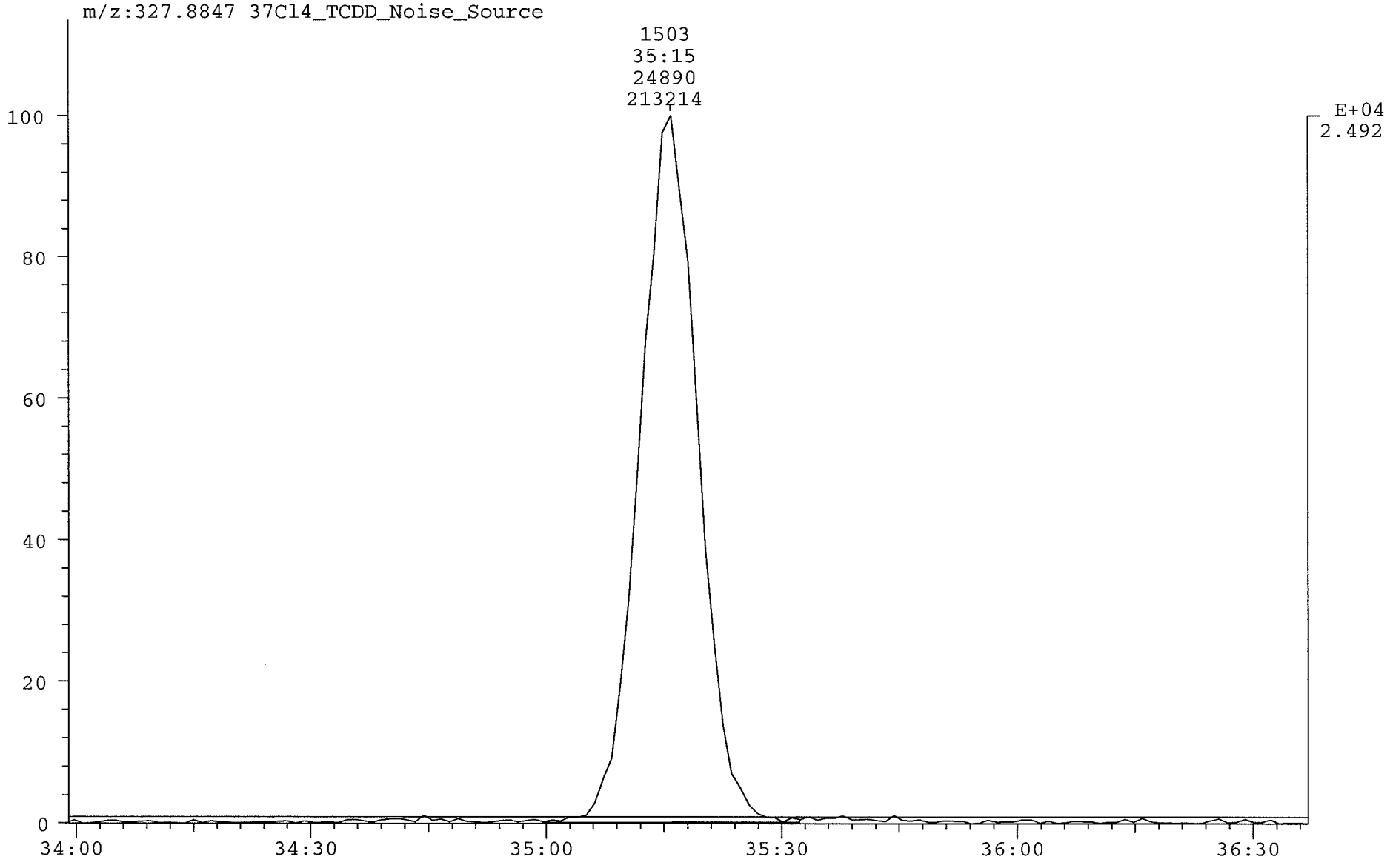
CHRO: b060504w1 04-May-06 Elapse: 34:58 1487
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 10:02:53 2889
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1417 > 1559 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



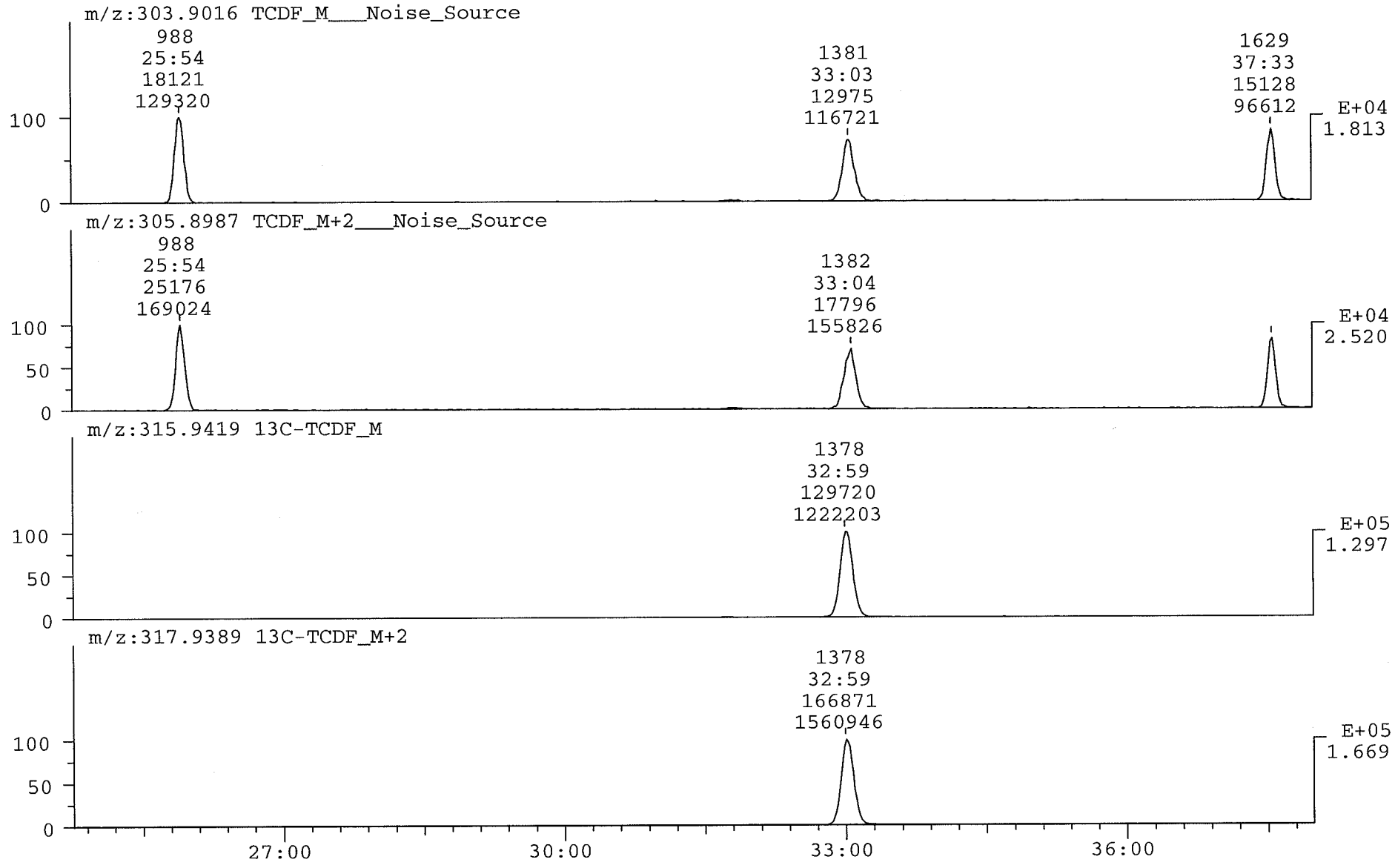
```
CHRO:  b060504w1                              04-May-06   Elapse:  34:58      1487
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                    Start :  10:02:53   2889
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  Ver/Win
Oper:  BFW            Client:  STL Knoxville              Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   1417 > 1559         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



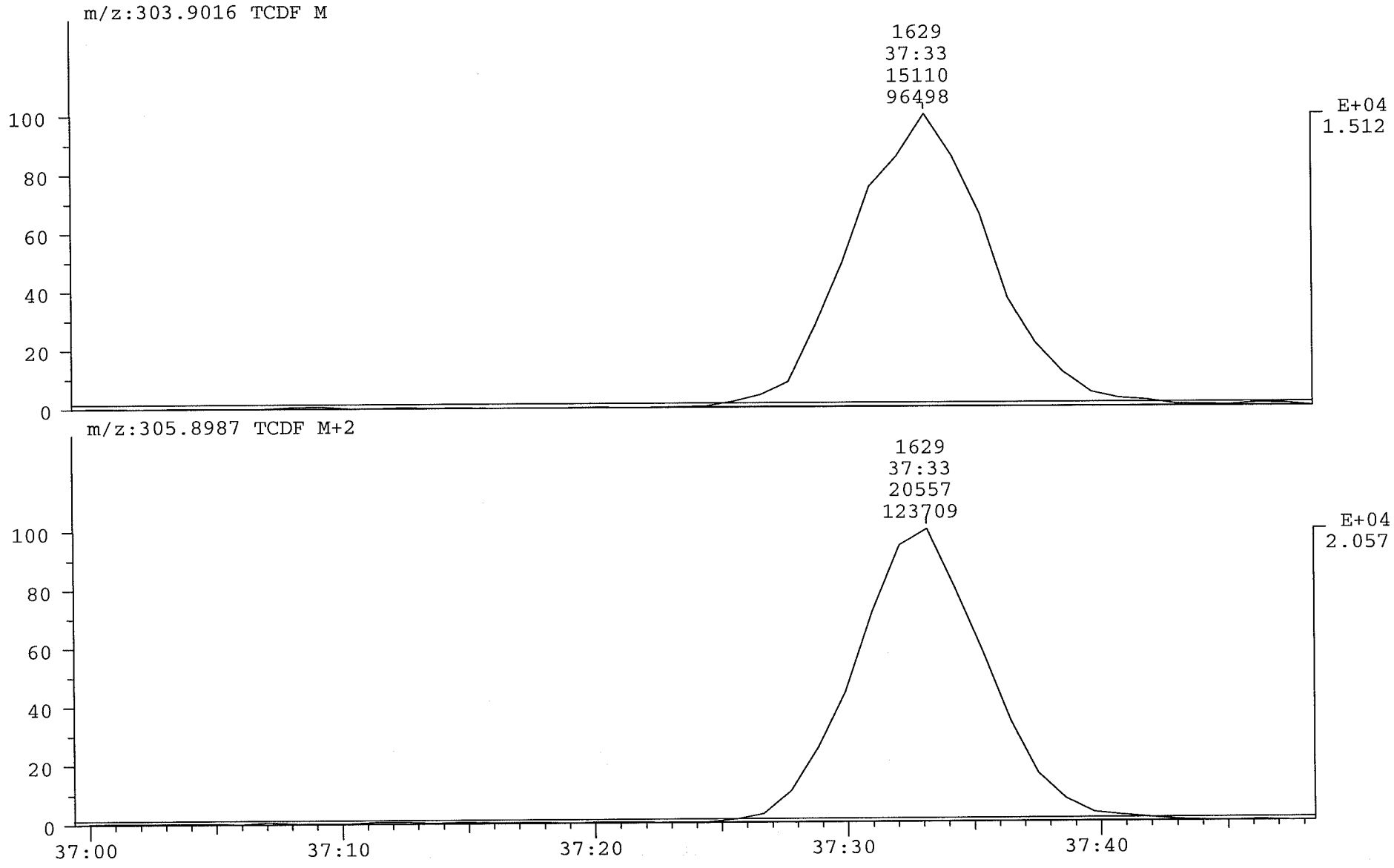
```
CHRO:  b060504w1                              04-May-06   Elapse:  35:14      1502
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                    Start :  10:02:53   2889
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  Ver/Win
Oper:  BFW          Client:  STL Knoxville                Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1432 > 1577          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



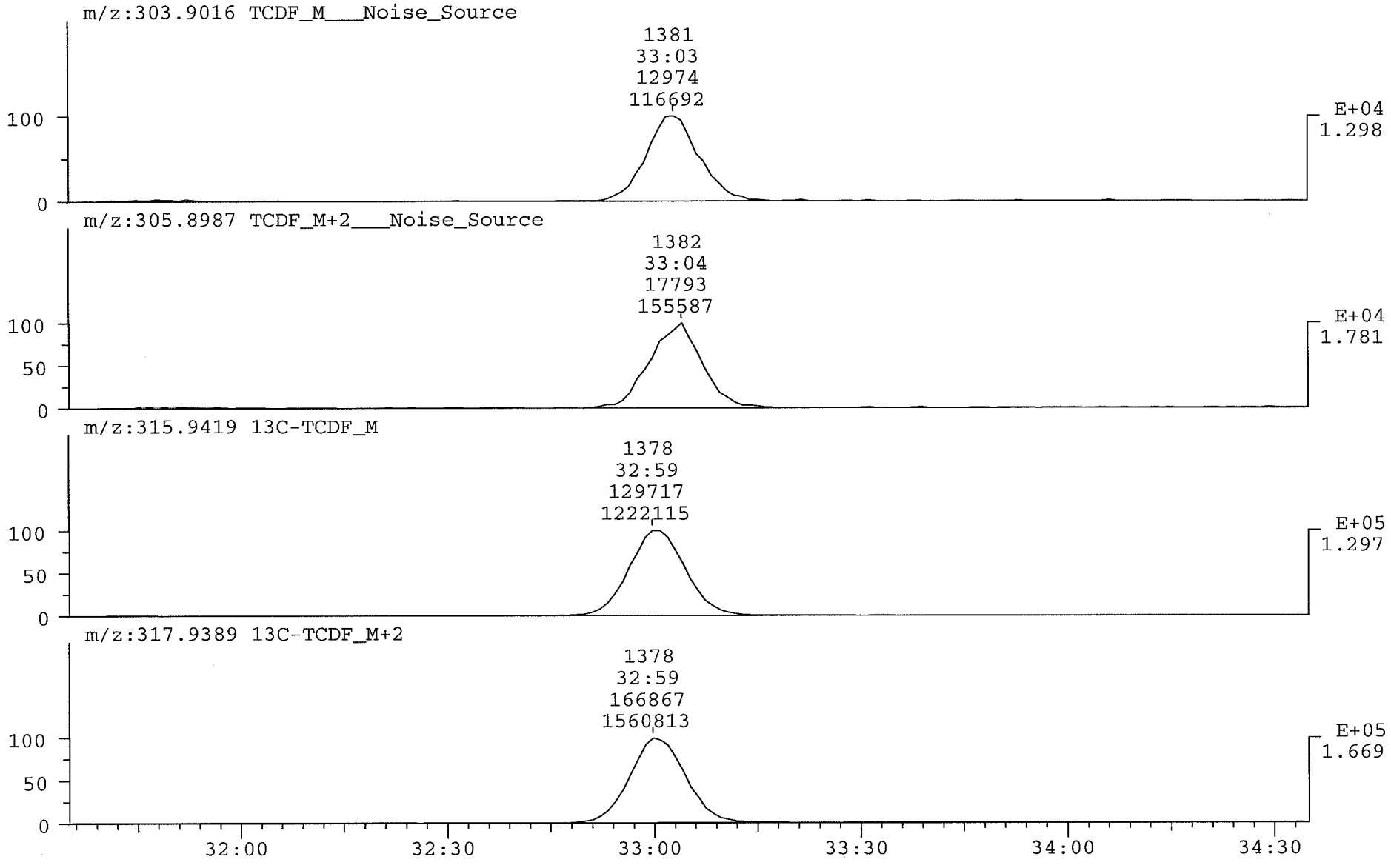
CHRO: b060504w1 04-May-06 Elapse: 35:14 1502
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 10:02:53 2889
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 924 > 1653 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



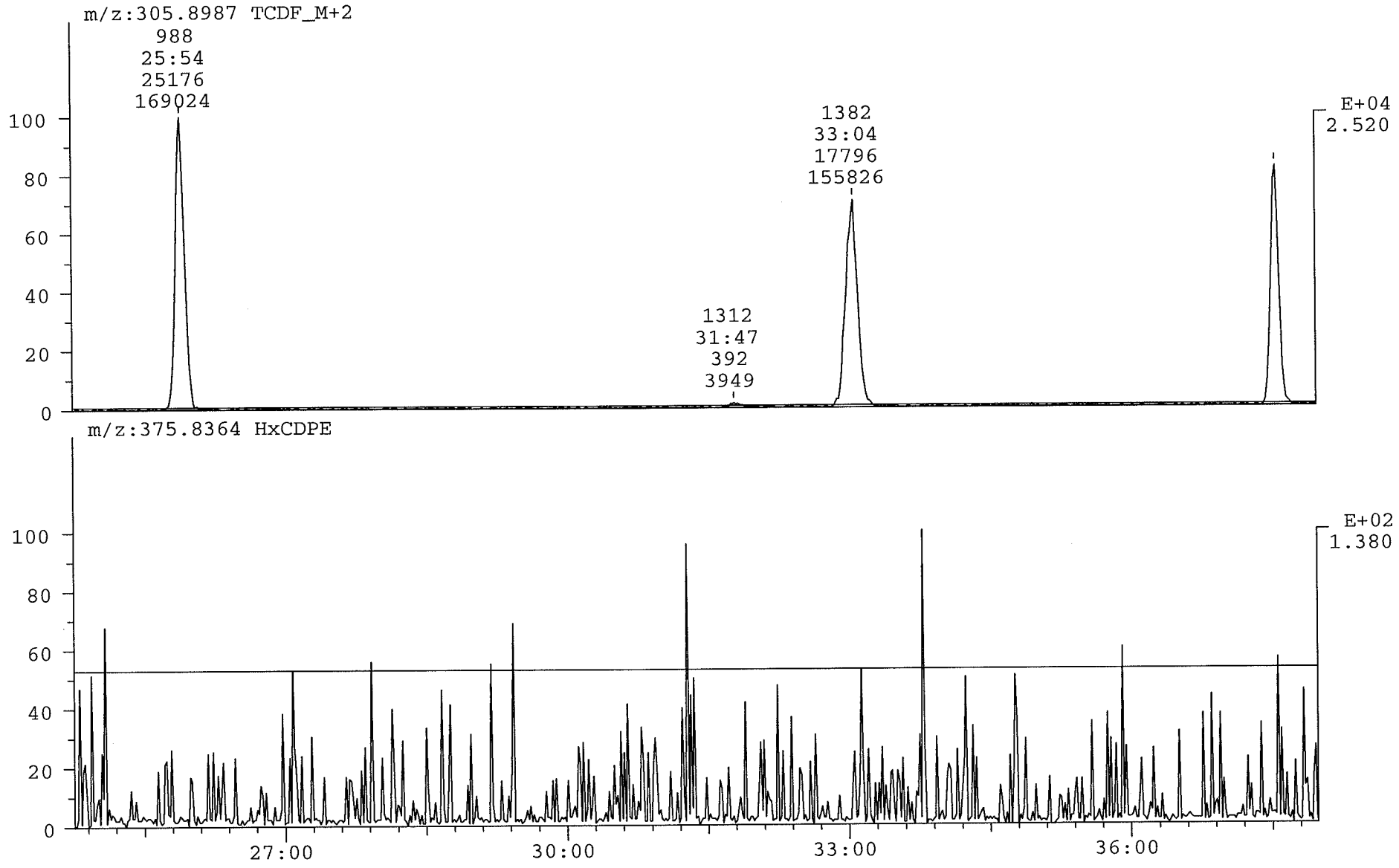
CHRO: b060504w1 04-May-06 Elapse: 08:00.5 1
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 10:02:53 2889
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1598 > 1643 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



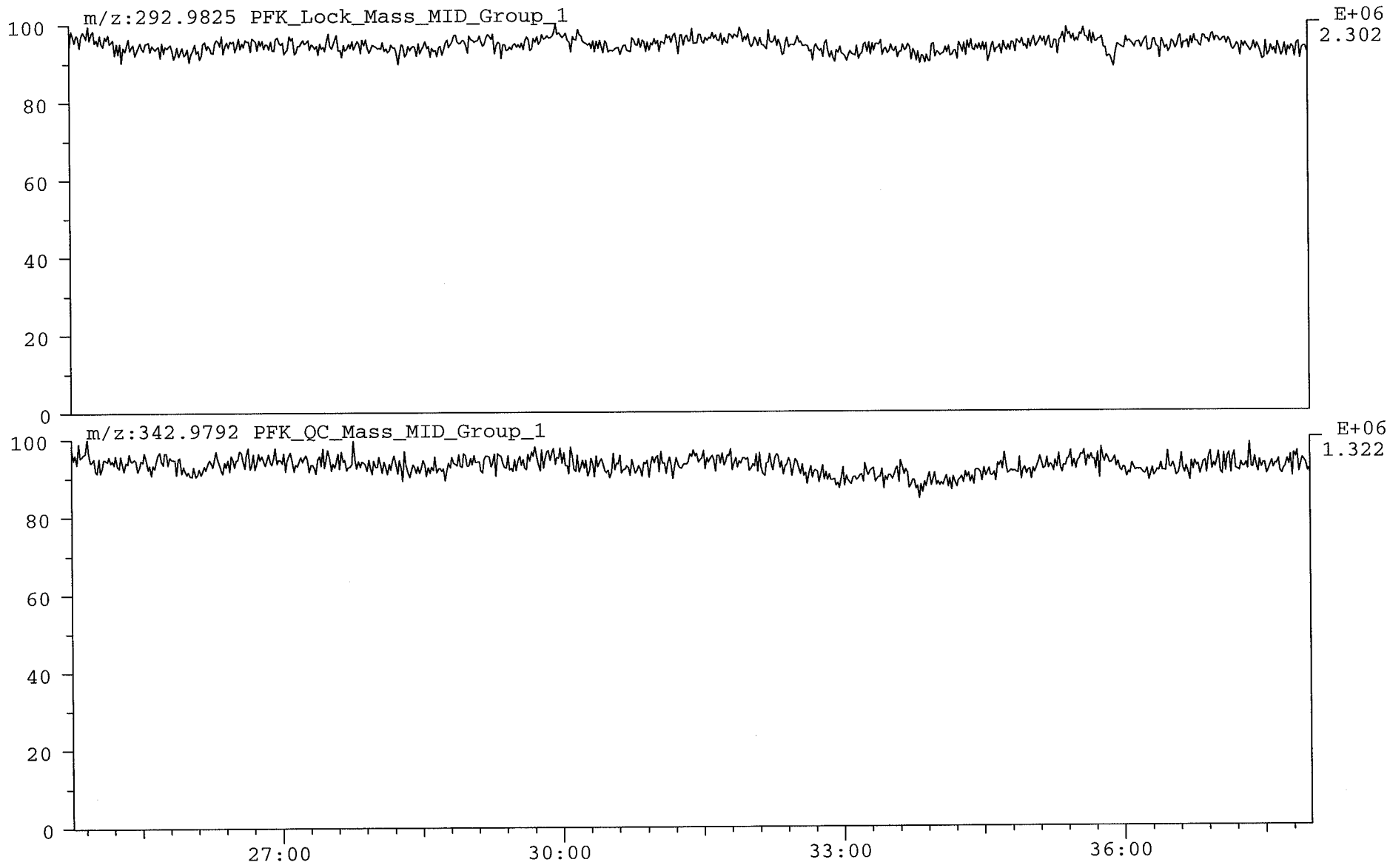
```
CHRO:  b060504w1                                04-May-06  Elapse:  33:01      1380
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                     Start :  10:02:53   2889
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  Ver/Win
Oper:  BFW            Client:  STL Knoxville               Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   1300 > 1465          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  2, 3.0
Disp:  Height  Area
```



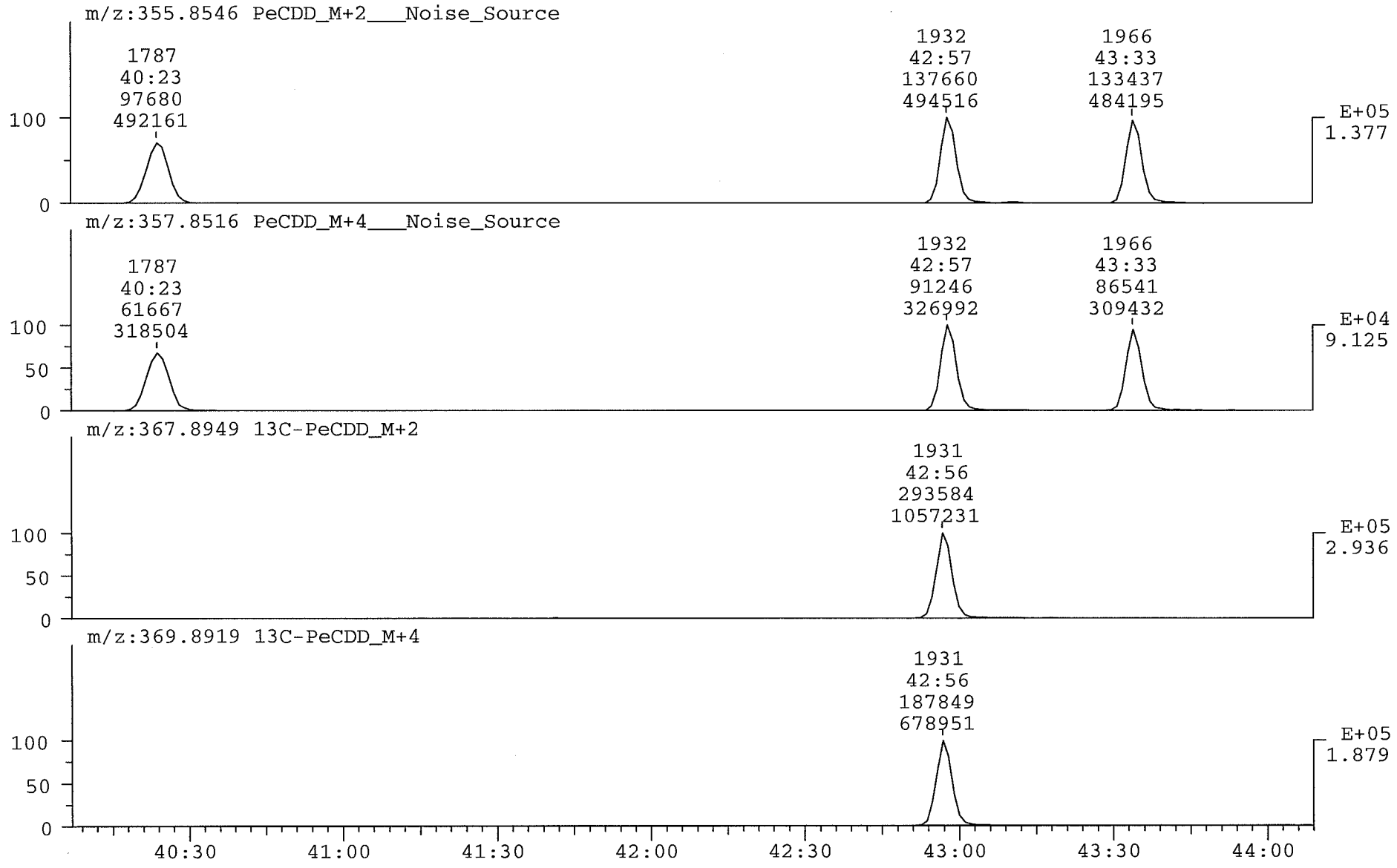
CHRO: b060504w1 04-May-06 Elapse: 33:01 1380
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 10:02:53 2889
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 924 > 1653 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



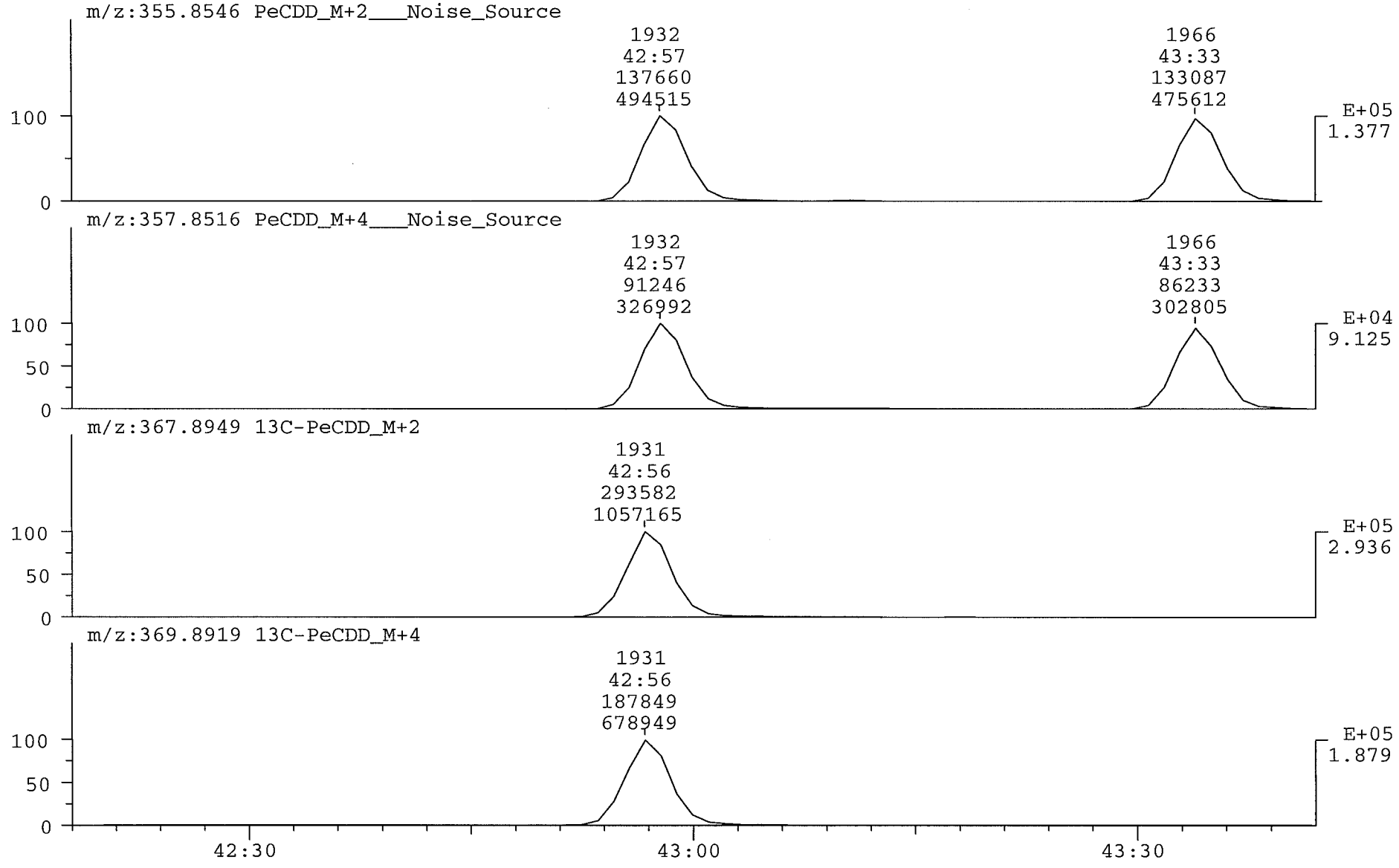
```
CHRO:  b060504w1                                04-May-06  Elapse:  33:01      1380
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                     Start :  10:02:53   2889
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  Ver/Win
Oper:  BFW           Client:  STL Knoxville                Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   924 > 1653            Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```



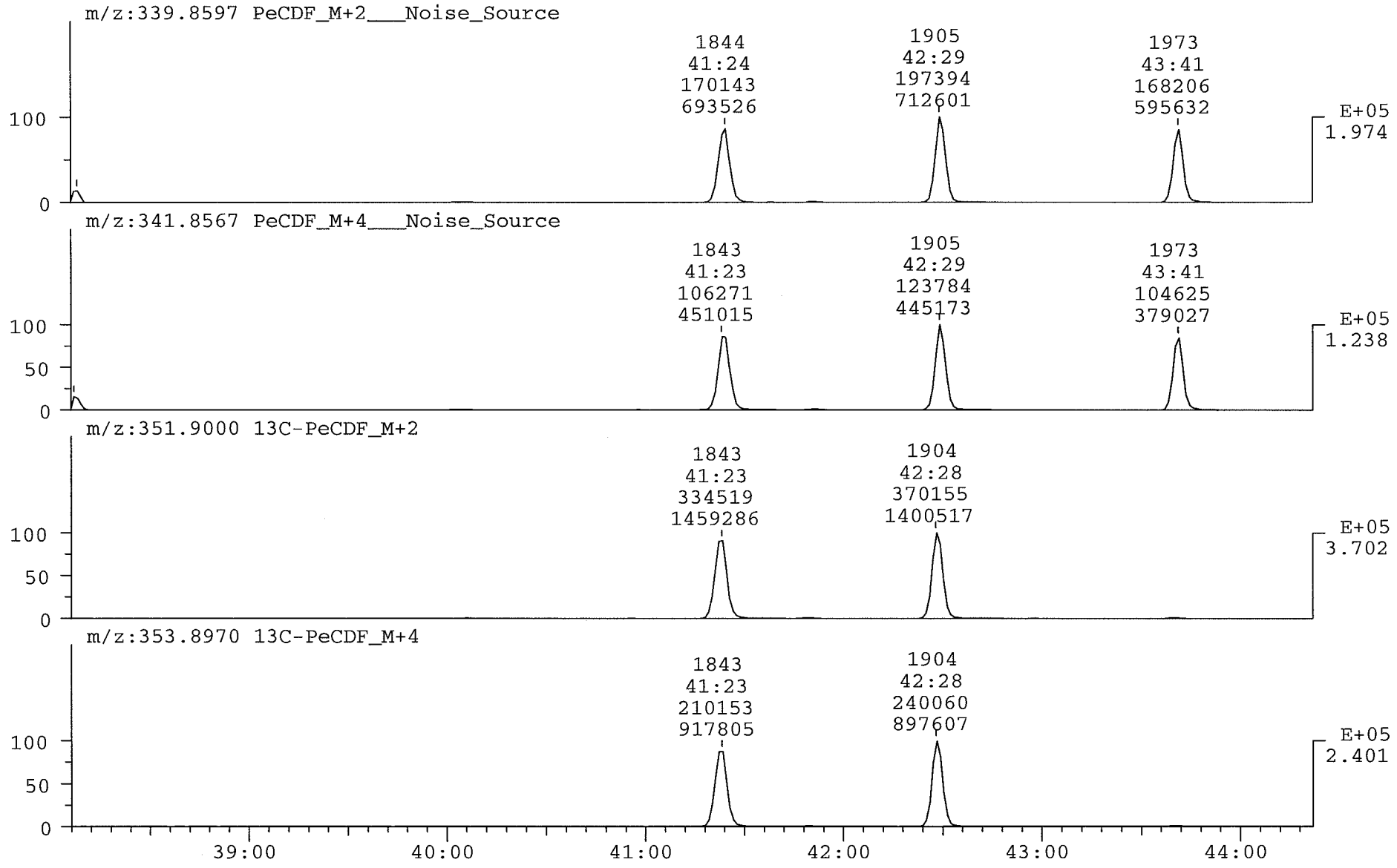
```
CHRO:  b060504w1                              04-May-06   Elapse:  33:01      1380
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                    Start :  10:02:53   2889
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  Ver/Win
Oper:  BFW            Client:  STL Knoxville              Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   1771 > 1999         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  2, 3.0
Disp:  Height  Area
```



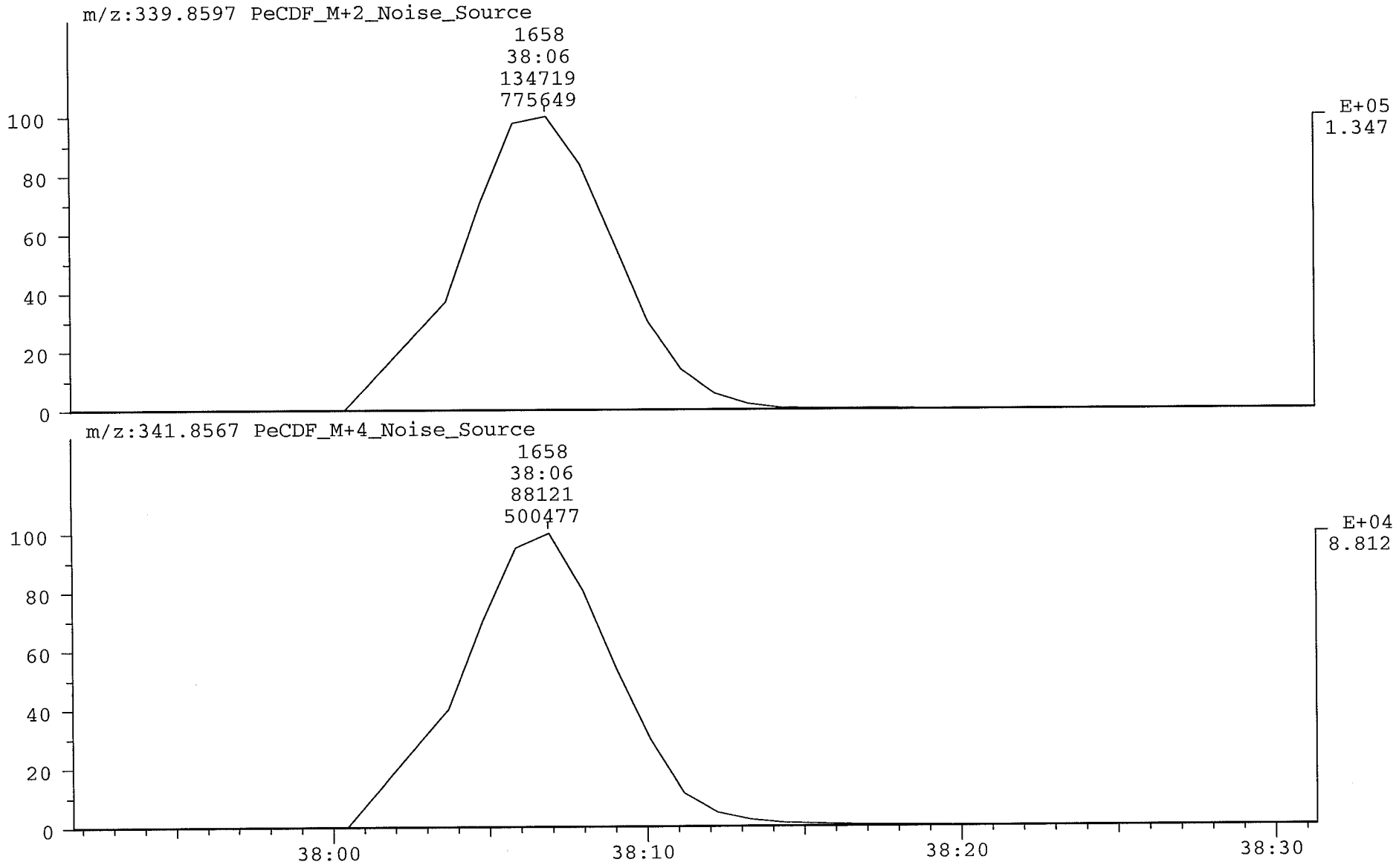
```
CHRO:  b060504w1                          04-May-06   Elapse:  42:56      1931
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  10:02:53   2889
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1895 > 1974      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



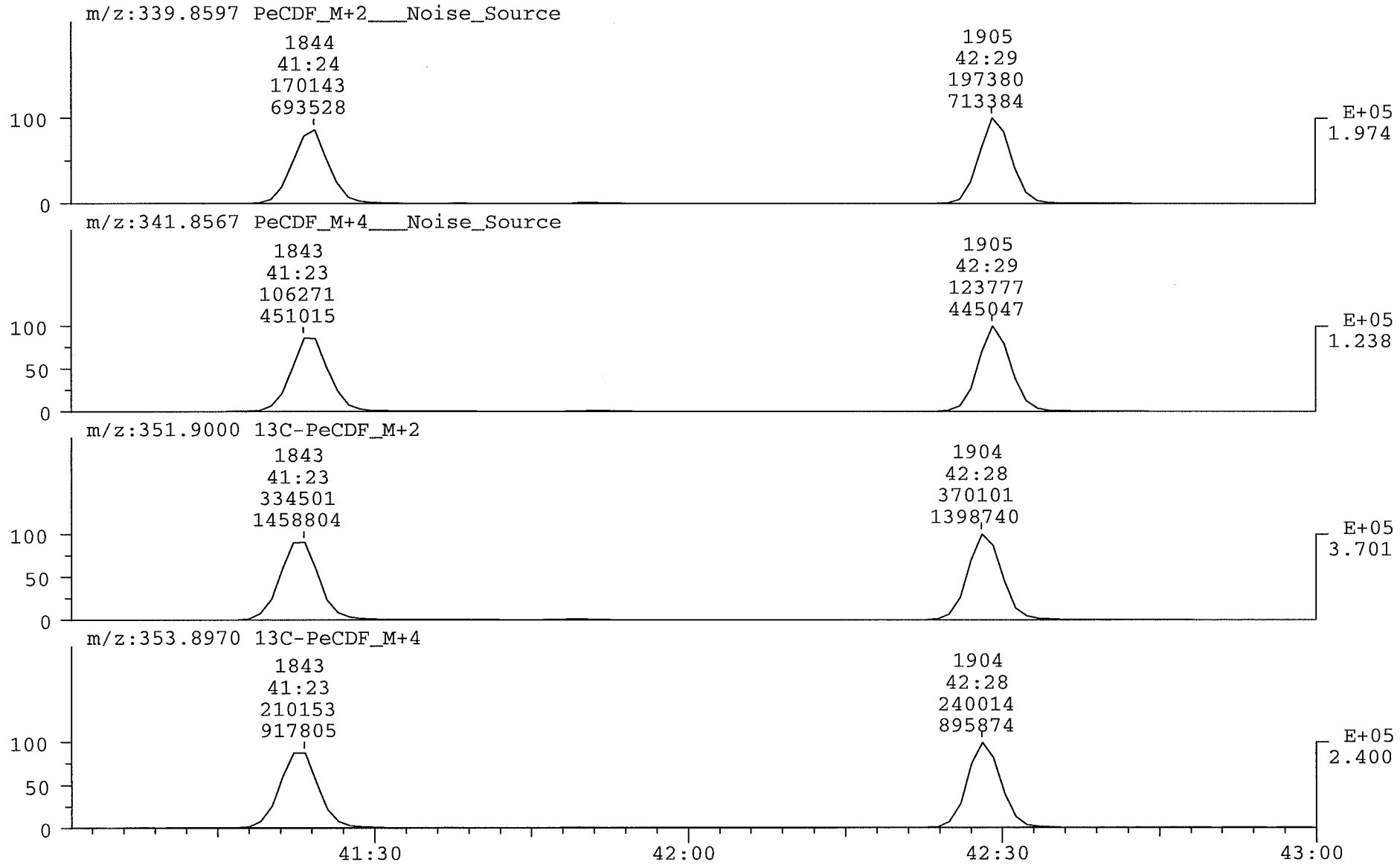
```
CHRO:  b060504w1                              04-May-06  Elapse:  42:56      1931
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                   Start :  10:02:53   2889
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  Ver/Win
Oper:  BFW          Client:  STL Knoxville               Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1657 > 2011         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  2, 3.0
Disp:  Height  Area
```



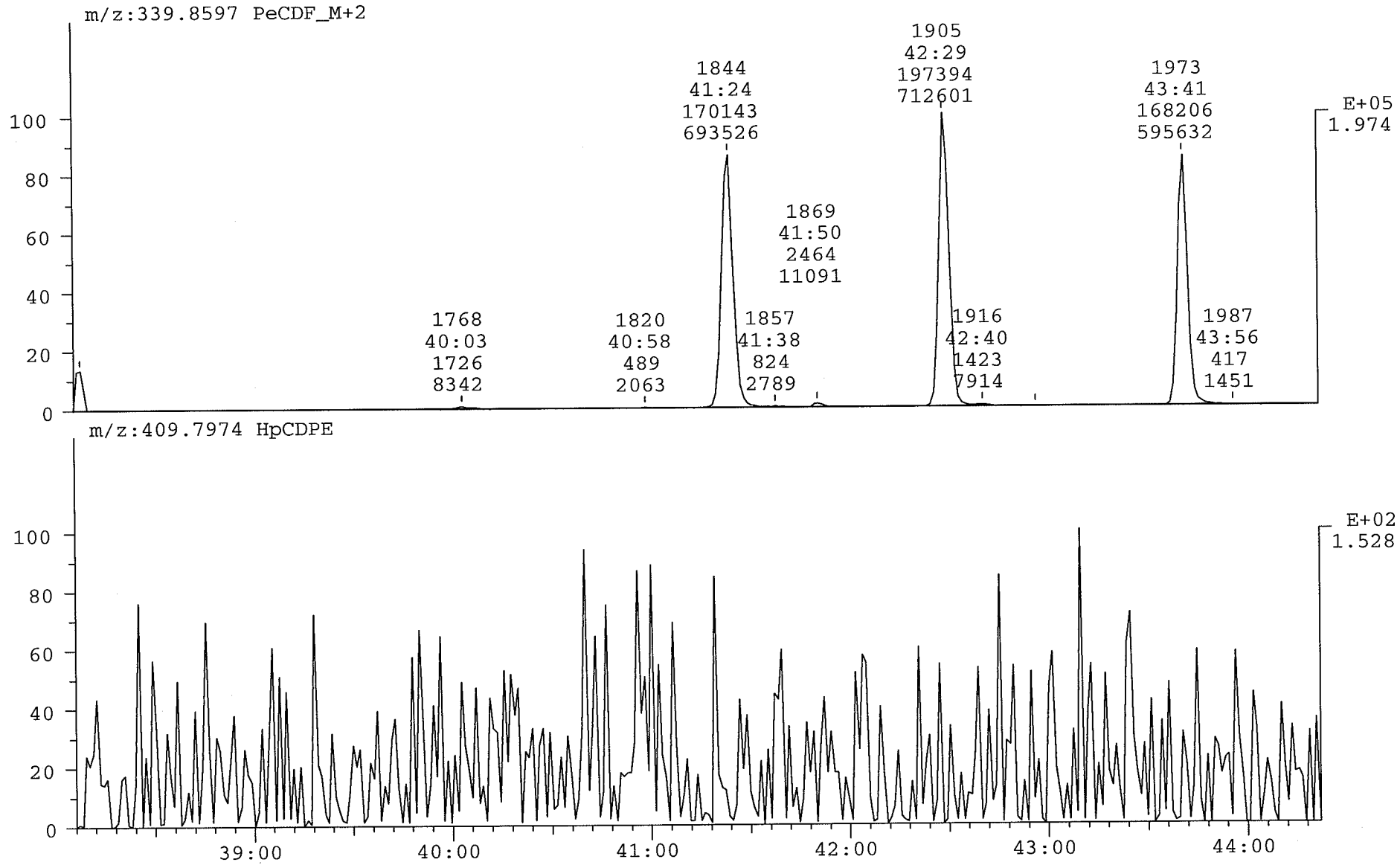
CHRO: b060504w1 04-May-06 Elapse: 56:45 2705
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 10:02:53 2889
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1646 > 1681 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



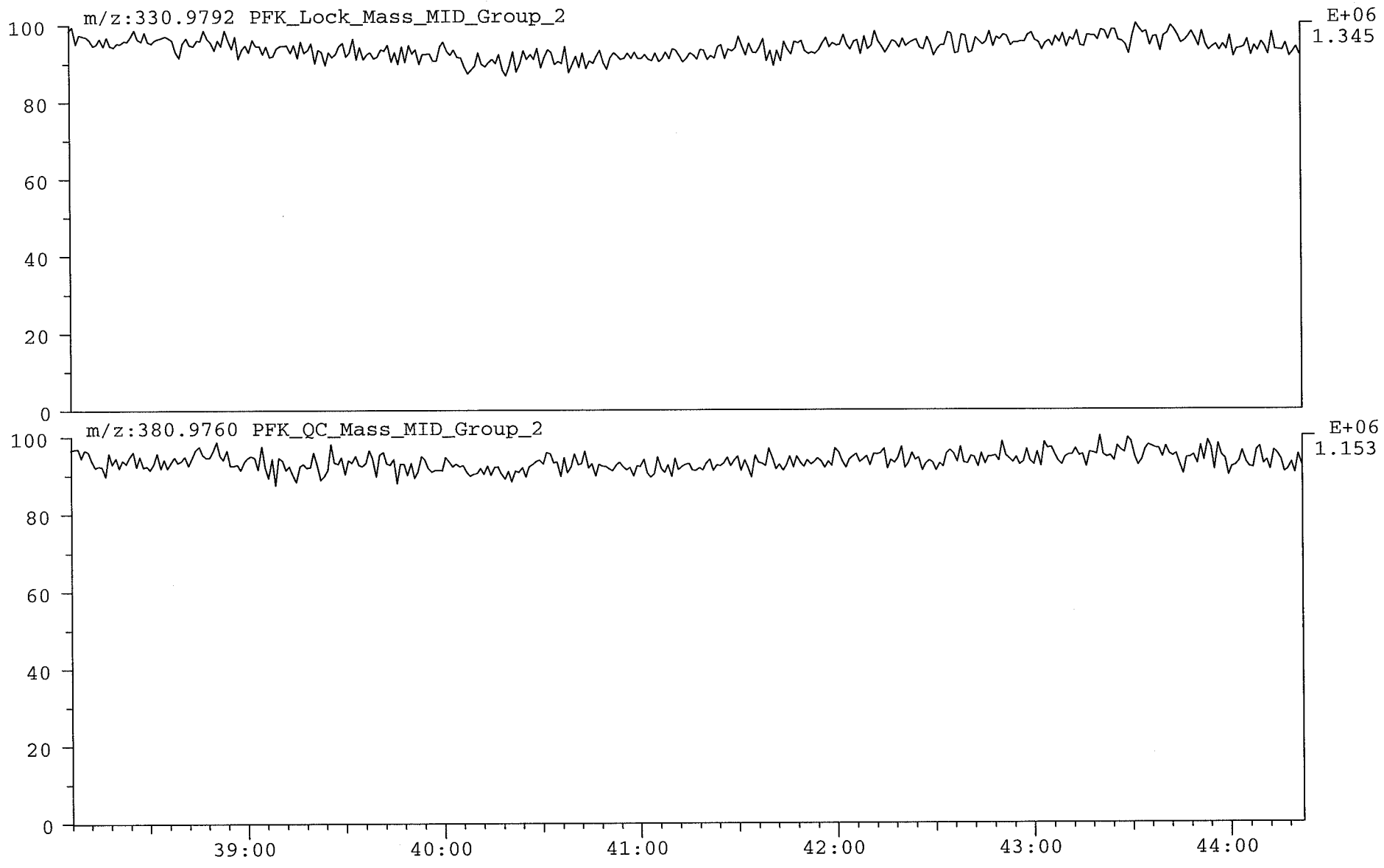
```
CHRO:  b060504w1                              04-May-06   Elapse:  42:00      1878
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                    Start :  10:02:53   2889
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  Ver/Win
Oper:  BFW          Client:  STL Knoxville                Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1822 > 1934          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  2, 3.0
Disp:  Height  Area
```



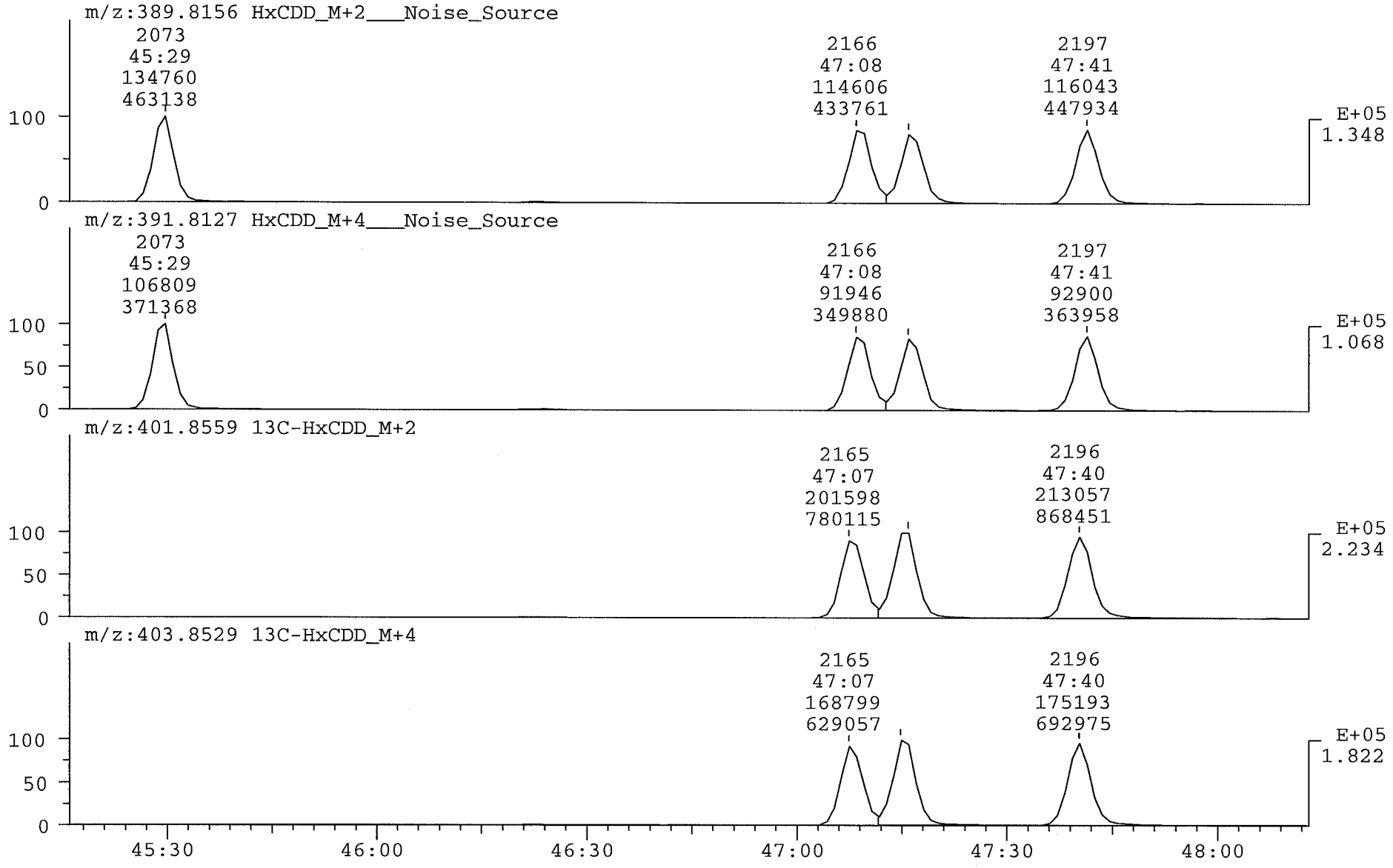
CHRO: b060504w1 04-May-06 Elapse: 42:00 1878
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 10:02:53 2889
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1657 > 2011 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



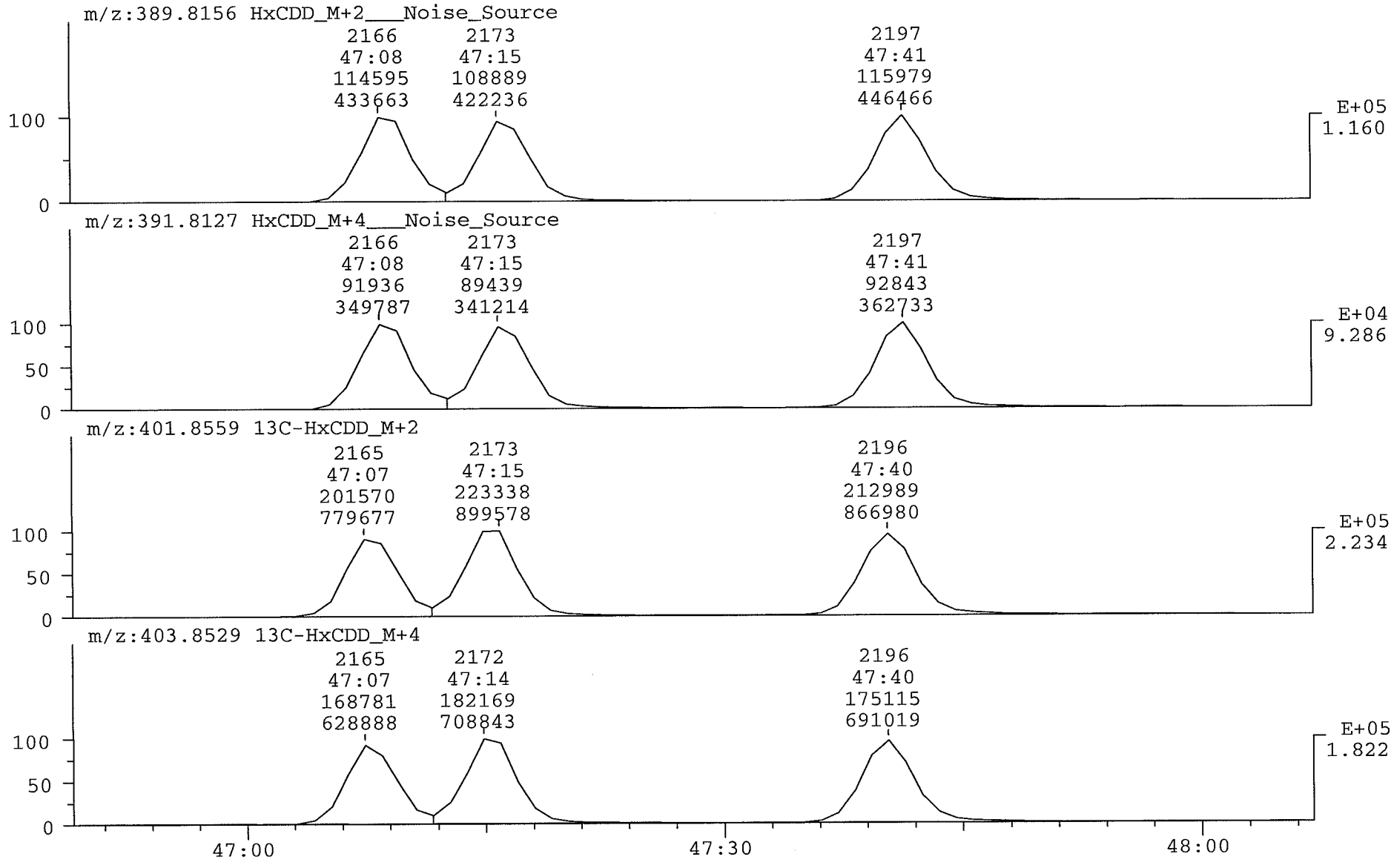
```
CHRO:  b060504w1                                04-May-06  Elapse:  42:00      1878
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                     Start :  10:02:53   2889
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  Ver/Win
Oper:  BFW          Client:  STL Knoxville                 Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1657 > 2011           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```



CHRO: b060504w1 04-May-06 Elapse: 42:00 1878
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 10:02:53 2889
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2060 > 2227 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



CHRO: b060504w1 04-May-06 Elapse: 47:27 2184
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 10:02:53 2889
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2148 > 2221 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



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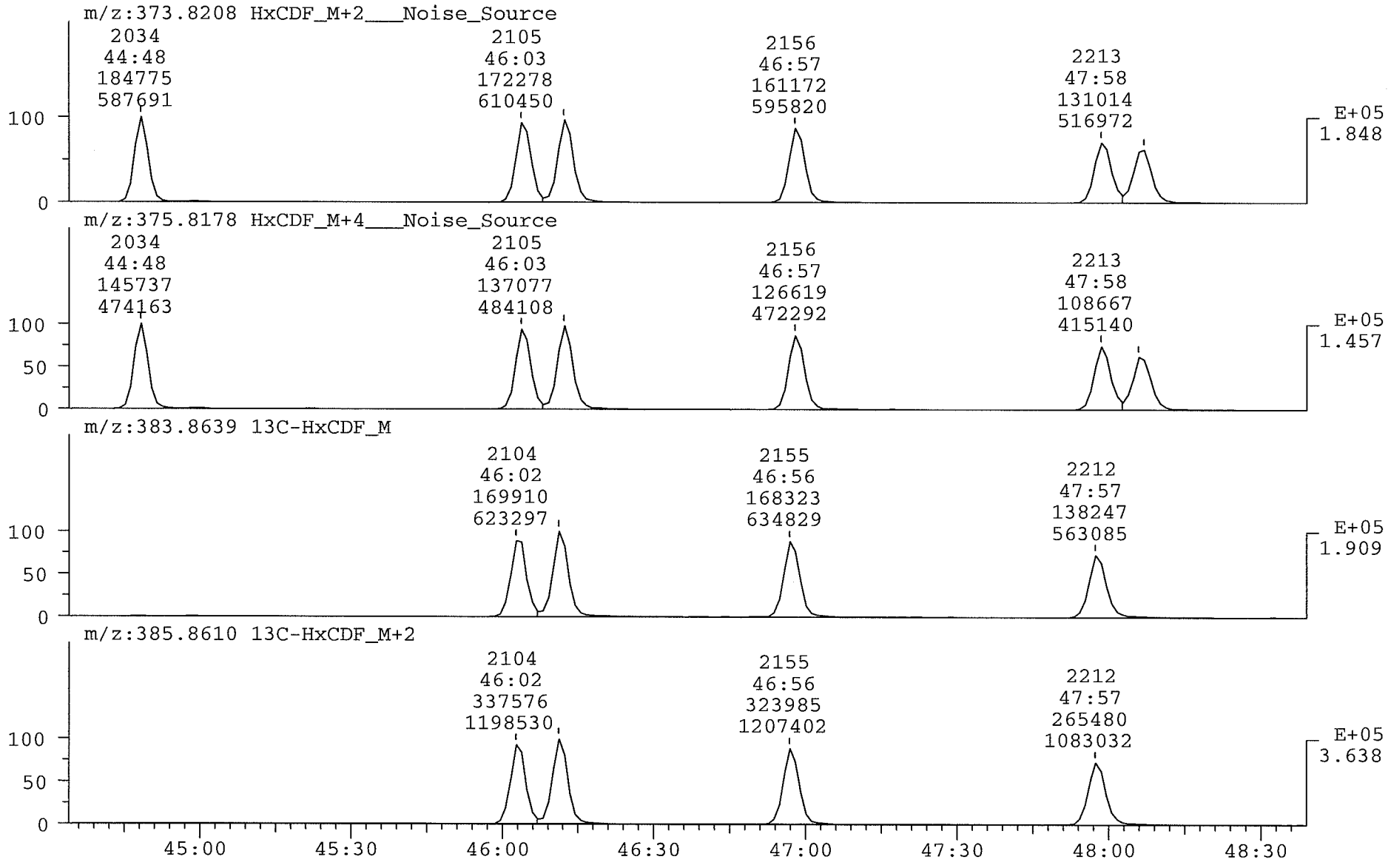
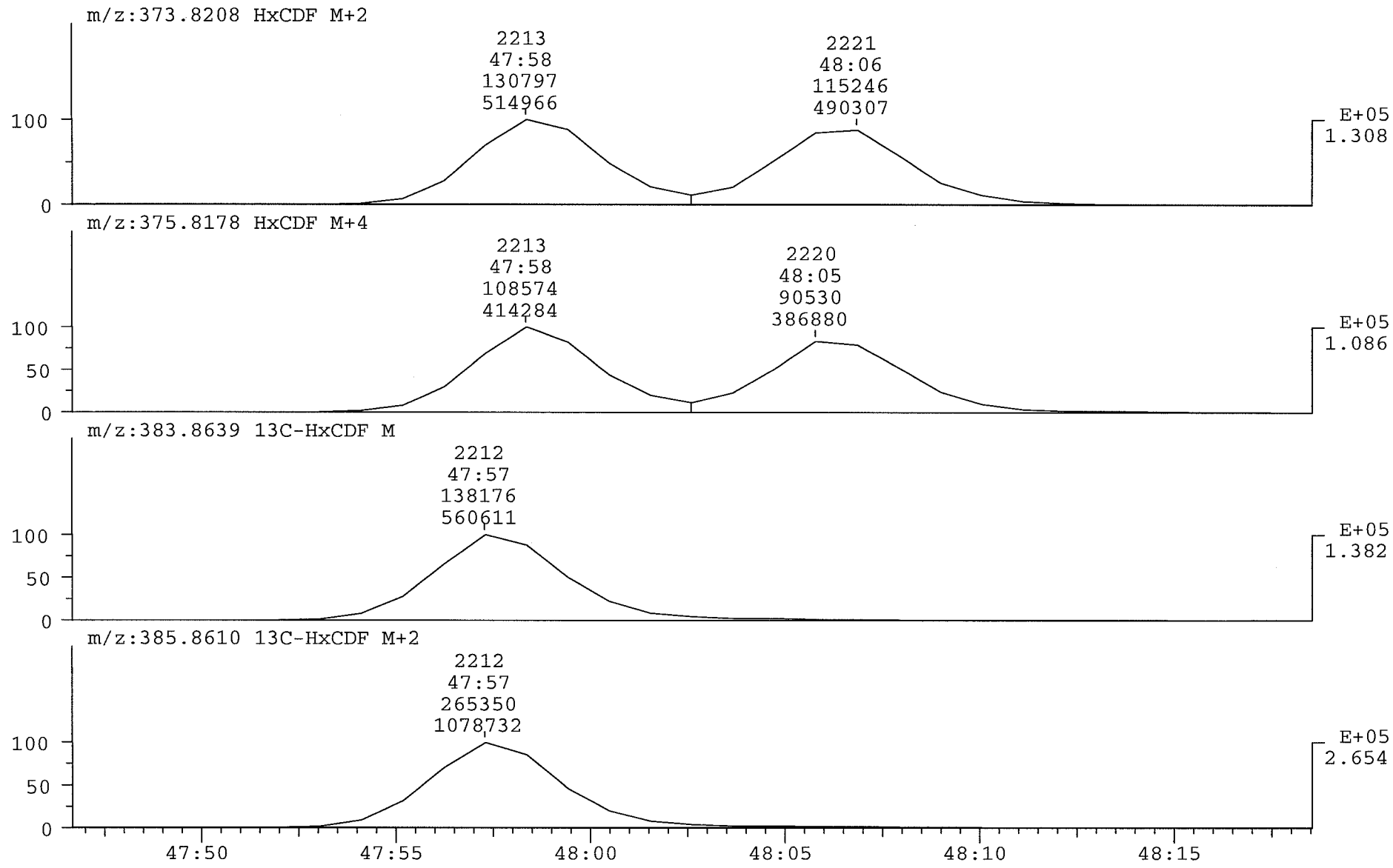
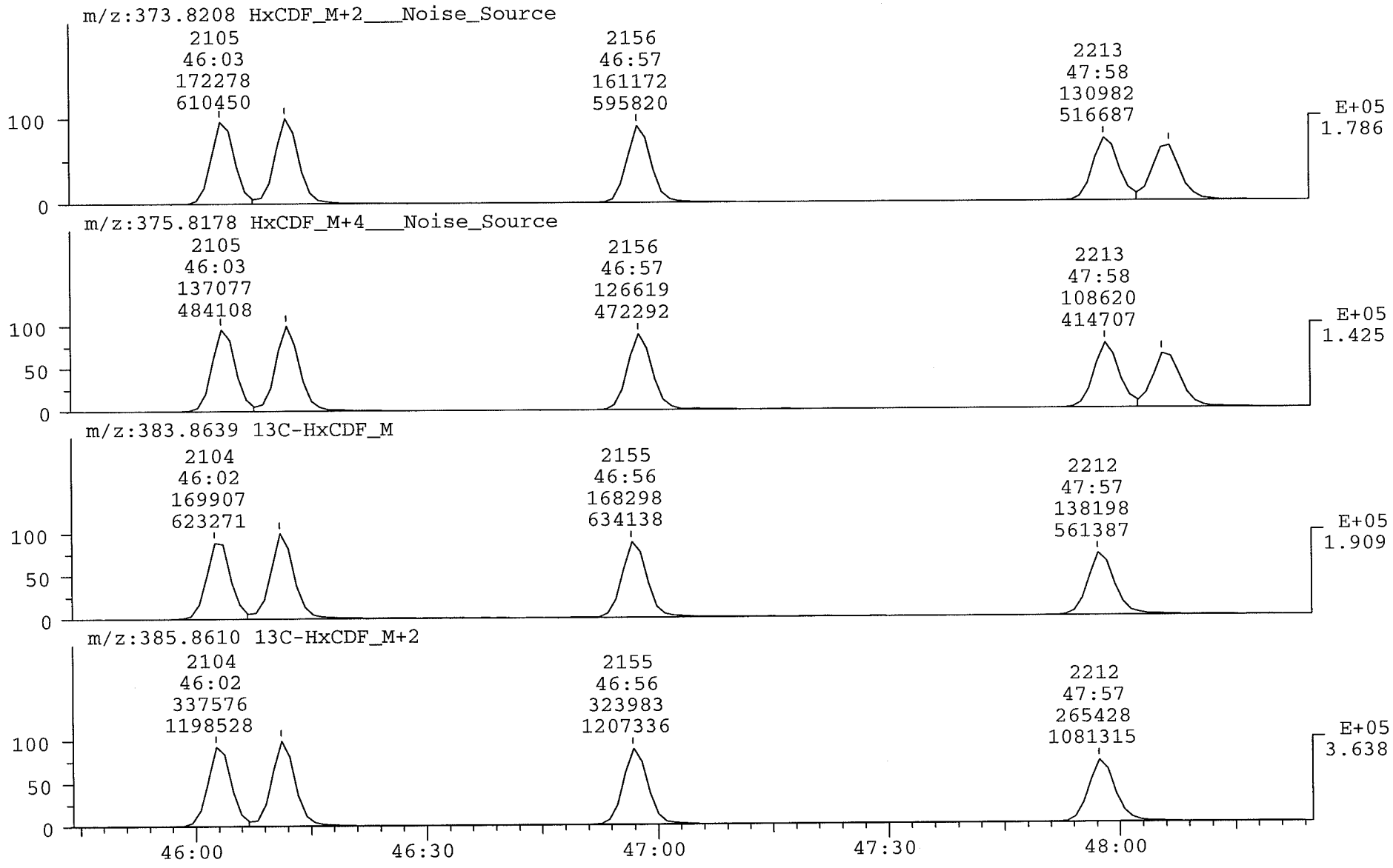
CHRO:  b060504w1                          04-May-06   Elapse:  47:27      2184
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  10:02:53   2889
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2021 > 2251      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



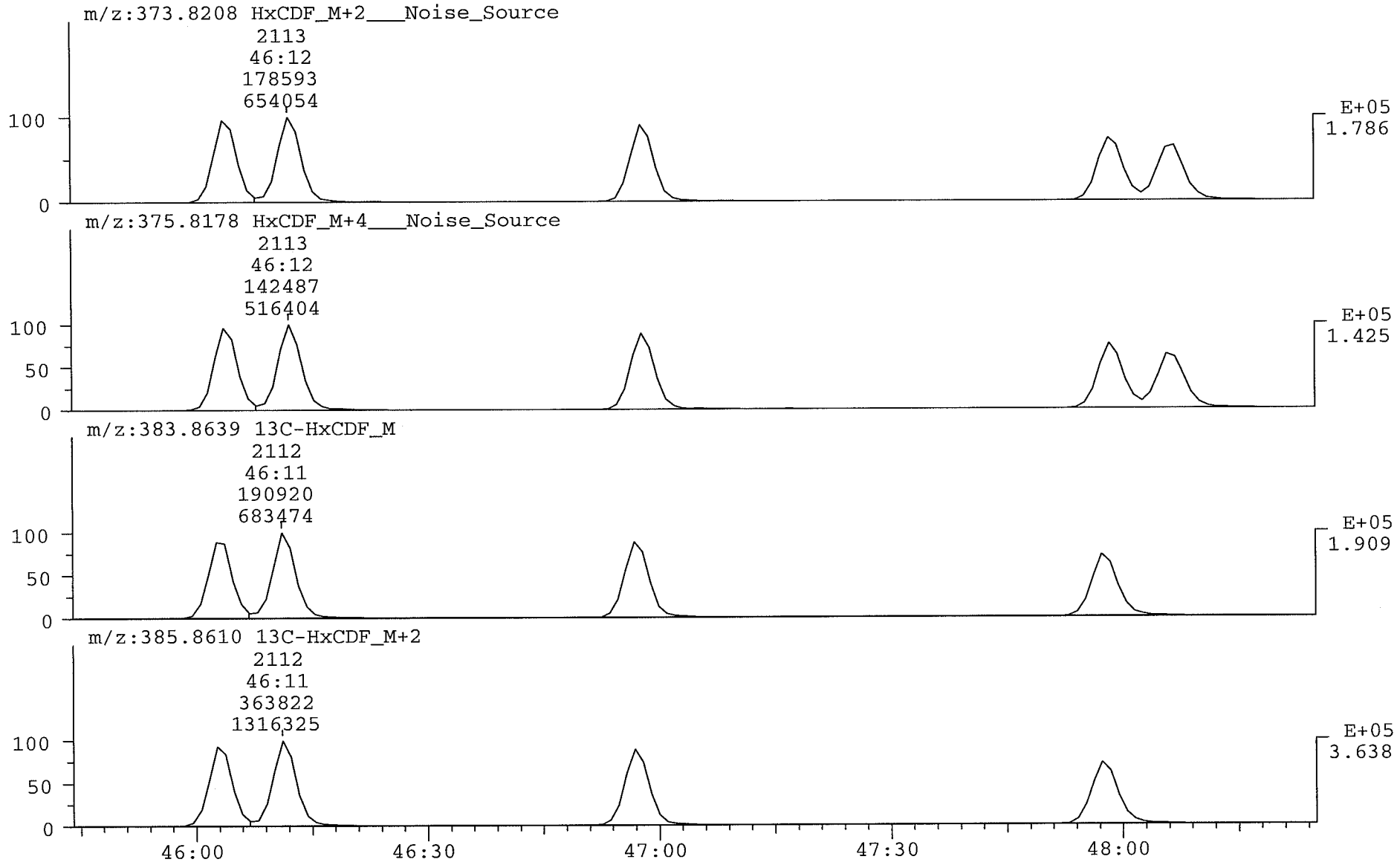
```
CHRO:  b060504w1                          04-May-06   Elapse:  56:45      2705
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  10:02:53   2889
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2202 > 2232      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



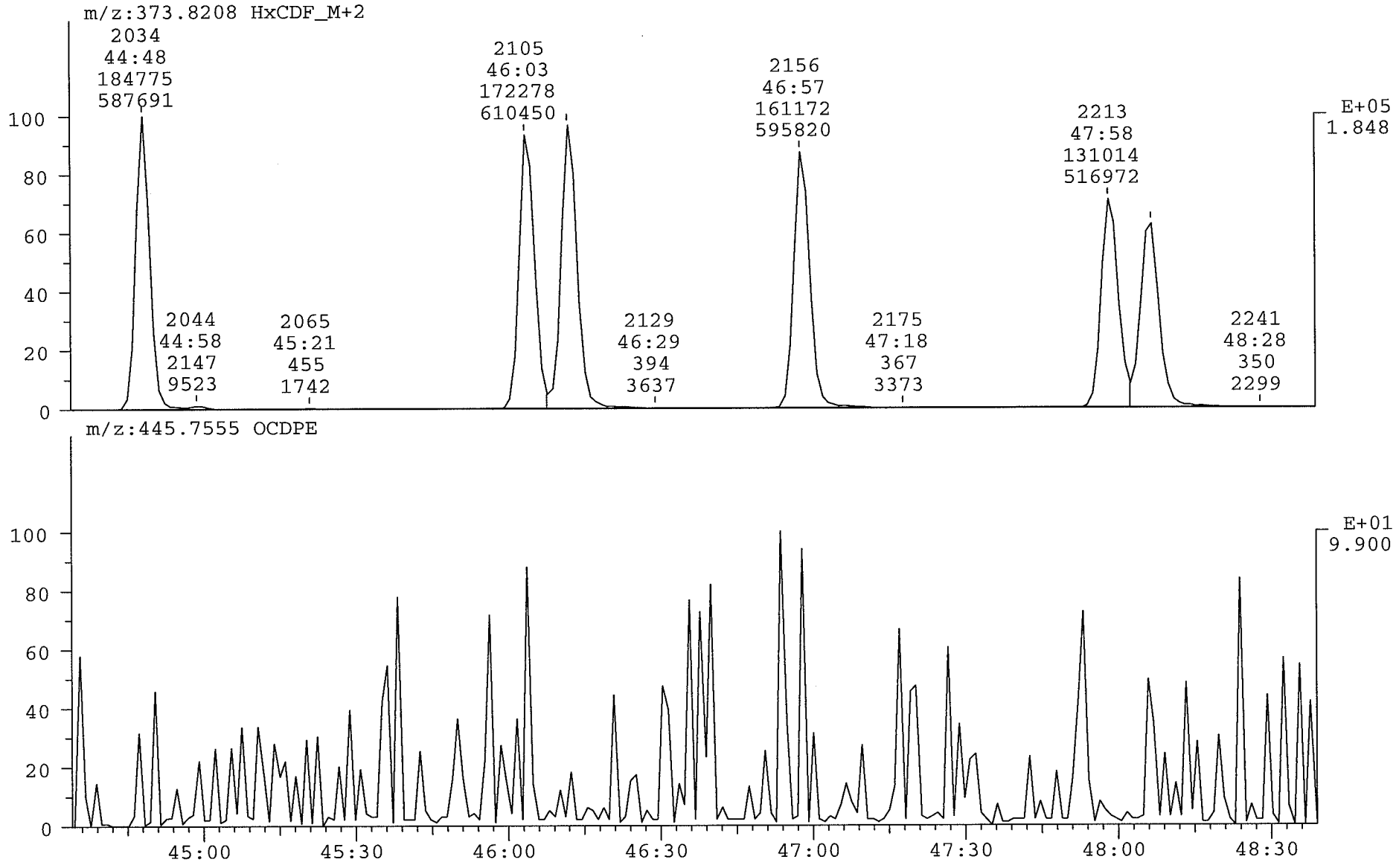
CHRO: b060504w1 04-May-06 Elapse: 47:04 2162
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 10:02:53 2889
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2086 > 2238 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



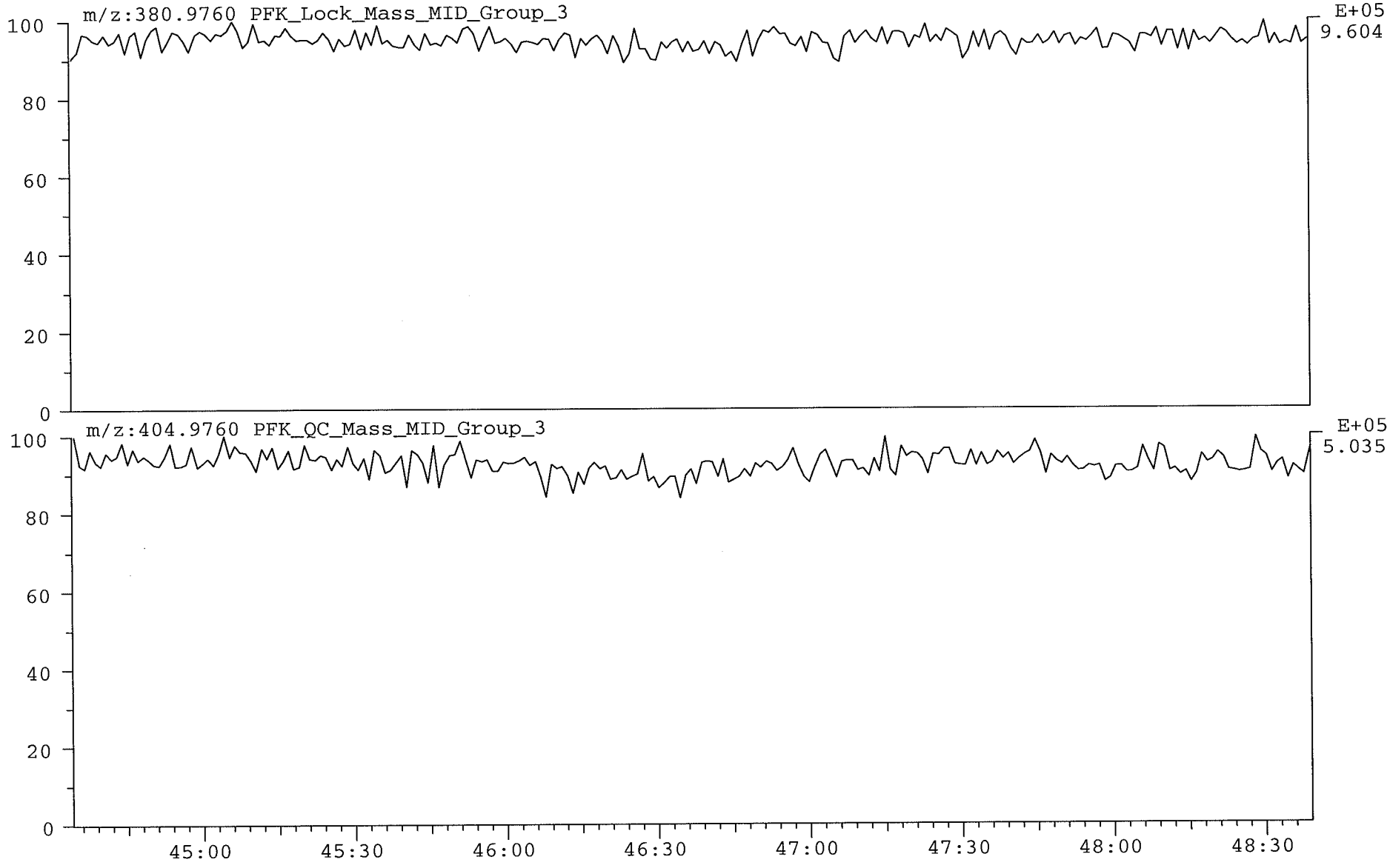
CHRO: b060504w1 04-May-06 Elapse: 46:13 2114
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 10:02:53 2889
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2110 > 2118 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



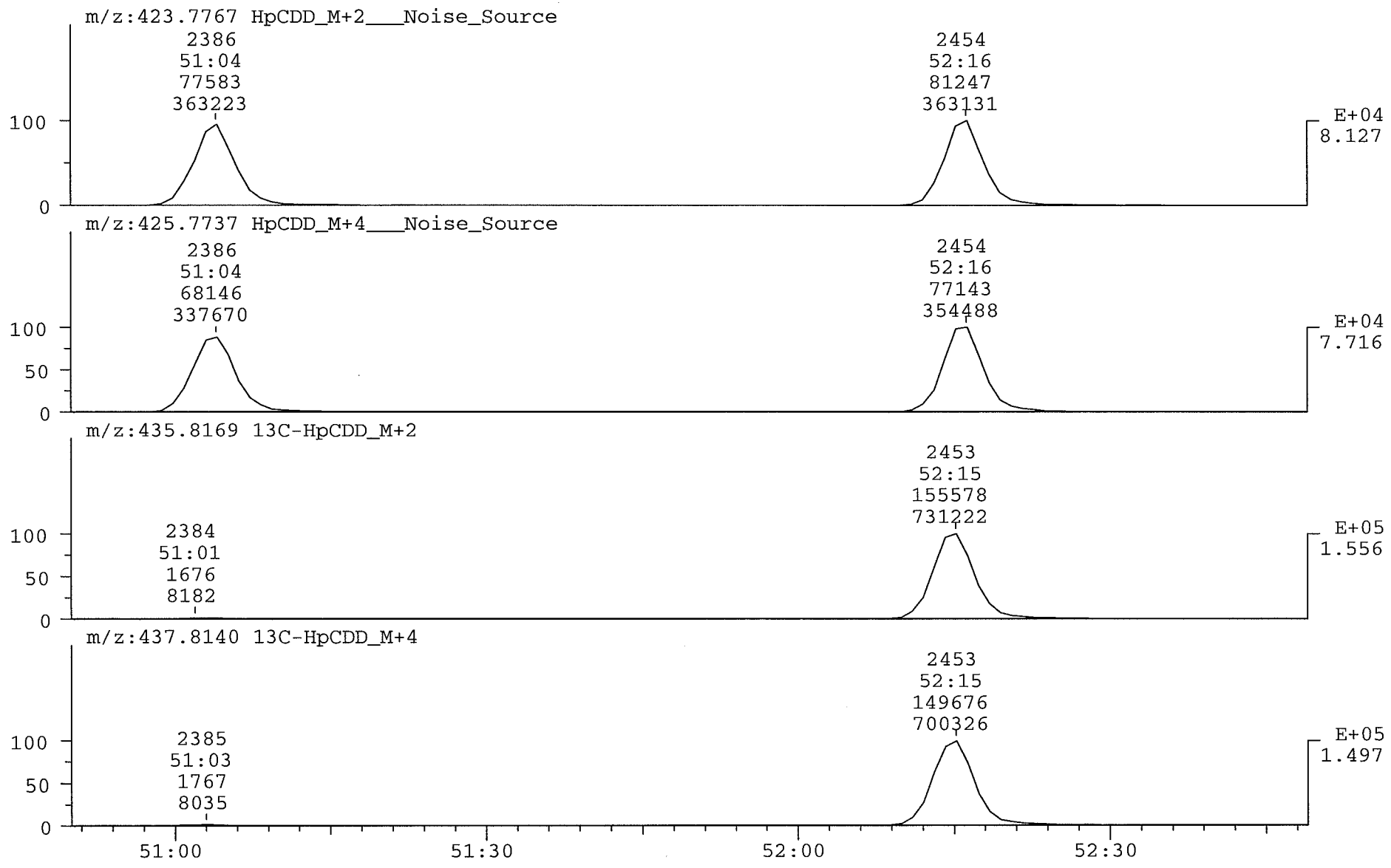
CHRO: b060504w1 04-May-06 Elapse: 46:13 2114
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 10:02:53 2889
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2021 > 2251 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



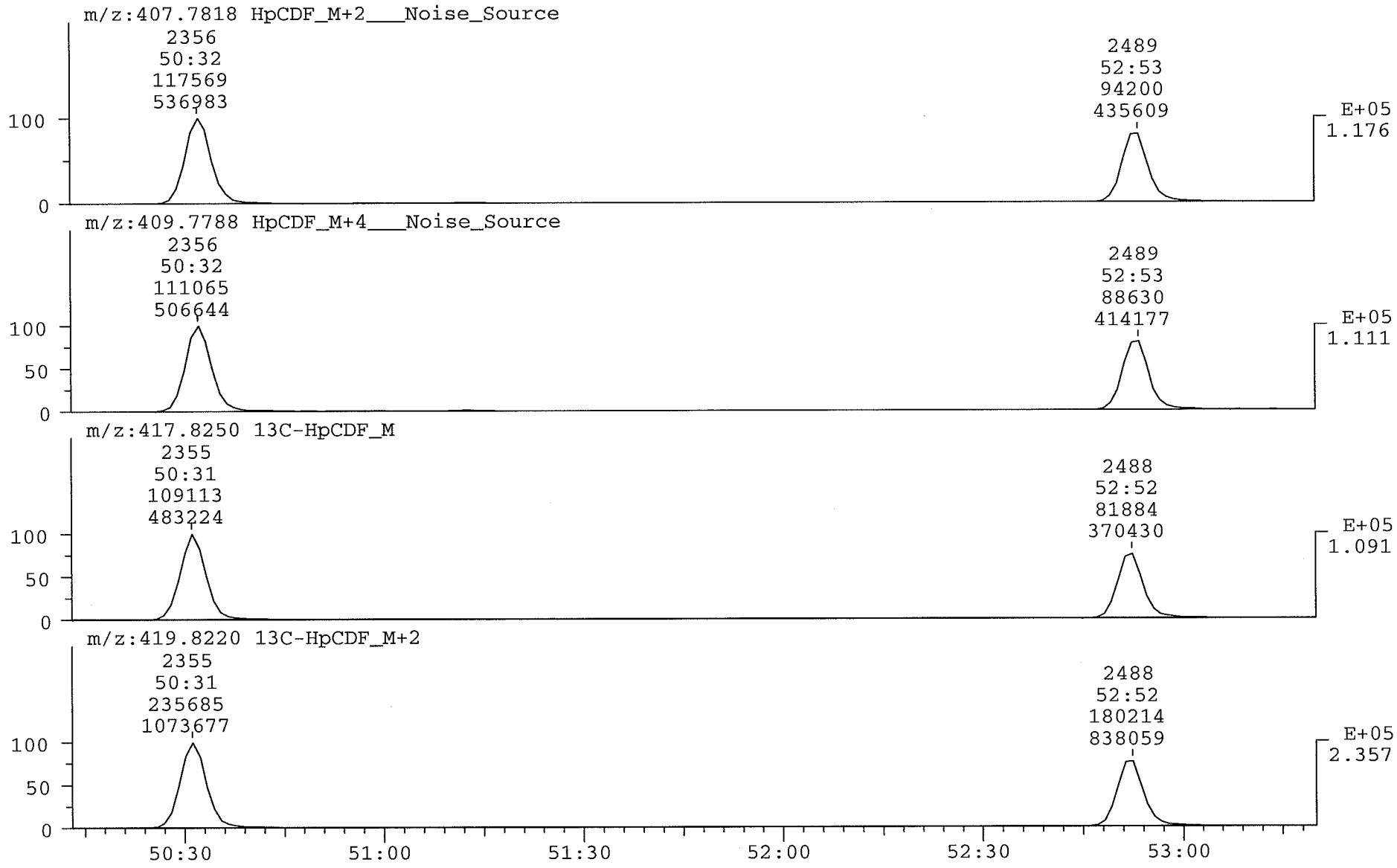
CHRO: b060504w1 04-May-06 Elapse: 46:13 2114
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 10:02:53 2889
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2021 > 2251 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



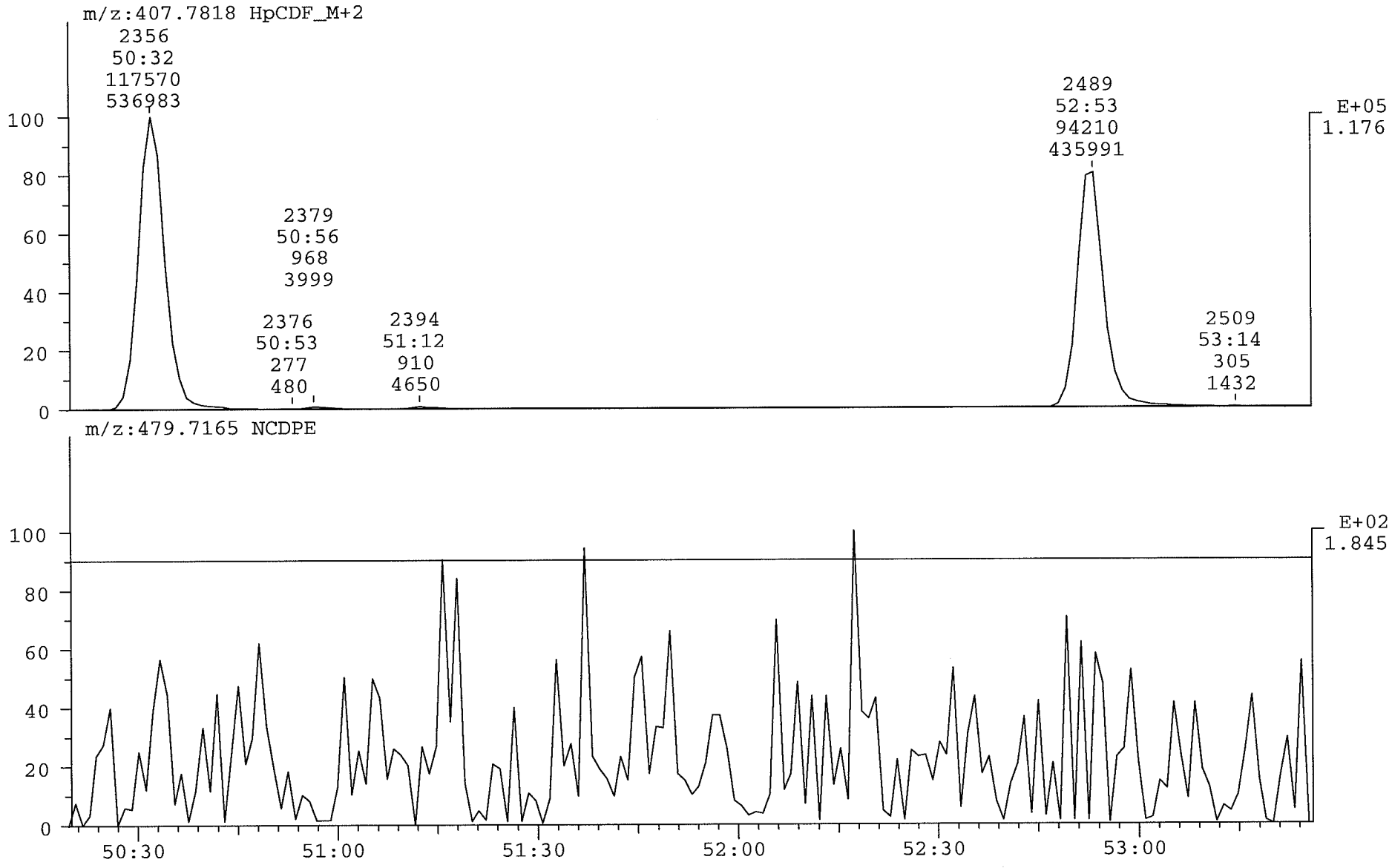
```
CHRO:  b060504w1                              04-May-06   Elapse:  46:13      2114
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                    Start :  10:02:53   2889
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  Ver/Win
Oper:  BFW          Client:  STL Knoxville                Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2373 > 2485          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



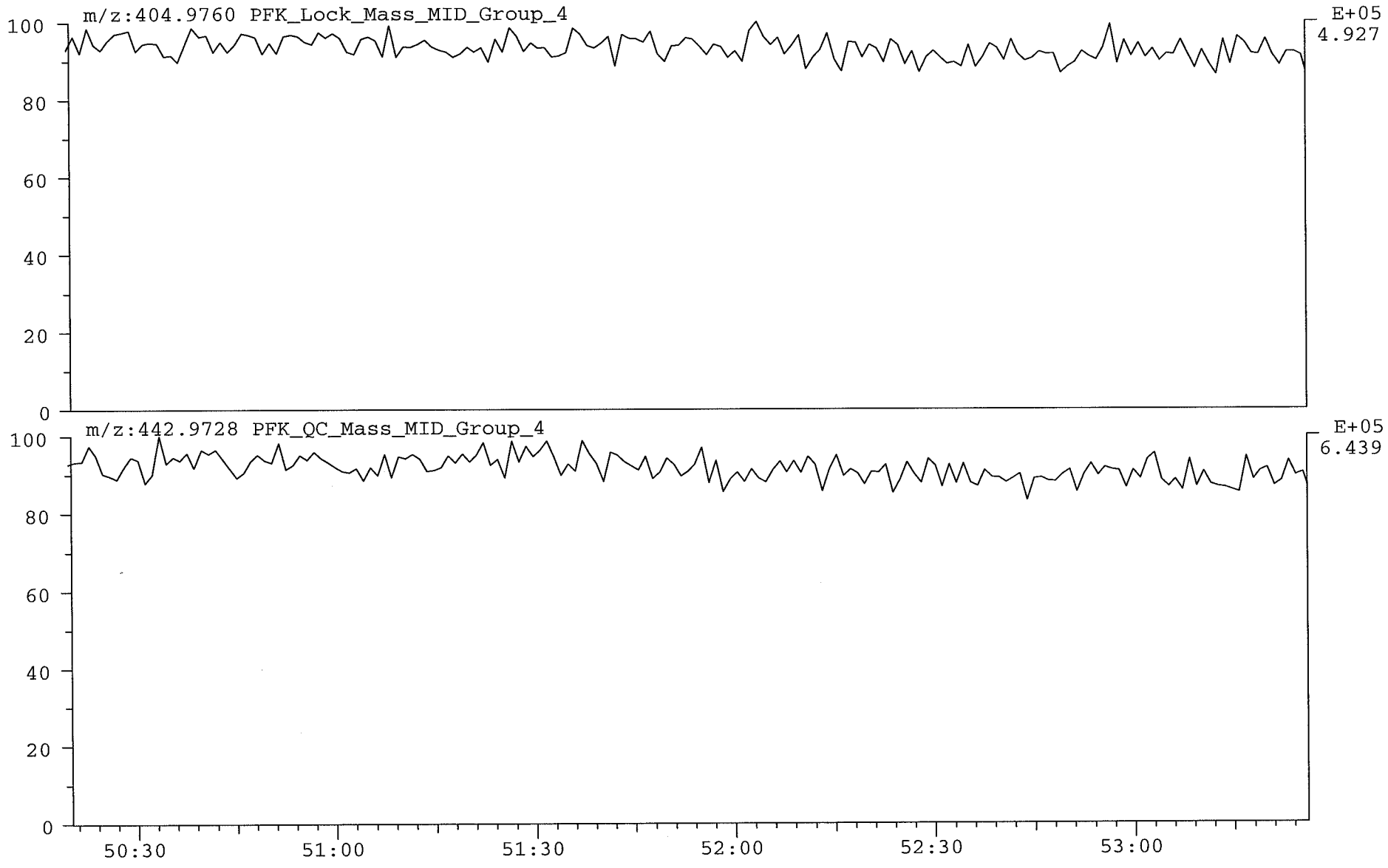
CHRO: b060504w1 04-May-06 Elapse: 51:46 2426
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 10:02:53 2889
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2338 > 2514 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



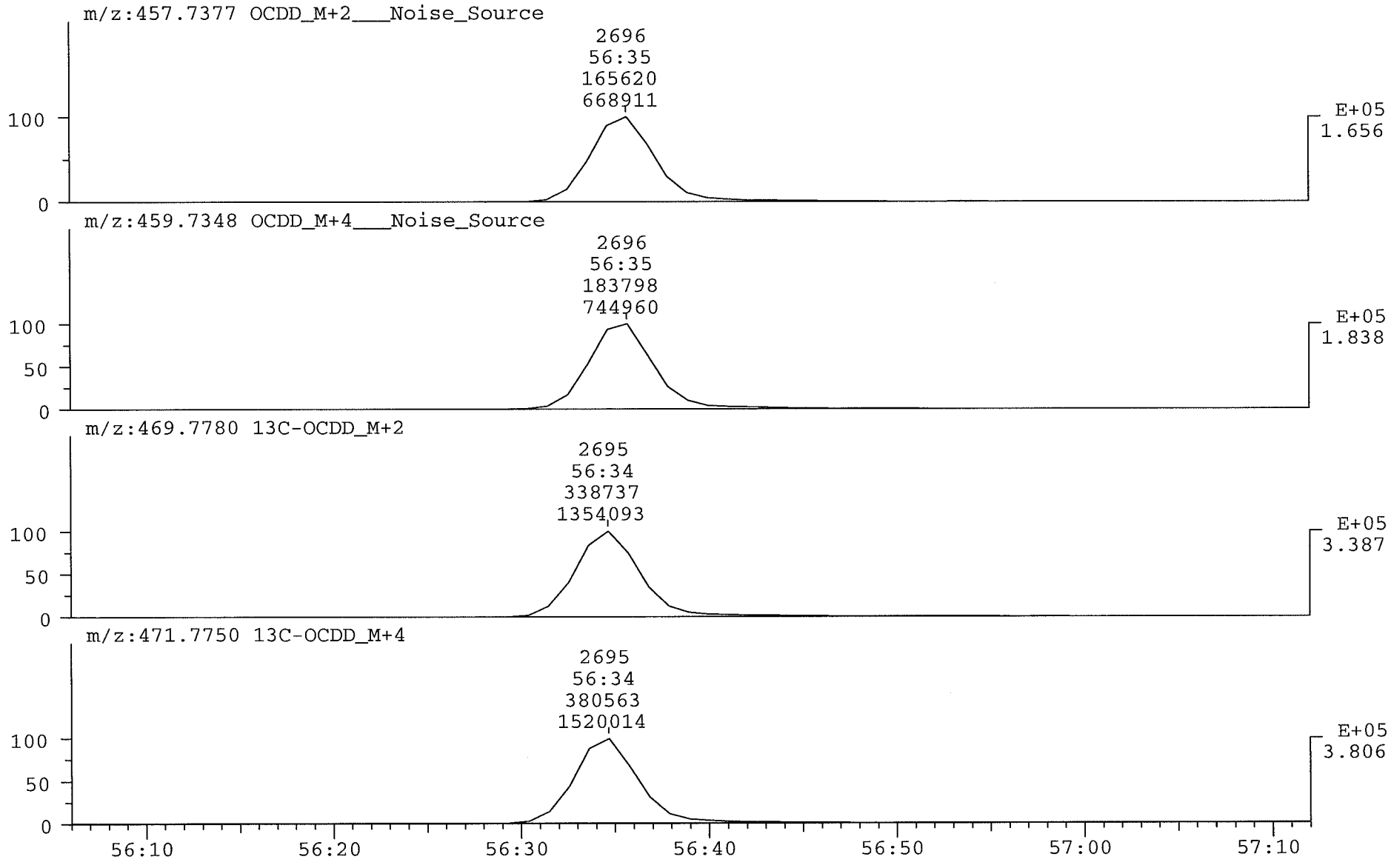
CHRO: b060504w1 04-May-06 Elapse: 51:46 2426
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 10:02:53 2889
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2344 > 2520 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



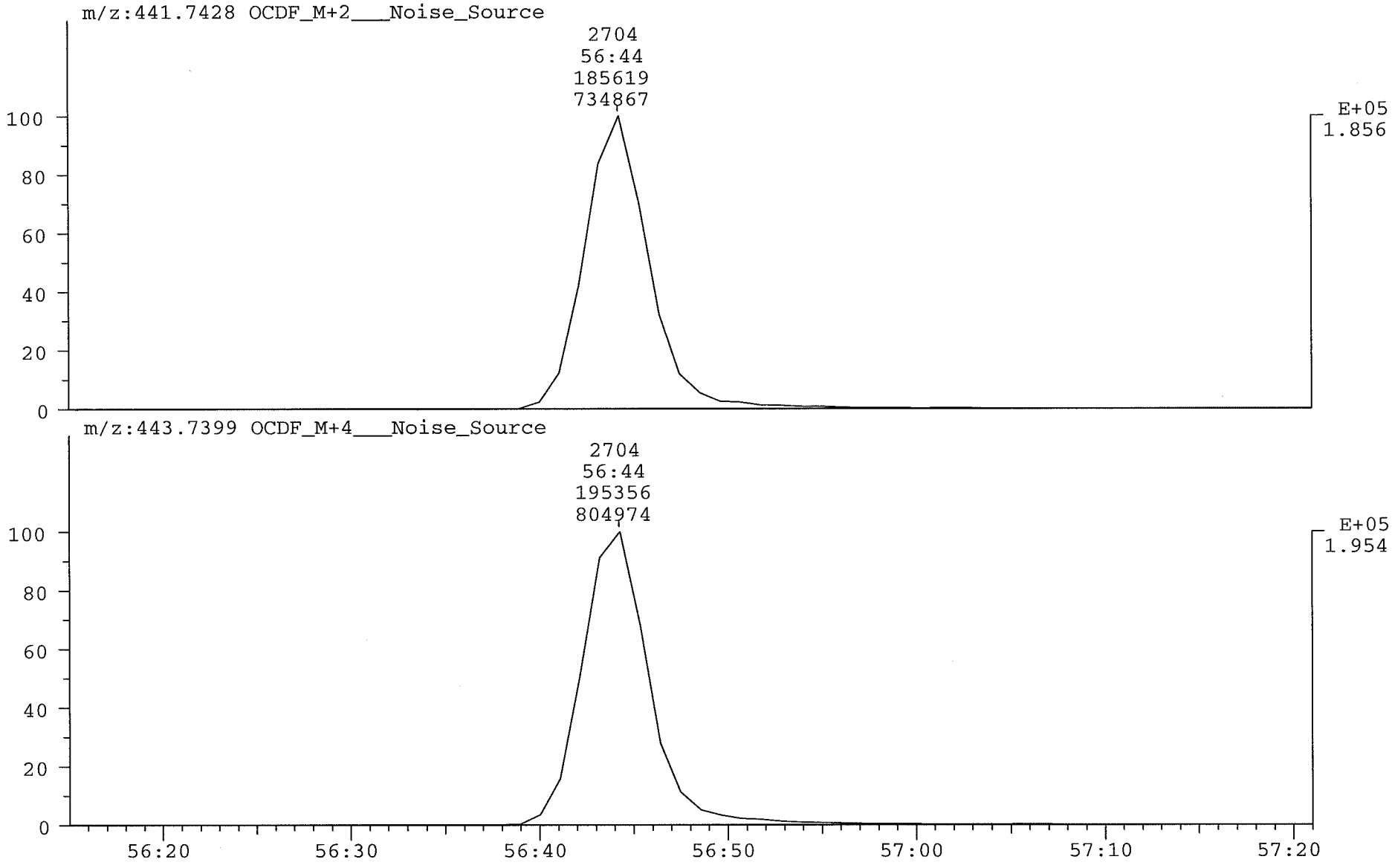
CHRO: b060504w1 04-May-06 Elapse: 51:46 2426
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 10:02:53 2889
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2344 > 2520 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



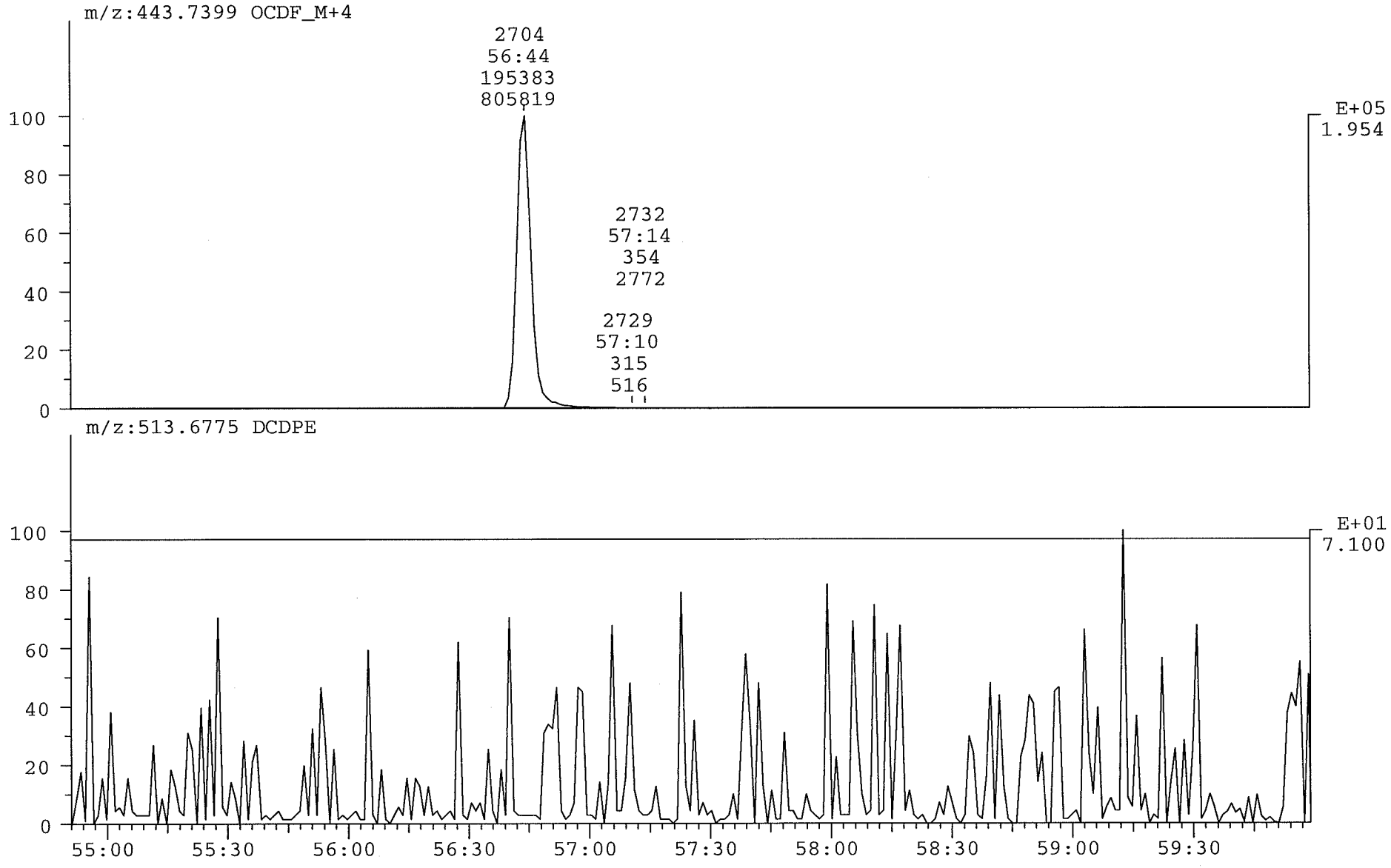
```
CHRO:  b060504w1                              04-May-06   Elapse:  56:35      2696
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                    Start :  10:02:53   2889
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  Ver/Win
Oper:  BFW          Client:  STL Knoxville                Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2668 > 2730          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



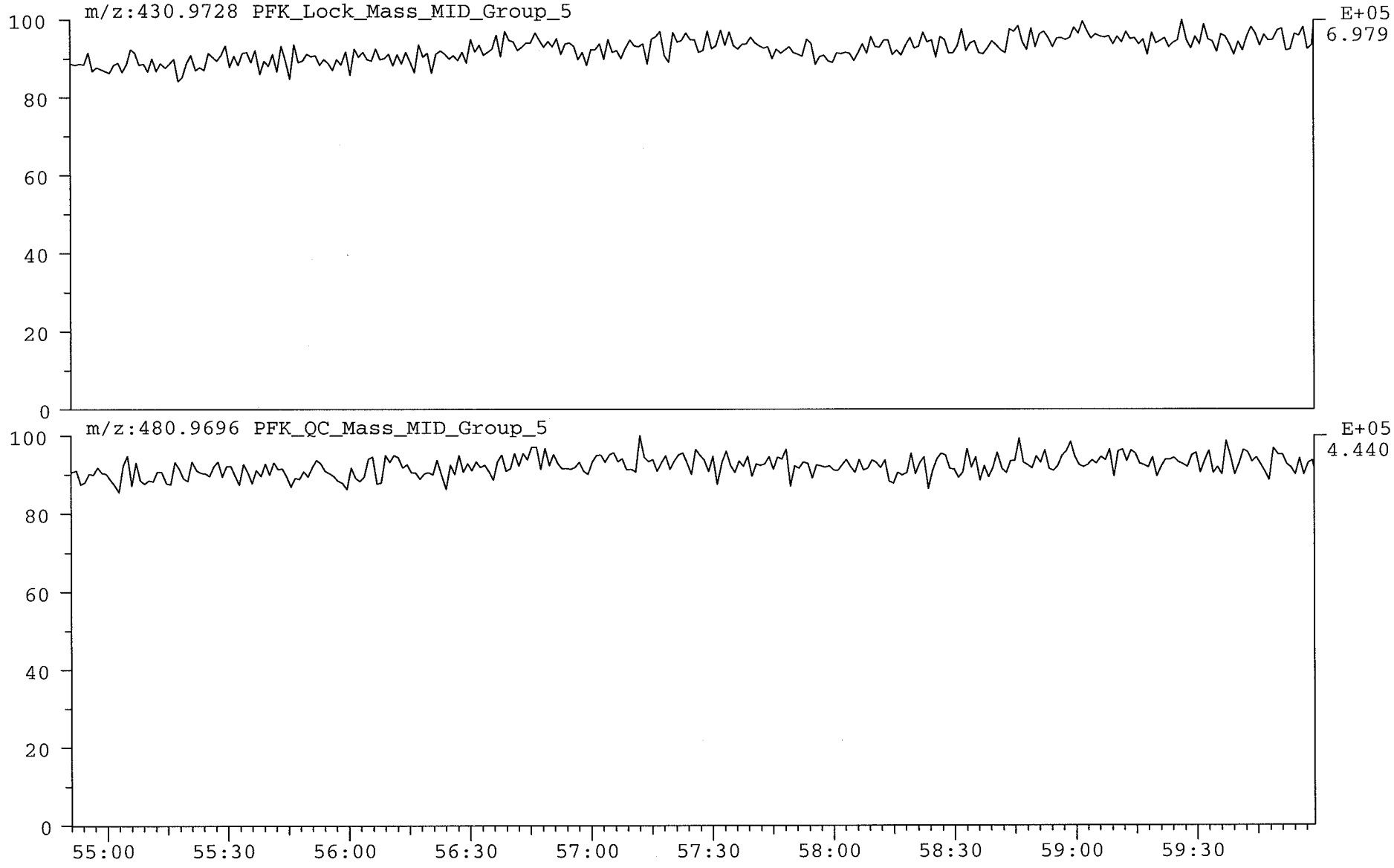
```
CHRO:  b060504w1                                04-May-06   Elapse:  56:45      2705
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                      Start :  10:02:53   2889
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  Ver/Win
Oper:  BFW           Client:  STL Knoxville                 Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2677 > 2738            Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  b060504w1                                04-May-06  Elapse:  56:45      2705
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                     Start :  10:02:53   2889
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  Ver/Win
Oper:  BFW            Client:  STL Knoxville               Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   2598 > 2887          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  b060504w1                                04-May-06  Elapse:  56:45      2705
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                     Start :  10:02:53   2889
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  Ver/Win
Oper:  BFW           Client:  STL Knoxville                Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2598 > 2887           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: b060504w1
Study: Ver/Win
Sample: WO=3262:44 Meth=F8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: BFW
Client: STL Knoxville
Comments: Inst=m2a/718320 Batch=20060504s1 Ccal=B060503S3
Injected volume: 2.0
Sample from Vial 1
Analysis will stop when MID run finishes
Tune file name: tune2
File 1 of list 060504
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	TRUE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	140 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	30:00 min	38:00 min	1.00 sec
# 2	38:00 min	6:25 min	44:25 min	1.00 sec
# 3	44:25 min	5:05 min	49:30 min	1.00 sec
# 4	49:30 min	5:15 min	54:45 min	1.00 sec
# 5	54:45 min	5:15 min	60:00 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

351.9000		1	1	91.48
353.8970		1	1	91.48
355.8546		1	1	91.48
357.8516		1	1	91.48
367.8949		1	1	91.48
369.8919		1	1	91.48
380.9760	c	10	1	8.19
409.7974		1	1	91.48

Window # 3

mass	F	int	gr	time (ms)
373.8208		1	1	91.48
375.8178		1	1	91.48
380.9760	1	10	1	8.19
383.8639		1	1	91.48
385.8610		1	1	91.48
389.8156		1	1	91.48
391.8127		1	1	91.48
401.8559		1	1	91.48
403.8529		1	1	91.48
404.9760	c	10	1	8.19
445.7555		1	1	91.48

Window # 4

mass	F	int	gr	time (ms)
404.9760	1	10	1	8.19
407.7818		1	1	91.48
409.7788		1	1	91.48
417.8250		1	1	91.48
419.8220		1	1	91.48
423.7767		1	1	91.48
425.7737		1	1	91.48
435.8169		1	1	91.48
437.8140		1	1	91.48
442.9728	c	10	1	8.19
479.7165		1	1	91.48

Window # 5

mass	F	int	gr	time (ms)
430.9728	1	10	1	10.92
441.7428		1	1	120.15
443.7399		1	1	120.15
457.7377		1	1	120.15
459.7348		1	1	120.15
469.7780		1	1	120.15
471.7750		1	1	120.15
480.9696	c	10	1	10.92
513.6775		1	1	120.15

Auto Sampler descriptor: pcdd2ul

Injector A

Normal Injection

Slvnt A cln before inj	(K):	3	times
Slvnt B cln before inj	(L):	0	times
Sample rinse cycles	(R):	0	times
Syringe filling volume	(F):	1.0	ul
Pullup delay time	(D):	4	sec
Sample pullup speed	(E):	5.0	ul/sec
Slvnt aftr pre inj cln	(U):	0.0	ul
Air after pre inj cln	(G):	2.0	ul
Sample volume	(V):	2.0	ul
Sample air volume	(A):	2.0	ul
Sample pullup count	(P):	2	times
Injection speed	(S):	10.0	ul/sec
Injection wait time	(W):	10	sec
Injection hold time	(H):	3	sec
Solvent A clean cycles	(C):	15	times
Solvent B clean cycles	(B):	20	times
Loop clean w slvnt A	(LC):	0	times

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8406.0000
BDEV	8289.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.7814	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9996
ECURR	1.0000	EDAC	6379557.7897	EDACG	1.0001
EDACR	20.0000	EDACZ	-738.5000	ELEN	61.7750
EMULT	1.8000	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	611.4441	ESICUR	10.0011
ESIPAR	0.0000	EXS	188.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	600.9615
FSLOPE	36000000.0000	FVANAL	549.0000	FVINLET	588.0000
FVSRC	992.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	156.0000
HCURR	1.5294	HVANAL	1573.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	3811.9620	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	304.9824
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	200.0000	NSAM	200.0000	NSCAN	9698.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10100.2910	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	2.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.7900	TCURR	0.8984	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	380.9760	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 04-May-06 10:02:53.7

Autosampler has injected sample from vial 1
Analysis stopped at: 04-May-06 11:02:56.3 (run time 60.03 minutes)
Analysis stopped because MID run finished

STL - Knoxville

IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 1613B

IsoCalc

Workorder	3262:44	**Prep Batch**		**Lot No**	
Data File	/20060504s2/b060504w2.d	**Prep Date**		**SDG No**	
Analysis ID	90517	**Prep Exp Date**		**Date Received**	
Analysis Date	5/4/2006	**Matrix**	UNKNOWN	**Date Sampled**	
Analysis Time	21:39	**Initial Wt/Vol**		**Lims Test Code**	
Anal Exp Date		**Extract Vol**		**Method**	DX1613B
Instrument	M2A	**Dil Factor**	1.0	**Code**	F8
Analyst	PMP				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (ng/mL)		DL (ng/mL)
2,3,7,8-TCDD	35:19	209677	23738	1.052	10.00	10.028098	100.28	10.028098	E	0.144
Total TCDD		920901	114278	1.052		54.071484		54.071484	EQ	0.144
2,3,7,8-TCDF	33:06	291249	32102	0.984	10.00	10.339477	103.39	10.339477	E	0.0894
Total TCDF		592706	85935	0.984		31.380820		31.380820	E	0.0894
1,2,3,7,8-PeCDD	43:04	1012220	277169	0.998	50.00	50.505826	101.01	50.505826	E	0.0595
Total PeCDD		1987559	474616	0.998		149.677259		149.677259	E	0.0595
1,2,3,7,8-PeCDF	41:29	1453409	352111	1.024	50.00	49.066104	98.13	49.066104	E	0.0506
2,3,4,7,8-PeCDF	42:35	1545911	418871	1.100	50.00	49.869926	99.74	49.869926	E	0.0454
Total PeCDF		2812711	615841	1.062		191.690934		191.690934	E	0.0479
1,2,3,4,7,8-HxCDD	47:14	1088348	297729	1.186	50.00	48.483855	96.97	48.483855	E	0.0574
1,2,3,6,7,8-HxCDD	47:22	1046953	278533	0.963	50.00	50.954295	101.91	50.954295	E	0.0635
1,2,3,7,8,9-HxCDD	47:47	1144722	279764	1.145	50.00	49.695073	99.39	49.695073	E	0.0563
Total HxCDD		1131302	321754	1.098		200.325336		200.325336	E	0.0587
1,2,3,4,7,8-HxCDF	46:10	1548579	446547	1.264	50.00	48.827913	97.66	48.827913	E	0.0434
1,2,3,6,7,8-HxCDF	46:18	1651048	437279	1.239	50.00	49.108658	98.22	49.108658	E	0.0445
2,3,4,6,7,8-HxCDF	47:04	1489562	406059	1.196	50.00	48.211753	96.42	48.211753	E	0.0477
1,2,3,7,8,9-HxCDF	48:04	1353312	336413	1.212	50.00	47.791107	95.58	47.791107	E	0.0576
Total HxCDF		2708580	736232	1.228		280.947309		280.947309	E	0.0478
1,2,3,4,6,7,8-HpCDD	52:21	1024455	226663	1.056	50.00	48.227301	96.45	48.227301	E	0.0833
Total HpCDD		989554	208944	1.056		94.811600		94.811600	E	0.0833
1,2,3,4,6,7,8-HpCDF	50:37	1456042	311715	1.467	50.00	46.463012	92.93	46.463012	E	0.0484
1,2,3,4,7,8,9-HpCDF	52:59	1261011	273602	1.451	50.00	48.816830	97.63	48.816830	E	0.0564
Total HpCDF				1.459		95.279841		95.279841	E	0.0521
OCDD	56:41	2109539	547783	1.041	100.0	96.176974	96.18	96.176974	E	0.0516
OCDF	56:50	2422087	629304	1.253	100.0	91.721409	91.72	91.721409	E	0.0531
13C-2,3,7,8-TCDD	35:16	1986954	225326	1.048	100.0	103.143880	103.14	103.143880		0.210
13C-2,3,7,8-TCDF	33:03	2863202	301214	1.492	100.0	104.416988	104.42	104.416988		0.0969
13C-1,2,3,7,8-PeCDD	43:03	2007580	555183	1.117	100.0	97.804229	97.80	97.804229		0.119
13C-1,2,3,7,8-PeCDF	41:28	2892654	694679	1.616	100.0	97.370220	97.37	97.370220		0.0927
13C-2,3,4,7,8-PeCDF	42:34	2818835	721443	1.580	100.0	97.054794	97.05	97.054794		0.0948
13C-1,2,3,4,7,8-HxCDD	47:13	1892264	514018	0.891	100.0	98.482192	98.48	98.482192		0.0709
13C-1,2,3,6,7,8-HxCDD	47:21	2132735	571743	1.031	100.0	95.983348	95.98	95.983348		0.0613
13C-1,2,3,4,7,8-HxCDF	46:09	2508370	724712	1.235	100.0	94.212035	94.21	94.212035		0.0600
13C-1,2,3,6,7,8-HxCDF	46:17	2713447	721399	1.370	100.0	91.908636	91.91	91.908636		0.0541
13C-2,3,4,6,7,8-HxCDF	47:03	2582232	695860	1.285	100.0	93.251752	93.25	93.251752		0.0577
13C-1,2,3,7,8,9-HxCDF	48:03	2337320	569499	1.167	100.0	92.956417	92.96	92.956417		0.0636
13C-1,2,3,4,6,7,8-HpCDD	52:20	2011134	442998	0.947	100.0	98.490017	98.49	98.490017		0.0657
13C-1,2,3,4,6,7,8-HpCDF	50:37	2136739	450674	1.069	100.0	92.769603	92.77	92.769603		0.0631
13C-1,2,3,4,7,8,9-HpCDF	52:57	1780806	391382	0.898	100.0	92.026686	92.03	92.026686		0.0751
13C-OCDD	56:40	4214559	1088903	1.024	200.0	190.956551	95.48	190.956551		0.0706
37Cl4-2,3,7,8-TCDD	35:18	206177	23605	1.123	10.00	9.983748	99.84	9.983748	E	0.0874
13C-1,2,3,4-TCDD	34:42	1838462	188539	1.000	100.0	100.000000	100.00	100.000000		0.220
13C-1,2,3,7,8,9-HxCDD	47:46	2155334	522450	1.000	100.0	100.000000	100.00	100.000000		0.0632

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 1613B

IsoCalc

Workorder	3262:44	Prep Batch		Lot No	
Data File	/20060504s2/b060504w2.d	Prep Date		SDG No	
Analysis ID	90517	Prep Exp Date		Date Received	
Analysis Date	05/04/06 21:39	Matrix	UNKNOWN	Date Sampled	
Anal Exp Date		Initial Wt/Vol		Lims Test Code	
Instrument	M2A	Extract Vol		Method	DX1613B
Analyst	PMP	Diluton Factor	1.00	Code	F8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	113	153	45	61	0.74	/	
	Unidentified	25:55	00:00	0	149484	188047	20654	25353	0.79	ABV/ABV	
	2,3,7,8-TCDF	33:06	33:00	6	129071	162178	14597	17505	0.80	ABV/ABV	M
	Unidentified	37:37	00:00	0	111201	143974	17018	22910	0.77	ABB/ABB	
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	113	160	45	64	0.70	/	
	13C-2,3,7,8-TCDF	33:03	32:57	6	1268251	1594951	136071	165143	0.80	ABV/ABV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	163	180	65	72	0.90 *	/	
	Unidentified	28:41	00:00	0	89608	109232	11408	13667	0.82	ABB/ABB	
	Unidentified	34:45	00:00	0	75791	101888	7817	9851	0.74	ABV/ABV	
	Unidentified	34:59	00:00	0	77991	98581	7630	10477	0.79	AVB/AVV	T
	2,3,7,8-TCDD	35:19	35:03	16	90427	119250	10376	13362	0.76	AVB/AVV	M
	Unidentified	35:45	00:00	0	84260	106241	10191	13536	0.79	ABB/AVV	
	Unidentified	37:44	00:00	0	78776	98533	13004	16697	0.80	ABB/ABB	
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	185		74				
	37Cl4-2,3,7,8-TCDD	35:18	35:03	15	206177		23605			AVV	M
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	248	168	99	67	1.48 *	/	
	13C-1,2,3,4-TCDD	34:42	34:22	20	813596	1024866	83018	105521	0.79	ABV/ABV	
	13C-2,3,7,8-TCDD	35:16	35:00	16	887464	1099490	98762	126564	0.81	AVV/AVV	
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**		
	Noise	00:00	00:00	0	175	185	70	74	0.95 *	/	
	Unidentified	38:11	00:00	0	899449	570546	159761	100994	1.58	ABV/ABV	
	1,2,3,7,8-PeCDF	41:29	41:45	-16	884776	568633	214952	137159	1.56	ABV/ABV	M
	2,3,4,7,8-PeCDF	42:35	42:50	-15	944533	601378	257650	161221	1.57	ABV/ABV	M
	Unidentified	43:46	00:00	0	825336	517380	215775	139311	1.60	ABV/ABV	
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**		
	Noise	00:00	00:00	0	130	153	52	61	0.85 *	/	
	13C-1,2,3,7,8-PeCDF	41:28	41:43	-15	1782715	1109939	427254	267425	1.61	ABV/ABV	
	13C-2,3,4,7,8-PeCDF	42:34	42:49	-15	1716679	1102156	441490	279953	1.56	ABV/ABV	
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**		
	Noise	00:00	00:00	0	175	155	70	62	1.13 *	/	
	Unidentified	40:29	00:00	0	573409	365756	108089	71261	1.57	ABV/ABV	
	1,2,3,7,8-PeCDD	43:04	43:19	-15	617588	394632	170923	106246	1.56	ABV/ABV	M
	Unidentified	43:40	00:00	0	639640	408754	182151	113115	1.56	ABV/ABV	
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**		
	Noise	00:00	00:00	0	138	113	55	45	1.22 *	/	
	13C-1,2,3,7,8-PeCDD	43:03	43:18	-15	1222417	785163	338472	216711	1.56	ABV/ABV	
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	Noise	00:00	00:00	0	218	180	87	72	1.21	/	
	Unidentified	44:54	00:00	0	808666	641421	241376	186457	1.26	ABV/ABV	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 1613B

IsoCalc

Workorder	3262:44	Prep Batch		Lot No	
Data File	/20060504s2/b060504w2.	Prep Date		SDG No	
Analysis ID	90517	Prep Exp Date		Date Received	
Analysis Date	05/04/06 21:39	Matrix	UNKNOWN	Date Sampled	
Anal Exp Date		Initial Wt/Vol		Lims Test Code	
Instrument	M2A	Extract Vol		Method	DX1613B
Analyst	PMP	Diluton Factor	1.00	Code	F8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	1,2,3,4,7,8-HxCDF	46:10	46:20	-10	864712	683867	247217	199330	1.26	ABV/ABV	M
	1,2,3,6,7,8-HxCDF	46:18	46:28	-10	925926	725122	246712	190567	1.28	AVV/AVV	DM
	2,3,4,6,7,8-HxCDF	47:04	47:11	-7	826533	663029	223363	182696	1.25	AVV/AVV	M
	1,2,3,7,8,9-HxCDF	48:04	48:06	-2	755005	598307	187815	148598	1.26	ABV/ABV	
	Unidentified	48:12	00:00	0	708963	549530	173249	135150	1.29	AVB/AVB	
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**		
	Noise	00:00	00:00	0	180	208	72	83	0.87 *	/	
	13C-1,2,3,4,7,8-HxCDF	46:09	46:19	-10	865221	1643149	247946	476766	0.53	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDF	46:17	46:27	-10	942533	1770914	251985	469414	0.53	AVV/AVV	
	13C-2,3,4,6,7,8-HxCDF	47:03	47:10	-7	893969	1688263	243989	451871	0.53	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDF	48:03	48:05	-2	805882	1531438	197058	372441	0.53	ABV/ABV	
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	Noise	00:00	00:00	0	155	195	62	78	0.79 *	/	
	Unidentified	45:35	00:00	0	631348	499954	175650	146104	1.26	ABV/ABV	
	1,2,3,4,7,8-HxCDD	47:14	47:20	-6	602559	485789	166156	131573	1.24	ABV/ABV	M
	1,2,3,6,7,8-HxCDD	47:22	47:27	-5	582378	464575	154219	124314	1.25	AVV/AVB	DM
	1,2,3,7,8,9-HxCDD	47:47	47:51	-4	635022	509700	157799	121965	1.25	ABV/ABB	M
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**		
	Noise	00:00	00:00	0	150	180	60	72	0.83 *	/	
	13C-1,2,3,4,7,8-HxCDD	47:13	47:19	-6	1058236	834028	285840	228178	1.27	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDD	47:21	47:26	-5	1189576	943159	319047	252696	1.26	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDD	47:46	47:50	-4	1206352	948982	293457	228993	1.27	AVV/AVV	
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**		
	Noise	00:00	00:00	0	138	183	55	73	0.75 *	/	
	1,2,3,4,6,7,8-HpCDF	50:37	50:31	6	748700	707342	161641	150074	1.06	ABV/ABV	M
	1,2,3,4,7,8,9-HpCDF	52:59	52:44	15	642651	618360	140531	133071	1.04	ABV/ABV	M
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	Noise	00:00	00:00	0	190	163	76	65	1.17 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	50:37	50:30	7	674249	1462490	142072	308602	0.46	ABV/ABV	
	13C-1,2,3,4,7,8,9-HpCDF	52:57	52:43	14	548135	1232671	119195	272187	0.44	ABV/ABV	
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**		
	Noise	00:00	00:00	0	240	150	96	60	1.60 *	/	
	Unidentified	51:09	00:00	0	505645	483909	106567	102377	1.04	ABV/ABV	
	1,2,3,4,6,7,8-HpCDD	52:21	52:10	11	522408	502047	115141	111522	1.04	ABV/ABV	M
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**		
	Noise	00:00	00:00	0	233	93	93	37	2.51 *	/	
	13C-1,2,3,4,6,7,8-HpCDD	52:20	52:09	11	1028900	982234	225153	217845	1.05	ABV/ABV	
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**		
	Noise	00:00	00:00	0	158	205	63	82	0.77	/	
	OCDF	56:50	56:31	19	1153605	1268482	296495	332809	0.91	ABV/ABV	M
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**		
	Noise	00:00	00:00	0	125	168	50	67	0.75 *	/	
	OCDD	56:41	56:24	17	992409	1117130	255317	292466	0.89	ABV/ABV	M

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 1613B

IsoCalc

Workorder	3262:44	Prep Batch		Lot No	
Data File	/20060504s2/b060504w2.	Prep Date		SDG No	
Analysis ID	90517	Prep Exp Date		Date Received	
Analysis Date	05/04/06 21:39	Matrix	UNKNOWN	Date Sampled	
Anal Exp Date		Initial Wt/Vol		Lims Test Code	
Instrument	M2A	Extract Vol		Method	DX1613B
Analyst	PMP	Diluton Factor	1.00	Code	F8

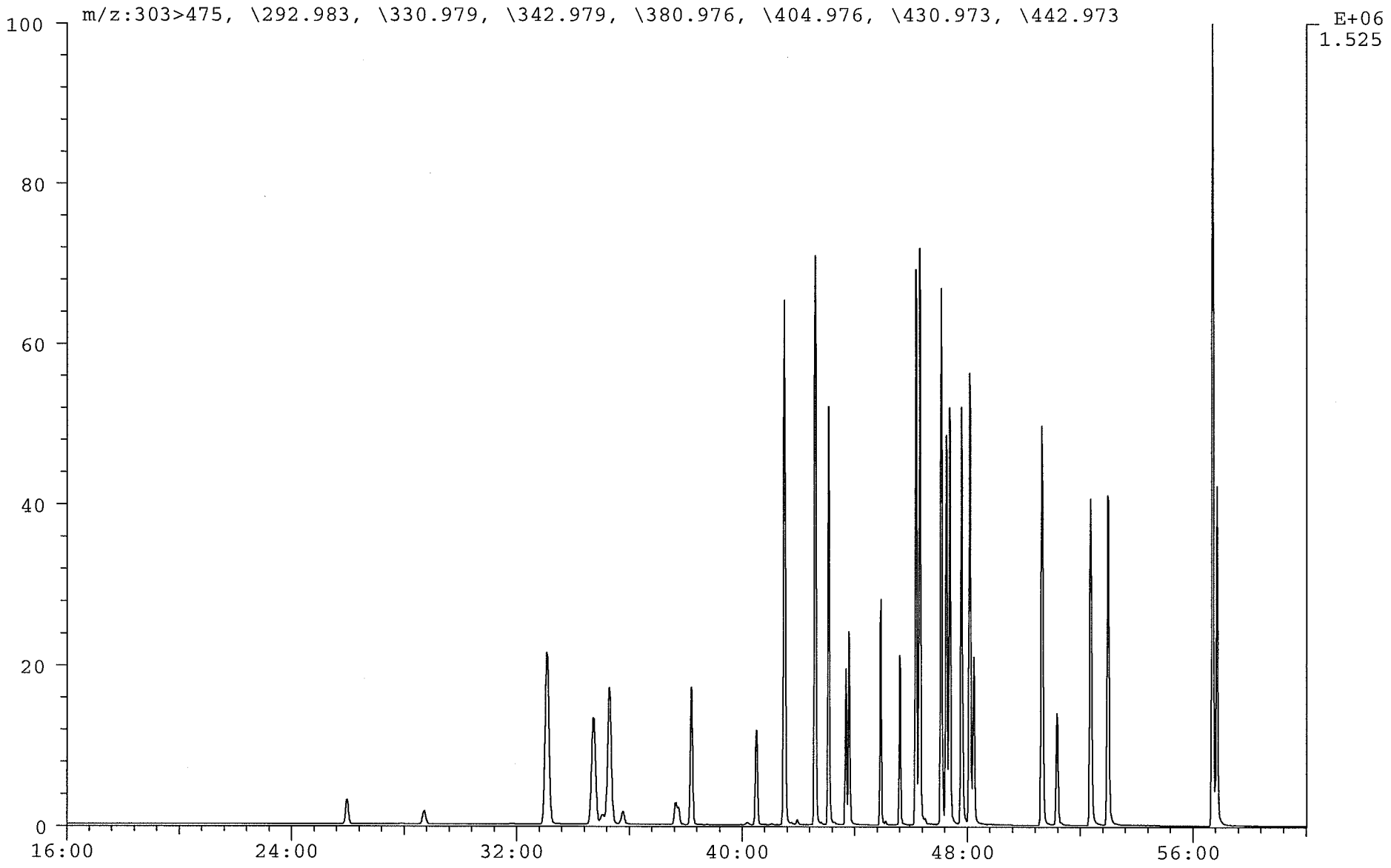
View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
470					469.7780	471.7750	469.7780	471.7750	0.76-1.02		
	Noise	00:00	00:00	0	153	225	61	90	0.68 *	/	
	13C-OCDD	56:40	56:23	17	2001611	2212948	518042	570861	0.90	ABV/ABV	

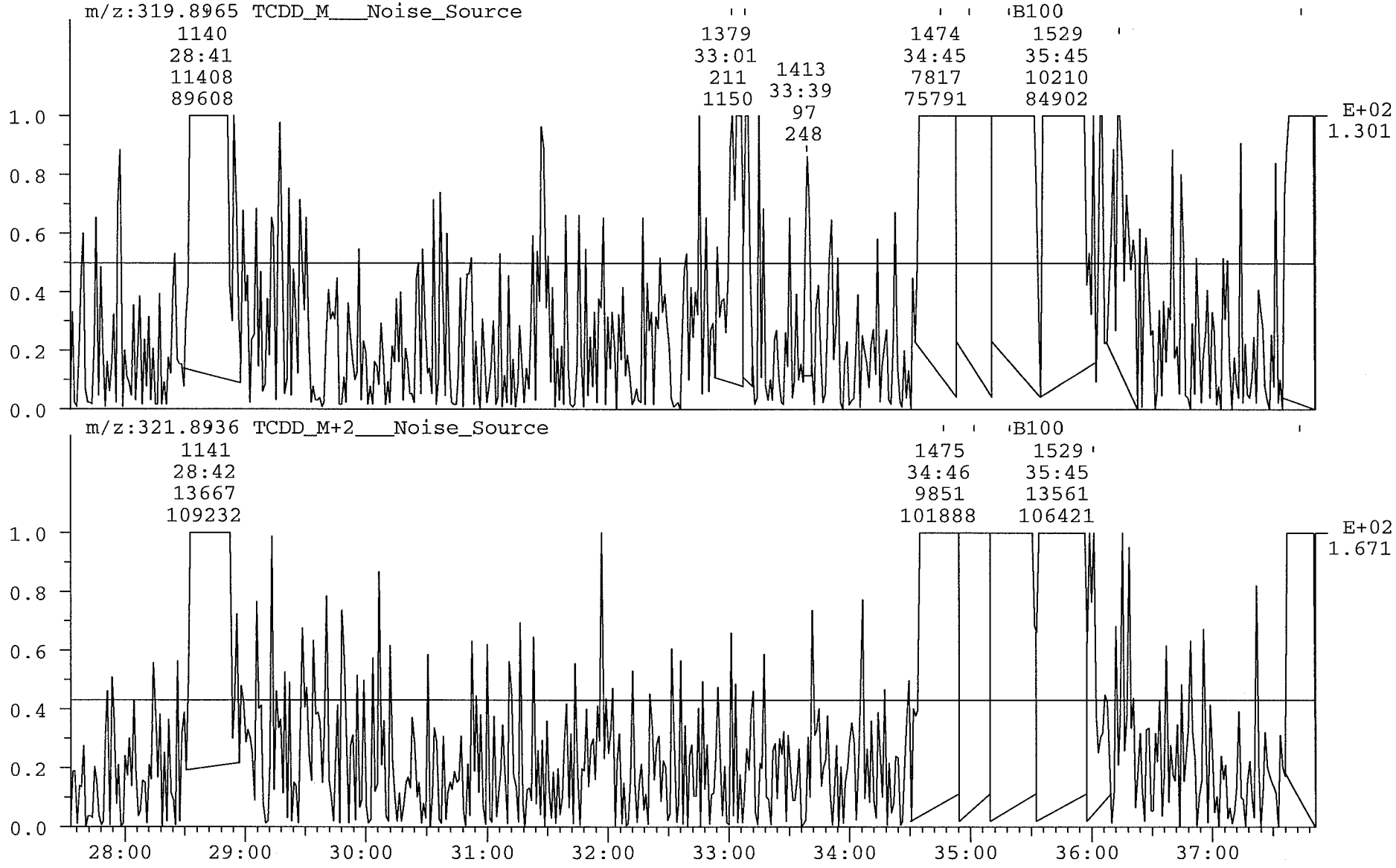
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

CHRO: b060504w2 04-May-06 Elapse: 08:00.5 1
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 21:39:43 2887
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: PMP Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 441 > 2887 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

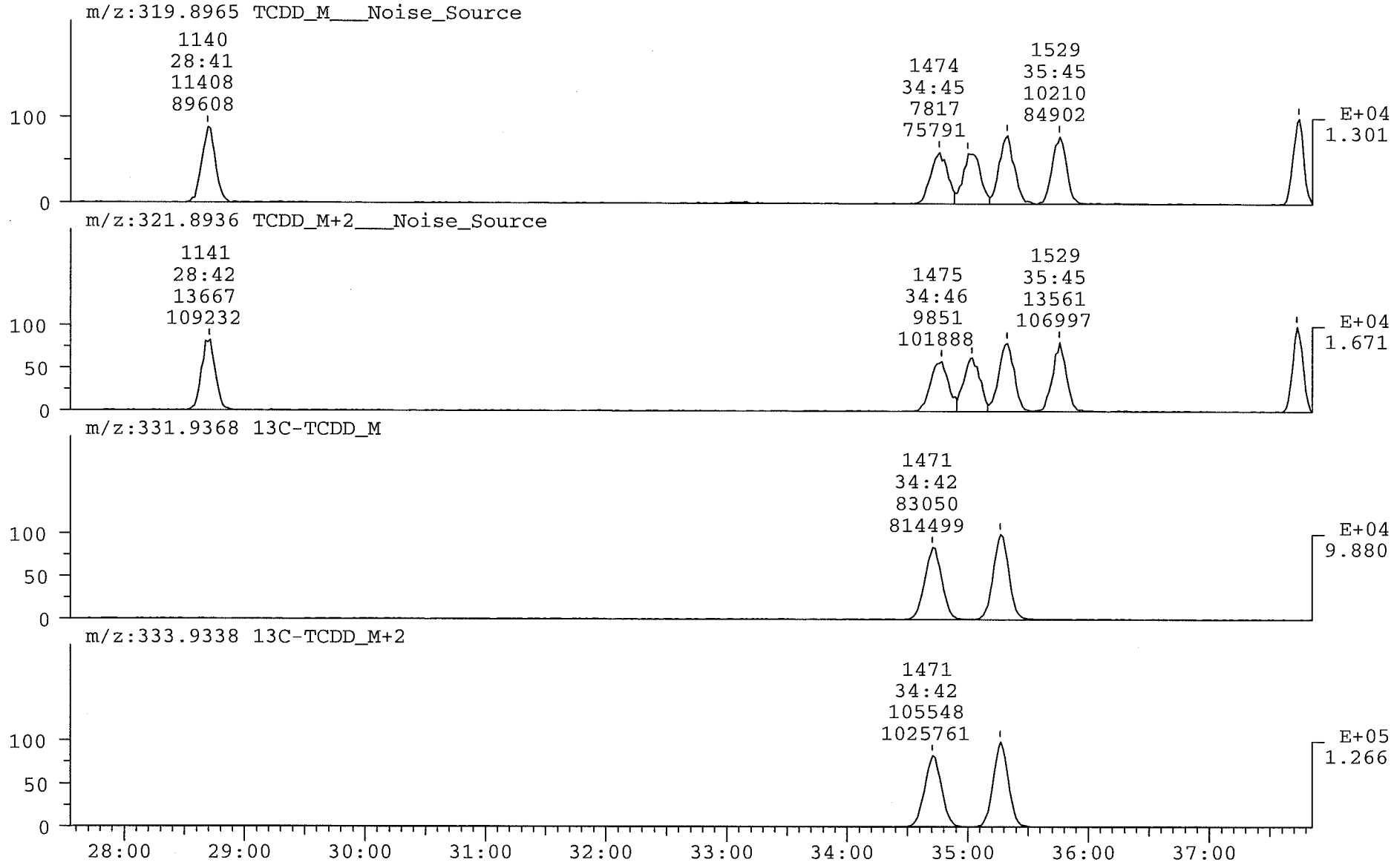
Int/Calc PMP 5-4-06
QC BPW 5/5/06



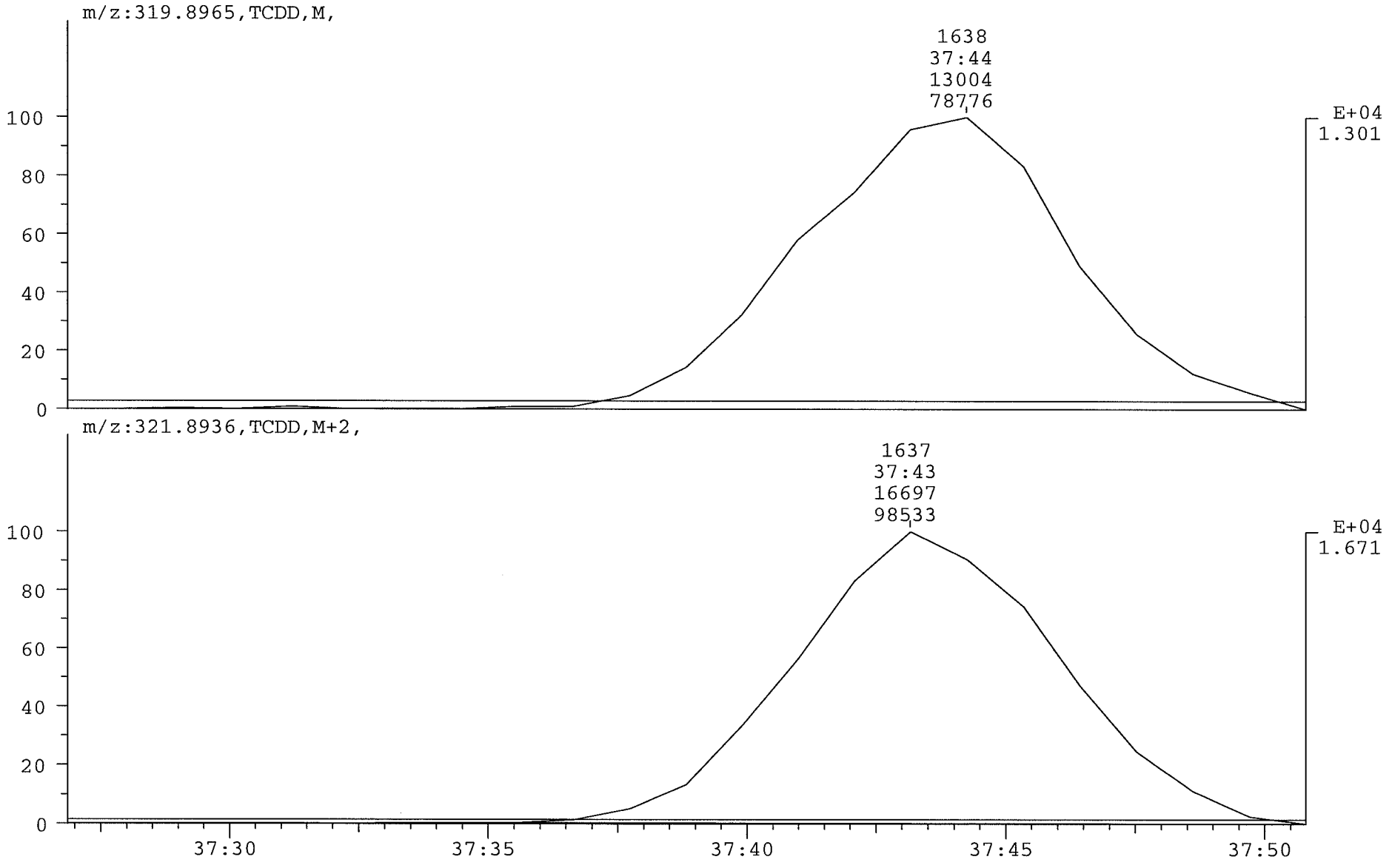
```
CHRO:  b060504w2                                04-May-06   Elapse:  08:00.5        1
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                      Start :  21:39:43    2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  Ver/Win
Oper:  PMP            Client:  STL Knoxville                Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   1077 > 1644           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -3, 1.0
Disp:  Height  Area
```



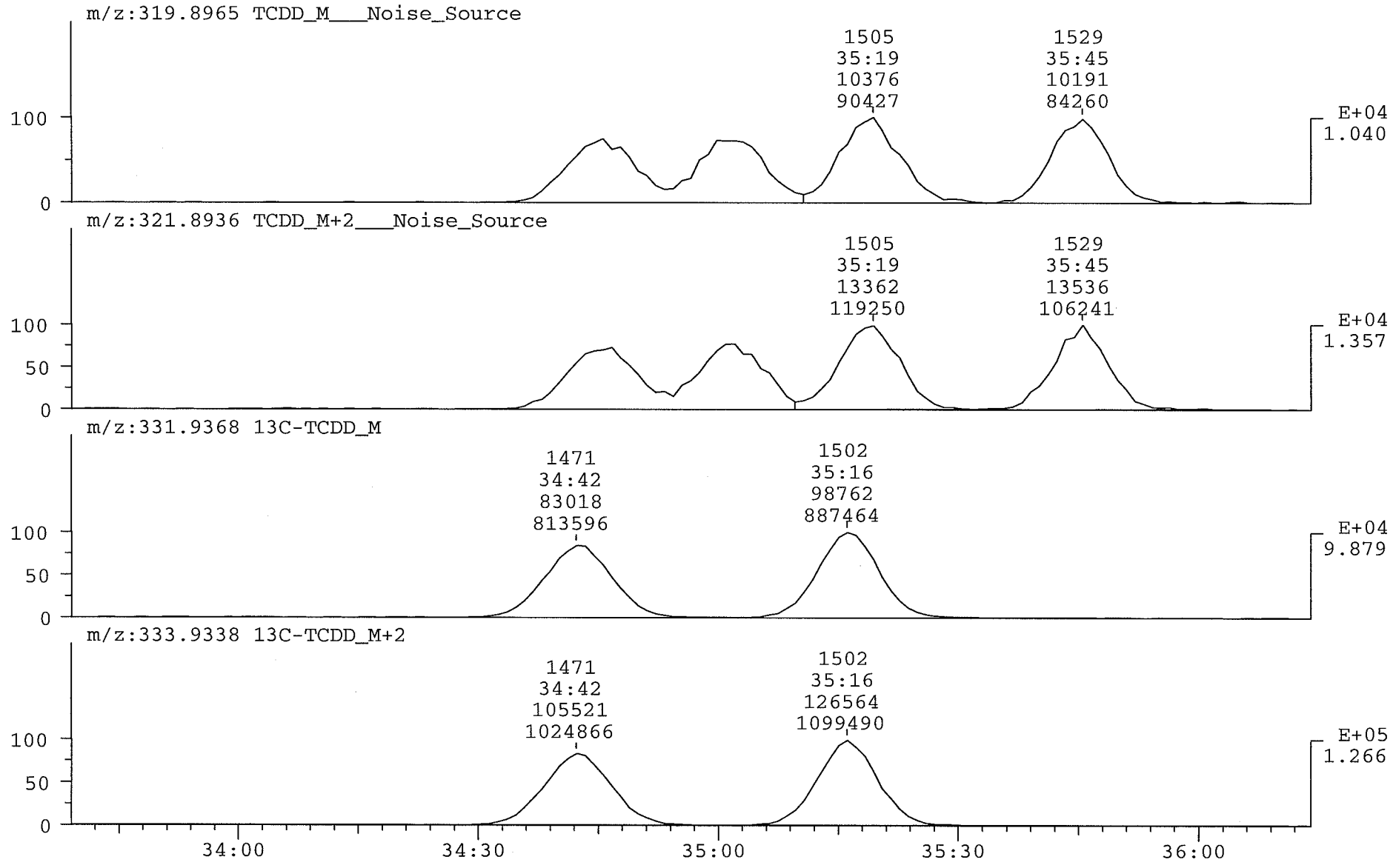
CHRO: b060504w2 04-May-06 Elapse: 08:00.5 1
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 21:39:43 2887
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: PMP Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1077 > 1644 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



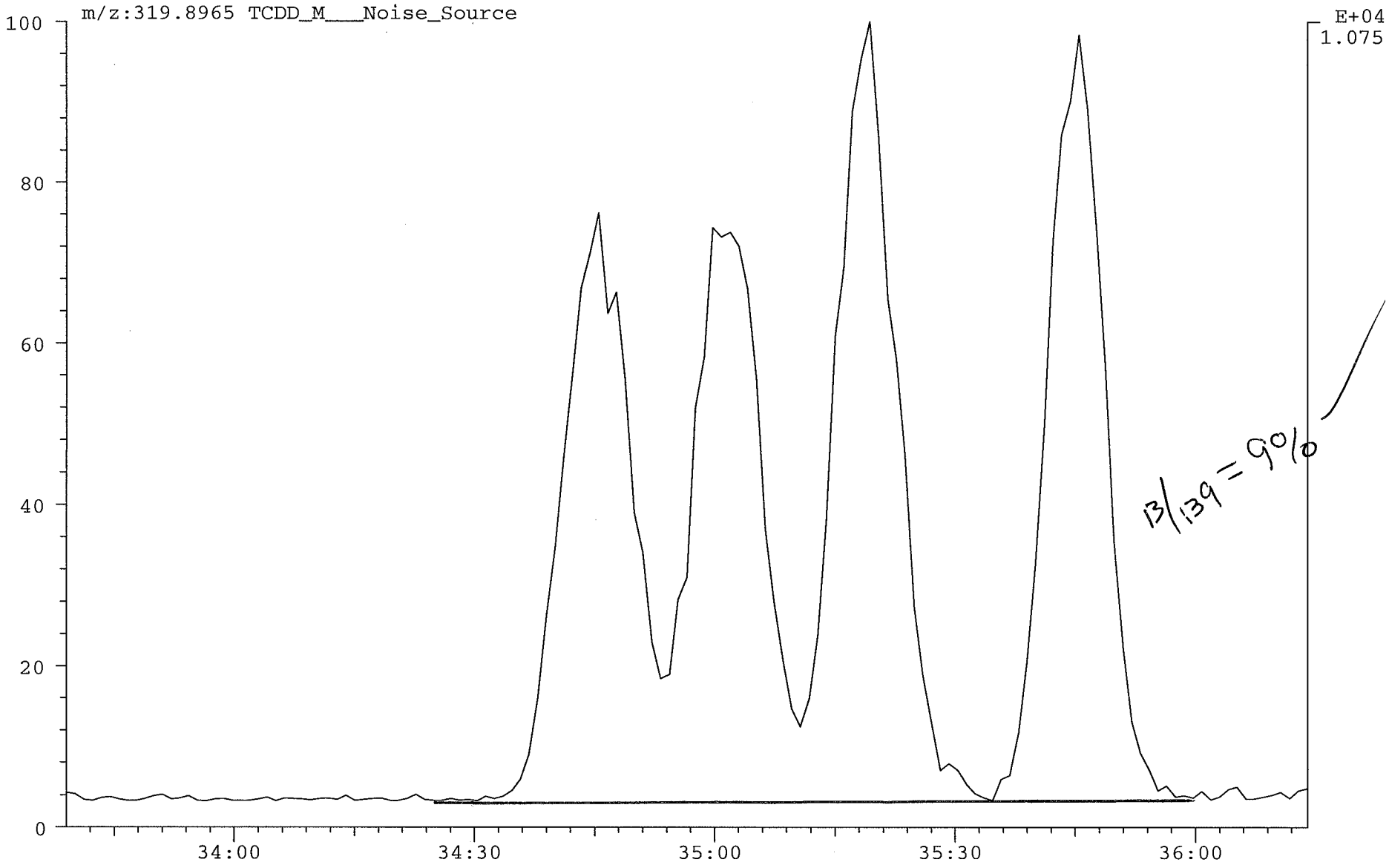
CHRO: b060504w2 04-May-06 Elapse: 56:42 2701
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 21:39:43 2887
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: PMP Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1622 > 1644 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



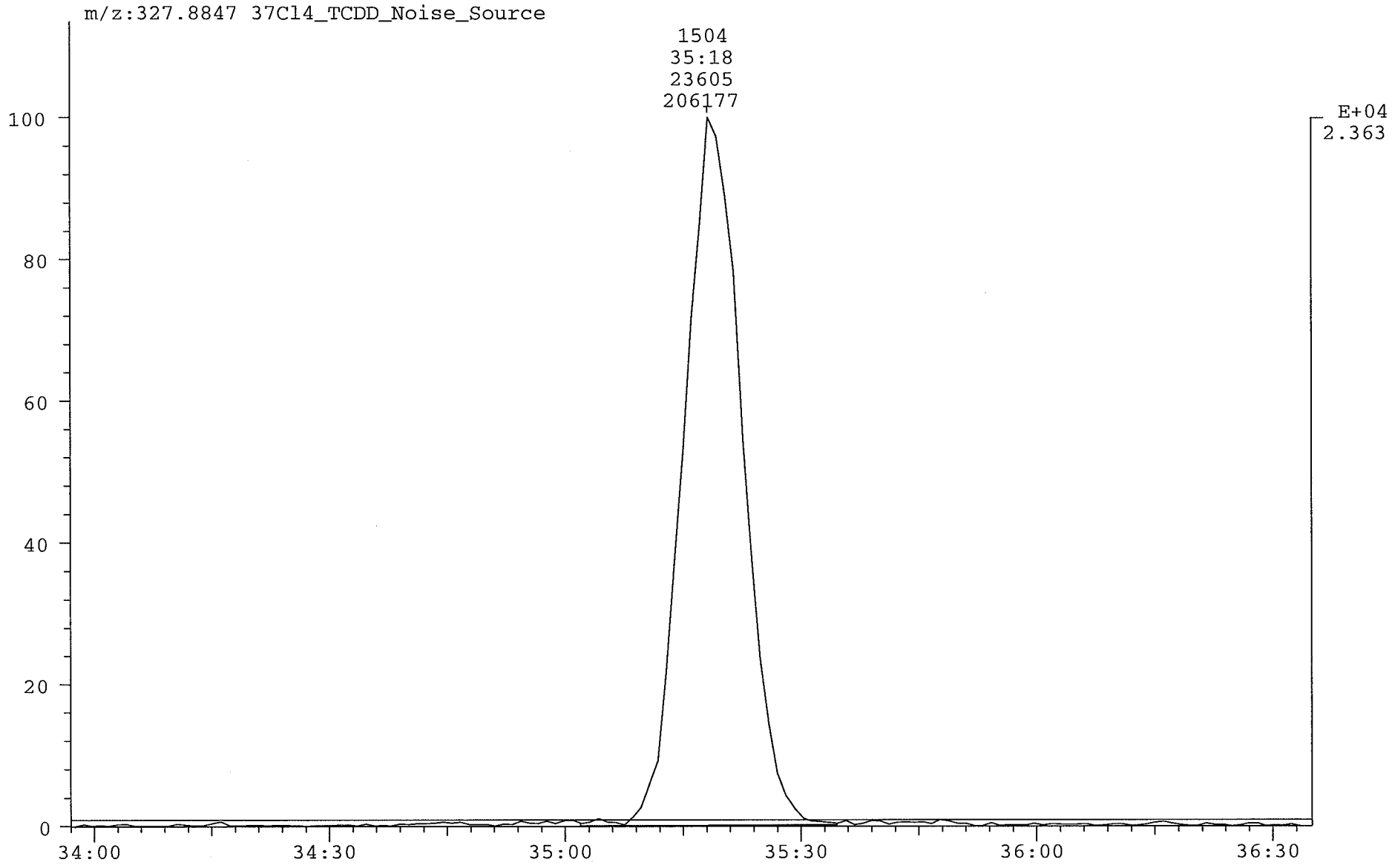
```
CHRO:  b060504w2                              04-May-06  Elapse:  34:56      1484
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                   Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville               Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1413 > 1555         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  2, 3.0
Disp:  Height  Area
```



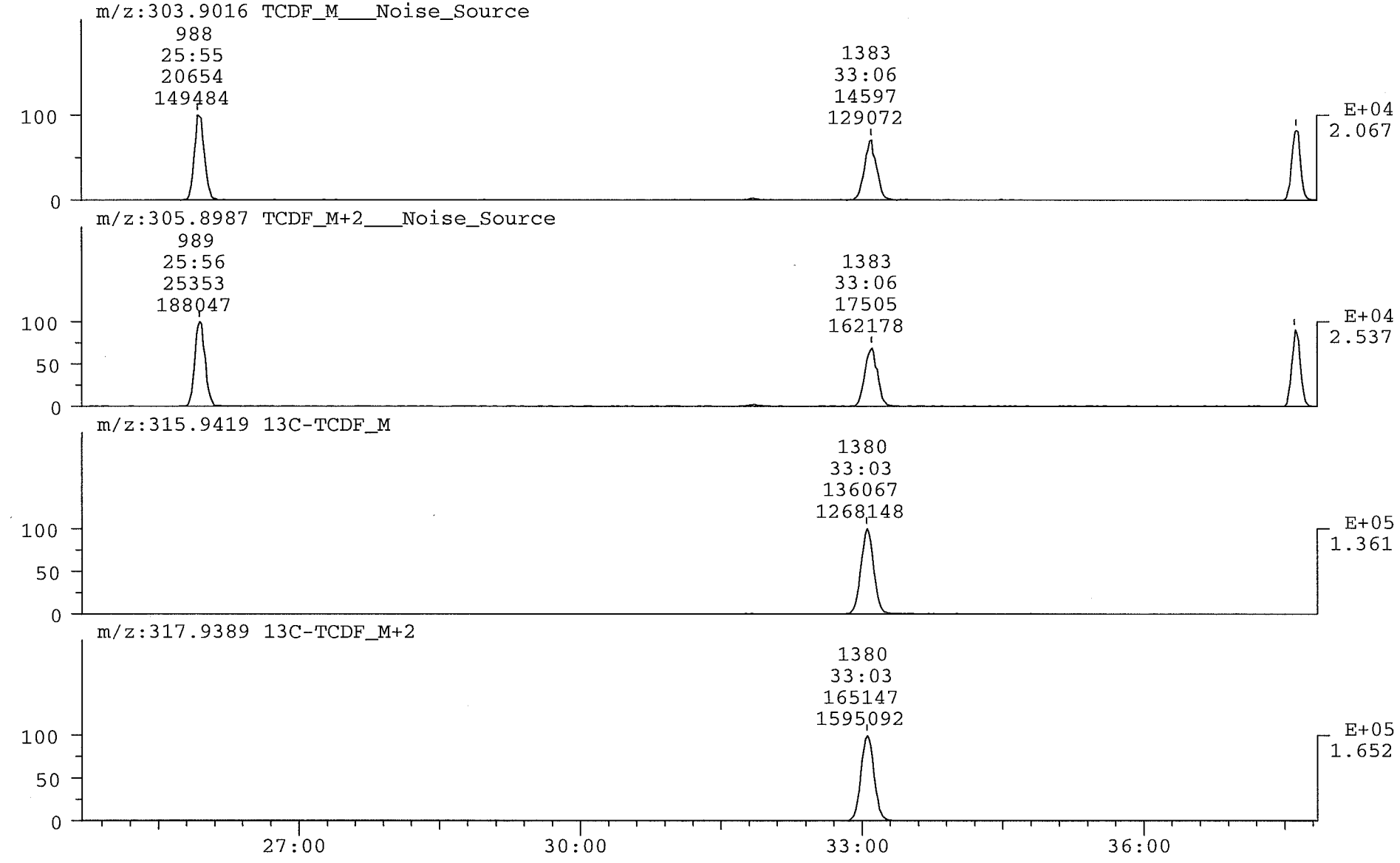
```
CHRO:  b060504w2                          04-May-06   Elapse:  34:56      1484
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1413 > 1555      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  0, 0.0
Disp:  Height  Area
```



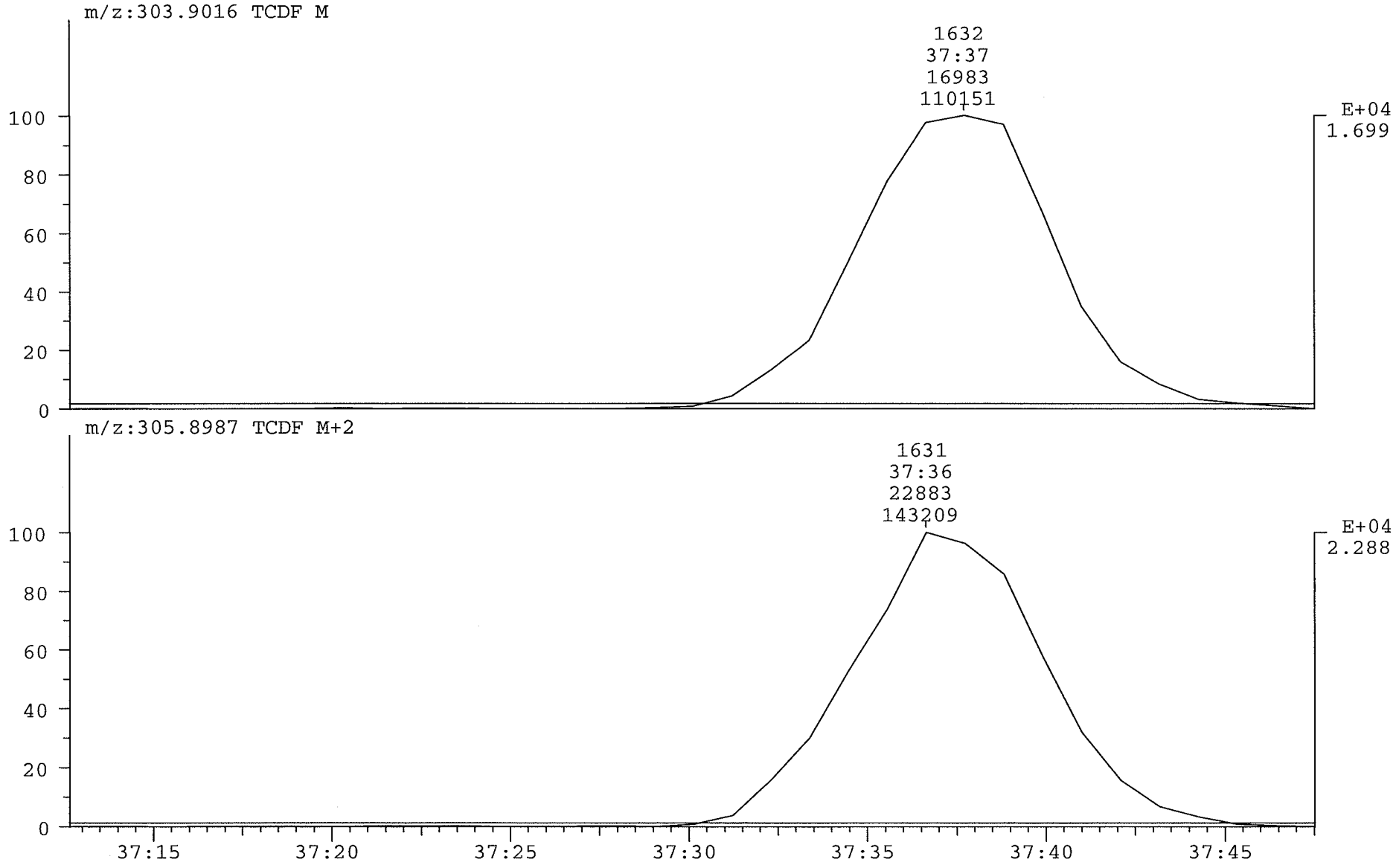
```
CHRO:  b060504w2                          04-May-06   Elapse:  35:12      1499
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1430 > 1574      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



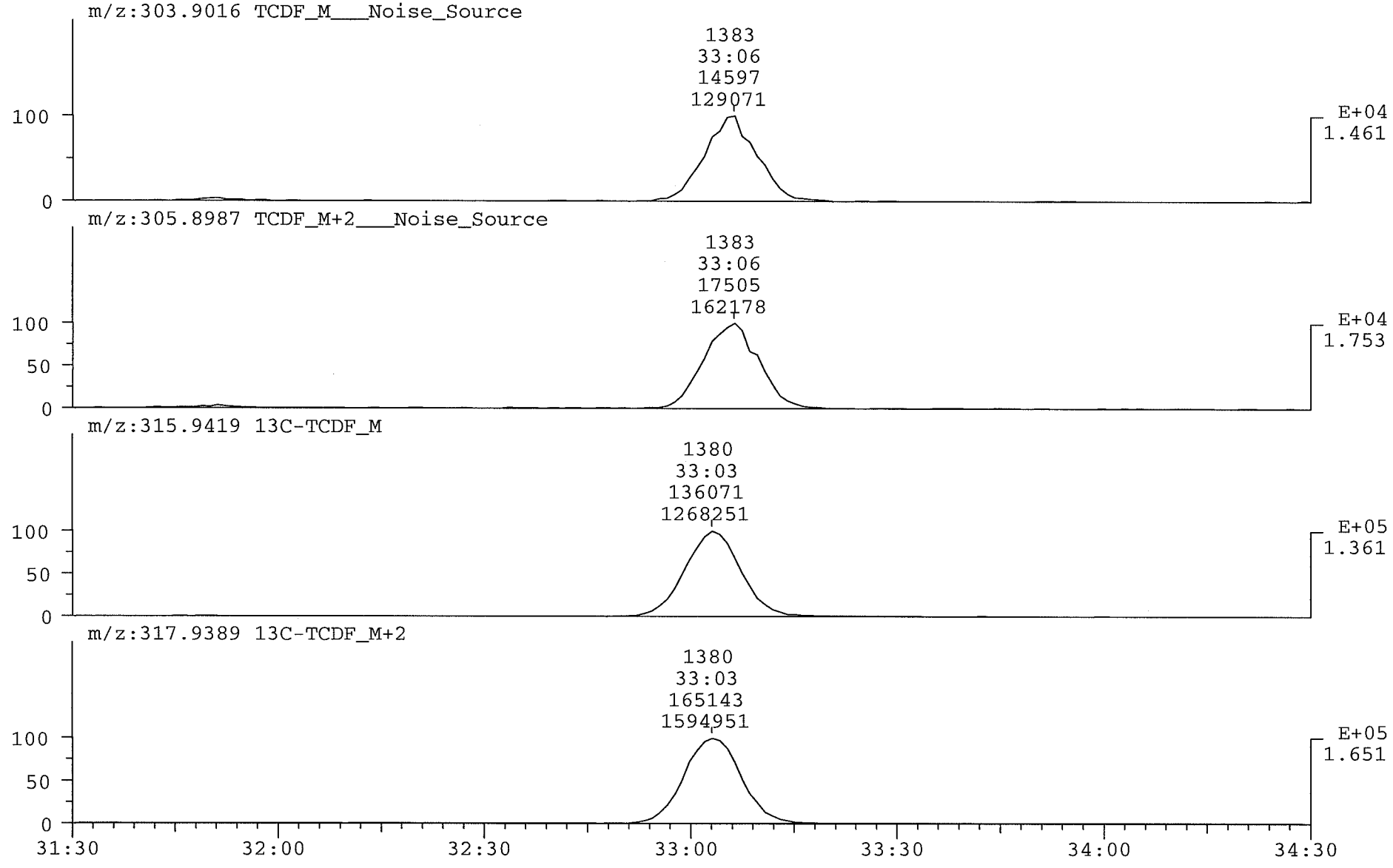
```
CHRO:  b060504w2                              04-May-06   Elapse:  35:12      1499
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                    Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville                Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   919 > 1644           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  2, 3.0
Disp:  Height  Area
```



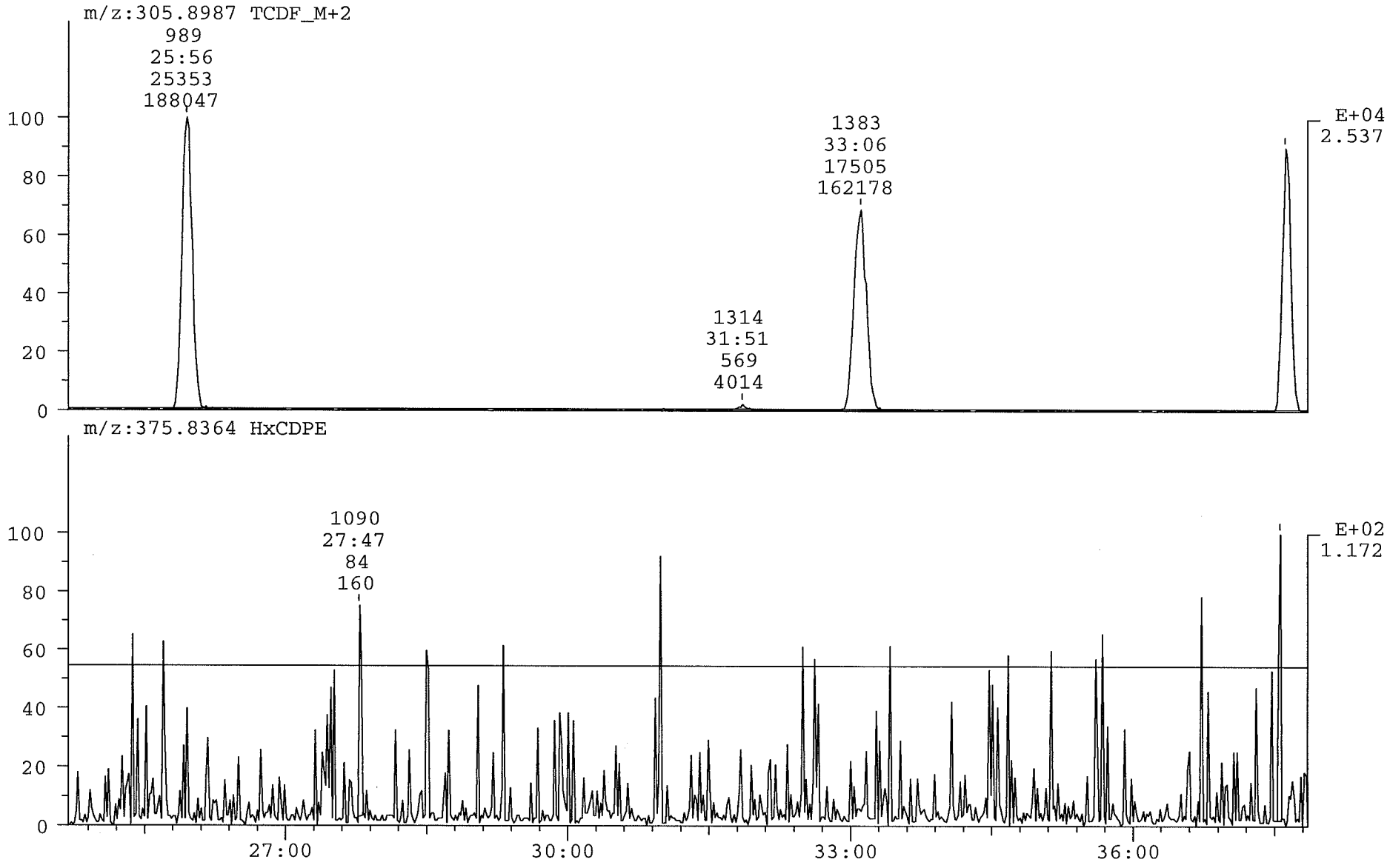
CHRO: b060504w2 04-May-06 Elapse: 56:42 2701
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 21:39:43 2887
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: PMP Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1609 > 1641 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



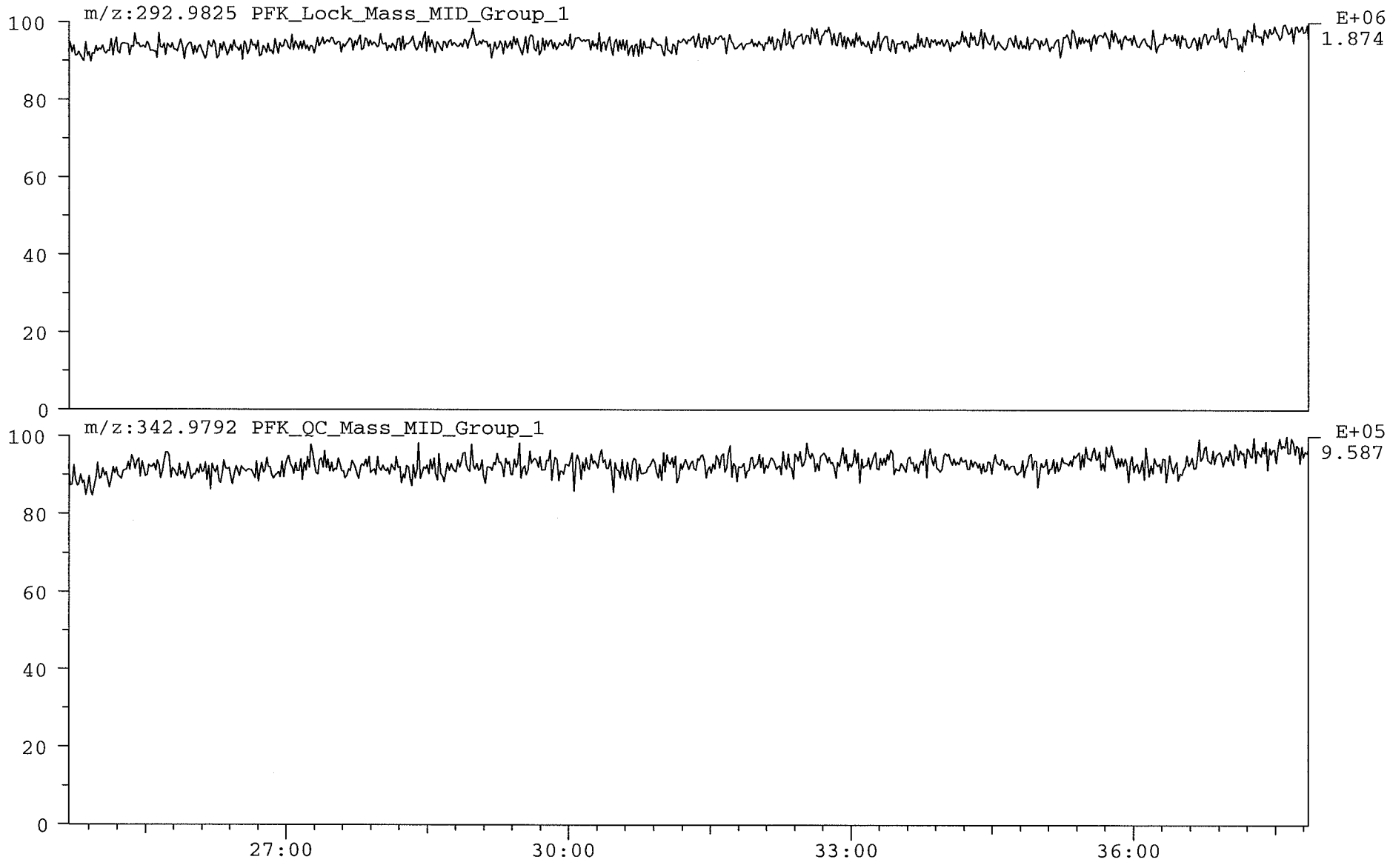
```
CHRO:  b060504w2                                04-May-06  Elapse:  32:56      1374
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                     Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville                 Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1295 > 1460           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
```



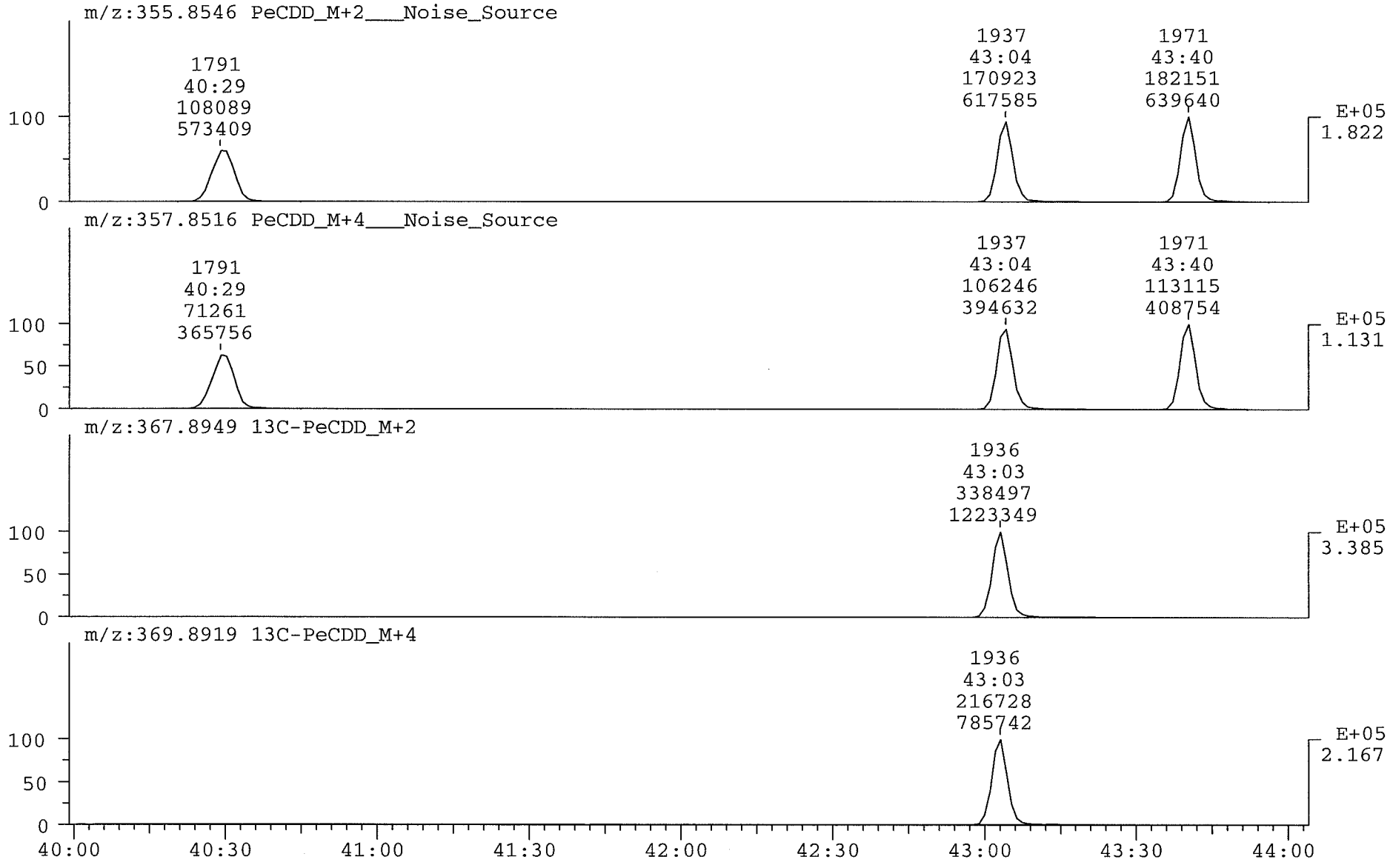
```
CHRO:  b060504w2                                04-May-06  Elapse:  32:56      1374
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                     Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville                 Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   919 > 1644            Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



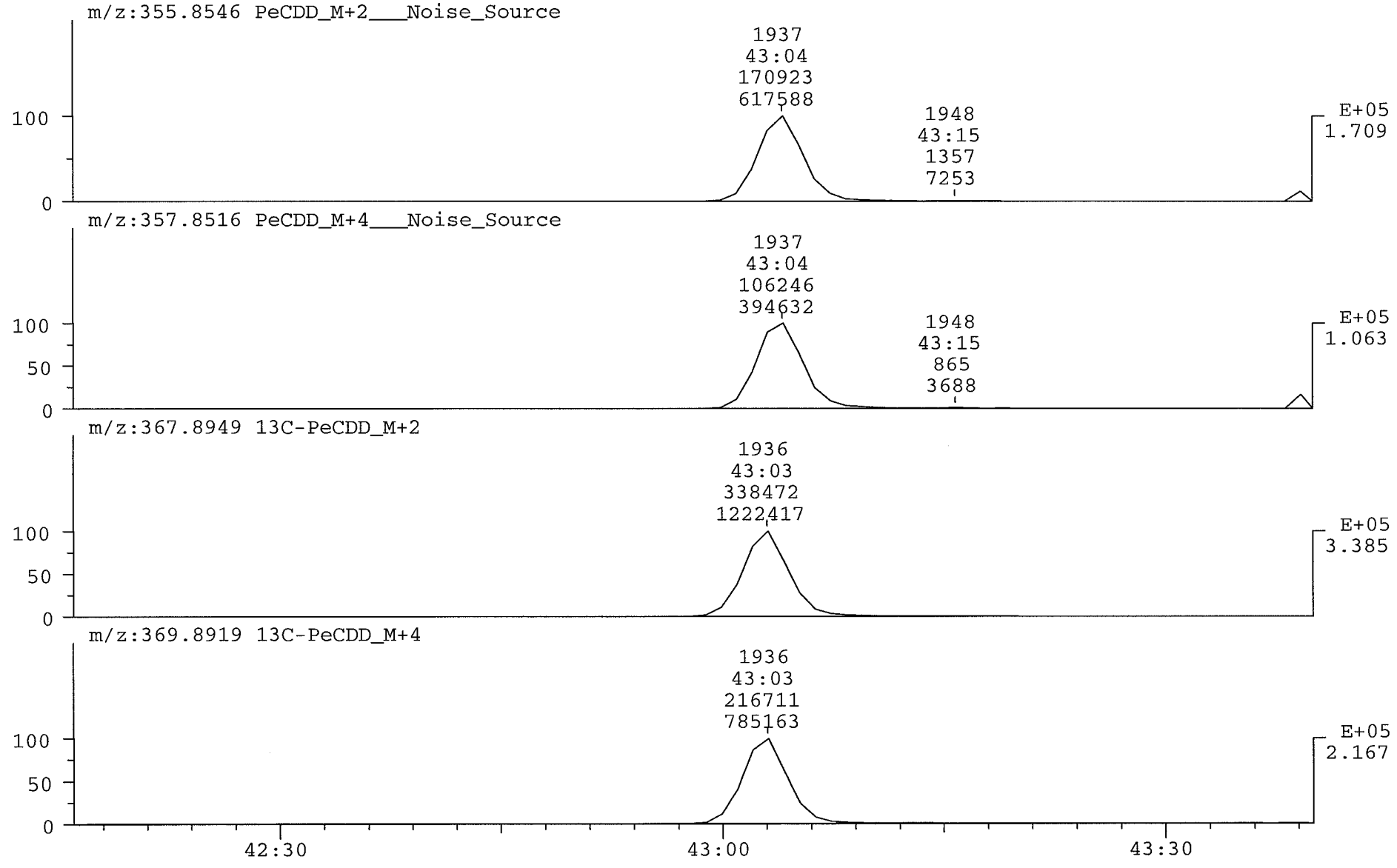
```
CHRO:  b060504w2                              04-May-06   Elapse:  32:56      1374
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                    Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  Ver/Win
Oper:  PMP            Client:  STL Knoxville              Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   919 > 1644          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



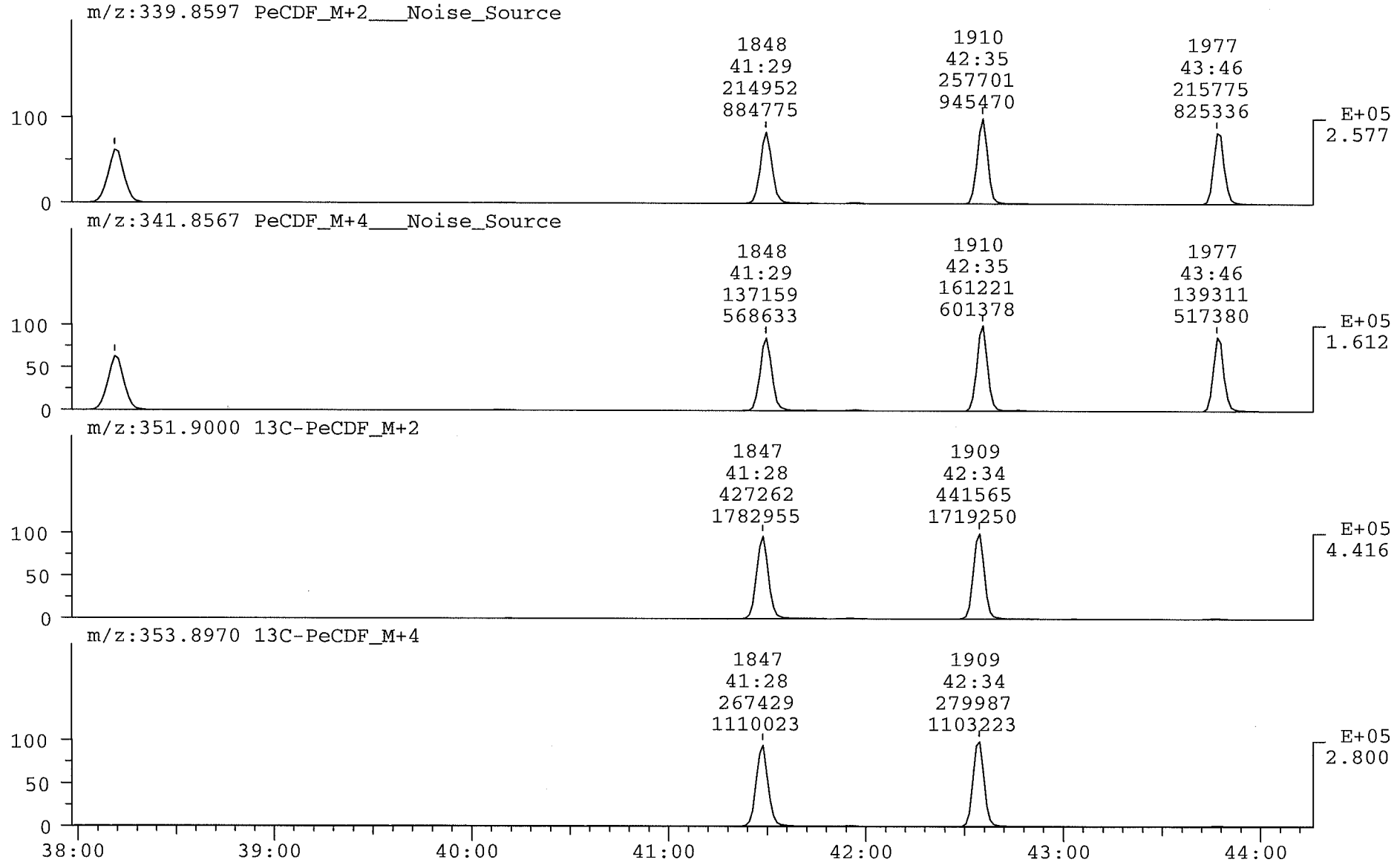
```
CHRO:  b060504w2                          04-May-06   Elapse:  32:56      1374
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1763 > 1993      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



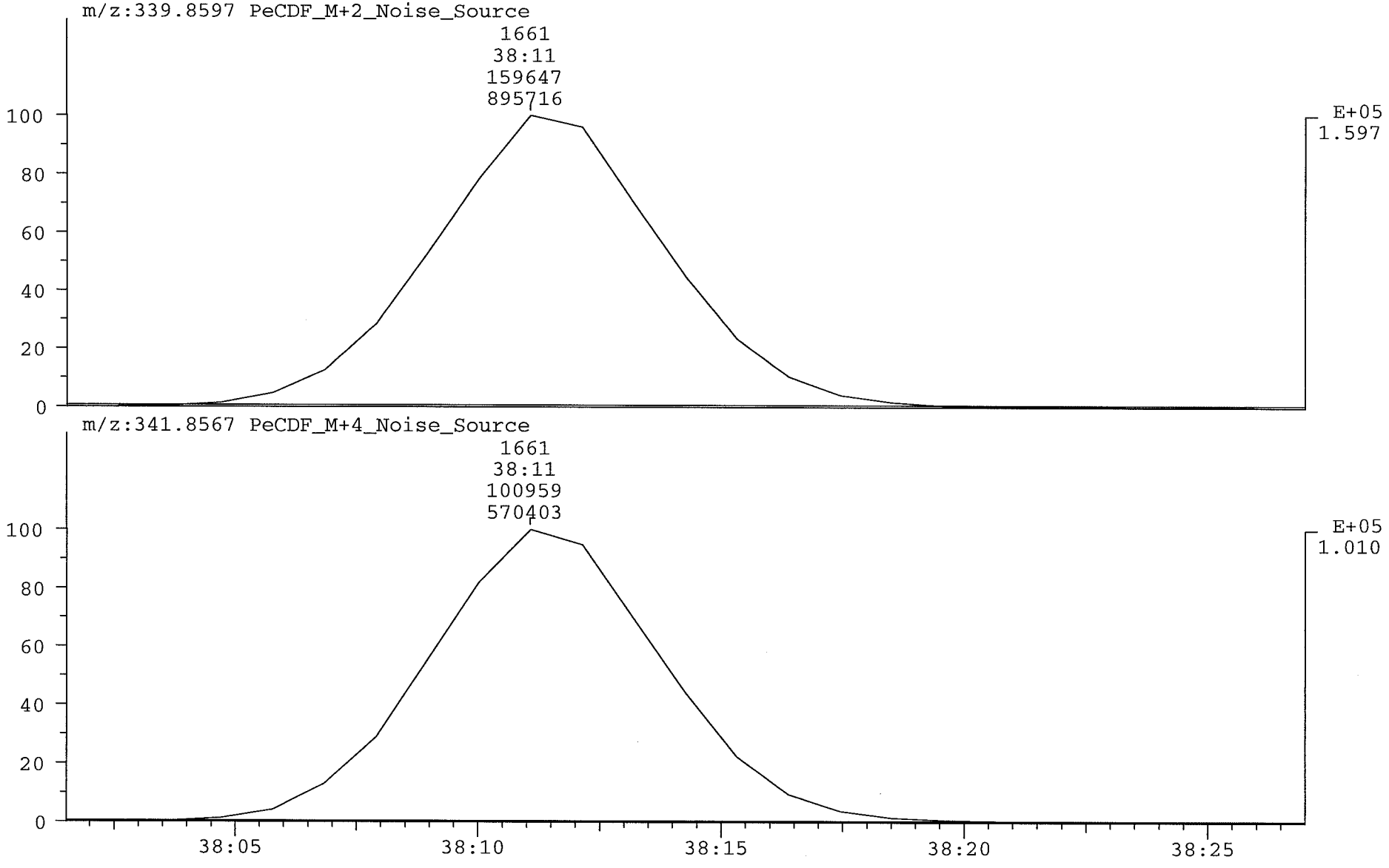
```
CHRO:  b060504w2                              04-May-06  Elapse:  42:54      1928
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                   Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  Ver/Win
Oper:  PMP            Client:  STL Knoxville             Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   1892 > 1971        Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  2, 3.0
Disp:  Height  Area
```



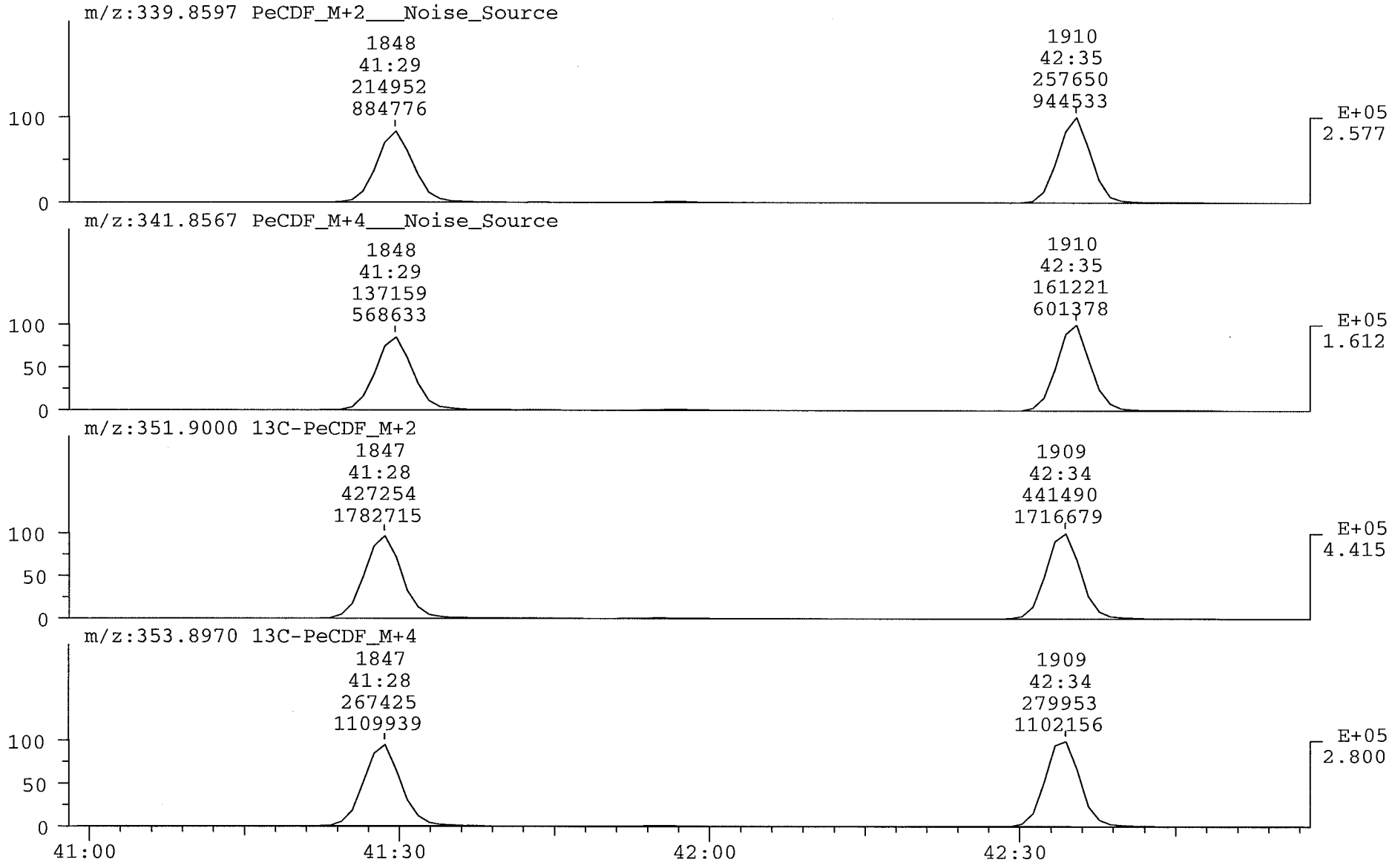
```
CHRO:  b060504w2                                04-May-06  Elapse:  42:54      1928
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                     Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville                 Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1649 > 2005           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
```



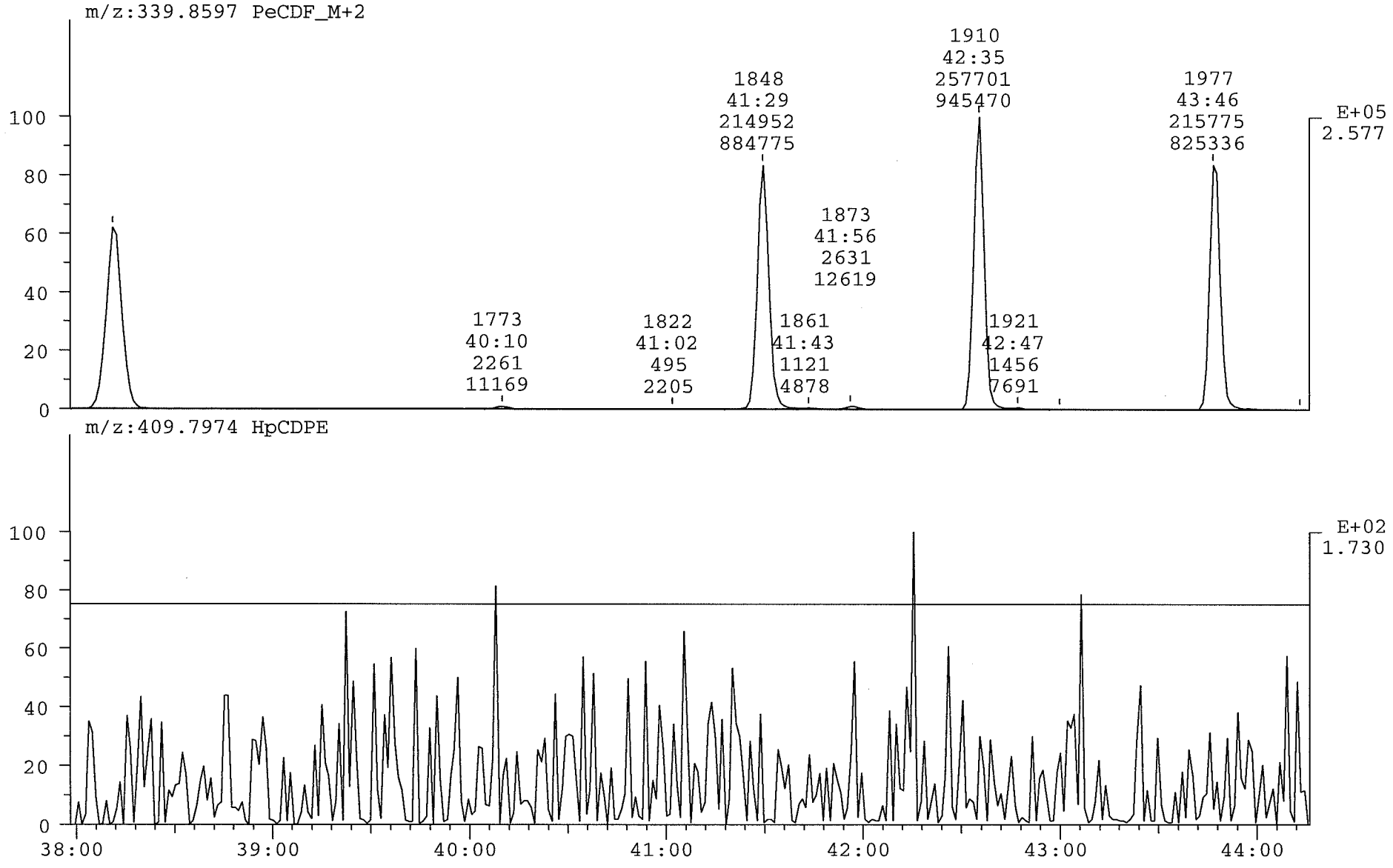
CHRO: b060504w2 04-May-06 Elapse: 56:42 2701
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 21:39:43 2887
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: PMP Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1652 > 1676 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



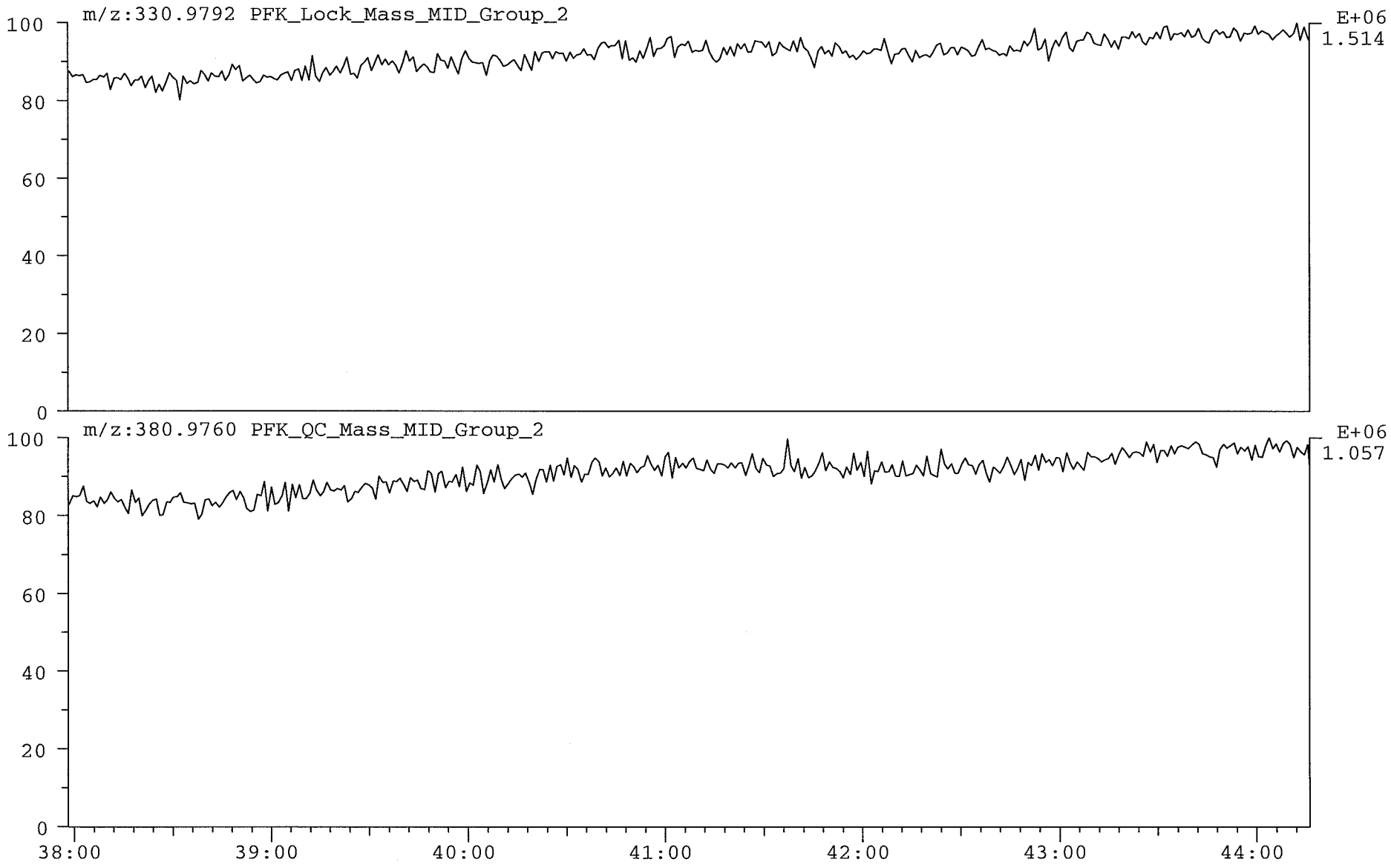
```
CHRO:  b060504w2                          04-May-06   Elapse:  41:58      1875
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1818 > 1931      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



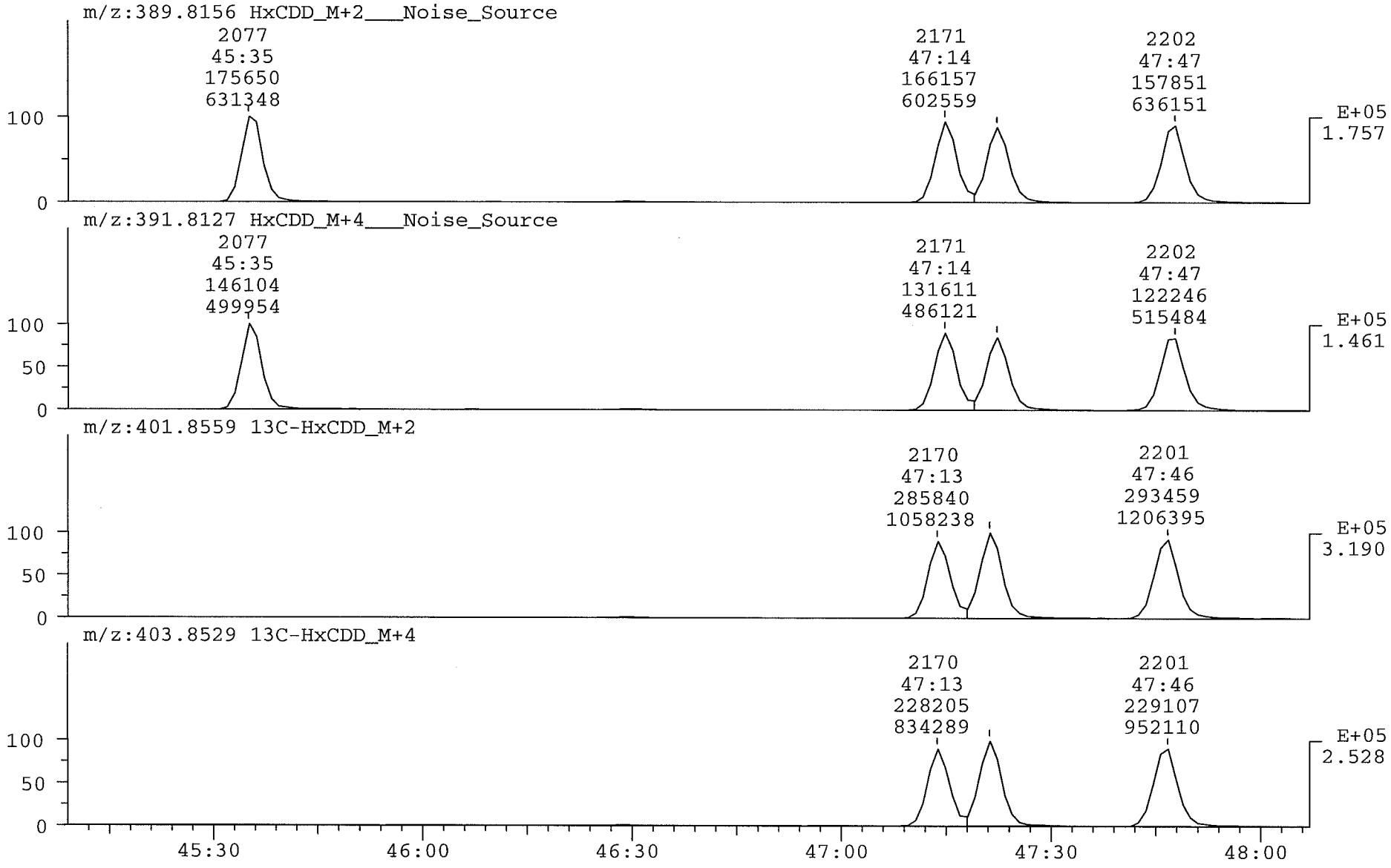
```
CHRO:  b060504w2                                04-May-06  Elapse:  41:58      1875
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                     Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  Ver/Win
Oper:  PMP            Client:  STL Knoxville               Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   1649 > 2005          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



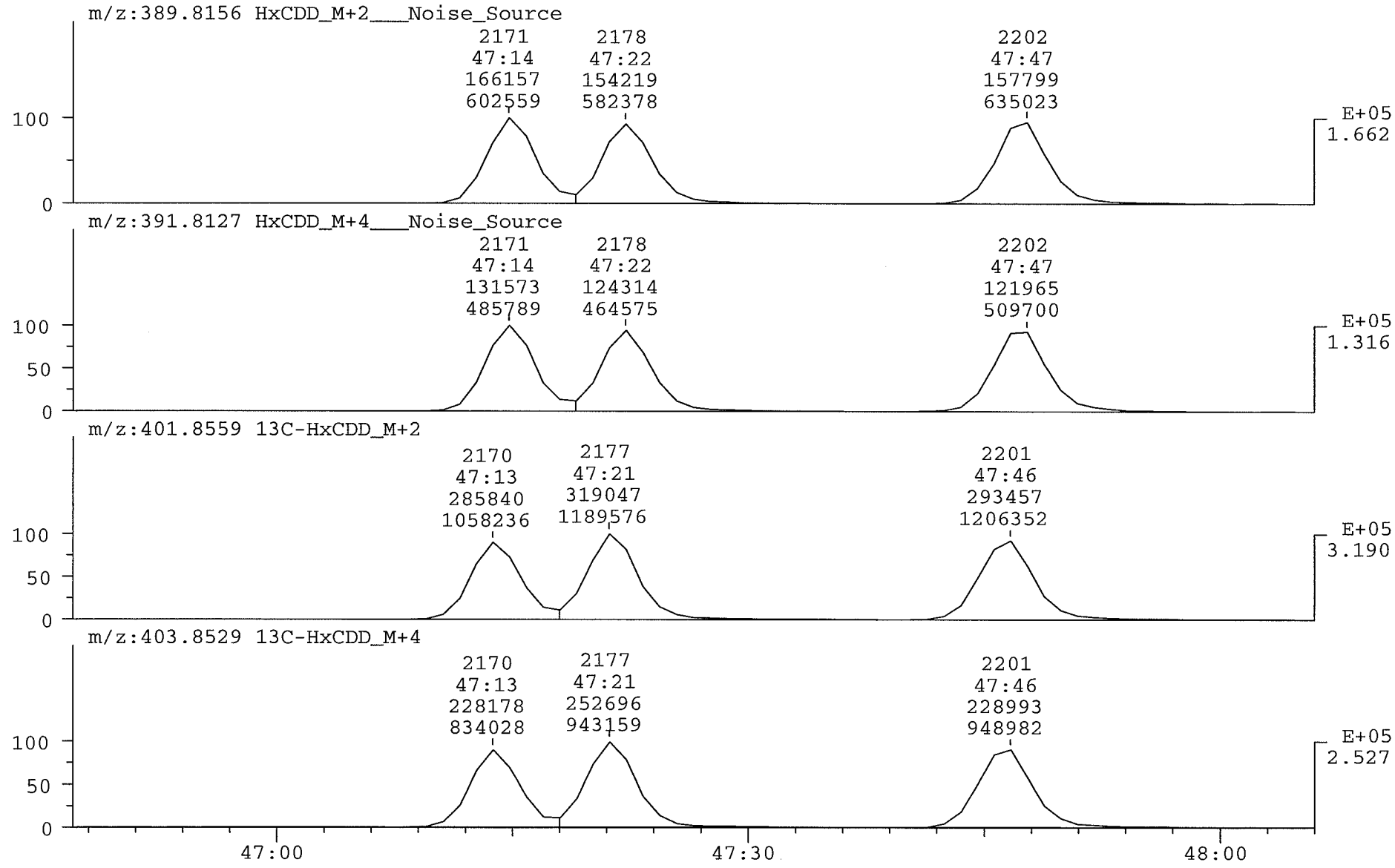
```
CHRO:  b060504w2                          04-May-06   Elapse:  41:58      1875
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1649 > 2005      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  0, 0.0
Disp:  Height  Area
```



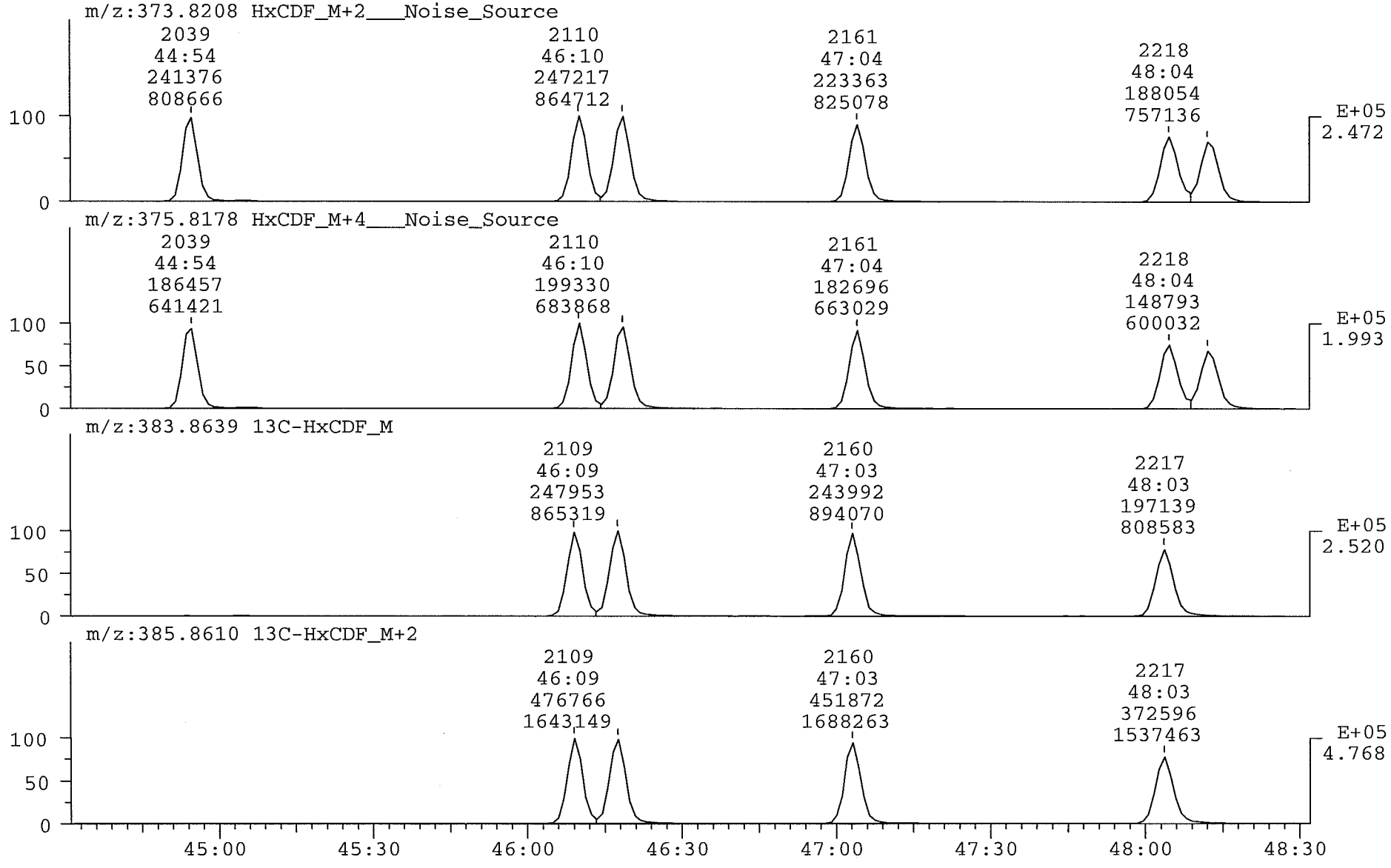
```
CHRO:  b060504w2                                04-May-06  Elapse:  41:58      1875
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                     Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville                 Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2052 > 2220           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
```



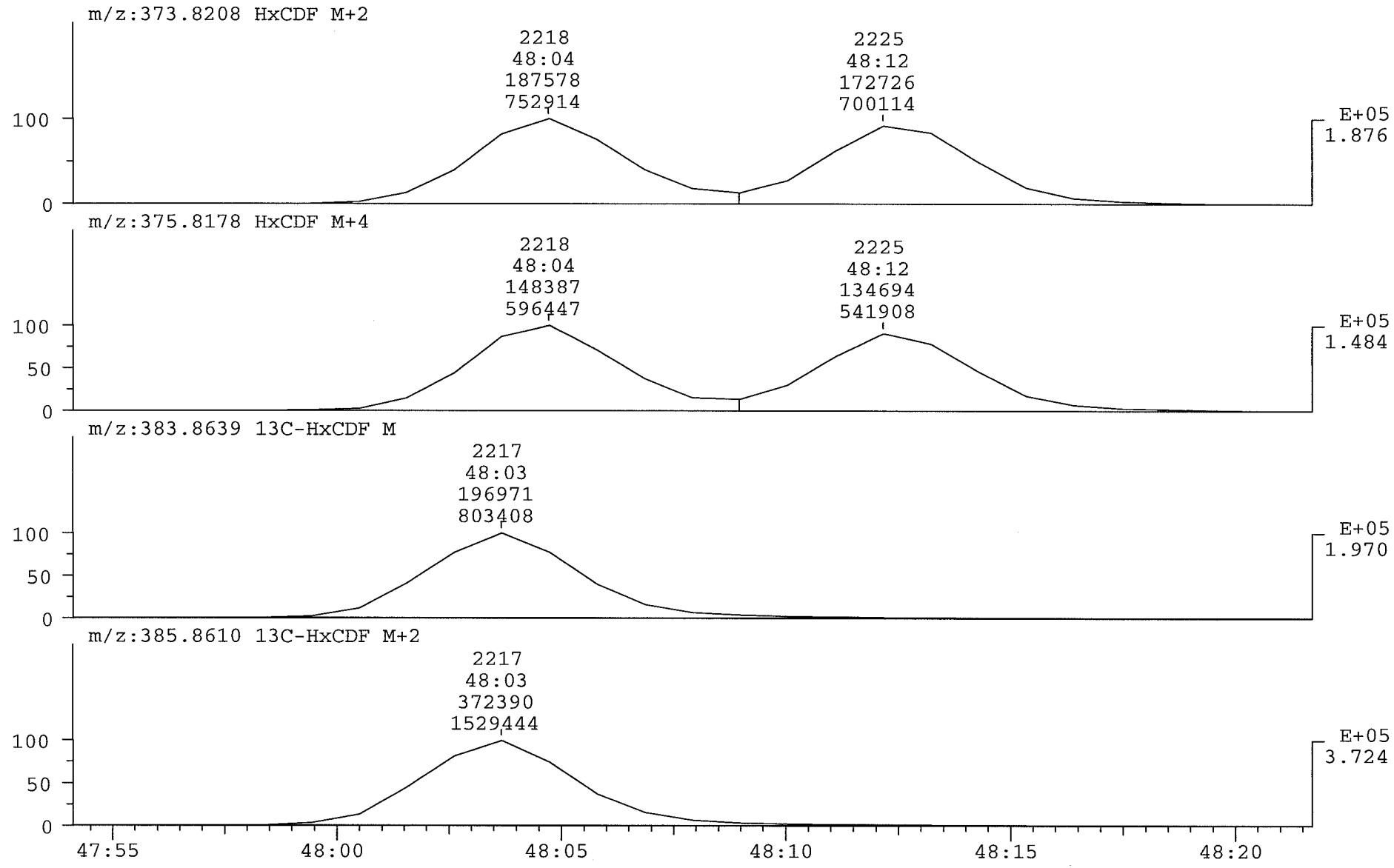
```
CHRO:  b060504w2                              04-May-06   Elapse:  47:26      2182
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                    Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  Ver/Win
Oper:  PMP            Client:  STL Knoxville              Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   2145 > 2219         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  2, 3.0
Disp:  Height  Area
```



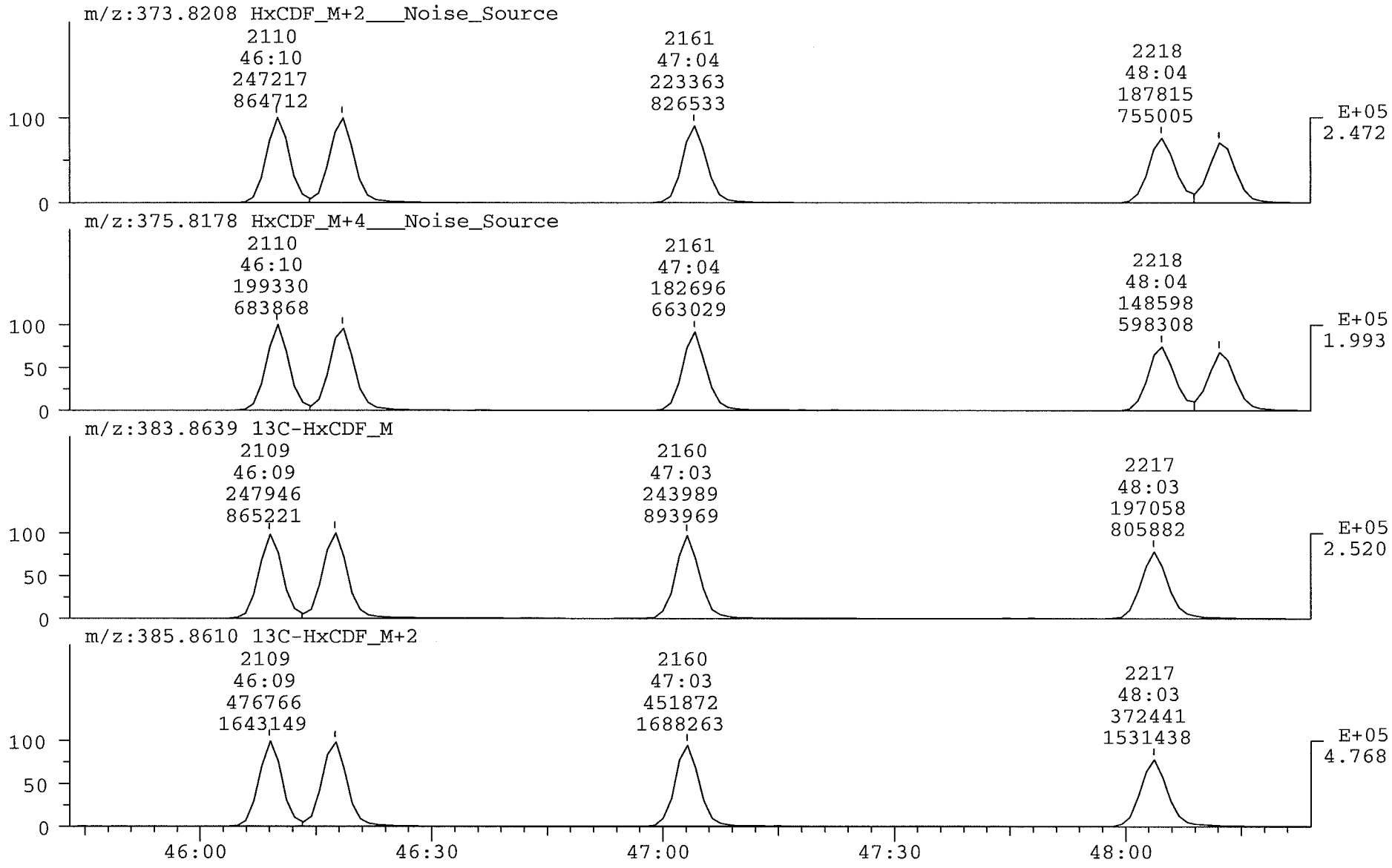
```
CHRO:  b060504w2                              04-May-06  Elapse:  47:26      2182
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                   Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville               Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2017 > 2244         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  2, 3.0
Disp:  Height  Area
```



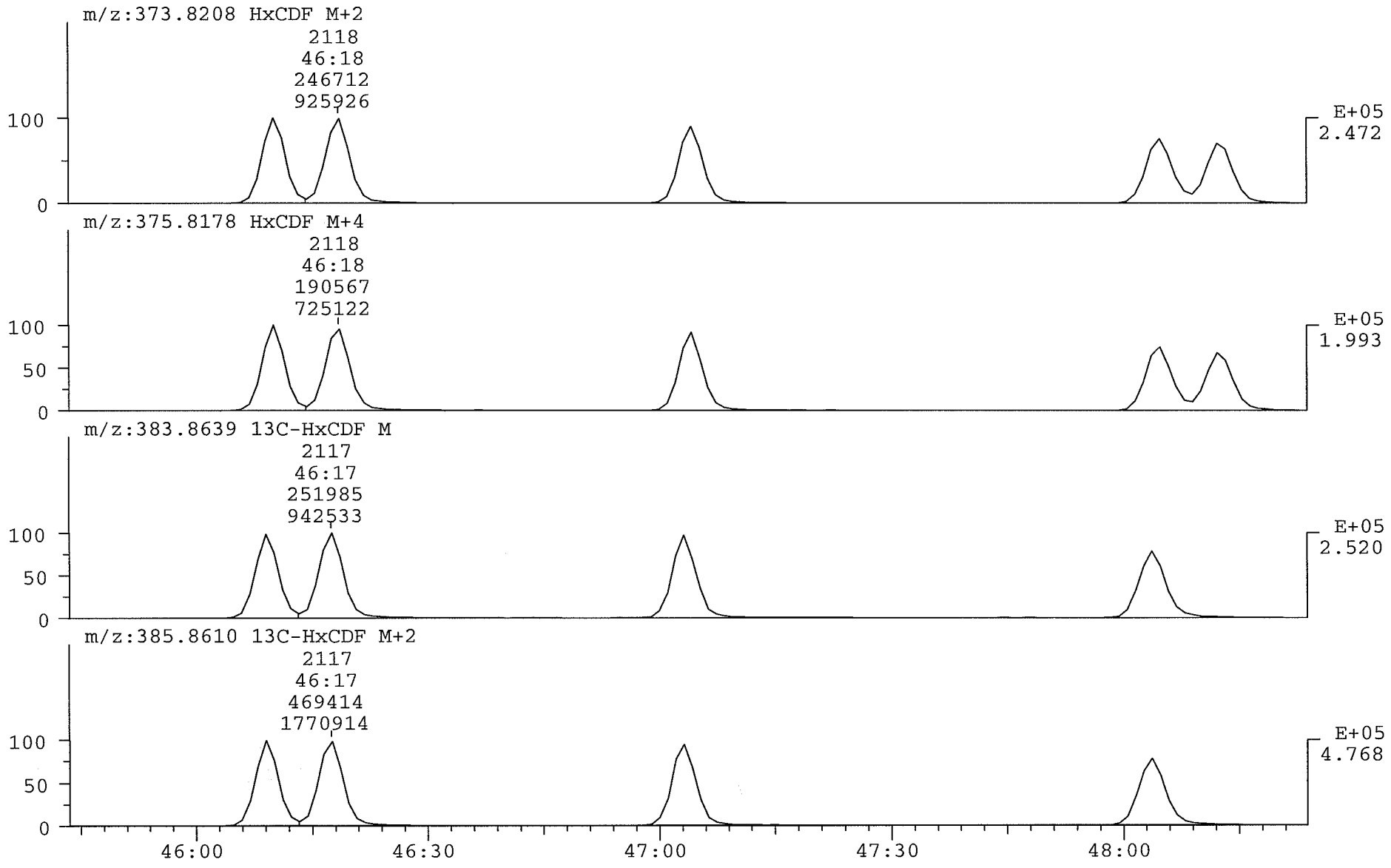
CHRO: b060504w2 04-May-06 Elapse: 56:42 2701
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 21:39:43 2887
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: PMP Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2208 > 2234 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



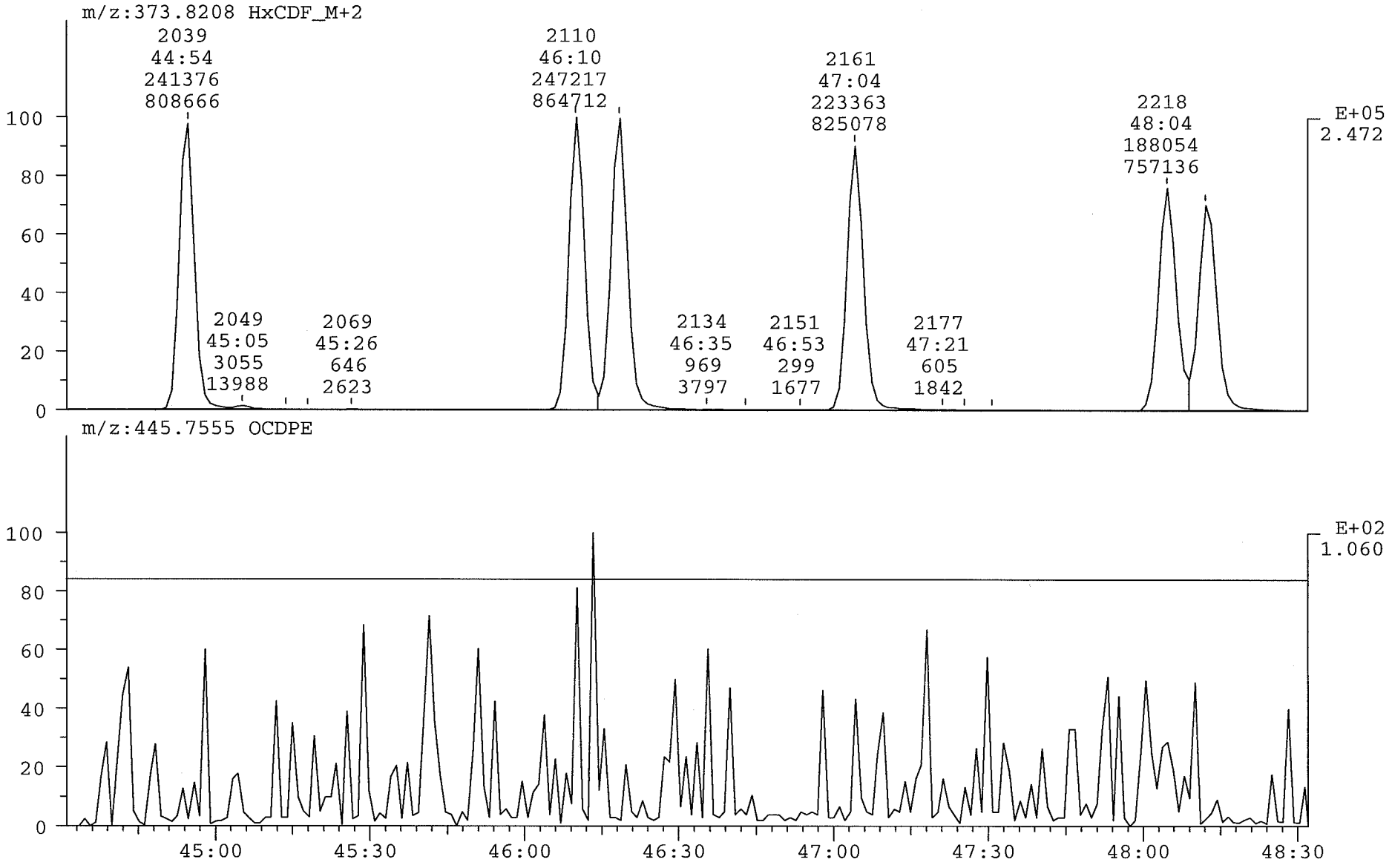
```
CHRO:  b060504w2                              04-May-06  Elapse:  47:03      2160
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                   Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville               Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2085 > 2236         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  2, 3.0
Disp:  Height  Area
```



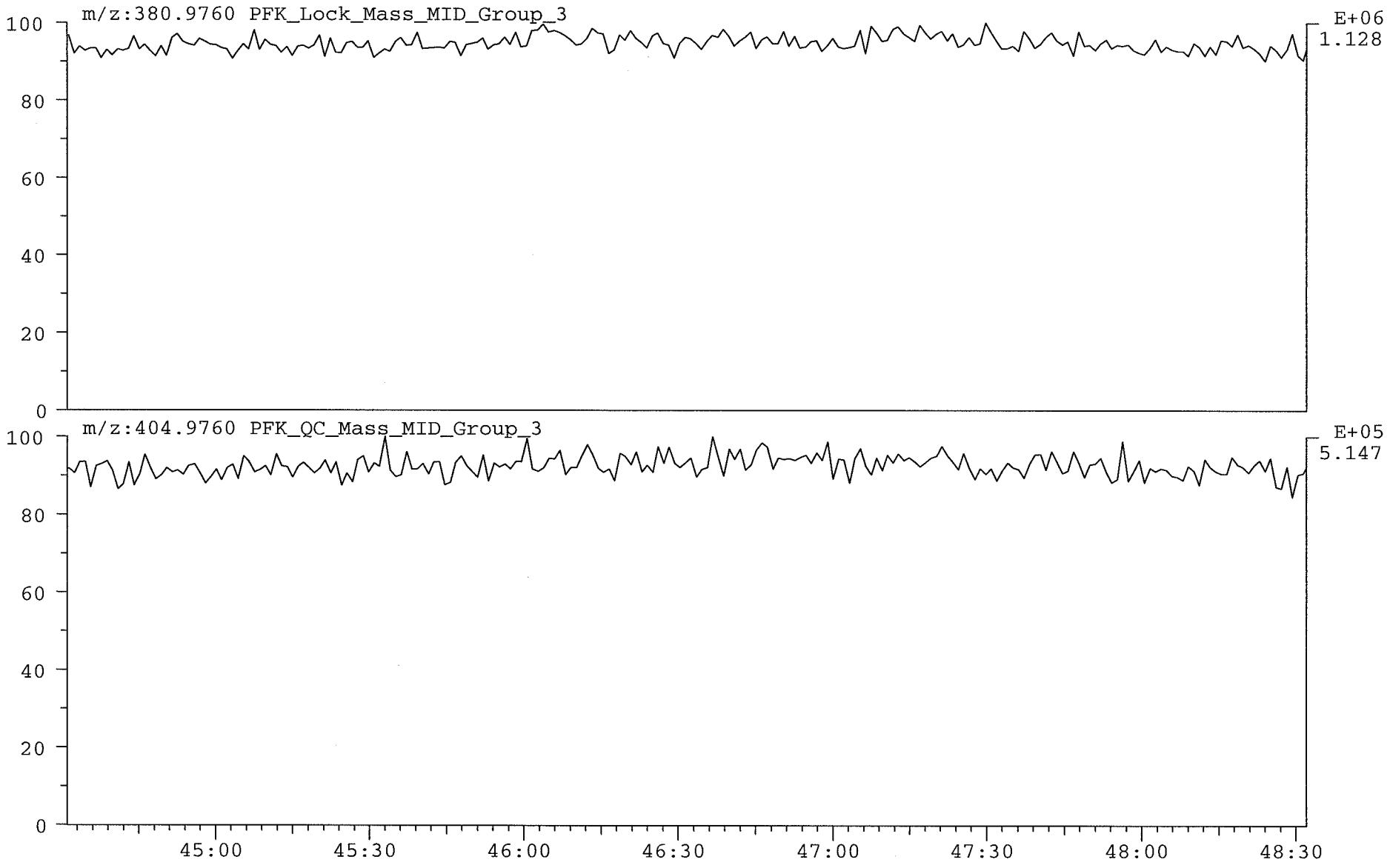
CHRO: b060504w2 04-May-06 Elapse: 46:17 2117
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 21:39:43 2887
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: PMP Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2114 > 2120 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



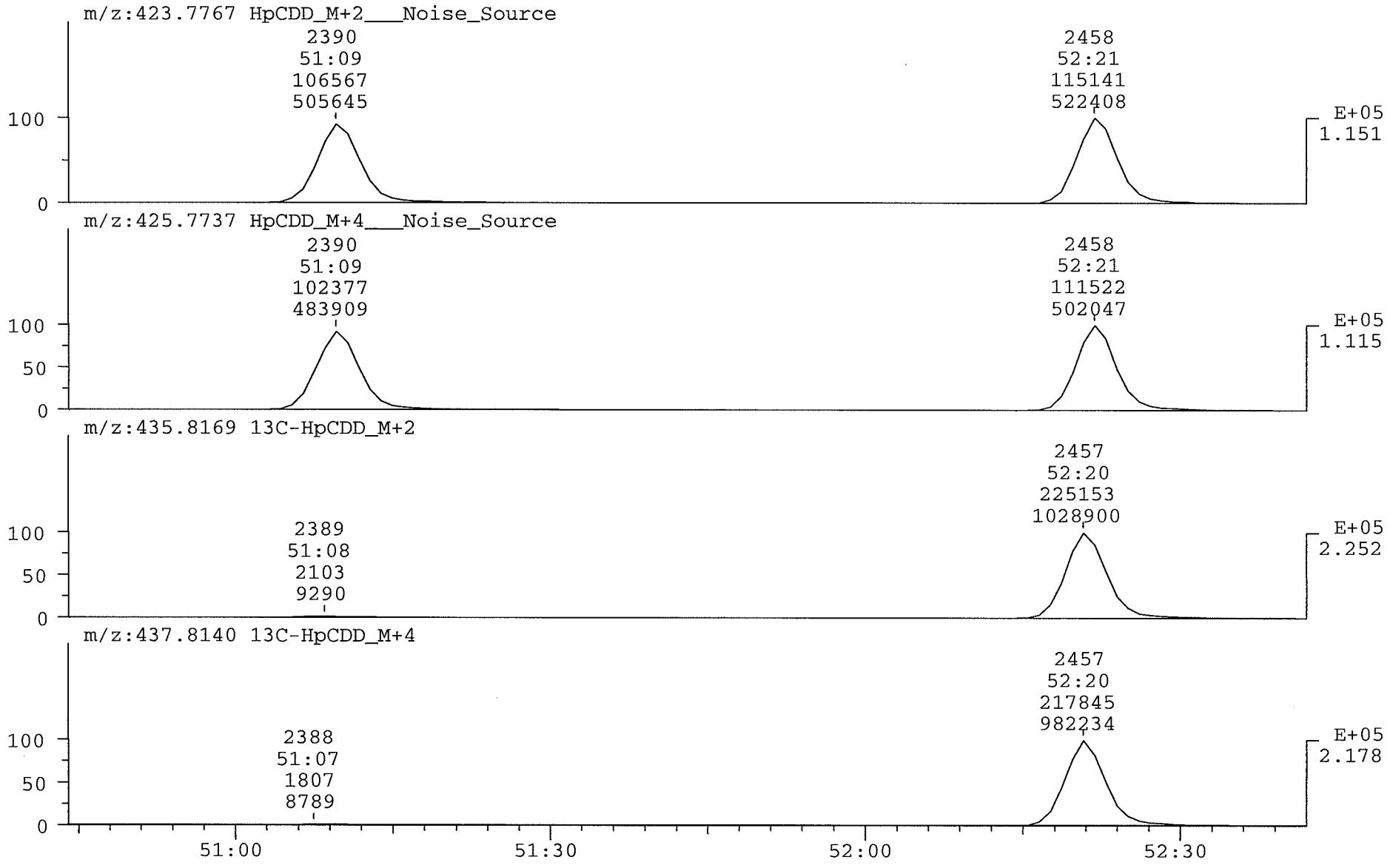
```
CHRO:  b060504w2                                04-May-06  Elapse:  46:12      2112
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                     Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville                 Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2017 > 2244           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



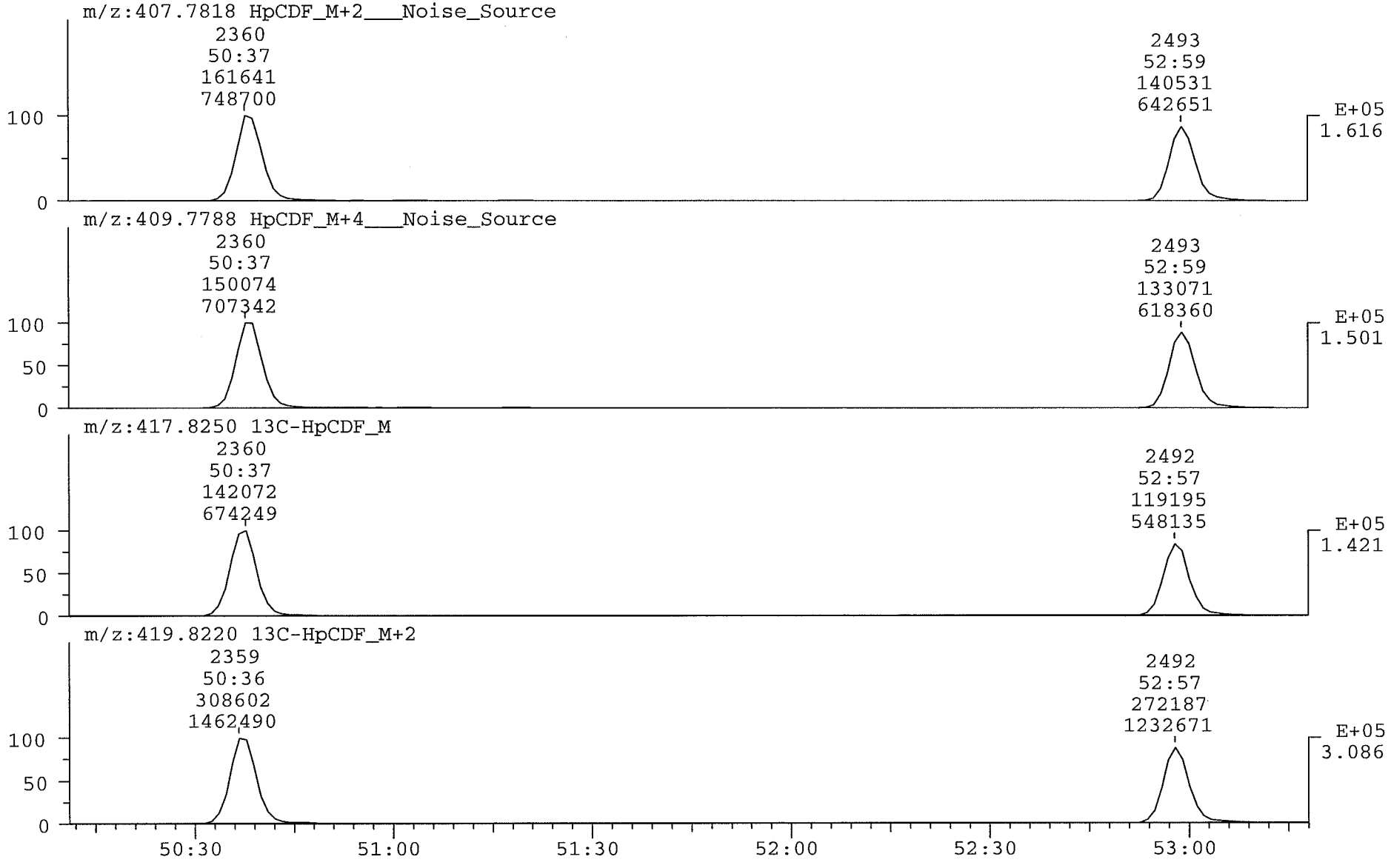
```
CHRO:  b060504w2                              04-May-06   Elapse:  46:12      2112
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                    Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  Ver/Win
Oper:  PMP            Client:  STL Knoxville              Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   2017 > 2244         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



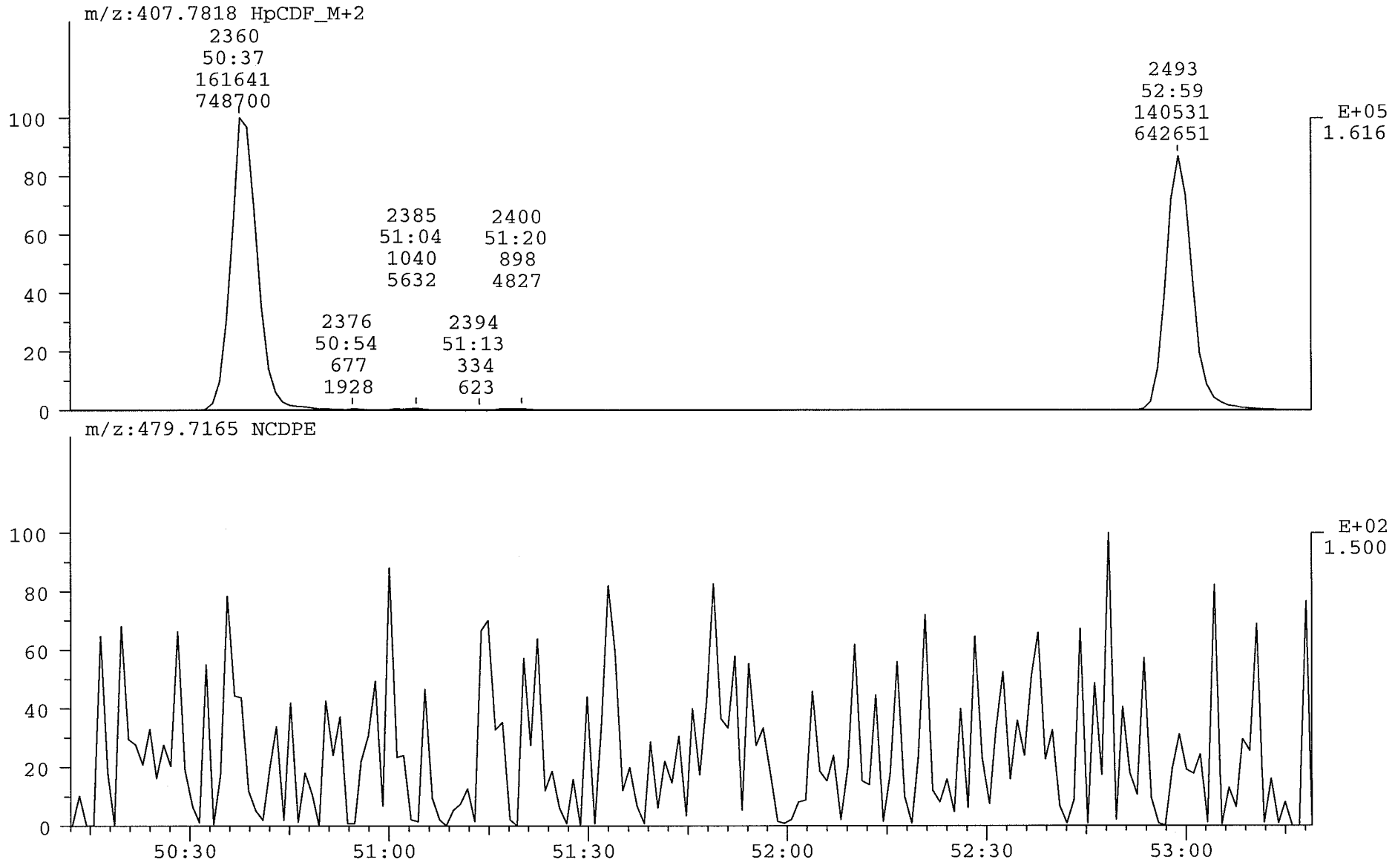
```
CHRO:  b060504w2                              04-May-06   Elapse:  46:12      2112
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                    Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville                Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2366 > 2477          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



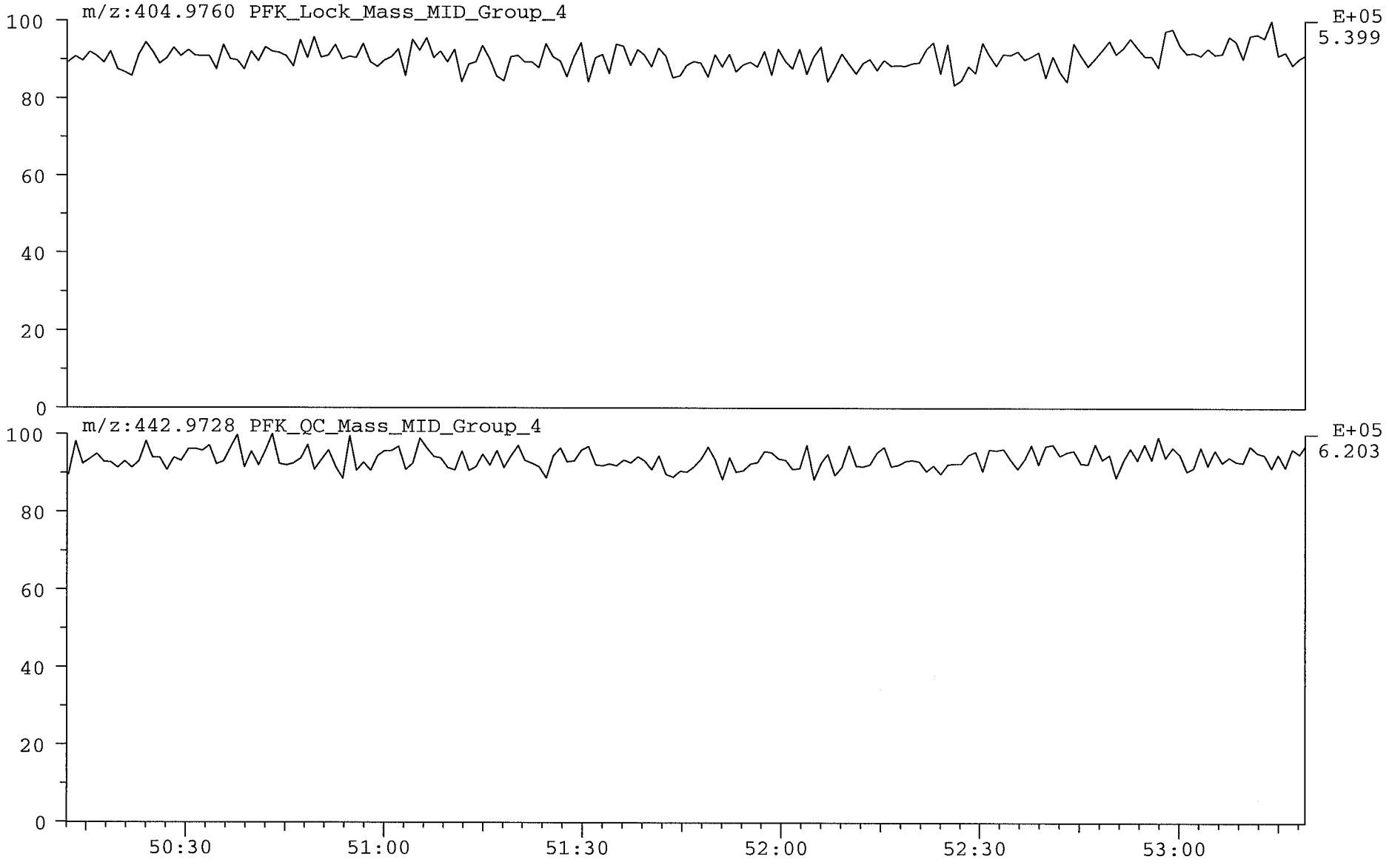
```
CHRO:  b060504w2                          04-May-06   Elapse:  51:43      2422
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2335 > 2511      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



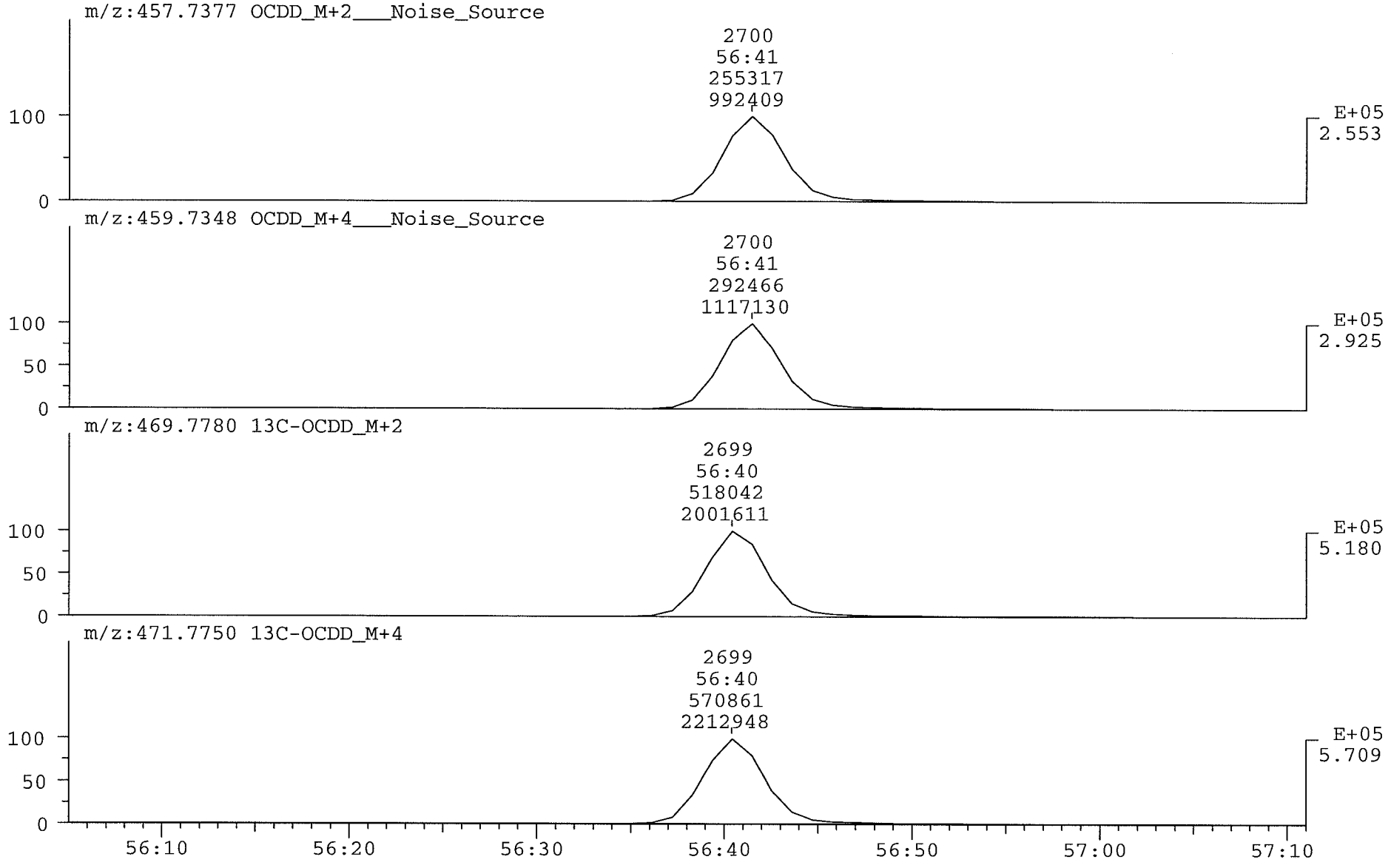
```
CHRO:  b060504w2                                04-May-06  Elapse:  51:43      2422
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                     Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville                 Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2336 > 2512           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  b060504w2                          04-May-06   Elapse:  51:43      2422
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2336 > 2512      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  0, 0.0
Disp:  Height  Area
```



```
CHRO:  b060504w2                              04-May-06   Elapse:  56:35      2694
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                    Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville                Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2666 > 2728          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  b060504w2                          04-May-06   Elapse:  56:42      2701
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  PMP          Client:  STL Knoxville            Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2673 > 2735      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
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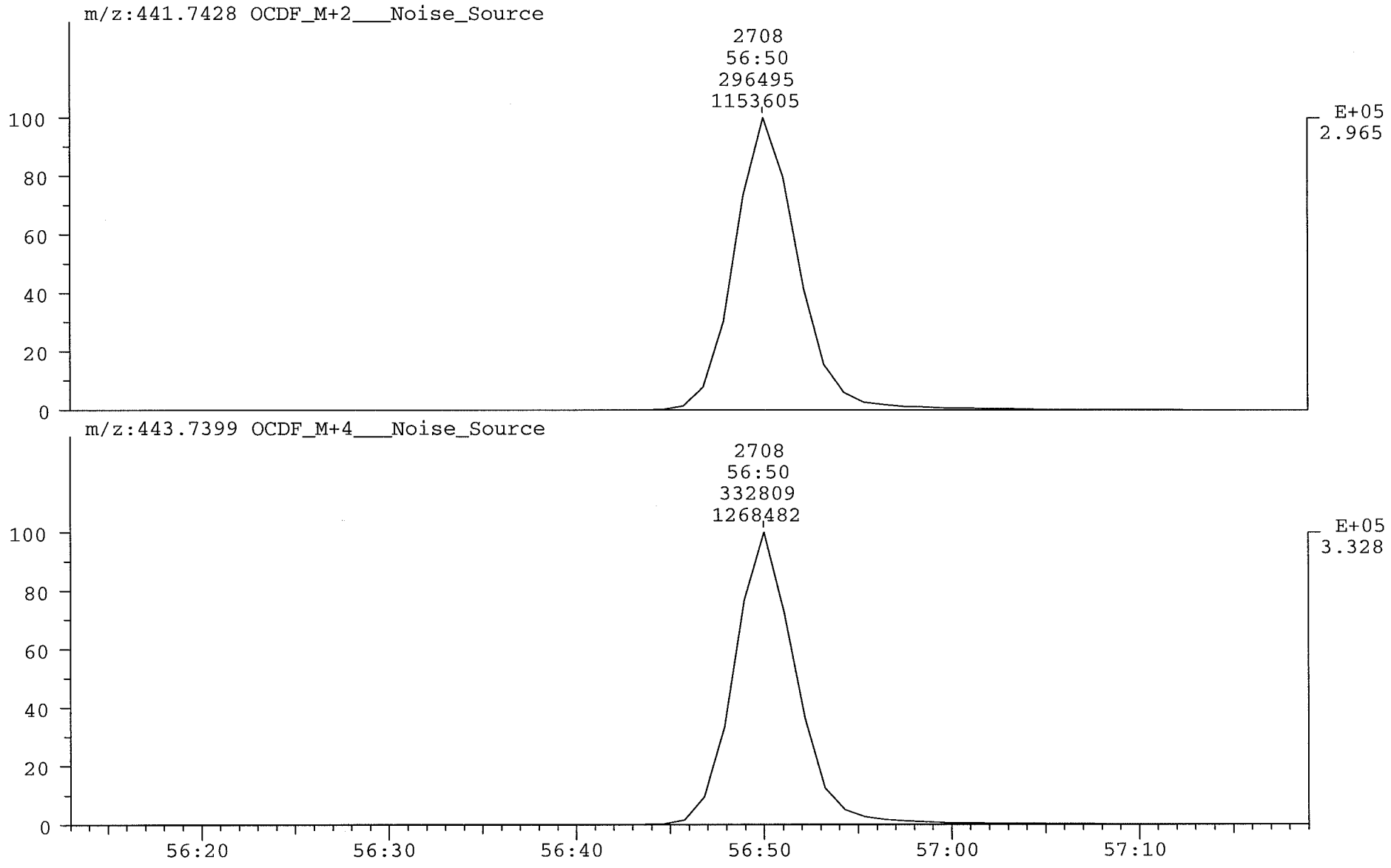
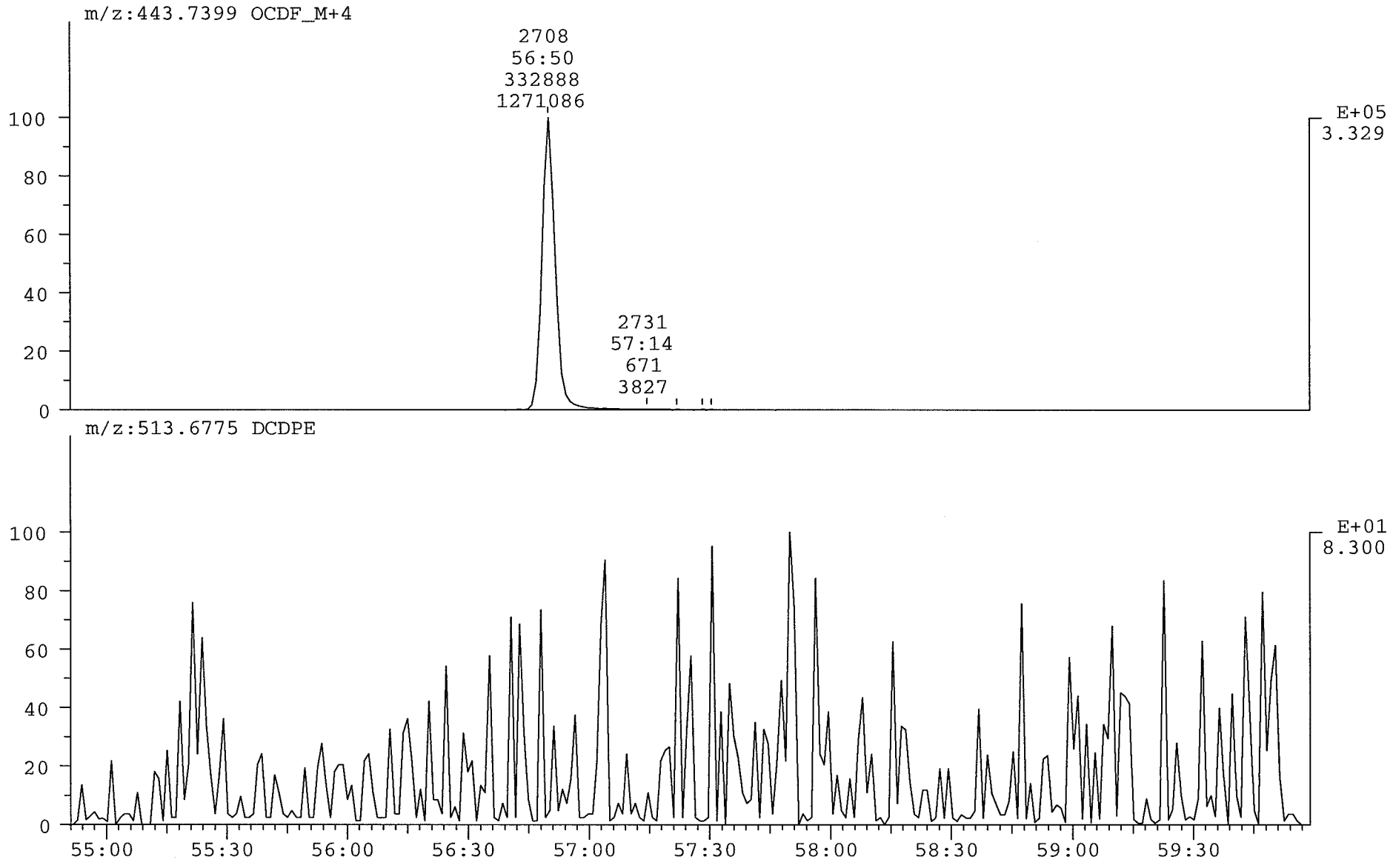
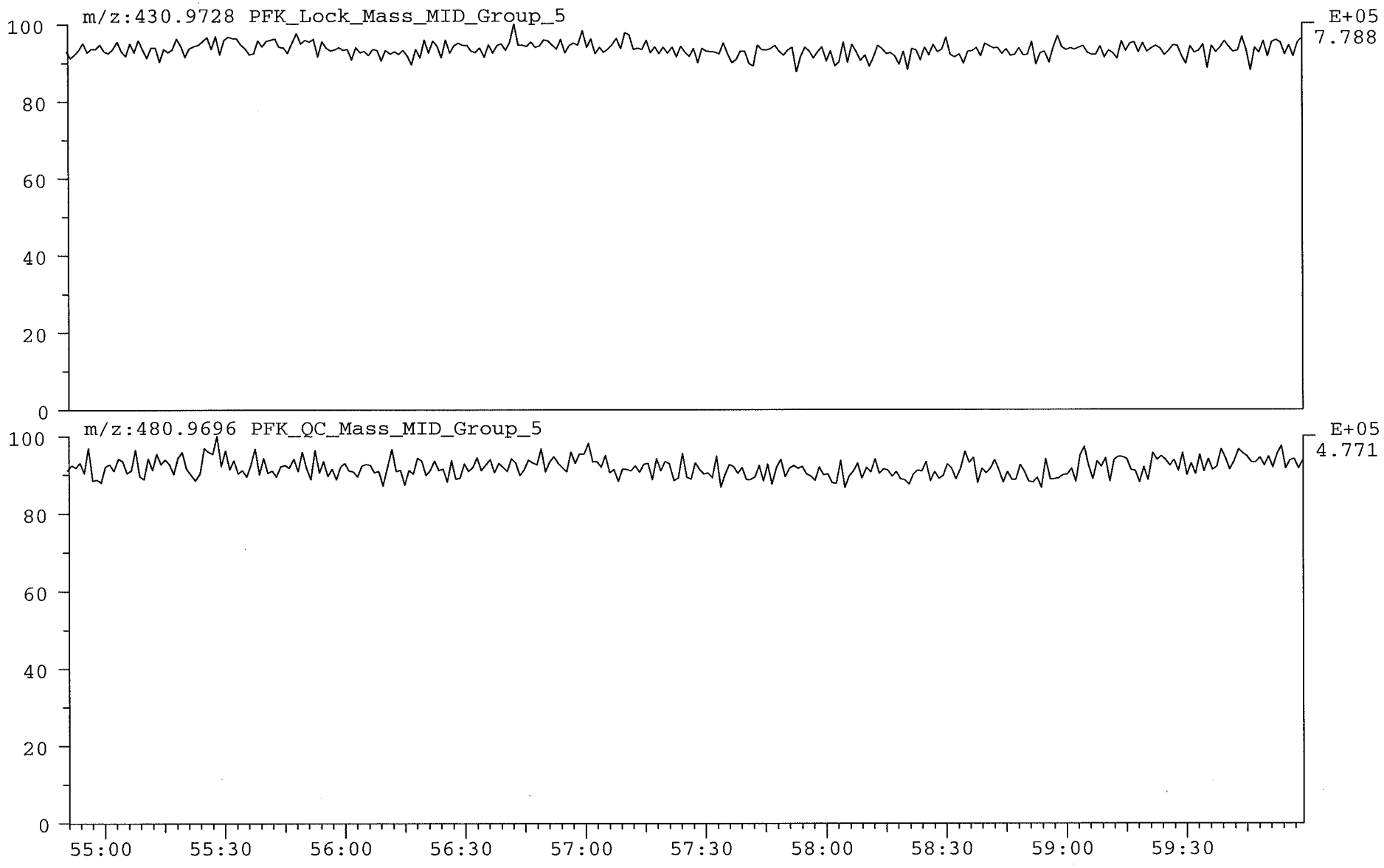


```
CHRO:  b060504w2                              04-May-06   Elapse:  56:42      2701
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                    Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  Ver/Win
Oper:  PMP            Client:  STL Knoxville              Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   2596 > 2885         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  b060504w2                              04-May-06   Elapse:  56:42      2701
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                    Start :  21:39:43   2887
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  Ver/Win
Oper:  PMP            Client:  STL Knoxville              Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   2596 > 2885         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: b060504w2
Study: Ver/Win
Sample: WO=3262:44 Meth=F8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: PMP
Client: STL Knoxville
Comments: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Injected volume: 2.0
Sample from Vial 1
Analysis will stop when MID run finishes
Tune file name: tune2
File 1 of list 060504
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	TRUE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	140 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	29:52 min	37:52 min	1.00 sec
# 2	37:52 min	6:32 min	44:25 min	1.00 sec
# 3	44:25 min	5:05 min	49:30 min	1.00 sec
# 4	49:30 min	5:15 min	54:45 min	1.00 sec
# 5	54:45 min	5:15 min	60:00 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

351.9000		1	1	91.48
353.8970		1	1	91.48
355.8546		1	1	91.48
357.8516		1	1	91.48
367.8949		1	1	91.48
369.8919		1	1	91.48
380.9760	c	10	1	8.19
409.7974		1	1	91.48

Window # 3

mass	F	int	gr	time (ms)
373.8208		1	1	91.48
375.8178		1	1	91.48
380.9760	l	10	1	8.19
383.8639		1	1	91.48
385.8610		1	1	91.48
389.8156		1	1	91.48
391.8127		1	1	91.48
401.8559		1	1	91.48
403.8529		1	1	91.48
404.9760	c	10	1	8.19
445.7555		1	1	91.48

Window # 4

mass	F	int	gr	time (ms)
404.9760	l	10	1	8.19
407.7818		1	1	91.48
409.7788		1	1	91.48
417.8250		1	1	91.48
419.8220		1	1	91.48
423.7767		1	1	91.48
425.7737		1	1	91.48
435.8169		1	1	91.48
437.8140		1	1	91.48
442.9728	c	10	1	8.19
479.7165		1	1	91.48

Window # 5

mass	F	int	gr	time (ms)
430.9728	l	10	1	10.92
441.7428		1	1	120.15
443.7399		1	1	120.15
457.7377		1	1	120.15
459.7348		1	1	120.15
469.7780		1	1	120.15
471.7750		1	1	120.15
480.9696	c	10	1	10.92
513.6775		1	1	120.15

Auto Sampler descriptor: pcdd2ul

Injector A

Normal Injection

Slvnt A cln before inj(K):	3	times
Slvnt B cln before inj(L):	0	times
Sample rinse cycles (R):	0	times
Syringe filling volume(F):	1.0	ul
Pullup delay time (D):	4	sec
Sample pullup speed (E):	5.0	ul/sec
Slvnt aftr pre inj cln(U):	0.0	ul
Air after pre inj cln (G):	2.0	ul
Sample volume (V):	2.0	ul
Sample air volume (A):	2.0	ul
Sample pullup count (P):	2	times
Injection speed (S):	10.0	ul/sec
Injection wait time (W):	10	sec
Injection hold time (H):	3	sec
Solvent A clean cycles(C):	15	times
Solvent B clean cycles(B):	20	times
Loop clean w slvnt A (LC):	0	times

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8409.0000
BDEV	8287.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.7814	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9996
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-738.5000	ELEN	61.7750
EMULT	1.8000	ENS	127.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	190.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.4000	FREQ	600.9615
FSLOPE	36000000.0000	FVANAL	542.0000	FVINLET	617.0000
FVSRC	986.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	156.0000
HCURR	1.5686	HVANAL	1579.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4759.4580	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	304.9824
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	200.0000	NSAM	200.0000	NSCAN	8440.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10422.0947	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	2.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.7100	TCURR	0.8984	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	3.8000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 04-May-06 21:39:43.8

Autosampler has injected sample from vial 1
Analysis stopped at: 04-May-06 22:39:45.6 (run time 60.02 minutes)
Analysis stopped because MID run finished

STL Knoxville Dioxin GC/MS Continuing Calibration Review / Narrative Checklist

KNOX-ID-0004-R6 Method: ☒ 0023A/8290 ☐ EPA 23

Start PFK:	21:36	VER Filename:	b060504s2	Win Filename:	b060504602	Inst:	MAT955
End PFK:	09:26	VER Filename:	b060505s1	Col Perf Filename:	↓	ICAL Date:	11-8-04

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd Level
1. Was the mass resolution documented at both the beginning and end of the 12 hour shift?		✓			✓
2. Was the instrument resolution >10,000 (<100 ppm) on PFK m/z 304.9824 and m/z 380.9760 (at reduced voltage)?		✓			✓
3. Was the measured exact mass of m/z 380.9760 (PFK) within 5 ppm at reduced accelerating voltage?		✓			✓
4. Was date/time of analysis verified between analysis header and logbook as correct?		✓			✓
5. Was the Window Defining Mixture analyzed and the MID switchpoints set to encompass the retention time windows of each congener group?		✓			✓
6. Was the Column Performance solution analyzed and the %Valley ≤25 for separation between 2378-TCDD/F and the closest eluting non-2378 isomer?		✓			✓
7. Were continuing calibrations performed at the beginning and end of the 12-hour period, with successful mass resolution and GC resolution performance checks?		✓			✓
8. Were the response factors calculated for each labeled standard and unlabeled native analyte using the SOP specified reference compound (Table 4), quantitation ions (Table 22), and formula (Section 10.2.6)?		✓			✓
9. Are the measured RRFs for each compound within the specified control limits in Table 8 for all PCDDs/PCDFs?		✓			✓
10. Are the relative retention times of all PCDDs/PCDFs and all labeled compounds within the limits specified in Table 3?		✓			✓
11. Are all S/N ratios ≥10 for the GC signals in each EICP (extracted ion chromatographic profile) including internal standards?		✓			✓
12. Are the ion abundance ratios for all labeled and unlabeled analytes within the control limits specified in Table 22 of the SOP?		✓			✓
13. If manual integrations were performed, are they clearly identified, initialed and dated?	✓				✓
14. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				✓
15. Does the CCAL folder contain **complete** data in the following order: Data review checklist, a **complete** runlog, CCAL summary, Ratio summary, Calculation summary, PFK resolution/peak match documentation; Total RIC, EICP's and manual integration - for window and all standards?		✓			✓

Analyst: PMP	**Date:** 5-4-06	**2nd Level Reviewer :** BKW	**Date:** 5/5/06
Comments:		**Comments:**	

STL KNOXVILLE
SPECIALTY ORGANICS INSTRUMENT MAT 95S RUN LOG

Date	Time	Opr	Sample ID	Filename	Code	Matrix	Type	Tape	Lot#/Comments
5-3-06	22:41	PMP	PFK	—	OK	–	Res		Mass Res Chk
5-3-06	22:44	PMP	3262:44	b060503w1	OK	–	WIN		M23 Win
5-3-06	23:46	PMP	Nonane	r	OK	–	QC		flush
5-3-06	23:58	PMP	3123:75	b060503s3	OK	–	ver		M23 ver
5-4-06	01:11	PMP	H3EDD1AC	bth3eddc	OK	Air	QC		H6D170000-079C
5-4-06	02:14	PMP	H3EDD1AD	bth3eddl	OK	Air	QC		↓ 079L
5-4-06	03:19	PMP	Nonane	r	OK	–	QC		flush
5-4-06	03:35	PMP	↓	r	OK	–	QC		↓
5-4-06	03:50	PMP	↓	r	OK	–	QC		↓
5-4-06	04:05	PMP	H3EDD1AA	bth3eddb	OK	Air	QC		H6D170000-079B
5-4-06	05:09	PMP	H2H1X1AA	bth2h1x	OK	Air	SAM		H6D030236-001
5-4-06	06:13	PMP	H2H1N1AA	bth2h1n	OK	Air	SAM		↓ -007
5-4-06	07:16	PMP	Nonane	r	OK	–	QC		flush
5-4-06	07:31	PMP	3123:75	b060504s1	OK	–	ver		M23 ver
5/4/06	10:00	BFW	PFK	—	OK	–	Res		Mass Res Check
5/4/06	10:02	BFW	3262:44	b060504w1	OK	–	WIN		M23 WIN
5/4/06	11:06	BFW	H3ED81AC	bth3ed8c	OK	Air	QC		H6D170000-092C
5/4/06	12:10	BFW	H3ED81AD	bth3ed8l	OK	Air	QC		↓ 092L
5/4/06	13:15	BFW	Nonane	r	OK	–	QC		Flush
5/4/06	13:30	BFW	↓	r	OK	–	QC		↓
5/4/06	13:45	BFW	↓	r	OK	–	QC		↓
5/4/06	14:02	BFW	H3ED81AA	bth3ed8b	OK	Air	QC		H6D170000-092B
5/4/06	15:05	BFW	H2H1W1AA	bth2h1w	OK	Air	SAM		H6D030236-010
5/4/06	16:08	BFW	H2H1D1AA	bth2h1d	OK	Air	SAM		-001
5/4/06	17:12	BFW	H2H1G1AA	bth2h1g	OK	Air	SAM		↓ -003
5/4/06	18:16	BFW	H2H1K1AA	bth2h1k	OK	Air	SAM		↓ -005
5/4/06	19:19	BFW	Nonane	r	OK	–	QC		Flush
5/4/06	19:34	BFW	3123:75	b060504s2	OK	–	Ver		M23 Ver
5-4-06	21:36	PMP	PFK	—	OK	–	Res		Mass Res Chk
5-4-06	21:39	PMP	3262:44	b060504sw2	OK	–	WIN		M23 ~~Ver~~ Win PMP 5-4-06
5-4-06	22:43	PMP	Nonane	r	OK	–	QC		flush
5-4-06	22:59	PMP	↓	r	OK	–	QC		↓

Read and Understood by:

PMP

Date: 5-4-06

STL KNOXVILLE
SPECIALTY ORGANICS INSTRUMENT MAT 95S RUN LOG

Date	Time	Opr	Sample ID	Filename	Code	Matrix	Type	Tape	Lot#/Comments
5-4-06	23:14	PMP	Noname	r	OK	—	QC		flush
5-4-06	23:29	PMP	H3ED81AA	bth3ed8ba	OK	air	QC		System Blank
5-5-06	00:30	PMP	H2H1Q1AA	bth2h1q	Lost file	air	SAM		H6D030236-009
5-5-06	04:12	PMP	H2H1P1AA	bth2h1p	IF lost file OK	air	SAM		-008
5-5-06	05:16	PMP	H2H1F1AA	bth2h1f	OK	air	SAM		-002
5-5-06	06:19	PMP	H2H1J1AA	bth2h1j	OK	air	SAM		-004
5-5-06	—	PMP	H2H1L1AA	bth2h1l	DR	air	SAM		-006
5-5-06	07:21	PMP	Noname	~~t noname~~ r PMPS	OK	—	QC		flush
5-5-06	07:38	PMP	3123:75	b06050551	OK	—	ver		M23 ver
5-5-06	03:08 ~~07:38~~	PMP	H2H1Q1AP	bth2h1q	OK	air	SAM ~~QC~~		H6D030236-009
5/5/06	09:26	BW	PFK	—	OK	—	Res		Mass Res Check

BW 5/5/06

Read and Understood by:

_____ Date: _____

STL - Knoxville

IsoCalc Continuing Calibration Report

PCDD/PCDF by EPA Method 0023/8290

CCAL ID: 17085 - B060504S2

CCAL Filename: b060504s2

CCAL Sample ID: 3123:75

CCAL Result Dir: /20060504s2/b060504s2.d

CCAL Date/Time: 05/04/06 19:34

ICAL Date: 11/08/04

Method: X8 - 0023/8290

Instrument: M2A

Column SN: 718320

Column Desc: Rtx-5 60m x 0.32mm ID x 0.25um

Analytes	m/z's Forming Ratio	Ion Abund Ratio	QC Limits	Calc Conc (ng/mL)	ICAL RF	CCAL RF	%D	QC Limit	Valid?
2,3,7,8-TCDD	M/M+2	0.72	0.65-0.89	4.7	1.060	0.997	-6.0	20.0	True
2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	4.5	1.064	0.956	-10.2	20.0	True
1,2,3,7,8-PeCDD	M+2/M+4	1.53	1.32-1.78	24.8	0.977	0.970	-0.7	20.0	True
1,2,3,7,8-PeCDF	M+2/M+4	1.51	1.32-1.78	27	0.955	1.043	9.2	20.0	True
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	27	1.018	1.095	7.5	20.0	True
1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.05-1.43	24.8	1.047	1.040	-0.7	20.0	True
1,2,3,6,7,8-HxCDD	M+2/M+4	1.18	1.05-1.43	25	1.055	1.058	0.4	20.0	True
1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05-1.43	26	1.146	1.172	2.3	20.0	True
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	27	1.101	1.190	8.1	20.0	True
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	26	1.184	1.229	3.8	20.0	True
2,3,4,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	26	1.052	1.109	5.4	20.0	True
1,2,3,7,8,9-HxCDF	M+2/M+4	1.22	1.05-1.43	26	0.982	1.038	5.7	20.0	True
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	23.9	1.018	0.973	-4.4	20.0	True
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88-1.20	26	1.403	1.465	4.4	20.0	True
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88-1.20	25	1.197	1.214	1.5	20.0	True
OCDD	M+2/M+4	0.90	0.76-1.02	51	0.965	0.990	2.6	20.0	True
OCDF	M+2/M+4	0.90	0.76-1.02	48	1.103	1.069	-3.1	20.0	True
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	101	1.068	1.077	0.8	30.0	True
13C-2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	95	1.413	1.336	-5.5	30.0	True
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32-1.78	105	0.882	0.930	5.5	30.0	True
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	97	1.188	1.156	-2.7	30.0	True
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	98	0.943	0.920	-2.4	30.0	True
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	93	1.272	1.180	-7.2	30.0	True
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	108	0.918	0.989	7.7	30.0	True
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37-0.51	102	0.916	0.931	1.6	30.0	True
13C-OCDD	M+2/M+4	0.90	0.76-1.02	233	0.850	0.990	16.4	30.0	True
37Cl4-2,3,7,8-TCDD			-	4.7	1.046	0.973	-7.0	30.0	
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	24.6	1.010	0.995	-1.5	30.0	True
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.05-1.43	26	0.902	0.931	3.2	30.0	True
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	25	0.988	1.003	1.5	30.0	True
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43-0.59	22.4	1.113	0.996	-10.5	30.0	True
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.46	0.37-0.51	23.6	0.912	0.861	-5.6	30.0	True

Prep 5-4-06
BW 5/5/06

STL - Knoxville

IsoCalc Continuing Calibration Report

PCDD/PCDF by EPA Method 0023/8290

CCAL ID: 17085 - B060504S2
ICAL Date: 11/08/04
CCAL Filename: b060504s2
Method: X8 - 0023/8290
CCAL Sample ID: 3123:75
Instrument: M2A
CCAL Result Dir: /20060504s2/b060504s2.d
Column SN: 718320
CCAL Date/Time: 05/04/06 19:34
Column Desc: Rtx-5 60m x 0.32mm ID x 0.25um

Analytes	ICAL RT	CCAL RT	RT Diff	ICAL RRT	CCAL RRT	RRT QC Limit	Valid?
2,3,7,8-TCDD	35:52	35:11	-41	1.001	1.001	-	
2,3,7,8-TCDF	33:43	32:59	-44	1.001	1.002	-	
1,2,3,7,8-PeCDD	43:18	42:57	-21	1.000	1.000	-	
1,2,3,7,8-PeCDF	41:47	41:23	-24	1.000	1.000	-	
2,3,4,7,8-PeCDF	42:51	42:27	-24	1.026	1.026	-	
1,2,3,4,7,8-HxCDD	47:30	47:08	-22	0.998	0.998	-	
1,2,3,6,7,8-HxCDD	47:37	47:15	-22	1.000	1.000	-	
1,2,3,7,8,9-HxCDD	48:03	47:40	-23	1.010	1.009	-	
1,2,3,4,7,8-HxCDF	46:25	46:03	-22	0.997	0.997	-	
1,2,3,6,7,8-HxCDF	46:33	46:11	-22	1.000	1.000	-	
2,3,4,6,7,8-HxCDF	47:20	46:57	-23	1.017	1.017	-	
1,2,3,7,8,9-HxCDF	48:22	47:57	-25	1.039	1.039	-	
1,2,3,4,6,7,8-HpCDD	52:40	52:14	-26	1.000	1.000	-	
1,2,3,4,6,7,8-HpCDF	50:58	50:31	-27	1.000	1.000	-	
1,2,3,4,7,8,9-HpCDF	53:18	52:52	-26	1.046	1.047	-	
OCDD	56:58	56:34	-24	1.000	1.000	-	
OCDF	57:06	56:43	-23	1.003	1.003	-	
13C-2,3,7,8-TCDD	35:50	35:09	-41	1.016	1.016	-	
13C-2,3,7,8-TCDF	33:40	32:56	-44	0.955	0.952	-	
13C-1,2,3,7,8-PeCDD	43:17	42:56	-21	1.228	1.241	-	
13C-1,2,3,7,8-PeCDF	41:46	41:22	-24	1.185	1.196	-	
13C-1,2,3,6,7,8-HxCDD	47:36	47:14	-22	0.991	0.991	-	
13C-1,2,3,6,7,8-HxCDF	46:32	46:10	-22	0.969	0.969	-	
13C-1,2,3,4,6,7,8-HpCDD	52:39	52:13	-26	1.096	1.096	-	
13C-1,2,3,4,6,7,8-HpCDF	50:57	50:30	-27	1.061	1.060	-	
13C-OCDD	56:57	56:34	-23	1.186	1.187	-	
37Cl4-2,3,7,8-TCDD	35:52	35:13	-39	1.001	1.002	-	
13C-2,3,4,7,8-PeCDF	42:50	42:26	-24	1.026	1.026	-	
13C-1,2,3,4,7,8-HxCDD	47:30	47:07	-23	0.998	0.998	-	
13C-1,2,3,4,7,8-HxCDF	46:24	46:02	-22	0.997	0.997	-	
13C-1,2,3,7,8,9-HxCDF	48:20	47:56	-24	1.006	1.006	-	
13C-1,2,3,4,7,8,9-HpCDF	53:16	52:50	-26	1.046	1.046	-	

STL - Knoxville

IsoCalc Continuing Calibration Report

PCDD/PCDF by EPA Method 0023/8290

CCAL ID: 17085 - B060504S2

WIN Filename: b060504w2

Method: X8 - 0023/8290

WIN Sample ID: 3262:44

Instrument: M2A

WIN Result Dir: /20060504s2/b060504w2.d

Column SN: 718320

WIN Date/Time: 05/04/06 21:39

Column Desc: Rtx-5 60m x 0.32mm ID x 0.25um

Window Defining First/Last Eluter Retention Times

Analyte	Reference	M/Z	Ref RT	First Eluter RT	First Eluter RRT	Last Eluter RT	Last Eluter RRT
Total TCDD	13C-2,3,7,8-TCDD	320	35:16	28:41	0.8133	37:44	1.0699
Total TCDF	13C-2,3,7,8-TCDF	304	33:03	25:55	0.7842	37:37	1.1382
Total PeCDD	13C-1,2,3,7,8-PeCDD	356	43:03	40:29	0.9404	43:40	1.0143
Total PeCDF	13C-1,2,3,7,8-PeCDF	340	41:28	38:11	0.9208	43:46	1.0555
Total HxCDD	13C-1,2,3,6,7,8-HxCDD	390	47:21	45:35	0.9627	47:47	1.0092
Total HxCDF	13C-1,2,3,6,7,8-HxCDF	374	46:17	44:54	0.9701	48:12	1.0414
Total HpCDD	13C-1,2,3,4,6,7,8-HpCDD	424	52:20	51:09	0.9774	52:21	1.0003
Total HpCDF	13C-1,2,3,4,6,7,8-HpCDF	408	50:37	50:37	1.0000	52:59	1.0468
OCDD	13C-OCDD	458	56:40	56:41	1.0003	56:41	1.0003
OCDF	13C-OCDD	442	56:40	56:50	1.0029	56:50	1.0029

STL - Knoxville

IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	3123:75	**Prep Batch**		**Lot No**	
Data File	/20060504s2/b060504s2.d	**Prep Date**		**SDG No**	
Analysis ID	90516	**Prep Exp Date**		**Date Received**	
Analysis Date	5/4/2006	**Matrix**	UNKNOWN	**Date Sampled**	
Analysis Time	19:34	**Initial Wt/Vol**		**Lims Test Code**	
Anal Exp Date		**Extract Vol**		**Method**	0023/8290
Instrument	M2A	**Dil Factor**	1.0	**Code**	X8
Analyst	BFW				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (ng/mL)		DL (ng/mL)
2,3,7,8-TCDD	35:11	104262	12688	1.060	5.000	4.700341	94.01	4.700341	E	0.105
Total TCDD				1.060		4.700341		4.700341	E	0.105
2,3,7,8-TCDF	32:59	124001	13943	1.064	5.000	4.492431	89.85	4.492431	E	0.0866
Total TCDF				1.064		4.492431		4.492431	E	0.0866
1,2,3,7,8-PeCDD	42:57	438163	117850	0.977	25.00	24.828486	99.31	24.828486	E	0.0513
Total PeCDD				0.977		24.828486		24.828486	E	0.0513
1,2,3,7,8-PeCDF	41:23	585282	140276	0.955	25.00	27.292506	109.17	27.292506	E	0.0705
2,3,4,7,8-PeCDF	42:27	614262	161236	1.018	25.00	26.885795	107.54	26.885795	E	0.0662
Total PeCDF				0.987		54.178301		54.178301	E	0.0683
1,2,3,4,7,8-HxCDD	47:08	428708	120574	1.047	25.00	24.830220	99.32	24.830220	E	0.0713
1,2,3,6,7,8-HxCDD	47:15	436283	121024	1.055	25.00	25.088481	100.35	25.088481	E	0.0708
1,2,3,7,8,9-HxCDD	47:40	483044	122229	1.146	25.00	25.570840	102.28	25.570840	E	0.0652
Total HxCDD				1.083		75.489540		75.489540	E	0.0690
1,2,3,4,7,8-HxCDF	46:03	629057	183113	1.101	25.00	27.026593	108.11	27.026593	E	0.0467
1,2,3,6,7,8-HxCDF	46:11	649829	185130	1.184	25.00	25.954859	103.82	25.954859	E	0.0434
2,3,4,6,7,8-HxCDF	46:57	586166	162398	1.052	25.00	26.343796	105.38	26.343796	E	0.0489
1,2,3,7,8,9-HxCDF	47:57	548490	137000	0.982	25.00	26.418991	105.68	26.418991	E	0.0524
Total HxCDF				1.080		105.744238		105.744238	E	0.0476
1,2,3,4,6,7,8-HpCDD	52:14	431086	99162	1.018	25.00	23.905580	95.62	23.905580	E	0.0538
Total HpCDD				1.018		23.905580		23.905580	E	0.0538
1,2,3,4,6,7,8-HpCDF	50:31	610703	134272	1.403	25.00	26.100431	104.40	26.100431	E	0.0486
1,2,3,4,7,8,9-HpCDF	52:52	506106	112496	1.197	25.00	25.365046	101.46	25.365046	E	0.0570
Total HpCDF				1.300		51.465477		51.465477	E	0.0525
OCDD	56:34	877033	228605	0.965	50.00	51.285413	102.57	51.285413	E	0.0461
OCDF	56:43	947167	246077	1.103	50.00	48.426975	96.85	48.426975	E	0.0516
13C-2,3,7,8-TCDD	35:09	2091835	234511	1.068	100.0	100.831354	100.83	100.831354		0.340
13C-2,3,7,8-TCDF	32:56	2594774	274141	1.413	100.0	94.506376	94.51	94.506376		0.145
13C-1,2,3,7,8-PeCDD	42:56	1806854	489100	0.882	100.0	105.470574	105.47	105.470574		0.162
13C-1,2,3,7,8-PeCDF	41:22	2244869	523393	1.188	100.0	97.266419	97.27	97.266419		0.140
13C-1,2,3,6,7,8-HxCDD	47:14	1648719	455205	0.943	100.0	97.576623	97.58	97.576623		0.132
13C-1,2,3,6,7,8-HxCDF	46:10	2114265	588045	1.272	100.0	92.789926	92.79	92.789926		0.0556
13C-1,2,3,4,6,7,8-HpCDD	52:13	1772144	406172	0.918	100.0	107.732705	107.73	107.732705		0.0691
13C-1,2,3,4,6,7,8-HpCDF	50:30	1667371	366464	0.916	100.0	101.608348	101.61	101.608348		0.0747
13C-OCDD	56:34	3545175	922482	0.850	200.0	232.889648	116.44	232.889648		0.0884
37Cl4-2,3,7,8-TCDD	35:13	101789	11369	1.046	5.000	4.652296	93.05	4.652296	E	0.0550
13C-2,3,4,7,8-PeCDF	42:26	558446	148215	1.010	25.00	24.624459	98.50	24.624459	E	0.0615
13C-1,2,3,4,7,8-HxCDD	47:07	383842	107926	0.902	25.00	25.804394	103.22	25.804394	E	0.136
13C-1,2,3,4,7,8-HxCDF	46:02	530151	156020	0.988	25.00	25.375006	101.50	25.375006	E	0.0546
13C-1,2,3,7,8,9-HxCDF	47:56	446041	113351	1.113	25.00	22.379809	89.52	22.379809	E	0.0635
13C-1,2,3,4,7,8,9-HpCDF	52:50	358756	83115	0.912	25.00	23.588598	94.35	23.588598	E	0.0920
13C-1,2,3,4-TCDD	34:35	1942526	195553	1.000	100.0	100.000000	100.00	100.000000		0.363
13C-1,2,3,7,8,9-HxCDD	47:39	1791294	449077	1.000	100.0	100.000000	100.00	100.000000		0.124

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	3123:75	Prep Batch		Lot No	
Data File	/20060504s2/b060504s2.d	Prep Date		SDG No	
Analysis ID	90516	Prep Exp Date		Date Received	
Analysis Date	05/04/06 19:34	Matrix	UNKNOWN	Date Sampled	
Anal Exp Date		Initial Wt/Vol		Lims Test Code	
Instrument	M2A	Extract Vol		Method	0023/8290
Analyst	BFW	Diluton Factor	1.00	Code	X8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**	
	Noise	00:00	00:00	0	115	138	46	55	0.84	/
	2,3,7,8-TCDF	32:59	32:58	1	54654	69347	6421	7522	0.79	ABB/ABB
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**	
	Noise	00:00	00:00	0	205	195	82	78	1.05 *	/
	13C-2,3,7,8-TCDF	32:56	32:55	1	1140248	1454526	119319	154822	0.78	ABV/ABV
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**	
	Noise	00:00	00:00	0	123	138	49	55	0.89	/
	2,3,7,8-TCDD	35:11	35:13	-2	43740	60522	5896	6792	0.72	ABB/ABB
328					**327.8847**		**327.8847**			
	Noise	00:00	00:00	0	135		54			
	37Cl4-2,3,7,8-TCDD	35:13	35:13	0	101789		11369			ABB
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**	
	Noise	00:00	00:00	0	373	338	149	135	1.10 *	/
	13C-1,2,3,4-TCDD	34:35	34:35	0	857406	1085120	85914	109639	0.79	AVV/ABV
	13C-2,3,7,8-TCDD	35:09	35:11	-2	921462	1170373	101773	132738	0.79	AVV/AVV
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**	
	Noise	00:00	00:00	0	153	200	61	80	0.76 *	/
	1,2,3,7,8-PeCDF	41:23	41:20	3	351746	233536	82753	57523	1.51	ABV/ABV
	2,3,4,7,8-PeCDF	42:27	42:26	1	376346	237916	98316	62920	1.58	ABV/ABV
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**	
	Noise	00:00	00:00	0	155	170	62	68	0.91 *	/
	13C-1,2,3,7,8-PeCDF	41:22	41:19	3	1380552	864317	321976	201417	1.60	ABV/ABV
	13C-2,3,4,7,8-PeCDF	42:26	42:25	1	339123	219323	89122	59093	1.55	ABV/ABB
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**	
	Noise	00:00	00:00	0	153	93	61	37	1.65	/
	1,2,3,7,8-PeCDD	42:57	42:53	4	265199	172964	71687	46163	1.53	ABV/ABV
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**	
	Noise	00:00	00:00	0	163	118	65	47	1.38	/
	13C-1,2,3,7,8-PeCDD	42:56	42:52	4	1098184	708670	294273	194827	1.55	ABV/ABV
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**	
	Noise	00:00	00:00	0	163	140	65	56	1.16	/
	1,2,3,4,7,8-HxCDF	46:03	46:03	0	348277	280780	101867	81246	1.24	ABV/ABV
	1,2,3,6,7,8-HxCDF	46:11	46:11	0	362239	287590	104419	80711	1.26	AVV/AVV
	2,3,4,6,7,8-HxCDF	46:57	46:59	-2	323493	262673	89783	72615	1.23	ABV/ABV
	1,2,3,7,8,9-HxCDF	47:57	48:01	-4	301480	247010	76598	60402	1.22	ABV/ABV
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**	
	Noise	00:00	00:00	0	148	170	59	68	0.87 *	/
	13C-1,2,3,4,7,8-HxCDF	46:02	46:02	0	180257	349894	51734	104286	0.52	ABV/ABV
	13C-1,2,3,6,7,8-HxCDF	46:10	46:10	0	727560	1386705	205307	382738	0.52	AVV/AVV
	13C-1,2,3,7,8,9-HxCDF	47:56	47:59	-3	155429	290612	40828	72523	0.53	ABV/ABV
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**	
	Noise	00:00	00:00	0	140	200	56	80	0.70 *	/

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	3123:75	**Prep Batch**		**Lot No**	
Data File	/20060504s2/b060504s2.	**Prep Date**		**SDG No**	
Analysis ID	90516	**Prep Exp Date**		**Date Received**	
Analysis Date	05/04/06 19:34	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M2A	**Extract Vol**		**Method**	0023/8290
Analyst	BFW	**Diluton Factor**	1.00	**Code**	X8

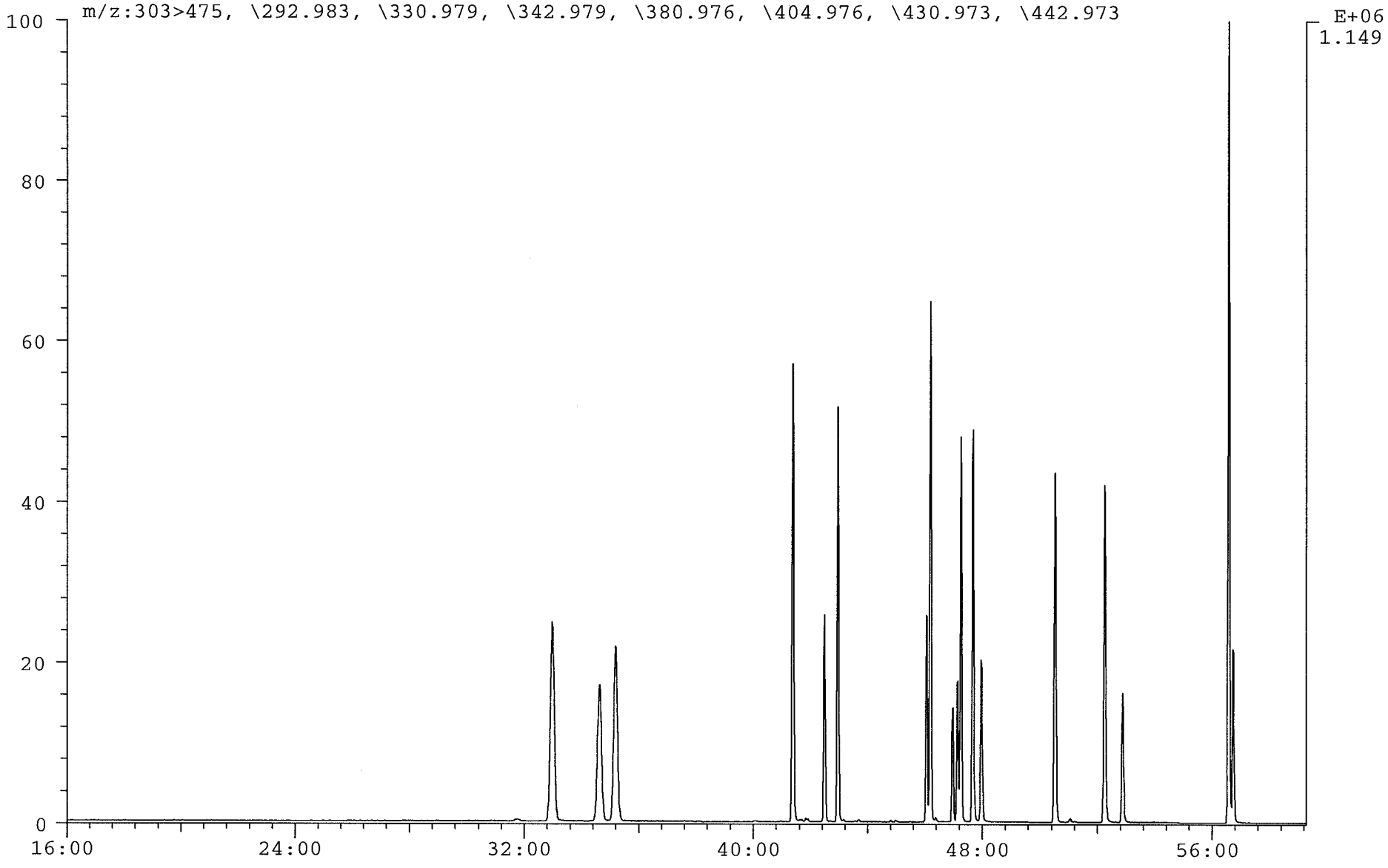
View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	1,2,3,4,7,8-HxCDD	47:08	47:09	-1	241367	187341	66560	54014	1.29	ABV/ABV	
	1,2,3,6,7,8-HxCDD	47:15	47:16	-1	236249	200034	67094	53930	1.18	AVB/AVB	
	1,2,3,7,8,9-HxCDD	47:40	47:42	-2	268549	214495	68012	54217	1.25	ABV/ABV	
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**		
	Noise	00:00	00:00	0	365	193	146	77	1.90 *	/	
	13C-1,2,3,4,7,8-HxCDD	47:07	47:09	-2	215971	167871	60097	47829	1.29	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDD	47:14	47:15	-1	923835	724884	256359	198846	1.27	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDD	47:39	47:41	-2	996400	794894	247793	201284	1.25	ABV/AVV	
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**		
	Noise	00:00	00:00	0	128	123	51	49	1.04	/	
	1,2,3,4,6,7,8-HpCDF	50:31	50:37	-6	311574	299129	67912	66360	1.04	ABV/ABV	M
	1,2,3,4,7,8,9-HpCDF	52:52	52:56	-4	257566	248540	56736	55760	1.04	ABV/ABV	
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	Noise	00:00	00:00	0	150	158	60	63	0.95 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	50:30	50:36	-6	524259	1143112	115153	251311	0.46	ABV/ABV	M
	13C-1,2,3,4,7,8,9-HpCDF	52:50	52:54	-4	113595	245161	25199	57916	0.46	ABB/ABV	
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**		
	Noise	00:00	00:00	0	118	105	47	42	1.12	/	
	1,2,3,4,6,7,8-HpCDD	52:14	52:19	-5	220873	210213	50182	48980	1.05	ABV/ABV	
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**		
	Noise	00:00	00:00	0	170	115	68	46	1.48 *	/	
	13C-1,2,3,4,6,7,8-HpCDD	52:13	52:18	-5	907946	864198	207130	199042	1.05	ABV/ABV	
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**		
	Noise	00:00	00:00	0	110	153	44	61	0.72 *	/	
	OCDF	56:43	56:40	3	447523	499644	114556	131521	0.90	ABV/ABV	
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**		
	Noise	00:00	00:00	0	90	115	36	46	0.78	/	
	OCDD	56:34	56:33	1	414751	462282	104301	124304	0.90	ABV/ABV	
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**		
	Noise	00:00	00:00	0	113	225	45	90	0.50 *	/	
	13C-OCDD	56:34	56:32	2	1676788	1868387	439531	482951	0.90	ABV/ABV	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

CHRO: b060504s2 04-May-06 Elapse: 08:00.5 1
Samp: Vial 3 WO=3123:75 Meth=X8 Dil=1 Start : 19:34:40 2850
Comm: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 Ver
Oper: BFW Client: STL Knoxville Inlet : GC Vial 3
Peak: 100.00 ppm Label wndw: 442 > 2850 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

Int/Cal Pmp 5-4-06
QC BFW 5/5/06



-5.0 V SCAN AUTOTUNE TUNE = 10 422 416 106 uV

p 3.41 A -16.6 V

1.00 mA 2629 2262 2003 2749

61.8 V d s l x y

270 C s s s s s

270 C 2629 2404 2011 2597

0.90 mA -16.6 V

EI POS electric

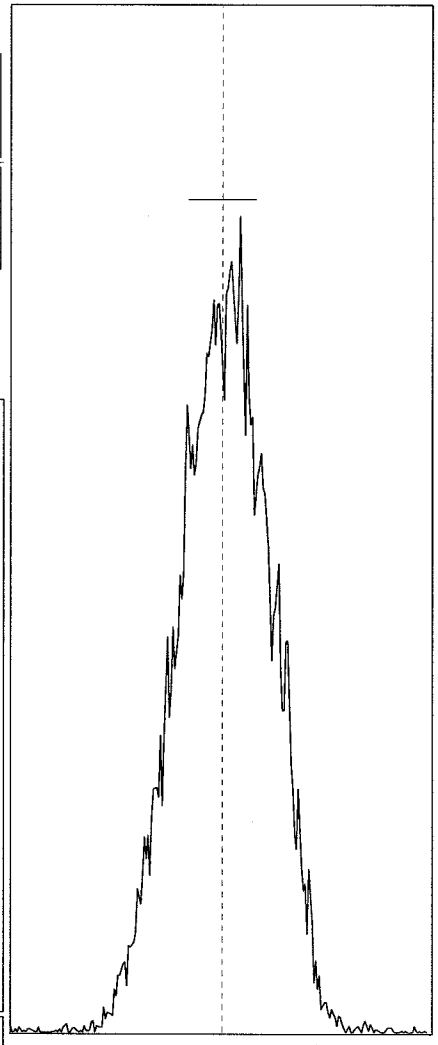
U(a) 4759 V u U(esa) 763.8 V

Entr. Slit	(ENS)	127.0	
Exit Slit	(EXS)	190.0	
Sweep Mass	(MASS)	304.982	amu
Virt. Mass	(VMASS)	304.982	amu
Link Mass	(LMASS)	304.982	amu
Sweep Width	(SW)	0.020	%
Sweep Speed	(SS)	3.0	/s
U(a) Offset	(UOFS)	5.0	V
U(a)/U(esa)	(URATIO)	2.135	%
Multiplier	(EMULT)	1.80	kV
Dyn. Volt.	(DYNODE)	pos	
Ref. Inlet	(TREF)	150	C
Beam Rot.	(BQUAD)	3.3	V
Focus Quad	(FQUAD)	-0.4	V

VG off VS1 off VS2 off VV off VS3 off

TUNE DESCRIPTOR
tune2
SAVE

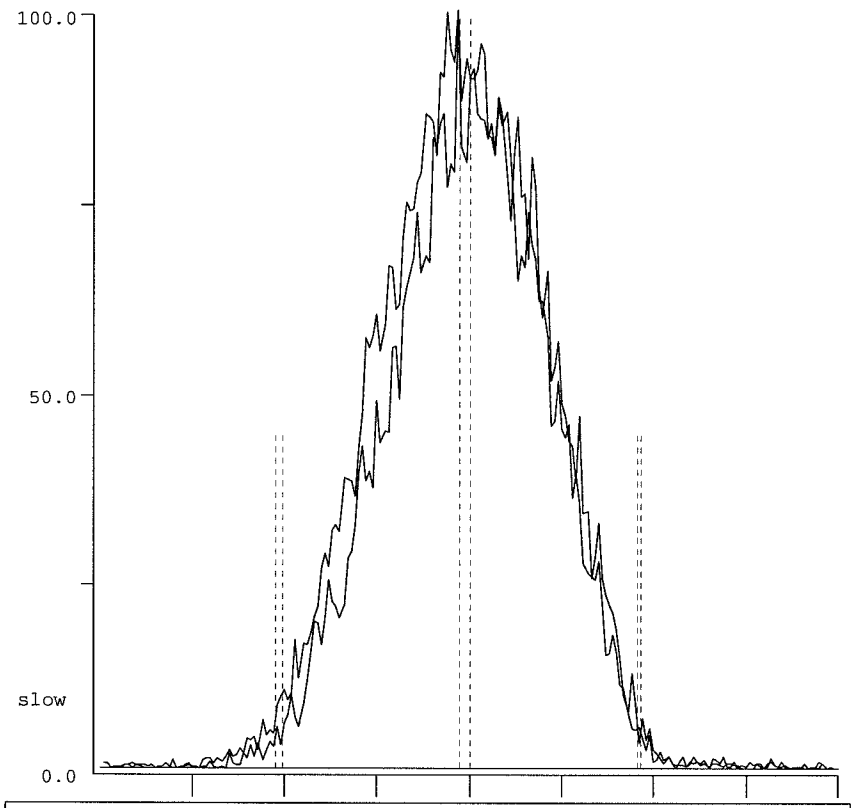
TUNE: _



<> >< << >> ^ v C V LOCK UNLK

Peak Register Display

Copy result to ULIST



REG 1/2: 380.974901 REG 1/3: REG 2/3:

MASS	:	304.98250	380.97499
REF MASS	:	304.98243	380.97605
PEAK WIDTH [ppm]	:	95.94971	99.00659

Active Register: 1 0.05 1.00

N REG RCOPY1 RCOPY2 RCOPY3 LIMIT CENTER SPREAD ERASE RESUME PAGE

PEAK:

Thu May 4 21:36:55 2006 mat95s MAT 95

1115

-5.0 V SCAN AUTOTUNE TUNE = 10 422 416 106 uV

p 3.41 A -16.6 V

1.00 mA 2629 2262 2003 2749

61.8 V d s l x y

270 C s s s s s

270 C 2629 2404 2011 2597

0.90 mA -16.6 V

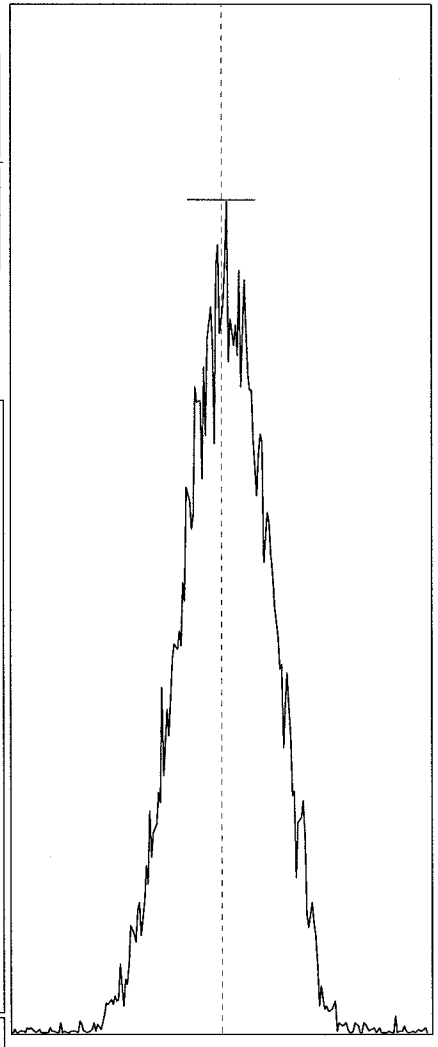
EI POS electric

U(a) 4759 V u U(esa) 763.8 V

Entr. Slit	(ENS)	127.0	
Exit Slit	(EXS)	190.0	
Sweep Mass	(MASS)	304.982	amu
Virt. Mass	(VMASS)	304.982	amu
Link Mass	(LMASS)	304.982	amu
Sweep Width	(SW)	0.020	%
Sweep Speed	(SS)	3.0	/s
U(a) Offset	(UOFS)	5.0	V
U(a)/U(esa)	(URATIO)	2.135	%
Multiplier	(EMULT)	1.80	kV
Dyn. Volt.	(DYNODE)	pos	
Ref. Inlet	(TREF)	150	C
Beam Rot.	(BQUAD)	3.3	V
Focus Quad	(FQUAD)	-0.4	V

VG off VS1 off VS2 off VS3 off VV off

TUNE DESCRIPTOR tune2 SAVE

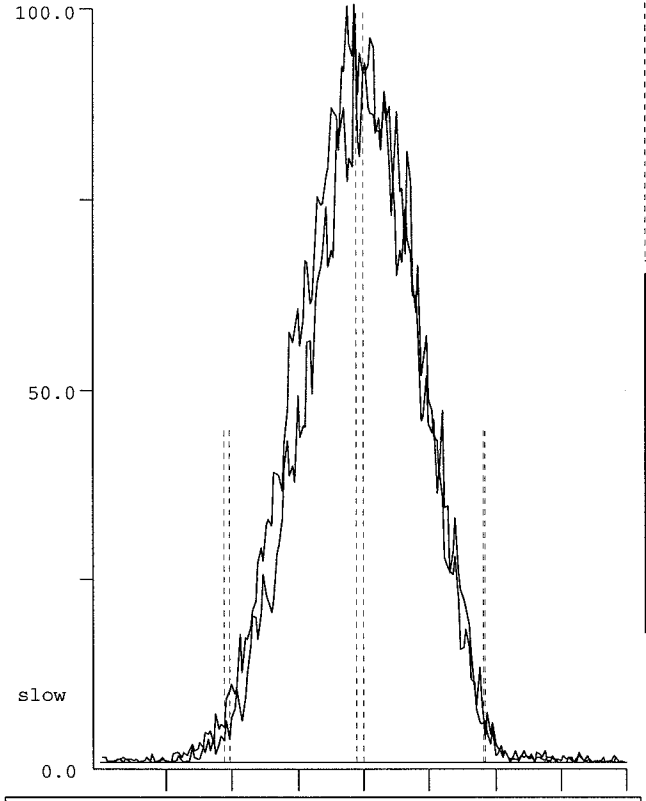


304.952 304.982 305.01

<> >< << >> ^ v C V LOCK UNLK

TUNE:

Diagnostic Display Copy result to ULIST



REG 1		
pm	304.98250	
rm	304.98243	
fm	304.95194	
lm	305.01290	
pc	7969174.36	
pl	7969578.73	
pr	7968814.09	
bl	0.00	
v	420080.00	

REG 2		
pm	380.97499	
rm	380.97605	
fm	380.93794	
lm	381.01414	
pc	6379575.61	
pl	6379892.95	
pr	6379261.33	
bl	0.00	
v	802844.00	

RATIO	REG 1/2	REG 1/3	REG 2/3
PEAK CENTER	1.2491700		
PC+DELTA	1.2491700		
PC+DELTA/RM	0.9999970		
REF MASS	1.2491737		

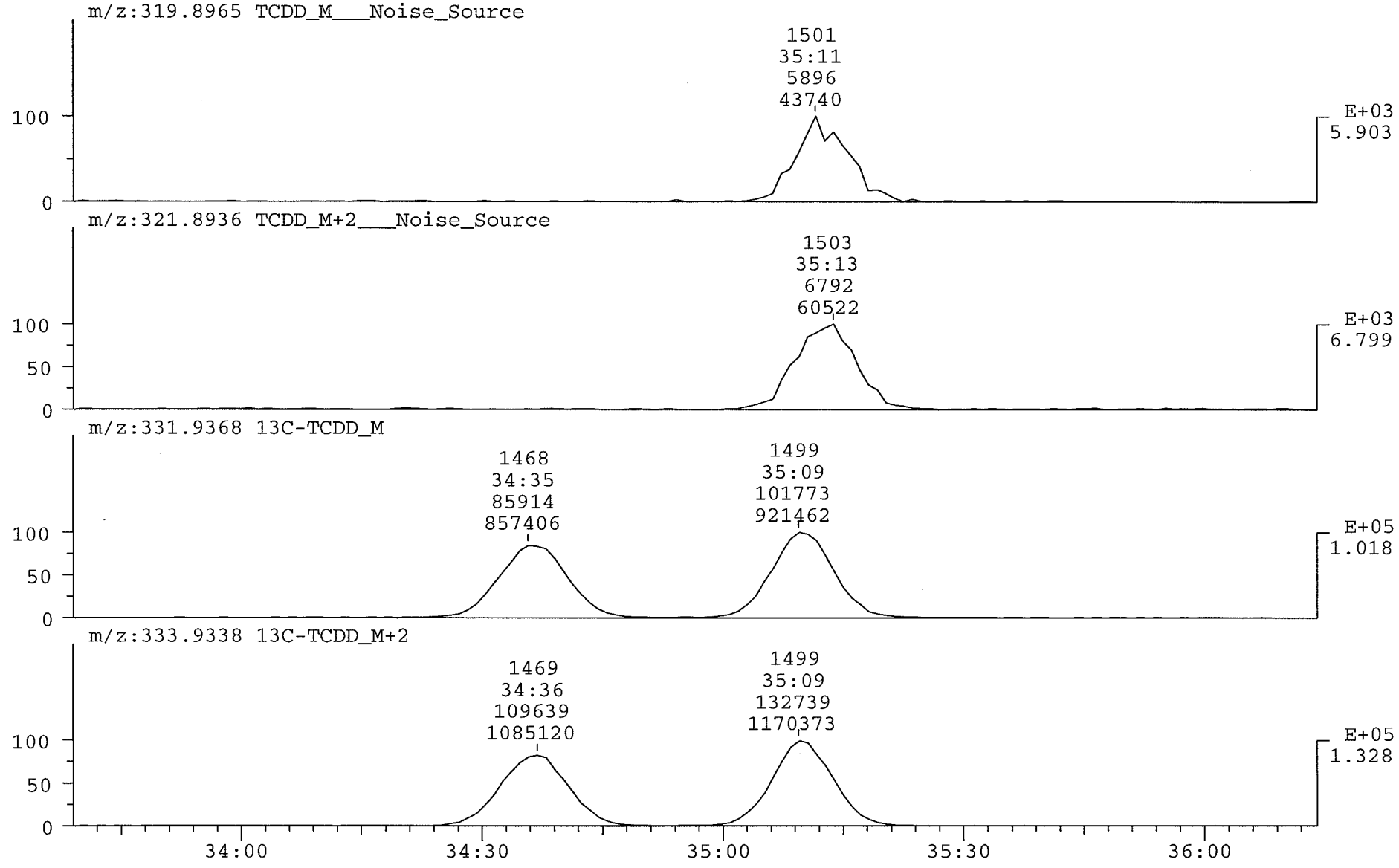
Active Register: 1 0.05 1.00

N REG RCOPY1 RCOPY2 RCOPY3 LIMIT CENTER SPREAD ERASE RESUME PAGE

PEAK: _

Thu May 4 21:37:01 2006 mat95s MAT 95

```
CHRO:  b060504s2                              04-May-06   Elapse:  34:56      1487
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                    Start :  19:34:40   2850
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville                Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1416 > 1558          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  2, 3.0
Disp:  Height  Area
```



```
CHRO:  b060504s2                          04-May-06   Elapse:  35:12      1502
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  19:34:40   2850
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1432 > 1578      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
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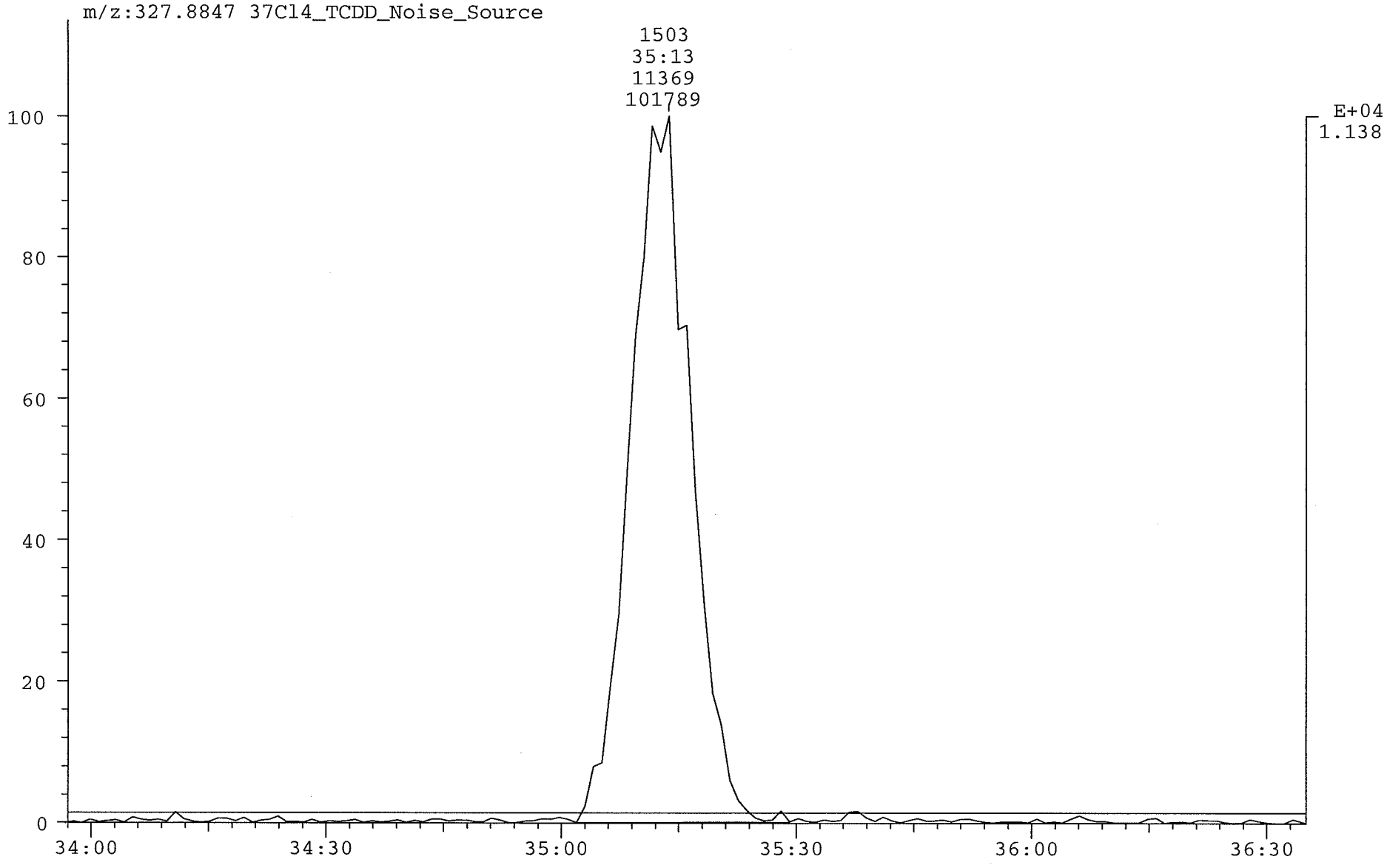

```
CHRO:  b060504s2                              04-May-06  Elapse:  32:56      1377
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                   Start :  19:34:40   2850
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville               Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1297 > 1463         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  2, 3.0
Disp:  Height  Area
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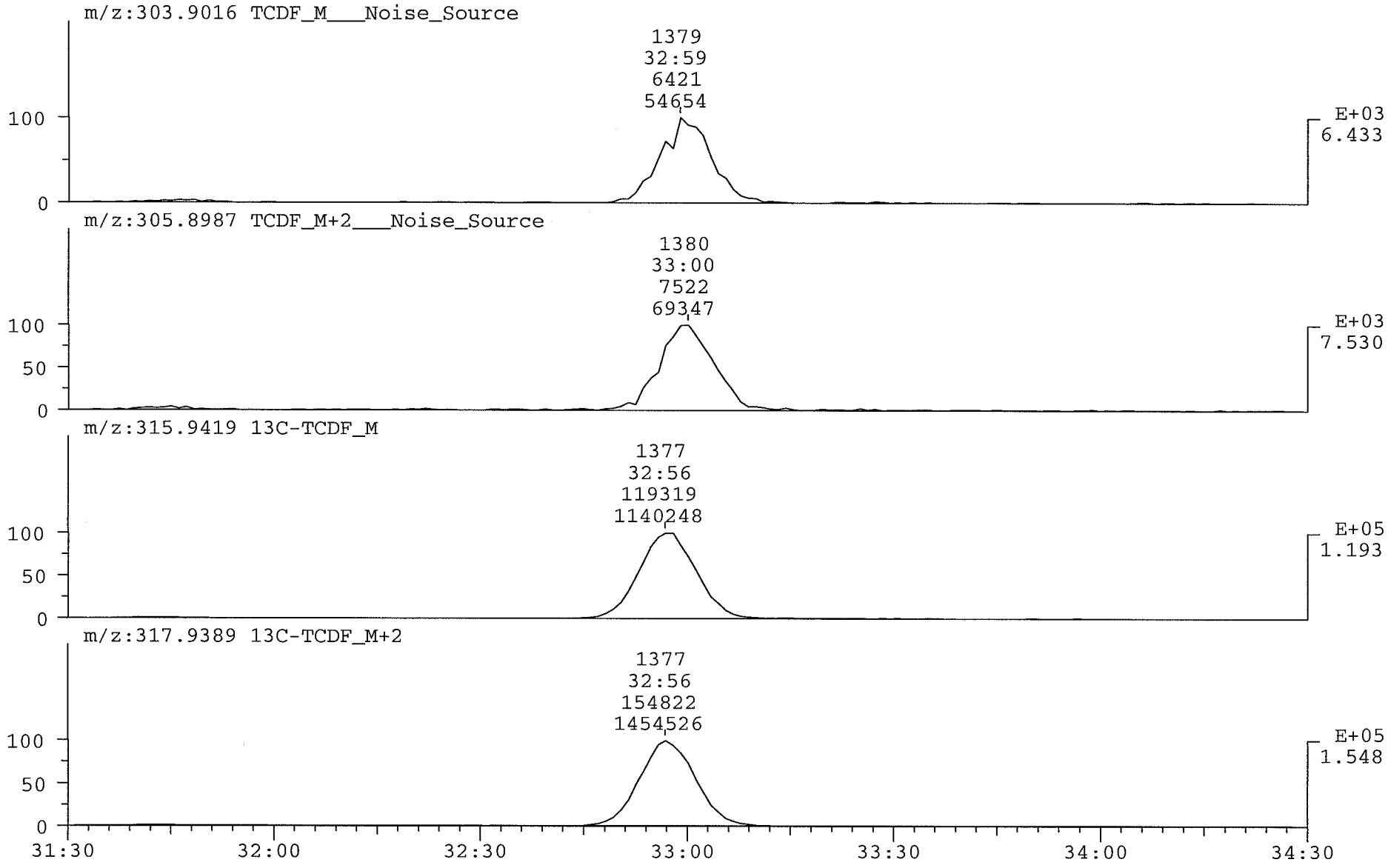
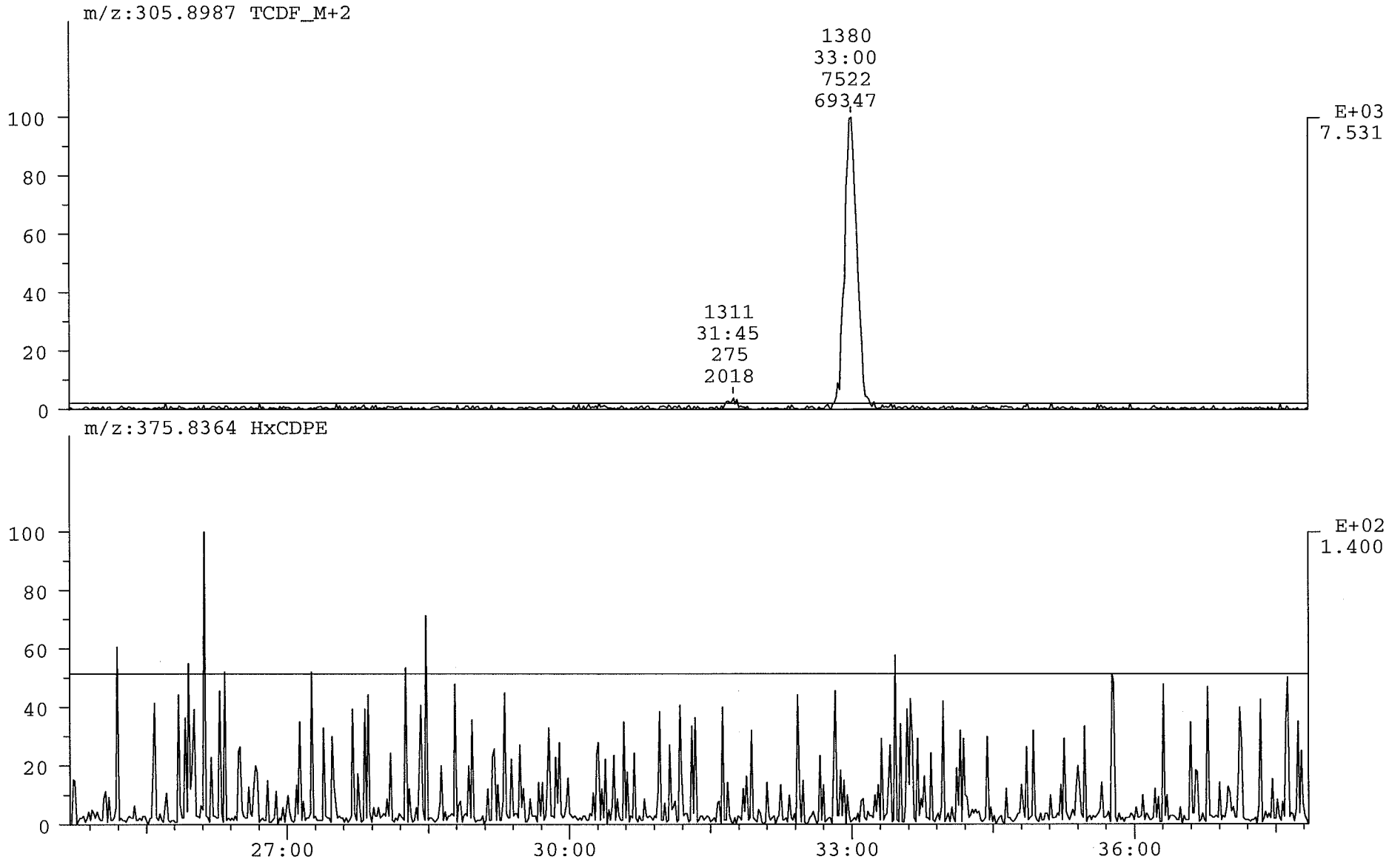


```
CHRO:  b060504s2                              04-May-06  Elapse:  32:56      1377
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                   Start :  19:34:40   2850
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  M23 Ver
Oper:  BFW            Client:  STL Knoxville             Inlet :  GC     Vial   3
Peak:  100.00  ppm      Label wndw:   921 > 1648         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  b060504s2                              04-May-06   Elapse:  32:56      1377
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                    Start :  19:34:40   2850
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville                Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   921 > 1648           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
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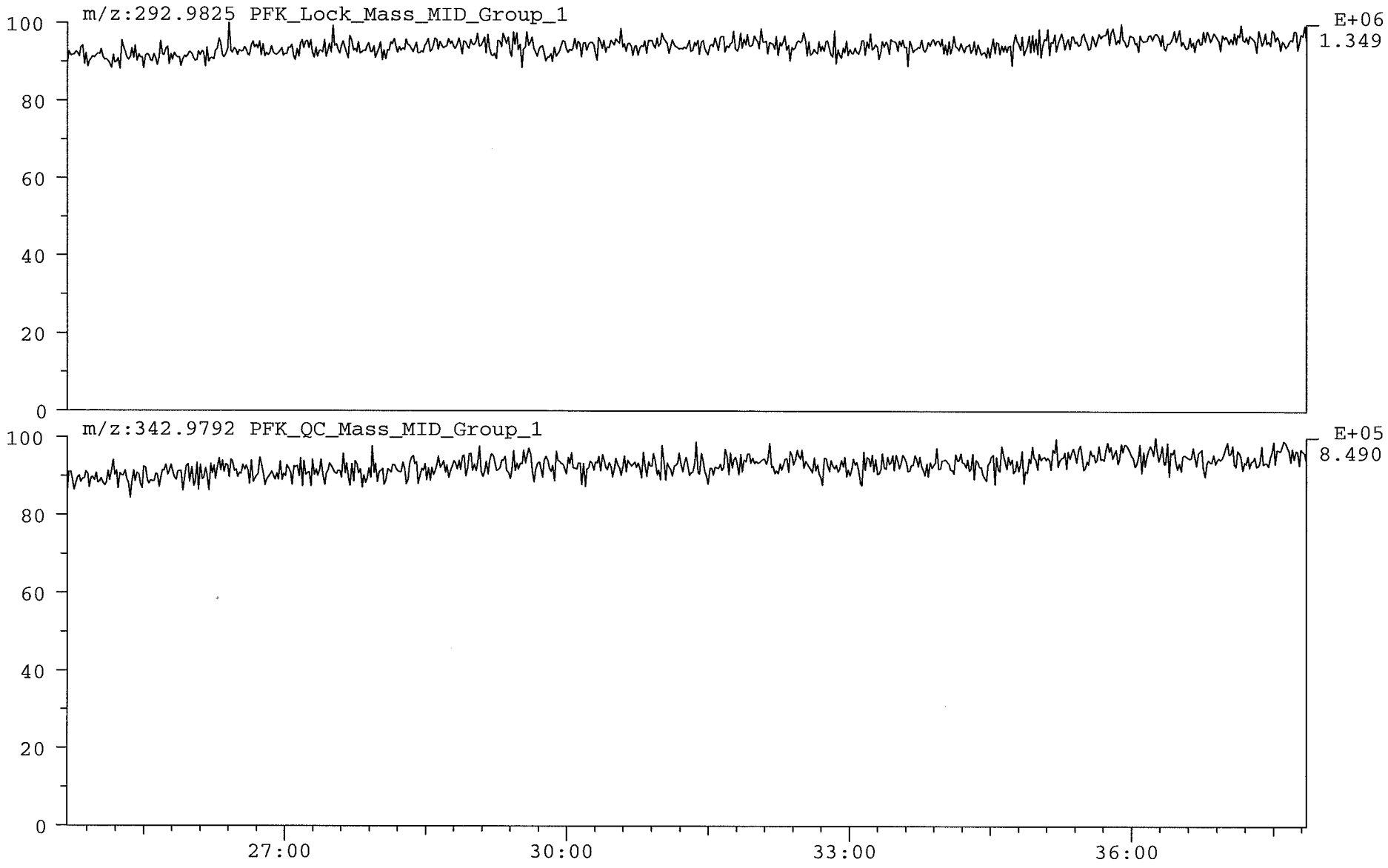
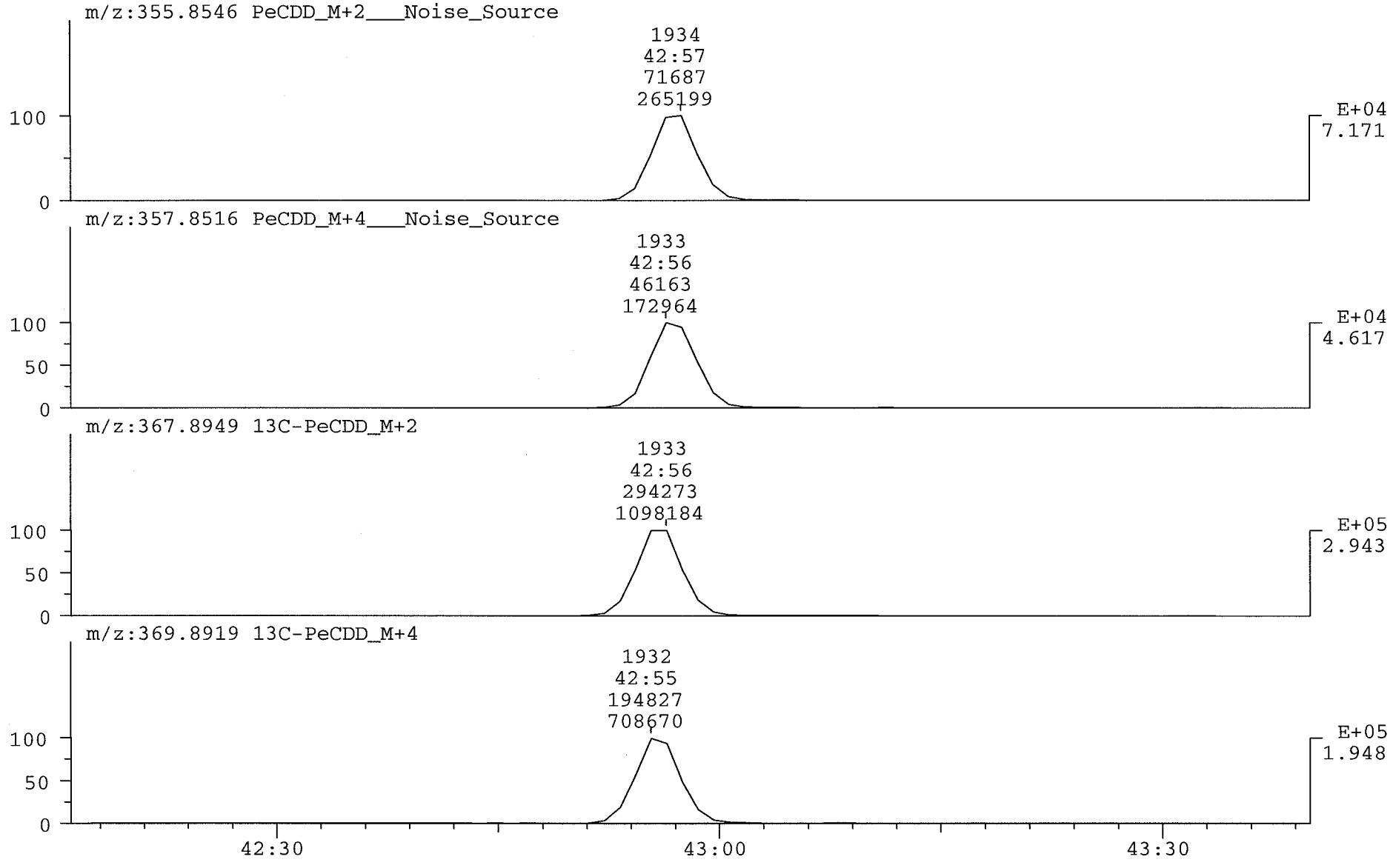


```
CHRO:  b060504s2                              04-May-06  Elapse:  42:55      1932
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                   Start :  19:34:40   2850
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  M23 Ver
Oper:  BFW            Client:  STL Knoxville             Inlet :  GC     Vial   3
Peak:  100.00  ppm      Label wndw:   1895 > 1974        Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  2, 3.0
Disp:  Height  Area
```



```
CHRO:  b060504s2                          04-May-06   Elapse:  41:58      1878
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  19:34:40   2850
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1821 > 1935      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
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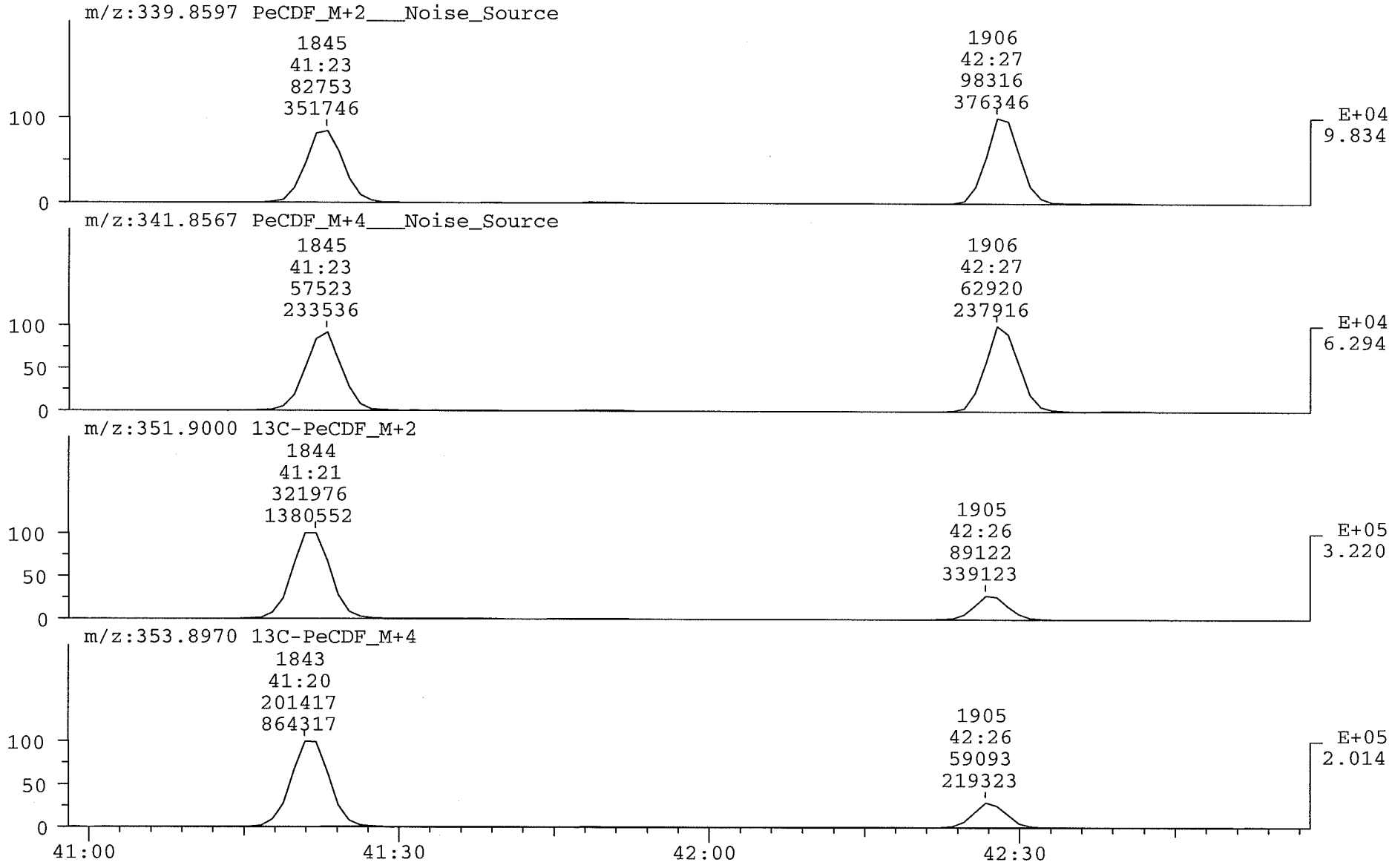
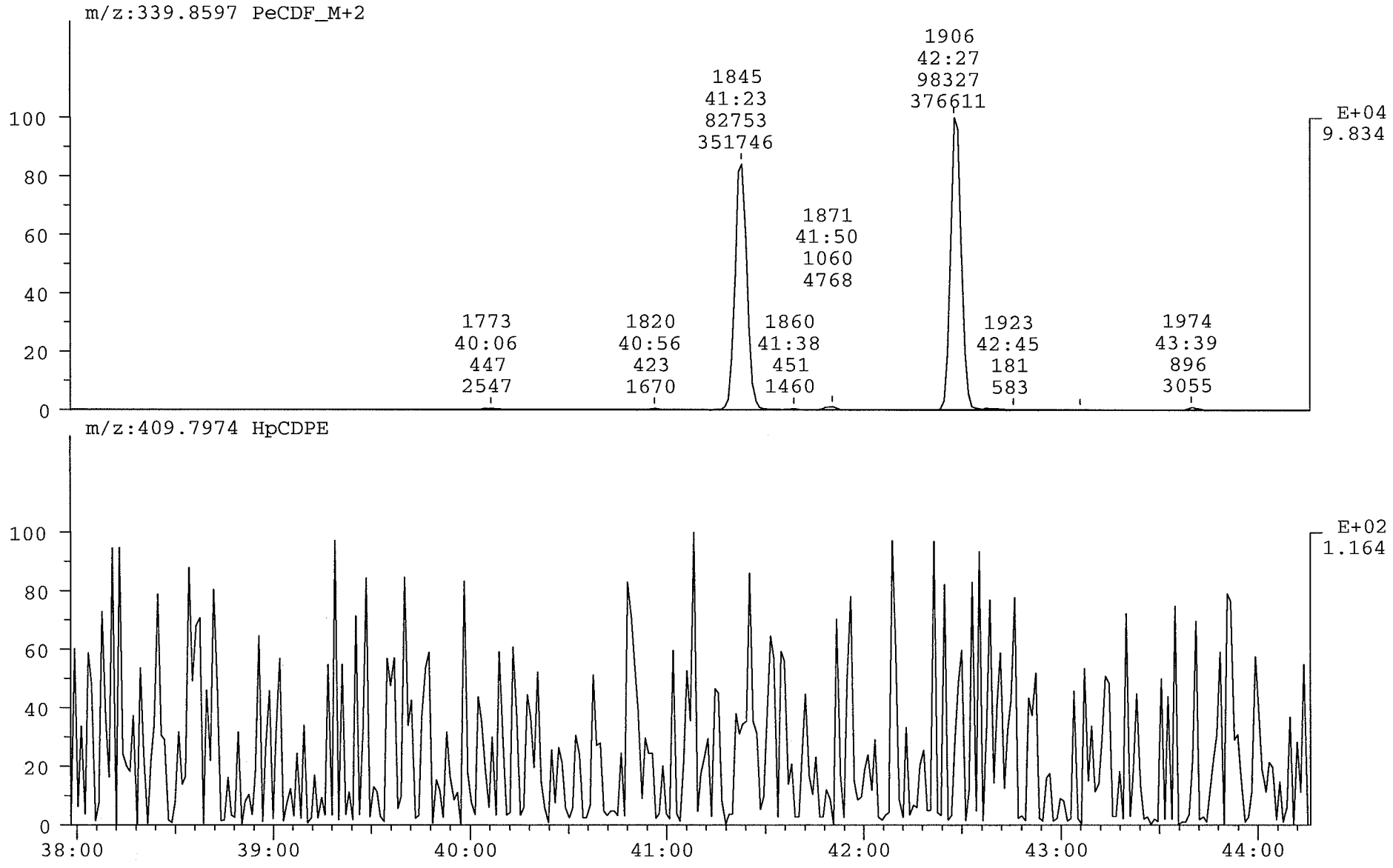


```
CHRO:  b060504s2                          04-May-06   Elapse:  41:58      1878
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  19:34:40   2850
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1652 > 2008      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  b060504s2                          04-May-06   Elapse:  41:58      1878
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  19:34:40   2850
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1652 > 2008      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  0, 0.0
Disp:  Height  Area
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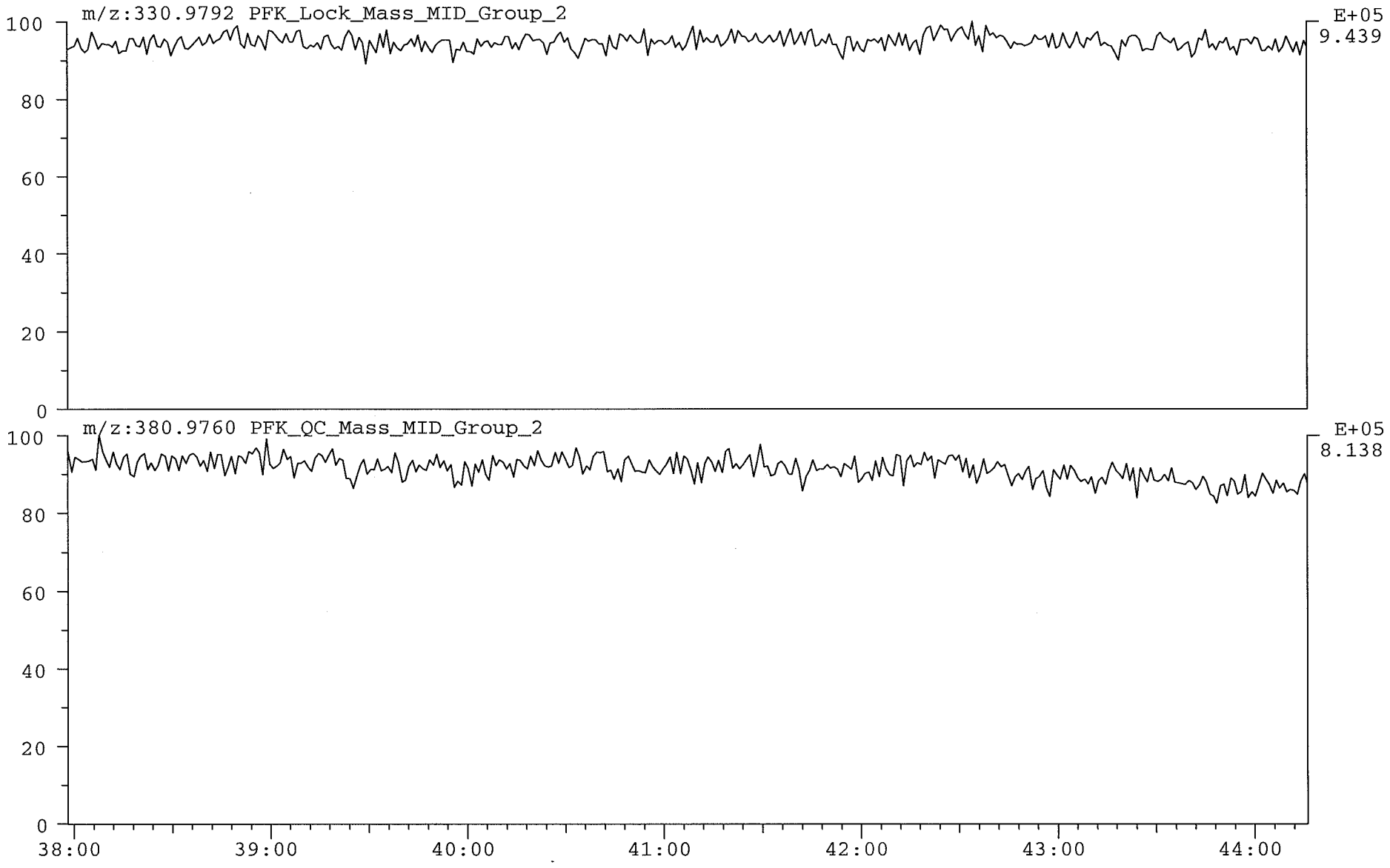

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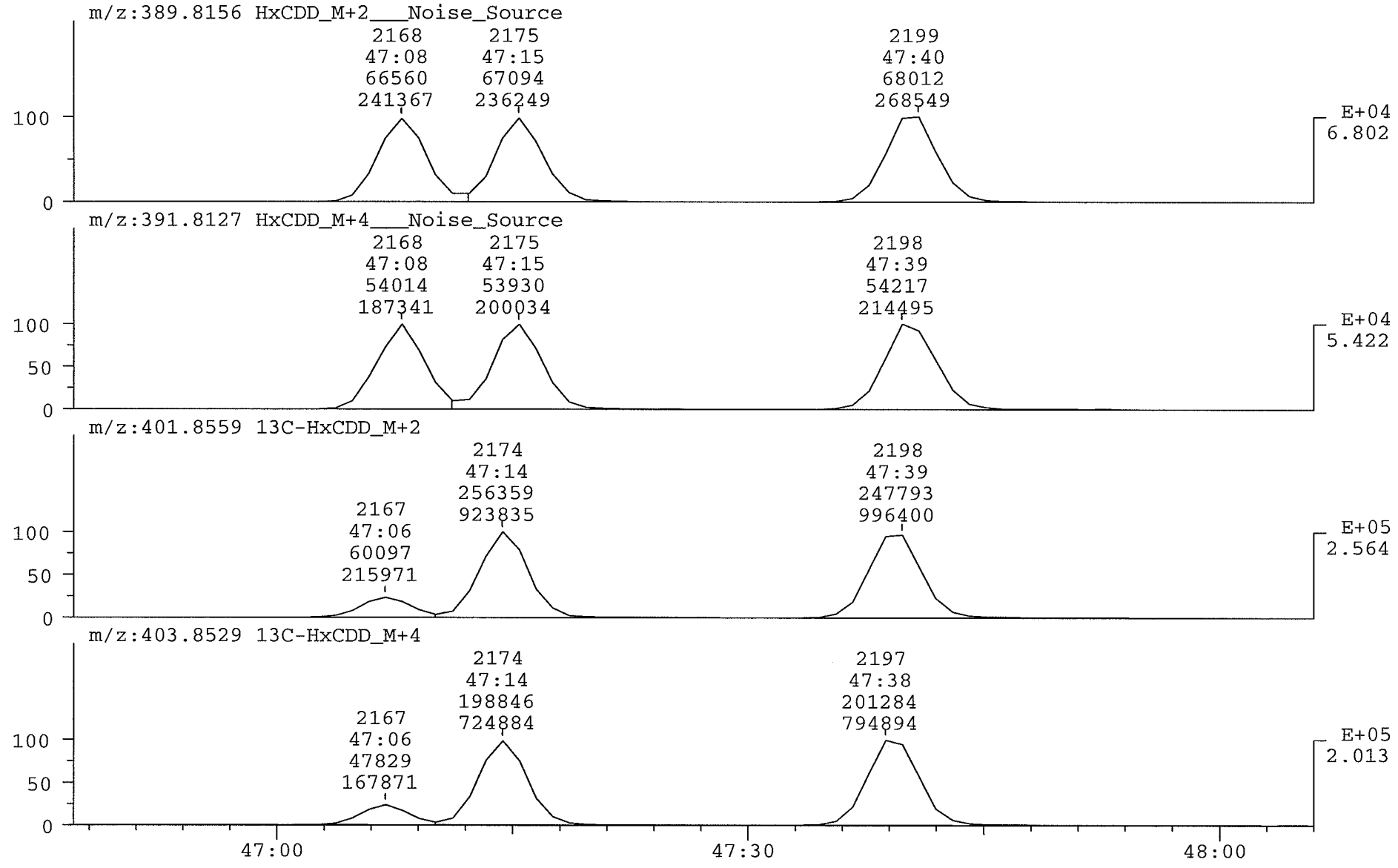
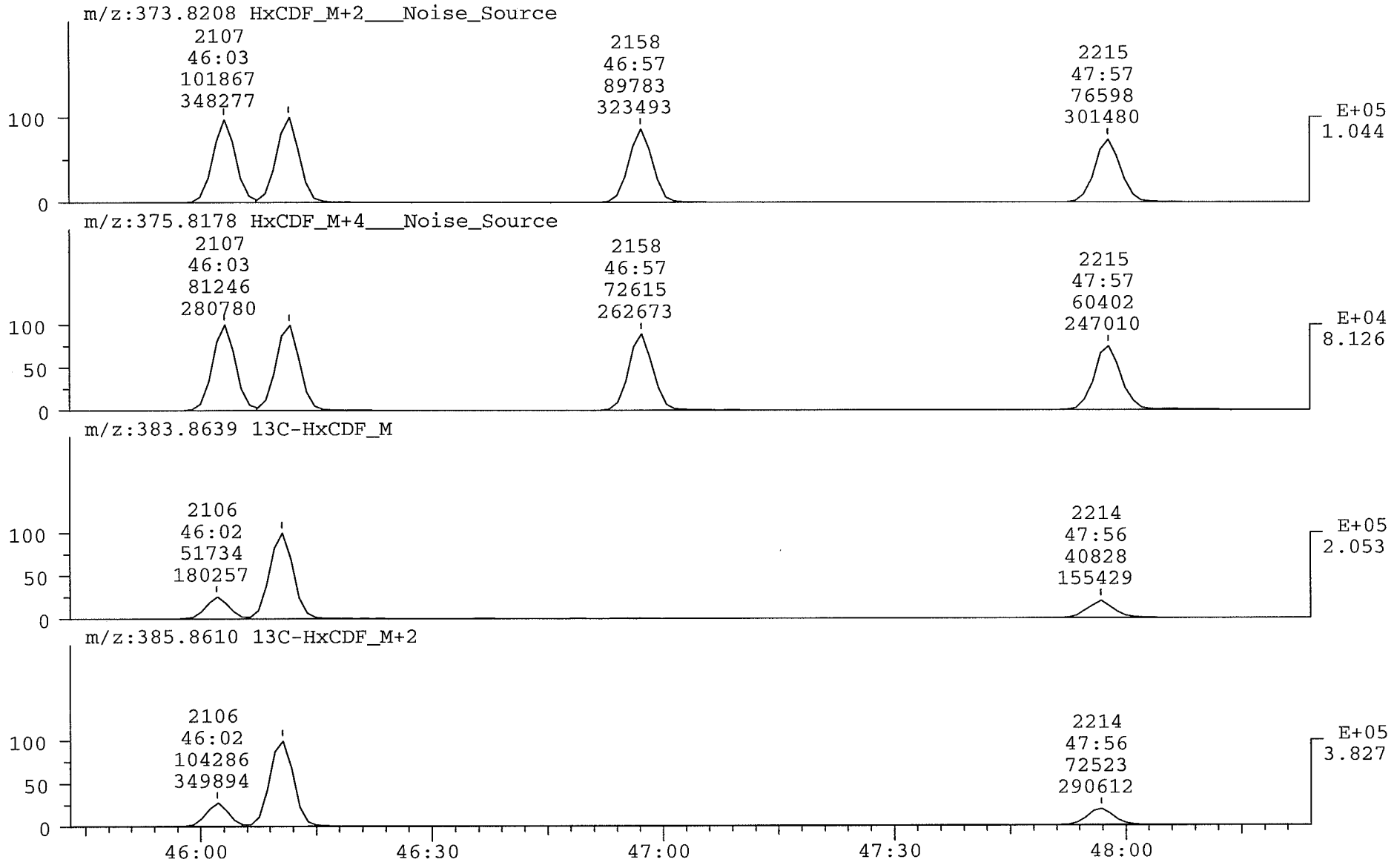
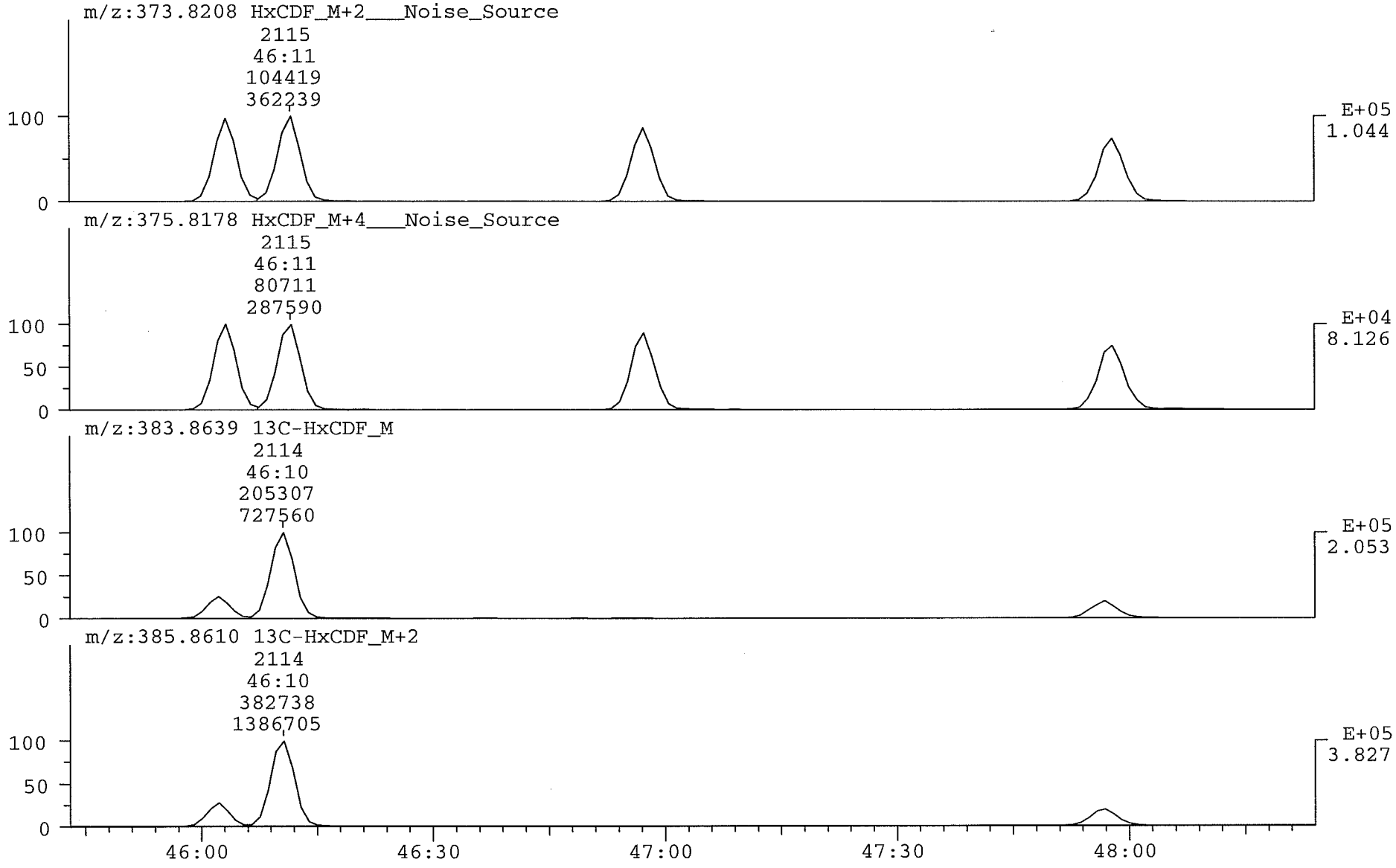
CHRO:  b060504s2                          04-May-06   Elapse:  47:26      2185
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  19:34:40   2850
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2148 > 2223      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



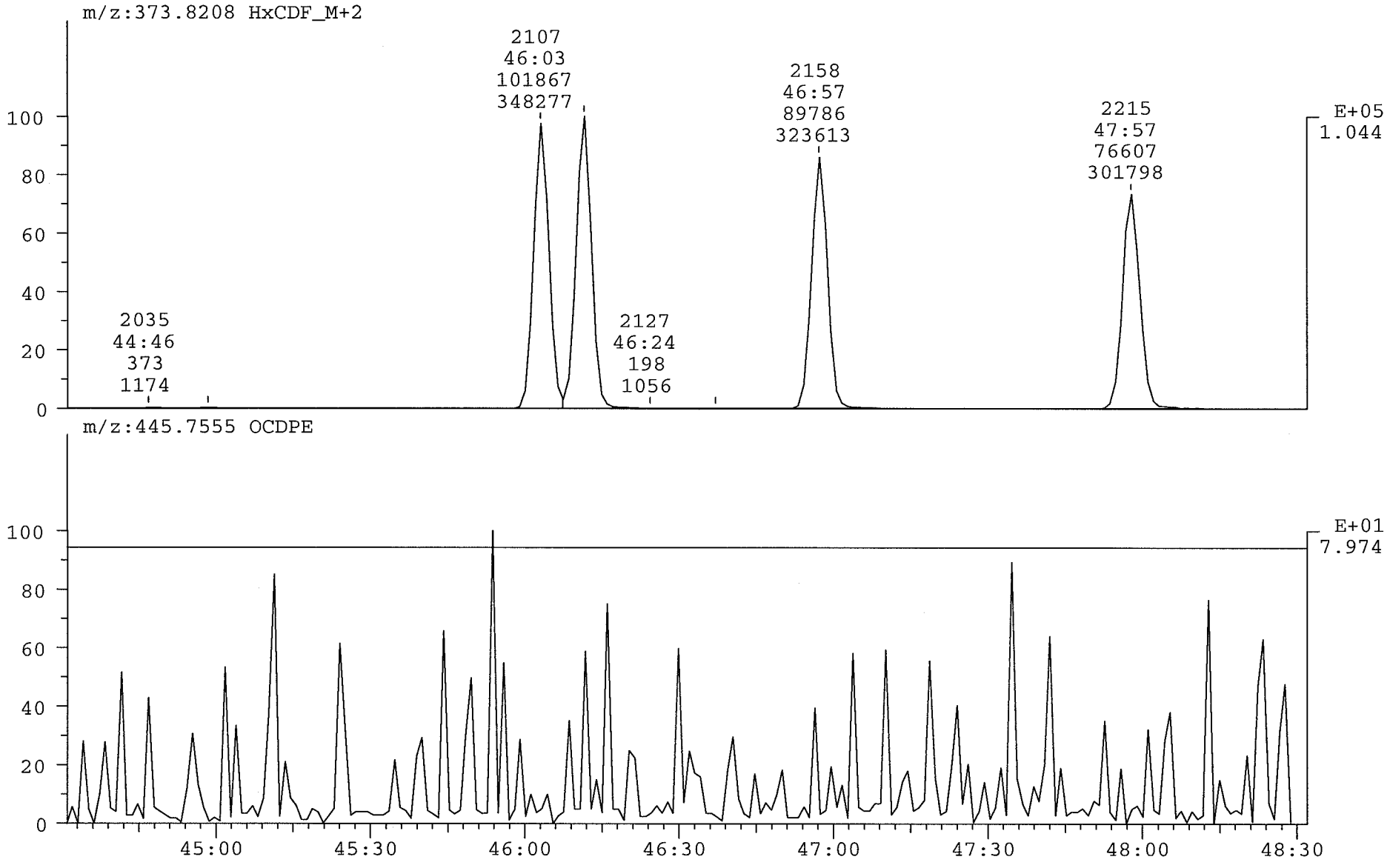
```
CHRO:  b060504s2                          04-May-06   Elapse:  47:02      2163
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  19:34:40   2850
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2088 > 2240      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



```
CHRO:  b060504s2                              04-May-06   Elapse:  46:11      2115
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                    Start :  19:34:40   2850
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville                Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2111 > 2119          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  b060504s2                          04-May-06  Elapse:  46:11      2115
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1               Start :  19:34:40   2850
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                     Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville           Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2020 > 2247     Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3          Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  b060504s2                              04-May-06   Elapse:  46:11      2115
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                    Start :  19:34:40   2850
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville                Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2020 > 2247          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
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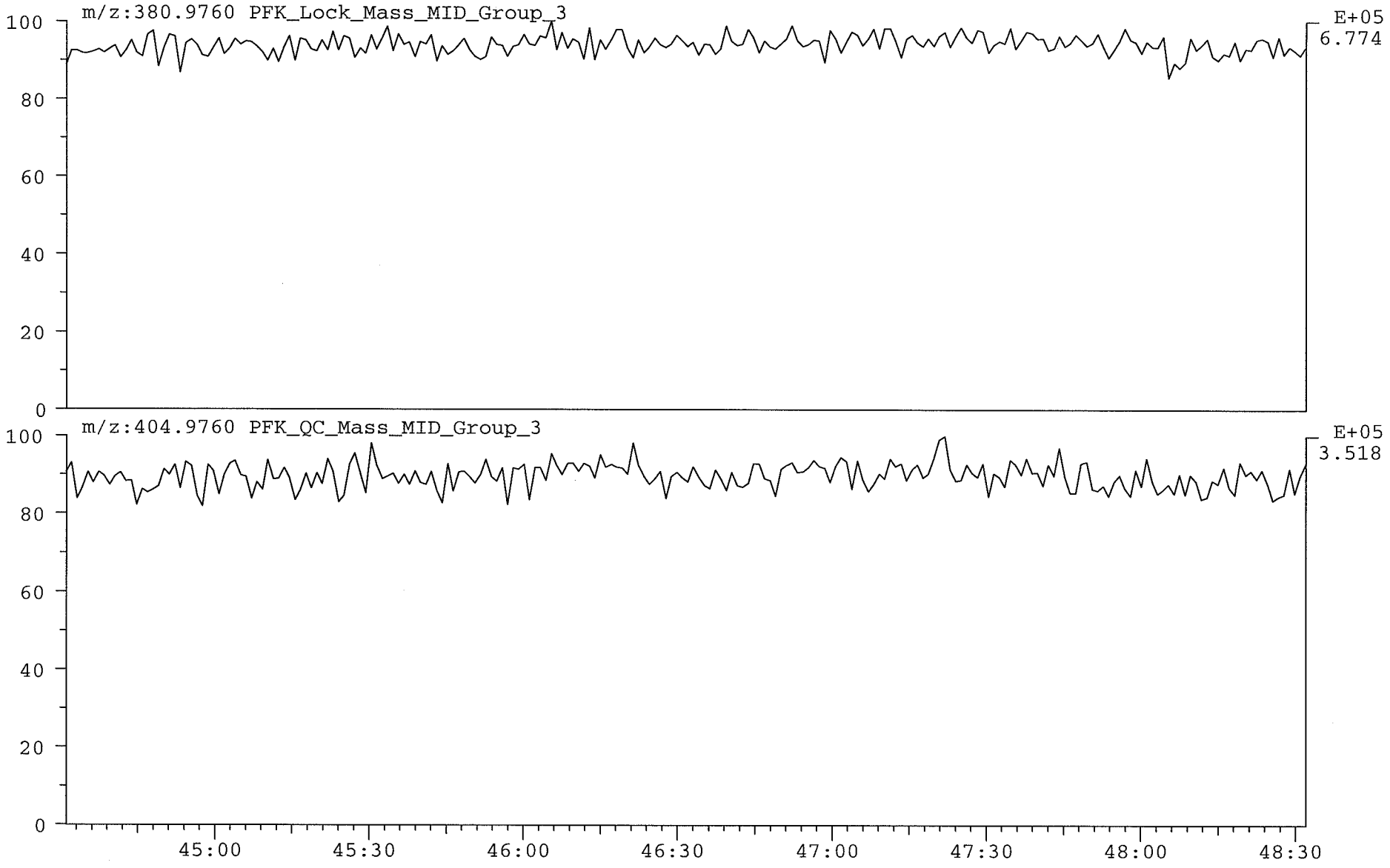
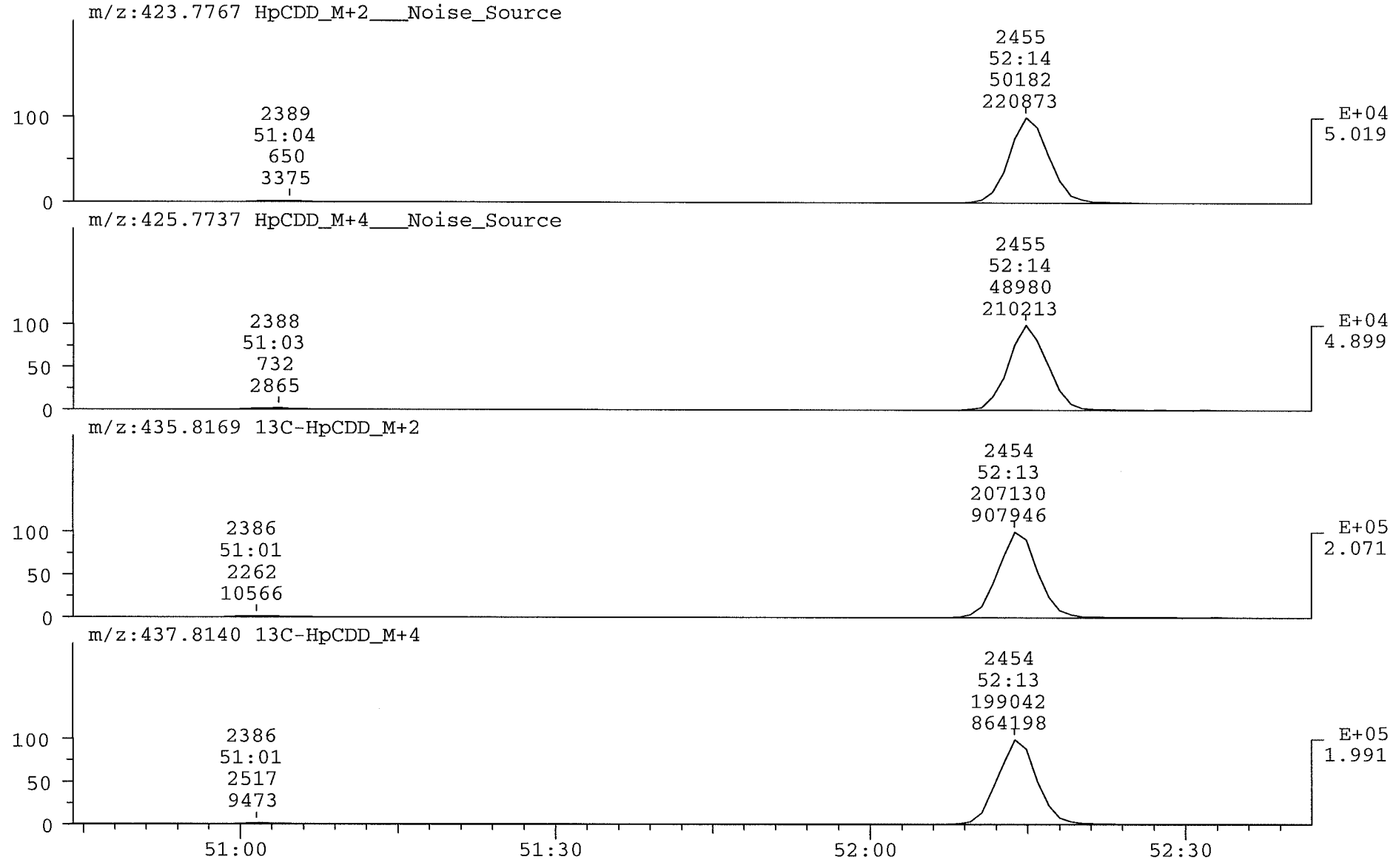


```
CHRO:  b060504s2                          04-May-06   Elapse:  46:11      2115
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  19:34:40   2850
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2369 > 2481      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  b060504s2                          04-May-06   Elapse:  51:44      2426
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  19:34:40   2850
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2338 > 2515      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
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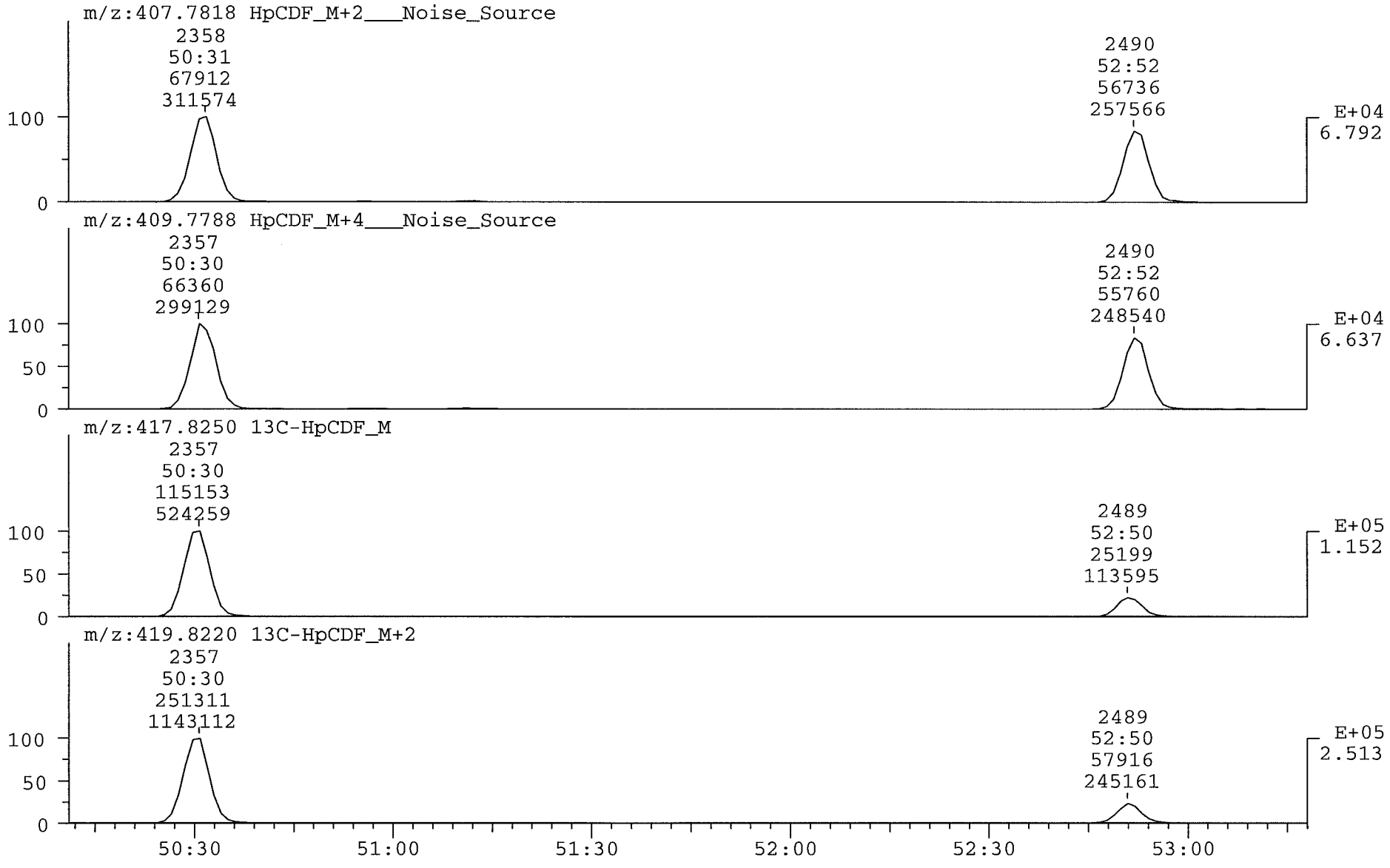

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CHRO:  b060504s2                          04-May-06   Elapse:  51:44      2426
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  19:34:40   2850
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2339 > 2515      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
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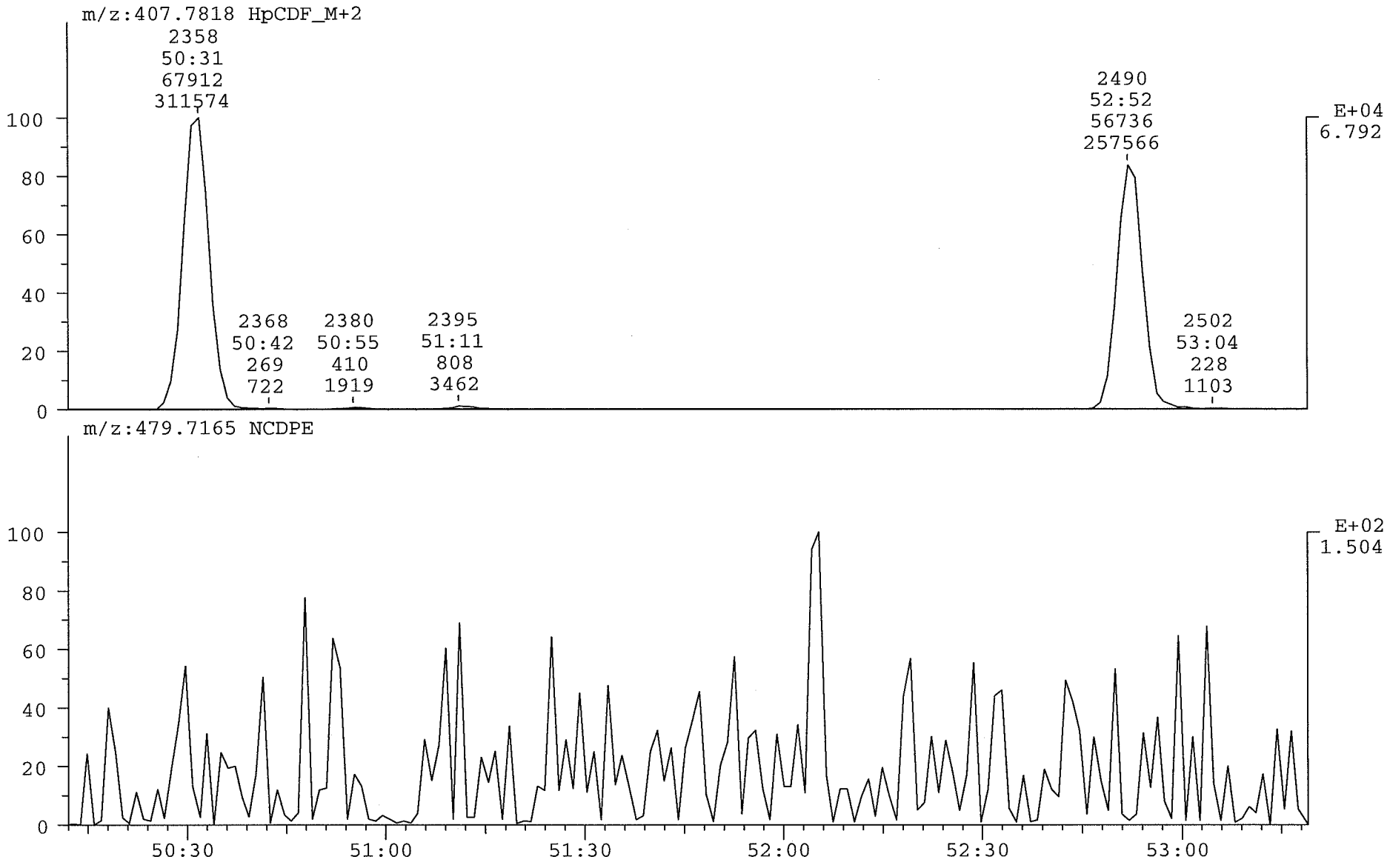

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CHRO:  b060504s2                          04-May-06   Elapse:  51:44      2426
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  19:34:40   2850
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2339 > 2515      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  0, 0.0
Disp:  Height  Area
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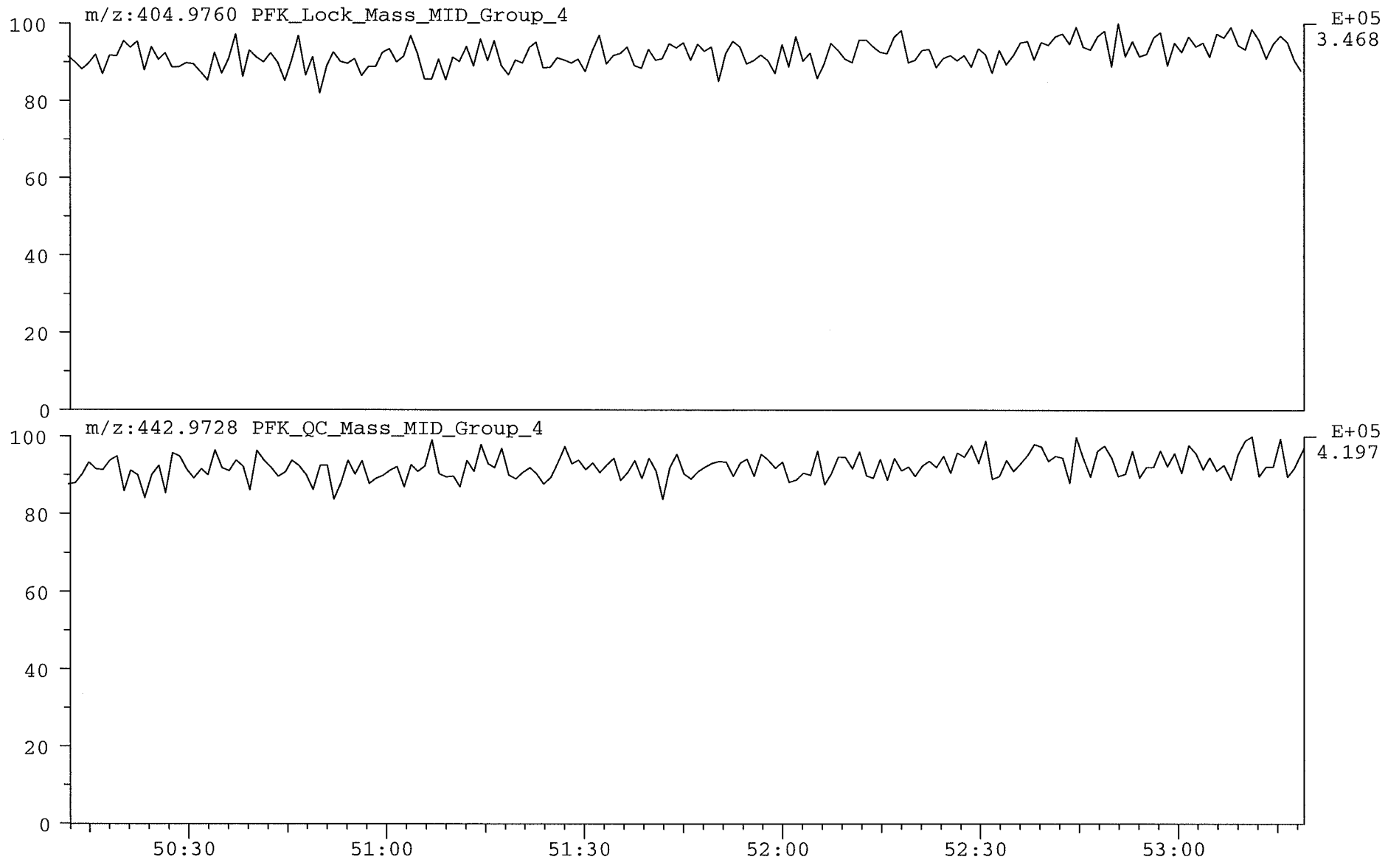

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CHRO:  b060504s2                          04-May-06   Elapse:  56:35      2698
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  19:34:40   2850
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2670 > 2731      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
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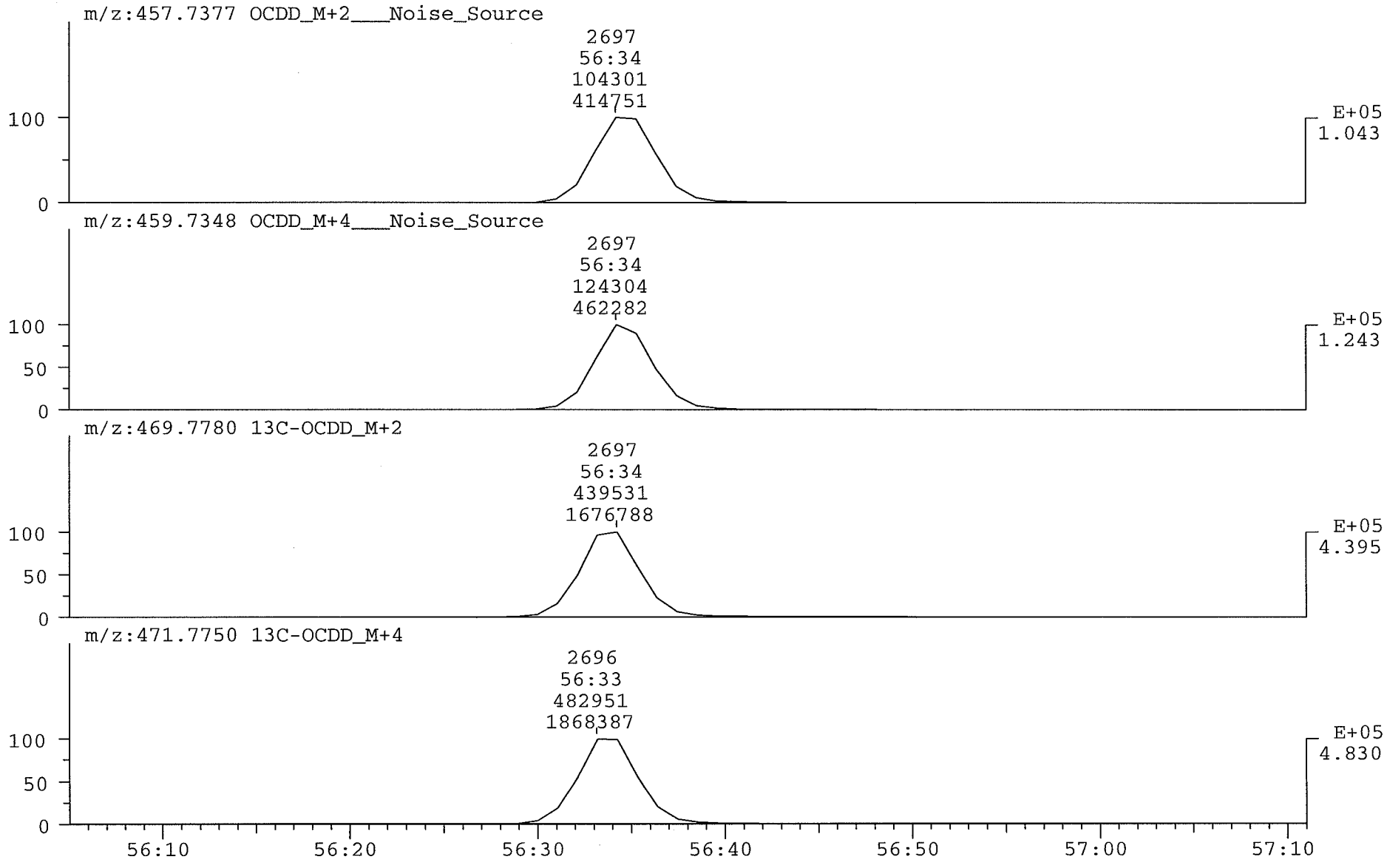

```
CHRO:  b060504s2                          04-May-06  Elapse:  56:42      2705
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1               Start :  19:34:40   2850
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                     Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville           Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2677 > 2739     Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3          Label :  -2, 3.0
Disp:  Height  Area
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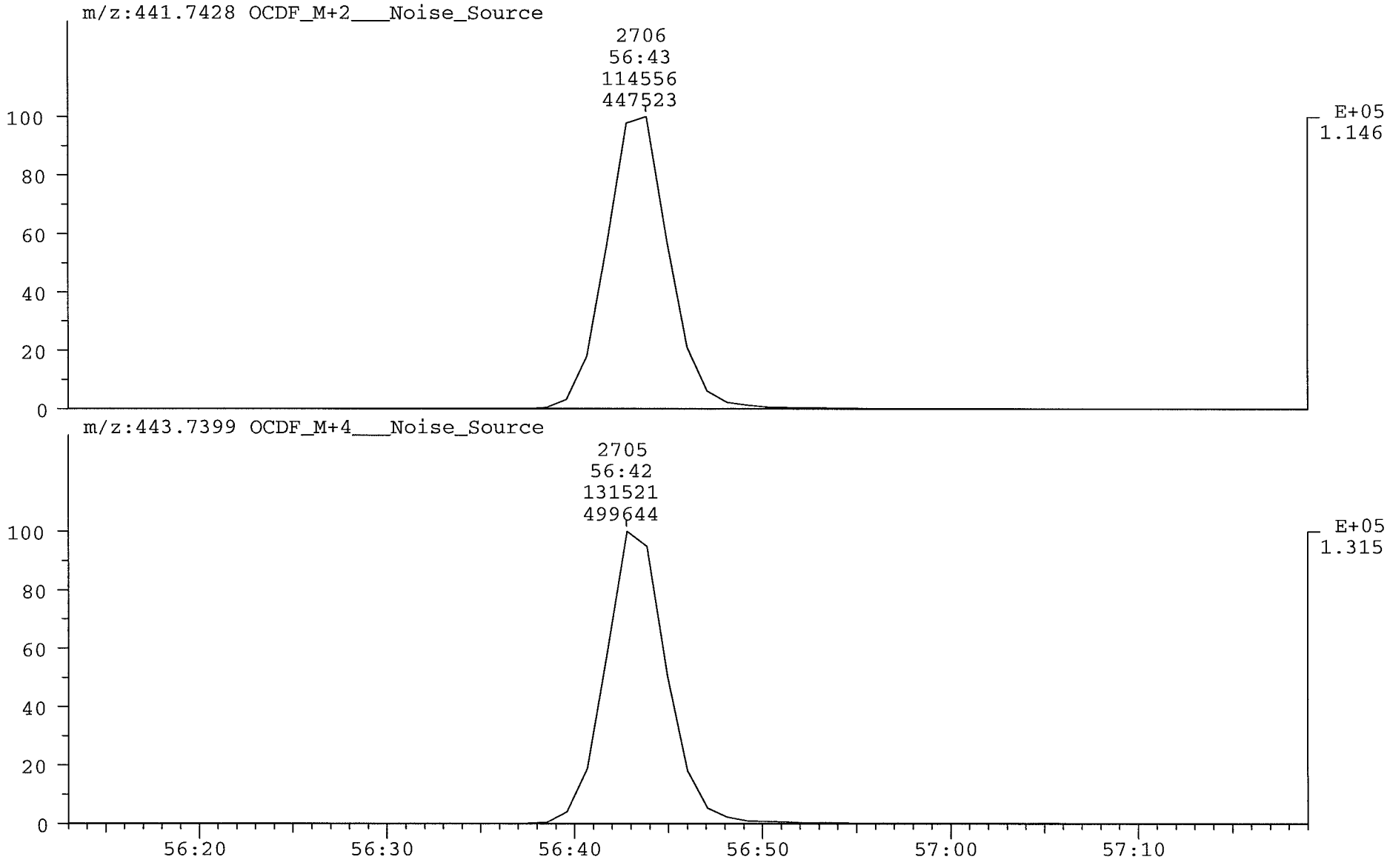
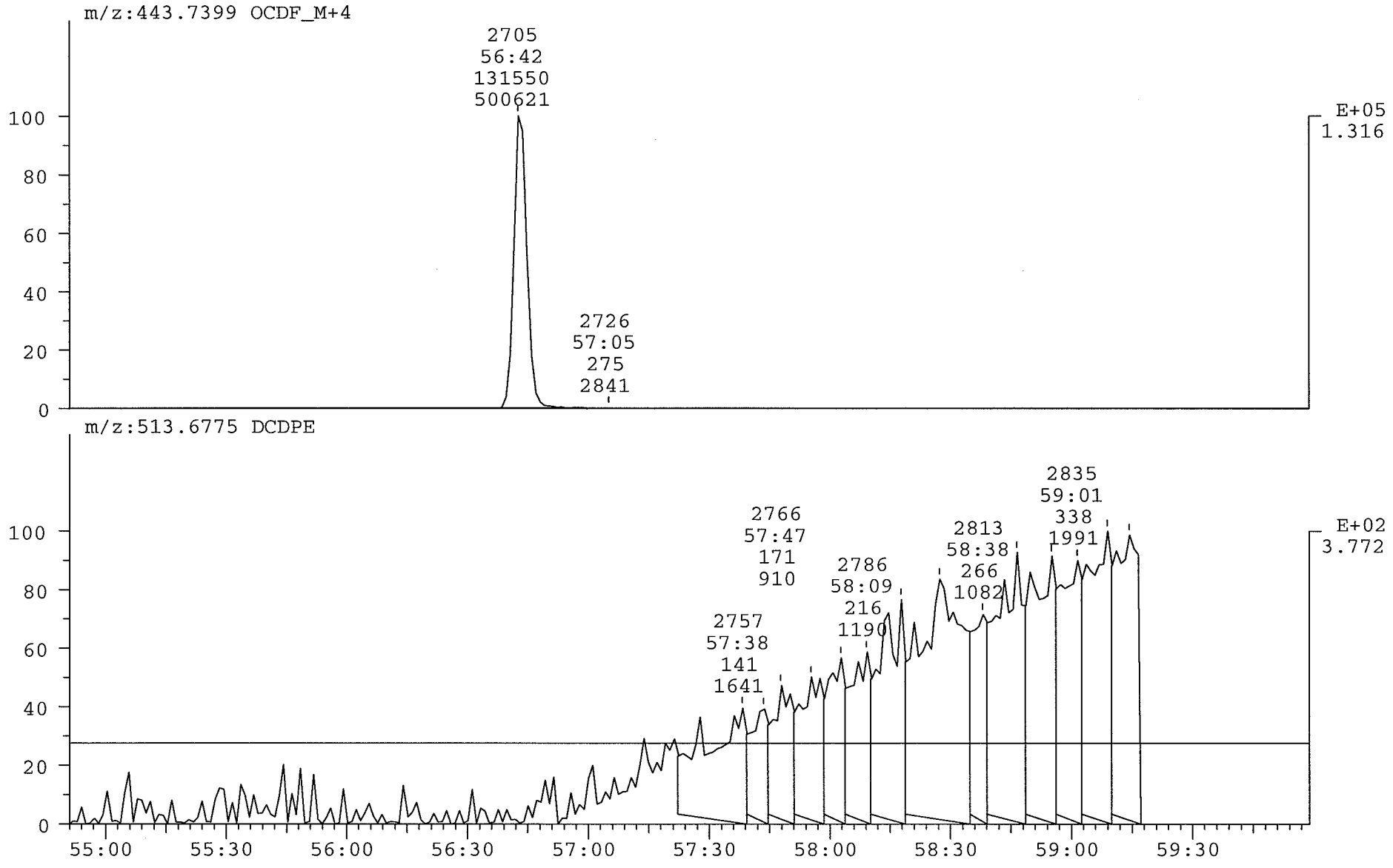
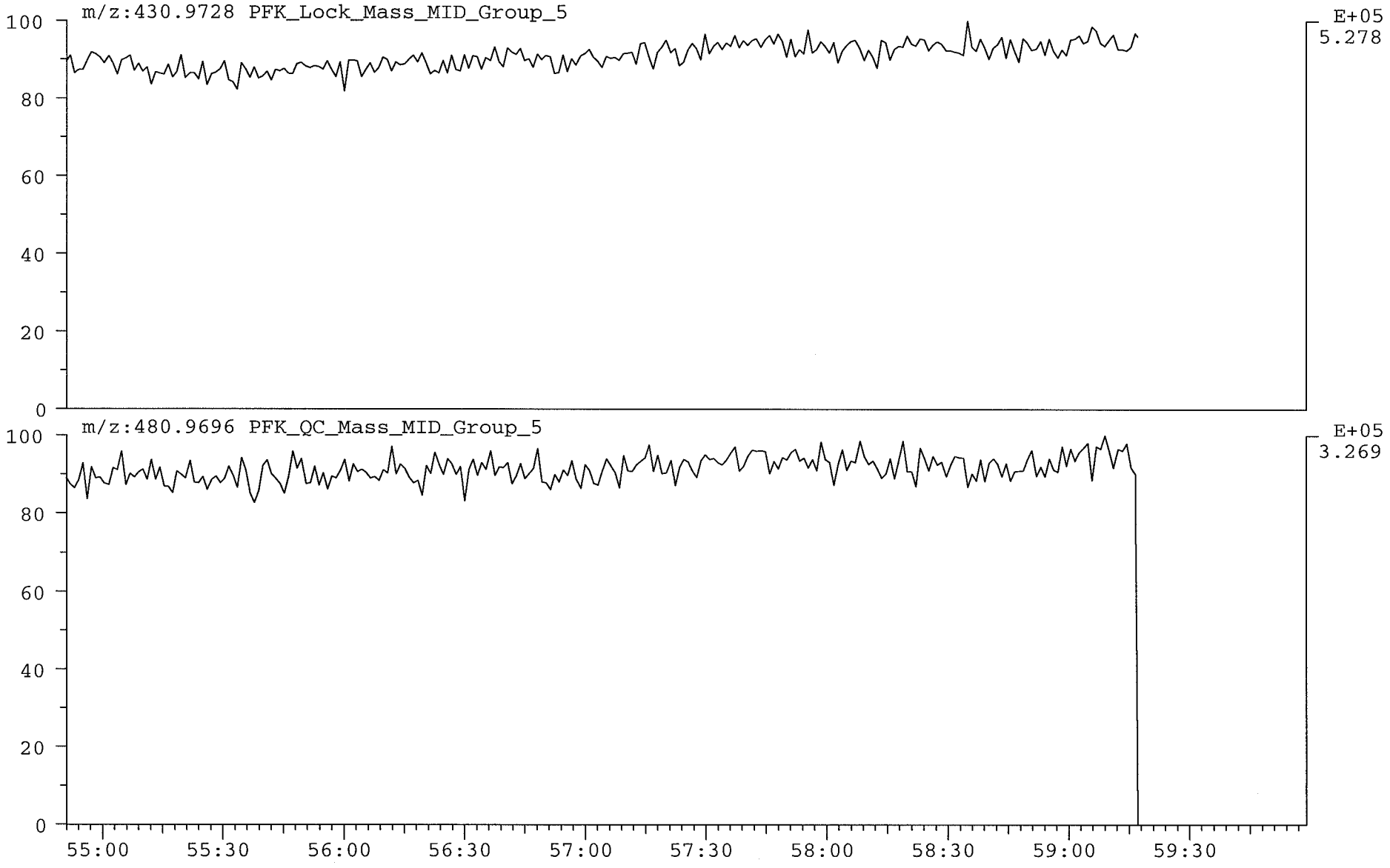


```
CHRO:  b060504s2                          04-May-06   Elapse:  56:42      2705
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  19:34:40   2850
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2600 > 2888      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  b060504s2                          04-May-06   Elapse:  56:42      2705
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  19:34:40   2850
Comm:  Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2600 > 2888      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  0, 0.0
Disp:  Height  Area
```



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: b060504s2
Study: M23 Ver
Sample: WO=3123:75 Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: BFW
Client: STL Knoxville
Comments: Inst=m2a/718320 Batch=20060504s2 Ccal=B060504S1
Injected volume: 2.0
Sample from Vial 3
Analysis will stop when MID run finishes
Tune file name: tune2
File 8 of list 060504
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	TRUE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	140 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	29:52 min	37:52 min	1.00 sec
# 2	37:52 min	6:32 min	44:25 min	1.00 sec
# 3	44:25 min	5:05 min	49:30 min	1.00 sec
# 4	49:30 min	5:15 min	54:45 min	1.00 sec
# 5	54:45 min	5:15 min	60:00 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

351.9000		1	1	91.48
353.8970		1	1	91.48
355.8546		1	1	91.48
357.8516		1	1	91.48
367.8949		1	1	91.48
369.8919		1	1	91.48
380.9760	c	10	1	8.19
409.7974		1	1	91.48

Window # 3

mass	F	int	gr	time (ms)
373.8208		1	1	91.48
375.8178		1	1	91.48
380.9760	1	10	1	8.19
383.8639		1	1	91.48
385.8610		1	1	91.48
389.8156		1	1	91.48
391.8127		1	1	91.48
401.8559		1	1	91.48
403.8529		1	1	91.48
404.9760	c	10	1	8.19
445.7555		1	1	91.48

Window # 4

mass	F	int	gr	time (ms)
404.9760	1	10	1	8.19
407.7818		1	1	91.48
409.7788		1	1	91.48
417.8250		1	1	91.48
419.8220		1	1	91.48
423.7767		1	1	91.48
425.7737		1	1	91.48
435.8169		1	1	91.48
437.8140		1	1	91.48
442.9728	c	10	1	8.19
479.7165		1	1	91.48

Window # 5

mass	F	int	gr	time (ms)
430.9728	1	10	1	10.92
441.7428		1	1	120.15
443.7399		1	1	120.15
457.7377		1	1	120.15
459.7348		1	1	120.15
469.7780		1	1	120.15
471.7750		1	1	120.15
480.9696	c	10	1	10.92
513.6775		1	1	120.15

Auto Sampler descriptor: pcdd2ul

Injector A

Normal Injection

Slvnt A cln before inj	(K):	3	times
Slvnt B cln before inj	(L):	0	times
Sample rinse cycles	(R):	0	times
Syringe filling volume	(F):	1.0	ul
Pullup delay time	(D):	4	sec
Sample pullup speed	(E):	5.0	ul/sec
Slvnt aftr pre inj cln	(U):	0.0	ul
Air after pre inj cln	(G):	2.0	ul
Sample volume	(V):	2.0	ul
Sample air volume	(A):	2.0	ul
Sample pullup count	(P):	2	times
Injection speed	(S):	10.0	ul/sec
Injection wait time	(W):	10	sec
Injection hold time	(H):	3	sec
Solvent A clean cycles	(C):	15	times
Solvent B clean cycles	(B):	20	times
Loop clean w slvnt A	(LC):	0	times

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8415.0000
BDEV	8289.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.5861	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9996
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-738.5000	ELEN	61.7750
EMULT	1.8000	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	188.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	539.0000	FVINLET	599.0000
FVSRC	991.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.6667	HVANAL	1580.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4759.4580	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	292.9825
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	224.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10100.2910	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.7800	TCURR	0.8594	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 04-May-06 19:34:40.8

Autosampler has injected sample from vial 3
Analysis stopped at: 04-May-06 20:33:58.8 (run time 59.29 minutes)
Analysis stopped because MID run finished

STL Knoxville Dioxin GC/MS Continuing Calibration Review / Narrative Checklist
Method: 8290 - KNOX-ID-0004-R6

Start PFK:	09:26	VER Filename:	b060505W1	Win Filename:	b060505W1	Inst:	MAT95
End PFK:	20:10	VER Filename:	b060505S3	Col Perf Filename:	—	ICAL Date:	4-11-06

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd Level
1. Was the mass resolution documented at both the beginning and end of the 12 hour shift?		✓			✓
2. Was the instrument resolution >10,000 (<100 ppm) on PFK m/z 304.9824 and m/z 380.9760 (at reduced voltage)?		✓			✓
3. Was the measured exact mass of m/z 380.9760 (PFK) within 5 ppm at reduced accelerating voltage?		✓			✓
4. Was date/time of analysis verified between analysis header and logbook as correct?		✓			✓
5. Was the Window Defining Mixture analyzed and the MID switchpoints set to encompass the retention time windows of each congener group?		✓			✓
6. Was the Column Performance solution analyzed and the %Valley ≤25 for separation between 2378-TCDD/F and the closest eluting non-2378 isomer?		✓			✓
7. Were continuing calibrations performed at the beginning and end of the 12-hour period, with successful mass resolution and GC resolution performance checks?		✓			✓
8. Were the response factors calculated for each labeled standard and unlabeled native analyte using the SOP specified reference compound (Table 3), quantitation ions (Table 22), and formula (Section 10.2.6)?		✓			✓
9. Are the measured RRFs for each compound within the specified control limits in Table 7 for all PCDDs/PCDFs?		✓			✓
10. Are the relative retention times of all PCDDs/PCDFs and all labeled compounds within the limits specified in Table 3?		✓			✓
11. Are all S/N ratios ≥10 for the GC signals in each EICP (extracted ion chromatographic profile) including internal standards?		✓			✓
12. Are the ion abundance ratios for all labeled and unlabeled analytes within the control limits specified in Table 22 of the SOP?		✓			✓
13. If manual integrations were performed, are they clearly identified, initialed and dated?	✓				✓
14. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				✓
15. Does the CCAL folder contain **complete** data in the following order: Data review checklist, a **complete** runlog, CCAL summary, Ratio summary, Calculation summary, PFK resolution/peak match documentation; Total RIC, EICP's and manual integration - for window and all standards?		✓			✓

Analyst: BW	Date: 5/5/06	2nd Level Reviewer : PMP	Date: ~~5-5-6~~ PMP 5-5-06 5-5-06
Comments:		Comments:	

STL KNOXVILLE
SPECIALTY ORGANICS INSTRUMENT MAT 95S RUN LOG

Date	Time	Opr	Sample ID	Filename	Code	Matrix	Type	Tape	Lot#/Comments
5-4-06	23:14	PMP	Noname	r	OK	—	QC		flush
5-4-06	23:29	PMP	H3ED8IAA	bth3ed8bq	OK	air	QC		System Blank
5-5-06	00:30	PMP	H2HIQIAA	bth2hlq	Lost file	air	SAM		H6D030236-009
5-5-06	04:12	PMP	H2HIPIAA	bth2hlp	IF Lost-up OK	air	SAM		-008
5-5-06	05:16	PMP	H2HIFIAA	bth2hlf	OK	air	SAM		-002
5-5-06	06:19	PMP	H2HIJIAA	bth2hlj	OK	air	SAM		-004
5-5-06	—	PMP	H2HILIAA	bth2hll	DR	air	SAM		-006
5-5-06	07:21	PMP	Noname	~~tnoname~~ r PMPS	OK	—	QC		flush
5-5-06	07:38	PMP	3123:75	b060505S1	OK	—	ver		M23 Ver
5-5-06	~~07:38~~ 03:09	PMP	H2HIQIAA	bth2hlq	OK	air	~~QC~~ SAM		H6D030236-009
5/5/06	09:26	BFW	PFK	—	OK	—	Res		Mass Res Check
5/5/06	09:30	BFW	3262:44	b060505W1	OK	—	WIN Ver		M23 WIN / 8290 WIN Ver
5/5/06	10:35	BFW	Noname	r	OK	—	QC		Flush
5/5/06	10:51	BFW	↓	r	OK	—	QC		↓
5/5/06	11:06	BFW	↓	r	OK	—	QC		↓
5/5/06	11:22	BFW	H4AF9IAA	bth4af9b	OK	SOLID	QC		H6D280000-206B
5/5/06	12:26	BFW	H2HILIAA	bth2hll	OK	Air	SAM		H6D030236-006
5/5/06	13:30	BFW	H3GAFIAA	bth3gaf	OK	SOLID	SAM	BFW 5/5/06	~~H6D~~ C6D180112-001
5/5/06	14:34	BFW	H3GANIAA	bth3gan	OK	SOLID	SAM		-002
5/5/06	15:36	BFW	H3GARIAA	bth3gar	OK	SOLID	SAM		-003
5/5/06	—	BFW	H3G9VIAA	bth3g9v	DR	SOLID	SAM		C6D210121-001
5/5/06	16:40	BFW	Noname	r	OK	—	QC		Flush
5/5/06	16:56	BFW	H4AF9IAC	bth4af9c	OK	SOLID	QC		H6D280000-206C
5/5/06	17:59	BFW	3123:75	b060505S2	OK	—	Ver		M23 Ver
5/5/06	19:03	BFW	3262:44	b060505S3	OK	—	Ver		8290 Ver
5-5-06	20:10	PMP	PFK	—	OK	—	Res		Mass Res Chk

PMP 5-5-06

BFW 5/5/06

Read and Understood by: PMP Date: 5-5-06

STL - Knoxville IsoCalc Continuing Calibration Report

PCDD/PCDF by EPA Method 8290 w/15 IS's

CCAL ID: 17096 - B060505W1
ICAL Date: 04/12/06
CCAL Filename: b060505w1
Method: IN2 - DX8290_2
CCAL Sample ID: 3262:44
Instrument: M2A
CCAL Result Dir: /20060505w1/b060505w1.d
Column SN: 718320
CCAL Date/Time: 05/05/06 09:30
Column Desc: Rtx-5 60m x 0.32mm ID x 0.25um

Analytes	m/z's Forming Ratio	Ion Abund Ratio	QC Limits	Calc Conc (ng/mL)	ICAL RF	CCAL RF	%D	QC Limit	Valid?
2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	9.6	1.052	1.012	-3.9	20.0	True
2,3,7,8-TCDF	M/M+2	0.77	0.65-0.89	9.6	0.984	0.945	-4.0	20.0	True
1,2,3,7,8-PeCDD	M+2/M+4	1.54	1.32-1.78	48	0.998	0.968	-3.0	20.0	True
1,2,3,7,8-PeCDF	M+2/M+4	1.51	1.32-1.78	48	1.024	0.984	-4.0	20.0	True
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	48	1.100	1.051	-4.5	20.0	True
1,2,3,4,7,8-HxCDD	M+2/M+4	1.21	1.05-1.43	47	1.186	1.126	-5.1	20.0	True
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	50	0.963	0.969	0.6	20.0	True
1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05-1.43	47	1.145	1.066	-6.8	20.0	True
1,2,3,4,7,8-HxCDF	M+2/M+4	1.28	1.05-1.43	48	1.264	1.208	-4.5	20.0	True
1,2,3,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	48	1.239	1.197	-3.4	20.0	True
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	48	1.196	1.143	-4.4	20.0	True
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05-1.43	46	1.212	1.117	-7.8	20.0	True
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.03	0.88-1.20	47	1.056	0.999	-5.4	20.0	True
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88-1.20	46	1.467	1.357	-7.5	20.0	True
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88-1.20	48	1.451	1.404	-3.2	20.0	True
OCDD	M+2/M+4	0.90	0.76-1.02	94	1.041	0.975	-6.3	20.0	True
OCDF	M+2/M+4	0.91	0.76-1.02	88	1.253	1.105	-11.9	20.0	True
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65-0.89	104	1.048	1.088	3.9	30.0	True
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	96	1.492	1.429	-4.2	30.0	True
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32-1.78	86	1.117	0.961	-13.9	30.0	True
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	80	1.616	1.300	-19.6	30.0	True
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	79	1.580	1.253	-20.7	30.0	True
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	98	0.891	0.877	-1.7	30.0	True
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	101	1.031	1.040	0.9	30.0	True
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	96	1.235	1.182	-4.3	30.0	True
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	92	1.370	1.265	-7.7	30.0	True
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	93	1.285	1.192	-7.3	30.0	True
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	91	1.167	1.061	-9.0	30.0	True
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	98	0.947	0.928	-2.0	30.0	True
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37-0.51	93	1.069	0.993	-7.1	30.0	True
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37-0.51	90	0.898	0.806	-10.2	30.0	True
13C-OCDD	M+2/M+4	0.90	0.76-1.02	185	1.024	0.946	-7.6	30.0	True

BPW 5/5/06

STL - Knoxville IsoCalc Continuing Calibration Report

PCDD/PCDF by EPA Method 8290 w/15 IS's

CCAL ID: 17096 - B060505W1
ICAL Date: 04/12/06
CCAL Filename: b060505w1
Method: IN2 - DX8290_2
CCAL Sample ID: 3262:44
Instrument: M2A
CCAL Result Dir: /20060505w1/b060505w1.d
Column SN: 718320
CCAL Date/Time: 05/05/06 09:30
Column Desc: Rtx-5 60m x 0.32mm ID x 0.25um

Analytes	ICAL RT	CCAL RT	RT Diff	ICAL RRT	CCAL RRT	RRT QC Limit	Valid?
2,3,7,8-TCDD	33:56	35:19	83	1.002	1.001	-	
2,3,7,8-TCDF	31:47	33:06	79	1.002	1.002	-	
1,2,3,7,8-PeCDD	42:35	43:03	28	1.000	1.000	-	
1,2,3,7,8-PeCDF	40:57	41:29	32	1.001	1.000	-	
2,3,4,7,8-PeCDF	42:05	42:35	30	1.000	1.001	-	
1,2,3,4,7,8-HxCDD	46:48	47:15	27	1.000	1.000	-	
1,2,3,6,7,8-HxCDD	46:55	47:22	27	1.000	1.000	-	
1,2,3,7,8,9-HxCDD	47:20	47:47	27	1.009	1.009	-	
1,2,3,4,7,8-HxCDF	45:45	46:09	24	1.000	1.000	-	
1,2,3,6,7,8-HxCDF	45:53	46:17	24	1.000	1.000	-	
2,3,4,6,7,8-HxCDF	46:38	47:04	26	1.000	1.000	-	
1,2,3,7,8,9-HxCDF	47:36	48:05	29	1.000	1.001	-	
1,2,3,4,6,7,8-HpCDD	51:51	52:21	30	1.000	1.000	-	
1,2,3,4,6,7,8-HpCDF	50:08	50:37	29	1.000	1.000	-	
1,2,3,4,7,8,9-HpCDF	52:27	52:59	32	1.000	1.000	-	
OCDD	56:17	56:41	24	1.000	1.000	-	
OCDF	56:24	56:49	25	1.002	1.003	-	
13C-2,3,7,8-TCDD	33:53	35:16	83	1.020	1.016	-	
13C-2,3,7,8-TCDF	31:44	33:02	78	0.956	0.952	-	
13C-1,2,3,7,8-PeCDD	42:34	43:02	28	1.282	1.240	-	
13C-1,2,3,7,8-PeCDF	40:55	41:28	33	1.232	1.195	-	
13C-2,3,4,7,8-PeCDF	42:04	42:33	29	1.267	1.226	-	
13C-1,2,3,4,7,8-HxCDD	46:46	47:14	28	0.989	0.989	-	
13C-1,2,3,6,7,8-HxCDD	46:54	47:21	27	0.991	0.992	-	
13C-1,2,3,4,7,8-HxCDF	45:44	46:09	25	0.967	0.966	-	
13C-1,2,3,6,7,8-HxCDF	45:52	46:16	24	0.969	0.969	-	
13C-2,3,4,6,7,8-HxCDF	46:37	47:03	26	0.985	0.985	-	
13C-1,2,3,7,8,9-HxCDF	47:35	48:02	27	1.006	1.006	-	
13C-1,2,3,4,6,7,8-HpCDD	51:50	52:20	30	1.096	1.096	-	
13C-1,2,3,4,6,7,8-HpCDF	50:07	50:36	29	1.059	1.060	-	
13C-1,2,3,4,7,8,9-HpCDF	52:26	52:58	32	1.108	1.109	-	
13C-OCDD	56:16	56:40	24	1.189	1.187	-	

STL - Knoxville

IsoCalc Continuing Calibration Report

PCDD/PCDF by EPA Method 8290 w/15 IS's

CCAL ID: 17096 - B060505W1

WIN Filename: b060505w1 **Method:** IN2 - DX8290_2

WIN Sample ID: 3262:44 **Instrument:** M2A

WIN Result Dir: /20060505w1/b060505w1.d **Column SN:** 718320

WIN Date/Time: 05/05/06 09:30 **Column Desc:** Rtx-5 60m x 0.32mm ID x 0.25um

Window Defining First/Last Eluter Retention Times

Analyte	Reference	M/Z	Ref RT	First Eluter RT	First Eluter RRT	Last Eluter RT	Last Eluter RRT
Total TCDD	13C-2,3,7,8-TCDD	320	35:16	28:42	0.8138	37:42	1.0690
Total TCDF	13C-2,3,7,8-TCDF	304	33:02	25:56	0.7851	37:37	1.1387
Total PeCDD	13C-1,2,3,7,8-PeCDD	356	43:02	40:29	0.9407	43:39	1.0143
Total PeCDF	13C-1,2,3,7,8-PeCDF	340	41:28	38:11	0.9208	43:47	1.0559
Total HxCDD	13C-1,2,3,6,7,8-HxCDD	390	47:21	45:35	0.9627	47:47	1.0092
Total HxCDF	13C-1,2,3,4,7,8-HxCDF	374	46:09	44:53	0.9726	48:12	1.0444
Total HpCDD	13C-1,2,3,4,6,7,8-HpCDD	424	52:20	51:09	0.9774	52:21	1.0003
Total HpCDF	13C-1,2,3,4,6,7,8-HpCDF	408	50:36	50:37	1.0003	52:59	1.0471
OCDD	13C-OCDD	458	56:40	56:41	1.0003	56:41	1.0003
OCDF	13C-OCDD	442	56:40	56:49	1.0026	56:49	1.0026

STL - Knoxville

IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 1613B

IsoCalc

Workorder	3262:44	Prep Batch		Lot No	
Data File	/20060505w1/b060505w1.d	Prep Date		SDG No	
Analysis ID	90524	Prep Exp Date		Date Received	
Analysis Date	5/5/2006	Matrix	UNKNOWN	Date Sampled	
Analysis Time	09:30	Initial Wt/Vol		Lims Test Code	
Anal Exp Date		Extract Vol		Method	DX1613B
Instrument	M2A	Dil Factor	1.0	Code	F8
Analyst	BFW				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (ng/mL)		DL (ng/mL)
2,3,7,8-TCDD	35:19	207245	23729	1.052	10.00	9.614464	96.14	9.614464	E	0.129
Total TCDD		896474	110878	1.052		51.203487		51.203487	E	0.129
2,3,7,8-TCDF	33:06	253967	27613	0.984	10.00	9.600823	96.01	9.600823	E	0.0990
Total TCDF		511361	77075	0.984		28.932021		28.932021	E	0.0990
1,2,3,7,8-PeCDD	43:03	875207	238759	0.998	50.00	48.481964	96.96	48.481964	E	0.0626
Total PeCDD		1669024	395307	0.998		140.937304		140.937304	E	0.0626
1,2,3,7,8-PeCDF	41:29	1202612	291955	1.024	50.00	48.021728	96.04	48.021728	E	0.0502
2,3,4,7,8-PeCDF	42:35	1239059	345176	1.100	50.00	47.766566	95.53	47.766566	E	0.0440
Total PeCDF		2288153	484625	1.062		185.492013		185.492013	E	0.0470
1,2,3,4,7,8-HxCDD	47:15	829682	222166	1.186	50.00	47.453376	94.91	47.453376	E	0.0790
1,2,3,6,7,8-HxCDD	47:22	847277	211304	0.963	50.00	50.284118	100.57	50.284118	E	0.0892
1,2,3,7,8,9-HxCDD	47:47	859282	221087	1.145	50.00	46.588227	93.18	46.588227	E	0.0784
Total HxCDD		893374	263196	1.098		194.813349		194.813349	E	0.0817
1,2,3,4,7,8-HxCDF	46:09	1200497	324390	1.264	50.00	47.763580	95.53	47.763580	E	0.0654
1,2,3,6,7,8-HxCDF	46:17	1271995	337574	1.239	50.00	48.284728	96.57	48.284728	E	0.0630
2,3,4,6,7,8-HxCDF	47:04	1145264	294118	1.196	50.00	47.783010	95.57	47.783010	E	0.0718
1,2,3,7,8,9-HxCDF	48:05	996163	238944	1.212	50.00	46.082285	92.16	46.082285	E	0.0876
Total HxCDF		2071795	577275	1.228		275.331755		275.331755	E	0.0709
1,2,3,4,6,7,8-HpCDD	52:21	779492	169139	1.056	50.00	47.290140	94.58	47.290140	E	0.101
Total HpCDD		765833	160901	1.056		93.751617		93.751617	E	0.101
1,2,3,4,6,7,8-HpCDF	50:37	1132945	251478	1.467	50.00	46.269781	92.54	46.269781	E	0.0549
1,2,3,4,7,8,9-HpCDF	52:59	951313	205051	1.451	50.00	48.412218	96.82	48.412218	E	0.0670
Total HpCDF				1.459		94.681999		94.681999	E	0.0604
OCDD	56:41	1550732	407526	1.041	100.0	93.685650	93.69	93.685650	E	0.0622
OCDF	56:49	1756561	431908	1.253	100.0	88.144860	88.14	88.144860	E	0.0710
13C-2,3,7,8-TCDD	35:16	2048399	228268	1.048	100.0	103.881453	103.88	103.881453		0.172
13C-2,3,7,8-TCDF	33:02	2688778	282409	1.492	100.0	95.794798	95.79	95.794798		0.107
13C-1,2,3,7,8-PeCDD	43:02	1808298	496379	1.117	100.0	86.064209	86.06	86.064209		0.131
13C-1,2,3,7,8-PeCDF	41:28	2445558	598196	1.616	100.0	80.422106	80.42	80.422106		0.0812
13C-2,3,4,7,8-PeCDF	42:33	2358804	635382	1.580	100.0	79.342705	79.34	79.342705		0.0830
13C-1,2,3,4,7,8-HxCDD	47:14	1473858	399953	0.891	100.0	98.340696	98.34	98.340696		0.0882
13C-1,2,3,6,7,8-HxCDD	47:21	1748981	436282	1.031	100.0	100.912681	100.91	100.912681		0.0763
13C-1,2,3,4,7,8-HxCDF	46:09	1987882	525734	1.235	100.0	95.720960	95.72	95.720960		0.0764
13C-1,2,3,6,7,8-HxCDF	46:16	2126157	557378	1.370	100.0	92.327689	92.33	92.327689		0.0689
13C-2,3,4,6,7,8-HxCDF	47:03	2003188	506196	1.285	100.0	92.743847	92.74	92.743847		0.0734
13C-1,2,3,7,8,9-HxCDF	48:02	1784283	410061	1.167	100.0	90.975949	90.98	90.975949		0.0809
13C-1,2,3,4,6,7,8-HpCDD	52:20	1560566	338972	0.947	100.0	97.979451	97.98	97.979451		0.0762
13C-1,2,3,4,6,7,8-HpCDF	50:36	1669538	356829	1.069	100.0	92.929198	92.93	92.929198		0.0812
13C-1,2,3,4,7,8,9-HpCDF	52:58	1354677	295719	0.898	100.0	89.750026	89.75	89.750026		0.0967
13C-OCDD	56:40	3180529	825945	1.024	200.0	184.749572	92.37	184.749572		0.0785
37Cl4-2,3,7,8-TCDD	35:19	206272	23047	1.123	10.00	9.758015	97.58	9.758015	E	0.0733
13C-1,2,3,4-TCDD	34:42	1881858	194393	1.000	100.0	100.000000	100.00	100.000000		0.180
13C-1,2,3,7,8,9-HxCDD	47:45	1681175	429255	1.000	100.0	100.000000	100.00	100.000000		0.0786

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 1613B

IsoCalc

Workorder	3262:44	Prep Batch		Lot No	
Data File	/20060505w1/b060505w1.	Prep Date		SDG No	
Analysis ID	90524	Prep Exp Date		Date Received	
Analysis Date	05/05/06 09:30	Matrix	UNKNOWN	Date Sampled	
Anal Exp Date		Initial Wt/Vol		Lims Test Code	
Instrument	M2A	Extract Vol		Method	DX1613B
Analyst	BFW	Diluton Factor	1.00	Code	F8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	110	165	44	66	0.67	/	
	Unidentified	25:56	00:00	0	128462	164048	18139	22989	0.78	ABV/ABV	
	2,3,7,8-TCDF	33:06	33:16	-10	110868	143099	11800	15813	0.77	ABV/ABV	M
	Unidentified	37:37	00:00	0	97448	121403	15956	19991	0.80	ABB/ABB	
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	128	183	51	73	0.70	/	
	13C-2,3,7,8-TCDF	33:02	33:13	-11	1187706	1501072	124077	158332	0.79	ABV/ABV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	148	163	59	65	0.91 *	/	
	Unidentified	28:42	00:00	0	84234	107309	10150	13251	0.78	ABB/ABB	
	Unidentified	34:45	00:00	0	78396	100946	7718	10554	0.78	ABV/ABV	
	Unidentified	35:00	00:00	0	73870	96768	8652	10813	0.76	AVV/AVV	
	2,3,7,8-TCDD	35:19	35:10	9	90669	116576	10600	13129	0.78	AVB/AVV	M
	Unidentified	35:45	00:00	0	80227	106829	10005	12697	0.75	ABB/AVB	
	Unidentified	37:42	00:00	0	73299	94596	11982	15056	0.77	ABB/ABB	
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	160		64				
	37Cl4-2,3,7,8-TCDD	35:19	35:10	9	206272		23047			ABV	M
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	223	128	89	51	1.75 *	/	
	13C-1,2,3,4-TCDD	34:42	34:32	10	832415	1049443	86587	107806	0.79	ABV/ABV	
	13C-2,3,7,8-TCDD	35:16	35:07	9	907704	1140695	103105	125163	0.80	AVV/AVV	
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**		
	Noise	00:00	00:00	0	145	163	58	65	0.89 *	/	
	Unidentified	38:11	00:00	0	758469	495545	130138	84382	1.53	ABV/ABV	
	1,2,3,7,8-PeCDF	41:29	41:36	-7	723921	478691	176072	115883	1.51	ABV/ABV	M
	2,3,4,7,8-PeCDF	42:35	42:40	-5	758304	480755	211532	133644	1.58	ABV/ABV	M
	Unidentified	43:47	00:00	0	631998	402141	165551	104554	1.57	ABV/ABV	
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**		
	Noise	00:00	00:00	0	110	145	44	58	0.76 *	/	
	13C-1,2,3,7,8-PeCDF	41:28	41:34	-6	1502708	942850	364531	233665	1.59	ABV/ABV	
	13C-2,3,4,7,8-PeCDF	42:33	42:39	-6	1438310	920494	388107	247275	1.56	ABV/ABV	
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**		
	Noise	00:00	00:00	0	195	115	78	46	1.70	/	
	Unidentified	40:29	00:00	0	511340	322548	97891	61028	1.59	ABV/ABV	
	1,2,3,7,8-PeCDD	43:03	43:09	-6	531061	344146	143898	94861	1.54	ABV/ABV	M
	Unidentified	43:39	00:00	0	512281	322855	144446	91942	1.59	ABB/ABB	M
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**		
	Noise	00:00	00:00	0	165	120	66	48	1.38	/	
	13C-1,2,3,7,8-PeCDD	43:02	43:08	-6	1098830	709468	301007	195372	1.55	ABV/ABV	
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	Noise	00:00	00:00	0	243	193	97	77	1.26	/	
	Unidentified	44:53	00:00	0	619873	498111	191965	156851	1.24	ABV/ABV	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 1613B

IsoCalc

Workorder	3262:44	Prep Batch		Lot No	
Data File	/20060505w1/b060505w1.	Prep Date		SDG No	
Analysis ID	90524	Prep Exp Date		Date Received	
Analysis Date	05/05/06 09:30	Matrix	UNKNOWN	Date Sampled	
Anal Exp Date		Initial Wt/Vol		Lims Test Code	
Instrument	M2A	Extract Vol		Method	DX1613B
Analyst	BFW	Diluton Factor	1.00	Code	F8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	1,2,3,4,7,8-HxCDF	46:09	46:12	-3	674148	526349	181018	143372	1.28	ABV/ABV	M
	1,2,3,6,7,8-HxCDF	46:17	46:20	-3	705261	566734	186978	150596	1.24	AVV/AVV	M
	2,3,4,6,7,8-HxCDF	47:04	47:04	0	636320	508944	161264	132854	1.25	AVB/AVV	
	1,2,3,7,8,9-HxCDF	48:05	48:01	4	554990	441173	133694	105250	1.26	ABV/ABV	M
	Unidentified	48:12	00:00	0	531375	422436	127732	100727	1.26	AVB/AVB	
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**		
	Noise	00:00	00:00	0	175	230	70	92	0.76 *	/	
	13C-1,2,3,4,7,8-HxCDF	46:09	46:11	-2	677867	1310015	182683	343051	0.52	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDF	46:16	46:19	-3	734416	1391741	186806	370572	0.53	AVV/AVV	
	13C-2,3,4,6,7,8-HxCDF	47:03	47:03	0	691027	1312161	175376	330820	0.53	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDF	48:02	48:00	2	614178	1170105	139867	270194	0.52	ABV/ABV	
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	Noise	00:00	00:00	0	195	180	78	72	1.08	/	
	Unidentified	45:35	00:00	0	494355	399019	146814	116382	1.24	ABV/ABV	
	1,2,3,4,7,8-HxCDD	47:15	47:13	2	454188	375494	122894	99272	1.21	ABV/ABV	
	1,2,3,6,7,8-HxCDD	47:22	47:20	2	472124	375153	117466	93838	1.26	AVB/AVB	
	1,2,3,7,8,9-HxCDD	47:47	47:45	2	477642	381640	121628	99459	1.25	ABV/ABB	
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**		
	Noise	00:00	00:00	0	178	160	71	64	1.11	/	
	13C-1,2,3,4,7,8-HxCDD	47:14	47:12	2	817233	656625	222427	177526	1.24	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDD	47:21	47:19	2	969409	779572	244762	191520	1.24	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDD	47:45	47:44	1	930106	751069	234985	194270	1.24	AVV/ABV	
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**		
	Noise	00:00	00:00	0	143	145	57	58	0.98	/	
	1,2,3,4,6,7,8-HpCDF	50:37	50:32	5	575554	557391	126639	124839	1.03	ABV/ABV	M
	1,2,3,4,7,8,9-HpCDF	52:59	52:53	6	487307	464006	105137	99914	1.05	ABV/ABV	M
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	Noise	00:00	00:00	0	185	188	74	75	0.99 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	50:36	50:31	5	519539	1149999	110893	245936	0.45	ABV/ABV	
	13C-1,2,3,4,7,8,9-HpCDF	52:58	52:52	6	423408	931269	92655	203064	0.45	ABV/ABV	
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**		
	Noise	00:00	00:00	0	208	155	83	62	1.34 *	/	
	Unidentified	51:09	00:00	0	394460	371373	83497	77404	1.06	ABV/ABV	
	1,2,3,4,6,7,8-HpCDD	52:21	52:16	5	396154	383338	87013	82126	1.03	ABV/ABV	M
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**		
	Noise	00:00	00:00	0	183	128	73	51	1.43 *	/	
	Unidentified	51:08	00:00	0	5890	5703	1154	1052	1.03	ABB/ABB	
	13C-1,2,3,4,6,7,8-HpCDD	52:20	52:15	5	794408	766158	171254	167718	1.04	ABV/ABV	
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**		
	Noise	00:00	00:00	0	160	208	64	83	0.77	/	
	OCDF	56:49	56:58	-9	836825	919736	202780	229128	0.91	ABV/ABV	M
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**		
	Noise	00:00	00:00	0	123	145	49	58	0.84	/	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 1613B

IsoCalc

Workorder	3262:44	Prep Batch		Lot No	
Data File	/20060505w1/b060505w1.	Prep Date		SDG No	
Analysis ID	90524	Prep Exp Date		Date Received	
Analysis Date	05/05/06 09:30	Matrix	UNKNOWN	Date Sampled	
Anal Exp Date		Initial Wt/Vol		Lims Test Code	
Instrument	M2A	Extract Vol		Method	DX1613B
Analyst	BFW	Diluton Factor	1.00	Code	F8

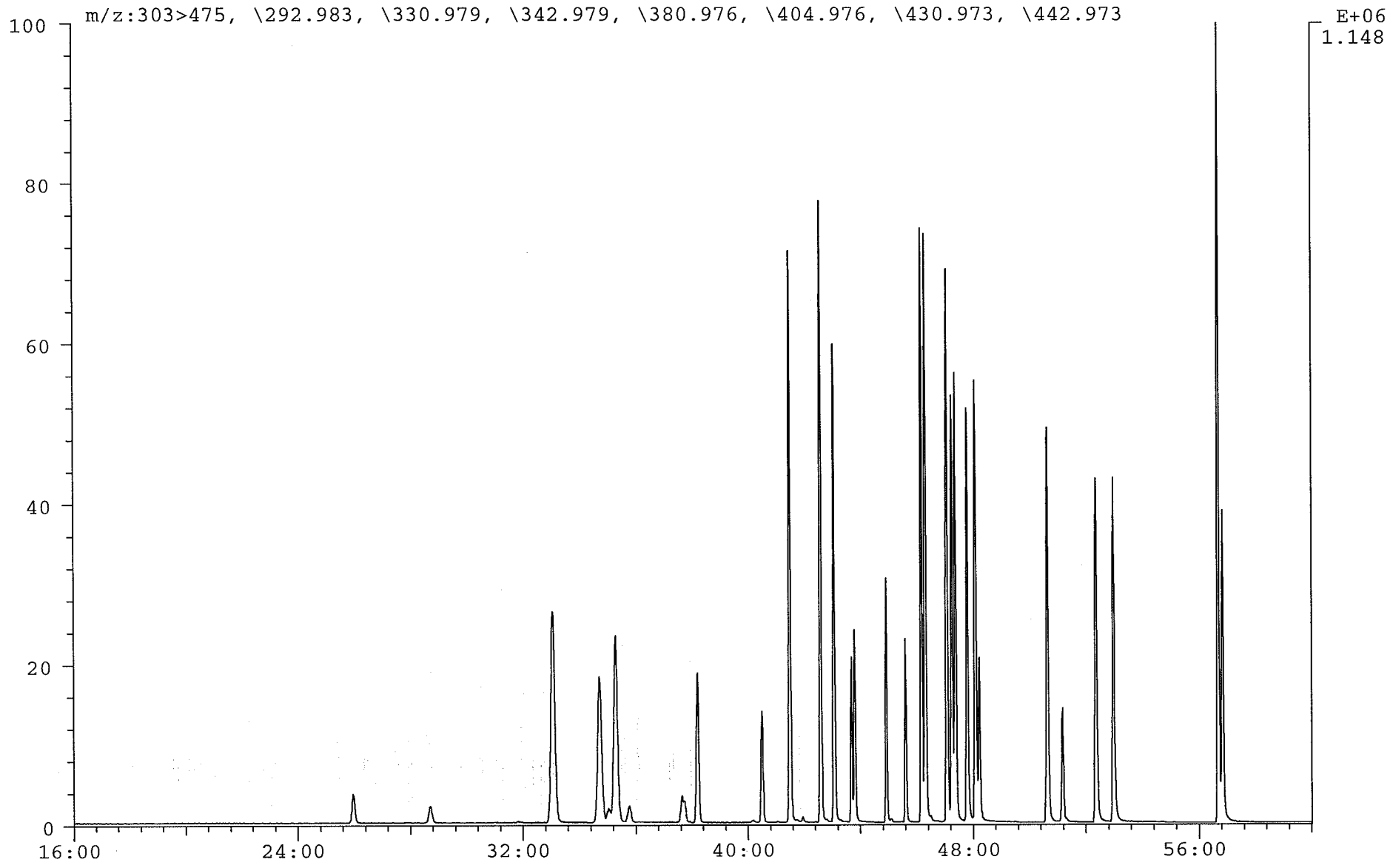
View Small Peaks? False View deleted peaks? False

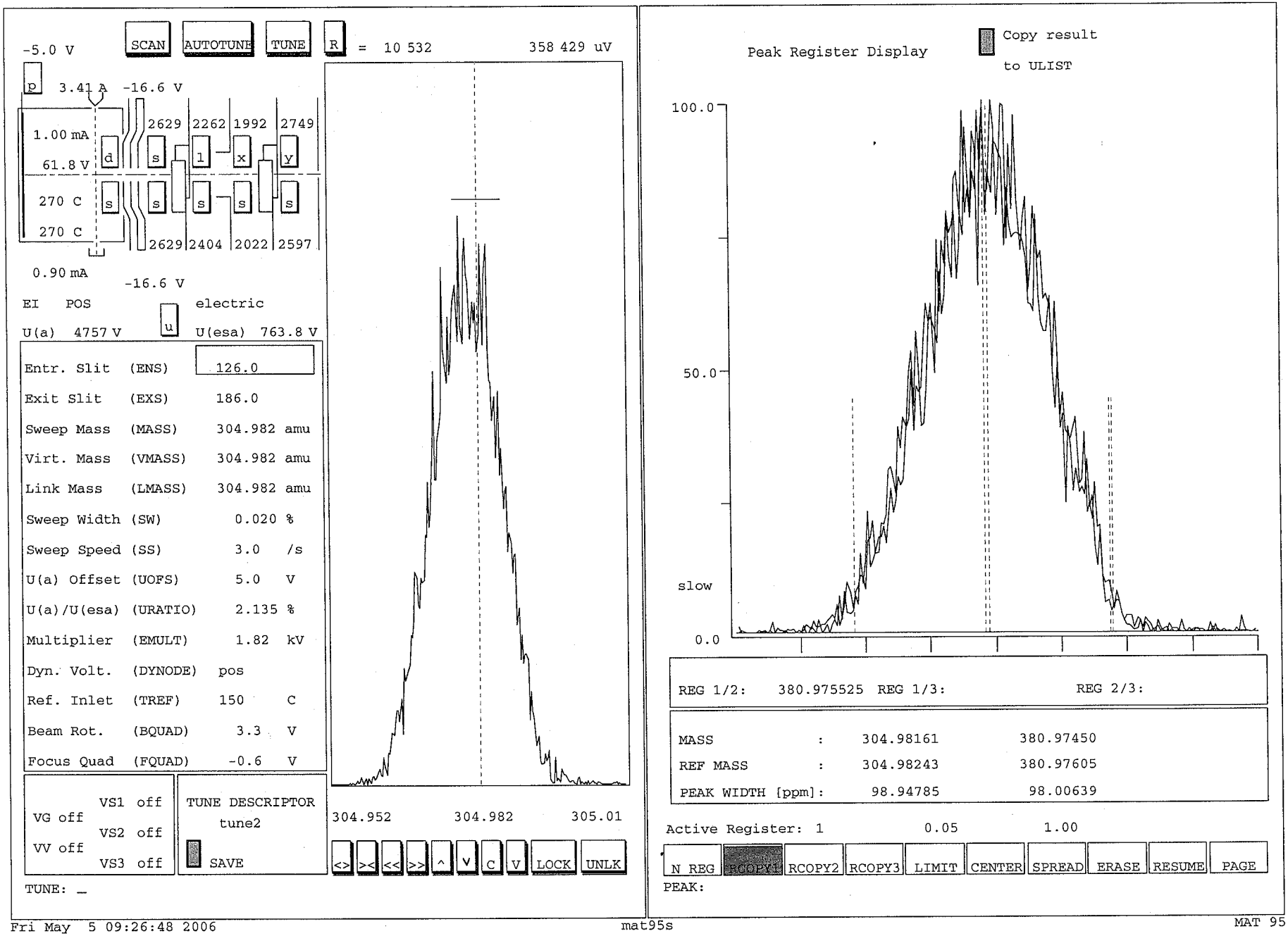
Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**		
	OCDD	56:41	56:50	-9	733259	817473	193096	214430	0.90	ABV/ABV	M
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**		
	Noise	00:00	00:00	0	138	208	55	83	0.66 *	/	
	13C-OCDD	56:40	56:49	-9	1505106	1675423	388012	437933	0.90	ABV/ABV	

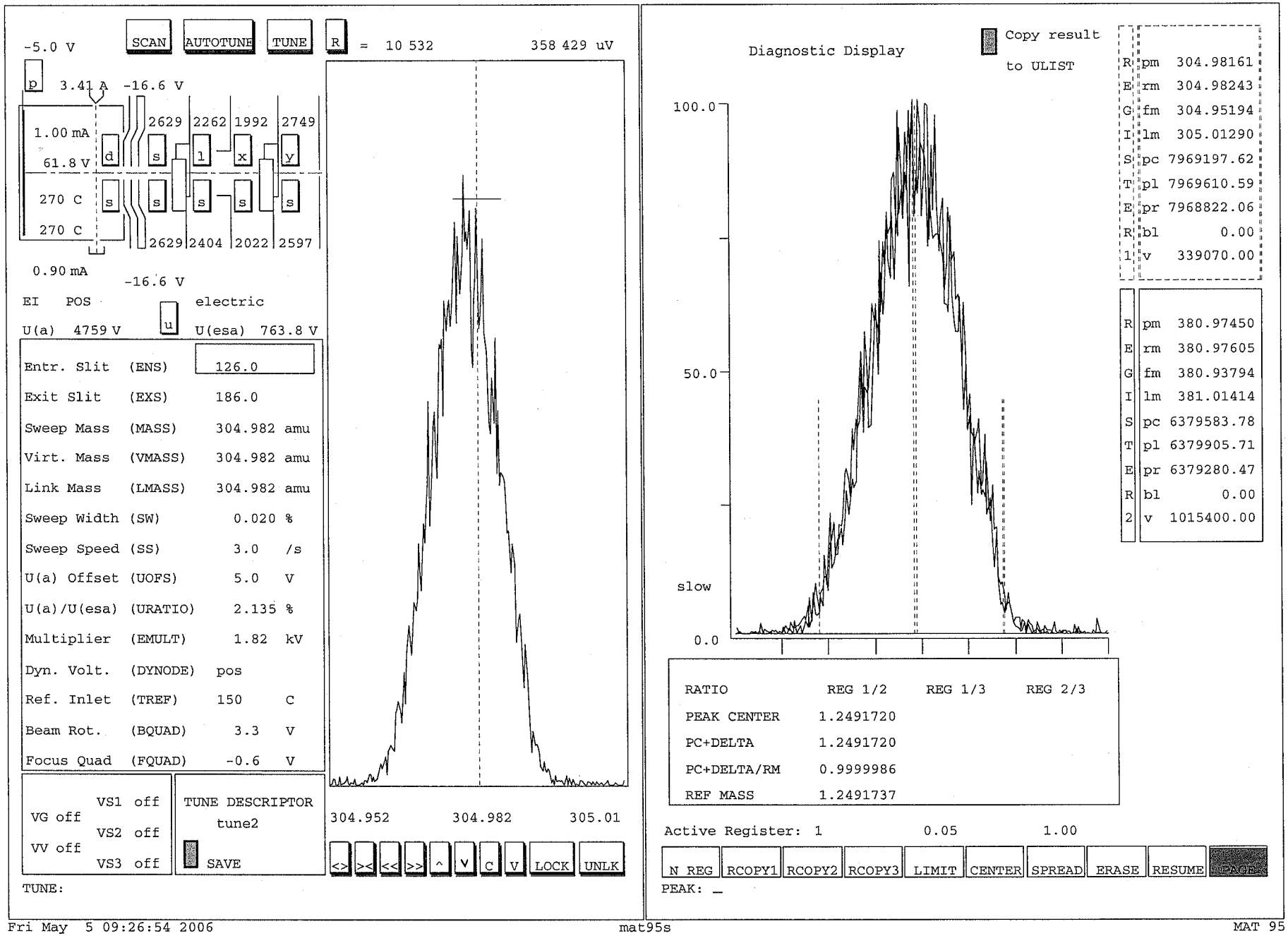
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

Int/Calc BFW 5/5/06
QCPMP S-S-0 b

CHRO: b060505w1 05-May-06 Elapse: 08:00.5 1
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 441 > 2888 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

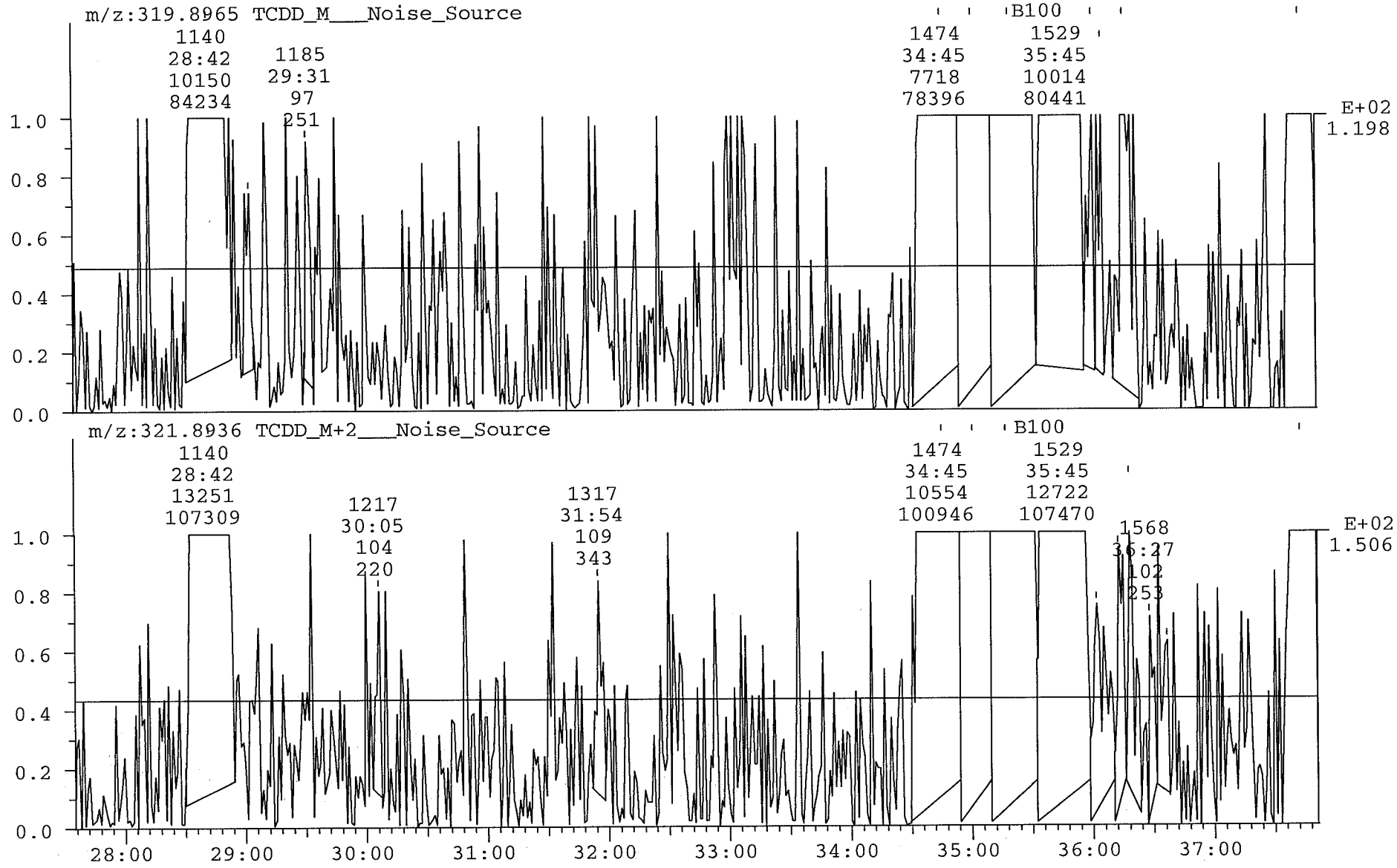



-5.0 V
SCAN
AUTOTUNE
TUNE
R
= 10 532
358 429 uV
p
3.41 A
-16.6 V
1.00 mA
61.8 V
2629 2262 1992 2749
d s l x y
270 C
270 C
s s s s s
2629 2404 2022 2597
0.90 mA
-16.6 V
EI POS
electric
U(a) 4757 V
u
U(esa) 763.8 V
Entr. Slit (ENS) 126.0
Exit Slit (EXS) 186.0
Sweep Mass (MASS) 304.982 amu
Virt. Mass (VMASS) 304.982 amu
Link Mass (LMASS) 304.982 amu
Sweep Width (SW) 0.020 %
Sweep Speed (SS) 3.0 /s
U(a) Offset (UOFS) 5.0 V
U(a)/U(esa) (URATIO) 2.135 %
Multiplier (EMULT) 1.82 kV
Dyn. Volt. (DYNODE) pos
Ref. Inlet (TREF) 150 C
Beam Rot. (BQUAD) 3.3 V
Focus Quad (FQUAD) -0.6 V
VG off
VS1 off
VS2 off
VV off
VS3 off
TUNE DESCRIPTOR
tune2
SAVE
304.952
304.982
305.01
<> >< << >> ^ v C V LOCK UNLK
TUNE: _
Peak Register Display
Copy result
to ULIST
100.0
50.0
slow
0.0
REG 1/2: 380.975525 REG 1/3: REG 2/3:
MASS : 304.98161 380.97450
REF MASS : 304.98243 380.97605
PEAK WIDTH [ppm]: 98.94785 98.00639
Active Register: 1 0.05 1.00
N REG RCOPY1 RCOPY2 RCOPY3 LIMIT CENTER SPREAD ERASE RESUME PAGE
PEAK:
Fri May 5 09:26:48 2006
mat95s
MAT 95

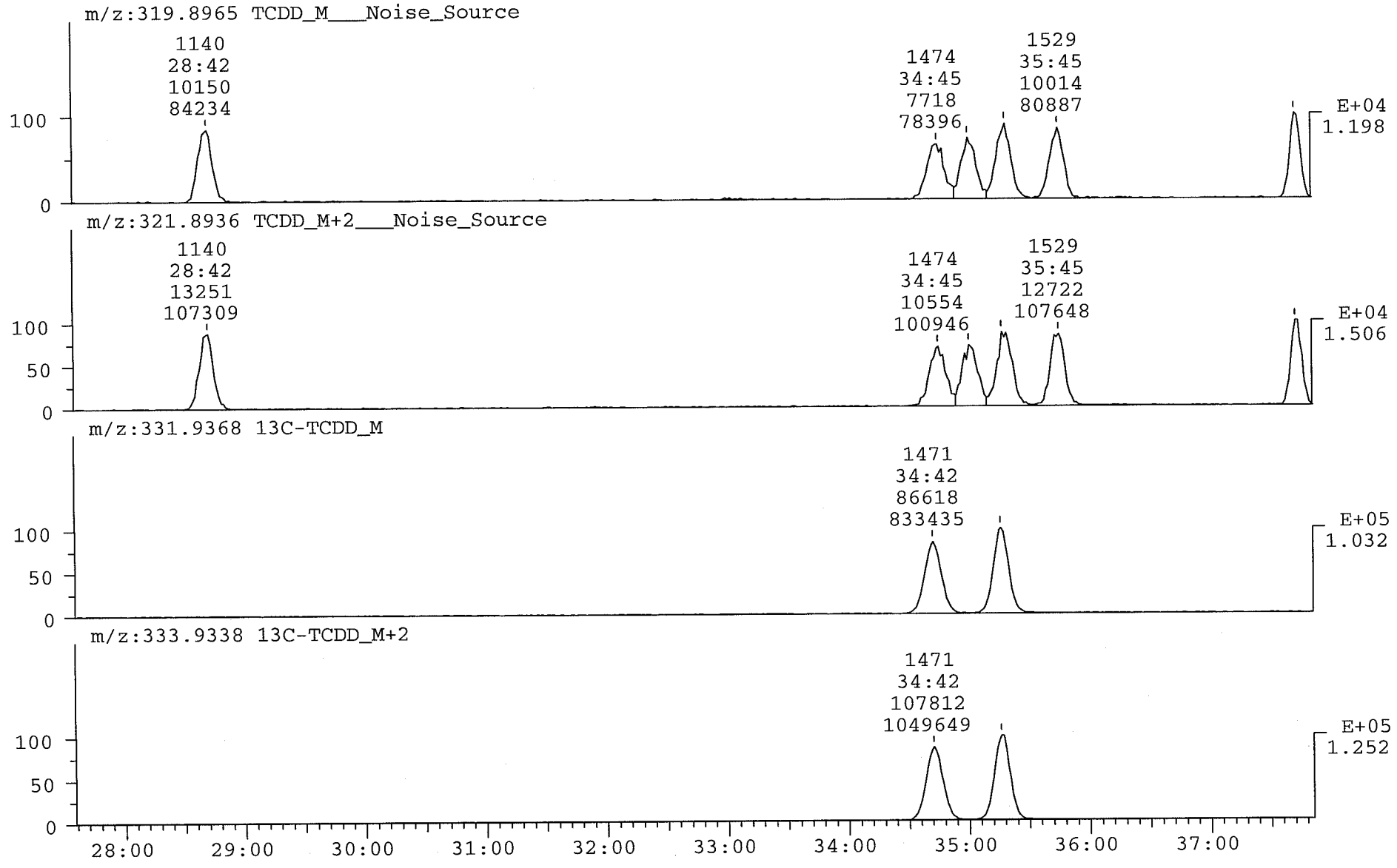


-5.0 V
SCAN
AUTOTUNE
TUNE
R = 10 532
358 429 uV
p 3.41 A -16.6 V
1.00 mA
61.8 V
270 C
270 C
2629 2262 1992 2749
2629 2404 2022 2597
0.90 mA
-16.6 V
EI POS
electric
U(a) 4759 V
U(esa) 763.8 V
Entr. Slit (ENS) 126.0
Exit Slit (EXS) 186.0
Sweep Mass (MASS) 304.982 amu
Virt. Mass (VMASS) 304.982 amu
Link Mass (LMASS) 304.982 amu
Sweep Width (SW) 0.020 %
Sweep Speed (SS) 3.0 /s
U(a) Offset (UOFS) 5.0 V
U(a)/U(esa) (URATIO) 2.135 %
Multiplier (EMULT) 1.82 kV
Dyn. Volt. (DYNODE) pos
Ref. Inlet (TREF) 150 C
Beam Rot. (BQUAD) 3.3 V
Focus Quad (FQUAD) -0.6 V
VG off
VV off
VS1 off
VS2 off
VS3 off
TUNE DESCRIPTOR
tune2
SAVE
TUNE:
304.952
304.982
305.01
LOCK
UNLK
Diagnostic Display
Copy result
to ULIST
100.0
50.0
slow
0.0
RATIO REG 1/2 REG 1/3 REG 2/3
PEAK CENTER 1.2491720
PC+DELTA 1.2491720
PC+DELTA/RM 0.9999986
REF MASS 1.2491737
Active Register: 1 0.05 1.00
N REG
RCOPY1
RCOPY2
RCOPY3
LIMIT
CENTER
SPREAD
ERASE
RESUME
PEAK: _
R pm 304.98161
E rm 304.98243
G fm 304.95194
I lm 305.01290
S pc 7969197.62
T pl 7969610.59
E pr 7968822.06
R bl 0.00
1 v 339070.00
R pm 380.97450
E rm 380.97605
G fm 380.93794
I lm 381.01414
S pc 6379583.78
T pl 6379905.71
E pr 6379280.47
R bl 0.00
2 v 1015400.00
Fri May 5 09:26:54 2006
mat95s
MAT 95

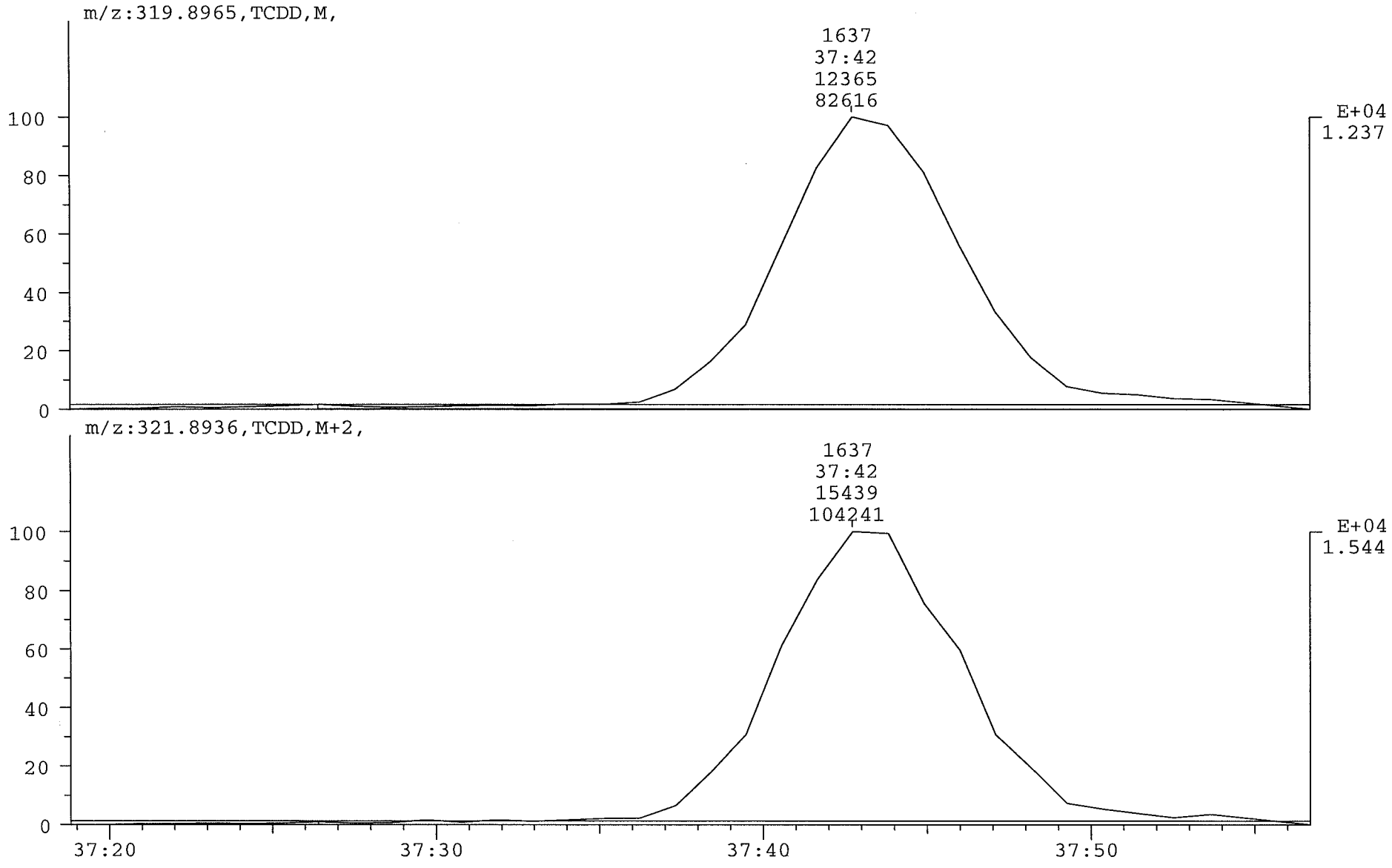
CHRO: b060505w1 05-May-06 Elapse: 08:00.5 1
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1078 > 1645 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -3, 1.0
Disp: Height Area



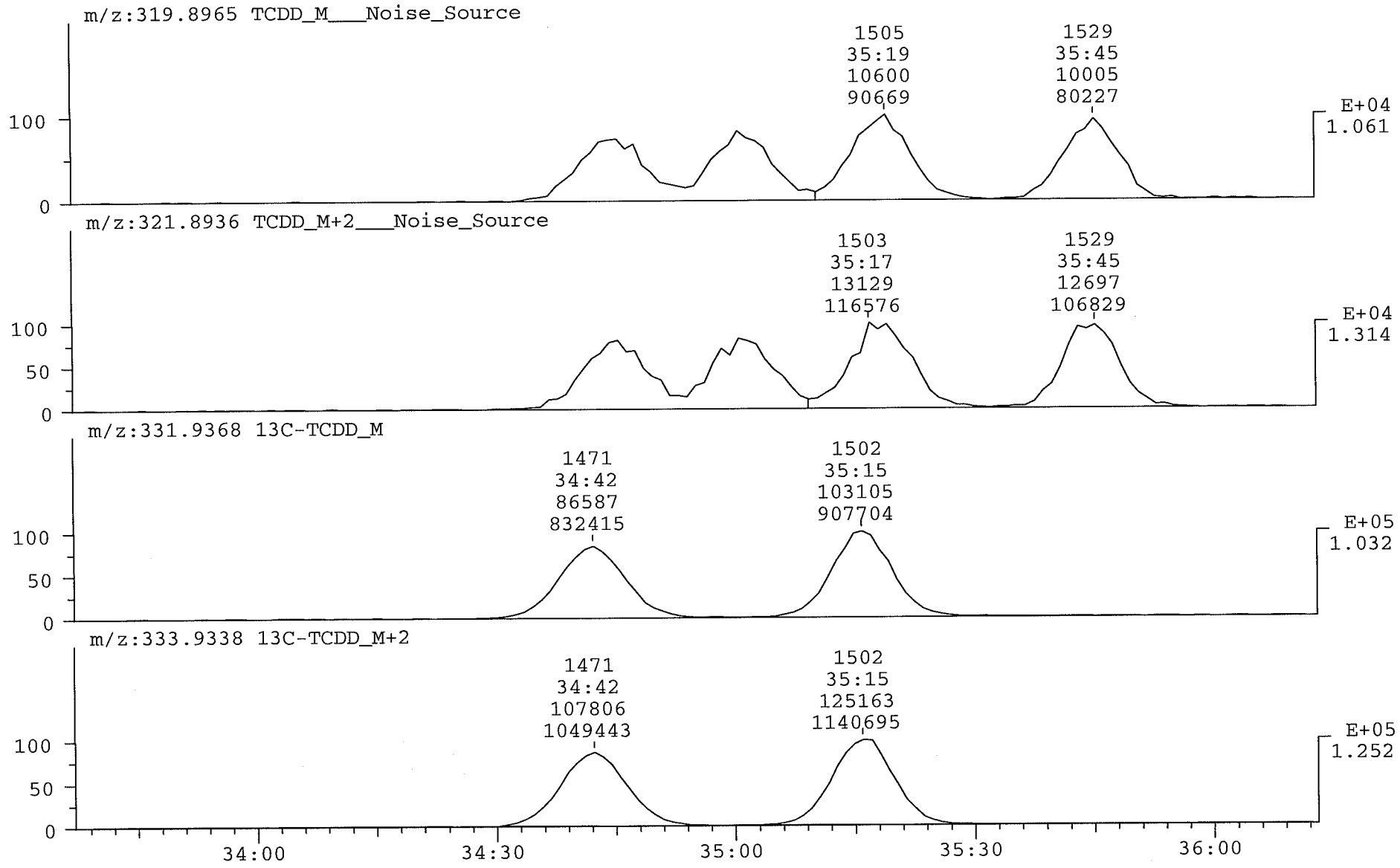
CHRO: b060505w1 05-May-06 Elapse: 08:00.5 1
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1078 > 1645 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



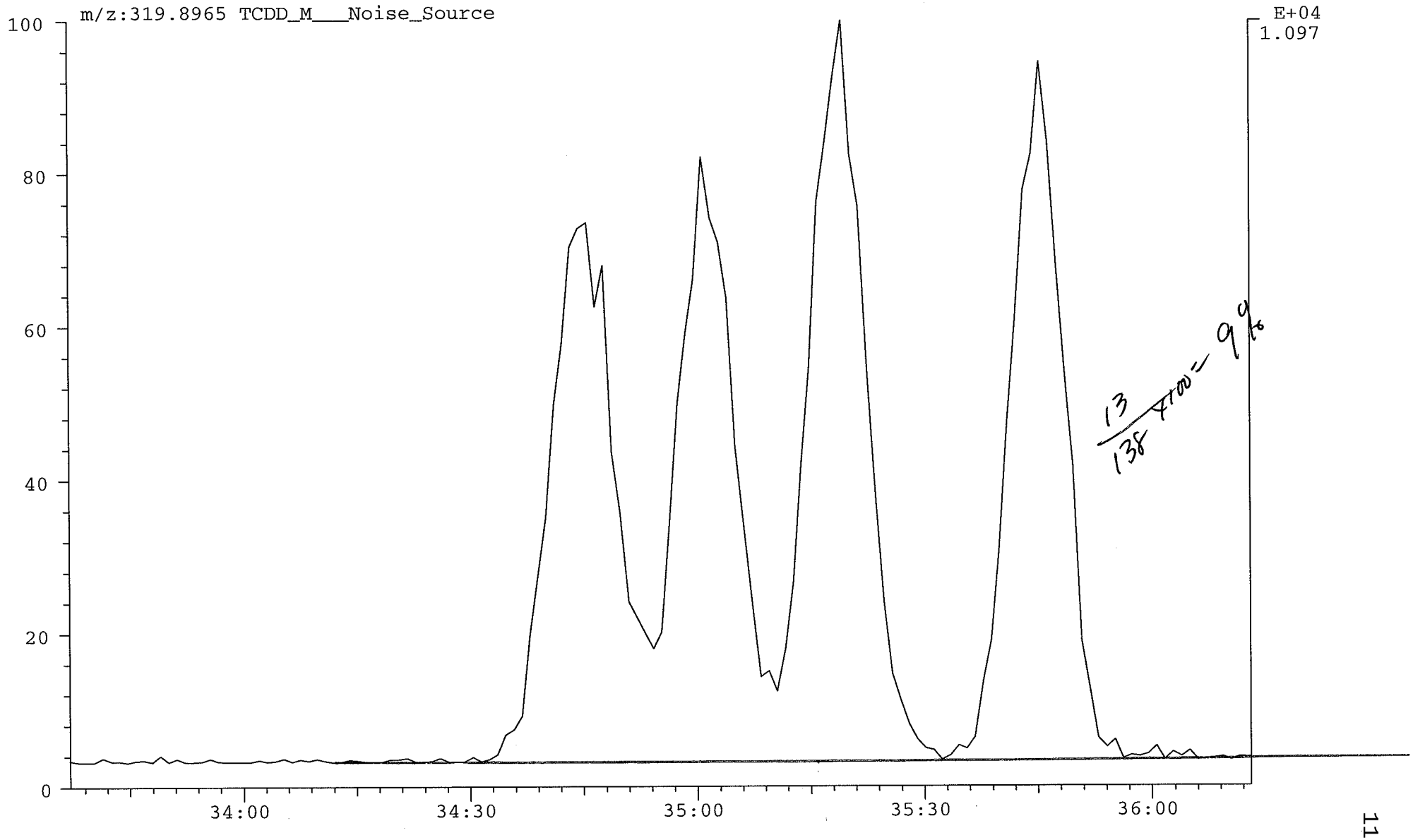
```
CHRO:  b060505w1                              05-May-06   Elapse:  56:43      2703
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                    Start :  09:30:23   2888
Comm:  Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  Ver/Win
Oper:  BFW          Client:  STL Knoxville                Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1615 > 1648          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



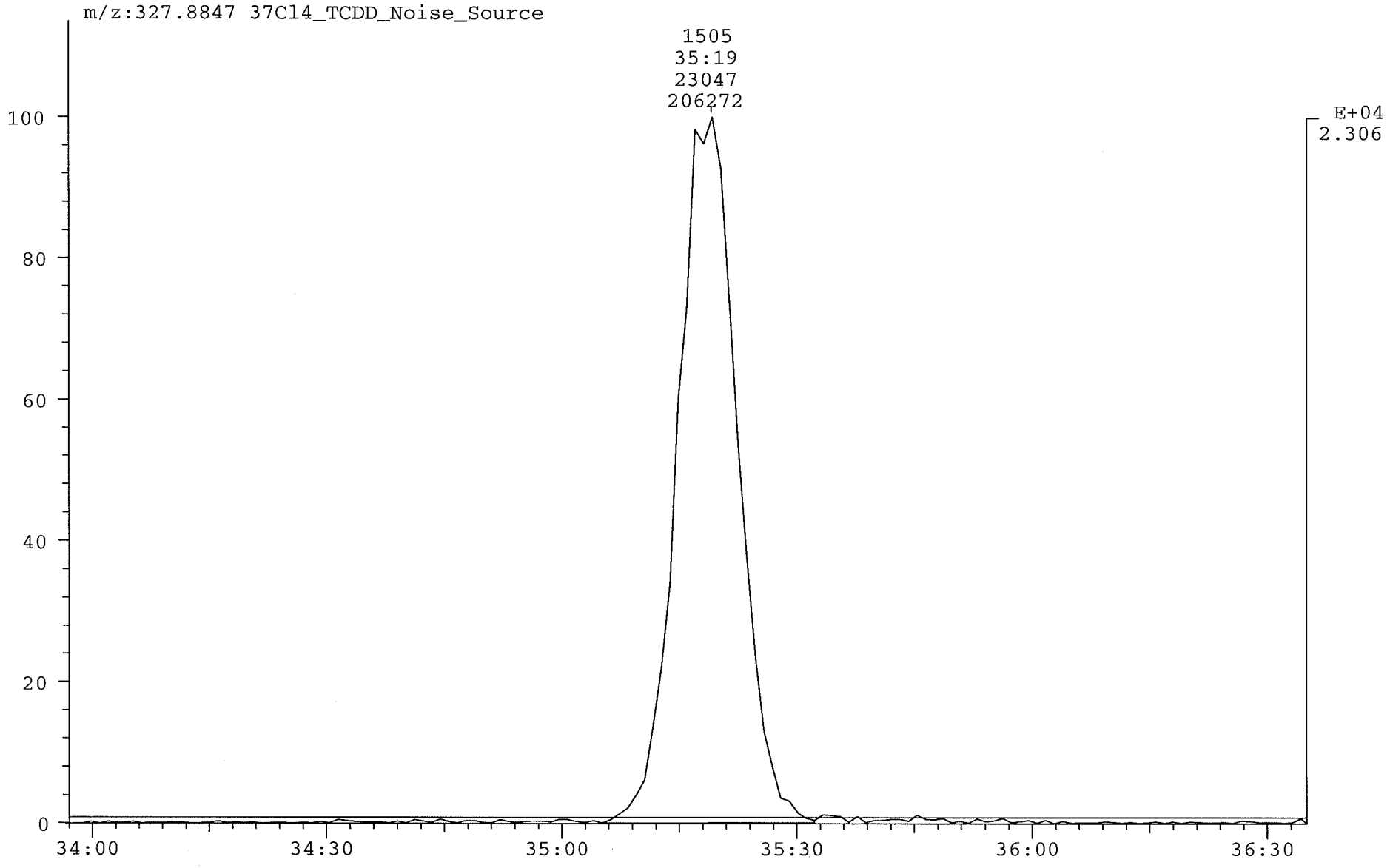
CHRO: b060505w1 05-May-06 Elapse: 34:55 1483
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1411 > 1554 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



CHRO: b060505w1 05-May-06 Elapse: 34:55 1483
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1411 > 1554 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

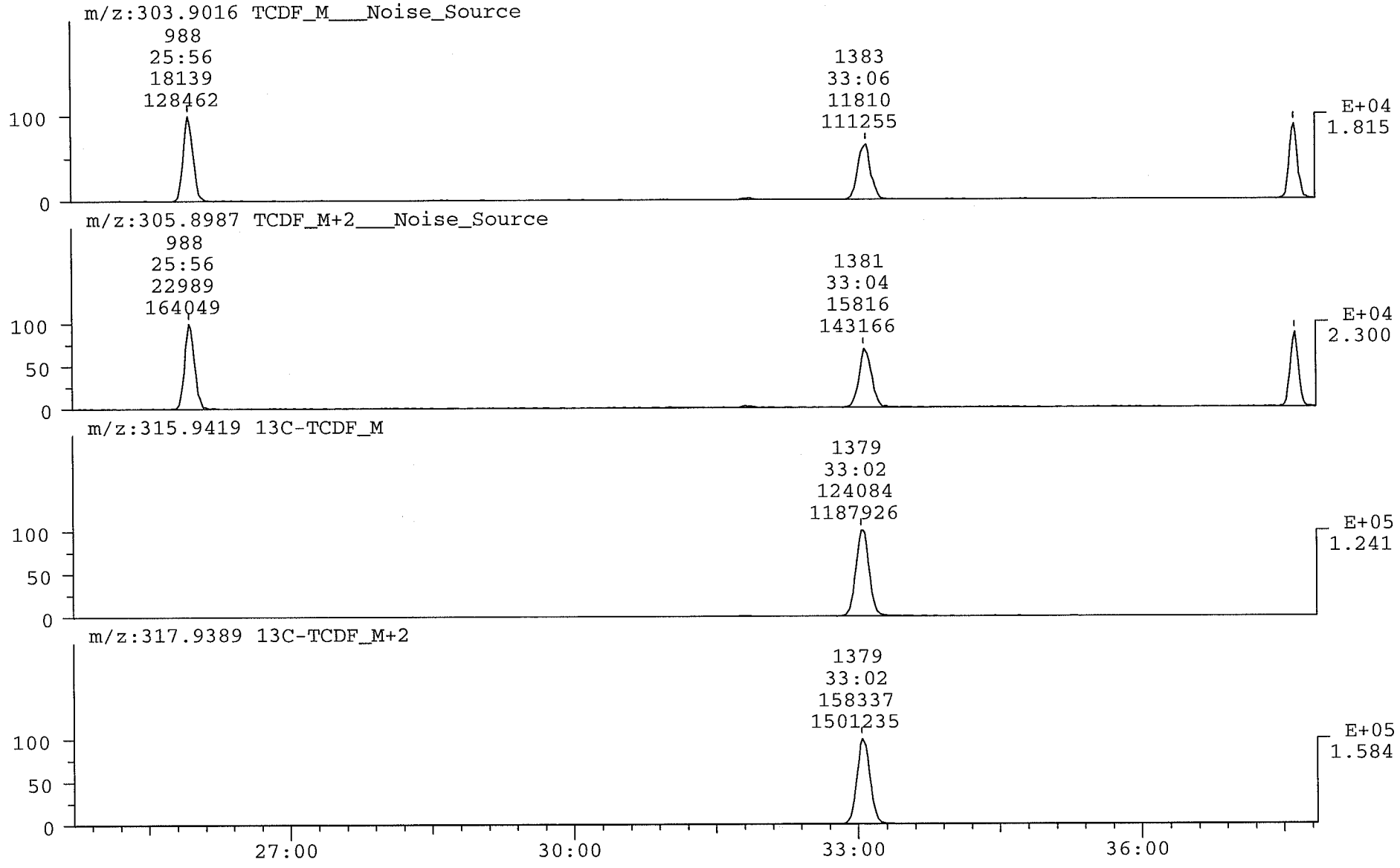


```
CHRO:  b060505w1                              05-May-06   Elapse:  35:12      1499
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                    Start :  09:30:23   2888
Comm:  Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  Ver/Win
Oper:  BFW            Client:  STL Knoxville              Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   1429 > 1575         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```

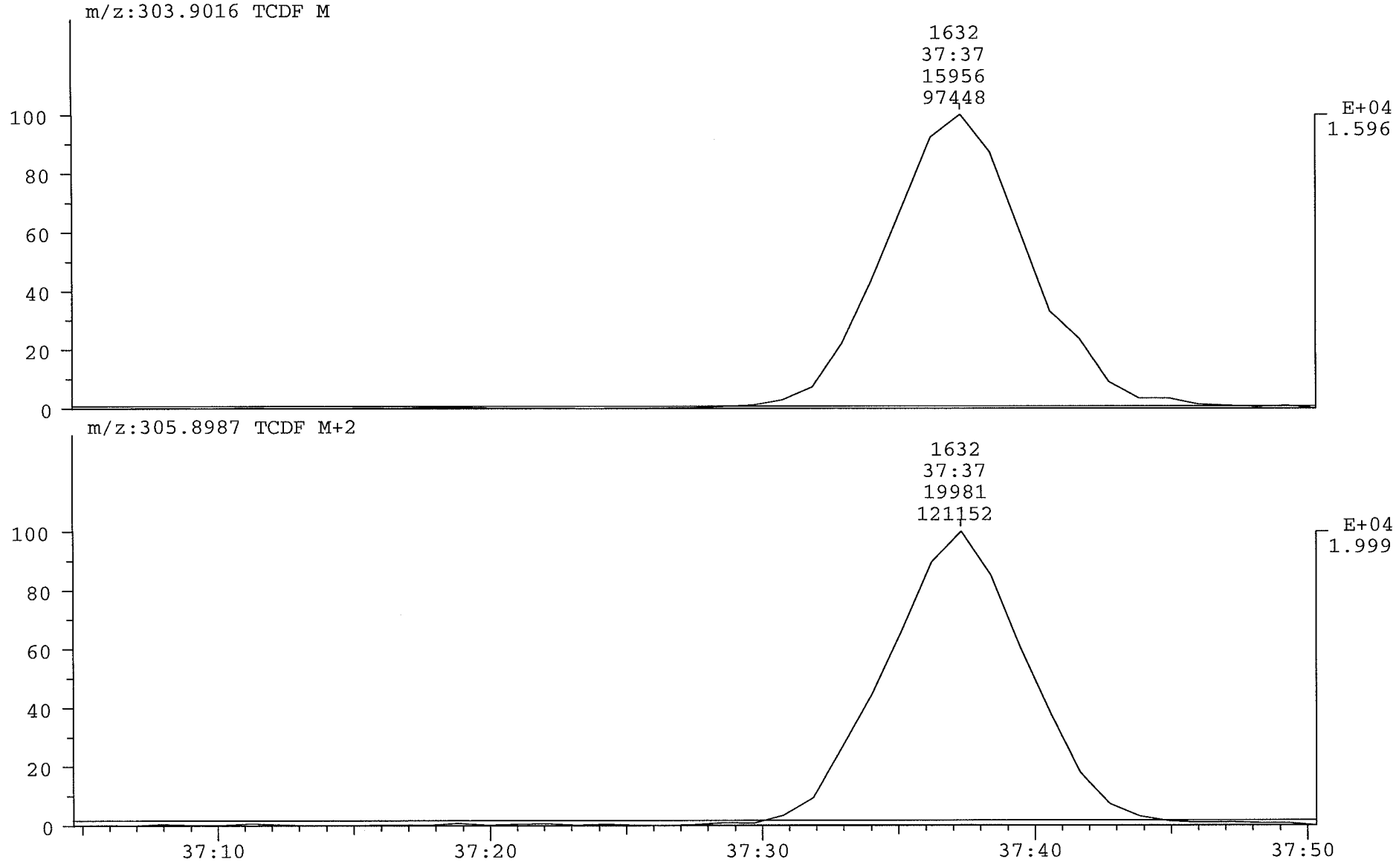


1160

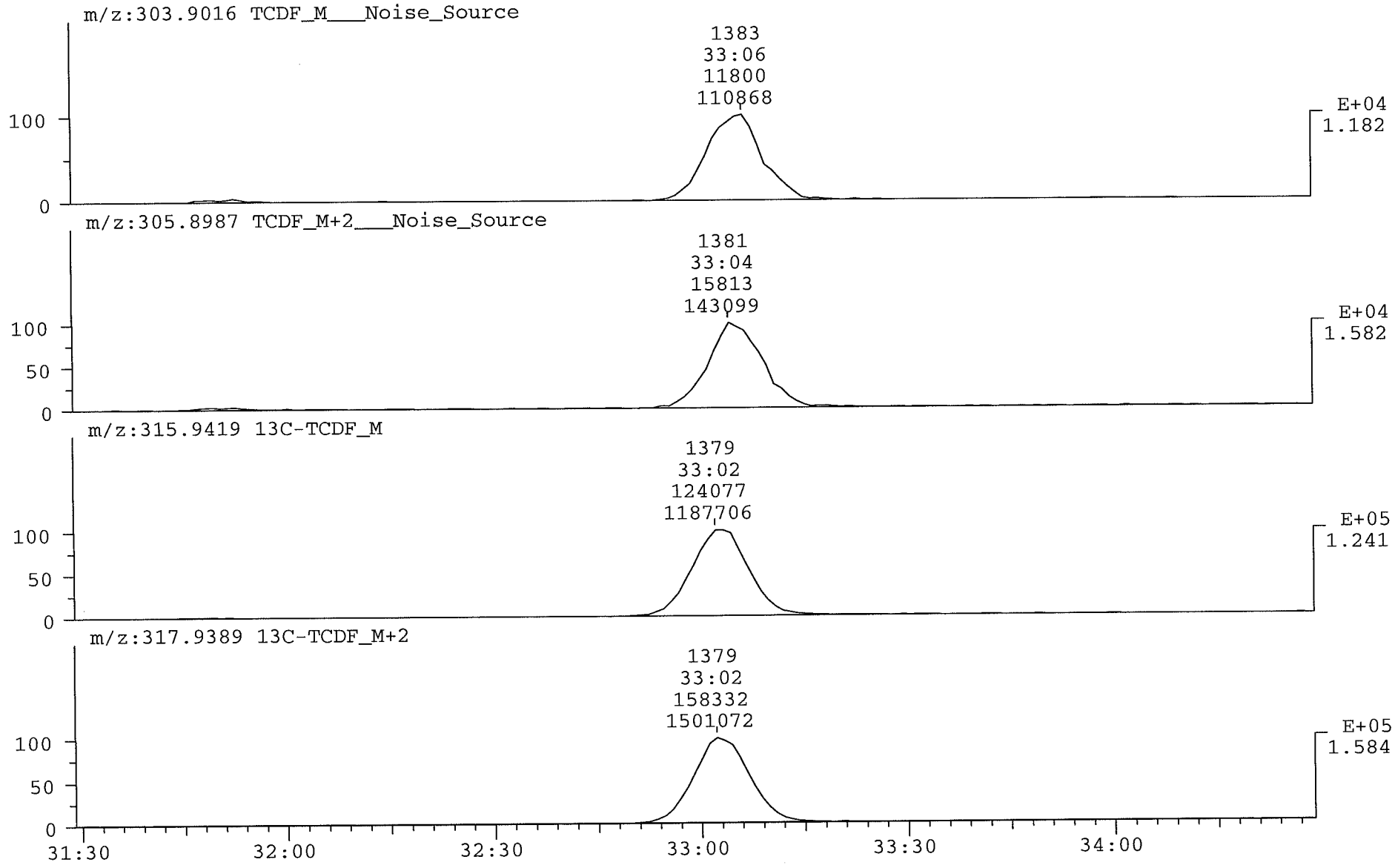
CHRO: b060505w1 05-May-06 Elapse: 35:12 1499
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 920 > 1645 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



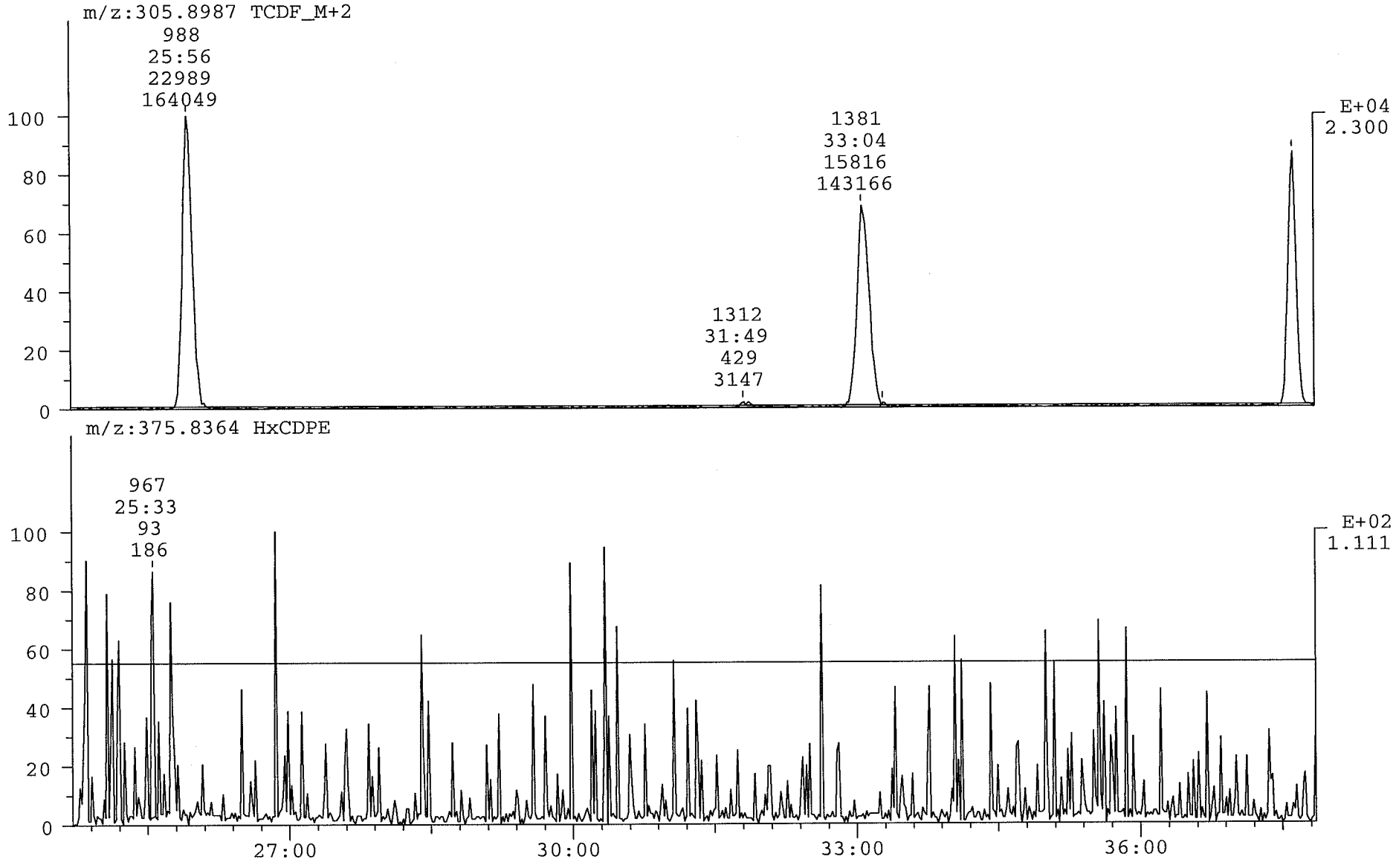
```
CHRO:  b060505w1                                05-May-06  Elapse:  56:43      2703
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                     Start :  09:30:23   2888
Comm:  Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  Ver/Win
Oper:  BFW            Client:  STL Knoxville               Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   1602 > 1644          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



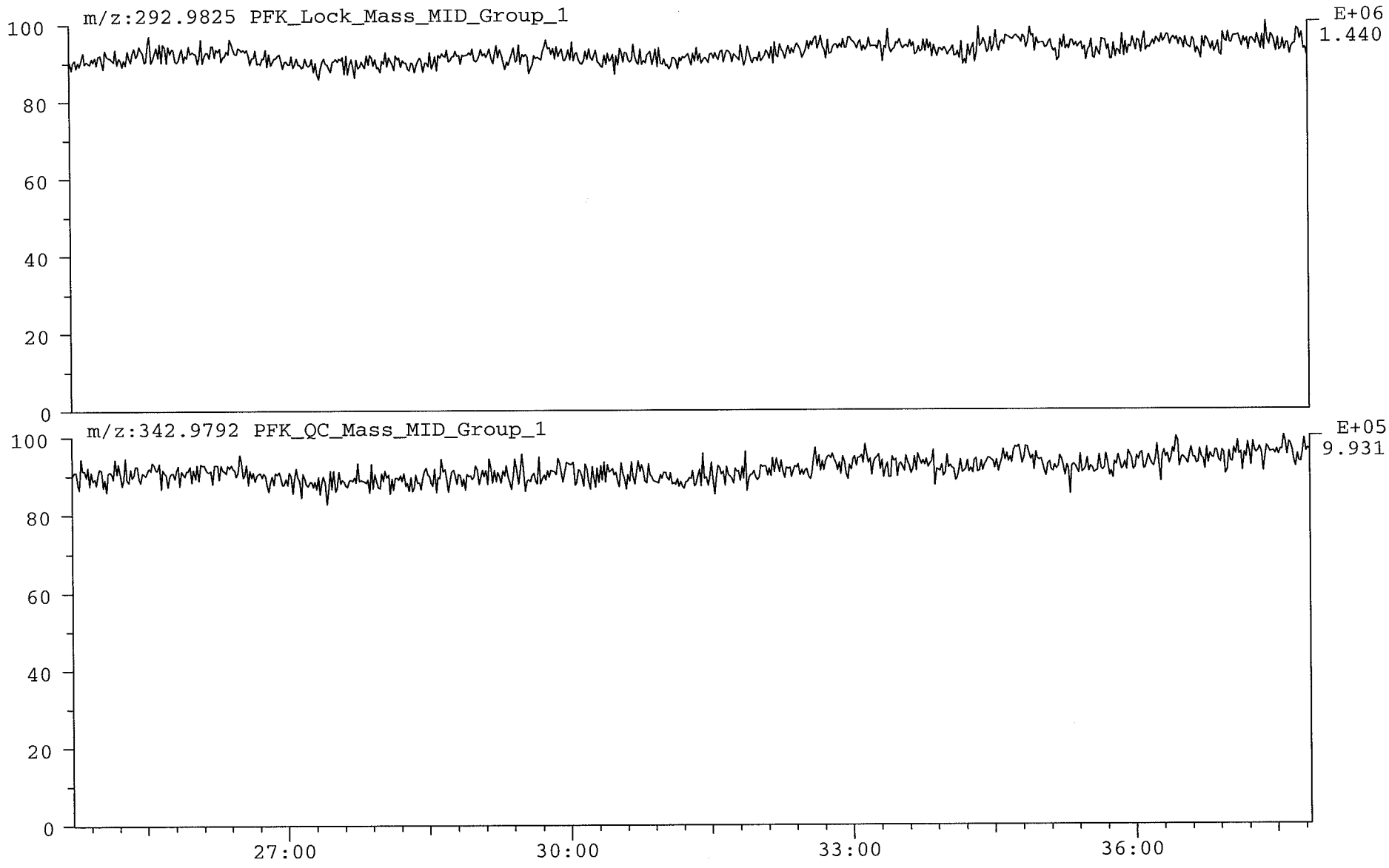
CHRO: b060505w1 05-May-06 Elapse: 32:55 1373
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1293 > 1459 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



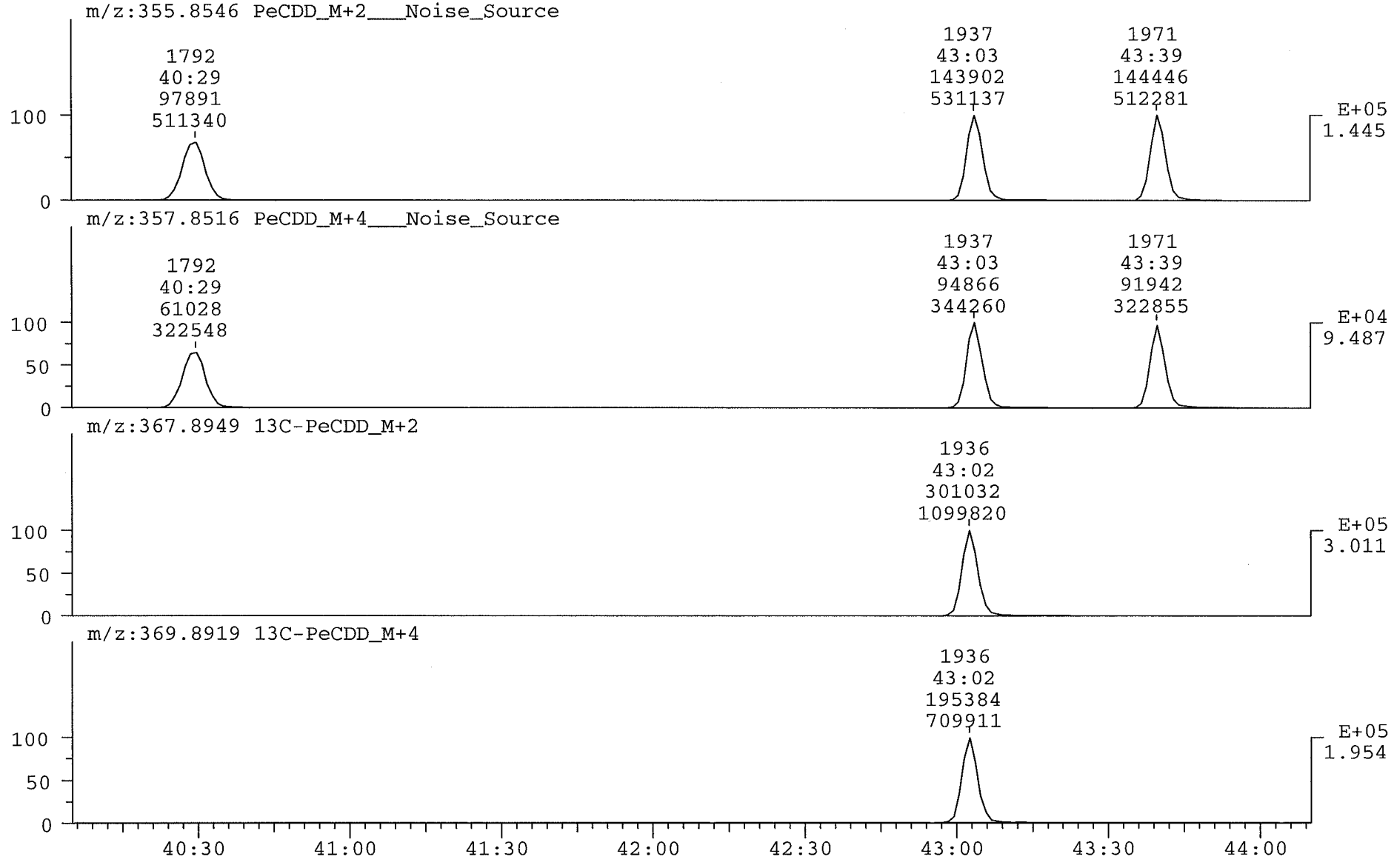
CHRO: b060505w1 05-May-06 Elapse: 32:55 1373
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 920 > 1645 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



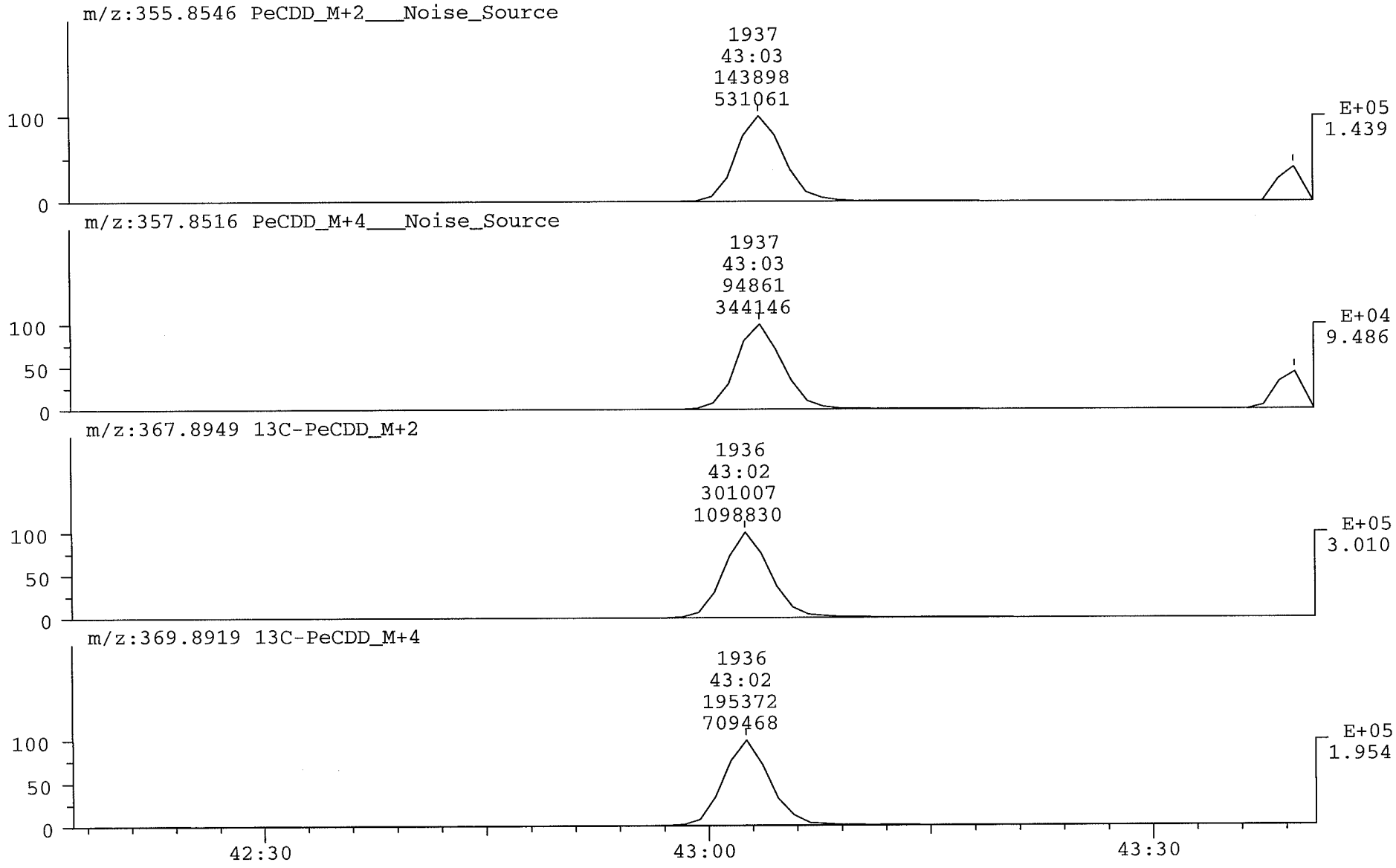
```
CHRO:  b060505w1                                05-May-06  Elapse:  32:55      1373
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                     Start :  09:30:23   2888
Comm:  Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  Ver/Win
Oper:  BFW            Client:  STL Knoxville               Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   920 > 1645           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
```



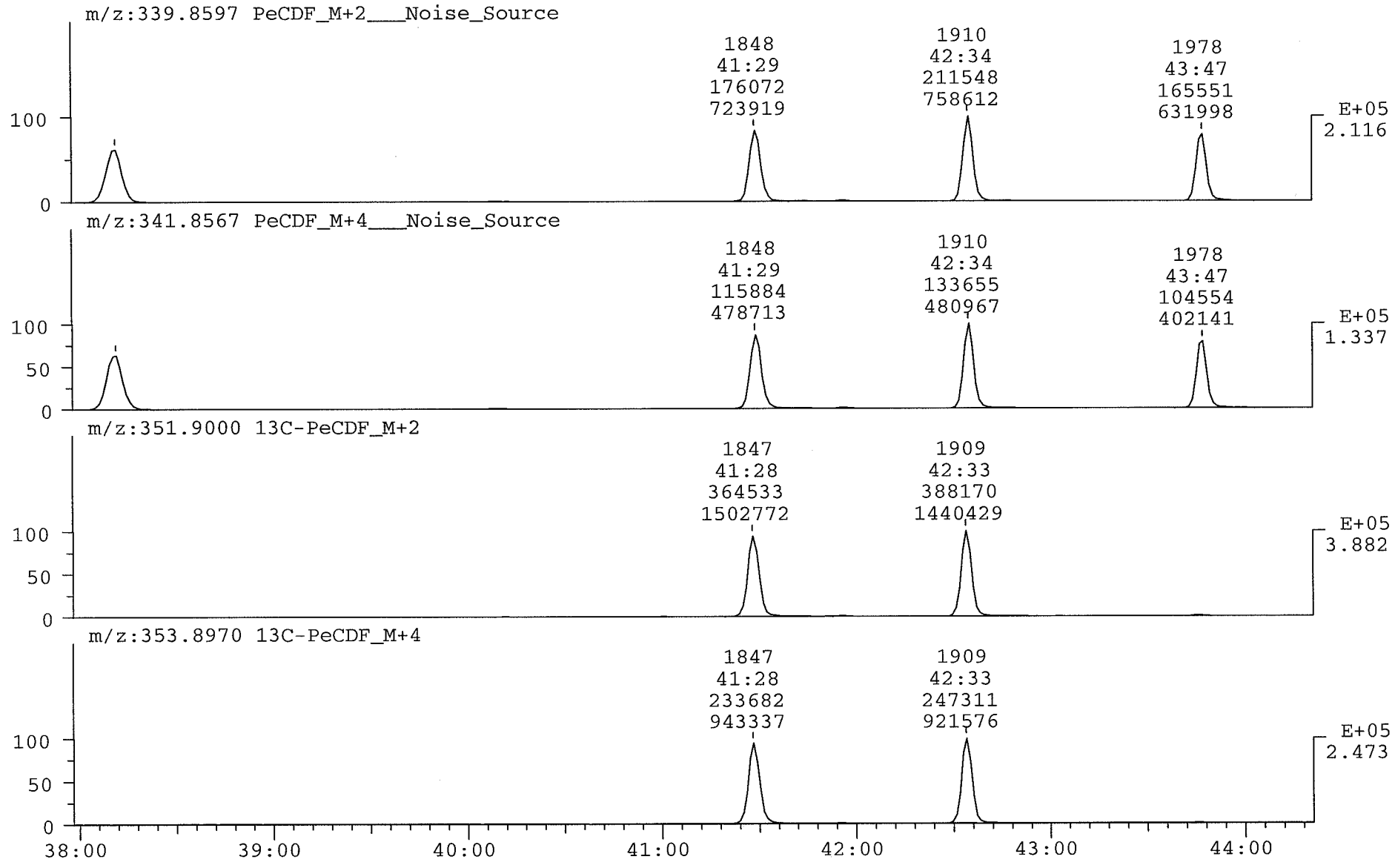
```
CHRO:  b060505w1                          05-May-06   Elapse:  32:55      1373
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                Start :  09:30:23   2888
Comm:  Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  Ver/Win
Oper:  BFW            Client:  STL Knoxville          Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   1769 > 2000     Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3          Label :  2, 3.0
Disp:  Height  Area
```



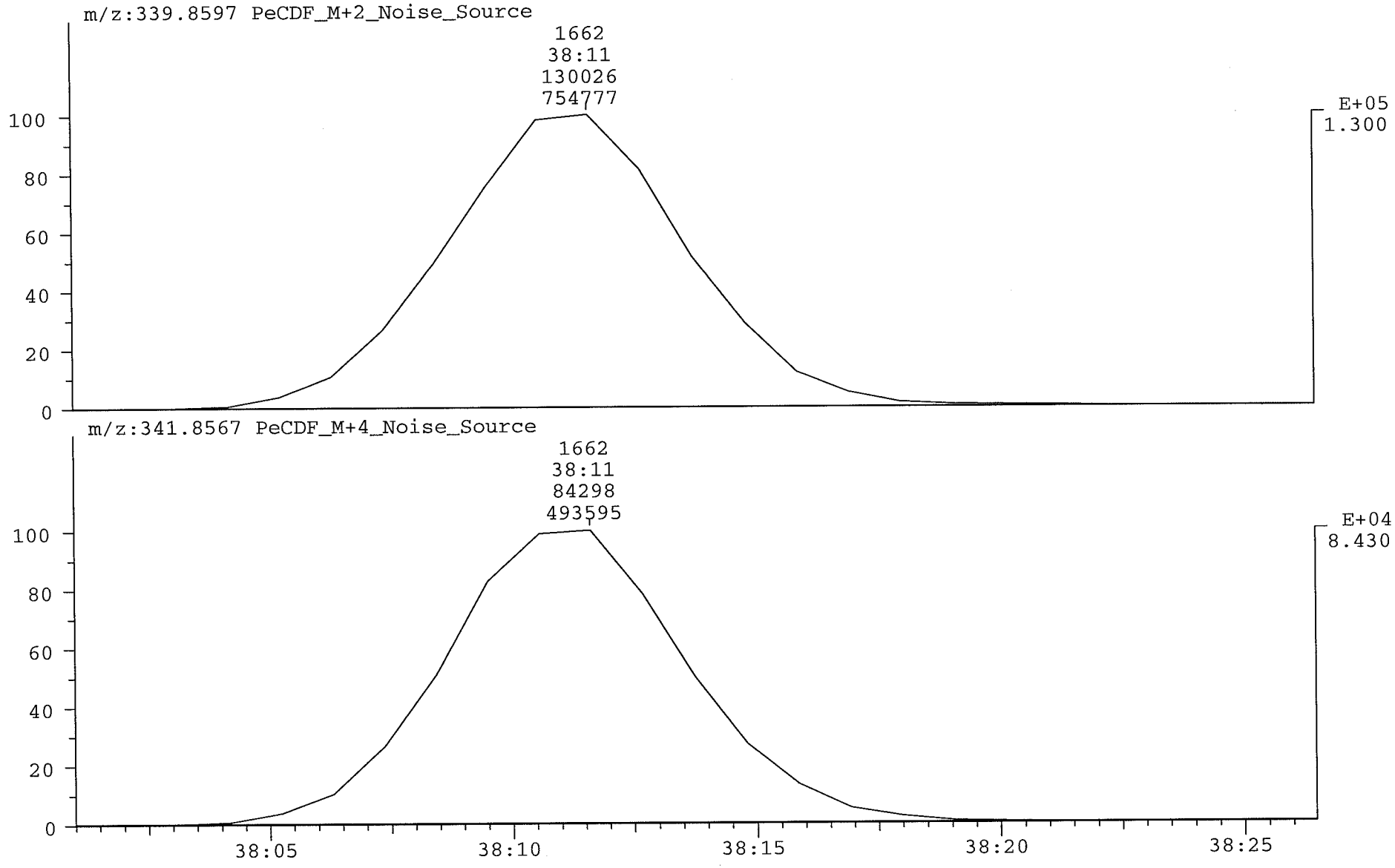
```
CHRO:  b060505w1                              05-May-06   Elapse:  42:56      1930
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                    Start :  09:30:23   2888
Comm:  Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  Ver/Win
Oper:  BFW            Client:  STL Knoxville              Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   1893 > 1972         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  2, 3.0
Disp:  Height  Area
```



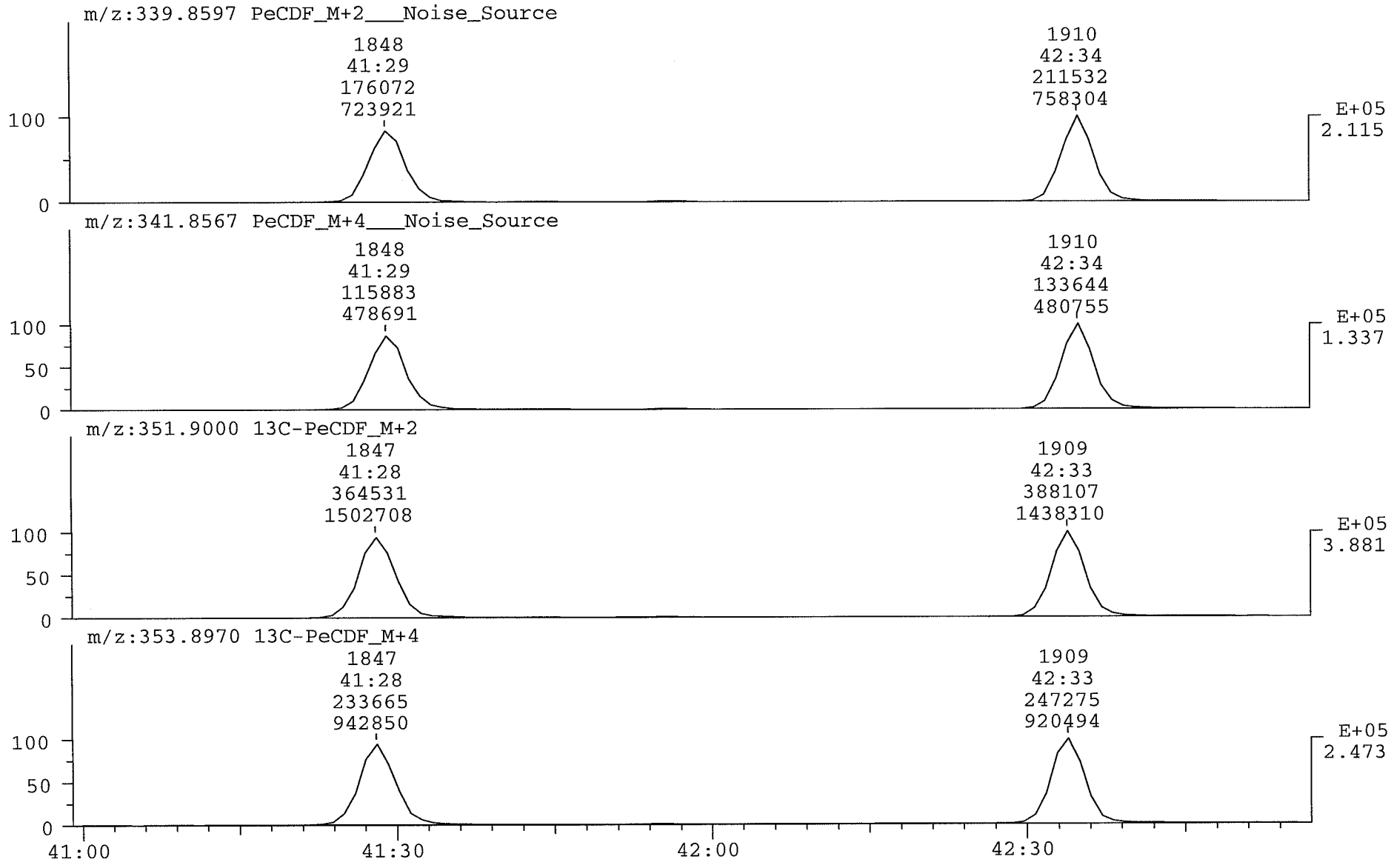
CHRO: b060505w1 05-May-06 Elapse: 42:56 1930
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1649 > 2010 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



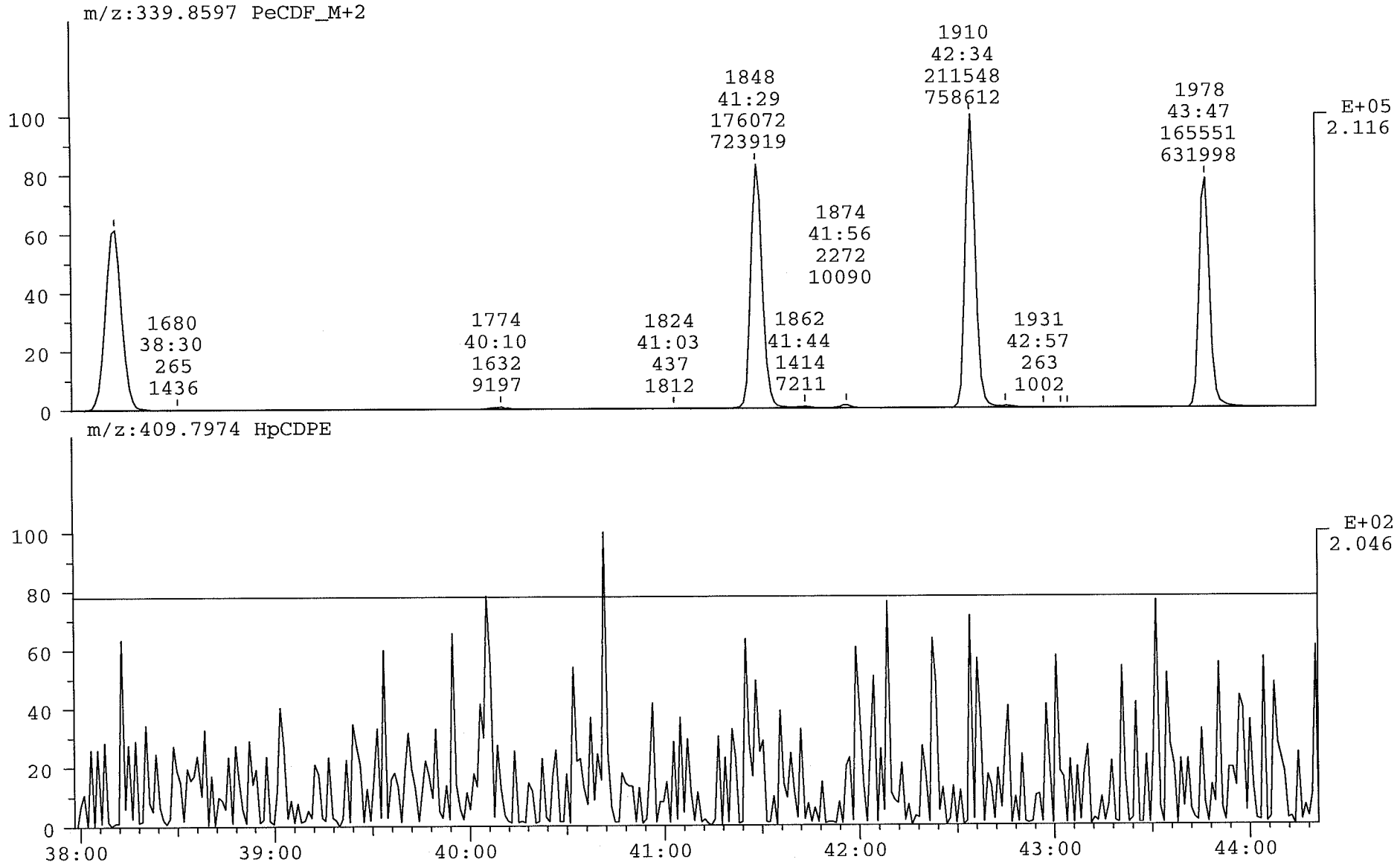
CHRO: b060505w1 05-May-06 Elapse: 56:43 2703
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1652 > 1676 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



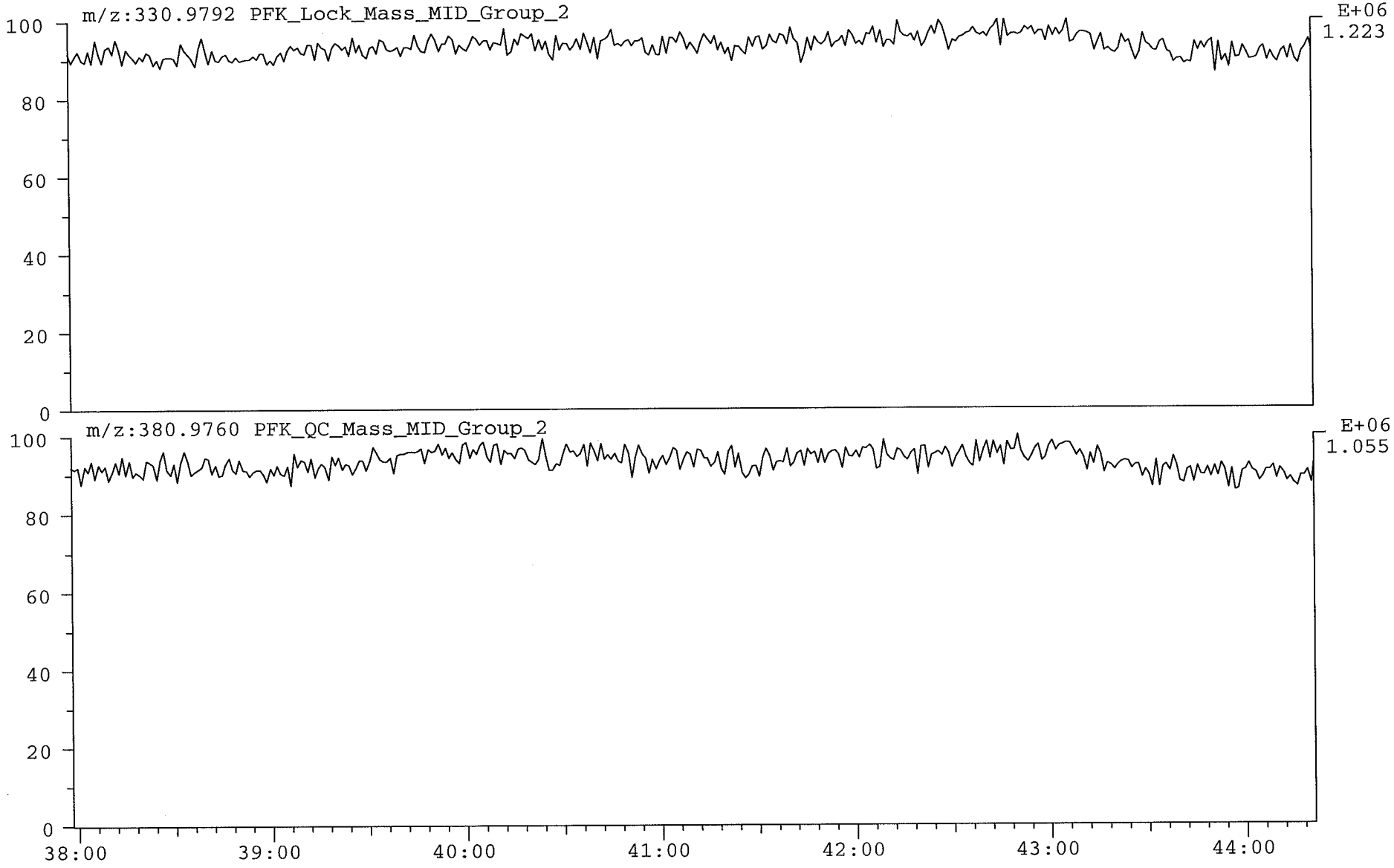
```
CHRO:  b060505w1                                05-May-06  Elapse:  41:57      1875
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                     Start :  09:30:23   2888
Comm:  Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  Ver/Win
Oper:  BFW          Client:  STL Knoxville                 Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   1820 > 1931           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
```



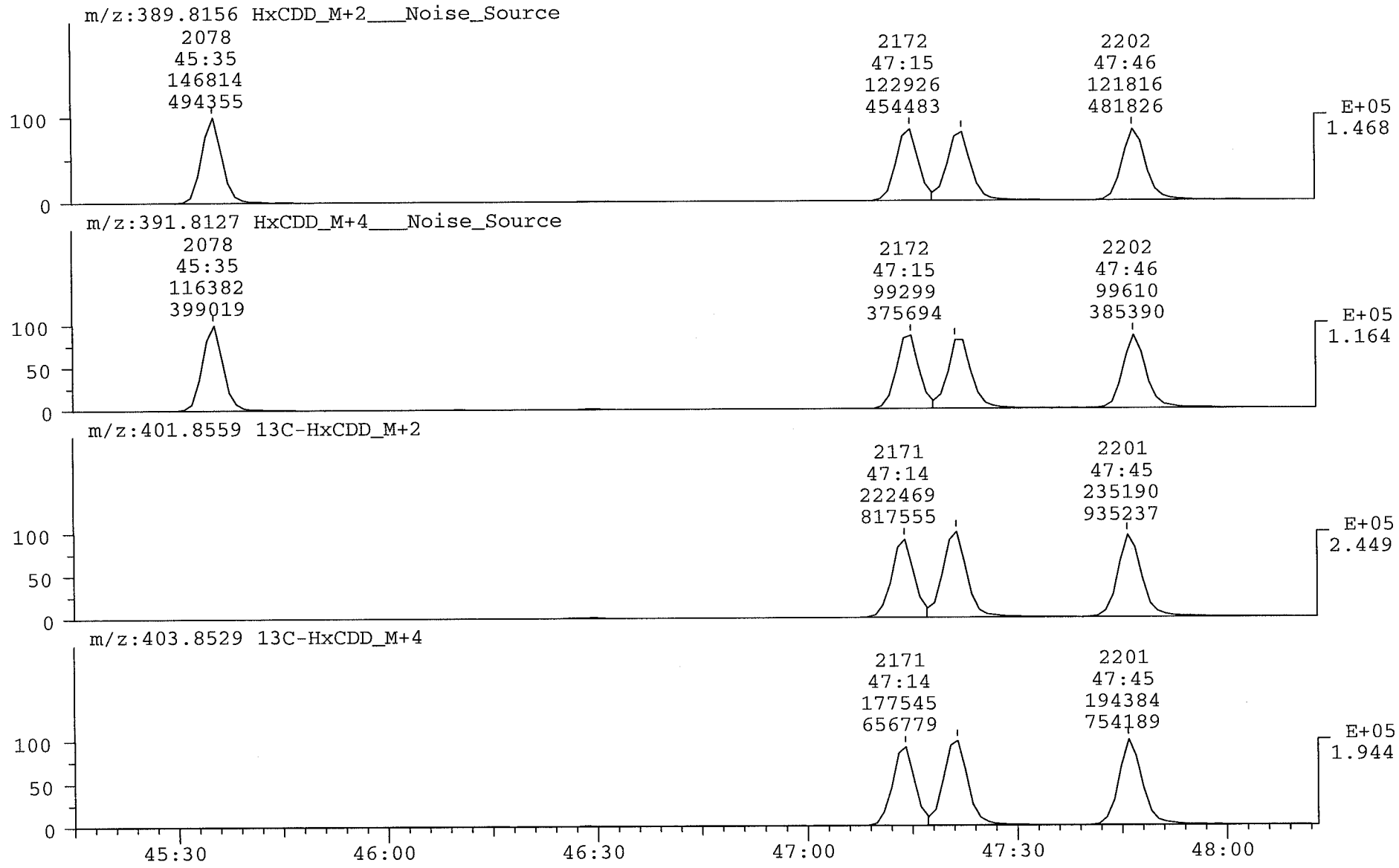
CHRO: b060505w1 05-May-06 Elapse: 41:57 1875
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1649 > 2010 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



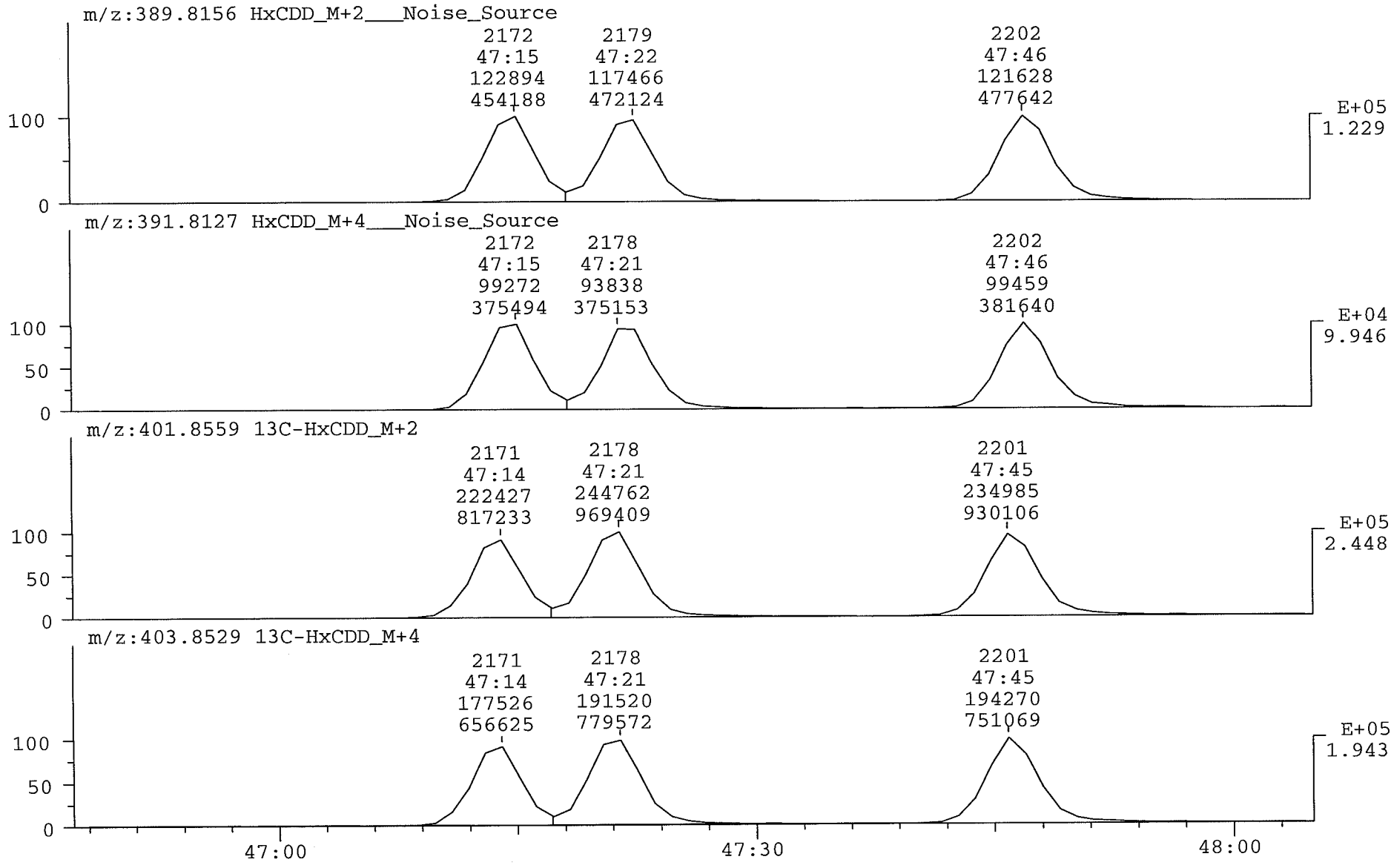
CHRO: b060505w1 05-May-06 Elapse: 41:57 1875
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 1649 > 2010 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



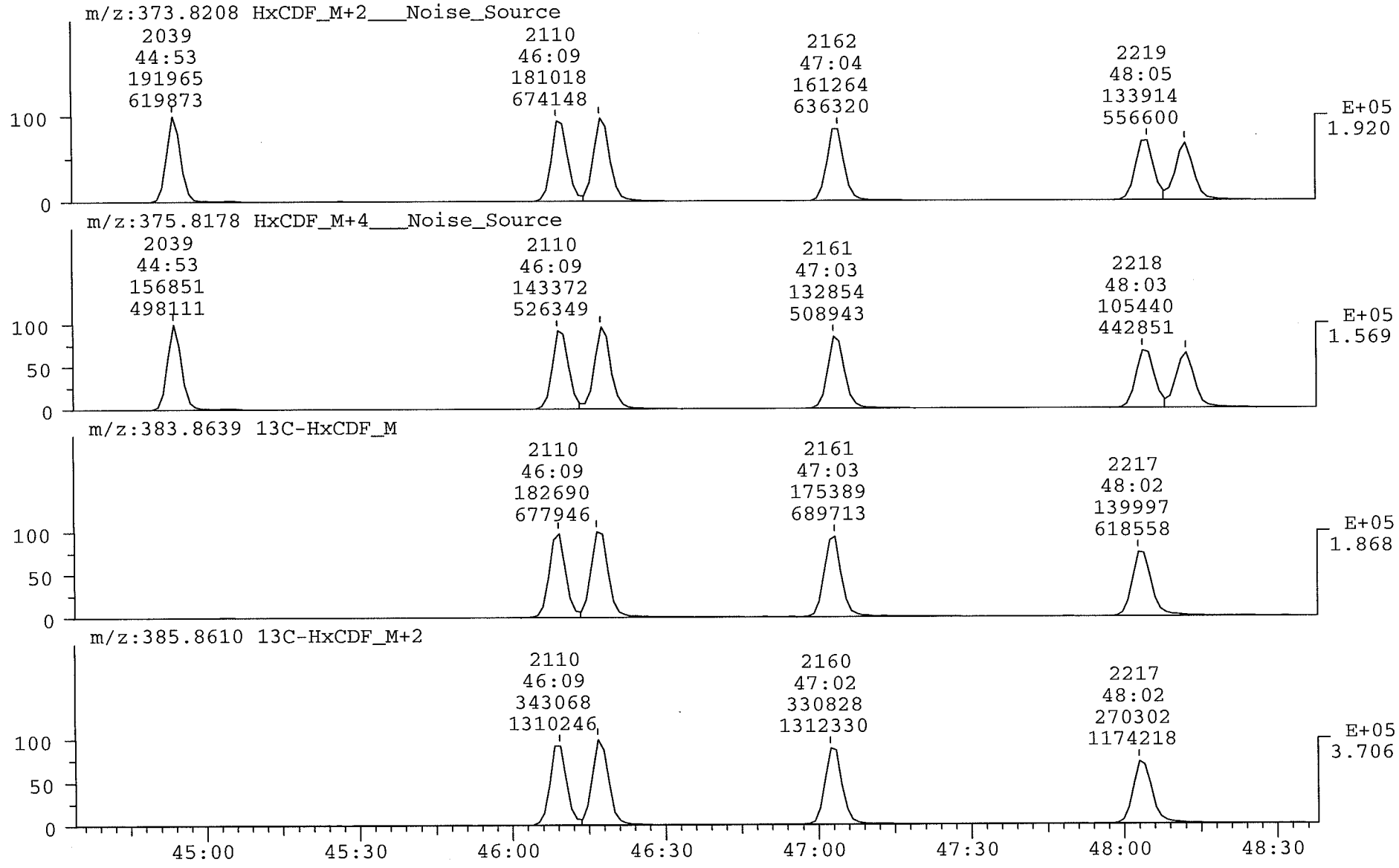
CHRO: b060505w1 05-May-06 Elapse: 41:57 1875
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2059 > 2227 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



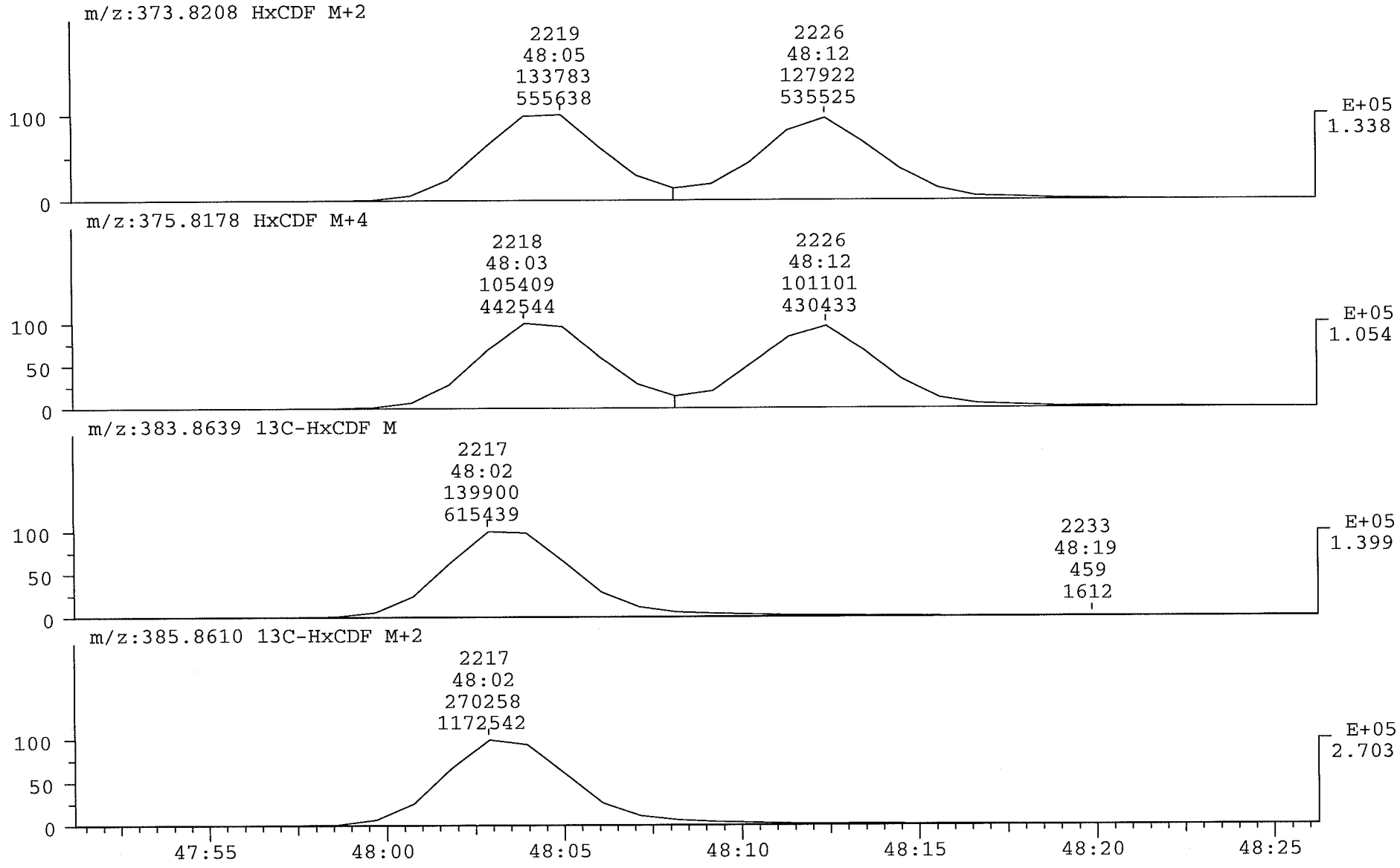
CHRO: b060505w1 05-May-06 Elapse: 47:25 2182
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2146 > 2219 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



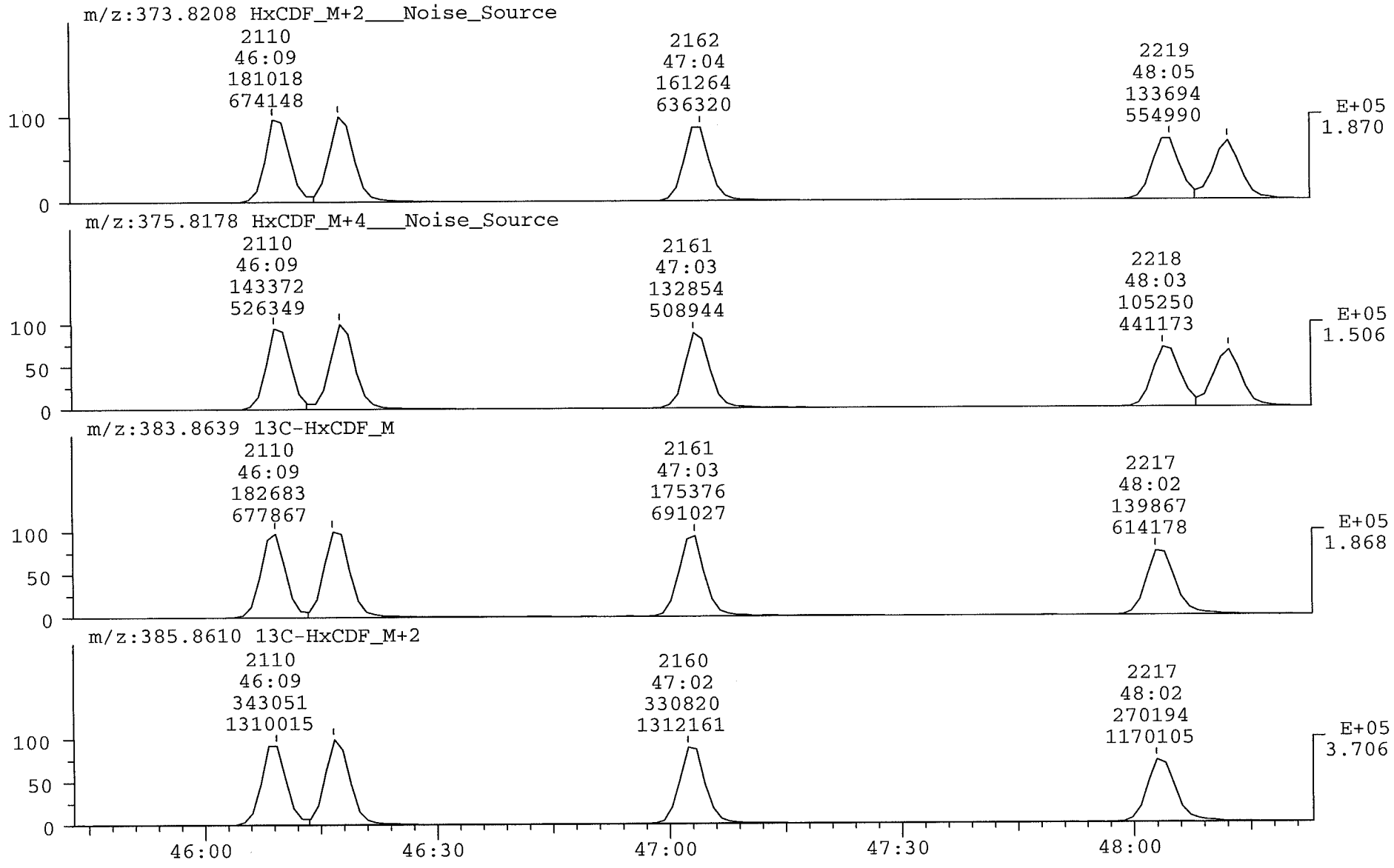
CHRO: b060505w1 05-May-06 Elapse: 47:25 2182
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2020 > 2250 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



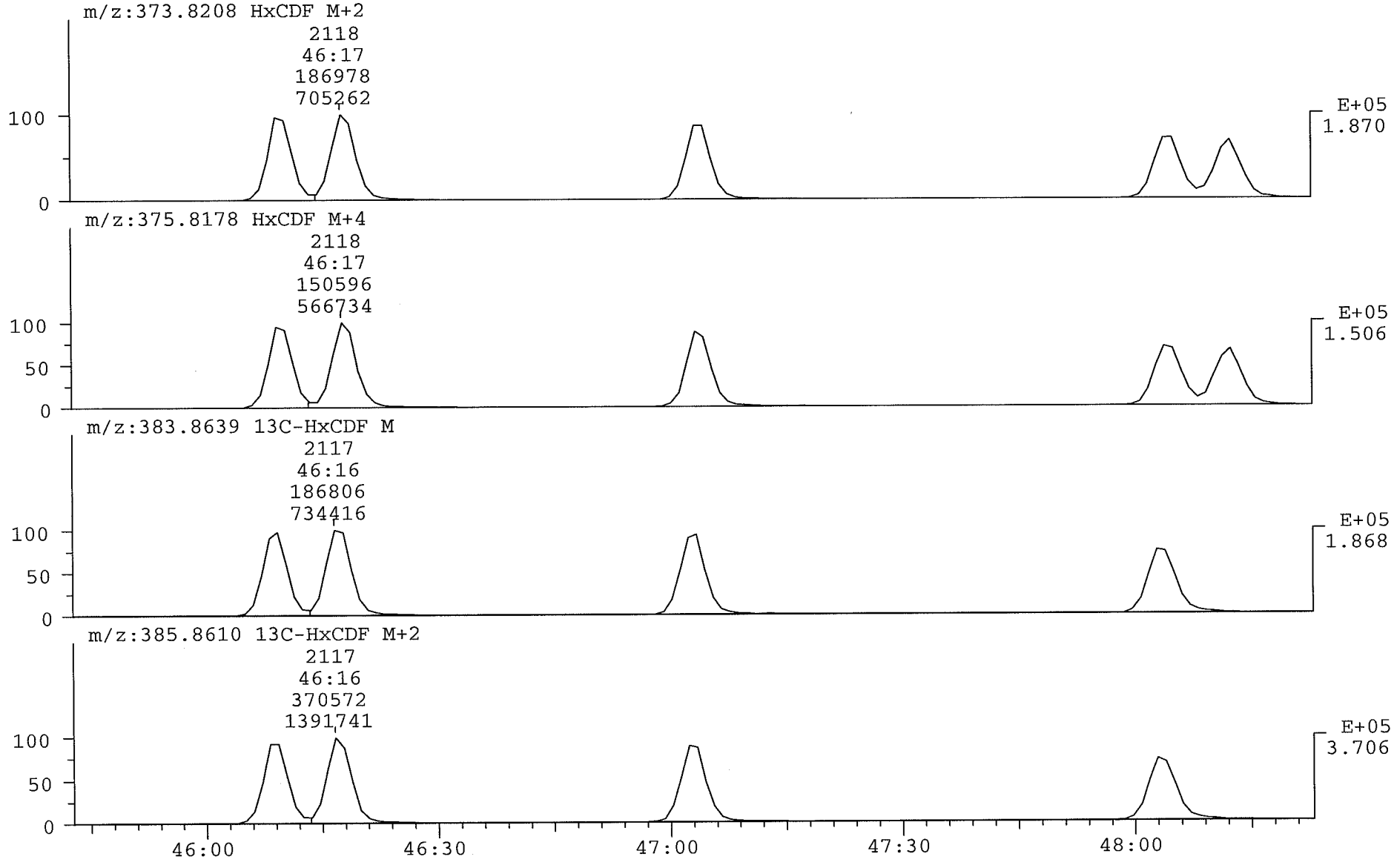
CHRO: b060505w1 05-May-06 Elapse: 56:43 2703
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2206 > 2239 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



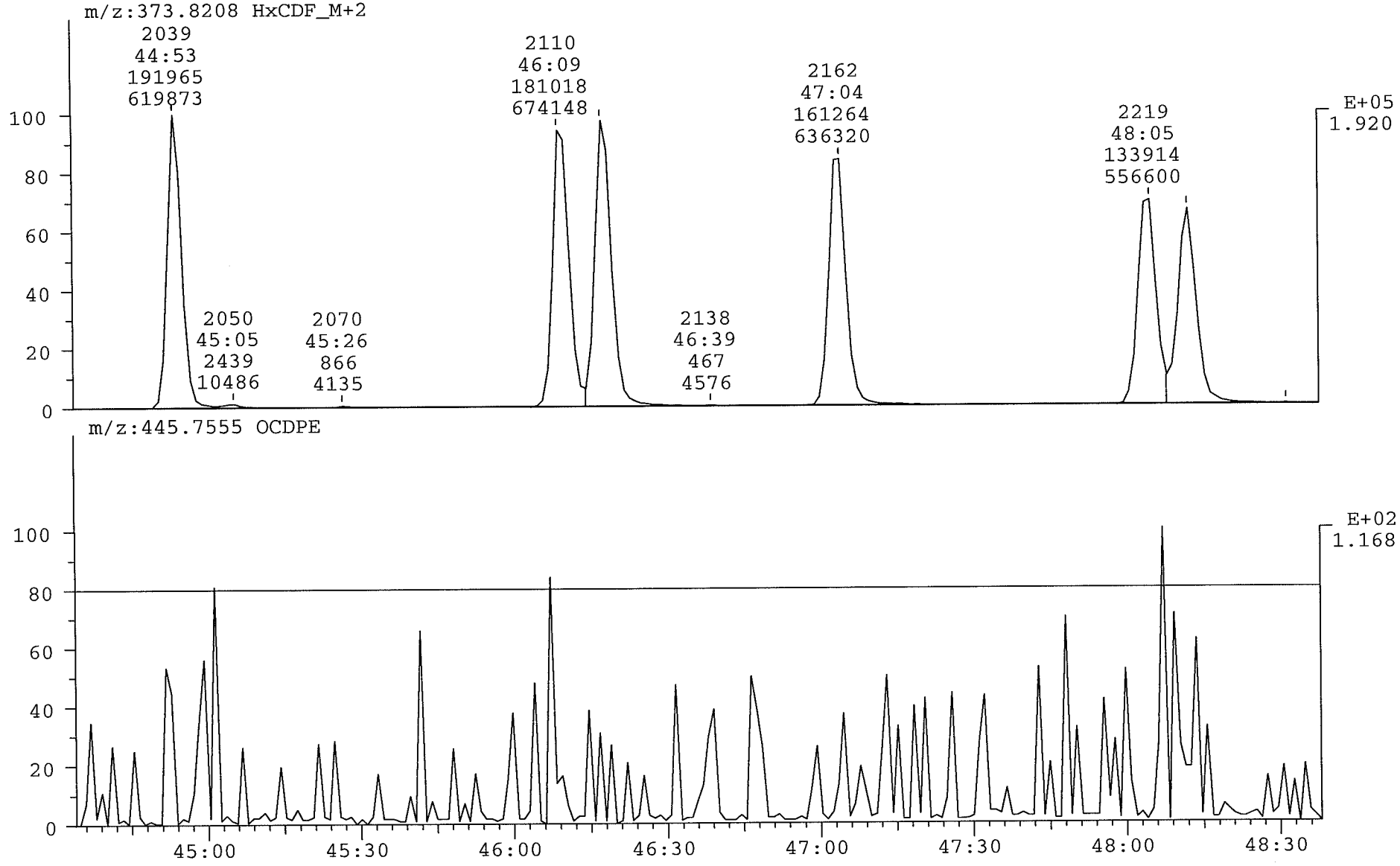
CHRO: b060505w1 05-May-06 Elapse: 47:03 2161
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2085 > 2236 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



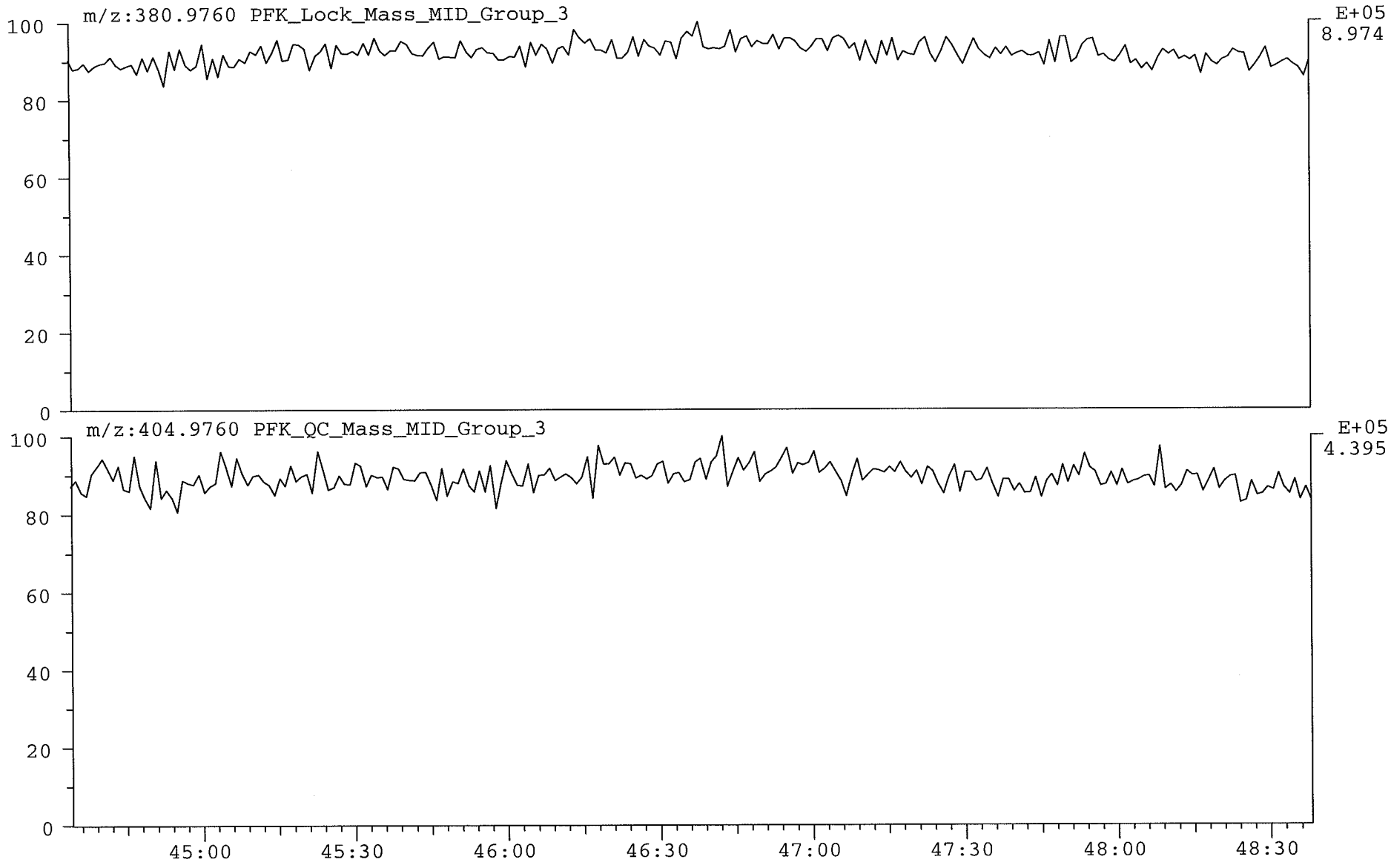
CHRO: b060505w1 05-May-06 Elapse: 46:18 2119
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2116 > 2122 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



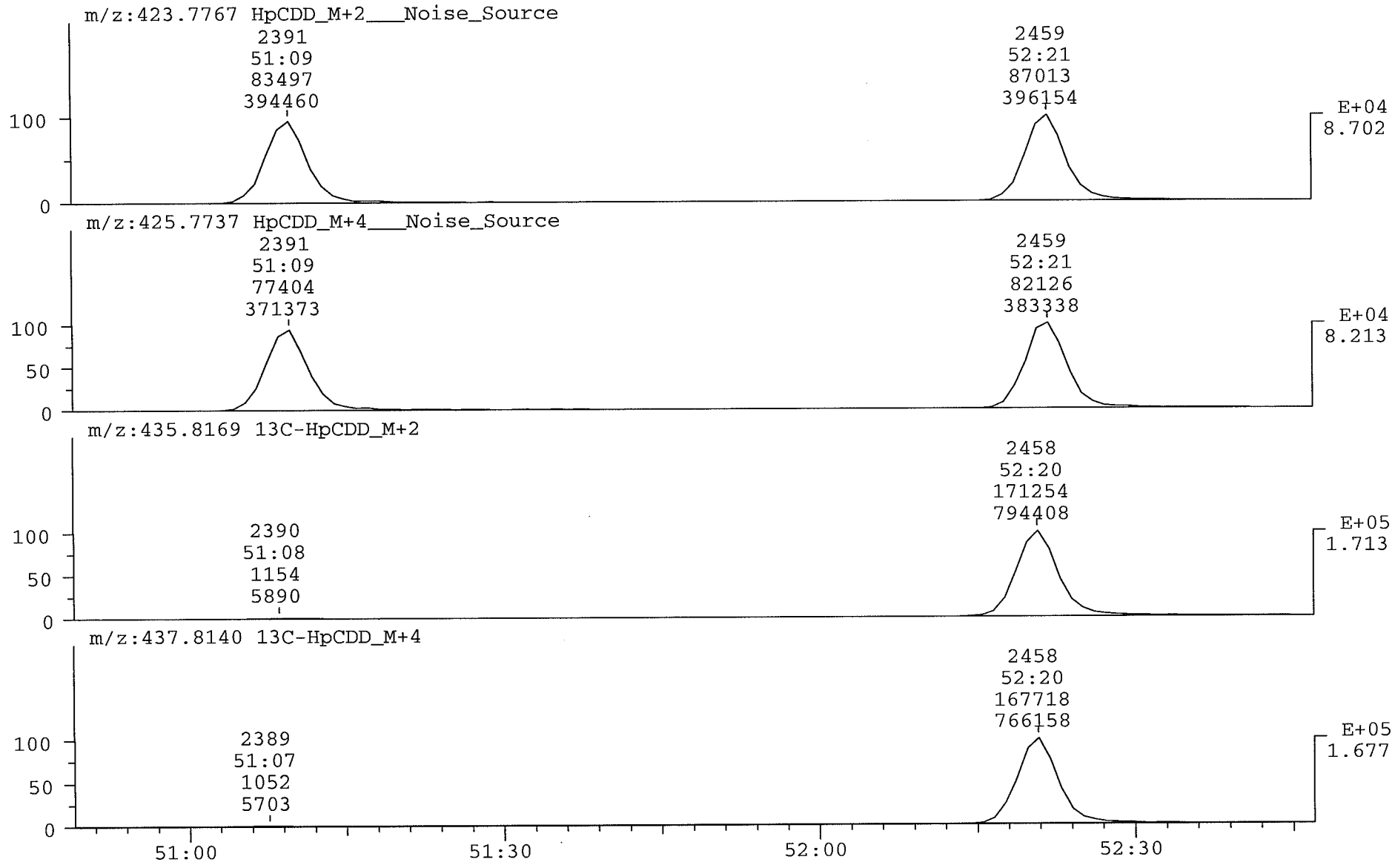
CHRO: b060505w1 05-May-06 Elapse: 46:11 2112
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2020 > 2250 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



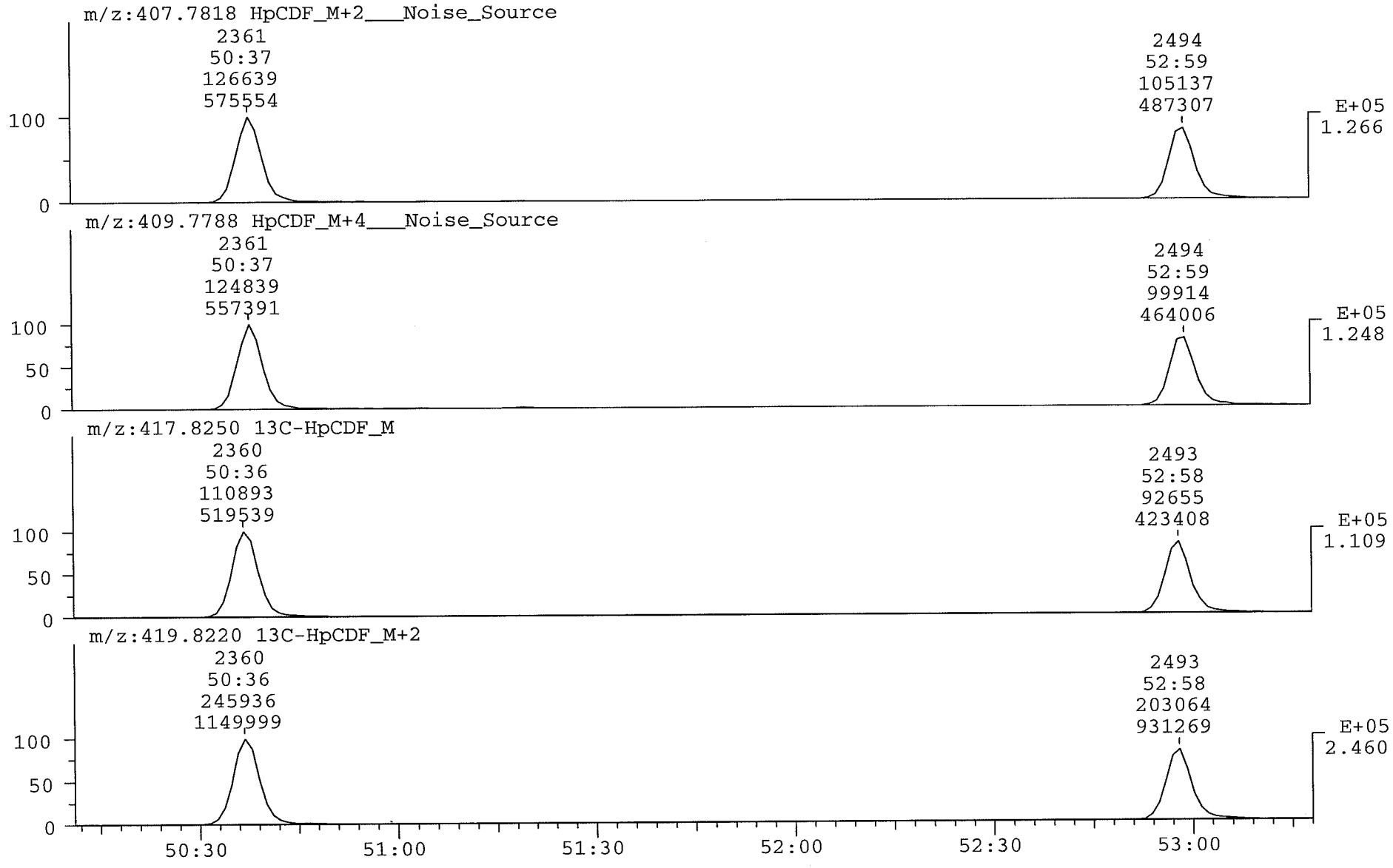
CHRO: b060505w1 05-May-06 Elapse: 46:11 2112
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2020 > 2250 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



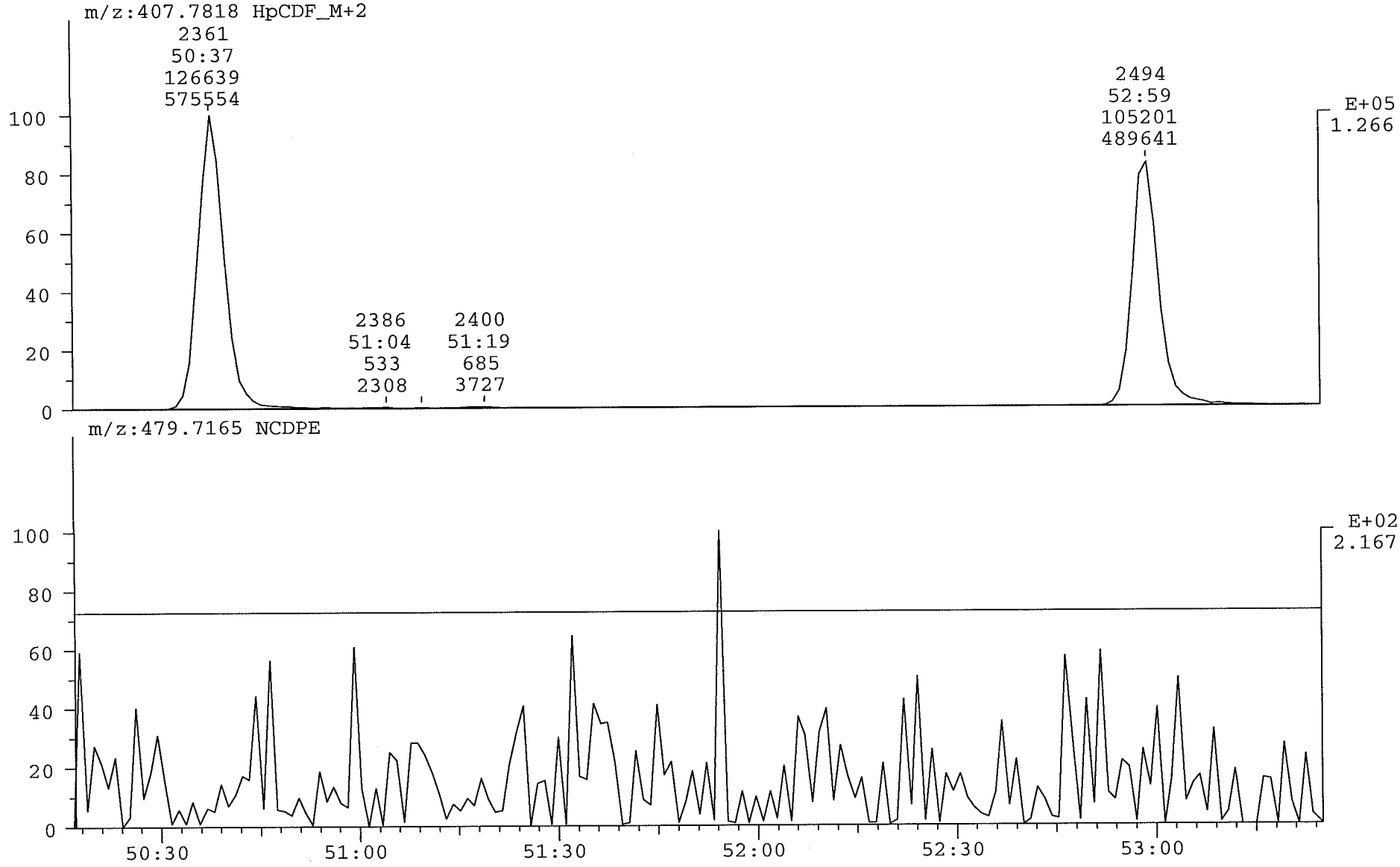
CHRO: b060505w1 05-May-06 Elapse: 46:11 2112
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2372 > 2483 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



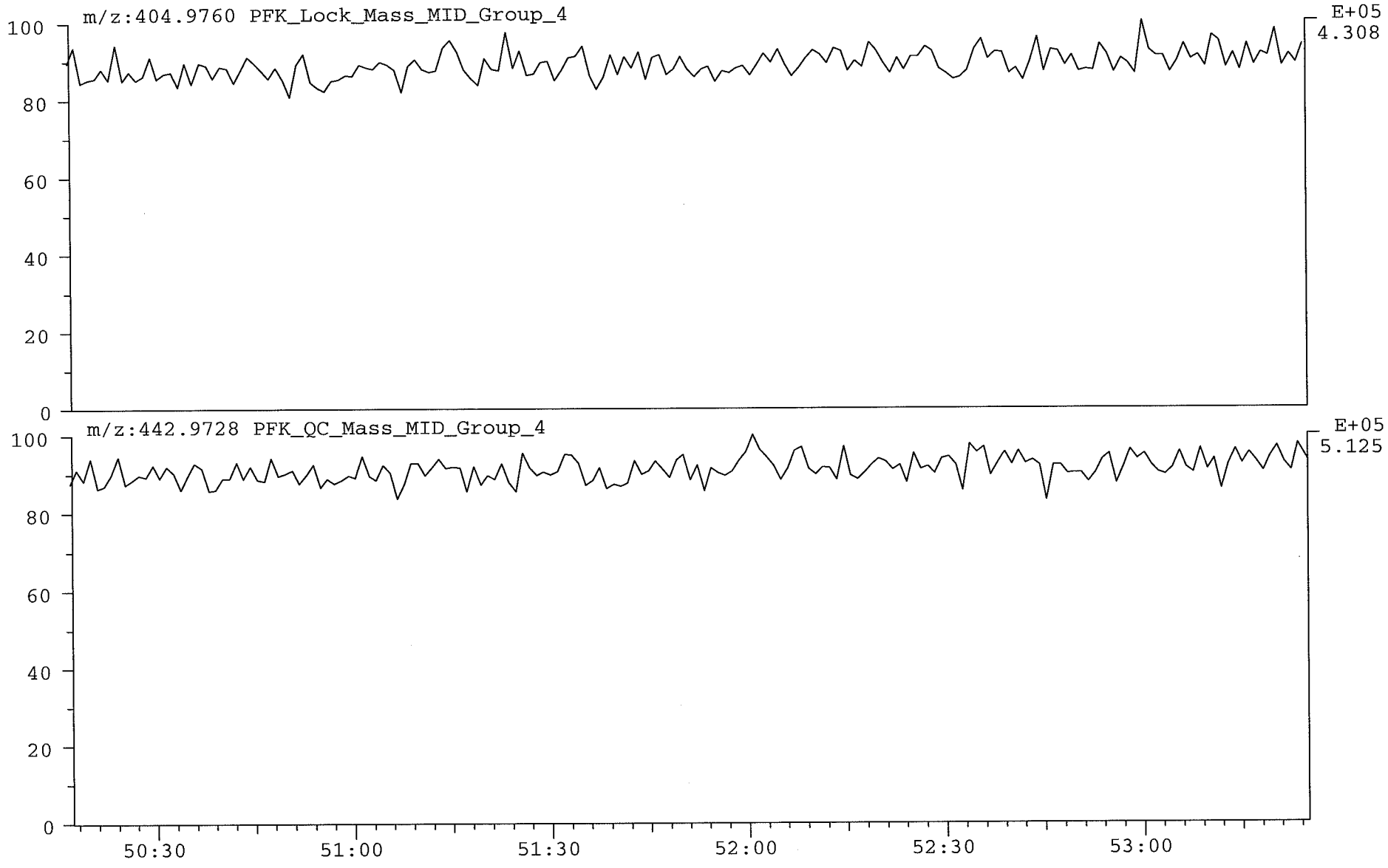
CHRO: b060505w1 05-May-06 Elapse: 51:43 2423
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2336 > 2512 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



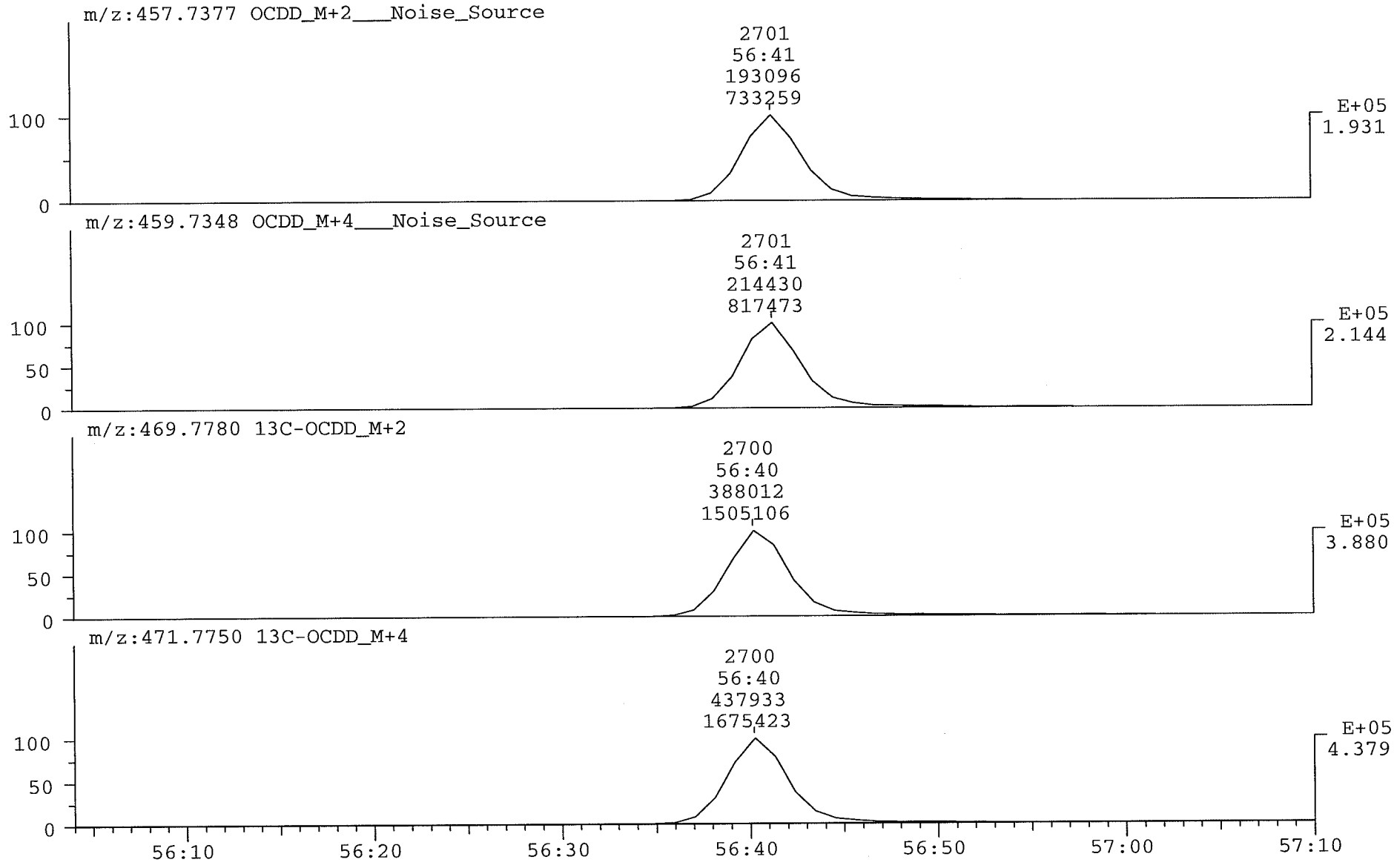
```
CHRO:  b060505w1                                05-May-06  Elapse:  51:43      2423
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                     Start :  09:30:23   2888
Comm:  Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  Ver/Win
Oper:  BFW            Client:  STL Knoxville               Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   2341 > 2518          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



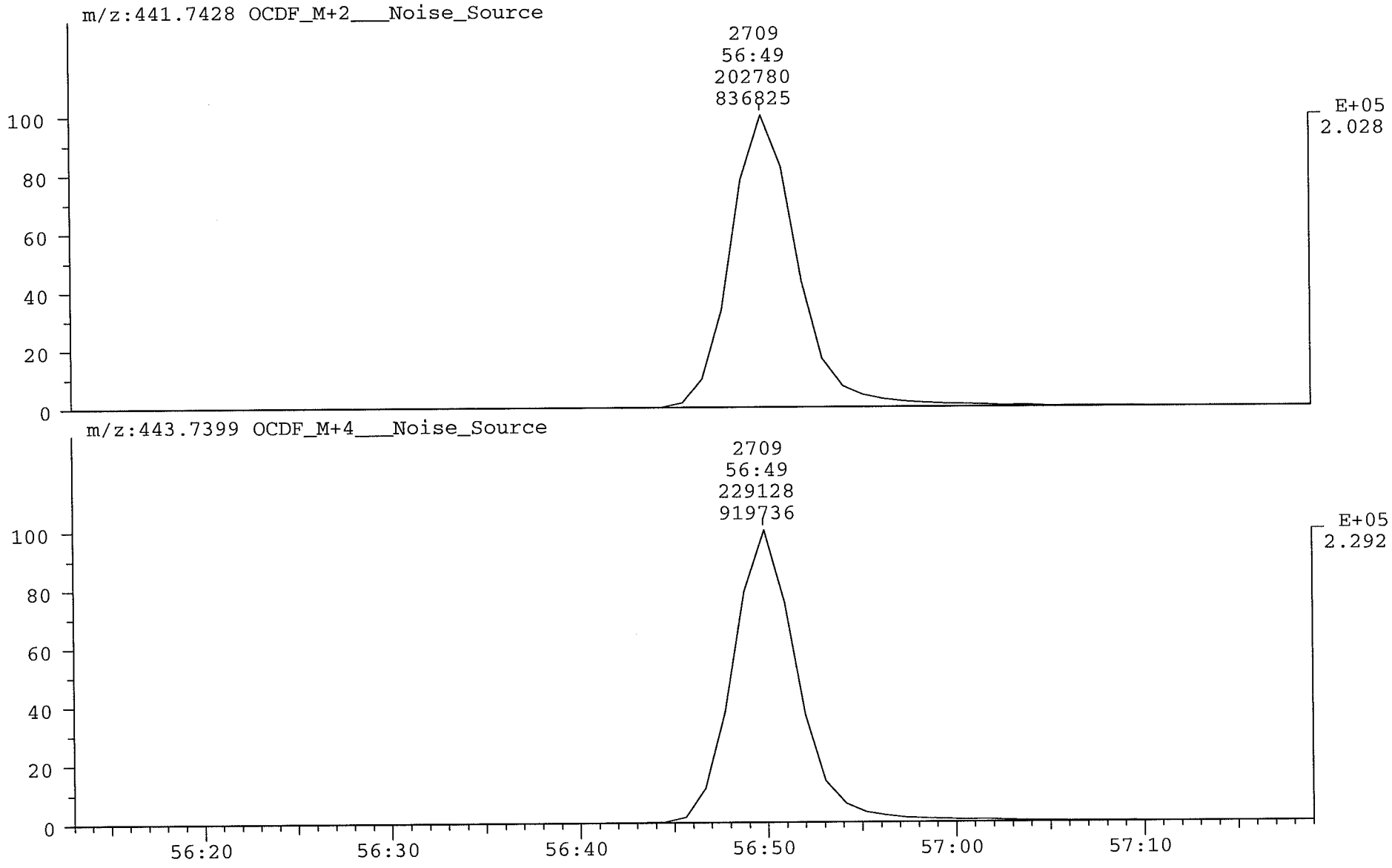
```
CHRO:  b060505w1                                05-May-06  Elapse:  51:43      2423
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                     Start :  09:30:23   2888
Comm:  Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  Ver/Win
Oper:  BFW           Client:  STL Knoxville                Inlet :  GC     Vial   1
Peak:  100.00  ppm     Label wndw:   2341 > 2518           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```



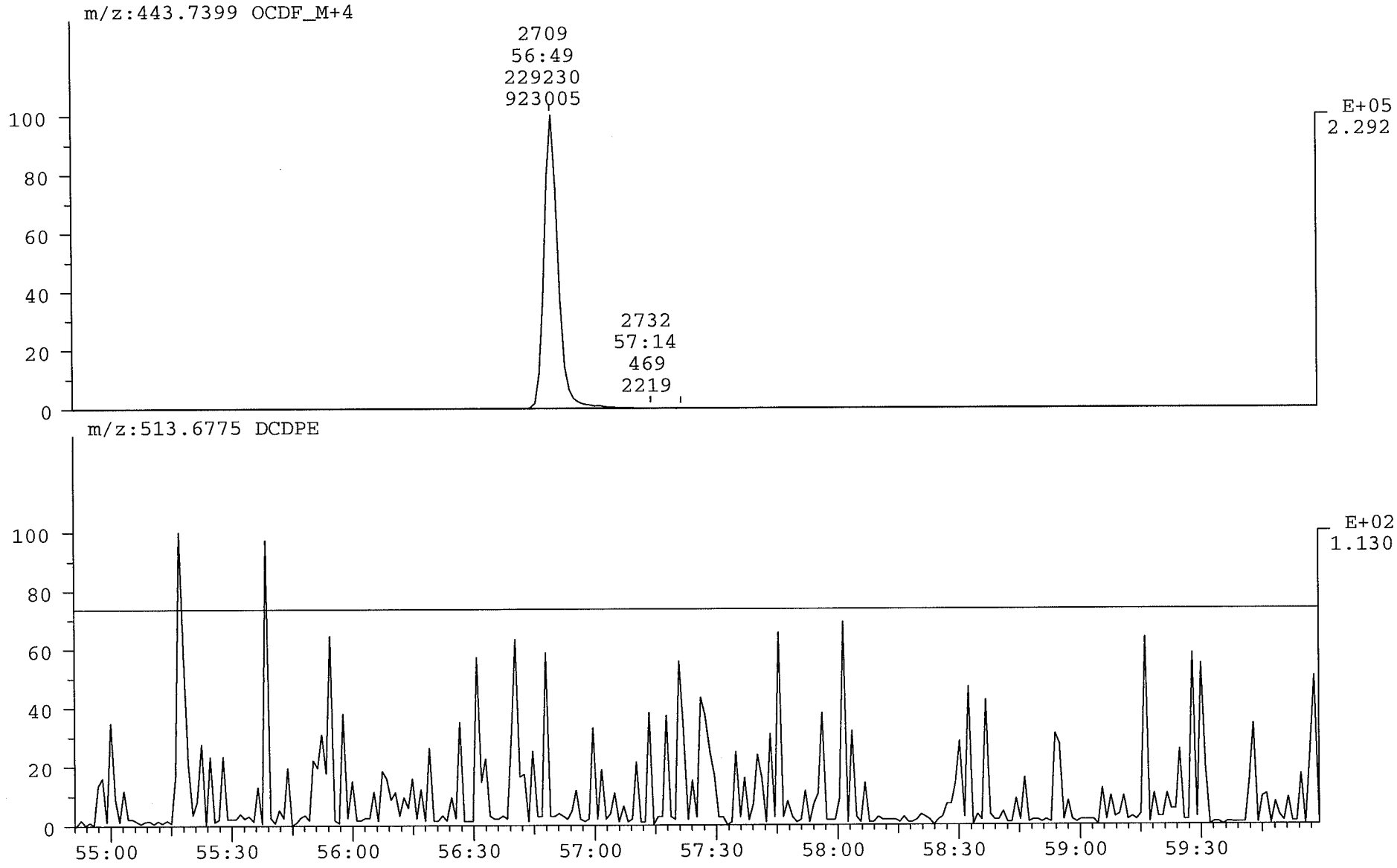
CHRO: b060505w1 05-May-06 Elapse: 56:33 2694
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2666 > 2728 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



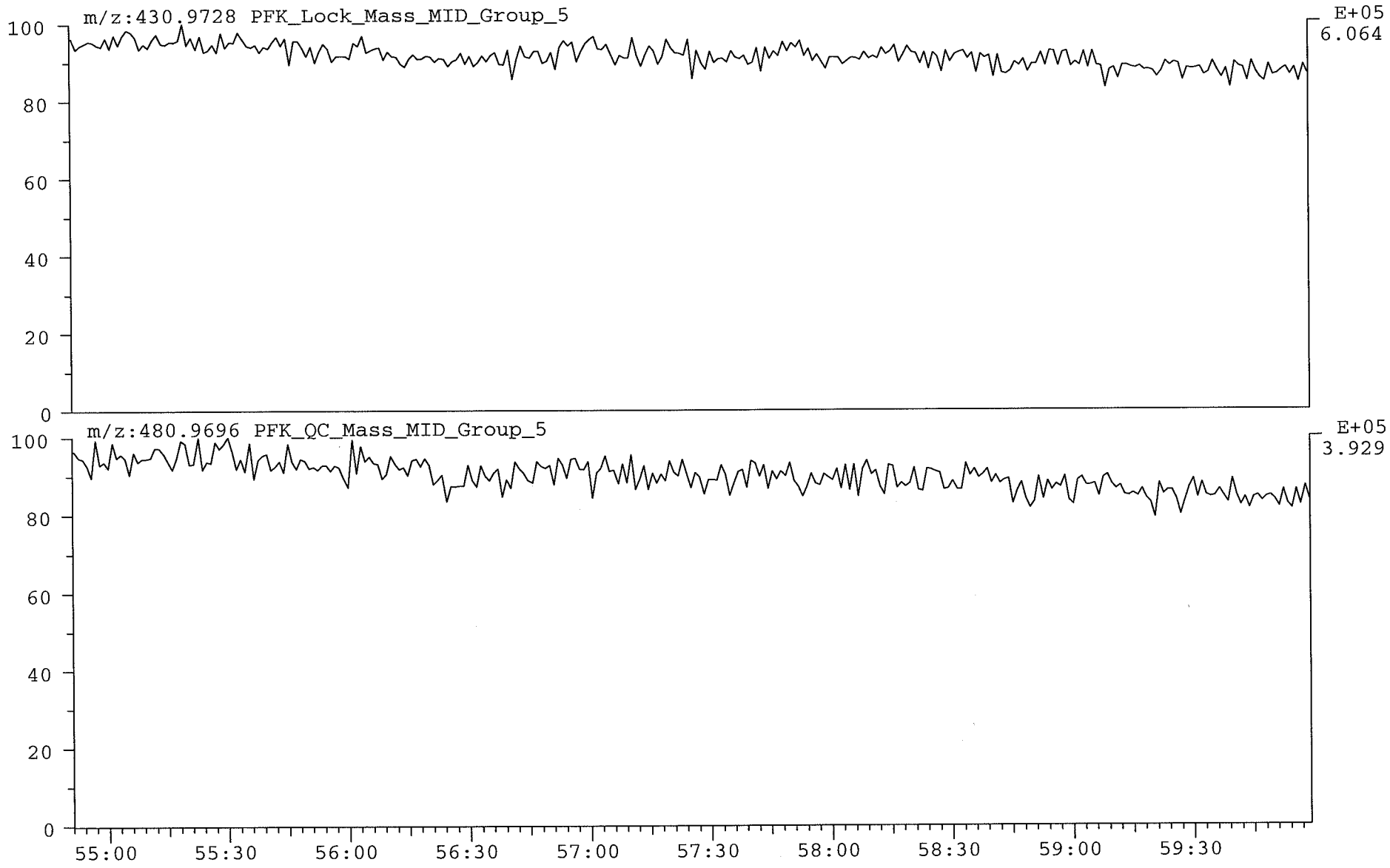
```
CHRO:  b060505w1                                05-May-06  Elapse:  56:43      2703
Samp:  Vial 1 WO=3262:44 Meth=F8 Dil=1                     Start :  09:30:23   2888
Comm:  Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  Ver/Win
Oper:  BFW            Client:  STL Knoxville               Inlet :  GC     Vial   1
Peak:  100.00  ppm      Label wndw:   2674 > 2736          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: b060505w1 05-May-06 Elapse: 56:43 2703
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2598 > 2886 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: b060505w1 05-May-06 Elapse: 56:43 2703
Samp: Vial 1 WO=3262:44 Meth=F8 Dil=1 Start : 09:30:23 2888
Comm: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : Ver/Win
Oper: BFW Client: STL Knoxville Inlet : GC Vial 1
Peak: 100.00 ppm Label wndw: 2598 > 2886 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: b060505w1
Study: Ver/Win
Sample: WO=3262:44 Meth=F8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: BFW
Client: STL Knoxville
Comments: Inst=m2a/718320 Batch=20060505w1 Ccal=B060504S2
Injected volume: 2.0
Sample from Vial 1
Analysis will stop when MID run finishes
Tune file name: tune2
File 1 of list 060505
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	TRUE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	140 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	29:52 min	37:52 min	1.00 sec
# 2	37:52 min	6:32 min	44:25 min	1.00 sec
# 3	44:25 min	5:05 min	49:30 min	1.00 sec
# 4	49:30 min	5:15 min	54:45 min	1.00 sec
# 5	54:45 min	5:15 min	60:00 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

351.9000		1	1	91.48
353.8970		1	1	91.48
355.8546		1	1	91.48
357.8516		1	1	91.48
367.8949		1	1	91.48
369.8919		1	1	91.48
380.9760	c	10	1	8.19
409.7974		1	1	91.48

Window # 3

mass	F	int	gr	time (ms)
373.8208		1	1	91.48
375.8178		1	1	91.48
380.9760	1	10	1	8.19
383.8639		1	1	91.48
385.8610		1	1	91.48
389.8156		1	1	91.48
391.8127		1	1	91.48
401.8559		1	1	91.48
403.8529		1	1	91.48
404.9760	c	10	1	8.19
445.7555		1	1	91.48

Window # 4

mass	F	int	gr	time (ms)
404.9760	1	10	1	8.19
407.7818		1	1	91.48
409.7788		1	1	91.48
417.8250		1	1	91.48
419.8220		1	1	91.48
423.7767		1	1	91.48
425.7737		1	1	91.48
435.8169		1	1	91.48
437.8140		1	1	91.48
442.9728	c	10	1	8.19
479.7165		1	1	91.48

Window # 5

mass	F	int	gr	time (ms)
430.9728	1	10	1	10.92
441.7428		1	1	120.15
443.7399		1	1	120.15
457.7377		1	1	120.15
459.7348		1	1	120.15
469.7780		1	1	120.15
471.7750		1	1	120.15
480.9696	c	10	1	10.92
513.6775		1	1	120.15

Auto Sampler descriptor: pcdd2ul

Injector A

Normal Injection

Slvnt A cln before inj	(K):	3	times
Slvnt B cln before inj	(L):	0	times
Sample rinse cycles	(R):	0	times
Syringe filling volume	(F):	1.0	ul
Pullup delay time	(D):	4	sec
Sample pullup speed	(E):	5.0	ul/sec
Slvnt aftr pre inj cln	(U):	0.0	ul
Air after pre inj cln	(G):	2.0	ul
Sample volume	(V):	2.0	ul
Sample air volume	(A):	2.0	ul
Sample pullup count	(P):	2	times
Injection speed	(S):	10.0	ul/sec
Injection wait time	(W):	10	sec
Injection hold time	(H):	3	sec
Solvent A clean cycles	(C):	15	times
Solvent B clean cycles	(B):	20	times
Loop clean w slvnt A	(LC):	0	times

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8414.0000
BDEV	8289.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.7814	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9996
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-705.0000	ELEN	61.7750
EMULT	1.8200	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	186.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	600.9615
FSLOPE	36000000.0000	FVANAL	540.0000	FVINLET	665.0000
FVSRC	978.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	156.0000
HCURR	1.5294	HVANAL	1574.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4757.0160	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	380.9760
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	200.0000	NSAM	200.0000	NSCAN	5191.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10531.8778	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	2.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.6900	TCURR	0.8984	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 05-May-06 09:30:23.7

Autosampler has injected sample from vial 1
Analysis stopped at: 05-May-06 10:30:25.4 (run time 60.02 minutes)
Analysis stopped because MID run finished

STL Knoxville Dioxin GC/MS Continuing Calibration Review / Narrative Checklist

KNOX-ID-0004-R6 Method: ☒ 0023A/8290 ☐ EPA 23

Start PFK:	09:26	VER Filename:	b060505S1	Win Filename:	b060505W1	Inst:	MAT45J
End PFK:	20:10	VER Filename:	b060505S2	Col Perf Filename:	✓	ICAL Date:	11-8-04

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd Level
1. Was the mass resolution documented at both the beginning and end of the 12 hour shift?		✓			✓
2. Was the instrument resolution >10,000 (<100 ppm) on PFK m/z 304.9824 and m/z 380.9760 (at reduced voltage)?		✓			✓
3. Was the measured exact mass of m/z 380.9760 (PFK) within 5 ppm at reduced accelerating voltage?		✓			✓
4. Was date/time of analysis verified between analysis header and logbook as correct?		✓			✓
5. Was the Window Defining Mixture analyzed and the MID switchpoints set to encompass the retention time windows of each congener group?		✓			✓
6. Was the Column Performance solution analyzed and the %Valley ≤25 for separation between 2378-TCDD/F and the closest eluting non-2378 isomer?		✓			✓
7. Were continuing calibrations performed at the beginning and end of the 12-hour period, with successful mass resolution and GC resolution performance checks?		✓			✓
8. Were the response factors calculated for each labeled standard and unlabeled native analyte using the SOP specified reference compound (Table 4), quantitation ions (Table 22), and formula (Section 10.2.6)?		✓			✓
9. Are the measured RRFs for each compound within the specified control limits in Table 8 for all PCDDs/PCDFs?		✓			✓
10. Are the relative retention times of all PCDDs/PCDFs and all labeled compounds within the limits specified in Table 3?		✓			✓
11. Are all S/N ratios ≥10 for the GC signals in each EICP (extracted ion chromatographic profile) including internal standards?		✓			✓
12. Are the ion abundance ratios for all labeled and unlabeled analytes within the control limits specified in Table 22 of the SOP?		✓			✓
13. If manual integrations were performed, are they clearly identified, initialed and dated?	✓				✓
14. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				✓
15. Does the CCAL folder contain **complete** data in the following order: Data review checklist, a **complete** runlog, CCAL summary, Ratio summary, Calculation summary, PFK resolution/peak match documentation; Total RIC, EICP's and manual integration - for window and all standards?		✓			✓

Analyst: BPW	**Date:** 5/5/06	**2nd Level Reviewer :** PMP	**Date:** 5-5-06
Comments:		**Comments:**	

STL KNOXVILLE
SPECIALTY ORGANICS INSTRUMENT MAT 95S RUN LOG

Date	Time	Opr	Sample ID	Filename	Code	Matrix	Type	Tape	Lot#/Comments
5-4-06	23:14	PMP	Nonane	r	OK	—	QC		flush
5-4-06	23:29	PMP	H3ED8IAA	bth3ed8ba	OK	air	QC		System Blank
5-5-06	00:30	PMP	H2HIQIAA	bth2hlq	Lost file	air	SAM		H6D030236-009
5-5-06	04:12	PMP	H2HIPIAA	bth2hlp	IF lock up. OK	air	SAM		-008
5-5-06	05:16	PMP	H2HIFIAA	bth2hlf	OK	air	SAM		-002
5-5-06	06:19	PMP	H2HIJIAA	bth2hlj	OK	air	SAM		-004
5-5-06	—	PMP	H2HILIAA	bth2hll	DR	air	SAM		-006
5-5-06	07:21	PMP	Nonane	~~tnonane~~ r PMPS	OK	—	QC		flush
5-5-06	07:38	PMP	3123:75	b060505S1	OK	—	ver		M23 ver
5-5-06	~~07:38~~ 03:09	PMP	H2HIQIAA	bth2hlq	OK	air	~~SAM~~ SAM		H6D030236-009
5/5/06	09:26	BFW	PFK	—	OK	—	Res		Mass Res Check
5/5/06	09:30	BFW	3262:44	b060505W1	OK	—	W.N Ver		M23 W.N / 8290 W.N Ver
5/5/06	10:35	BFW	Nonane	r	OK	—	QC		Flush
5/5/06	10:51	BFW		r	OK	—	QC		
5/5/06	11:06	BFW		r	OK	—	QC		
5/5/06	11:22	BFW	H4AF9IAA	bth4af9b	OK	SOLID	QC		H6D280000-206B
5/5/06	12:26	BFW	H2HILIAA	bth2hll	OK	Air	SAM		H6D030236-006
5/5/06	13:30	BFW	H3GAFIAA	bth3gaf	OK	SOLID	SAM	BFW 5/5/06	~~H6D~~ C6D180112-001
5/5/06	14:34	BFW	H3GANIAA	bth3gan	OK	SOLID	SAM		-002
5/5/06	15:36	BFW	H3GARIAA	bth3gar	OK	SOLID	SAM		-003
5/5/06	—	BFW	H3G9VIAA	bth3g9v	DR	SOLID	SAM		C6D210121-001
5/5/06	16:40	BFW	Nonane	r	OK	—	QC		Flush
5/5/06	16:56	BFW	H4AF9IAC	bth4af9c	OK	SOLID	QC		H6D280000-206C
5/5/06	17:59	BFW	3123:75	b060505S2	OK	—	Ver		M23 Ver
5/5/06	19:03	BFW	3262:44	b060505S3	OK	—	Ver		8290 Ver
5-5-06	20:10	PMP	PFK	—	OK	—	Res		Mass Res Chk

PMP 5-5-06

Read and Understood by: PMP Date: 5-5-06

STL - Knoxville

IsoCalc Continuing Calibration Report

PCDD/PCDF by EPA Method 0023/8290

CCAL ID: 17092 - B060505S1

CCAL Filename: b060505s1

CCAL Sample ID: 3123:75

CCAL Result Dir: /20060505s1/b060505s1.d

CCAL Date/Time: 05/05/06 07:38

ICAL Date: 11/08/04

Method: X8 - 0023/8290

Instrument: M2A

Column SN: 718320

Column Desc: Rtx-5 60m x 0.32mm ID x 0.25um

Analytes	m/z's Forming Ratio	Ion Abund Ratio	QC Limits	Calc Conc (ng/mL)	ICAL RF	CCAL RF	%D	QC Limit	Valid?
2,3,7,8-TCDD	M/M+2	0.80	0.65-0.89	4.4	1.060	0.943	-11.1	20.0	True
2,3,7,8-TCDF	M/M+2	0.73	0.65-0.89	4.6	1.064	0.972	-8.6	20.0	True
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32-1.78	24.4	0.977	0.953	-2.4	20.0	True
1,2,3,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	27	0.955	1.031	7.9	20.0	True
2,3,4,7,8-PeCDF	M+2/M+4	1.51	1.32-1.78	26	1.018	1.040	2.2	20.0	True
1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.05-1.43	24.6	1.047	1.032	-1.5	20.0	True
1,2,3,6,7,8-HxCDD	M+2/M+4	1.22	1.05-1.43	24.8	1.055	1.046	-0.9	20.0	True
1,2,3,7,8,9-HxCDD	M+2/M+4	1.20	1.05-1.43	23.5	1.146	1.077	-6.0	20.0	True
1,2,3,4,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	27	1.101	1.174	6.7	20.0	True
1,2,3,6,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	26	1.184	1.231	3.9	20.0	True
2,3,4,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	26	1.052	1.077	2.3	20.0	True
1,2,3,7,8,9-HxCDF	M+2/M+4	1.21	1.05-1.43	25	0.982	0.984	0.3	20.0	True
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	23.7	1.018	0.966	-5.1	20.0	True
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.05	0.88-1.20	26	1.403	1.439	2.6	20.0	True
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88-1.20	24.1	1.197	1.155	-3.5	20.0	True
OCDD	M+2/M+4	0.88	0.76-1.02	51	0.965	0.978	1.4	20.0	True
OCDF	M+2/M+4	0.91	0.76-1.02	48	1.103	1.055	-4.4	20.0	True
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	110	1.068	1.173	9.8	30.0	True
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	98	1.413	1.384	-2.1	30.0	True
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.54	1.32-1.78	117	0.882	1.036	17.5	30.0	True
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	109	1.188	1.292	8.7	30.0	True
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	105	0.943	0.993	5.3	30.0	True
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	99	1.272	1.262	-0.8	30.0	True
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	108	0.918	0.993	8.1	30.0	True
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37-0.51	108	0.916	0.991	8.1	30.0	True
13C-OCDD	M+2/M+4	0.90	0.76-1.02	236	0.850	1.002	17.9	30.0	True
37Cl4-2,3,7,8-TCDD			-	4.7	1.046	0.984	-5.9	30.0	
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	24.6	1.010	0.993	-1.7	30.0	True
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	25	0.902	0.910	0.9	30.0	True
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43-0.59	25	0.988	0.993	0.5	30.0	True
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	22.9	1.113	1.019	-8.4	30.0	True
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37-0.51	21.9	0.912	0.799	-12.5	30.0	True

BAW 5/5/06

STL - Knoxville IsoCalc Continuing Calibration Report

PCDD/PCDF by EPA Method 0023/8290

CCAL ID: 17092 - B060505S1
ICAL Date: 11/08/04
CCAL Filename: b060505s1
Method: X8 - 0023/8290
CCAL Sample ID: 3123:75
Instrument: M2A
CCAL Result Dir: /20060505s1/b060505s1.d
Column SN: 718320
CCAL Date/Time: 05/05/06 07:38
Column Desc: Rtx-5 60m x 0.32mm ID x 0.25um

Analytes	ICAL RT	CCAL RT	RT Diff	ICAL RRT	CCAL RRT	RRT QC Limit	Valid?
2,3,7,8-TCDD	35:52	35:15	-37	1.001	1.001	-	
2,3,7,8-TCDF	33:43	33:04	-39	1.001	1.002	-	
1,2,3,7,8-PeCDD	43:18	43:02	-16	1.000	1.000	-	
1,2,3,7,8-PeCDF	41:47	41:28	-19	1.000	1.000	-	
2,3,4,7,8-PeCDF	42:51	42:34	-17	1.026	1.027	-	
1,2,3,4,7,8-HxCDD	47:30	47:13	-17	0.998	0.998	-	
1,2,3,6,7,8-HxCDD	47:37	47:21	-16	1.000	1.001	-	
1,2,3,7,8,9-HxCDD	48:03	47:46	-17	1.010	1.010	-	
1,2,3,4,7,8-HxCDF	46:25	46:08	-17	0.997	0.997	-	
1,2,3,6,7,8-HxCDF	46:33	46:17	-16	1.000	1.000	-	
2,3,4,6,7,8-HxCDF	47:20	47:02	-18	1.017	1.017	-	
1,2,3,7,8,9-HxCDF	48:22	48:03	-19	1.039	1.039	-	
1,2,3,4,6,7,8-HpCDD	52:40	52:20	-20	1.000	1.000	-	
1,2,3,4,6,7,8-HpCDF	50:58	50:37	-21	1.000	1.000	-	
1,2,3,4,7,8,9-HpCDF	53:18	52:57	-21	1.046	1.046	-	
OCDD	56:58	56:40	-18	1.000	1.000	-	
OCDF	57:06	56:48	-18	1.003	1.002	-	
13C-2,3,7,8-TCDD	35:50	35:13	-37	1.016	1.016	-	
13C-2,3,7,8-TCDF	33:40	33:01	-39	0.955	0.952	-	
13C-1,2,3,7,8-PeCDD	43:17	43:01	-16	1.228	1.241	-	
13C-1,2,3,7,8-PeCDF	41:46	41:27	-19	1.185	1.196	-	
13C-1,2,3,6,7,8-HxCDD	47:36	47:19	-17	0.991	0.991	-	
13C-1,2,3,6,7,8-HxCDF	46:32	46:16	-16	0.969	0.969	-	
13C-1,2,3,4,6,7,8-HpCDD	52:39	52:19	-20	1.096	1.096	-	
13C-1,2,3,4,6,7,8-HpCDF	50:57	50:36	-21	1.061	1.060	-	
13C-OCDD	56:57	56:40	-17	1.186	1.187	-	
37Cl4-2,3,7,8-TCDD	35:52	35:17	-35	1.001	1.002	-	
13C-2,3,4,7,8-PeCDF	42:50	42:33	-17	1.026	1.027	-	
13C-1,2,3,4,7,8-HxCDD	47:30	47:12	-18	0.998	0.998	-	
13C-1,2,3,4,7,8-HxCDF	46:24	46:07	-17	0.997	0.997	-	
13C-1,2,3,7,8,9-HxCDF	48:20	48:02	-18	1.006	1.006	-	
13C-1,2,3,4,7,8,9-HpCDF	53:16	52:56	-20	1.046	1.046	-	

STL - Knoxville

IsoCalc Continuing Calibration Report

PCDD/PCDF by EPA Method 0023/8290

CCAL ID: 17092 - B060505S1

WIN Filename: b060505w1

Method: X8 - 0023/8290

WIN Sample ID: 3262:44

Instrument: M2A

WIN Result Dir: /20060505s1/b060505w1.d

Column SN: 718320

WIN Date/Time: 05/05/06 09:30

Column Desc: Rtx-5 60m x 0.32mm ID x 0.25um

Window Defining First/Last Eluter Retention Times

Analyte	Reference	M/Z	Ref RT	First Eluter RT	First Eluter RRT	Last Eluter RT	Last Eluter RRT
Total TCDD	13C-2,3,7,8-TCDD	320	35:16	28:42	0.8138	37:42	1.0690
Total TCDF	13C-2,3,7,8-TCDF	304	33:02	25:56	0.7851	37:37	1.1387
Total PeCDD	13C-1,2,3,7,8-PeCDD	356	43:02	40:29	0.9407	43:39	1.0143
Total PeCDF	13C-1,2,3,7,8-PeCDF	340	41:28	38:11	0.9208	43:47	1.0559
Total HxCDD	13C-1,2,3,6,7,8-HxCDD	390	47:21	45:35	0.9627	47:47	1.0092
Total HxCDF	13C-1,2,3,6,7,8-HxCDF	374	46:16	44:53	0.9701	48:12	1.0418
Total HpCDD	13C-1,2,3,4,6,7,8-HpCDD	424	52:20	51:09	0.9774	52:21	1.0003
Total HpCDF	13C-1,2,3,4,6,7,8-HpCDF	408	50:36	50:37	1.0003	52:59	1.0471
OCDD	13C-OCDD	458	56:40	56:41	1.0003	56:41	1.0003
OCDF	13C-OCDD	442	56:40	56:49	1.0026	56:49	1.0026

STL - Knoxville

IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	3123:75	**Prep Batch**		**Lot No**	
Data File	/20060505s1/b060505s1.d	**Prep Date**		**SDG No**	
Analysis ID	90523	**Prep Exp Date**		**Date Received**	
Analysis Date	5/5/2006	**Matrix**	UNKNOWN	**Date Sampled**	
Analysis Time	07:38	**Initial Wt/Vol**		**Lims Test Code**	
Anal Exp Date		**Extract Vol**		**Method**	0023/8290
Instrument	M2A	**Dil Factor**	1.0	**Code**	X8
Analyst	PMP				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (ng/mL)		DL (ng/mL)
2,3,7,8-TCDD	35:15	102387	11766	1.060	5.000	4.446157	88.92	4.446157	E	0.0995
Total TCDD				1.060		4.446157		4.446157	E	0.0995
2,3,7,8-TCDF	33:04	124525	14080	1.064	5.000	4.570618	91.41	4.570618	E	0.0856
Total TCDF				1.064		4.570618		4.570618	E	0.0856
1,2,3,7,8-PeCDD	43:02	457145	125512	0.977	25.00	24.401752	97.61	24.401752	E	0.0393
Total PeCDD				0.977		24.401752		24.401752	E	0.0393
1,2,3,7,8-PeCDF	41:28	616209	151103	0.955	25.00	26.973497	107.89	26.973497	E	0.0579
2,3,4,7,8-PeCDF	42:34	621869	166958	1.018	25.00	25.550483	102.20	25.550483	E	0.0544
Total PeCDF				0.987		52.523980		52.523980	E	0.0561
1,2,3,4,7,8-HxCDD	47:13	441103	123235	1.047	25.00	24.634230	98.54	24.634230	E	0.0478
1,2,3,6,7,8-HxCDD	47:21	447014	124219	1.055	25.00	24.786043	99.14	24.786043	E	0.0475
1,2,3,7,8,9-HxCDD	47:46	460568	118309	1.146	25.00	23.508886	94.04	23.508886	E	0.0437
Total HxCDD				1.083		72.929158		72.929158	E	0.0462
1,2,3,4,7,8-HxCDF	46:08	638145	183957	1.101	25.00	26.665266	106.66	26.665266	E	0.0395
1,2,3,6,7,8-HxCDF	46:17	668838	191261	1.184	25.00	25.981593	103.93	25.981593	E	0.0367
2,3,4,6,7,8-HxCDF	47:02	585325	165576	1.052	25.00	25.584684	102.34	25.584684	E	0.0413
1,2,3,7,8,9-HxCDF	48:03	535000	132882	0.982	25.00	25.062624	100.25	25.062624	E	0.0443
Total HxCDF				1.080		103.294167		103.294167	E	0.0403
1,2,3,4,6,7,8-HpCDD	52:20	412599	90254	1.018	25.00	23.722087	94.89	23.722087	E	0.0551
Total HpCDD		4037	1017	1.018		23.954191		23.954191	E	0.0551
1,2,3,4,6,7,8-HpCDF	50:37	613797	135596	1.403	25.00	25.644855	102.58	25.644855	E	0.0449
1,2,3,4,7,8,9-HpCDF	52:57	492344	111172	1.197	25.00	24.122409	96.49	24.122409	E	0.0527
Total HpCDF				1.300		49.767264		49.767264	E	0.0485
OCDD	56:40	843642	221591	0.965	50.00	50.676068	101.35	50.676068	E	0.0493
OCDF	56:48	910225	230528	1.103	50.00	47.805332	95.61	47.805332	E	0.0566
13C-2,3,7,8-TCDD	35:13	2171655	239235	1.068	100.0	109.845047	109.85	109.845047		0.287
13C-2,3,7,8-TCDF	33:01	2561164	277368	1.413	100.0	97.885968	97.89	97.885968		0.169
13C-1,2,3,7,8-PeCDD	43:01	1918097	540326	0.882	100.0	117.489834	117.49	117.489834		0.176
13C-1,2,3,7,8-PeCDF	41:27	2391443	578140	1.188	100.0	108.731013	108.73	108.731013		0.135
13C-1,2,3,6,7,8-HxCDD	47:19	1709884	469538	0.943	100.0	105.272980	105.27	105.272980		0.0838
13C-1,2,3,6,7,8-HxCDF	46:16	2173873	620984	1.272	100.0	99.249129	99.25	99.249129		0.0603
13C-1,2,3,4,6,7,8-HpCDD	52:19	1709266	383305	0.918	100.0	108.095929	108.10	108.095929		0.0748
13C-1,2,3,4,6,7,8-HpCDF	50:36	1705589	368850	0.916	100.0	108.124139	108.12	108.124139		0.0806
13C-OCDD	56:40	3451206	872537	0.850	200.0	235.849259	117.92	235.849259		0.0714
37Cl4-2,3,7,8-TCDD	35:17	106859	12392	1.046	5.000	4.704508	94.09	4.704508	E	0.0669
13C-2,3,4,7,8-PeCDF	42:33	593530	158426	1.010	25.00	24.567398	98.27	24.567398	E	0.0514
13C-1,2,3,4,7,8-HxCDD	47:12	389116	109259	0.902	25.00	25.223204	100.89	25.223204	E	0.0814
13C-1,2,3,4,7,8-HxCDF	46:07	539919	155455	0.988	25.00	25.133931	100.54	25.133931	E	0.0546
13C-1,2,3,7,8,9-HxCDF	48:02	438722	109785	1.113	25.00	22.899296	91.60	22.899296	E	0.0690
13C-1,2,3,4,7,8,9-HpCDF	52:56	340502	76568	0.912	25.00	21.886710	87.55	21.886710	E	0.0959
13C-1,2,3,4-TCDD	34:40	1851166	186605	1.000	100.0	100.000000	100.00	100.000000		0.307
13C-1,2,3,7,8,9-HxCDD	47:45	1721931	436606	1.000	100.0	100.000000	100.00	100.000000		0.0790

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	3123:75	Prep Batch		Lot No	
Data File	/20060505s1/b060505s1.	Prep Date		SDG No	
Analysis ID	90523	Prep Exp Date		Date Received	
Analysis Date	05/05/06 07:38	Matrix	UNKNOWN	Date Sampled	
Anal Exp Date		Initial Wt/Vol		Lims Test Code	
Instrument	M2A	Extract Vol		Method	0023/8290
Analyst	PMP	Diluton Factor	1.00	Code	X8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	105	148	42	59	0.71	/	
	2,3,7,8-TCDF	33:04	33:03	1	52468	72057	6229	7851	0.73	ABB/ABB	
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	230	215	92	86	1.07 *	/	
	13C-2,3,7,8-TCDF	33:01	33:00	1	1128724	1432440	123598	153770	0.79	ABV/ABV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	113	140	45	56	0.80	/	
	2,3,7,8-TCDD	35:15	35:18	-3	45581	56806	5090	6676	0.80	ABB/ABB	
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	168		67				
	37Cl4-2,3,7,8-TCDD	35:17	35:18	-1	106859		12392			ABB	
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	315	258	126	103	1.22 *	/	
	13C-1,2,3,4-TCDD	34:40	34:40	0	821719	1029447	83353	103252	0.80	ABV/AVV	
	13C-2,3,7,8-TCDD	35:13	35:16	-3	953659	1217996	105467	133768	0.78	AVV/AVV	
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**		
	Noise	00:00	00:00	0	145	175	58	70	0.83 *	/	
	1,2,3,7,8-PeCDF	41:28	41:25	3	380101	236108	95179	55924	1.61	ABV/ABV	
	2,3,4,7,8-PeCDF	42:34	42:31	3	374045	247824	100761	66197	1.51	ABV/ABV	
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**		
	Noise	00:00	00:00	0	160	140	64	56	1.14 *	/	
	13C-1,2,3,7,8-PeCDF	41:27	41:24	3	1458129	933314	353449	224691	1.56	ABV/ABV	
	13C-2,3,4,7,8-PeCDF	42:33	42:30	3	364292	229238	98743	59683	1.59	ABV/ABV	
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**		
	Noise	00:00	00:00	0	130	78	52	31	1.68	/	
	1,2,3,7,8-PeCDD	43:02	42:58	4	278185	178960	75847	49665	1.55	ABV/ABV	
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**		
	Noise	00:00	00:00	0	170	120	68	48	1.42	/	
	13C-1,2,3,7,8-PeCDD	43:01	42:57	4	1162502	755595	329095	211231	1.54	ABV/ABV	
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	Noise	00:00	00:00	0	143	128	57	51	1.12	/	
	1,2,3,4,7,8-HxCDF	46:08	46:08	0	352013	286132	101705	82252	1.23	ABV/ABV	
	1,2,3,6,7,8-HxCDF	46:17	46:17	0	372055	296783	107014	84247	1.25	AVV/AVV	
	2,3,4,6,7,8-HxCDF	47:02	47:04	-2	323089	262236	91162	74414	1.23	ABV/ABV	
	1,2,3,7,8,9-HxCDF	48:03	48:06	-3	293189	241811	73761	59121	1.21	ABV/ABB	
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**		
	Noise	00:00	00:00	0	145	190	58	76	0.76 *	/	
	13C-1,2,3,4,7,8-HxCDF	46:07	46:07	0	186675	353244	53428	102027	0.53	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDF	46:16	46:16	0	751739	1422134	212832	408152	0.53	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDF	48:02	48:04	-2	149494	289228	37471	72314	0.52	ABB/ABV	
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	Noise	00:00	00:00	0	98	138	39	55	0.71 *	/	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	3123:75	Prep Batch		Lot No	
Data File	/20060505s1/b060505s1.	Prep Date		SDG No	
Analysis ID	90523	Prep Exp Date		Date Received	
Analysis Date	05/05/06 07:38	Matrix	UNKNOWN	Date Sampled	
Anal Exp Date		Initial Wt/Vol		Lims Test Code	
Instrument	M2A	Extract Vol		Method	0023/8290
Analyst	PMP	Diluton Factor	1.00	Code	X8

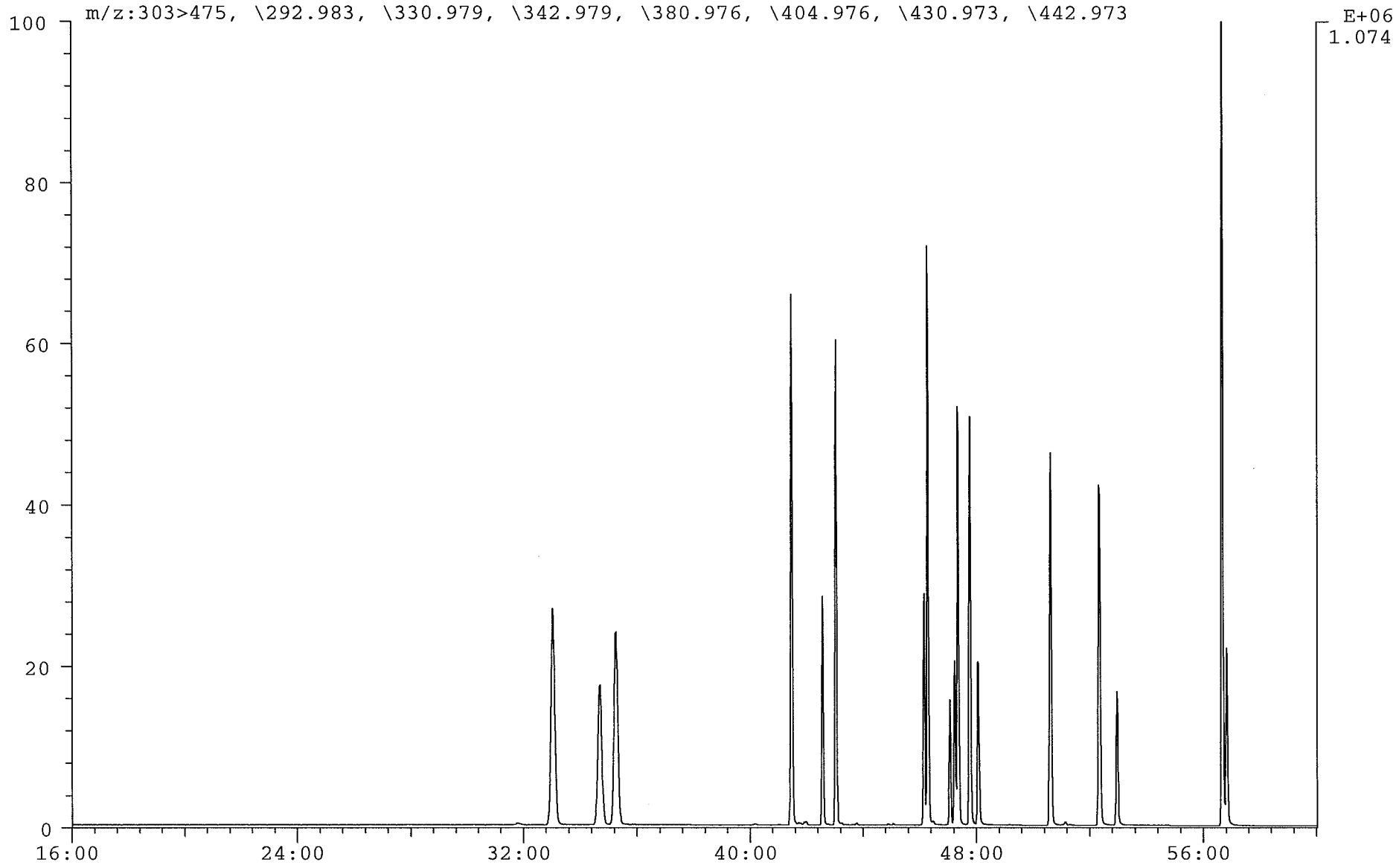
View Small Peaks? False View deleted peaks? False

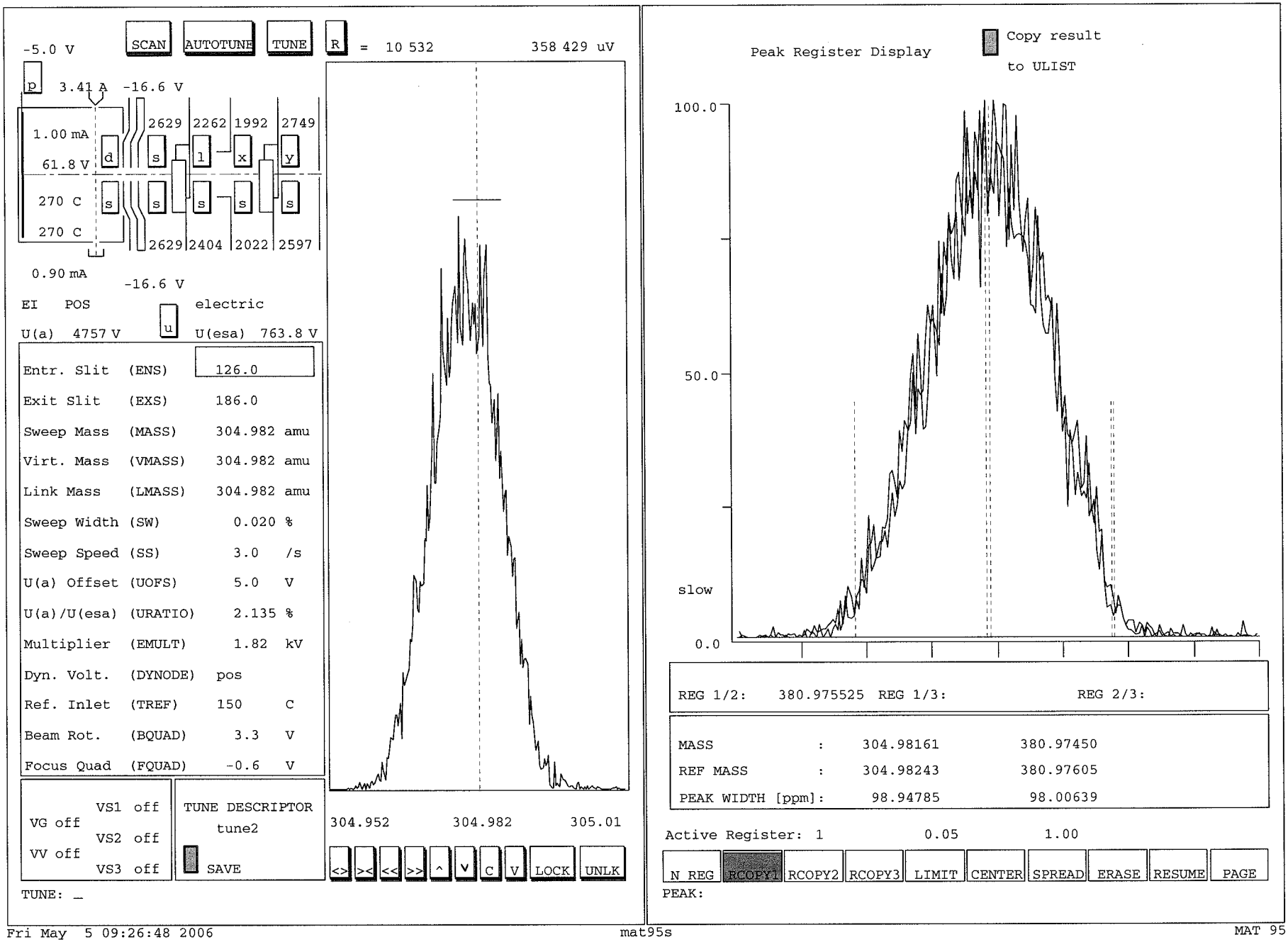
Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	1,2,3,4,7,8-HxCDD	47:13	47:14	-1	248878	192225	70518	52717	1.29	ABV/ABV	
	1,2,3,6,7,8-HxCDD	47:21	47:21	0	245310	201704	69095	55124	1.22	AVV/AVV	
	1,2,3,7,8,9-HxCDD	47:46	47:47	-1	251312	209256	64720	53589	1.20	ABV/AVV	
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**		
	Noise	00:00	00:00	0	183	163	73	65	1.12	/	
	13C-1,2,3,4,7,8-HxCDD	47:12	47:14	-2	217564	171552	60910	48349	1.27	ABV/ABV	M
	13C-1,2,3,6,7,8-HxCDD	47:19	47:20	-1	948983	760901	259565	209973	1.25	AVV/AVV	M
	13C-1,2,3,7,8,9-HxCDD	47:45	47:46	-1	962989	758942	243563	193043	1.27	ABV/AVV	
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**		
	Noise	00:00	00:00	0	110	123	44	49	0.90	/	
	1,2,3,4,6,7,8-HpCDF	50:37	50:43	-6	314786	299011	70387	65209	1.05	ABV/ABV	M
	1,2,3,4,7,8,9-HpCDF	52:57	53:02	-5	251757	240587	56166	55006	1.05	ABV/ABV	
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	Noise	00:00	00:00	0	173	150	69	60	1.15 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	50:36	50:42	-6	528598	1176991	115920	252930	0.45	ABV/ABV	M
	13C-1,2,3,4,7,8,9-HpCDF	52:56	53:00	-4	105380	235122	24130	52438	0.45	ABV/ABV	
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**		
	Noise	00:00	00:00	0	123	93	49	37	1.32 *	/	
	Unidentified	51:08	00:00	0	2174	1863	586	431	1.17	ABB/ABB	
	1,2,3,4,6,7,8-HpCDD	52:20	52:24	-4	211086	201513	47080	43174	1.05	ABV/ABV	
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**		
	Noise	00:00	00:00	0	178	123	71	49	1.45 *	/	
	Unidentified	51:08	00:00	0	8244	8163	1731	2032	1.01	ABB/ABB	
	13C-1,2,3,4,6,7,8-HpCDD	52:19	52:23	-4	872756	836510	193630	189675	1.04	ABV/ABV	
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**		
	Noise	00:00	00:00	0	135	138	54	55	0.98	/	
	OCDF	56:48	56:47	1	433257	476968	108903	121625	0.91	ABV/ABV	
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**		
	Noise	00:00	00:00	0	93	115	37	46	0.80	/	
	OCDD	56:40	56:39	1	395984	447658	102005	119586	0.88	ABV/ABV	
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**		
	Noise	00:00	00:00	0	115	150	46	60	0.77	/	
	13C-OCDD	56:40	56:38	2	1636425	1814781	410865	461672	0.90	ABV/ABV	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

Int/Calc BPW 5/5/06
QCPMP 5-5-06

CHRO: b060505s1 05-May-06 Elapse: 32:55 1376
Samp: Vial 3 WO=3123:75 Meth=X8 Dil=1 Start : 07:38:15 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 3
Peak: 100.00 ppm Label wndw: 442 > 2891 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area





Fri May 5 09:26:48 2006 mat95s MAT 95

1202

-5.0 V SCAN AUTOTUNE TUNE R = 10 532 358 429 uV

p 3.41 A -16.6 V

1.00 mA 2629 2262 1992 2749

61.8 V d s l x y

270 C s s s s s

270 C 2629 2404 2022 2597

0.90 mA -16.6 V

EI POS u electric

U(a) 4759 V U(esa) 763.8 V

Entr. Slit	(ENS)	126.0	
Exit Slit	(EXS)	186.0	
Sweep Mass	(MASS)	304.982	amu
Virt. Mass	(VMASS)	304.982	amu
Link Mass	(LMASS)	304.982	amu
Sweep Width	(SW)	0.020	%
Sweep Speed	(SS)	3.0	/s
U(a) Offset	(UOFS)	5.0	V
U(a)/U(esa)	(URATIO)	2.135	%
Multiplier	(EMULT)	1.82	kV
Dyn. Volt.	(DYNODE)	pos	
Ref. Inlet	(TREF)	150	C
Beam Rot.	(BQUAD)	3.3	V
Focus Quad	(FQUAD)	-0.6	V

VG off VS1 off VS2 off VV off VS3 off

TUNE DESCRIPTOR tune2 SAVE

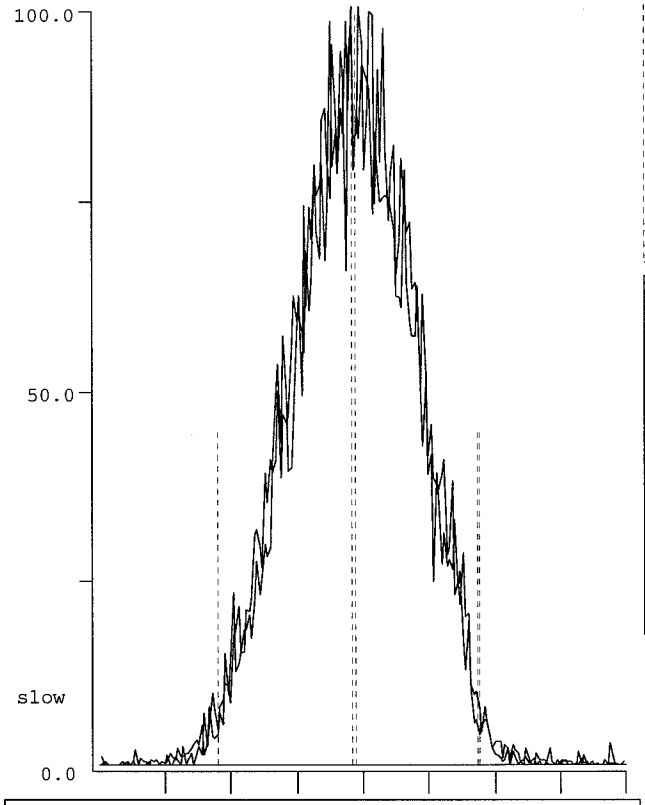
304.952 304.982 305.01

<> >< << >> ^ v C V LOCK UNLK

TUNE:

Diagnostic Display

Copy result to ULIST



REGISTER 1	
pm	304.98161
rm	304.98243
fm	304.95194
lm	305.01290
pc	7969197.62
pl	7969610.59
pr	7968822.06
bl	0.00
v	339070.00

REGISTER 2	
pm	380.97450
rm	380.97605
fm	380.93794
lm	381.01414
pc	6379583.78
pl	6379905.71
pr	6379280.47
bl	0.00
v	1015400.00

RATIO	REG 1/2	REG 1/3	REG 2/3
PEAK CENTER	1.2491720		
PC+DELTA	1.2491720		
PC+DELTA/RM	0.9999986		
REF MASS	1.2491737		

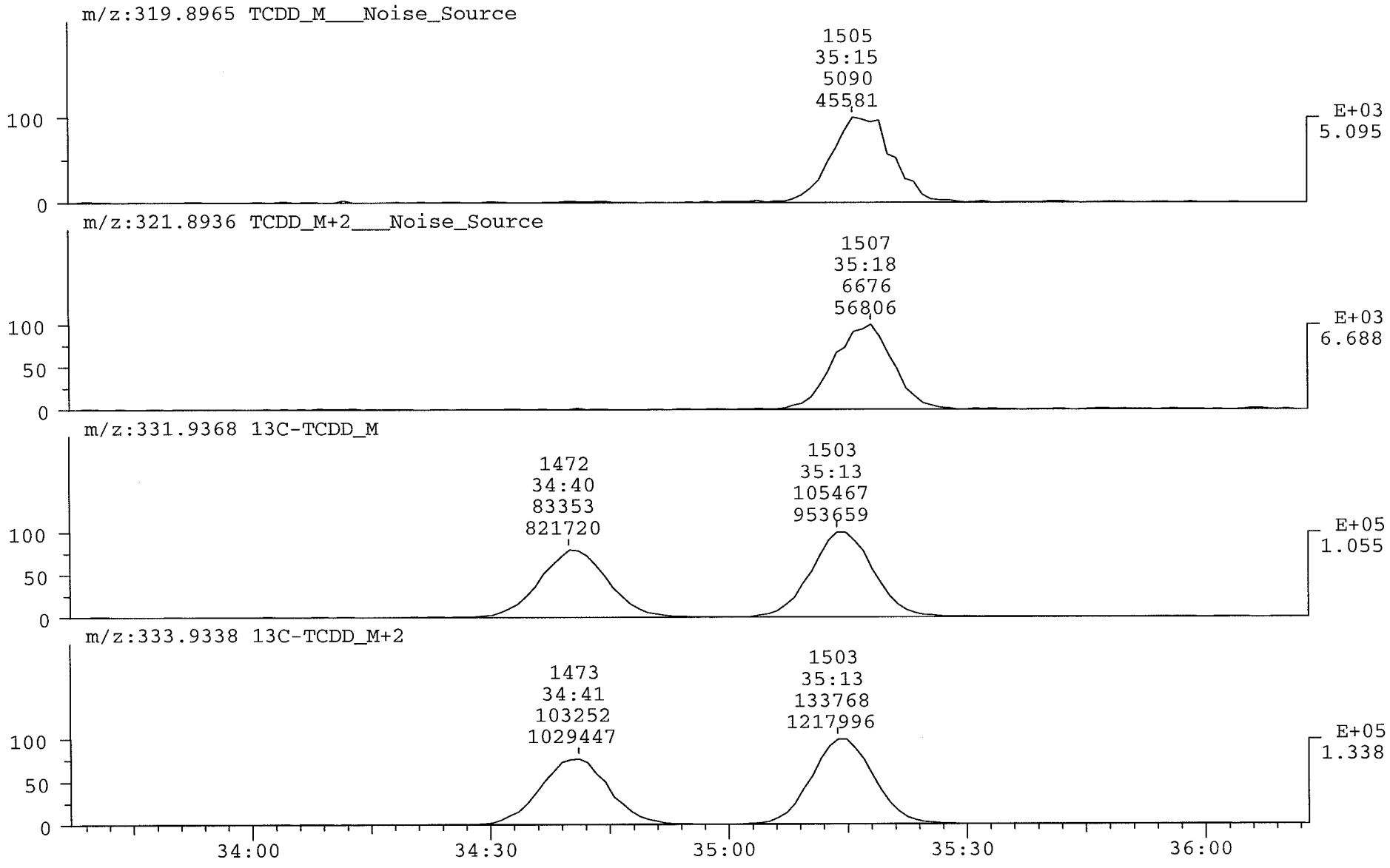
Active Register: 1 0.05 1.00

N REG RCOPY1 RCOPY2 RCOPY3 LIMIT CENTER SPREAD ERASE RESUME PAGE

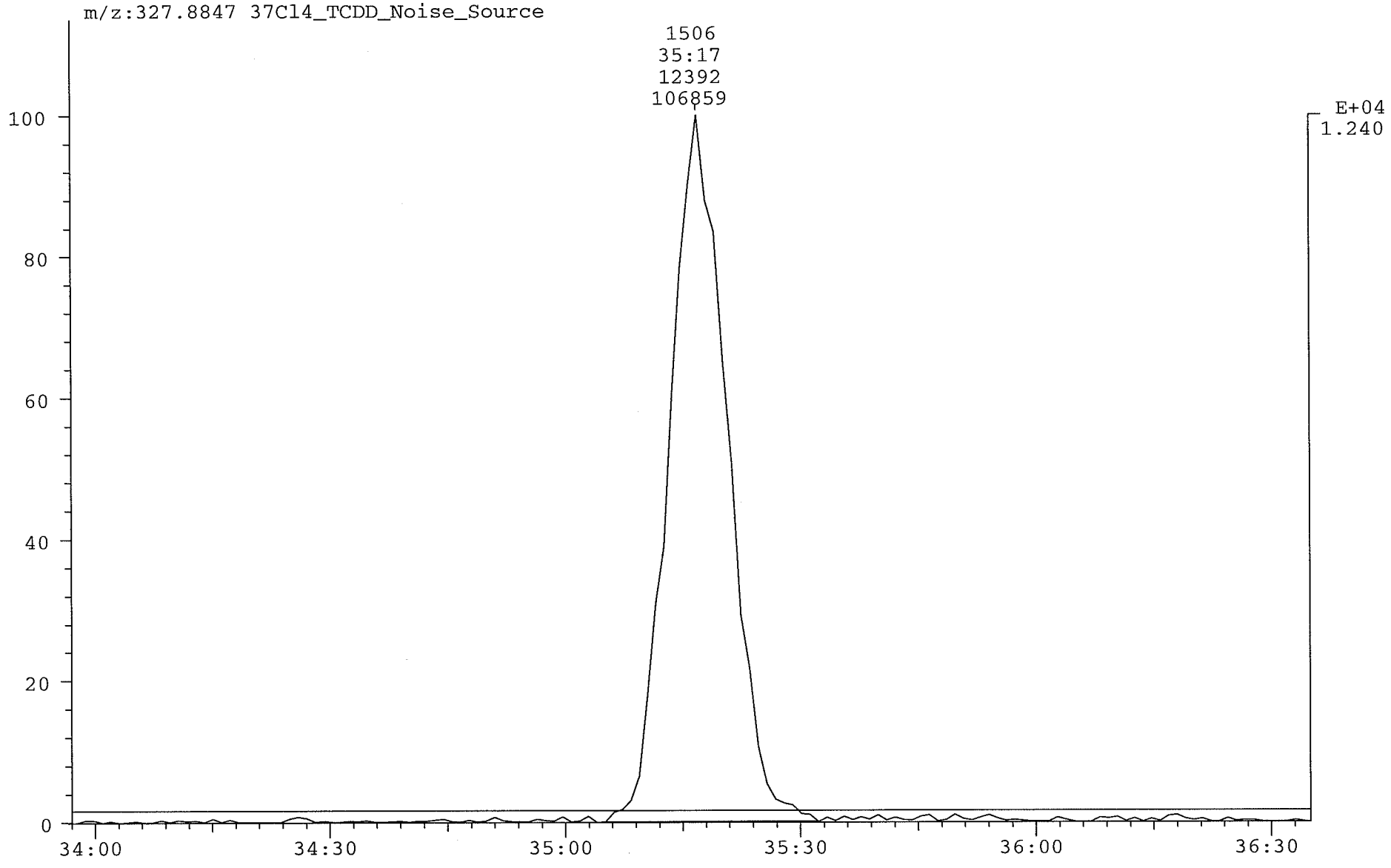
PEAK: _

Fri May 5 09:26:54 2006 mat95s MAT 95

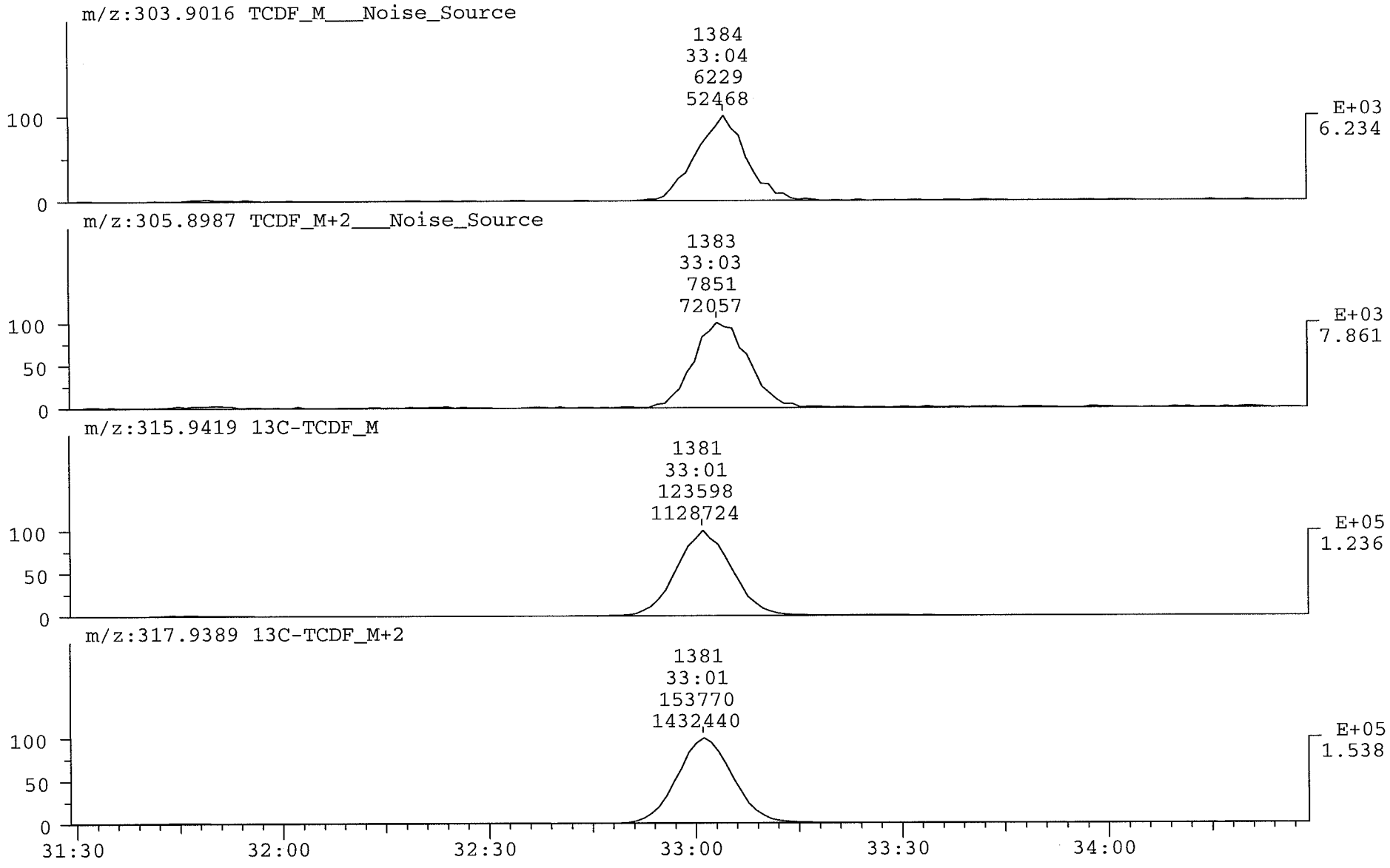
CHRO: b060505s1 05-May-06 Elapse: 34:55 1486
Samp: Vial 3 WO=3123:75 Meth=X8 Dil=1 Start : 07:38:15 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 3
Peak: 100.00 ppm Label wndw: 1414 > 1558 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



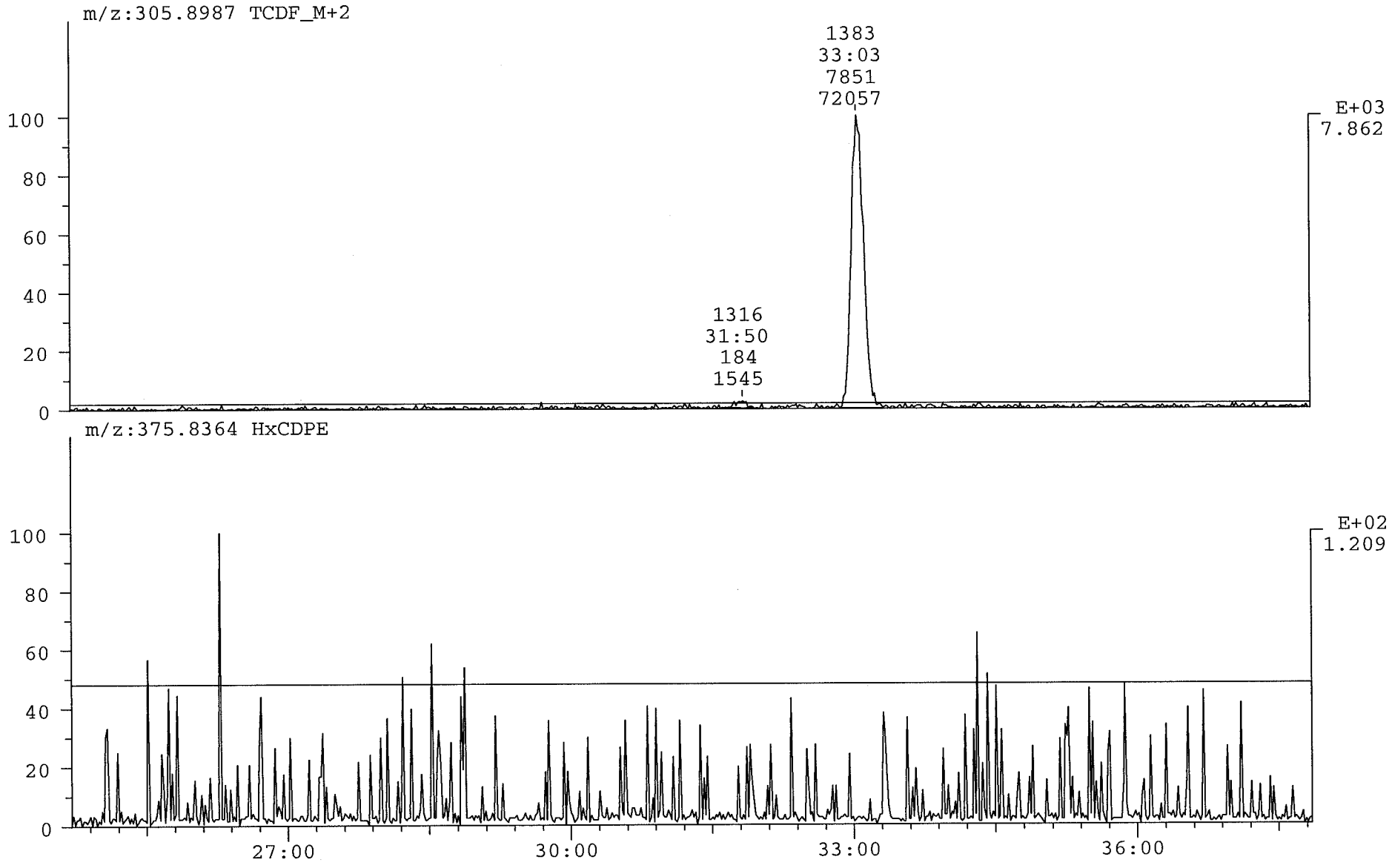
CHRO: b060505s1 05-May-06 Elapse: 35:12 1502
Samp: Vial 3 WO=3123:75 Meth=X8 Dil=1 Start : 07:38:15 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 3
Peak: 100.00 ppm Label wndw: 1432 > 1578 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



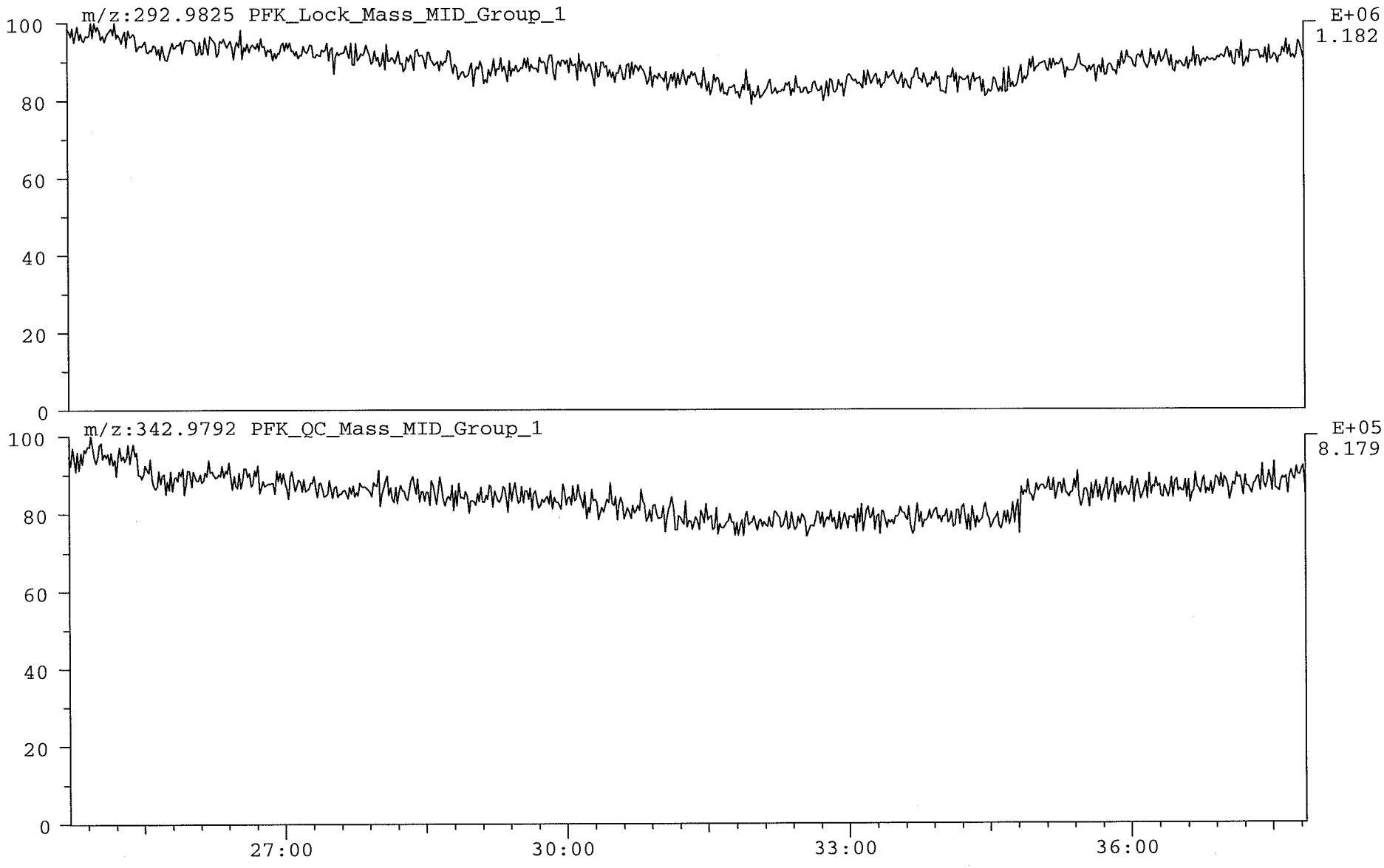
CHRO: b060505s1 05-May-06 Elapse: 32:55 1376
Samp: Vial 3 WO=3123:75 Meth=X8 Dil=1 Start : 07:38:15 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 3
Peak: 100.00 ppm Label wndw: 1296 > 1462 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



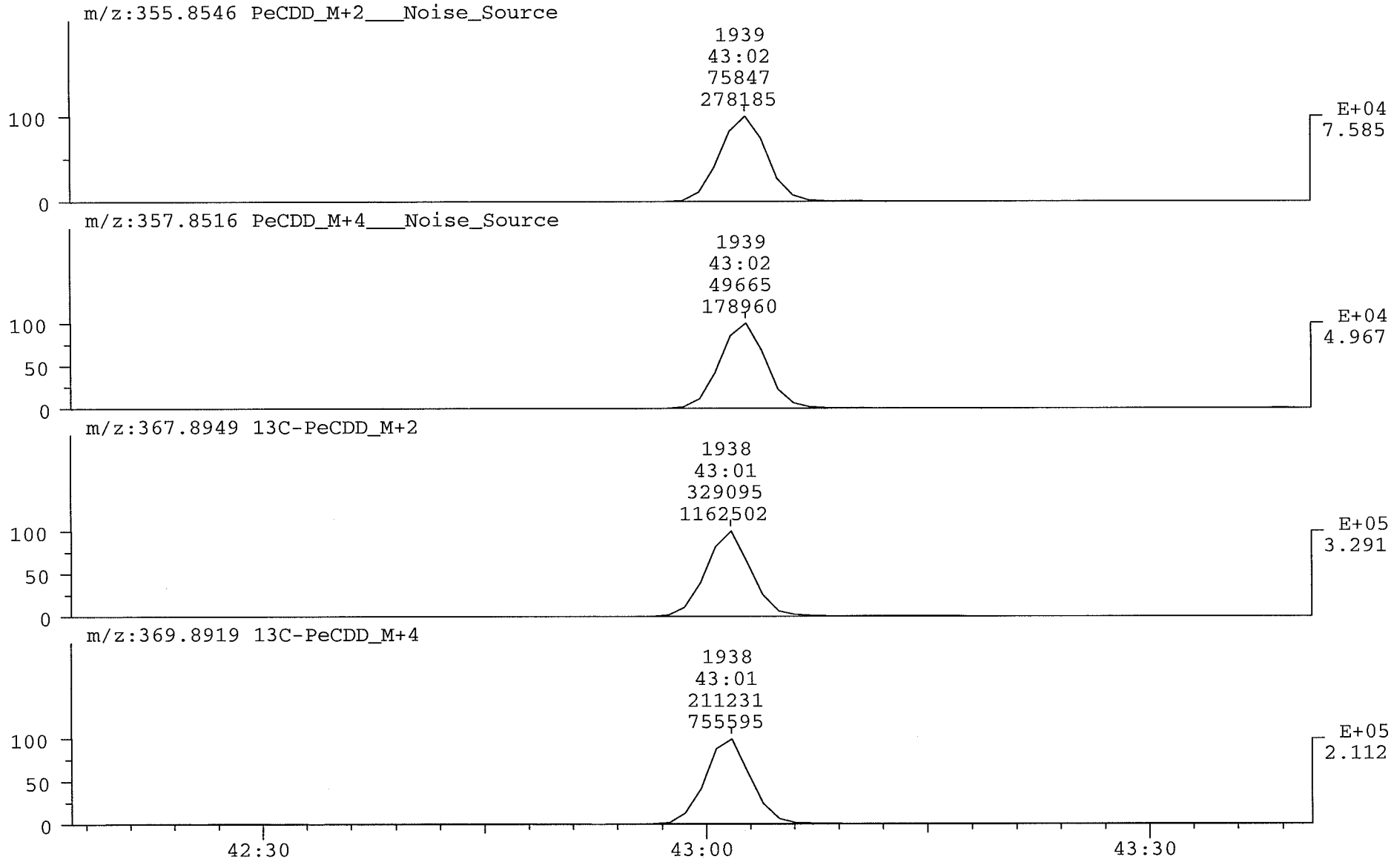
CHRO: b060505s1 05-May-06 Elapse: 32:55 1376
Samp: Vial 3 WO=3123:75 Meth=X8 Dil=1 Start : 07:38:15 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 3
Peak: 100.00 ppm Label wndw: 922 > 1648 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



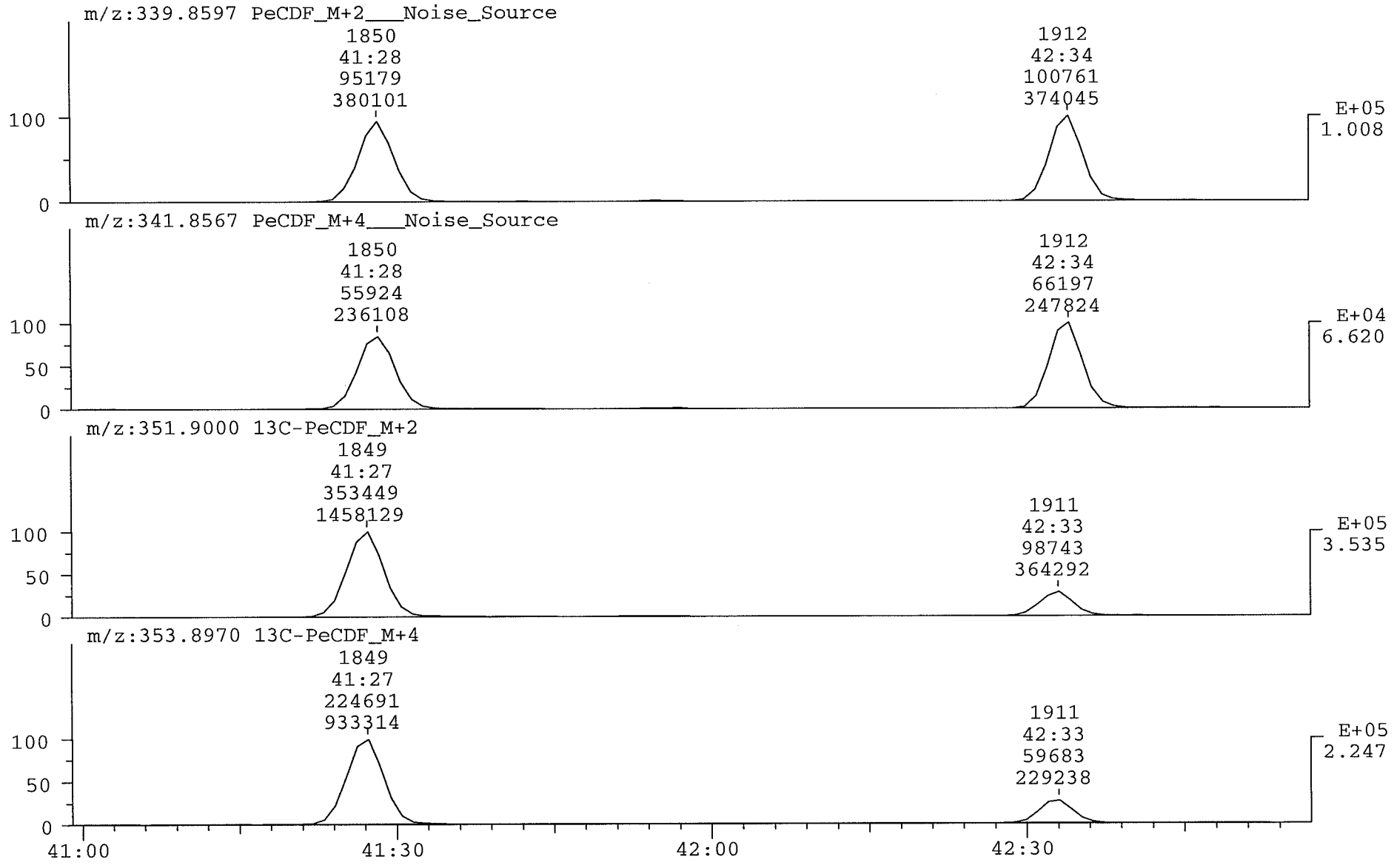
CHRO: b060505s1 05-May-06 Elapse: 32:55 1376
Samp: Vial 3 WO=3123:75 Meth=X8 Dil=1 Start : 07:38:15 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 3
Peak: 100.00 ppm Label wndw: 922 > 1648 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



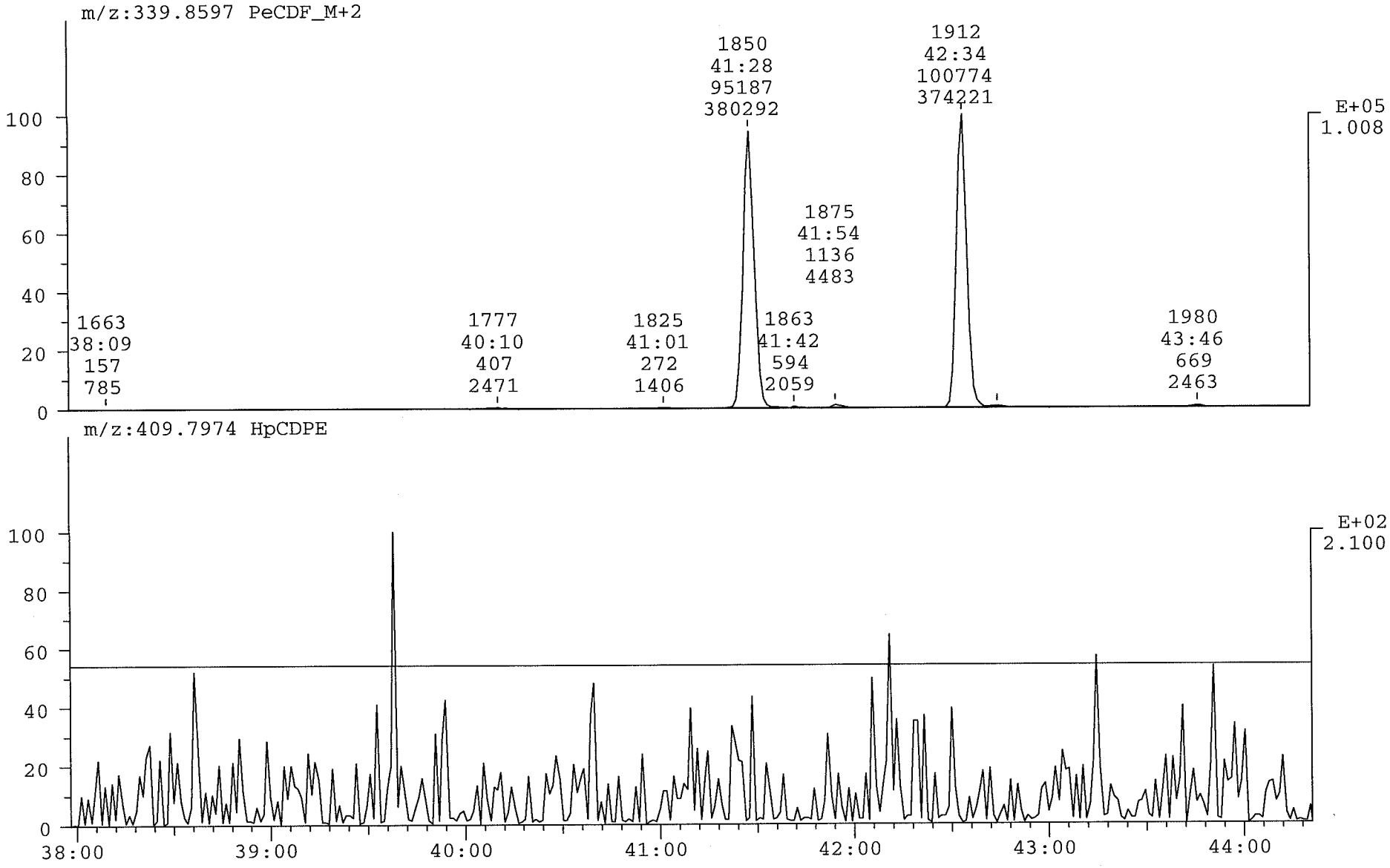
```
CHRO:  b060505s1                          05-May-06   Elapse:  42:56      1933
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  07:38:15   2891
Comm:  Inst=m2a/718320 Batch=20060505s1 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  PMP           Client:  STL Knoxville           Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1896 > 1975      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



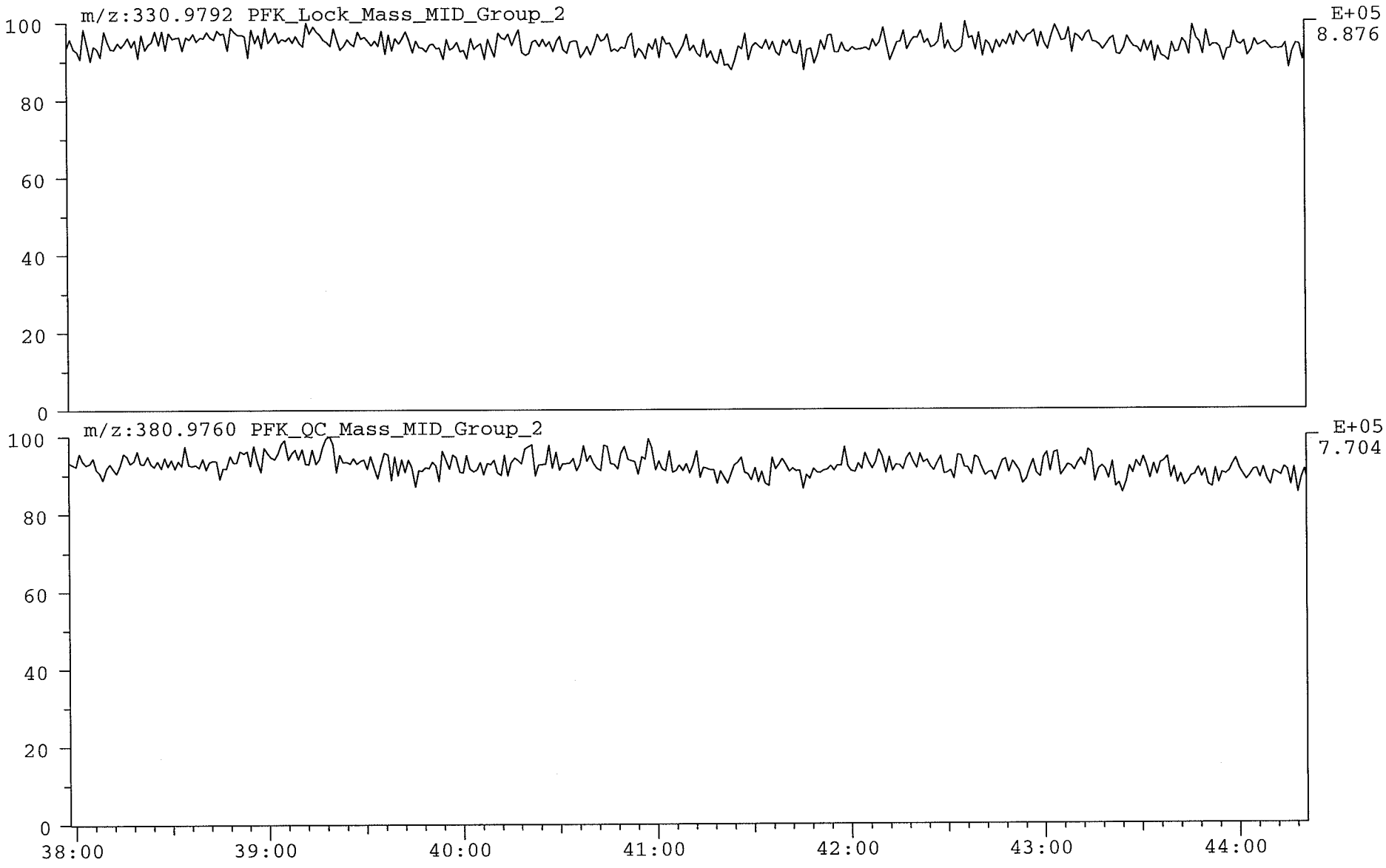
CHRO: b060505s1 05-May-06 Elapse: 41:58 1878
Samp: Vial 3 WO=3123:75 Meth=X8 Dil=1 Start : 07:38:15 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 3
Peak: 100.00 ppm Label wndw: 1822 > 1934 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



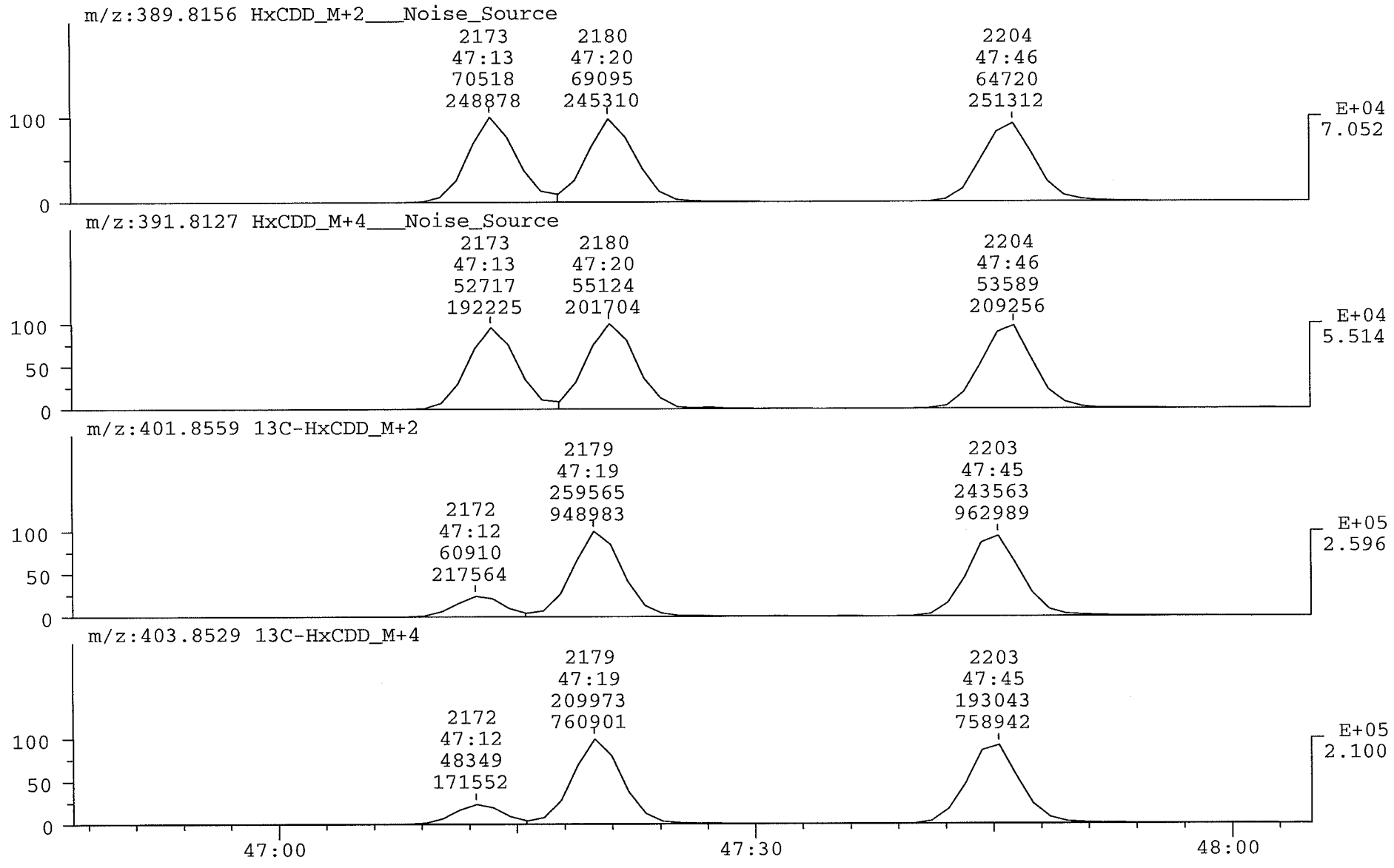
CHRO: b060505s1 05-May-06 Elapse: 41:58 1878
Samp: Vial 3 WO=3123:75 Meth=X8 Dil=1 Start : 07:38:15 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 3
Peak: 100.00 ppm Label wndw: 1652 > 2013 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



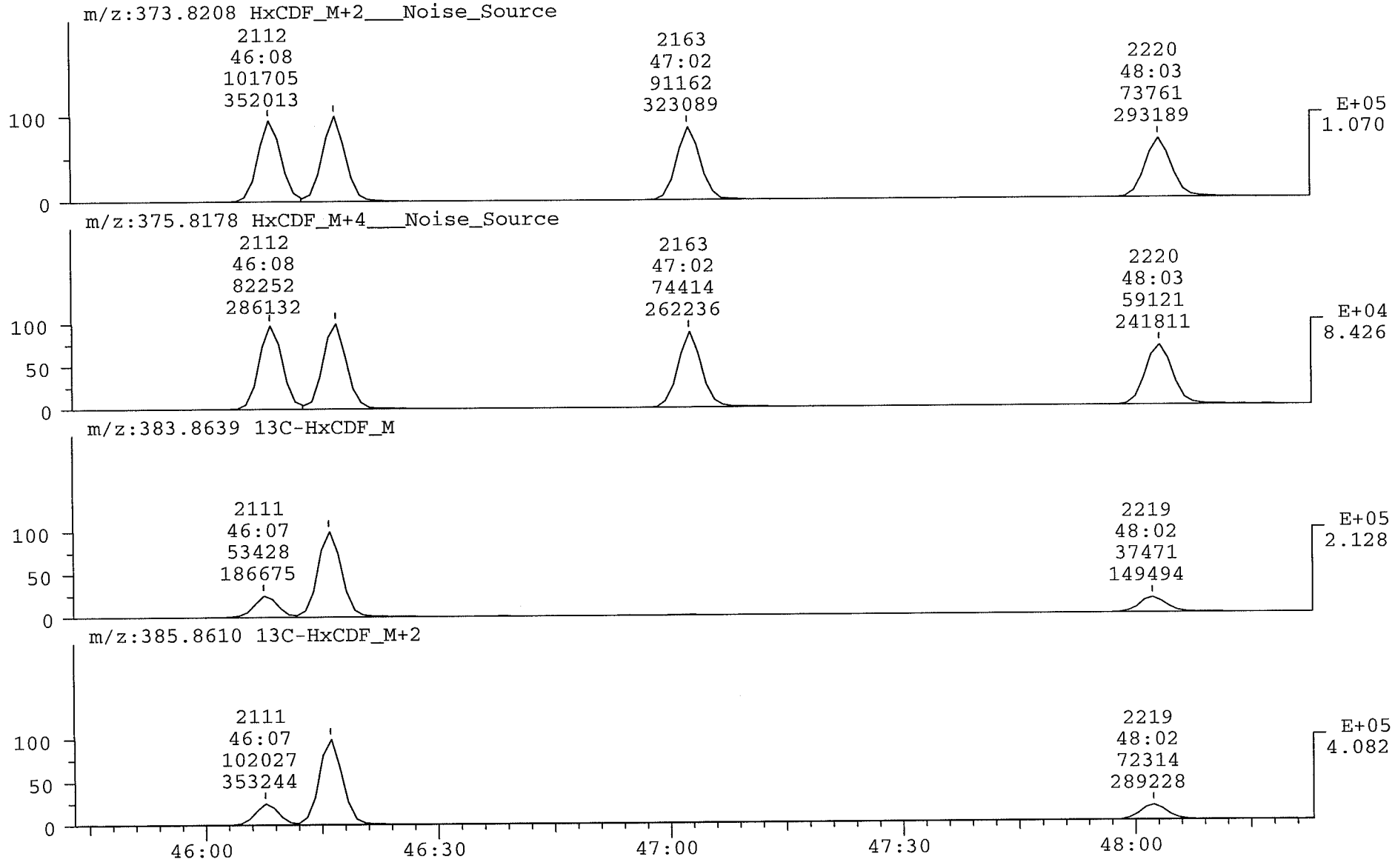
```
CHRO:  b060505s1                                05-May-06  Elapse:  41:58      1878
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                     Start :  07:38:15   2891
Comm:  Inst=m2a/718320 Batch=20060505s1 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  M23 Ver
Oper:  PMP           Client:  STL Knoxville                Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1652 > 2013           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```



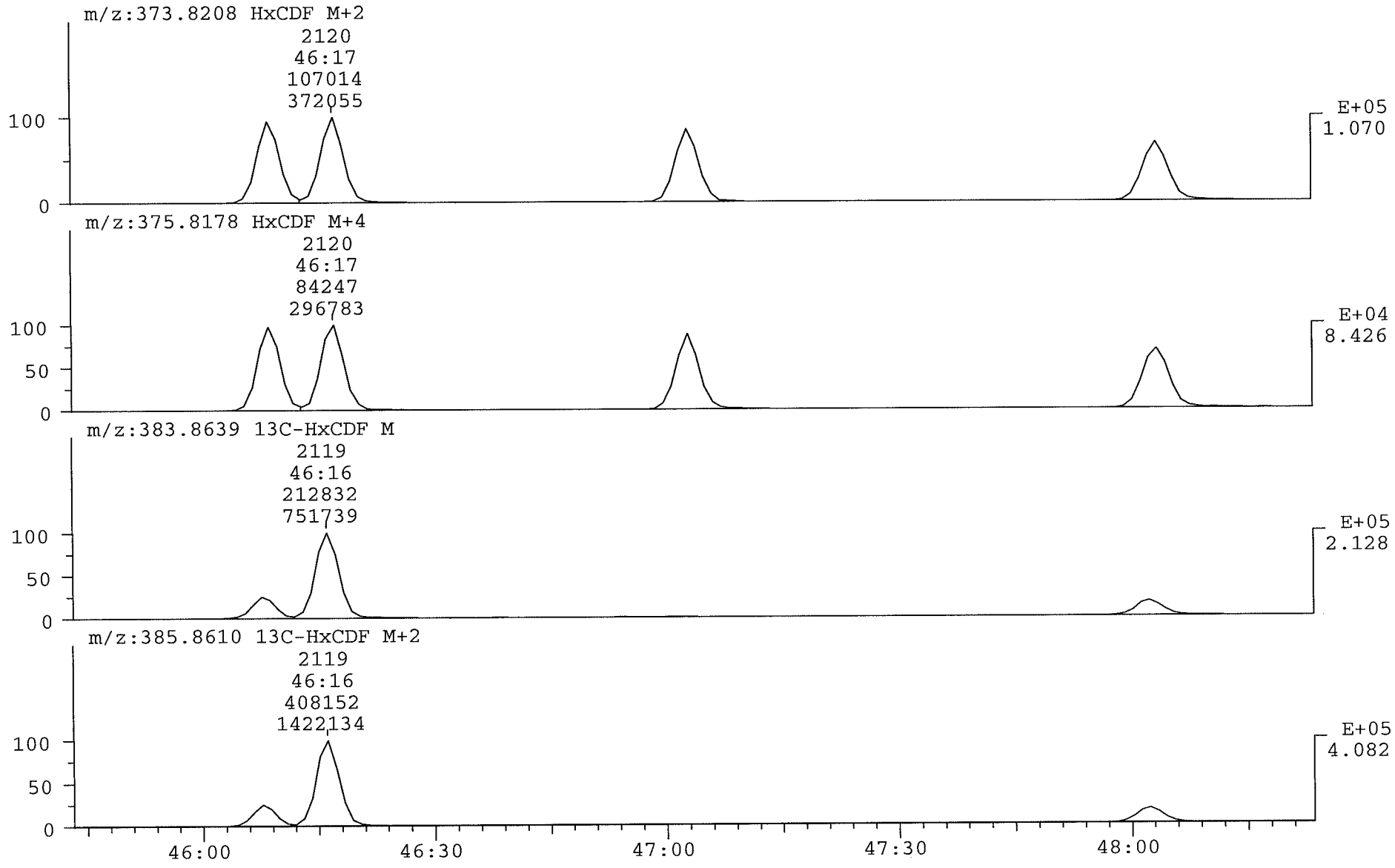
CHRO: b060505s1 05-May-06 Elapse: 47:26 2185
Samp: Vial 3 WO=3123:75 Meth=X8 Dil=1 Start : 07:38:15 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 3
Peak: 100.00 ppm Label wndw: 2148 > 2222 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



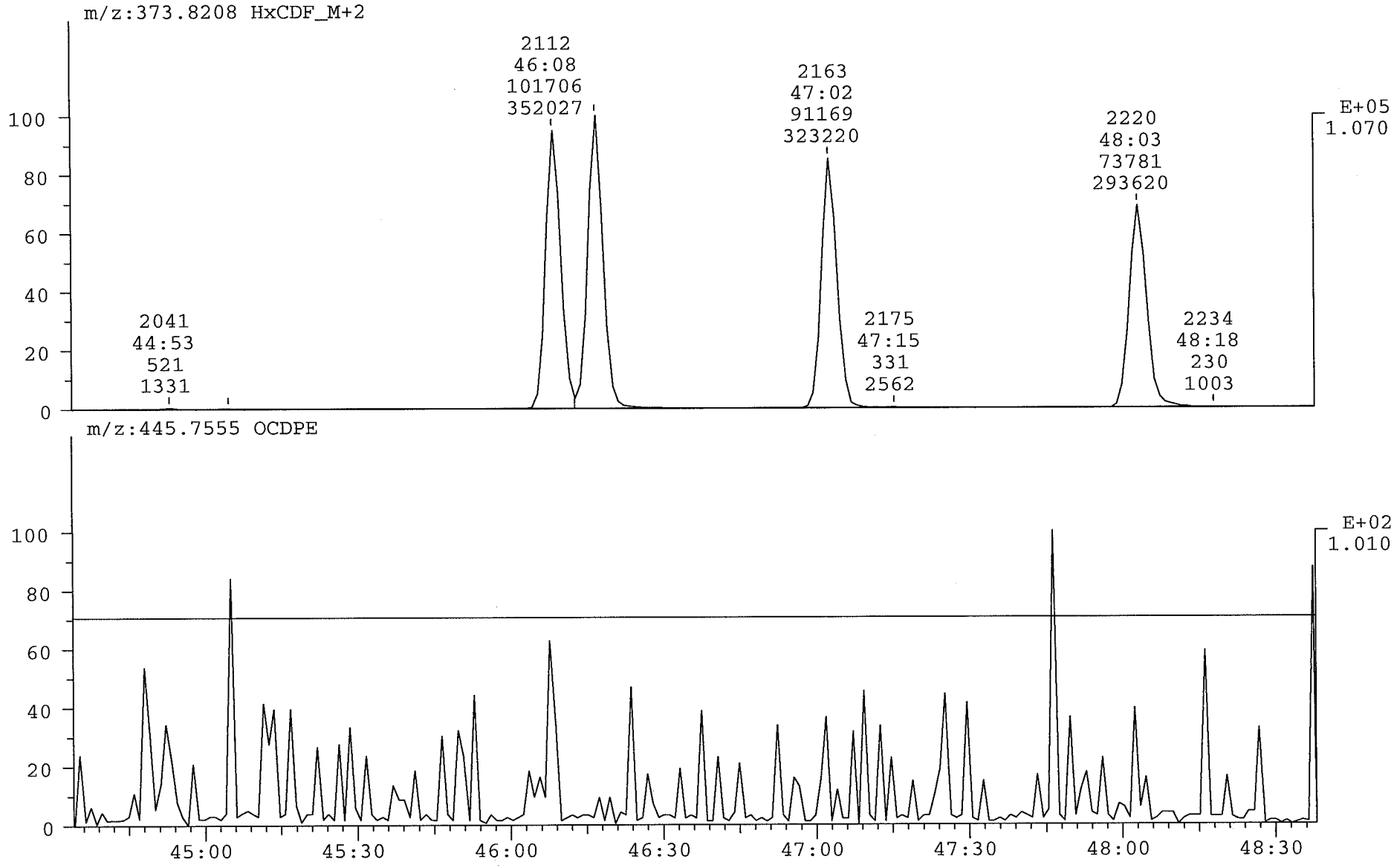
CHRO: b060505s1 05-May-06 Elapse: 47:02 2163
Samp: Vial 3 WO=3123:75 Meth=X8 Dil=1 Start : 07:38:15 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 3
Peak: 100.00 ppm Label wndw: 2088 > 2239 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 2, 3.0
Disp: Height Area



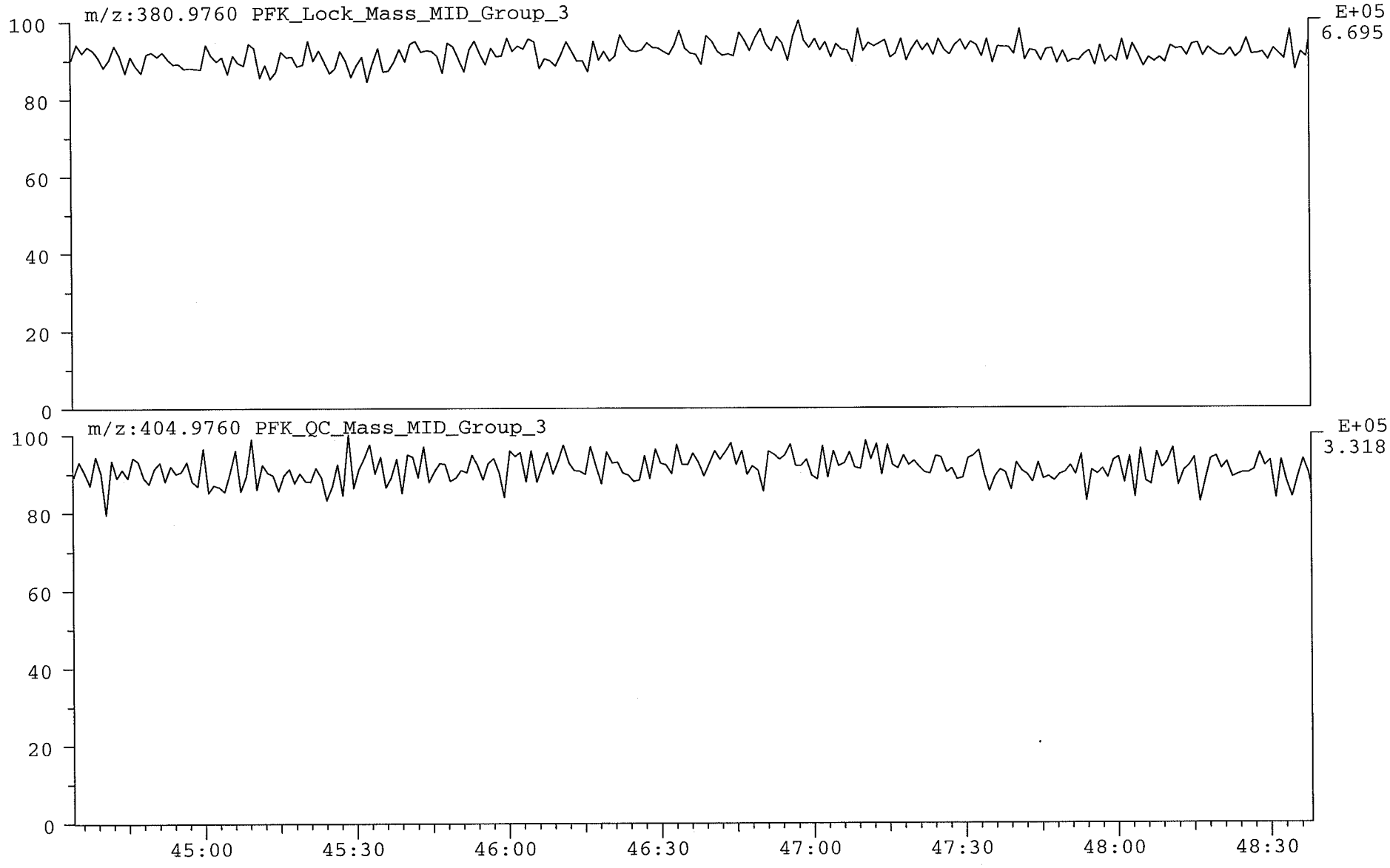
CHRO: b060505s1 05-May-06 Elapse: 46:17 2120
Samp: Vial 3 WO=3123:75 Meth=X8 Dil=1 Start : 07:38:15 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 3
Peak: 100.00 ppm Label wndw: 2117 > 2123 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



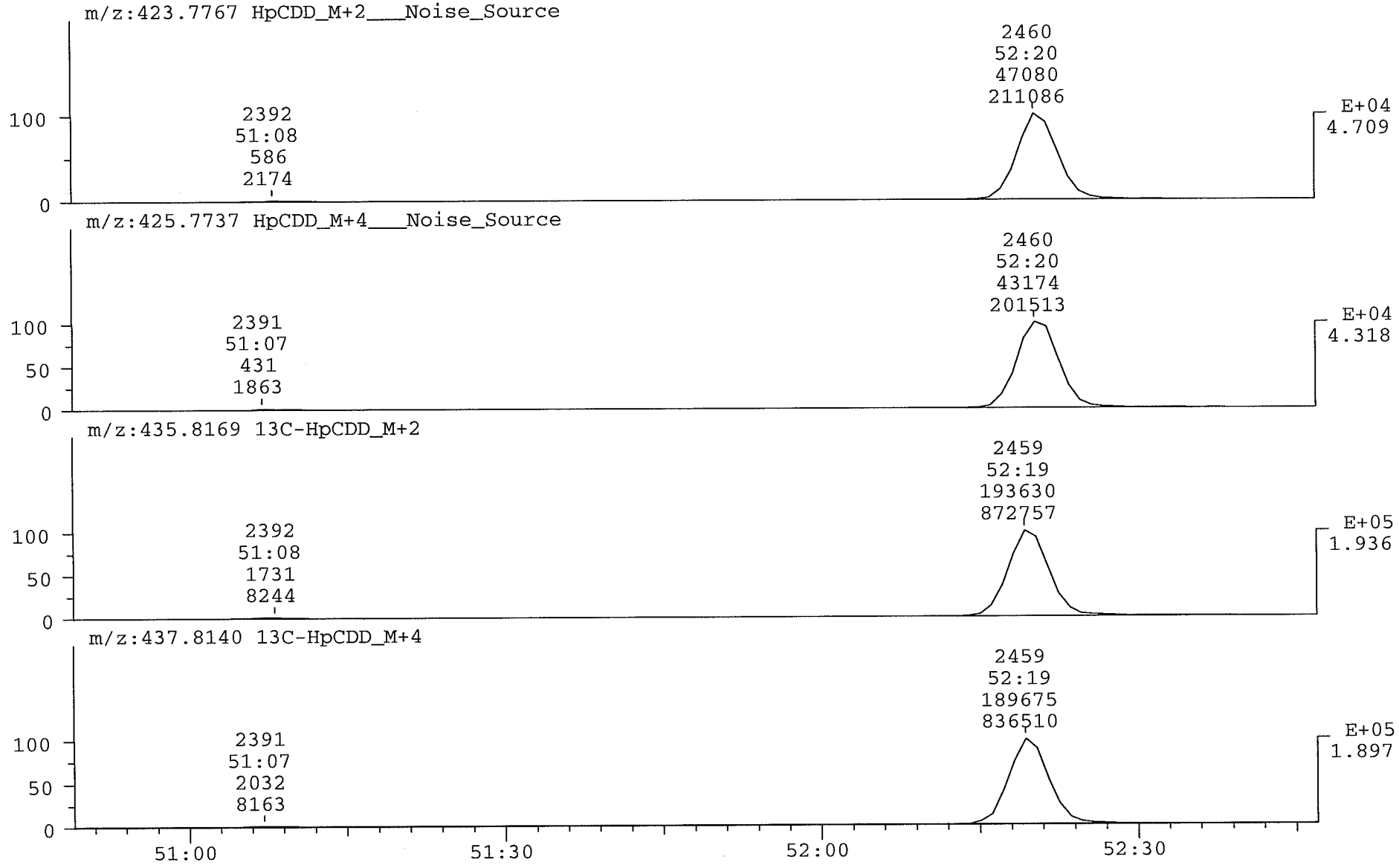
CHRO: b060505s1 05-May-06 Elapse: 46:10 2114
Samp: Vial 3 WO=3123:75 Meth=X8 Dil=1 Start : 07:38:15 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 3
Peak: 100.00 ppm Label wndw: 2023 > 2253 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



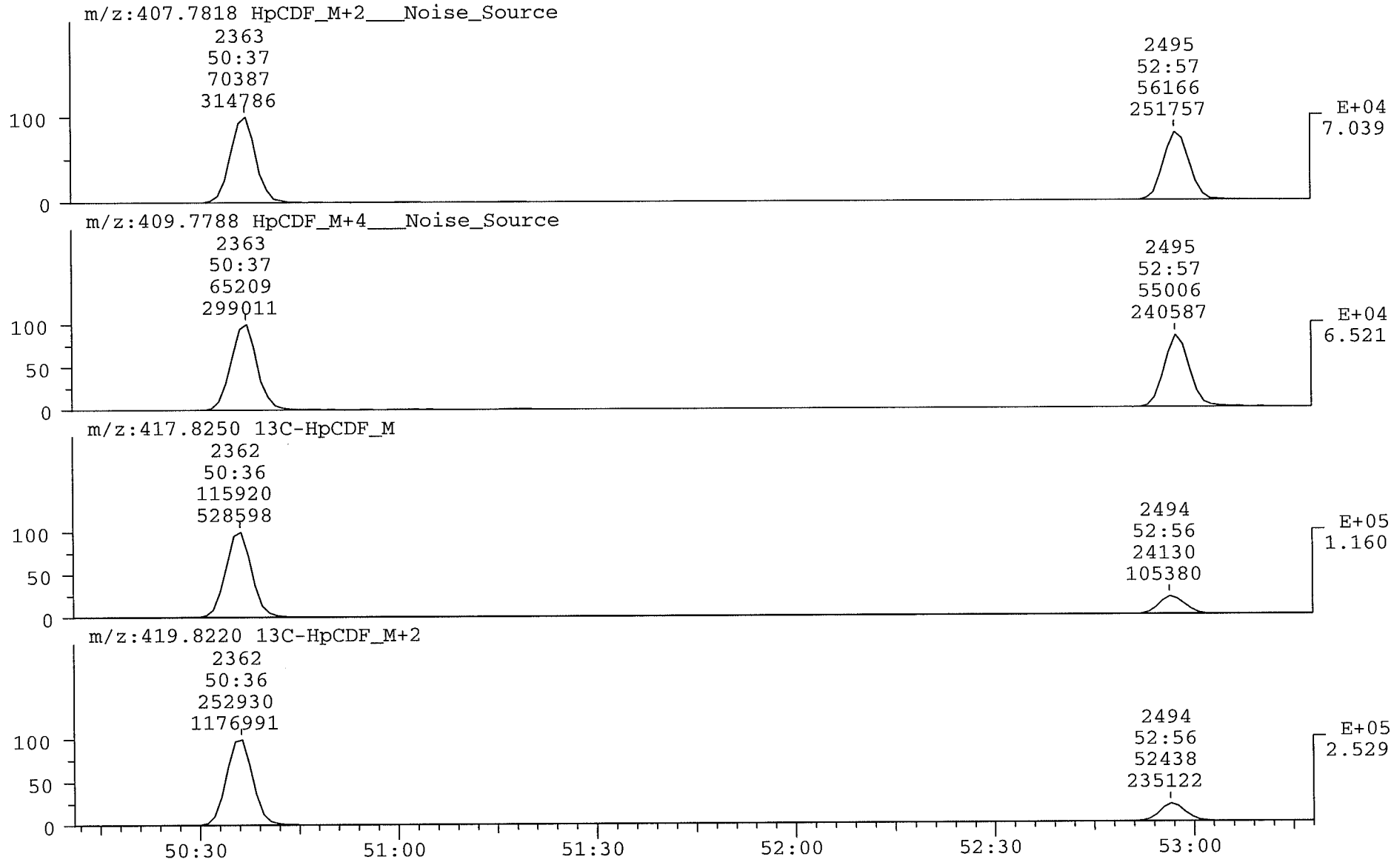
```
CHRO:  b060505s1                                05-May-06  Elapse:  46:10      2114
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                     Start :  07:38:15   2891
Comm:  Inst=m2a/718320 Batch=20060505s1 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  M23 Ver
Oper:  PMP            Client:  STL Knoxville               Inlet :  GC     Vial   3
Peak:  100.00  ppm      Label wndw:   2023 > 2253          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
```



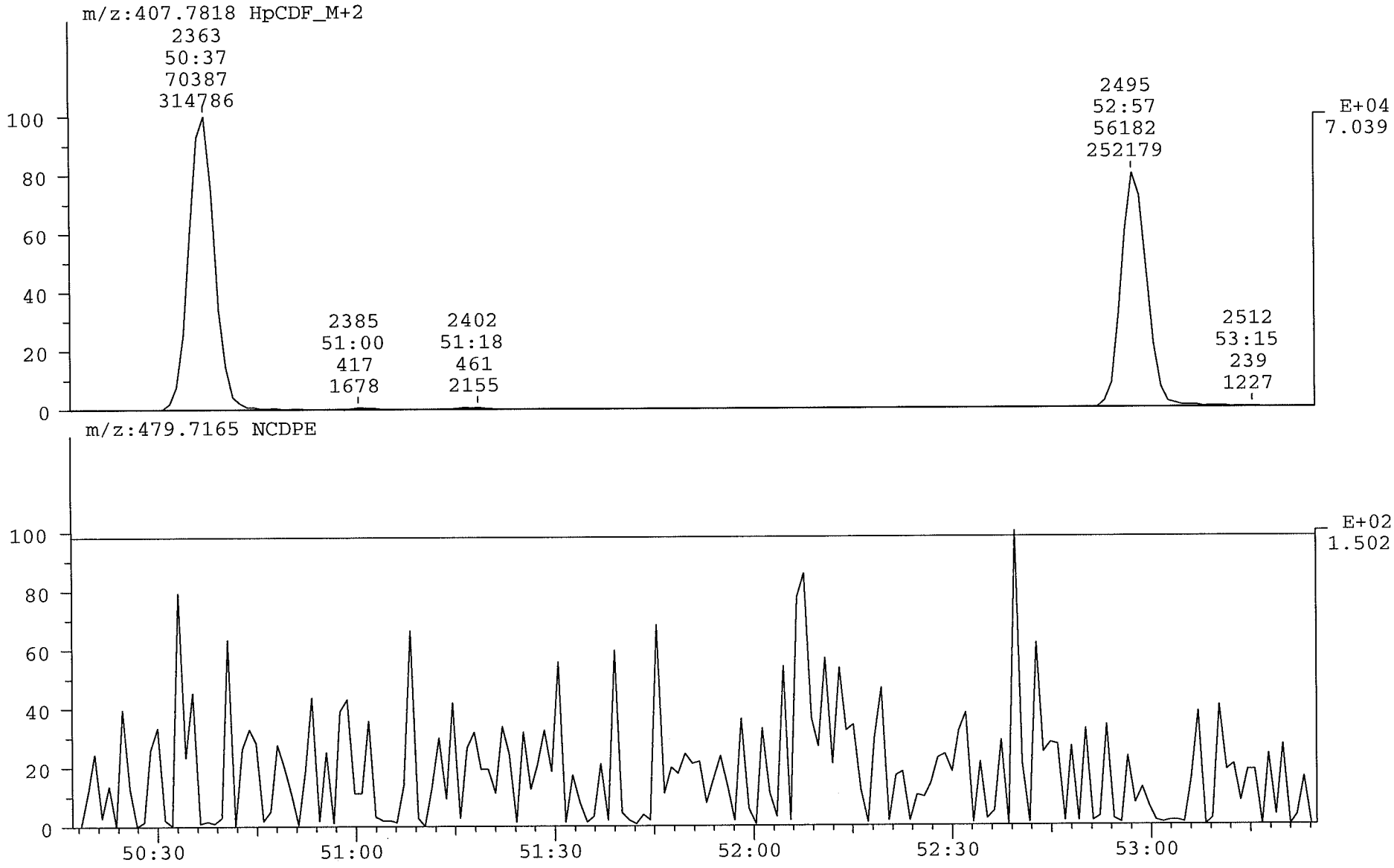
CHRO: b060505s1 05-May-06 Elapse: 46:10 2114
Samp: Vial 3 WO=3123:75 Meth=X8 Dil=1 Start : 07:38:15 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 3
Peak: 100.00 ppm Label wndw: 2374 > 2485 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



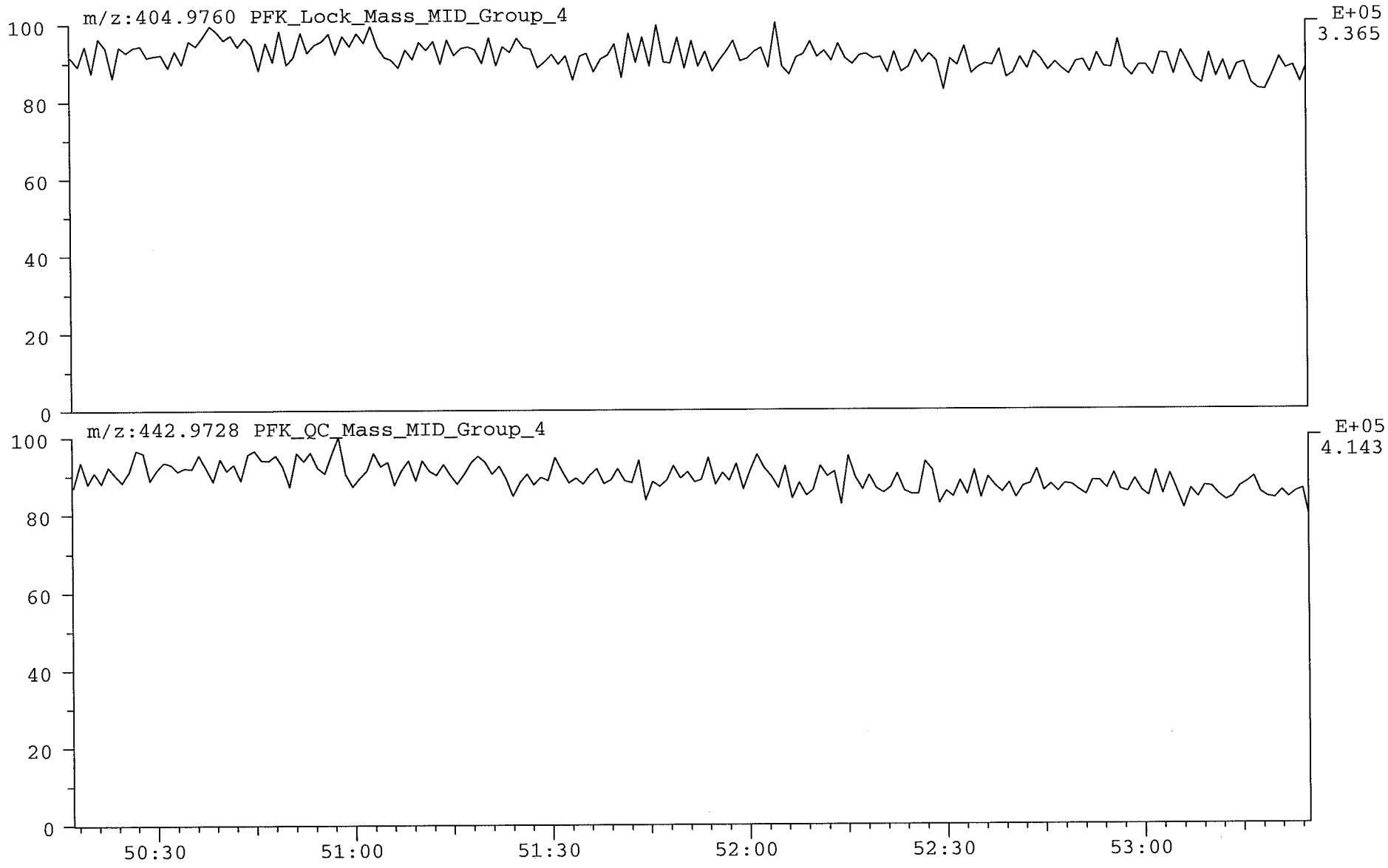
CHRO: b060505s1 05-May-06 Elapse: 51:44 2426
Samp: Vial 3 WO=3123:75 Meth=X8 Dil=1 Start : 07:38:15 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 3
Peak: 100.00 ppm Label wndw: 2338 > 2514 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



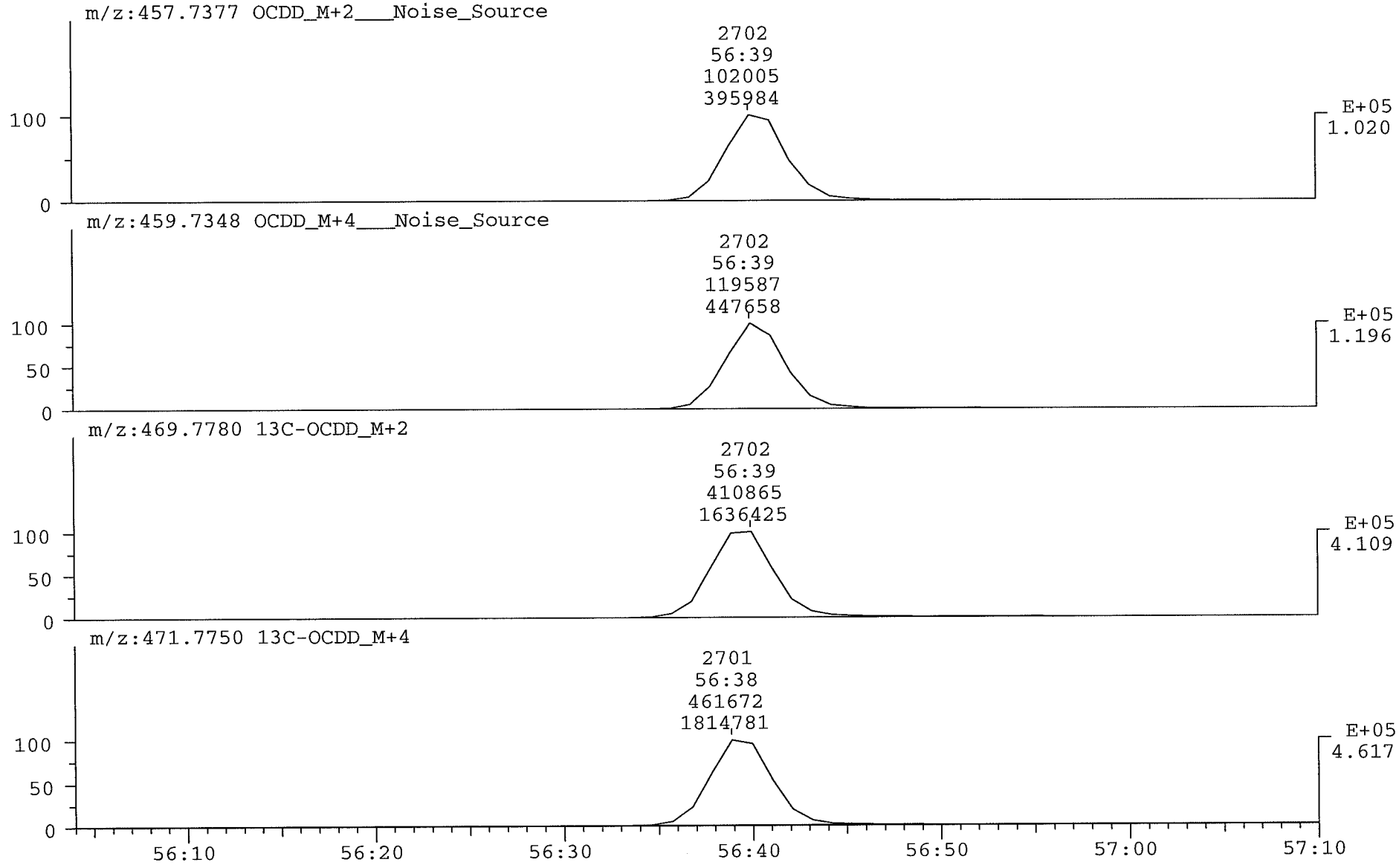
CHRO: b060505s1 05-May-06 Elapse: 51:44 2426
Samp: Vial 3 WO=3123:75 Meth=X8 Dil=1 Start : 07:38:15 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 3
Peak: 100.00 ppm Label wndw: 2344 > 2521 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



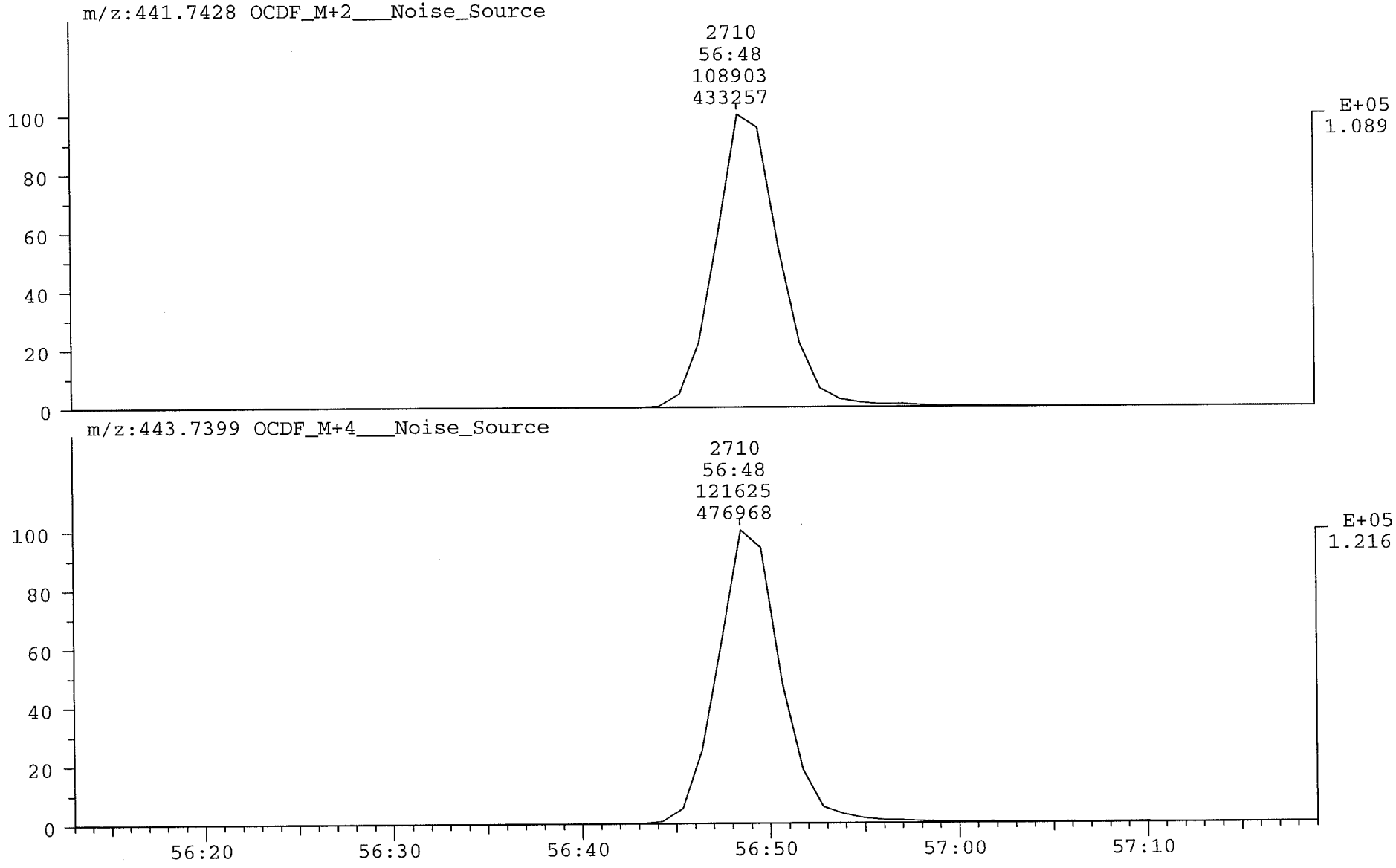
CHRO: b060505s1 05-May-06 Elapse: 51:44 2426
Samp: Vial 3 WO=3123:75 Meth=X8 Dil=1 Start : 07:38:15 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 3
Peak: 100.00 ppm Label wndw: 2344 > 2521 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



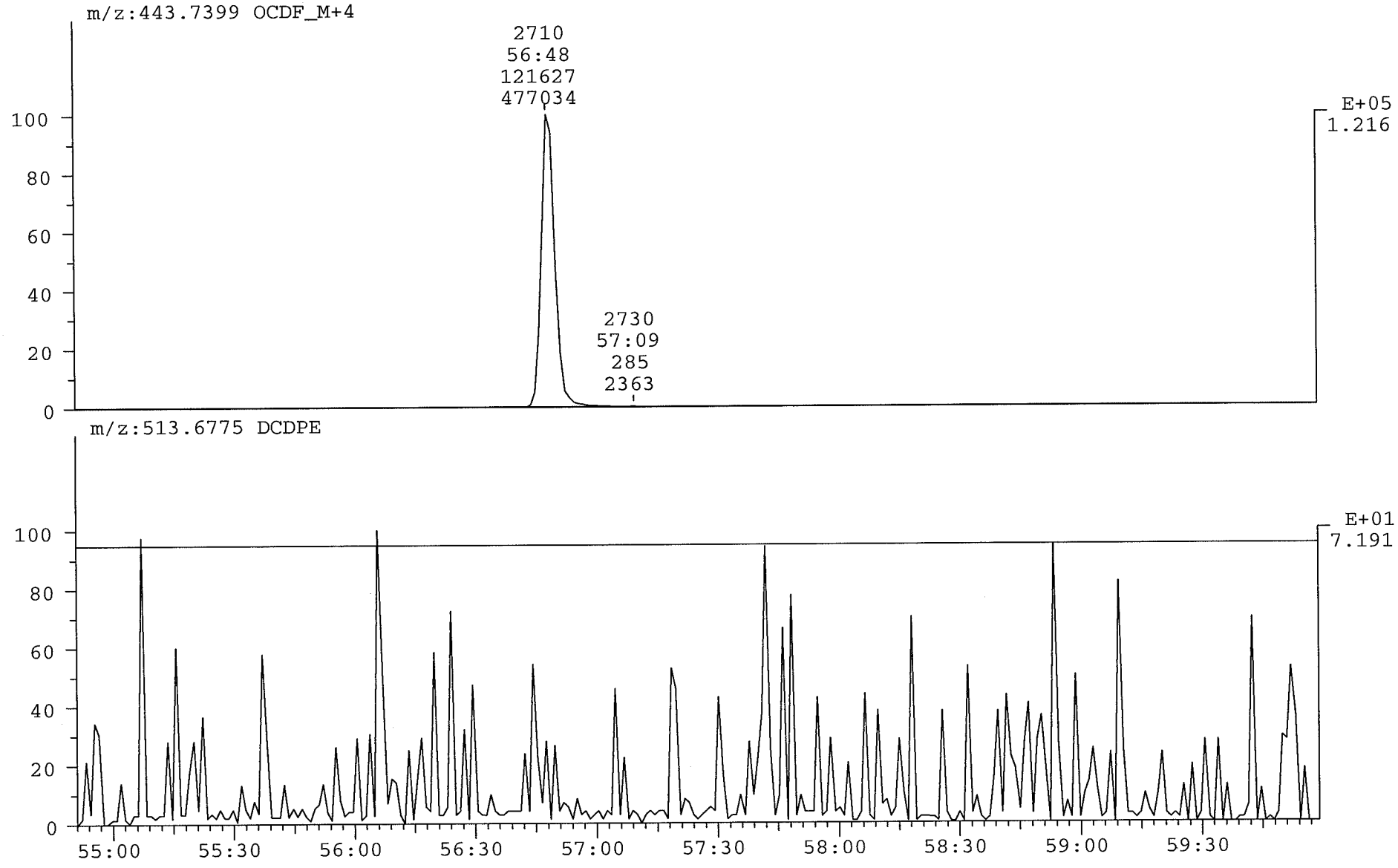
CHRO: b060505s1 05-May-06 Elapse: 56:33 2696
Samp: Vial 3 WO=3123:75 Meth=X8 Dil=1 Start : 07:38:15 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 3
Peak: 100.00 ppm Label wndw: 2668 > 2730 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



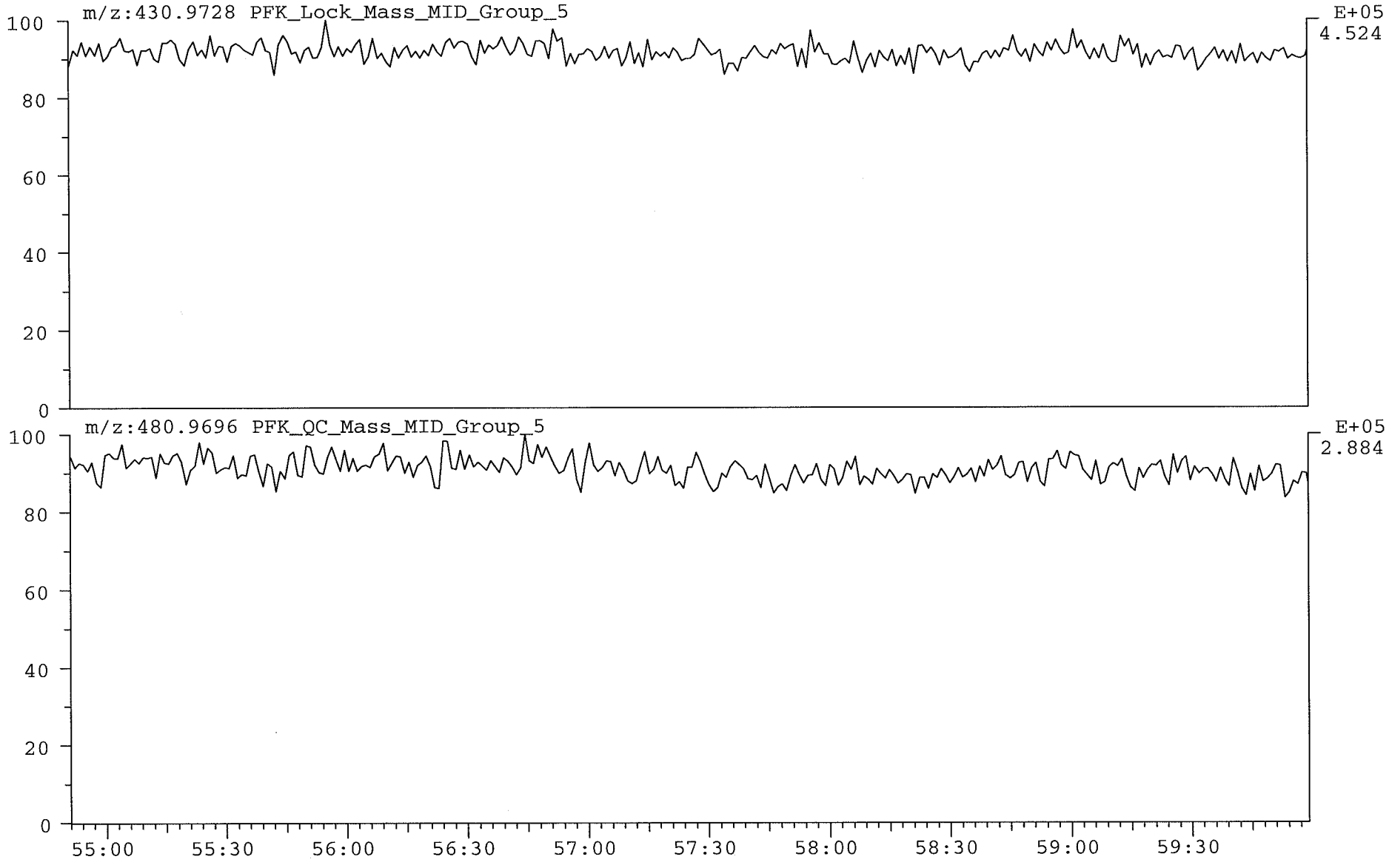
```
CHRO:  b060505s1                                05-May-06  Elapse:  56:43      2705
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                     Start :  07:38:15   2891
Comm:  Inst=m2a/718320 Batch=20060505s1 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  M23 Ver
Oper:  PMP           Client:  STL Knoxville                Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2677 > 2739           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: b060505s1 05-May-06 Elapse: 56:43 2705
Samp: Vial 3 WO=3123:75 Meth=X8 Dil=1 Start : 07:38:15 2891
Comm: Inst=m2a/718320 Batch=20060505s1 Ccal=B060504S2
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 Ver
Oper: PMP Client: STL Knoxville Inlet : GC Vial 3
Peak: 100.00 ppm Label wndw: 2600 > 2889 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  b060505s1                          05-May-06  Elapse:  56:43      2705
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1               Start :  07:38:15   2891
Comm:  Inst=m2a/718320 Batch=20060505s1 Ccal=B060504S2
Mode:  EI +VE +LMR  ESCAN LR NRM                     Study :  M23 Ver
Oper:  PMP          Client:  STL Knoxville           Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2600 > 2889     Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3          Label :  0, 0.0
Disp:  Height  Area
```



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: b060505s1
Study: M23 Ver
Sample: WO=3123:75 Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: PMP
Client: STL Knoxville
Comments: Inst=m2a/718320 Batch=20060505s1 Ccal=B060504S2
Injected volume: 2.0
Sample from Vial 3
Analysis will stop when MID run finishes
Tune file name: tune2
File 6 of list 060504
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	TRUE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	140 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	29:52 min	37:52 min	1.00 sec
# 2	37:52 min	6:32 min	44:25 min	1.00 sec
# 3	44:25 min	5:05 min	49:30 min	1.00 sec
# 4	49:30 min	5:15 min	54:45 min	1.00 sec
# 5	54:45 min	5:15 min	60:00 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

```
  351.9000       1   1      91.48
  353.8970       1   1      91.48
  355.8546       1   1      91.48
  357.8516       1   1      91.48
  367.8949       1   1      91.48
  369.8919       1   1      91.48
  380.9760 c    10   1       8.19
  409.7974       1   1      91.48
 Window # 3
      mass F  int  gr  time (ms)
  373.8208       1   1      91.48
  375.8178       1   1      91.48
  380.9760 l    10   1       8.19
  383.8639       1   1      91.48
  385.8610       1   1      91.48
  389.8156       1   1      91.48
  391.8127       1   1      91.48
  401.8559       1   1      91.48
  403.8529       1   1      91.48
  404.9760 c    10   1       8.19
  445.7555       1   1      91.48
 Window # 4
      mass F  int  gr  time (ms)
  404.9760 l    10   1       8.19
  407.7818       1   1      91.48
  409.7788       1   1      91.48
  417.8250       1   1      91.48
  419.8220       1   1      91.48
  423.7767       1   1      91.48
  425.7737       1   1      91.48
  435.8169       1   1      91.48
  437.8140       1   1      91.48
  442.9728 c    10   1       8.19
  479.7165       1   1      91.48
 Window # 5
      mass F  int  gr  time (ms)
  430.9728 l    10   1      10.92
  441.7428       1   1     120.15
  443.7399       1   1     120.15
  457.7377       1   1     120.15
  459.7348       1   1     120.15
  469.7780       1   1     120.15
  471.7750       1   1     120.15
  480.9696 c    10   1      10.92
  513.6775       1   1     120.15

Auto Sampler descriptor: pcdd2ul
 Injector A
 Normal Injection
 Slvnt A cln before inj(K):      3 times
 Slvnt B cln before inj(L):      0 times
 Sample rinse cycles   (R):      0 times
 Syringe filling volume(F):    1.0 ul
 Pullup delay time     (D):      4 sec
 Sample pullup speed   (E):    5.0 ul/sec
 Slvnt aftr pre inj cln(U):    0.0 ul
 Air after pre inj cln (G):    2.0 ul
 Sample volume         (V):    2.0 ul
 Sample air volume     (A):    2.0 ul
 Sample pullup count   (P):      2 times
 Injection speed       (S):   10.0 ul/sec
 Injection wait time   (W):     10 sec
 Injection hold time   (H):      3 sec
 Solvent A clean cycles(C):     15 times
 Solvent B clean cycles(B):     20 times
 Loop clean w slvnt A (LC):      0 times
```

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8420.0000
BDEV	8291.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.7814	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9990
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-705.0000	ELEN	61.7750
EMULT	1.8000	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	188.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	540.0000	FVINLET	648.0000
FVSRC	997.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.7255	HVANAL	1569.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4757.0160	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	292.9825
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	224.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10314.7005	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.7400	TCURR	0.8984	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 05-May-06 07:38:15.3

Autosampler has injected sample from vial 3
Analysis stopped at: 05-May-06 08:38:17.8 (run time 60.03 minutes)
Analysis stopped because MID run finished

STL - Knoxville IsoCalc Continuing Calibration Report

PCDD/PCDF by EPA Method 0023/8290

CCAL ID: 17102 - B060505S2
ICAL Date: 11/08/04
CCAL Filename: b060505s2
Method: X8 - 0023/8290
CCAL Sample ID: 3123:75
Instrument: M2A
CCAL Result Dir: /20060505s2/b060505s2.d
Column SN: 718320
CCAL Date/Time: 05/05/06 17:59
Column Desc: Rtx-5 60m x 0.32mm ID x 0.25um

Analytes	m/z's Forming Ratio	Ion Abund Ratio	QC Limits	Calc Conc (ng/mL)	ICAL RF	CCAL RF	%D	QC Limit	Valid?
2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	4.8	1.060	1.011	-4.7	20.0	True
2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	4.7	1.064	0.992	-6.7	20.0	True
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32-1.78	24.8	0.977	0.969	-0.8	20.0	True
1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.32-1.78	28	0.955	1.061	11.0	20.0	True
2,3,4,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	27	1.018	1.082	6.3	20.0	True
1,2,3,4,7,8-HxCDD	M+2/M+4	1.22	1.05-1.43	26	1.047	1.070	2.2	20.0	True
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	24.9	1.055	1.050	-0.5	20.0	True
1,2,3,7,8,9-HxCDD	M+2/M+4	1.21	1.05-1.43	24.6	1.146	1.126	-1.7	20.0	True
1,2,3,4,7,8-HxCDF	M+2/M+4	1.27	1.05-1.43	27	1.101	1.199	9.0	20.0	True
1,2,3,6,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	26	1.184	1.246	5.2	20.0	True
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	27	1.052	1.147	9.0	20.0	True
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05-1.43	26	0.982	1.040	5.9	20.0	True
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.01	0.88-1.20	24.8	1.018	1.008	-1.0	20.0	True
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.05	0.88-1.20	27	1.403	1.521	8.4	20.0	True
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.07	0.88-1.20	27	1.197	1.274	6.4	20.0	True
OCDD	M+2/M+4	0.89	0.76-1.02	54	0.965	1.036	7.4	20.0	True
OCDF	M+2/M+4	0.90	0.76-1.02	52	1.103	1.156	4.8	20.0	True
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	101	1.068	1.075	0.7	30.0	True
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	97	1.413	1.372	-2.9	30.0	True
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32-1.78	109	0.882	0.964	9.3	30.0	True
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	102	1.188	1.212	2.1	30.0	True
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	101	0.943	0.955	1.3	30.0	True
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	96	1.272	1.216	-4.4	30.0	True
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	104	0.918	0.952	3.7	30.0	True
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37-0.51	101	0.916	0.925	0.9	30.0	True
13C-OCDD	M+2/M+4	0.89	0.76-1.02	211	0.850	0.896	5.4	30.0	True
37Cl4-2,3,7,8-TCDD			-	4.7	1.046	0.993	-5.1	30.0	
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	24.8	1.010	1.003	-0.7	30.0	True
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	26	0.902	0.954	5.7	30.0	True
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43-0.59	26	0.988	1.028	4.0	30.0	True
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	23.4	1.113	1.042	-6.3	30.0	True
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37-0.51	24.5	0.912	0.893	-2.1	30.0	True

PMP 5-5-06
BKW 5/8/06

STL - Knoxville IsoCalc Continuing Calibration Report

PCDD/PCDF by EPA Method 0023/8290

CCAL ID: 17102 - B060505S2
ICAL Date: 11/08/04
CCAL Filename: b060505s2
Method: X8 - 0023/8290
CCAL Sample ID: 3123:75
Instrument: M2A
CCAL Result Dir: /20060505s2/b060505s2.d
Column SN: 718320
CCAL Date/Time: 05/05/06 17:59
Column Desc: Rtx-5 60m x 0.32mm ID x 0.25um

Analytes	ICAL RT	CCAL RT	RT Diff	ICAL RRT	CCAL RRT	RRT QC Limit	Valid?
2,3,7,8-TCDD	35:52	35:16	-36	1.001	1.000	-	
2,3,7,8-TCDF	33:43	33:04	-39	1.001	1.002	-	
1,2,3,7,8-PeCDD	43:18	42:59	-19	1.000	1.001	-	
1,2,3,7,8-PeCDF	41:47	41:25	-22	1.000	1.000	-	
2,3,4,7,8-PeCDF	42:51	42:30	-21	1.026	1.027	-	
1,2,3,4,7,8-HxCDD	47:30	47:10	-20	0.998	0.998	-	
1,2,3,6,7,8-HxCDD	47:37	47:17	-20	1.000	1.000	-	
1,2,3,7,8,9-HxCDD	48:03	47:42	-21	1.010	1.009	-	
1,2,3,4,7,8-HxCDF	46:25	46:05	-20	0.997	0.997	-	
1,2,3,6,7,8-HxCDF	46:33	46:13	-20	1.000	1.000	-	
2,3,4,6,7,8-HxCDF	47:20	46:59	-21	1.017	1.017	-	
1,2,3,7,8,9-HxCDF	48:22	47:59	-23	1.039	1.039	-	
1,2,3,4,6,7,8-HpCDD	52:40	52:17	-23	1.000	1.000	-	
1,2,3,4,6,7,8-HpCDF	50:58	50:33	-25	1.000	1.000	-	
1,2,3,4,7,8,9-HpCDF	53:18	52:55	-23	1.046	1.047	-	
OCDD	56:58	56:37	-21	1.000	1.000	-	
OCDF	57:06	56:45	-21	1.003	1.003	-	
13C-2,3,7,8-TCDD	35:50	35:15	-35	1.016	1.017	-	
13C-2,3,7,8-TCDF	33:40	33:01	-39	0.955	0.952	-	
13C-1,2,3,7,8-PeCDD	43:17	42:57	-20	1.228	1.239	-	
13C-1,2,3,7,8-PeCDF	41:46	41:24	-22	1.185	1.194	-	
13C-1,2,3,6,7,8-HxCDD	47:36	47:16	-20	0.991	0.991	-	
13C-1,2,3,6,7,8-HxCDF	46:32	46:12	-20	0.969	0.969	-	
13C-1,2,3,4,6,7,8-HpCDD	52:39	52:16	-23	1.096	1.096	-	
13C-1,2,3,4,6,7,8-HpCDF	50:57	50:32	-25	1.061	1.060	-	
13C-OCDD	56:57	56:36	-21	1.186	1.187	-	
37Cl4-2,3,7,8-TCDD	35:52	35:16	-36	1.001	1.000	-	
13C-2,3,4,7,8-PeCDF	42:50	42:28	-22	1.026	1.026	-	
13C-1,2,3,4,7,8-HxCDD	47:30	47:08	-22	0.998	0.997	-	
13C-1,2,3,4,7,8-HxCDF	46:24	46:04	-20	0.997	0.997	-	
13C-1,2,3,7,8,9-HxCDF	48:20	47:58	-22	1.006	1.006	-	
13C-1,2,3,4,7,8,9-HpCDF	53:16	52:53	-23	1.046	1.047	-	

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IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	3123:75	**Prep Batch**		**Lot No**	
Data File	/20060505s2/b060505s2.d	**Prep Date**		**SDG No**	
Analysis ID	90547	**Prep Exp Date**		**Date Received**	
Analysis Date	5/5/2006	**Matrix**	UNKNOWN	**Date Sampled**	
Analysis Time	17:59	**Initial Wt/Vol**		**Lims Test Code**	
Anal Exp Date		**Extract Vol**		**Method**	0023/8290
Instrument	M2A	**Dil Factor**	1.0	**Code**	X8
Analyst	BFW				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (ng/mL)		DL (ng/mL)
2,3,7,8-TCDD	35:16	90842	10701	1.060	5.000	4.766945	95.34	4.766945	E	0.127
Total TCDD				1.060		4.766945		4.766945	E	0.127
2,3,7,8-TCDF	33:04	113850	13414	1.064	5.000	4.664390	93.29	4.664390	E	0.0976
Total TCDF				1.064		4.664390		4.664390	E	0.0976
1,2,3,7,8-PeCDD	42:59	390502	106064	0.977	25.00	24.807215	99.23	24.807215	E	0.0598
Total PeCDD				0.977		24.807215		24.807215	E	0.0598
1,2,3,7,8-PeCDF	41:25	537474	133493	0.955	25.00	27.755809	111.02	27.755809	E	0.0598
2,3,4,7,8-PeCDF	42:30	548322	144889	1.018	25.00	26.578049	106.31	26.578049	E	0.0561
Total PeCDF				0.987		54.333858		54.333858	E	0.0579
1,2,3,4,7,8-HxCDD	47:10	406828	110731	1.047	25.00	25.546017	102.18	25.546017	E	0.0706
1,2,3,6,7,8-HxCDD	47:17	399071	110075	1.055	25.00	24.879957	99.52	24.879957	E	0.0701
1,2,3,7,8,9-HxCDD	47:42	428125	106833	1.146	25.00	24.570968	98.28	24.570968	E	0.0645
Total HxCDD				1.083		74.996943		74.996943	E	0.0683
1,2,3,4,7,8-HxCDF	46:05	580226	169428	1.101	25.00	27.238178	108.95	27.238178	E	0.0496
1,2,3,6,7,8-HxCDF	46:13	602589	173612	1.184	25.00	26.297856	105.19	26.297856	E	0.0461
2,3,4,6,7,8-HxCDF	46:59	554825	156305	1.052	25.00	27.245409	108.98	27.245409	E	0.0518
1,2,3,7,8,9-HxCDF	47:59	503131	124368	0.982	25.00	26.479401	105.92	26.479401	E	0.0556
Total HxCDF				1.080		107.260845		107.260845	E	0.0505
1,2,3,4,6,7,8-HpCDD	52:17	381721	89012	1.018	25.00	24.756190	99.02	24.756190	E	0.0633
Total HpCDD				1.018		24.756190		24.756190	E	0.0633
1,2,3,4,6,7,8-HpCDF	50:33	559762	123648	1.403	25.00	27.101497	108.41	27.101497	E	0.0631
1,2,3,4,7,8,9-HpCDF	52:55	468616	105749	1.197	25.00	26.606240	106.42	26.606240	E	0.0739
Total HpCDF				1.300		53.707737		53.707737	E	0.0681
OCDD	56:37	738441	202341	0.965	50.00	53.694270	107.39	53.694270	E	0.0643
OCDF	56:45	824003	226664	1.103	50.00	52.387032	104.77	52.387032	E	0.0609
13C-2,3,7,8-TCDD	35:15	1797121	202220	1.068	100.0	100.651432	100.65	100.651432		0.332
13C-2,3,7,8-TCDF	33:01	2294531	245578	1.413	100.0	97.102401	97.10	97.102401		0.156
13C-1,2,3,7,8-PeCDD	42:57	1611695	432671	0.882	100.0	109.311430	109.31	109.311430		0.180
13C-1,2,3,7,8-PeCDF	41:24	2027089	485923	1.188	100.0	102.051457	102.05	102.051457		0.165
13C-1,2,3,6,7,8-HxCDD	47:16	1520734	409137	0.943	100.0	101.290558	101.29	101.290558		0.101
13C-1,2,3,6,7,8-HxCDF	46:12	1934995	563669	1.272	100.0	95.573573	95.57	95.573573		0.0567
13C-1,2,3,4,6,7,8-HpCDD	52:16	1515293	349302	0.918	100.0	103.672064	103.67	103.672064		0.0688
13C-1,2,3,4,6,7,8-HpCDF	50:32	1471838	322102	0.916	100.0	100.942424	100.94	100.942424		0.0879
13C-OCDD	56:36	2851041	781349	0.850	200.0	210.781523	105.39	210.781523		0.105
37Cl4-2,3,7,8-TCDD	35:16	89213	10442	1.046	5.000	4.746186	94.92	4.746186	E	0.0756
13C-2,3,4,7,8-PeCDF	42:28	508471	135649	1.010	25.00	24.829609	99.32	24.829609	E	0.0718
13C-1,2,3,4,7,8-HxCDD	47:08	362660	106613	0.902	25.00	26.432255	105.73	26.432255	E	0.108
13C-1,2,3,4,7,8-HxCDF	46:04	497278	143322	0.988	25.00	26.006708	104.03	26.006708	E	0.0543
13C-1,2,3,7,8,9-HxCDF	47:58	414782	105312	1.113	25.00	23.421681	93.69	23.421681	E	0.0649
13C-1,2,3,4,7,8,9-HpCDF	52:53	328751	74437	0.912	25.00	24.487377	97.95	24.487377	E	0.115
13C-1,2,3,4-TCDD	34:40	1671831	179992	1.000	100.0	100.000000	100.00	100.000000		0.354
13C-1,2,3,7,8,9-HxCDD	47:41	1591660	419154	1.000	100.0	100.000000	100.00	100.000000		0.0948

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IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	3123:75	Prep Batch		Lot No	
Data File	/20060505s2/b060505s2.d	Prep Date		SDG No	
Analysis ID	90547	Prep Exp Date		Date Received	
Analysis Date	05/05/06 17:59	Matrix	UNKNOWN	Date Sampled	
Anal Exp Date		Initial Wt/Vol		Lims Test Code	
Instrument	M2A	Extract Vol		Method	0023/8290
Analyst	BFW	Diluton Factor	1.00	Code	X8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	123	133	49	53	0.92 *	/	
	2,3,7,8-TCDF	33:04	33:04	0	50236	63614	6123	7291	0.79	ABB/ABB	
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	163	235	65	94	0.69	/	
	13C-2,3,7,8-TCDF	33:01	33:01	0	1013261	1281270	108956	136622	0.79	ABV/ABV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	128	145	51	58	0.88	/	
	2,3,7,8-TCDD	35:16	35:18	-2	39935	50907	4759	5942	0.78	ABB/ABB	
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	160		64				
	37Cl4-2,3,7,8-TCDD	35:16	35:18	-2	89213		10442			ABV	
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	290	348	116	139	0.83	/	
	13C-1,2,3,4-TCDD	34:40	34:40	0	742792	929039	79199	100793	0.80	AVV/ABV	
	13C-2,3,7,8-TCDD	35:15	35:16	-1	788740	1008381	88984	113236	0.78	AVV/AVV	
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**		
	Noise	00:00	00:00	0	125	153	50	61	0.82 *	/	
	1,2,3,7,8-PeCDF	41:25	41:23	2	324093	213381	80479	53014	1.52	ABV/ABV	
	2,3,4,7,8-PeCDF	42:30	42:28	2	338142	210180	90703	54186	1.61	ABV/ABV	
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**		
	Noise	00:00	00:00	0	185	168	74	67	1.10 *	/	
	13C-1,2,3,7,8-PeCDF	41:24	41:22	2	1235430	791659	298193	187730	1.56	ABV/ABV	
	13C-2,3,4,7,8-PeCDF	42:28	42:27	1	310749	197722	83160	52489	1.57	ABV/ABB	
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**		
	Noise	00:00	00:00	0	135	118	54	47	1.15 *	/	
	1,2,3,7,8-PeCDD	42:59	42:56	3	239435	151067	65090	40974	1.58	ABV/ABB	
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**		
	Noise	00:00	00:00	0	150	135	60	54	1.11 *	/	
	13C-1,2,3,7,8-PeCDD	42:57	42:55	2	983465	628230	262762	169909	1.57	ABV/ABV	
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	Noise	00:00	00:00	0	153	155	61	62	0.98 *	/	
	1,2,3,4,7,8-HxCDF	46:05	46:05	0	324630	255596	94959	74469	1.27	ABV/ABV	
	1,2,3,6,7,8-HxCDF	46:13	46:13	0	334974	267615	95712	77900	1.25	AVV/AVV	
	2,3,4,6,7,8-HxCDF	46:59	47:00	-1	307806	247019	86474	69831	1.25	ABB/ABV	
	1,2,3,7,8,9-HxCDF	47:59	48:03	-4	279187	223944	69534	54834	1.25	ABV/ABB	
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**		
	Noise	00:00	00:00	0	145	158	58	63	0.92 *	/	
	13C-1,2,3,4,7,8-HxCDF	46:04	46:04	0	173888	323390	49197	94125	0.54	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDF	46:12	46:12	0	672009	1262986	193341	370328	0.53	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDF	47:58	48:01	-3	141632	273150	35350	69962	0.52	ABV/ABV	
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	Noise	00:00	00:00	0	178	125	71	50	1.42	/	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	3123:75	**Prep Batch**		**Lot No**	
Data File	/20060505s2/b060505s2.	**Prep Date**		**SDG No**	
Analysis ID	90547	**Prep Exp Date**		**Date Received**	
Analysis Date	05/05/06 17:59	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M2A	**Extract Vol**		**Method**	0023/8290
Analyst	BFW	**Diluton Factor**	1.00	**Code**	X8

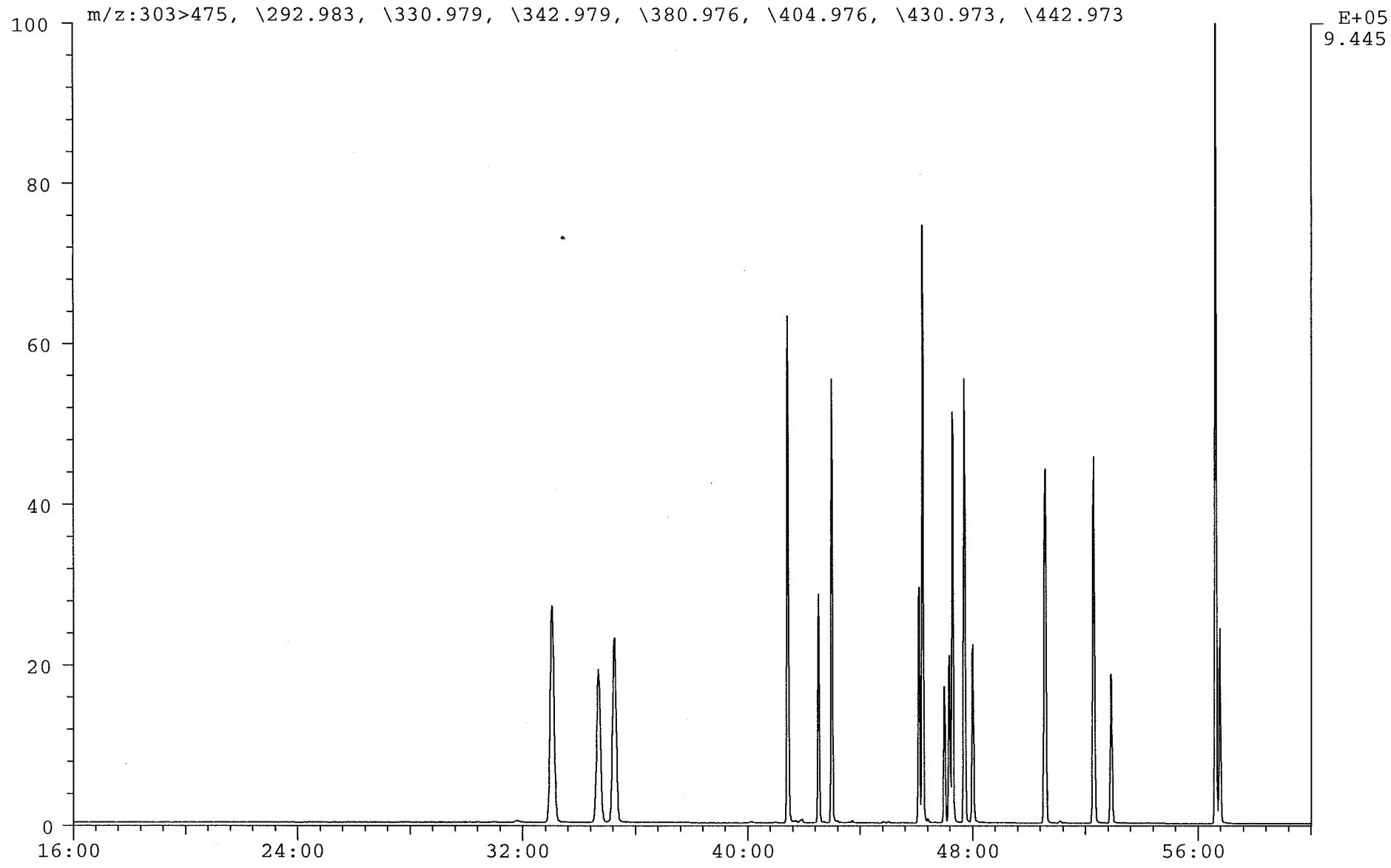
View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	1,2,3,4,7,8-HxCDD	47:10	47:10	0	223862	182966	60159	50572	1.22	ABV/ABV	
	1,2,3,6,7,8-HxCDD	47:17	47:18	-1	223645	175426	62391	47684	1.27	AVV/AVB	
	1,2,3,7,8,9-HxCDD	47:42	47:44	-2	234492	193633	59150	47683	1.21	AVV/ABV	
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**		
	Noise	00:00	00:00	0	215	183	86	73	1.18	/	
	13C-1,2,3,4,7,8-HxCDD	47:08	47:10	-2	200675	161985	58336	48277	1.24	ABV/ABV	
	13C-1,2,3,6,7,8-HxCDD	47:16	47:17	-1	846778	673956	227382	181755	1.26	AVV/AVV	
	13C-1,2,3,7,8,9-HxCDD	47:41	47:43	-2	888906	702754	234813	184341	1.26	AVV/AVV	
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**		
	Noise	00:00	00:00	0	120	165	48	66	0.73 *	/	
	1,2,3,4,6,7,8-HpCDF	50:33	50:39	-6	286136	273626	60961	62687	1.05	ABB/ABV	M
	1,2,3,4,7,8,9-HpCDF	52:55	52:58	-3	241914	226702	54063	51686	1.07	ABV/ABV	
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	Noise	00:00	00:00	0	168	170	67	68	0.99 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	50:32	50:38	-6	463642	1008196	101970	220132	0.46	ABV/ABV	M
	13C-1,2,3,4,7,8,9-HpCDF	52:53	52:56	-3	100840	227911	24285	50152	0.44	ABB/ABV	
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**		
	Noise	00:00	00:00	0	145	80	58	32	1.81 *	/	
	1,2,3,4,6,7,8-HpCDD	52:17	52:20	-3	191434	190287	45049	43963	1.01	ABB/ABV	
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**		
	Noise	00:00	00:00	0	173	93	69	37	1.86 *	/	
	13C-1,2,3,4,6,7,8-HpCDD	52:16	52:19	-3	775156	740137	180543	168759	1.05	ABV/ABV	
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**		
	Noise	00:00	00:00	0	130	133	52	53	0.98	/	
	OCDF	56:45	56:43	2	390393	433610	107403	119261	0.90	ABV/ABV	
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**		
	Noise	00:00	00:00	0	120	123	48	49	0.98	/	
	OCDD	56:37	56:35	2	347333	391108	95765	106576	0.89	ABV/ABV	
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**		
	Noise	00:00	00:00	0	185	188	74	75	0.99	/	
	13C-OCDD	56:36	56:34	2	1341815	1509226	369251	412098	0.89	ABV/ABV	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

CHRO: b060505s2 05-May-06 Elapse: 56:48 2711
Samp: Vial 3 WO=3123:75 Meth=X8 Dil=1 Start : 17:59:26 2891
Comm: Inst=m2a/718320 Batch=20060505s2 Ccal=B060505S1
Mode: EI +VE +LMR ESCAN LR NRM Study : M23 Ver
Oper: BFW Client: STL Knoxville Inlet : GC Vial 3
Peak: 100.00 ppm Label wndw: 442 > 2891 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

Int / calc Pmp 5-5-06
GC BFW 5/8/06



-5.0 V SCAN AUTOTUNE TUNE R = 11 420 316 611 uV

p 3.41 A -16.6 V

1.00 mA 2629 2262 1992 2749

61.8 V d s l x y

270 C s s s s s

270 C 2629 2404 2022 2597

0.90 mA -16.6 V

EI POS u electric

U(a) 4759 V U(esa) 763.8 V

Entr. Slit	(ENS)	126.0	
Exit Slit	(EXS)	186.0	
Sweep Mass	(MASS)	304.982	amu
Virt. Mass	(VMASS)	304.982	amu
Link Mass	(LMASS)	304.982	amu
Sweep Width	(SW)	0.020	%
Sweep Speed	(SS)	3.0	/s
U(a) Offset	(UOFS)	5.0	V
U(a)/U(esa)	(URATIO)	2.135	%
Multiplier	(EMULT)	1.82	kV
Dyn. Volt.	(DYNODE)	pos	
Ref. Inlet	(TREF)	150	C
Beam Rot.	(BQUAD)	3.3	V
Focus Quad	(FQUAD)	-0.5	V

VG off VS1 off VS2 off VV off VS3 off

TUNE DESCRIPTOR
tune2

SAVE

TUNE:

304.952 304.982 305.01

<> >< << >> ^ v C V LOCK UNLK

Peak Register Display

Copy result to ULIST

100.0

50.0

slow

0.0

REG 1/2: 380.975040 REG 1/3: REG 2/3:

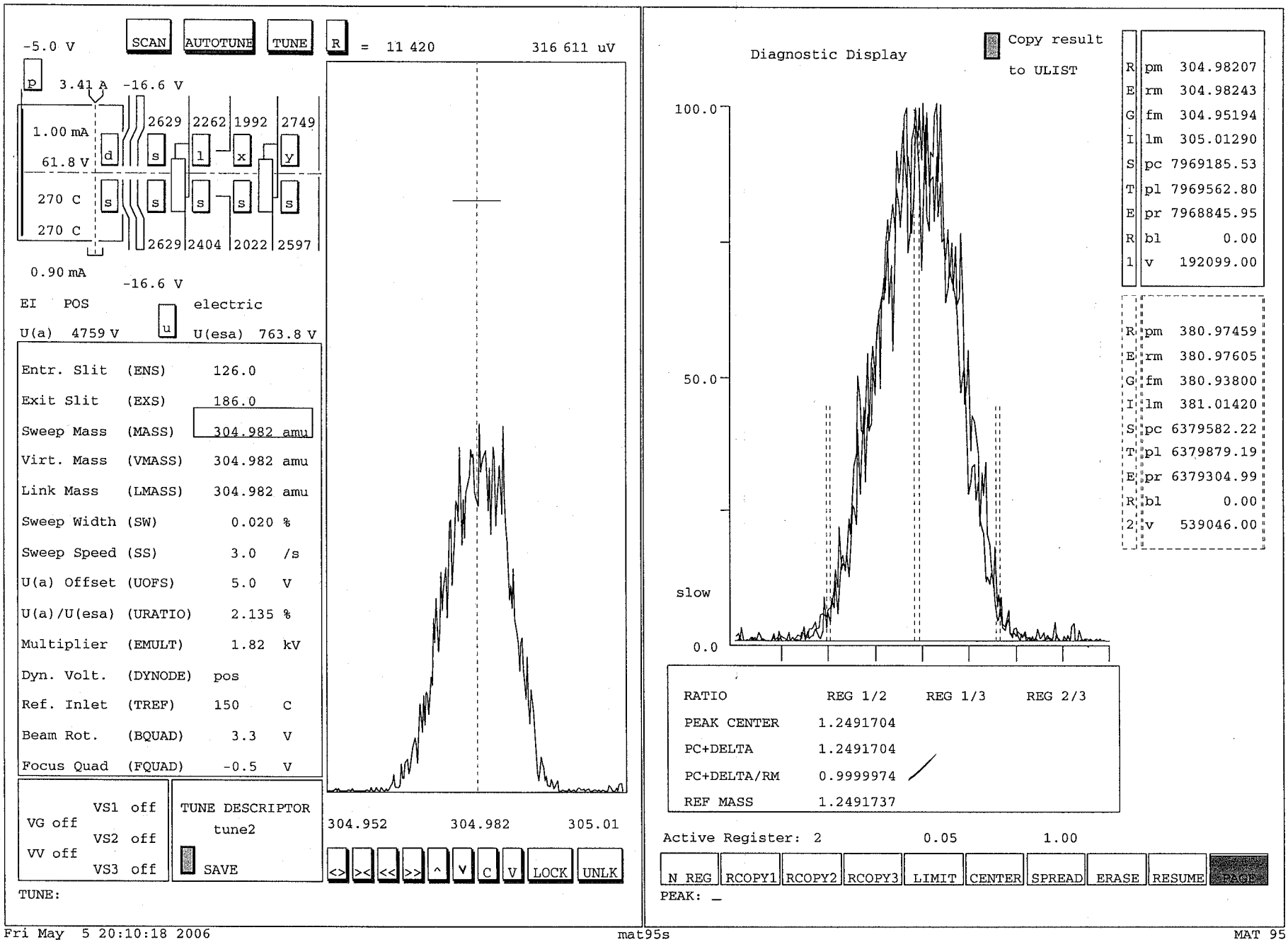
MASS	:	304.98207	380.97459
REF MASS	:	304.98243	380.97605
PEAK WIDTH [ppm]:		89.95273	90.00589

Active Register: 2 0.05 1.00

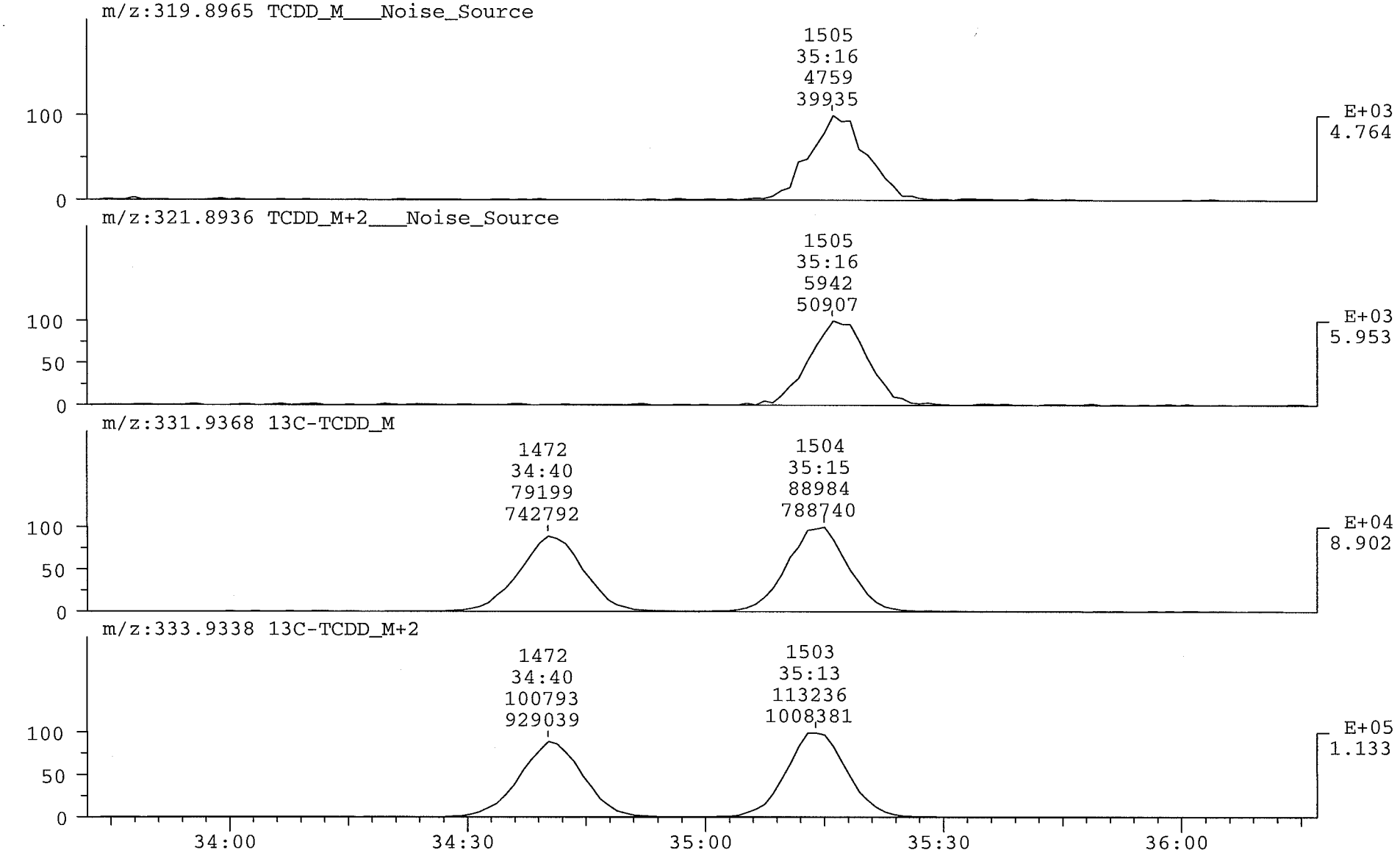
N REG RCOPY1 RCOPY2 RCOPY3 LIMIT CENTER SPREAD ERASE RESUME PAGE

PEAK: _

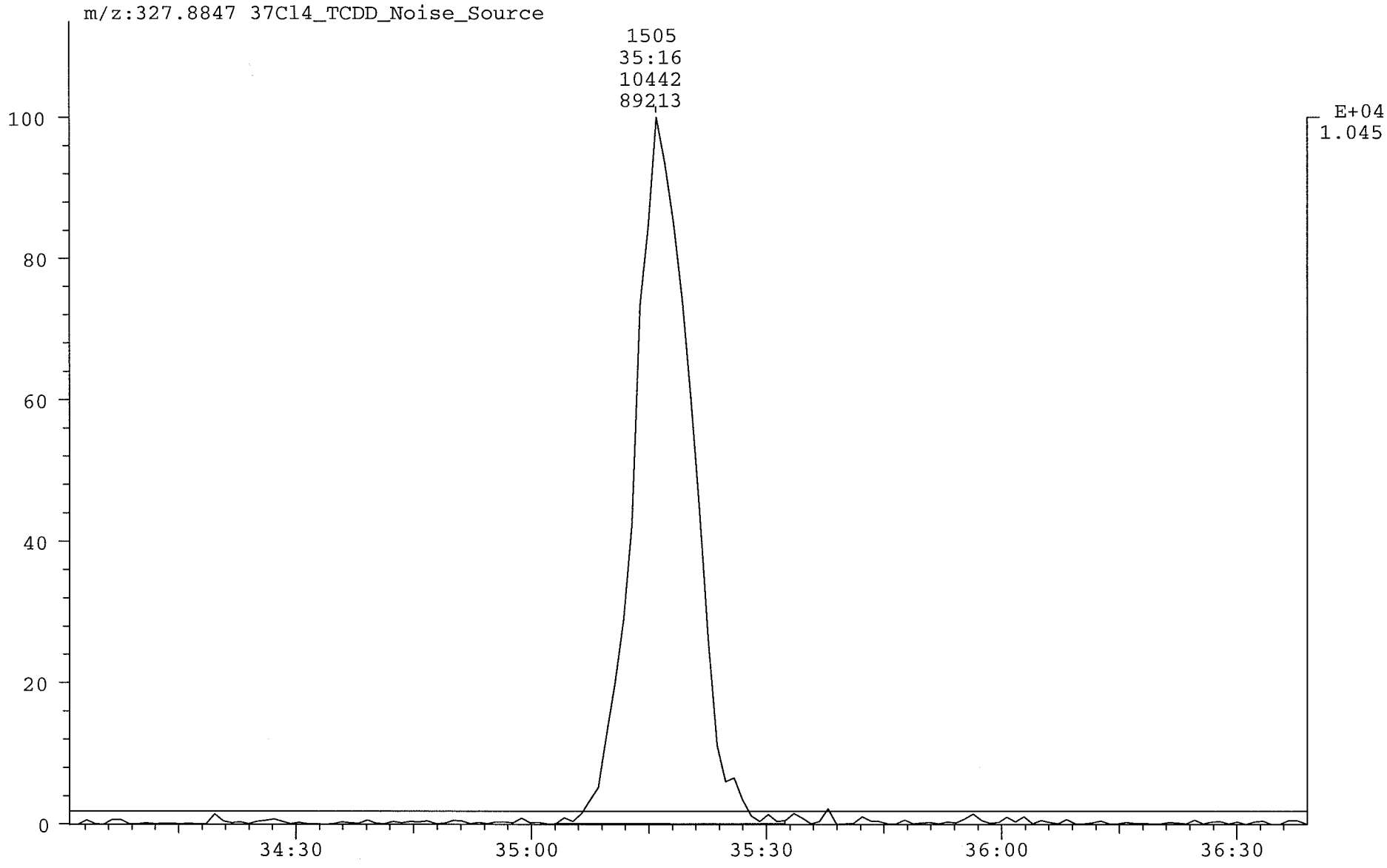
Fri May 5 20:10:13 2006 mat95s MAT 95


-5.0 V
SCAN
AUTOTUNE
TUNE
R = 11 420
316 611 uV
p
3.41 A
-16.6 V
1.00 mA
61.8 V
270 C
270 C
2629 2262 1992 2749
2629 2404 2022 2597
0.90 mA
-16.6 V
EI POS
electric
U(a) 4759 V
U(esa) 763.8 V
Entr. Slit (ENS) 126.0
Exit Slit (EXS) 186.0
Sweep Mass (MASS) 304.982 amu
Virt. Mass (VMASS) 304.982 amu
Link Mass (LMASS) 304.982 amu
Sweep Width (SW) 0.020 %
Sweep Speed (SS) 3.0 /s
U(a) Offset (UOFS) 5.0 V
U(a)/U(esa) (URATIO) 2.135 %
Multiplier (EMULT) 1.82 kV
Dyn. Volt. (DYNODE) pos
Ref. Inlet (TREF) 150 C
Beam Rot. (BQUAD) 3.3 V
Focus Quad (FQUAD) -0.5 V
VG off
VS1 off
VS2 off
VV off
VS3 off
TUNE DESCRIPTOR
tune2
SAVE
TUNE:
304.952
304.982
305.01
LOCK
UNLK
Diagnostic Display
Copy result
to ULIST
100.0
50.0
slow
0.0
RATIO REG 1/2 REG 1/3 REG 2/3
PEAK CENTER 1.2491704
PC+DELTA 1.2491704
PC+DELTA/RM 0.9999974
REF MASS 1.2491737
Active Register: 2 0.05 1.00
N REG
RCOPY1
RCOPY2
RCOPY3
LIMIT
CENTER
SPREAD
ERASE
RESUME
PAGE
PEAK: _
R pm 304.98207
E rm 304.98243
G fm 304.95194
I lm 305.01290
S pc 7969185.53
T pl 7969562.80
E pr 7968845.95
R bl 0.00
1 v 192099.00
R pm 380.97459
E rm 380.97605
G fm 380.93800
I lm 381.01420
S pc 6379582.22
T pl 6379879.19
E pr 6379304.99
R bl 0.00
2 v 539046.00
Fri May 5 20:10:18 2006
mat95s
MAT 95

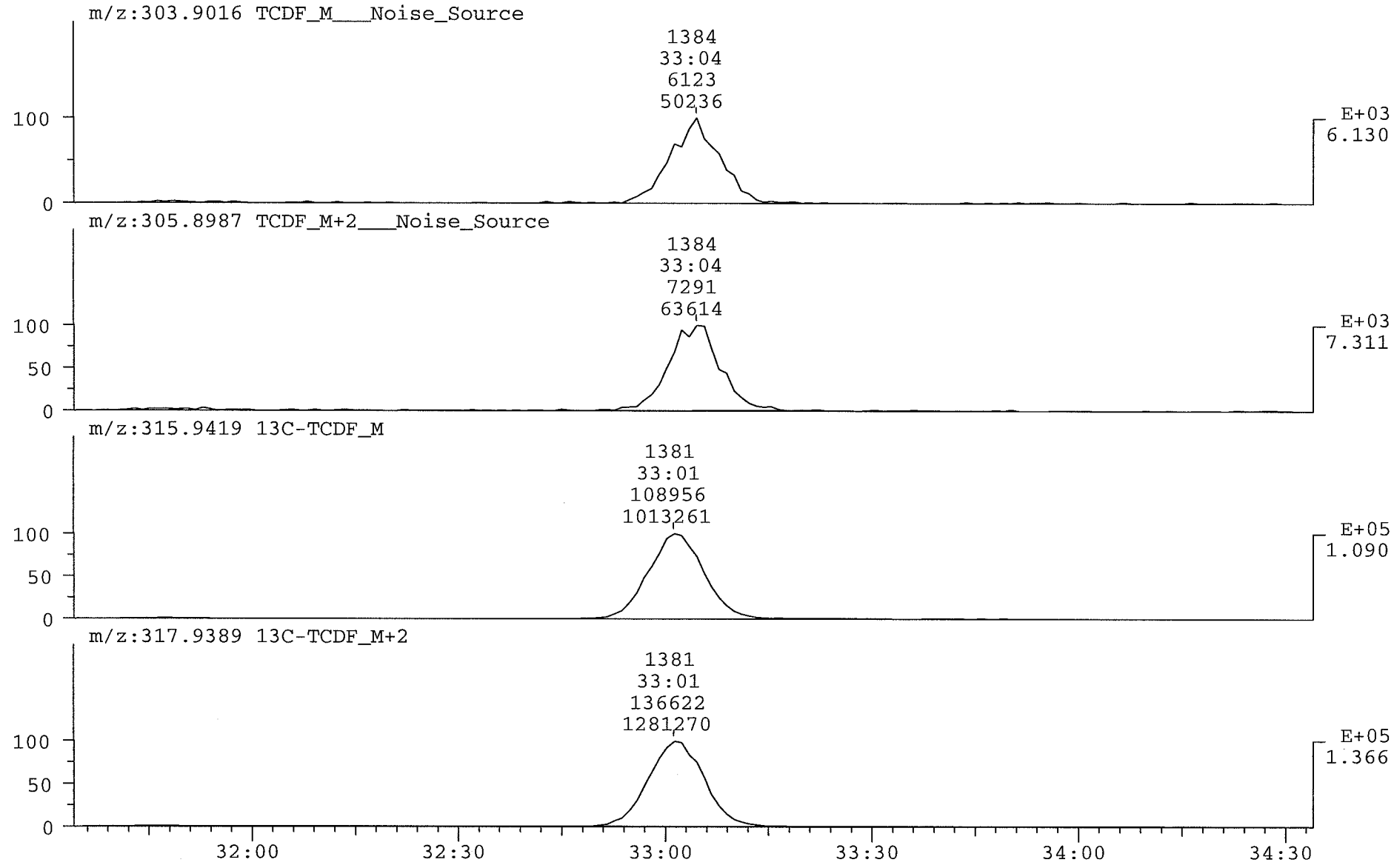
```
CHRO:  b060505s2                              05-May-06   Elapse:  34:58      1489
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                    Start :  17:59:26   2891
Comm:  Inst=m2a/718320 Batch=20060505s2 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville                Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1419 > 1561          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  2, 3.0
Disp:  Height  Area
```



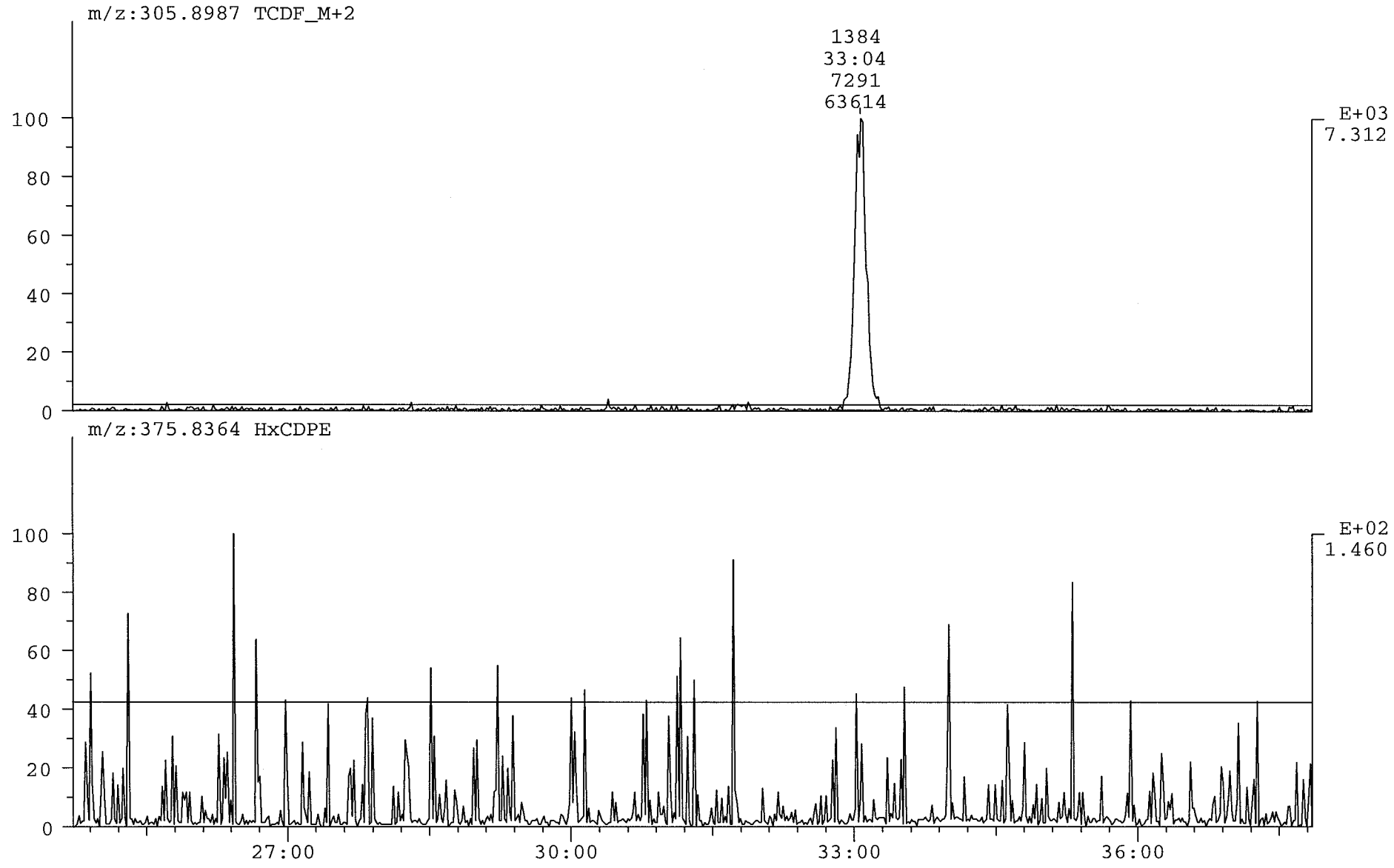
```
CHRO:  b060505s2                          05-May-06   Elapse:  35:17      1506
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  17:59:26   2891
Comm:  Inst=m2a/718320 Batch=20060505s2 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1436 > 1581      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



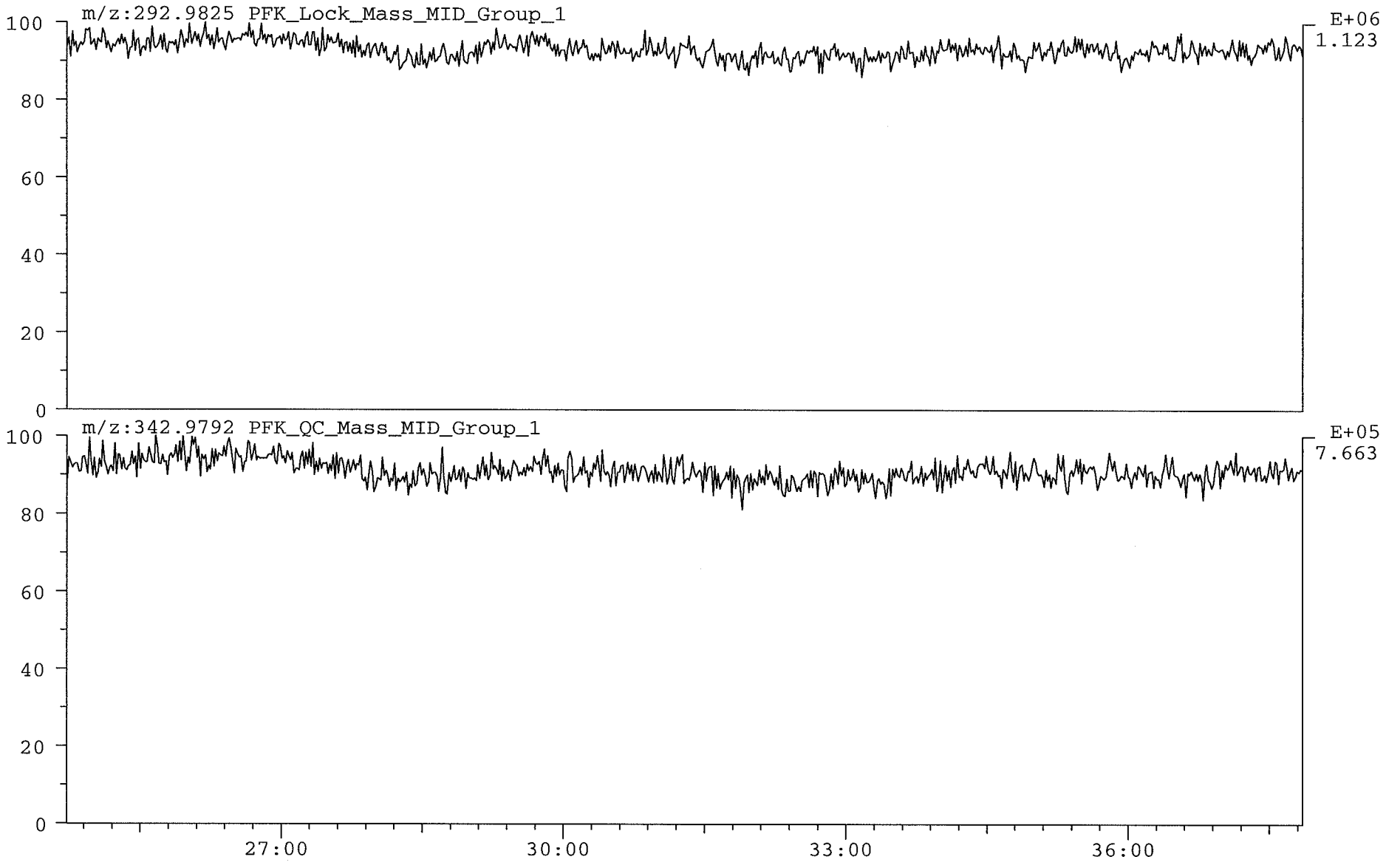
```
CHRO:  b060505s2                          05-May-06  Elapse:  33:01      1381
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1               Start :  17:59:26   2891
Comm:  Inst=m2a/718320 Batch=20060505s2 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                     Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville           Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1301 > 1466     Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3          Label :  2, 3.0
Disp:  Height  Area
```



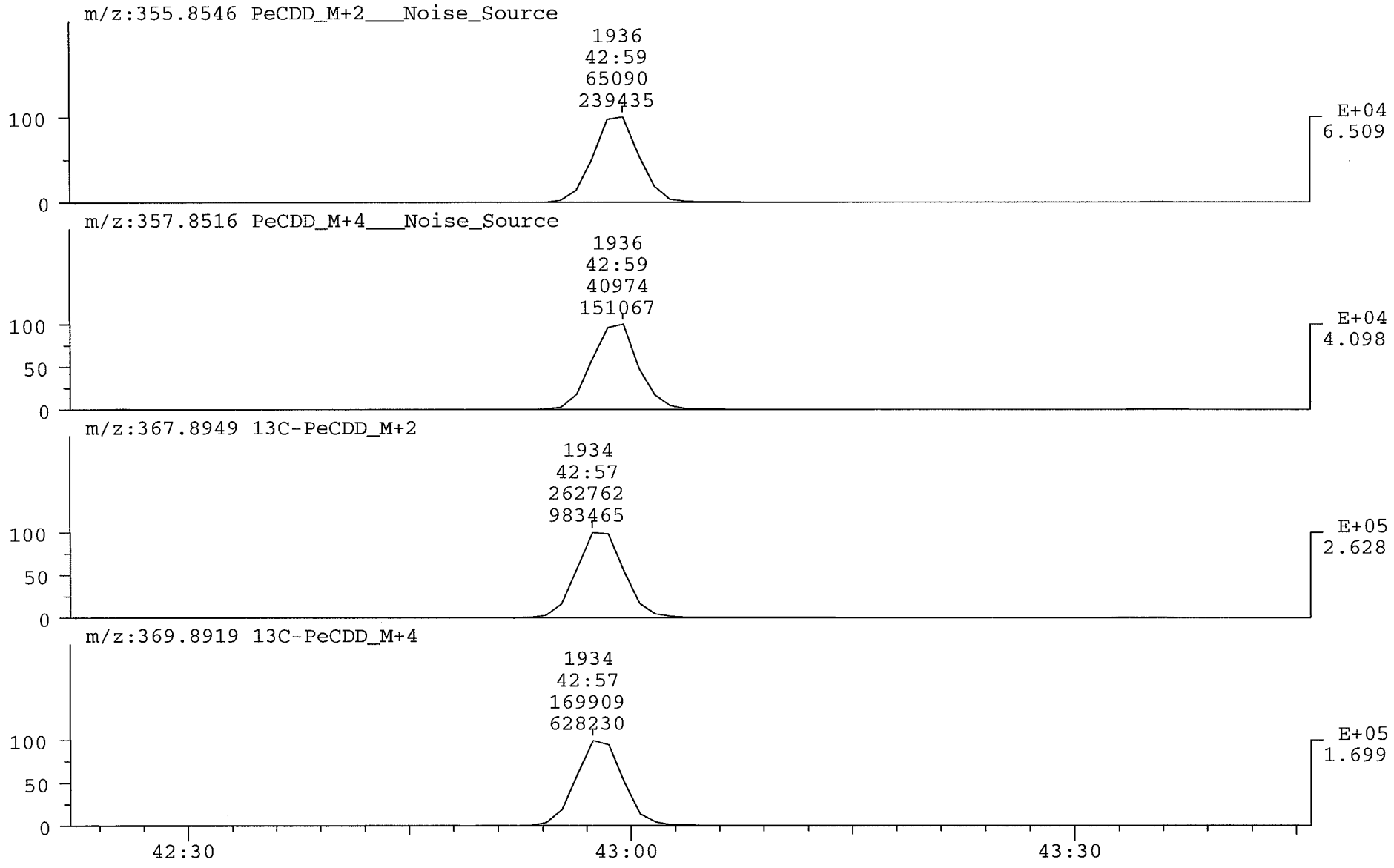
```
CHRO:  b060505s2                          05-May-06   Elapse:  33:01      1381
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  17:59:26   2891
Comm:  Inst=m2a/718320 Batch=20060505s2 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   923 > 1648       Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



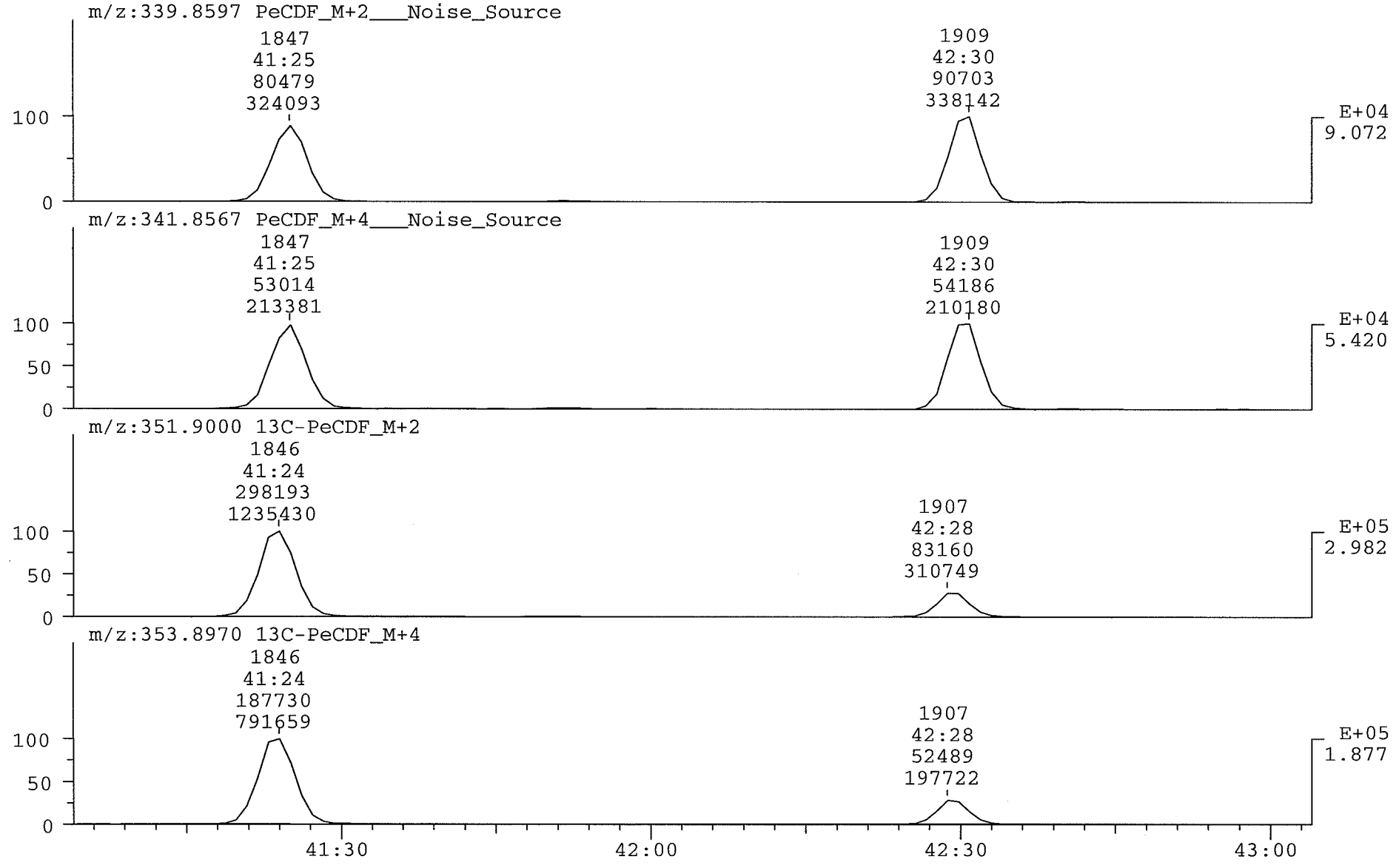
```
CHRO:  b060505s2                              05-May-06   Elapse:  33:01      1381
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                    Start :  17:59:26   2891
Comm:  Inst=m2a/718320 Batch=20060505s2 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  M23 Ver
Oper:  BFW            Client:  STL Knoxville              Inlet :  GC     Vial   3
Peak:  100.00  ppm      Label wndw:   923 > 1648          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



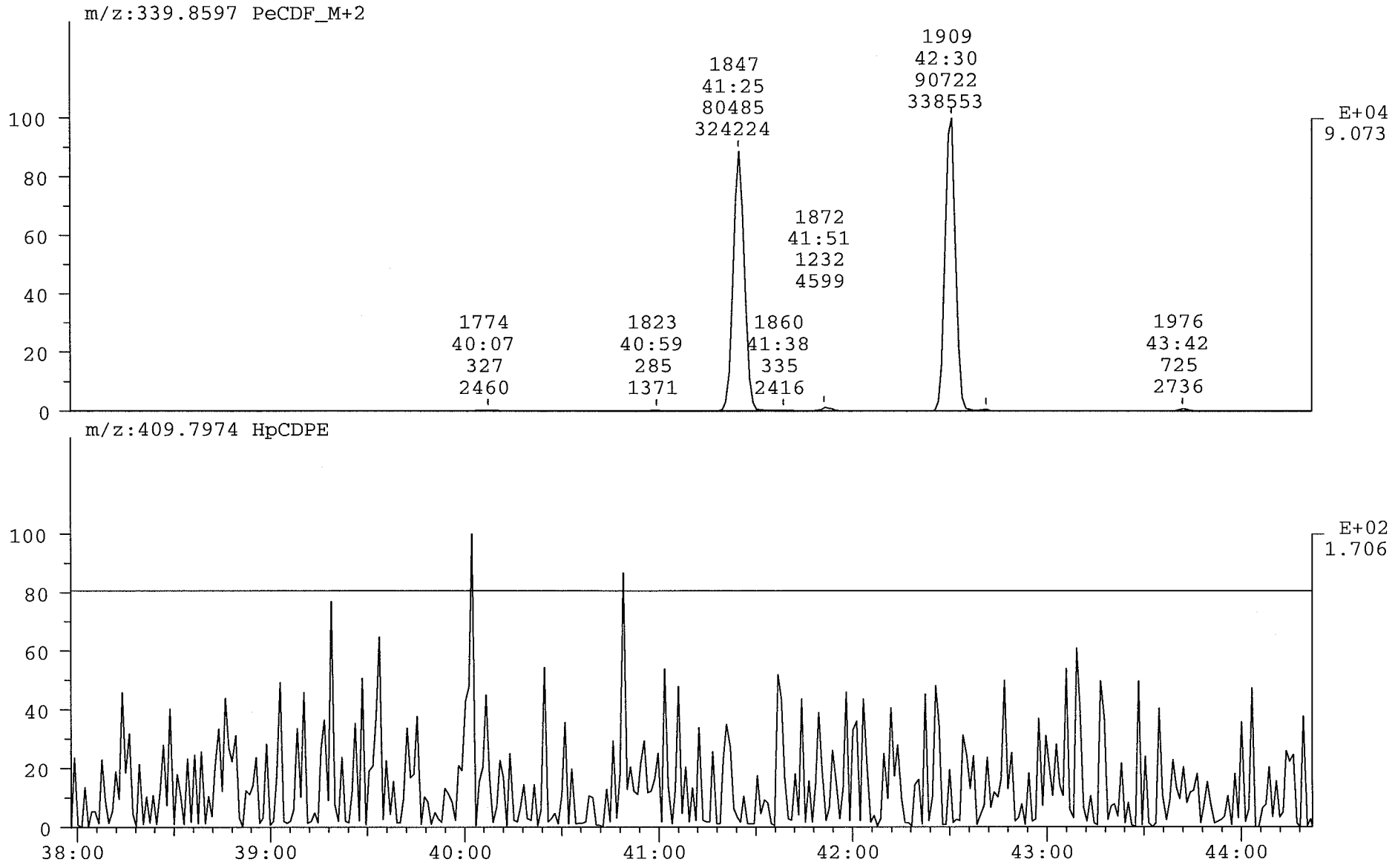
```
CHRO:  b060505s2                          05-May-06   Elapse:  43:00      1937
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  17:59:26   2891
Comm:  Inst=m2a/718320 Batch=20060505s2 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1901 > 1980      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



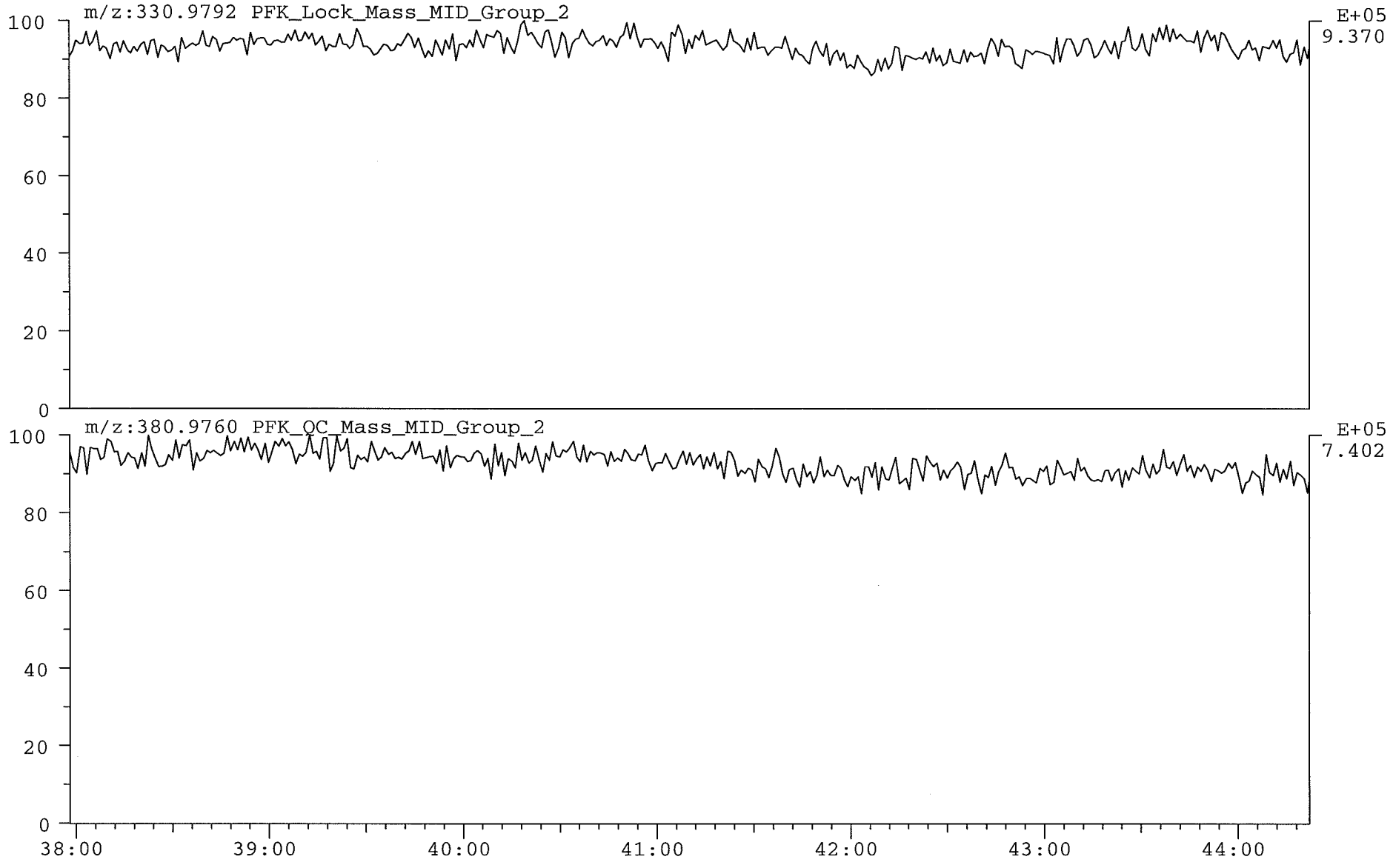
```
CHRO:  b060505s2                          05-May-06   Elapse:  42:04      1884
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  17:59:26   2891
Comm:  Inst=m2a/718320 Batch=20060505s2 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1827 > 1940      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



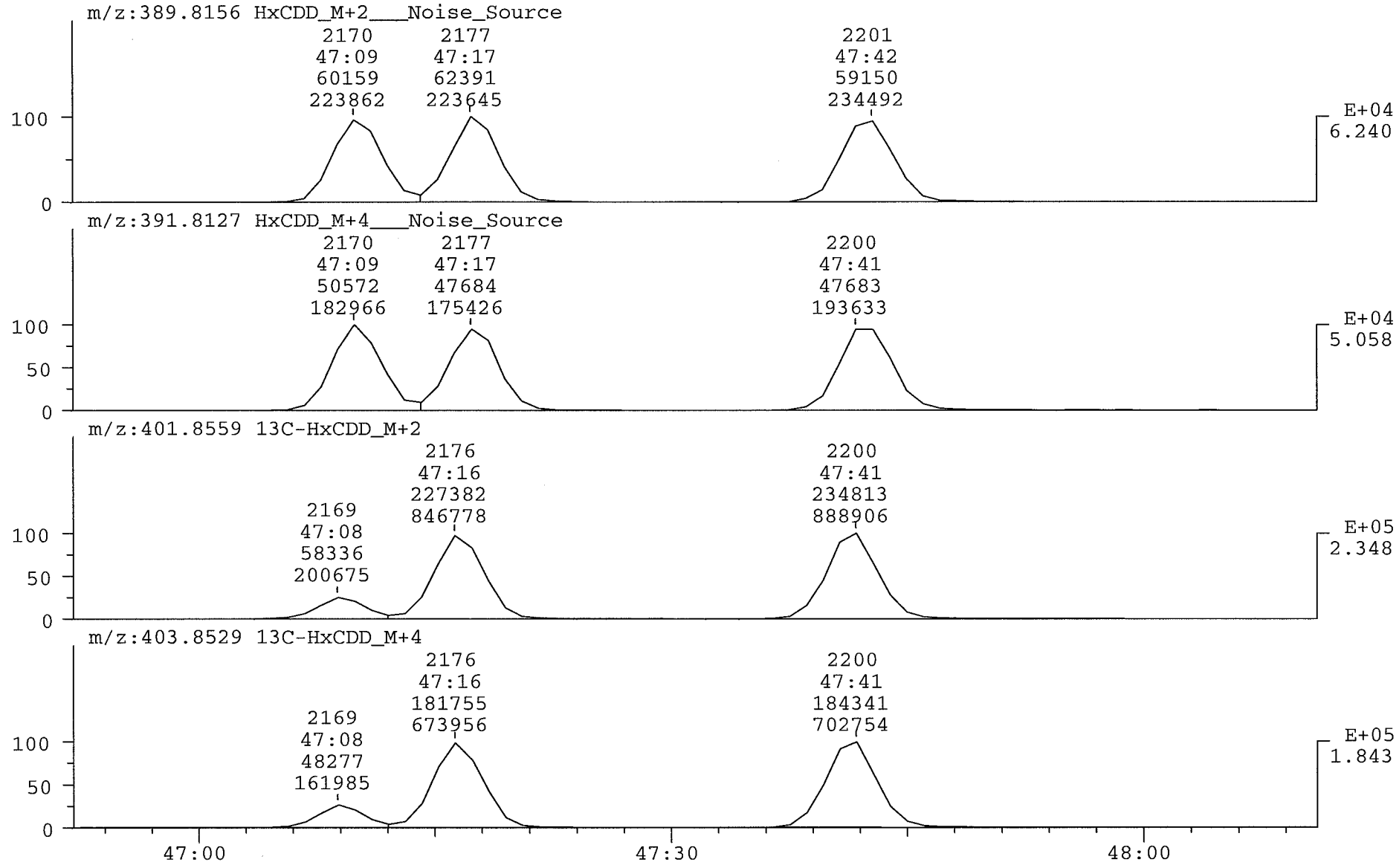
```
CHRO:  b060505s2                              05-May-06  Elapse:  42:04      1884
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                   Start :  17:59:26   2891
Comm:  Inst=m2a/718320 Batch=20060505s2 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  M23 Ver
Oper:  BFW            Client:  STL Knoxville             Inlet :  GC     Vial   3
Peak:  100.00  ppm      Label wndw:   1652 > 2014        Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  -2, 3.0
Disp:  Height  Area
```



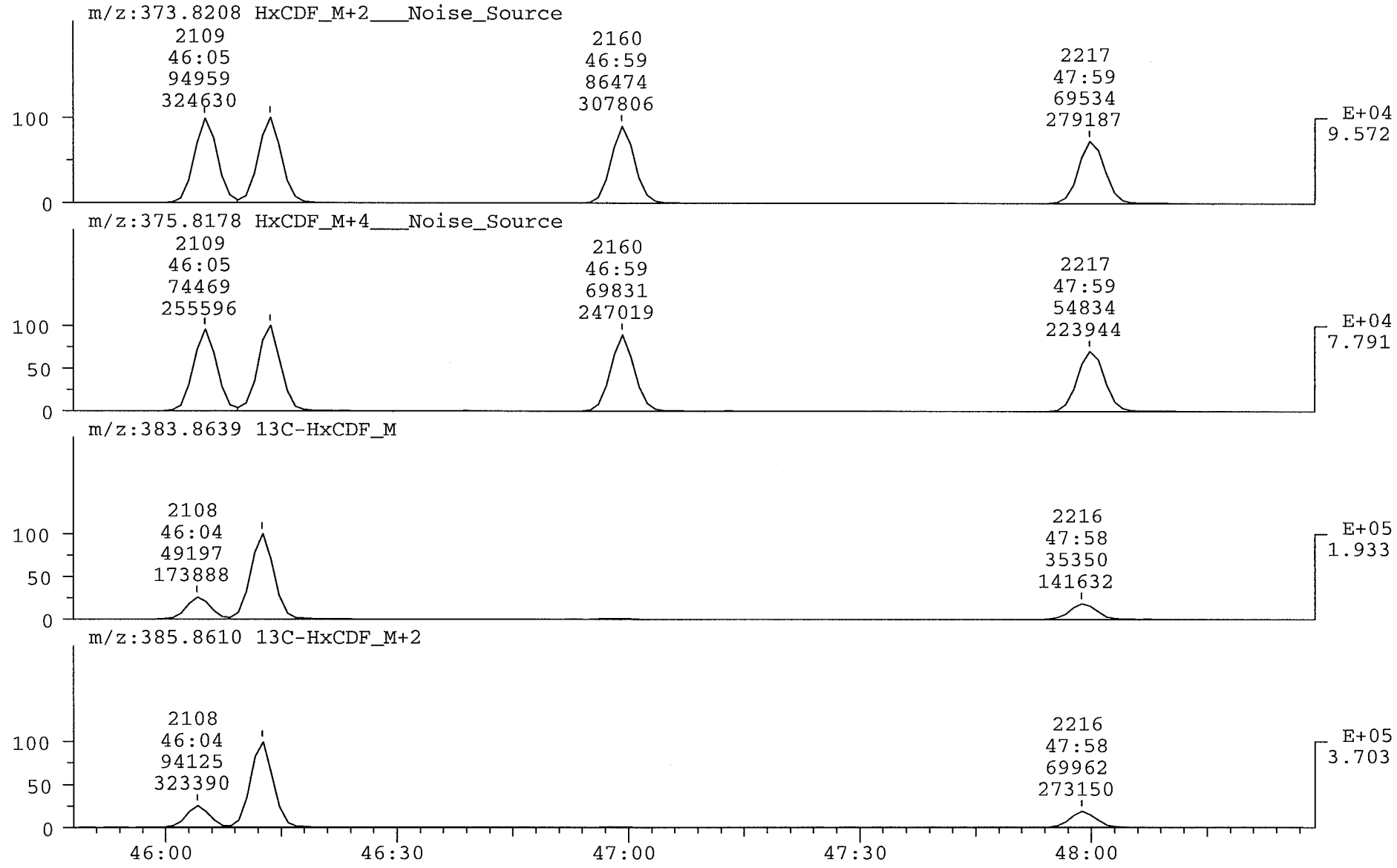
```
CHRO:  b060505s2                          05-May-06   Elapse:  42:04      1884
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  17:59:26   2891
Comm:  Inst=m2a/718320 Batch=20060505s2 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   1652 > 2014      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  0, 0.0
Disp:  Height  Area
```



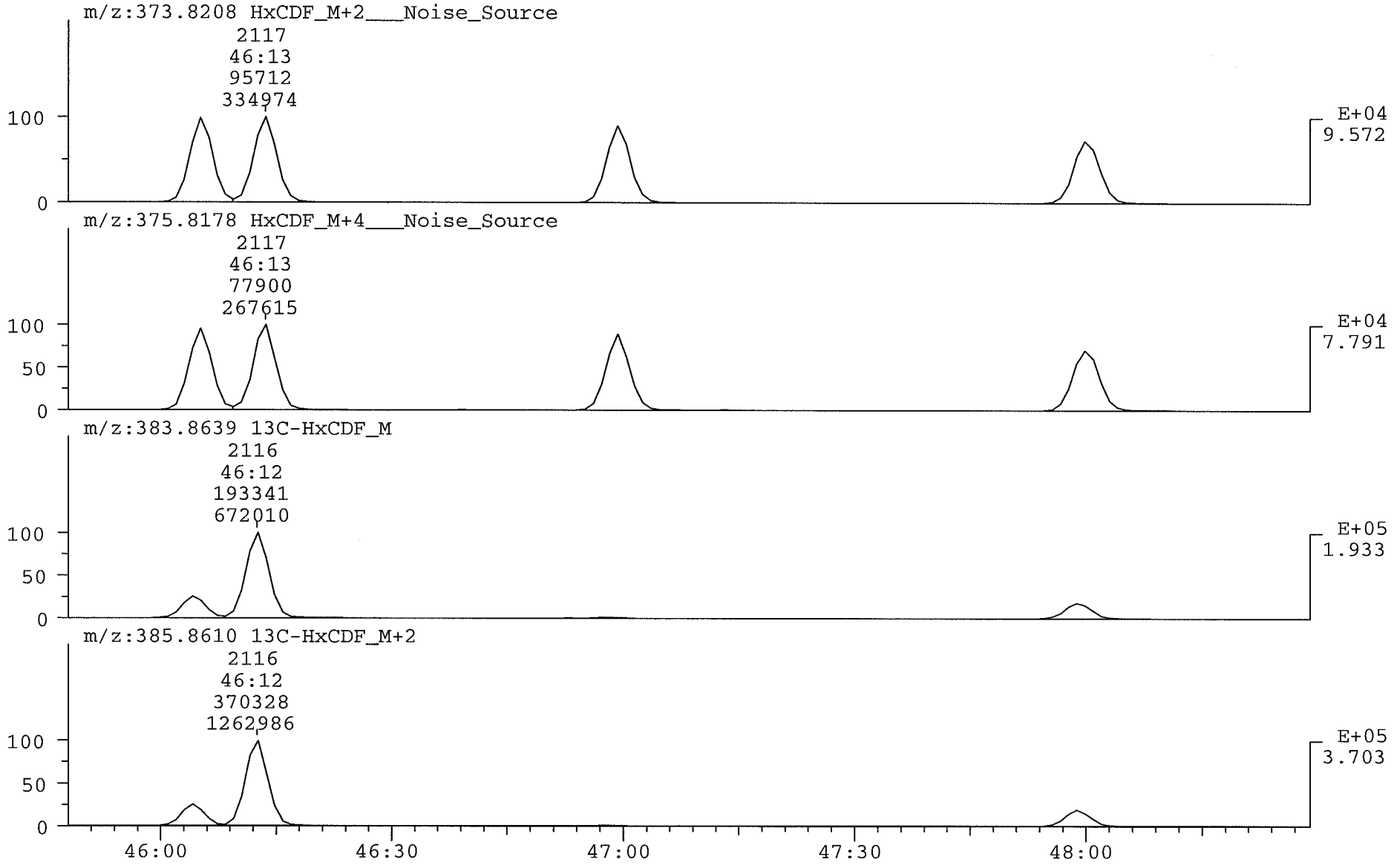
```
CHRO:  b060505s2                                05-May-06   Elapse:  47:31      2190
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                      Start :  17:59:26   2891
Comm:  Inst=m2a/718320 Batch=20060505s2 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  M23 Ver
Oper:  BFW            Client:  STL Knoxville                Inlet :  GC     Vial   3
Peak:  100.00  ppm      Label wndw:   2153 > 2228           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  2, 3.0
Disp:  Height  Area
```



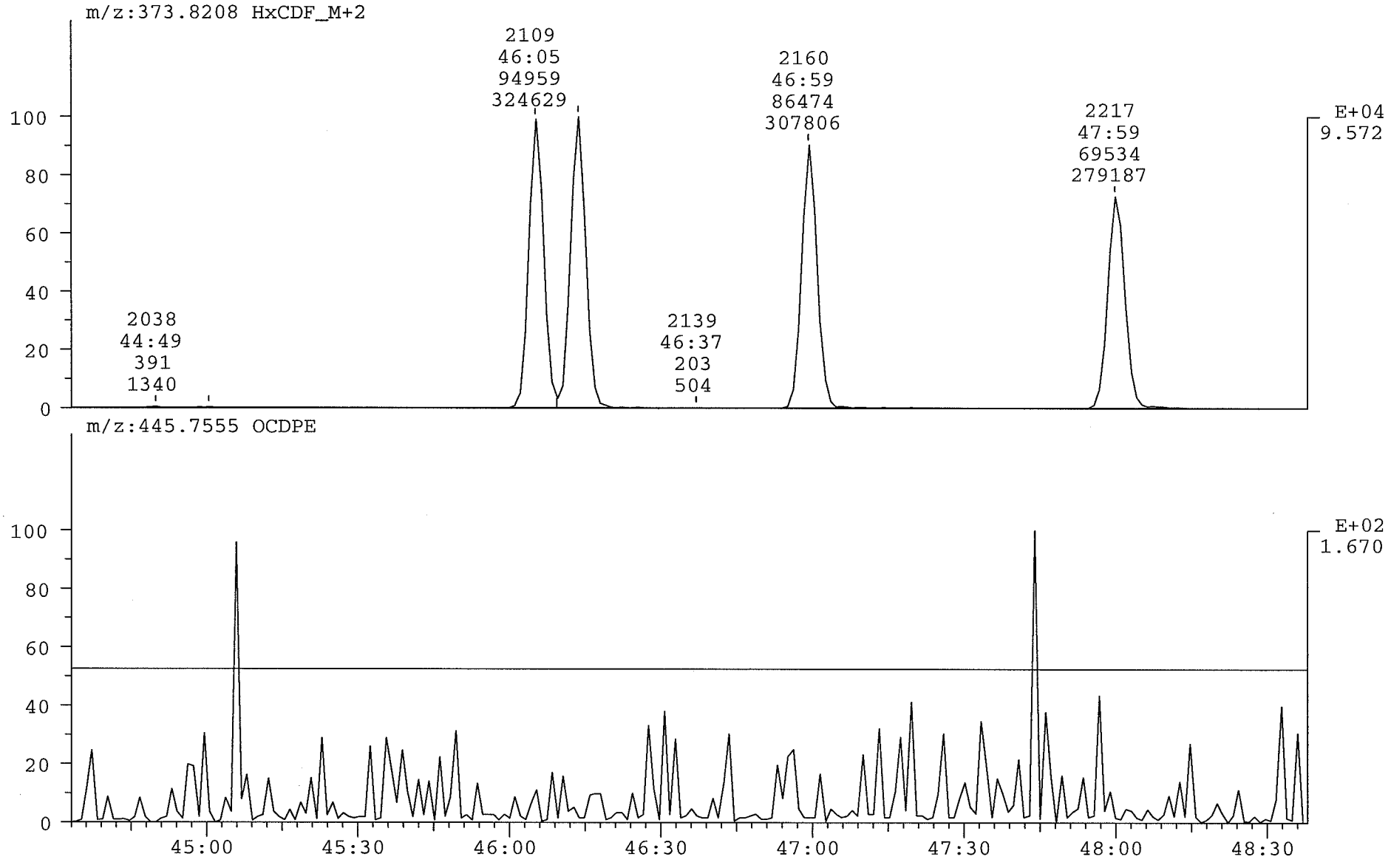
```
CHRO:  b060505s2                          05-May-06   Elapse:  47:07      2168
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  17:59:26   2891
Comm:  Inst=m2a/718320 Batch=20060505s2 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2093 > 2244      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  2, 3.0
Disp:  Height  Area
```



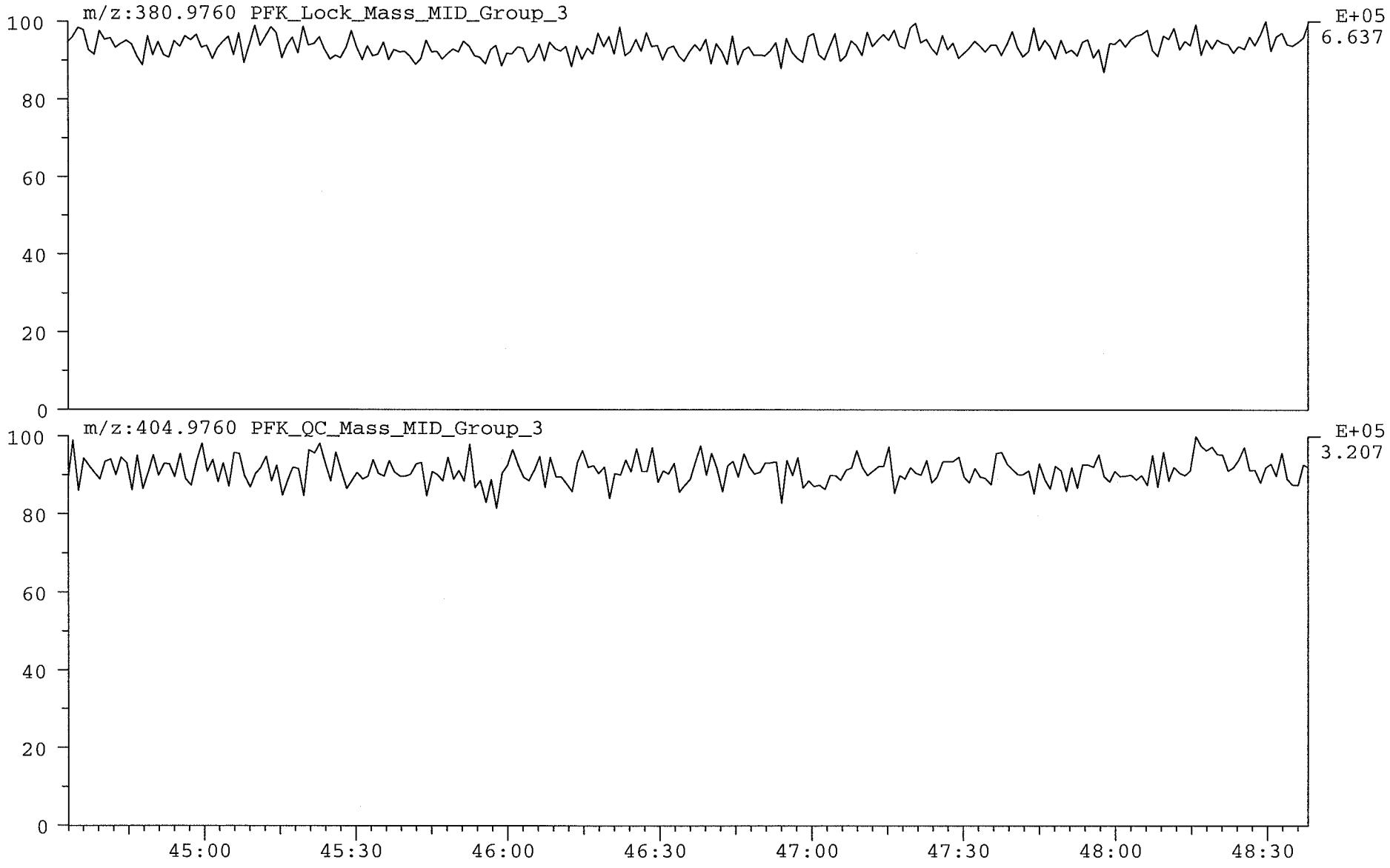
```
CHRO:  b060505s2                          05-May-06   Elapse:  46:16      2120
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  17:59:26   2891
Comm:  Inst=m2a/718320 Batch=20060505s2 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2116 > 2124      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



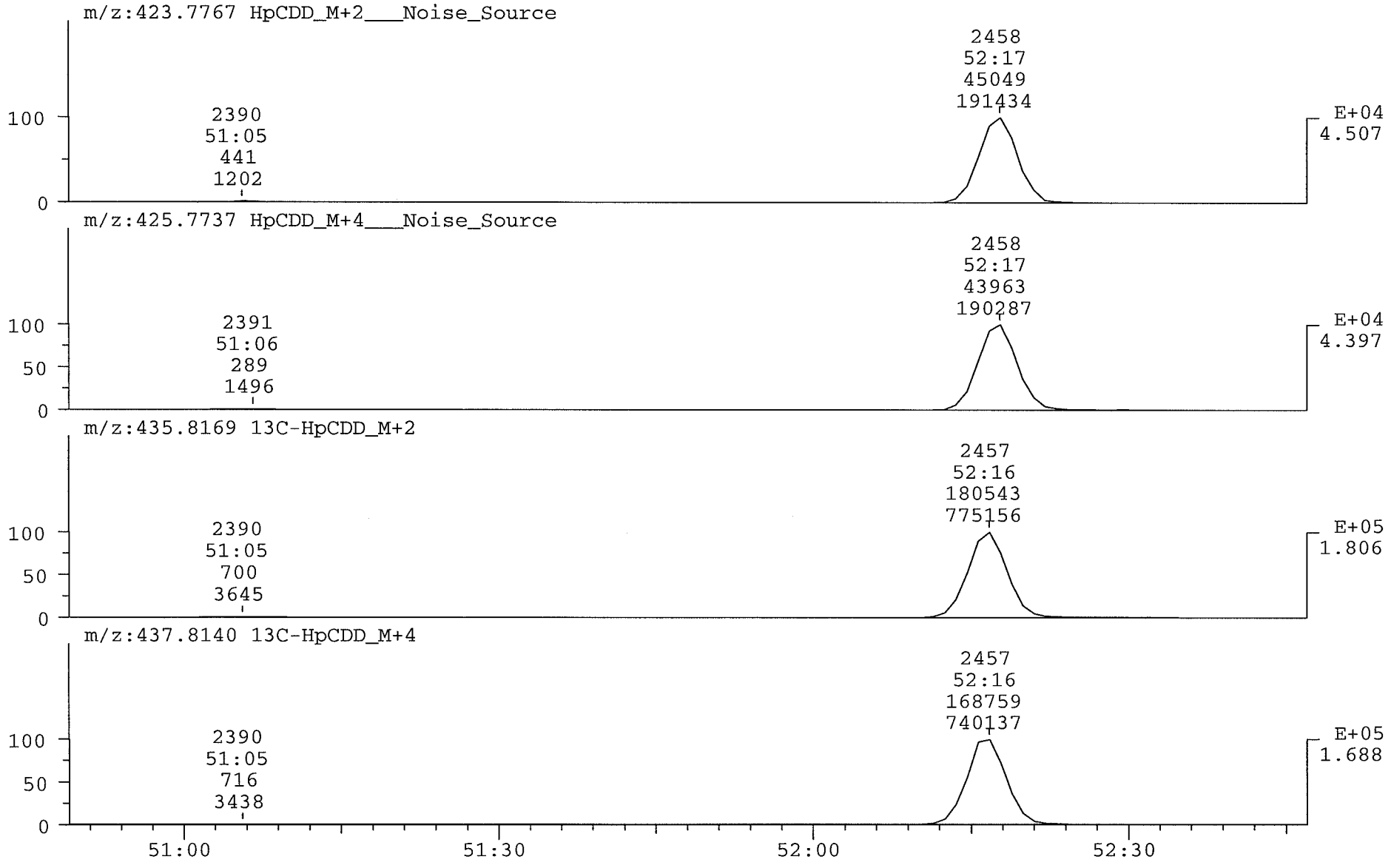
```
CHRO:  b060505s2                          05-May-06  Elapse:  46:16      2120
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1               Start :  17:59:26   2891
Comm:  Inst=m2a/718320 Batch=20060505s2 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                     Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville           Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2022 > 2253     Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3          Label :  -2, 3.0
Disp:  Height  Area
```



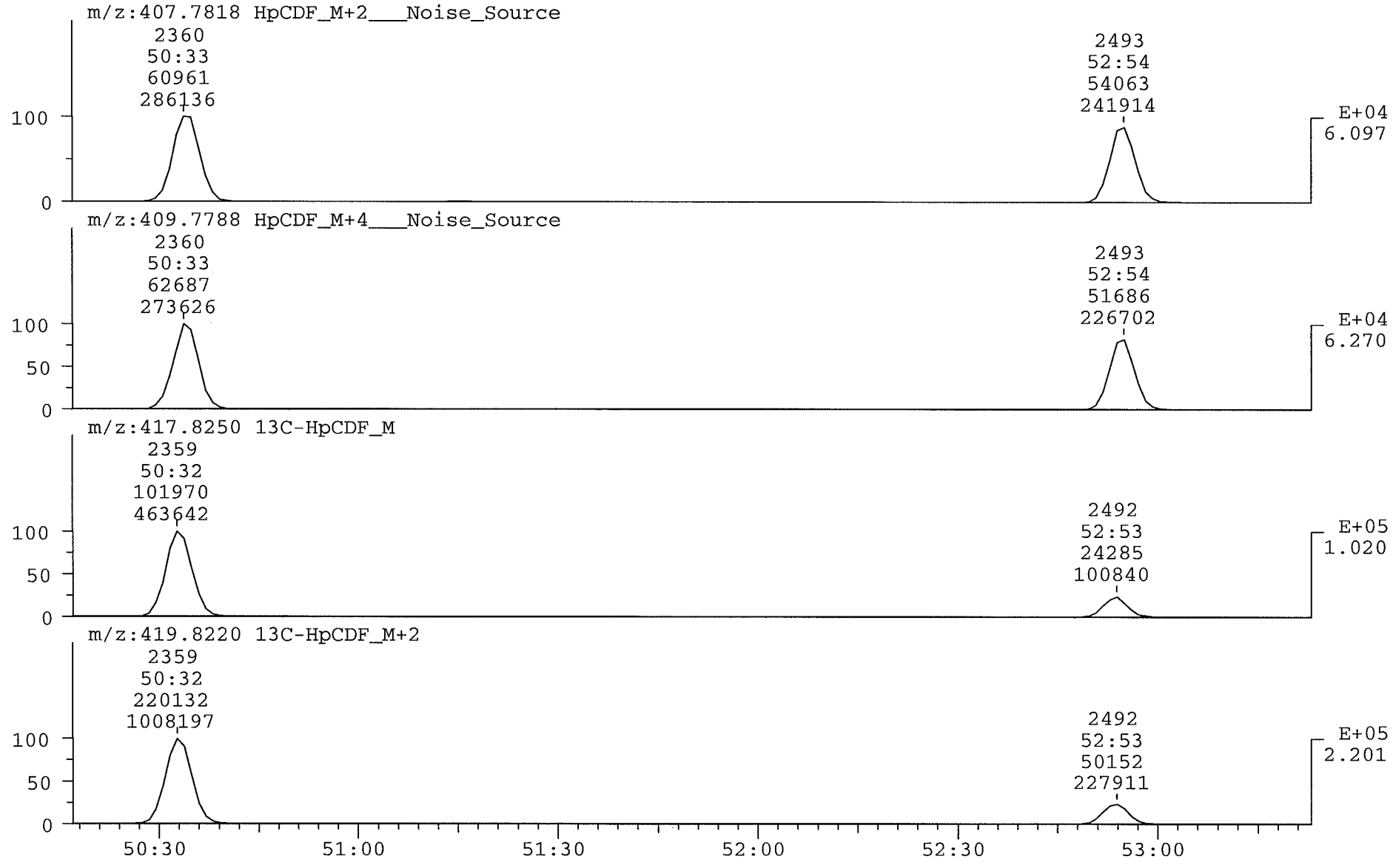
```
CHRO:  b060505s2                          05-May-06   Elapse:  46:16      2120
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  17:59:26   2891
Comm:  Inst=m2a/718320 Batch=20060505s2 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2022 > 2253      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  0, 0.0
Disp:  Height  Area
```



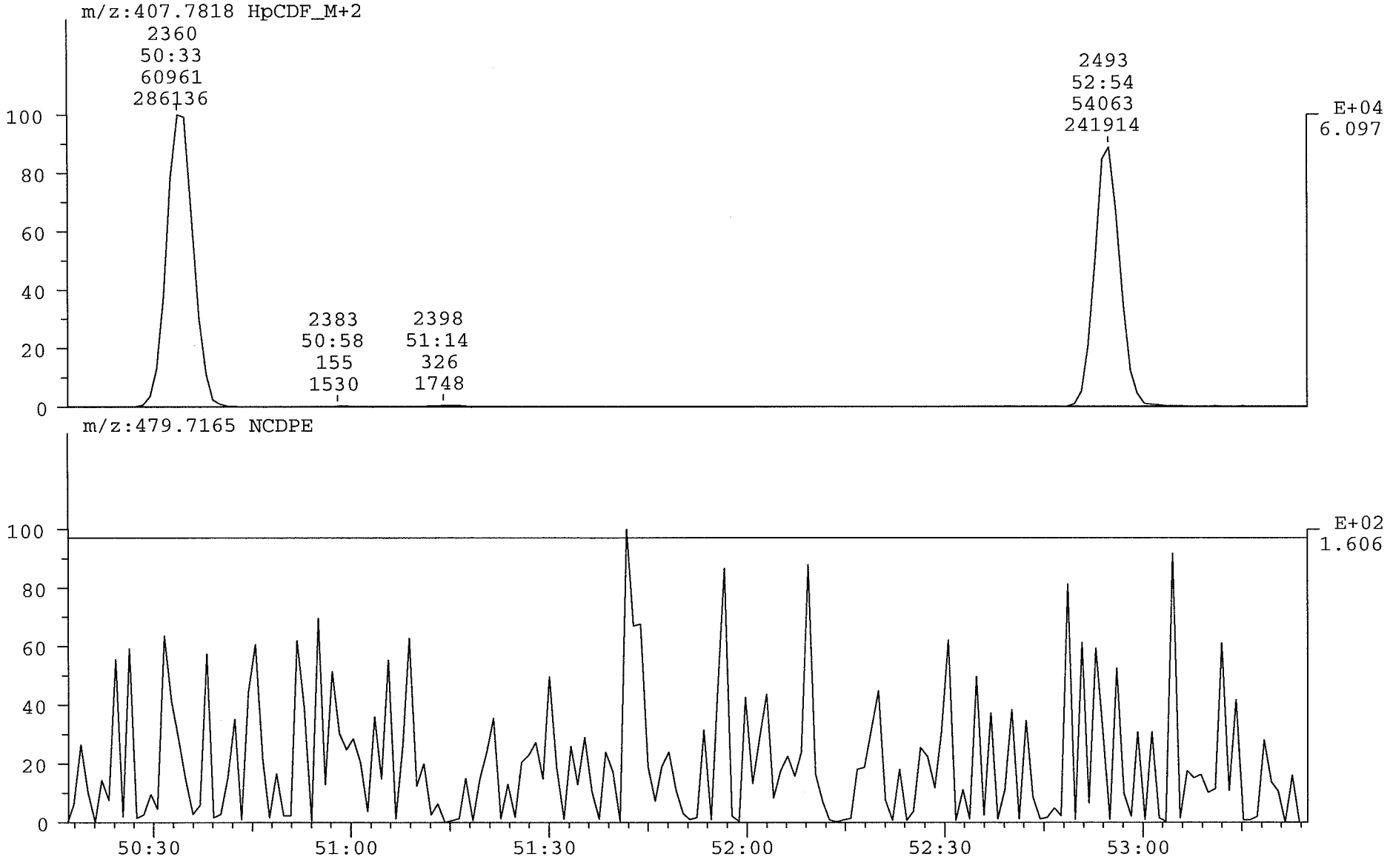
```
CHRO:  b060505s2                          05-May-06   Elapse:  46:16      2120
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  17:59:26   2891
Comm:  Inst=m2a/718320 Batch=20060505s2 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2374 > 2486      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



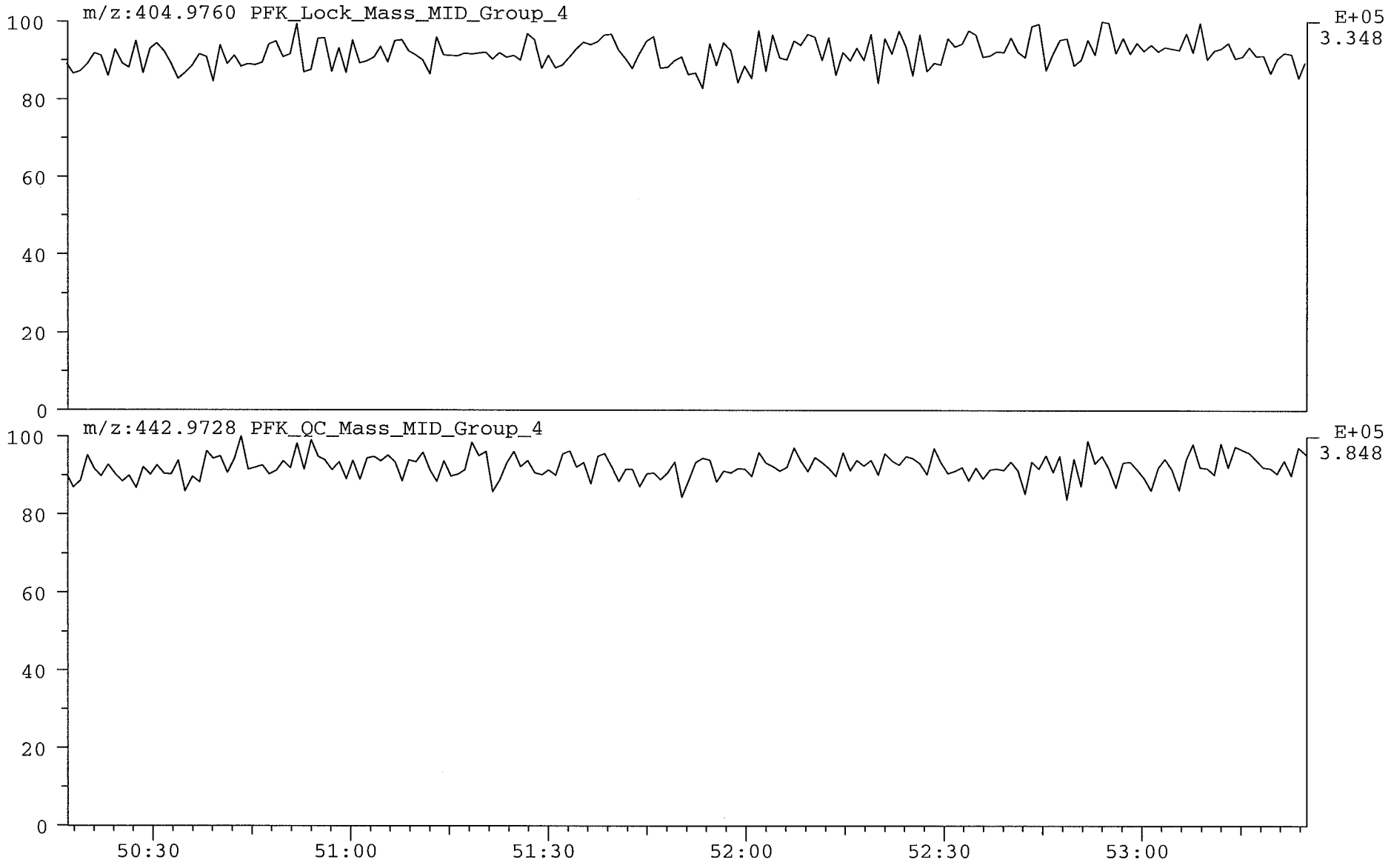
```
CHRO:  b060505s2                          05-May-06   Elapse:  51:50      2432
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  17:59:26   2891
Comm:  Inst=m2a/718320 Batch=20060505s2 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2344 > 2519      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



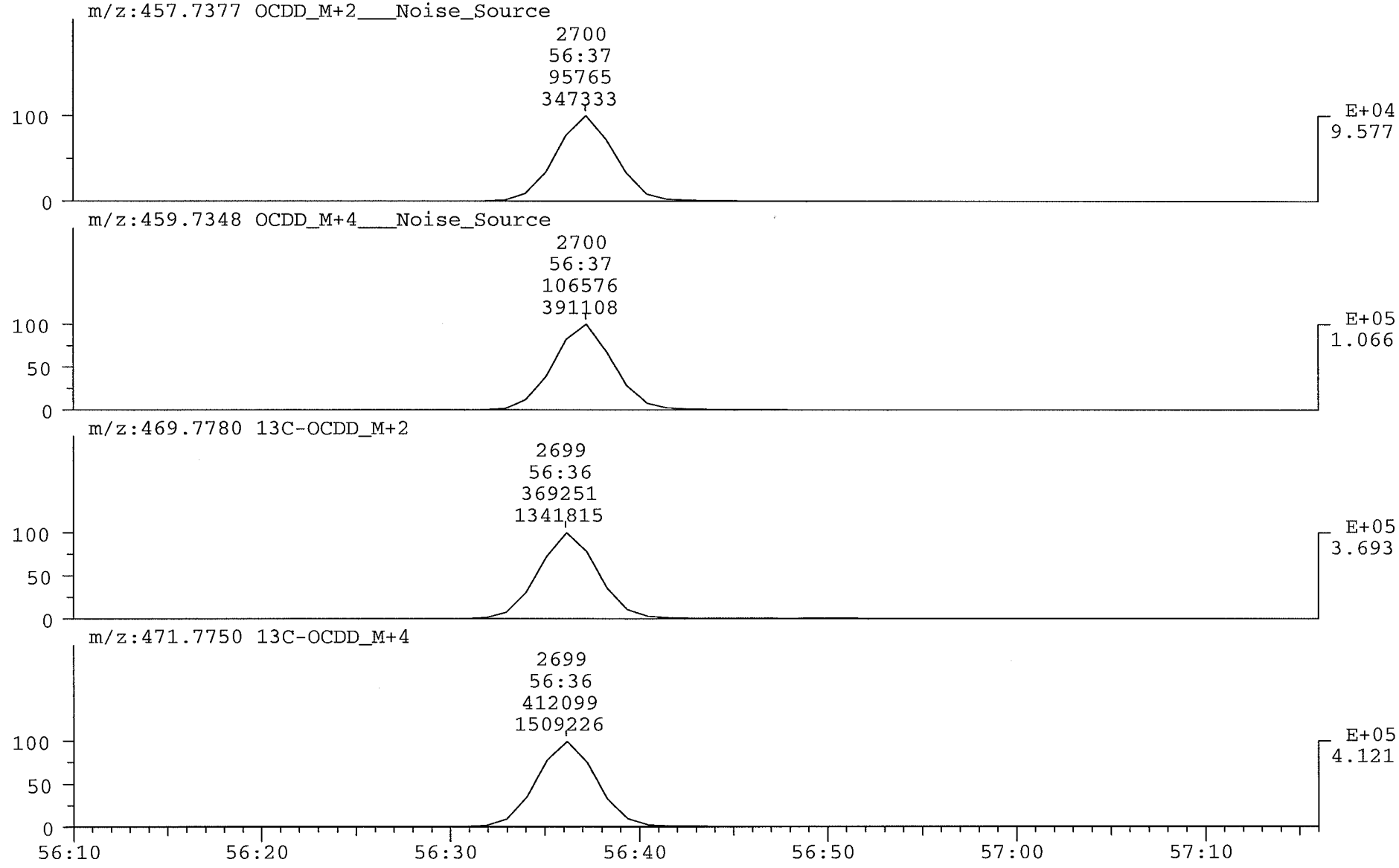
```
CHRO:  b060505s2                          05-May-06   Elapse:  51:50      2432
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  17:59:26   2891
Comm:  Inst=m2a/718320 Batch=20060505s2 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2344 > 2521      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



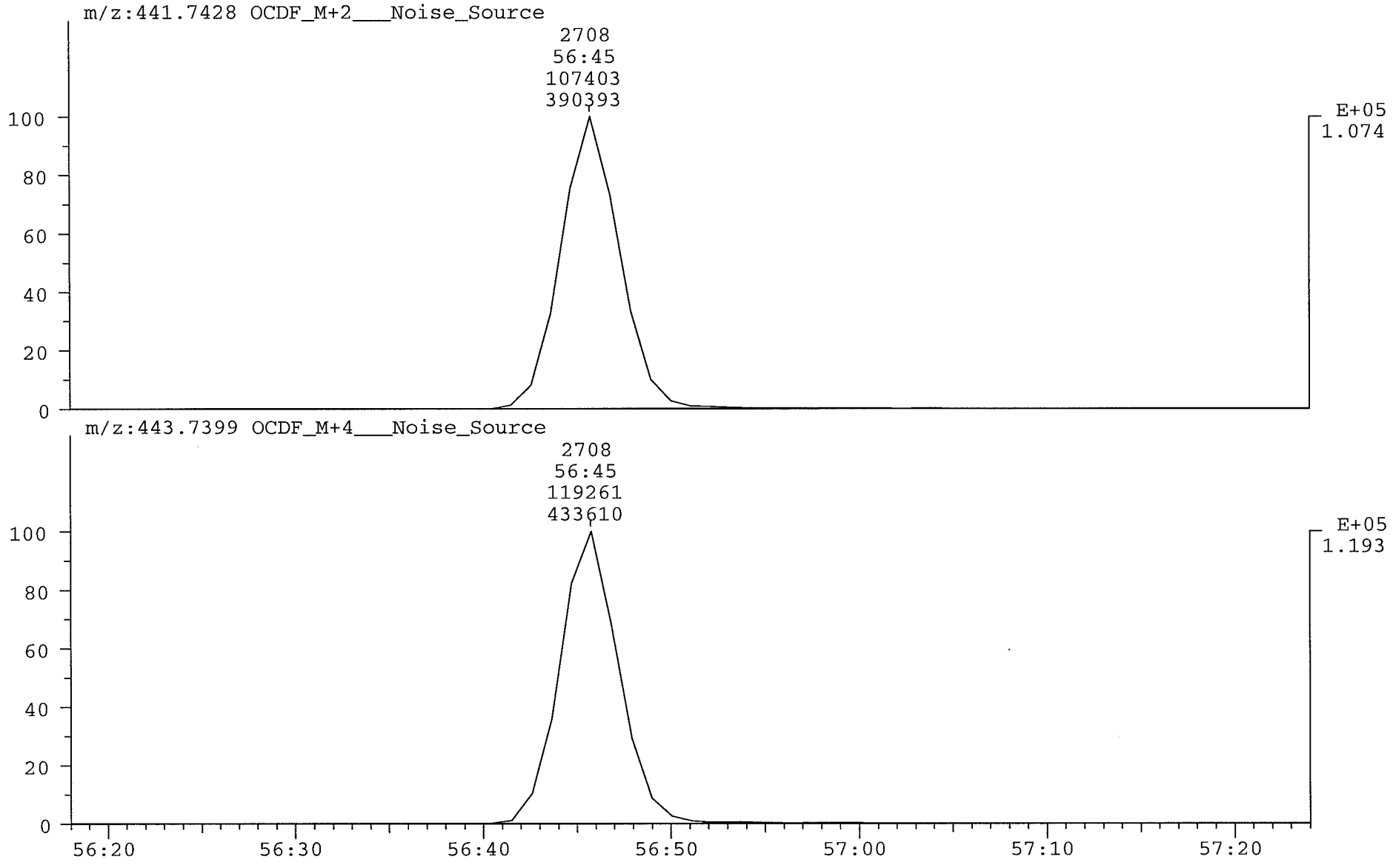
```
CHRO:  b060505s2                          05-May-06   Elapse:  51:50      2432
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  17:59:26   2891
Comm:  Inst=m2a/718320 Batch=20060505s2 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2344 > 2521      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  0, 0.0
Disp:  Height  Area
```



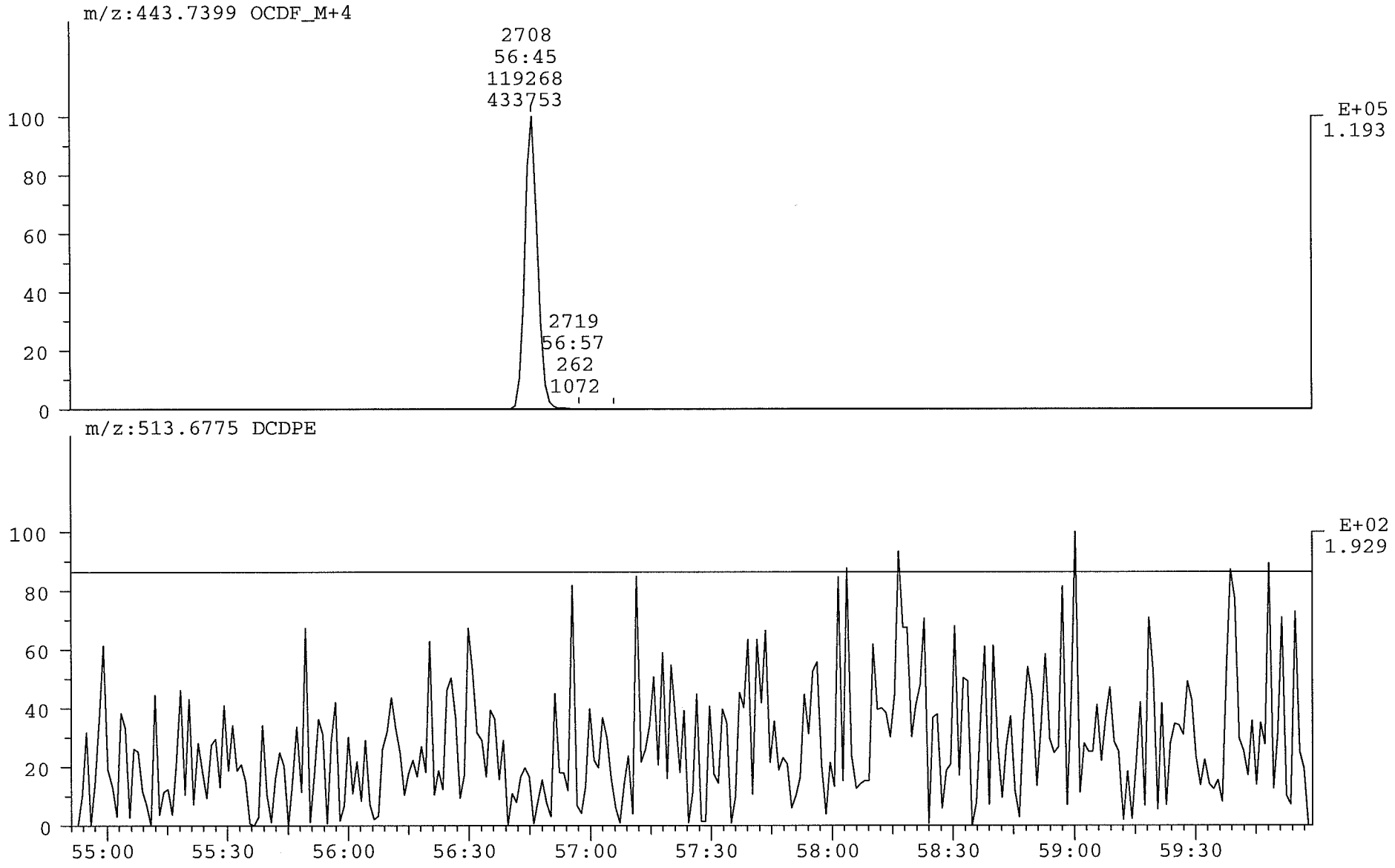
```
CHRO:  b060505s2                              05-May-06   Elapse:  56:40      2703
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                    Start :  17:59:26   2891
Comm:  Inst=m2a/718320 Batch=20060505s2 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  M23 Ver
Oper:  BFW            Client:  STL Knoxville              Inlet :  GC     Vial   3
Peak:  100.00  ppm      Label wndw:   2674 > 2736         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



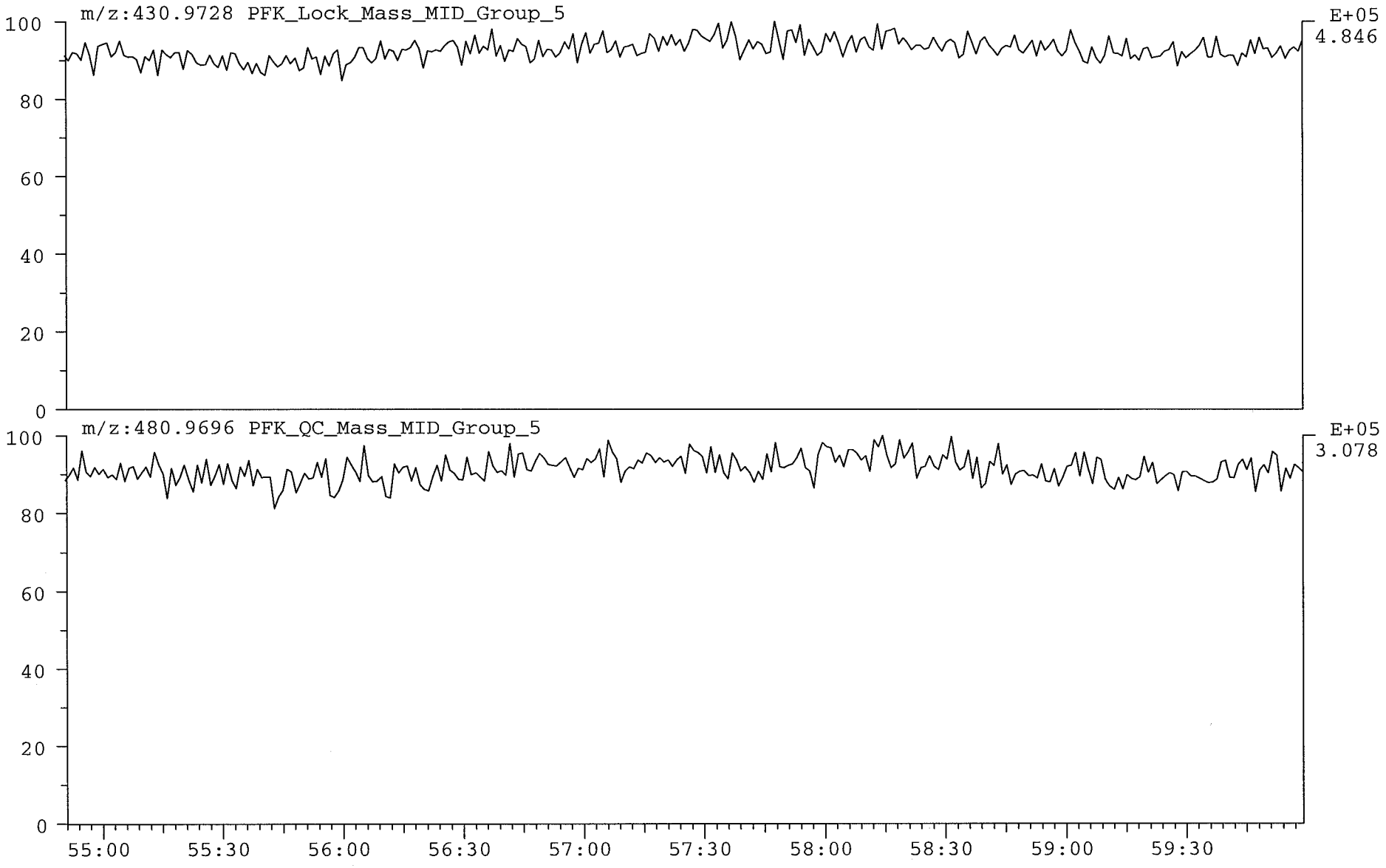
```
CHRO:  b060505s2                          05-May-06   Elapse:  56:47      2710
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                Start :  17:59:26   2891
Comm:  Inst=m2a/718320 Batch=20060505s2 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                      Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville            Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2682 > 2744      Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3           Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  b060505s2                                05-May-06  Elapse:  56:47      2710
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                     Start :  17:59:26   2891
Comm:  Inst=m2a/718320 Batch=20060505s2 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  M23 Ver
Oper:  BFW          Client:  STL Knoxville                 Inlet :  GC     Vial   3
Peak:  100.00  ppm     Label wndw:   2600 > 2889           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  b060505s2                              05-May-06   Elapse:  56:47      2710
Samp:  Vial 3 WO=3123:75 Meth=X8 Dil=1                    Start :  17:59:26   2891
Comm:  Inst=m2a/718320 Batch=20060505s2 Ccal=B060505S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  M23 Ver
Oper:  BFW            Client:  STL Knoxville              Inlet :  GC     Vial   3
Peak:  100.00  ppm      Label wndw:   2600 > 2889         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: b060505s2
Study: M23 Ver
Sample: WO=3123:75 Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: BFW
Client: STL Knoxville
Comments: Inst=m2a/718320 Batch=20060505s2 Ccal=B060505S1
Injected volume: 2.0
Sample from Vial 3
Analysis will stop when MID run finishes
Tune file name: tune2
File 8 of list 060505
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	TRUE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	140 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	29:52 min	37:52 min	1.00 sec
# 2	37:52 min	6:32 min	44:25 min	1.00 sec
# 3	44:25 min	5:05 min	49:30 min	1.00 sec
# 4	49:30 min	5:15 min	54:45 min	1.00 sec
# 5	54:45 min	5:15 min	60:00 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

351.9000		1	1	91.48
353.8970		1	1	91.48
355.8546		1	1	91.48
357.8516		1	1	91.48
367.8949		1	1	91.48
369.8919		1	1	91.48
380.9760	c	10	1	8.19
409.7974		1	1	91.48

Window # 3

mass	F	int	gr	time (ms)
373.8208		1	1	91.48
375.8178		1	1	91.48
380.9760	l	10	1	8.19
383.8639		1	1	91.48
385.8610		1	1	91.48
389.8156		1	1	91.48
391.8127		1	1	91.48
401.8559		1	1	91.48
403.8529		1	1	91.48
404.9760	c	10	1	8.19
445.7555		1	1	91.48

Window # 4

mass	F	int	gr	time (ms)
404.9760	l	10	1	8.19
407.7818		1	1	91.48
409.7788		1	1	91.48
417.8250		1	1	91.48
419.8220		1	1	91.48
423.7767		1	1	91.48
425.7737		1	1	91.48
435.8169		1	1	91.48
437.8140		1	1	91.48
442.9728	c	10	1	8.19
479.7165		1	1	91.48

Window # 5

mass	F	int	gr	time (ms)
430.9728	l	10	1	10.92
441.7428		1	1	120.15
443.7399		1	1	120.15
457.7377		1	1	120.15
459.7348		1	1	120.15
469.7780		1	1	120.15
471.7750		1	1	120.15
480.9696	c	10	1	10.92
513.6775		1	1	120.15

Auto Sampler descriptor: pcdd2ul

Injector A

Normal Injection

Slvnt A cln before inj	(K):	3 times
Slvnt B cln before inj	(L):	0 times
Sample rinse cycles	(R):	0 times
Syringe filling volume	(F):	1.0 ul
Pullup delay time	(D):	4 sec
Sample pullup speed	(E):	5.0 ul/sec
Slvnt aftr pre inj cln	(U):	0.0 ul
Air after pre inj cln	(G):	2.0 ul
Sample volume	(V):	2.0 ul
Sample air volume	(A):	2.0 ul
Sample pullup count	(P):	2 times
Injection speed	(S):	10.0 ul/sec
Injection wait time	(W):	10 sec
Injection hold time	(H):	3 sec
Solvent A clean cycles	(C):	15 times
Solvent B clean cycles	(B):	20 times
Loop clean w slvnt A	(LC):	0 times

```
Loop clean w slvnt B (LB):      0 times
Standard sample volume(X):    0.0 ul
Standard air volume   (Y):    0.0 ul
2nd Injection volume  (I):    0.0 ul
Air volume of 2nd inj (J):    0.0 ul
Time btwn 2 injections(T):      0 sec

GC descriptor :  epa1613
  Injector:        270 deg                      300 deg max
  Transfer Line:   290 deg                      300 deg max
  Column:          140 deg at   0.0 minutes     330 deg max
                   140 deg at   3.0 minutes
                   210 deg at   6.5 minutes
                   210 deg at  34.5 minutes
                   280 deg at  44.5 minutes
                   280 deg at  51.0 minutes
                   325 deg at  60.0 minutes
  Inlet    :
  Pressure       18.0 psi
  Splitless mode
  Purge time      1.5 min
  Purge flow     40.0 mL/min

   Gas saver is on
   Saver time      3.0 min
   Saver flow     15.0 mL/min

  Stabilize time   0.5 minutes
```

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8403.0000
BDEV	8288.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.5861	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9996
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-705.0000	ELEN	61.7750
EMULT	1.8200	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	186.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	532.0000	FVINLET	660.0000
FVSRC	994.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.7843	HVANAL	1580.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4759.4580	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	430.9728
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	2894.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10531.8778	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.7500	TCURR	0.8984	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 05-May-06 17:59:26.1

Autosampler has injected sample from vial 3
Analysis stopped at: 05-May-06 18:59:27.8 (run time 60.02 minutes)
Analysis stopped because MID run finished

Standards Data
DB-225 Column

STL Knoxville Specialty Organics GC/MS Initial Calibration Data Review / Narrative Checklist
Project Specific EPA Region V - Method: 8290 - KNOX-ID-0004-R6

PFK Date/Time:	2/9/06 9:49	Inst:	HRT905	Win Filename:	NA	Col Perf Filename:	C060209w1

CS1 Filename	CS2 Filename	CS3 Filename	CS4 Filename	CS5 Filename
C060209i1	C060209i2	C060209i3	C060209i4	C060209i5

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd Level
1. Was the mass resolution documented before beginning the initial calibration?		✓			✓
2. Was the instrument resolution >10,000 (<100 ppm) on PFK m/z 304.9824 and m/z 380.9760 (at reduced voltage)?		✓			✓
3. Was the measured exact mass of m/z 380.9760 (PFK) within 5 ppm at reduced accelerating voltage?		✓			✓
4. Was the Window Defining Mixture analyzed and the MID switchpoints set to encompass the retention time windows of each congener group?	✓				✓
5. Was the Column Performance solution analyzed and the %Valley ≤25 for separation between 2378-TCDD/F and the closest eluting non-2378 isomer?		✓			✓
6. Were the five calibration standard solutions, at the concentrations specified in Table 5 of the SOP, analyzed?		✓			✓
7. Was date/time of analysis verified between analysis header and logbook as correct?		✓			✓
8. Were the response factors calculated for each labeled standard and unlabeled native analyte using the SOP specified reference compound (Table 5), quantitation ions (Table 22), and formula (Section 10.2.6)?		✓			✓
9. Are the relative retention times of all PCDDs/PCDFs and all labeled compounds within the limits specified in Table 3?		✓			✓
10. Are %RSD ≤20% for all unlabeled native analytes?		✓			✓
11. Are %RSD ≤35% for all labeled internal standards?		✓			✓
12. Are all S/N ratios ≥10 for the GC signals in each EICP (extracted ion chromatographic profile) including internal standards?		✓			✓
13. Are the ion abundance ratios for all labeled and unlabeled analytes within the control limits specified in Table 22 of the SOP?		✓			✓
14. Was the second source (Wellington) ICV standard analyzed, and the %D calculated and within the acceptance criteria of < ±35%?		✓			✓
15. If manual integrations were performed, are they clearly identified, initialed and dated?	✓				✓
16. Were before/after chromatograms reviewed to determine whether the software and manual integrations were appropriate?		✓			✓
17. Were manual integrations performed properly?	✓				✓
18. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				✓
19. Does the ICAL folder contain **complete** data in the following order? Data review checklist, a **complete** runlog, Avg. %RSD summary, Ratio summary, Calculation summary, PFK resolution/peak match documentation; Total RIC, EICP's and manual integration - for window and all standards, in order from low to high standard, ICV Summary Table, Calculation Summary, and chromatograms?		✓			✓

Analyst: [signature]	Date: 2/7/06	2nd Level Reviewer : [signature]	Date: 2/10/06
Comments:		Comments:	

STL Knoxville Dioxin GC/MS Initial Calibration Data Review / Narrative Checklist

Method: ☒ 0023A/8290 ☒ EPA 23 KNOX-ID-0004-R6

PFK Date/Time:	2/9/06 9:49	Inst:	HRGS	Win Filename:	NA	Col Perf Filename:	C060209w1

CS1 Filename	CS2 Filename	CS3 Filename	CS4 Filename	CS5 Filename
C060209i1	C060209i2	C060209i3	C060209i4	C060209i5

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd Level
1. Was the mass resolution documented before beginning the initial calibration?		✓			✓
2. Was the instrument resolution >10,000 (<100 ppm) on PFK m/z 304.9824 and m/z 380.9760 (at reduced voltage)?		✓			✓
3. Was the measured exact mass of m/z 380.9760 (PFK) within 5 ppm at reduced accelerating voltage?		✓			✓
4. Was the Window Defining Mixture analyzed and the MID switchpoints set to encompass the retention time windows of each congener group?	✓				✓
5. Was the Column Performance solution analyzed and the %Valley ≤25 for separation between 2378-TCDD/F and the closest eluting non-2378 isomer?		✓			✓
6. Were the five calibration standard solutions, at the concentrations specified in Table 6of the SOP, analyzed?		✓			✓
7. Was date/time of analysis verified between analysis header and logbook as correct?		✓			✓
8. Were the response factors calculated for each labeled standard and unlabeled native analyte using the SOP specified reference compound (Table 4), quantitation ions (Table 22), and formula (Section 10.2.6)?		✓			✓
9. Are the relative retention times of all PCDDs/PCDFs and all labeled compounds within the limits specified in Table 3?		✓			✓
10. Method 0023A: Are %RSD ≤20% for all unlabeled native analytes (≤ criteria in Table 6 for Method 23)?		✓			✓
11. Method 0023A: Are %RSD ≤35% for all labeled internal standards (≤ criteria in Table 6 for Method 23)?		✓			✓
12. Are all S/N ratios ≥10 for the GC signals in each EICP (extracted ion chromatographic profile) including internal standards?		✓			✓
13. Are the ion abundance ratios for all labeled and unlabeled analytes within the control limits specified in Table 22 of the SOP?		✓			✓
14. Was the second source (Wellington) ICV standard analyzed, and the %D calculated and within the acceptance criteria of < ±35%?		✓			✓
15. If manual integrations were performed, are they clearly identified, initialed and dated?	✓				✓
16. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				✓
17. Does the ICAL folder contain **complete** data in the following order: Data review checklist, a **complete** runlog, Avg. %RSD summary, Ratio summary, Calculation summary, PFK resolution/peak match documentation; Total RIC, EICP's and manual integration - for window and all standards, in order from low to high standard, ICV Summary Table, Calculation Summary, and chromatograms?		✓			✓

Analyst: [signature]	Date: 2/9/06	2nd Level Reviewer : [signature]	Date: 2/10/06
Comments:		Comments:	

STL Knoxville Dioxin GC/MS Initial Calibration Data Review / Narrative Checklist
Method: 1613B - KNOX-ID-0004-R6

PFK Date/Time:	2/9/06 9:49	Inst:	WT90S	Win Filename:	NA	Col Perf Filename:	C060209w1

CS1 Filename	CS2 Filename	CS3 Filename	CS4 Filename	CS5 Filename
C060209i1	C060209i2	C060209i3	C060209i4	C060209i5

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd Level
1. Was the mass resolution documented before beginning the initial calibration?		✓			✓
2. Was the instrument resolution >10,000 (<100 ppm) on PFK m/z 304.9824 and m/z 380.9760 (at reduced voltage)?		✓			✓
3. Was the measured exact mass of m/z 380.9760 (PFK) within 5 ppm at reduced accelerating voltage?		✓			✓
4. Was the Window Defining Mixture analyzed and the MID switchpoints set to encompass the retention time windows of each congener group?	✓				✓
5. Was the Column Performance solution analyzed and the %Valley ≤25 for separation between 2378-TCDD/F and the closest eluting non-2378 isomer?		✓			✓
6. Were the five calibration standard solutions, at the concentrations specified in Table 5 of the SOP, analyzed?		✓			✓
7. Was date/time of analysis verified between analysis header and logbook as correct?		✓			✓
8. Were the response factors calculated for each labeled standard and unlabeled native analyte using the SOP specified reference compound, quantitation ions, and formula (Section 10.2.6)?		✓			✓
9. Is the retention time of 13C12-1234-TCDD >25.0 minutes on the DB/Rtx-5 column (15.0 minutes on the DB/Rtx-225 column)?		✓			✓
10. Are the relative retention times of all PCDDs/PCDFs and all labeled compounds within the limits specified in Table 3?		✓			✓
11. Are %RSD ≤20% for all unlabeled native analytes except 1,2,3,7,8,9-HxCDD and OCDF?		✓			✓
12. Are %RSD ≤35% for 1,2,3,7,8,9-HxCDD and OCDF and all labeled internal standards ?		✓			✓
13. Are all S/N ratios ≥10 for the GC signals in each EICP (extracted ion chromatographic profile) including internal standards?		✓			✓
14. Are the ion abundance ratios for all labeled and unlabeled analytes within the control limits specified in Table 22 of the SOP?		✓			✓
15. Was the second source (Wellington) ICV standard analyzed, and the %D calculated and within the acceptance criteria of < ±35%?		✓			✓
16. If manual integrations were performed, are they clearly identified, initialed and dated?	✓				✓
17. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				✓
18. Does the ICAL folder contain **complete** data in the following order: Data review checklist, a **complete** runlog, Avg. %RSD summary, Ratio summary, Calculation summary, PFK resolution/peak match documentation; Total RIC, EICP's and manual integration - for window and all standards, in order from low to high standard, ICV Summary Table, Calculation Summary, and chromatograms?		✓			✓

Analyst: [signature]	Date: 2/9/06	2nd Level Reviewer : [signature]	Date: 2/10/06
Comments:		Comments:	

STL KNOXVILLE
SPECIALTY ORGANICS INSTRUMENT MAT 90S RUN LOG

Date	Time	Opr	Sample ID	Filename	Code	Matrix	Type	Tape	Lot#/Comments
2-9-06	09:49	MSD	PFK	—	OK	—	RES		Mass Res Chk
2-9-06	09:51	MSD	1009:59	C060209w1	OK	—	WIN		Col Perf Mix
2-9-06	10:23	MSD	Noname	fr	OK	—	QC		flushes
2-9-06	10:36	MSD	↓	fr	OK	—	QC		↓
2-9-06	10:50	MSD	↓	fr	OK	—	QC		↓
2-9-06	11:04	MSD	2960:14 CS1	C060209i1	OK	—	ICAL		ICAL 8290/1613
2-9-06	11:35	MSD	↓ CS2	C060209i2	OK	—	ICAL		↓
2-9-06	12:07	MSD	↓ CS3	C060209i3	OK	—	ICAL		↓
2-9-06	12:39	MSD	1778:08 CS3	C060209SS	OK	—	ICAL		↓
2-9-06	13:10	MSD	2960:14 CS4	C060209i4	OK	—	ICAL		↓
2-9-06	13:42	MSD	↓ CS5	C060209i5	OK	—	ICAL		↓
2-9-06	14:56	MSD	PFK	—	OK	—	RES		Mass Res Chk

Read and Understood by:

_____ Date: _____

STL - Knoxville
Specialty Organics Group

IsoCalc Initial Calibration Report

TCDD/F by EPA Method 1613B - DB-225

ICAL ID: 15832 - 20060209I
Date: 02/09/06 11:04
Method: L1c - DX1613_Conf

Instrument: M3C
Column Desc: DB-225 30m x 0.32mm ID x 0.25um
Column S/N: 4809826

Level	Filename	Date/Time	Sample ID	Result Directory
CS1:	c060209i1	02/09/06 11:04	2960:14CS1	/20060209i/c060209i1.d
CS2:	c060209i2	02/09/06 11:35	2960:14CS2	/20060209i/c060209i2.d
CS3:	c060209i3	02/09/06 12:07	2960:14CS3	/20060209i/c060209i3.d
CS4:	c060209i4	02/09/06 13:10	2960:14CS4	/20060209i/c060209i4.d
CS5:	c060209i5	02/09/06 13:42	2960:14CS5	/20060209i/c060209i5.d

	Response Factors								
Analyte	CS1	CS2	CS3	CS4	CS5	Mean RF	%RSD	Limit	Valid?
2,3,7,8-TCDF	1.132	1.057	1.071	1.026	1.005	1.058	4.6	20.0	True
13C-2,3,7,8-TCDF	1.436	1.461	1.441	1.453	1.478	1.454	1.1	35.0	True
13C-1,2,3,4-TCDD	1.000	1.000	1.000	1.000	1.000	1.000	0.0	0.0	True

WMSD 2/9/06
BRW 2/10/06

STL - Knoxville

Specialty Organics Group

IsoCalc Initial Calibration Report

TCDD/F by EPA Method 1613B - DB-225

ICAL ID: 15832 - 20060209I
Date: 02/09/06 11:04
Method: L1c - DX1613_Conf

Instrument: M3C
Column Desc: DB-225 30m x 0.32mm ID x 0.25um
Column S/N: 4809826

Level	Filename	Date/Time	Sample ID	Result Directory
CS1:	c060209i1	02/09/06 11:04	2960:14CS1	/20060209i/c060209i1.d
CS2:	c060209i2	02/09/06 11:35	2960:14CS2	/20060209i/c060209i2.d
CS3:	c060209i3	02/09/06 12:07	2960:14CS3	/20060209i/c060209i3.d
CS4:	c060209i4	02/09/06 13:10	2960:14CS4	/20060209i/c060209i4.d
CS5:	c060209i5	02/09/06 13:42	2960:14CS5	/20060209i/c060209i5.d

Ion Abundance Ratios

Analyte	M/Z's	CS1	CS2	CS3	CS4	CS5	Ratio Limits	Valid?
2,3,7,8-TCDF	M/M+2	0.70	0.82	0.81	0.79	0.77	0.65-0.89	True
13C-2,3,7,8-TCDF	M/M+2	0.81	0.80	0.79	0.80	0.80	0.65-0.89	True
13C-1,2,3,4-TCDD	M/M+2	0.80	0.80	0.81	0.80	0.79	0.65-0.89	True

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Specialty Organics Group

IsoCalc Initial Calibration Report

TCDD/F by EPA Method 1613B - DB-225

ICAL ID: 15832 - 20060209I
Date: 02/09/06 11:04
Method: L1c - DX1613_Conf

Instrument: M3C
Column Desc: DB-225 30m x 0.32mm ID x 0.25um
Column S/N: 4809826

Level	Filename	Date/Time	Sample ID	Result Directory
CS1:	c060209i1	02/09/06 11:04	2960:14CS1	/20060209i/c060209i1.d
CS2:	c060209i2	02/09/06 11:35	2960:14CS2	/20060209i/c060209i2.d
CS3:	c060209i3	02/09/06 12:07	2960:14CS3	/20060209i/c060209i3.d
CS4:	c060209i4	02/09/06 13:10	2960:14CS4	/20060209i/c060209i4.d
CS5:	c060209i5	02/09/06 13:42	2960:14CS5	/20060209i/c060209i5.d

Relative Retention Time

Analyte	CS1	CS2	CS3	CS4	CS5	RRT Limits		Valid?
2,3,7,8-TCDF	1.000	1.002	1.001	1.001	1.001	0.999	-1.003	True
13C-2,3,7,8-TCDF	1.081	1.080	1.081	1.080	1.080	0.923	-1.103	True
13C-1,2,3,4-TCDD	1.000	1.000	1.000	1.000	1.000	1.000	-1.000	True

STL - Knoxville
Specialty Organics Group

IsoCalc Initial Calibration Report

TCDD/F by EPA Method 8290 - DB-225

ICAL ID: 15833 - 20060209I
Date: 02/09/06 11:04
Method: INc - DX8290_Conf

Instrument: M3C
Column Desc: DB-225 30m x 0.32mm ID x 0.25um
Column S/N: 4809826

Level	Filename	Date/Time	Sample ID	Result Directory
CS1:	c060209i1	02/09/06 11:04	2960:14CS1	/20060209i/c060209i1.d
CS2:	c060209i2	02/09/06 11:35	2960:14CS2	/20060209i/c060209i2.d
CS3:	c060209i3	02/09/06 12:07	2960:14CS3	/20060209i/c060209i3.d
CS4:	c060209i4	02/09/06 13:10	2960:14CS4	/20060209i/c060209i4.d
CS5:	c060209i5	02/09/06 13:42	2960:14CS5	/20060209i/c060209i5.d

	Response Factors								
Analyte	CS1	CS2	CS3	CS4	CS5	Mean RF	%RSD	Limit	Valid?
2,3,7,8-TCDF	1.132	1.057	1.071	1.026	1.005	1.058	4.6	20.0	True
13C-2,3,7,8-TCDF	1.436	1.461	1.441	1.453	1.478	1.454	1.1	30.0	True
13C-1,2,3,4-TCDD	1.000	1.000	1.000	1.000	1.000	1.000	0.0	0.0	True

MSD 2/9/06
BCW 2/10/06

STL - Knoxville

Specialty Organics Group

IsoCalc Initial Calibration Report

TCDD/F by EPA Method 8290 - DB-225

ICAL ID: 15833 - 20060209I
Date: 02/09/06 11:04
Method: INc - DX8290_Conf

Instrument: M3C
Column Desc: DB-225 30m x 0.32mm ID x 0.25um
Column S/N: 4809826

Level	Filename	Date/Time	Sample ID	Result Directory
CS1:	c060209i1	02/09/06 11:04	2960:14CS1	/20060209i/c060209i1.d
CS2:	c060209i2	02/09/06 11:35	2960:14CS2	/20060209i/c060209i2.d
CS3:	c060209i3	02/09/06 12:07	2960:14CS3	/20060209i/c060209i3.d
CS4:	c060209i4	02/09/06 13:10	2960:14CS4	/20060209i/c060209i4.d
CS5:	c060209i5	02/09/06 13:42	2960:14CS5	/20060209i/c060209i5.d

Ion Abundance Ratios

Analyte	M/Z's	CS1	CS2	CS3	CS4	CS5	Ratio Limits	Valid?
2,3,7,8-TCDF	M/M+2	0.70	0.82	0.81	0.79	0.77	0.65-0.89	True
13C-2,3,7,8-TCDF	M/M+2	0.81	0.80	0.79	0.80	0.80	0.65-0.89	True
13C-1,2,3,4-TCDD	M/M+2	0.80	0.80	0.81	0.80	0.79	0.65-0.89	True

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Specialty Organics Group

IsoCalc Initial Calibration Report

TCDD/F by EPA Method 8290 - DB-225

ICAL ID: 15833 - 20060209I
Date: 02/09/06 11:04
Method: INc - DX8290_Conf

Instrument: M3C
Column Desc: DB-225 30m x 0.32mm ID x 0.25um
Column S/N: 4809826

Level	Filename	Date/Time	Sample ID	Result Directory
CS1:	c060209i1	02/09/06 11:04	2960:14CS1	/20060209i/c060209i1.d
CS2:	c060209i2	02/09/06 11:35	2960:14CS2	/20060209i/c060209i2.d
CS3:	c060209i3	02/09/06 12:07	2960:14CS3	/20060209i/c060209i3.d
CS4:	c060209i4	02/09/06 13:10	2960:14CS4	/20060209i/c060209i4.d
CS5:	c060209i5	02/09/06 13:42	2960:14CS5	/20060209i/c060209i5.d

Relative Retention Time

Analyte	CS1	CS2	CS3	CS4	CS5	Mean RRT	Range	Window
2,3,7,8-TCDF	1.000	1.002	1.001	1.001	1.001	1.001	1.000-1.002	0.002
13C-2,3,7,8-TCDF	1.081	1.080	1.081	1.080	1.080	1.080	1.080-1.081	0.001
13C-1,2,3,4-TCDD	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000

STL - Knoxville
Specialty Organics Group

IsoCalc Initial Calibration Report

TCDD/F by EPA Method 23 - DB-225

ICAL ID: 15834 - 20060209I
Date: 02/09/06 11:04
Method: KP2c - DX23_2_Conf

Instrument: M3C
Column Desc: DB-225 30m x 0.32mm ID x 0.25um
Column S/N: 4809826

Level	Filename	Date/Time	Sample ID	Result Directory
CS1:	c060209i1	02/09/06 11:04	2960:14CS1	/20060209i/c060209i1.d
CS2:	c060209i2	02/09/06 11:35	2960:14CS2	/20060209i/c060209i2.d
CS3:	c060209i3	02/09/06 12:07	2960:14CS3	/20060209i/c060209i3.d
CS4:	c060209i4	02/09/06 13:10	2960:14CS4	/20060209i/c060209i4.d
CS5:	c060209i5	02/09/06 13:42	2960:14CS5	/20060209i/c060209i5.d

	Response Factors								
Analyte	CS1	CS2	CS3	CS4	CS5	Mean RF	%RSD	Limit	Valid?
2,3,7,8-TCDF	1.132	1.057	1.071	1.026	1.005	1.058	4.6	25.0	True
13C-2,3,7,8-TCDF	1.436	1.461	1.441	1.453	1.478	1.454	1.1	30.0	True
13C-1,2,3,4-TCDD	1.000	1.000	1.000	1.000	1.000	1.000	0.0	0.0	True

MSD 2/9/06

BPW 2/10/06

STL - Knoxville

Specialty Organics Group

IsoCalc Initial Calibration Report

TCDD/F by EPA Method 23 - DB-225

ICAL ID: 15834 - 20060209I
Date: 02/09/06 11:04
Method: KP2c - DX23_2_Conf

Instrument: M3C
Column Desc: DB-225 30m x 0.32mm ID x 0.25um
Column S/N: 4809826

Level	Filename	Date/Time	Sample ID	Result Directory
CS1:	c060209i1	02/09/06 11:04	2960:14CS1	/20060209i/c060209i1.d
CS2:	c060209i2	02/09/06 11:35	2960:14CS2	/20060209i/c060209i2.d
CS3:	c060209i3	02/09/06 12:07	2960:14CS3	/20060209i/c060209i3.d
CS4:	c060209i4	02/09/06 13:10	2960:14CS4	/20060209i/c060209i4.d
CS5:	c060209i5	02/09/06 13:42	2960:14CS5	/20060209i/c060209i5.d

Ion Abundance Ratios

Analyte	M/Z's	CS1	CS2	CS3	CS4	CS5	Ratio Limits	Valid?
2,3,7,8-TCDF	M/M+2	0.70	0.82	0.81	0.79	0.77	0.65-0.89	True
13C-2,3,7,8-TCDF	M/M+2	0.81	0.80	0.79	0.80	0.80	0.65-0.89	True
13C-1,2,3,4-TCDD	M/M+2	0.80	0.80	0.81	0.80	0.79	0.65-0.89	True

STL - Knoxville

Specialty Organics Group

IsoCalc Initial Calibration Report

TCDD/F by EPA Method 23 - DB-225

ICAL ID: 15834 - 20060209I
Date: 02/09/06 11:04
Method: KP2c - DX23_2_Conf

Instrument: M3C
Column Desc: DB-225 30m x 0.32mm ID x 0.25um
Column S/N: 4809826

Level	Filename	Date/Time	Sample ID	Result Directory
CS1:	c060209i1	02/09/06 11:04	2960:14CS1	/20060209i/c060209i1.d
CS2:	c060209i2	02/09/06 11:35	2960:14CS2	/20060209i/c060209i2.d
CS3:	c060209i3	02/09/06 12:07	2960:14CS3	/20060209i/c060209i3.d
CS4:	c060209i4	02/09/06 13:10	2960:14CS4	/20060209i/c060209i4.d
CS5:	c060209i5	02/09/06 13:42	2960:14CS5	/20060209i/c060209i5.d

Relative Retention Time

Analyte	CS1	CS2	CS3	CS4	CS5	Mean RRT	Range	Window
2,3,7,8-TCDF	1.000	1.002	1.001	1.001	1.001	1.001	1.000-1.002	0.002
13C-2,3,7,8-TCDF	1.081	1.080	1.081	1.080	1.080	1.080	1.080-1.081	0.001
13C-1,2,3,4-TCDD	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000

STL - Knoxville
Specialty Organics Group

IsoCalc Initial Calibration Report

TCDD/F by EPA Method 0023/8290 - DB-225

ICAL ID: 15835 - 20060209I
Date: 02/09/06 11:04
Method: X8c - 0023/8290_Conf

Instrument: M3C
Column Desc: DB-225 30m x 0.32mm ID x 0.25um
Column S/N: 4809826

Level	Filename	Date/Time	Sample ID	Result Directory
CS1:	c060209i1	02/09/06 11:04	2960:14CS1	/20060209i/c060209i1.d
CS2:	c060209i2	02/09/06 11:35	2960:14CS2	/20060209i/c060209i2.d
CS3:	c060209i3	02/09/06 12:07	2960:14CS3	/20060209i/c060209i3.d
CS4:	c060209i4	02/09/06 13:10	2960:14CS4	/20060209i/c060209i4.d
CS5:	c060209i5	02/09/06 13:42	2960:14CS5	/20060209i/c060209i5.d

Response Factors

Analyte	CS1	CS2	CS3	CS4	CS5	Mean RF	%RSD	Limit	Valid?
2,3,7,8-TCDF	1.132	1.057	1.071	1.026	1.005	1.058	4.6	20.0	True
13C-2,3,7,8-TCDF	1.436	1.461	1.441	1.453	1.478	1.454	1.1	30.0	True
13C-1,2,3,4-TCDD	1.000	1.000	1.000	1.000	1.000	1.000	0.0	0.0	True

UMSD 2/9/06
BPW 2/9/06

STL - Knoxville

Specialty Organics Group

IsoCalc Initial Calibration Report

TCDD/F by EPA Method 0023/8290 - DB-225

ICAL ID: 15835 - 20060209I
Date: 02/09/06 11:04
Method: X8c - 0023/8290_Conf

Instrument: M3C
Column Desc: DB-225 30m x 0.32mm ID x 0.25um
Column S/N: 4809826

Level	Filename	Date/Time	Sample ID	Result Directory
CS1:	c060209i1	02/09/06 11:04	2960:14CS1	/20060209i/c060209i1.d
CS2:	c060209i2	02/09/06 11:35	2960:14CS2	/20060209i/c060209i2.d
CS3:	c060209i3	02/09/06 12:07	2960:14CS3	/20060209i/c060209i3.d
CS4:	c060209i4	02/09/06 13:10	2960:14CS4	/20060209i/c060209i4.d
CS5:	c060209i5	02/09/06 13:42	2960:14CS5	/20060209i/c060209i5.d

Ion Abundance Ratios

Analyte	M/Z's	CS1	CS2	CS3	CS4	CS5	Ratio Limits	Valid?
2,3,7,8-TCDF	M/M+2	0.70	0.82	0.81	0.79	0.77	0.65-0.89	True
13C-2,3,7,8-TCDF	M/M+2	0.81	0.80	0.79	0.80	0.80	0.65-0.89	True
13C-1,2,3,4-TCDD	M/M+2	0.80	0.80	0.81	0.80	0.79	0.65-0.89	True

STL - Knoxville | **IsoCalc Initial Calibration Report**

Specialty Organics Group | *TCDD/F by EPA Method 0023/8290 - DB-225*

ICAL ID: 15835 - 20060209I
Date: 02/09/06 11:04
Method: X8c - 0023/8290_Conf

Instrument: M3C
Column Desc: DB-225 30m x 0.32mm ID x 0.25um
Column S/N: 4809826

Level	Filename	Date/Time	Sample ID	Result Directory
CS1:	c060209i1	02/09/06 11:04	2960:14CS1	/20060209i/c060209i1.d
CS2:	c060209i2	02/09/06 11:35	2960:14CS2	/20060209i/c060209i2.d
CS3:	c060209i3	02/09/06 12:07	2960:14CS3	/20060209i/c060209i3.d
CS4:	c060209i4	02/09/06 13:10	2960:14CS4	/20060209i/c060209i4.d
CS5:	c060209i5	02/09/06 13:42	2960:14CS5	/20060209i/c060209i5.d

Relative Retention Time

Analyte	CS1	CS2	CS3	CS4	CS5	Mean RRT	Range	Window
2,3,7,8-TCDF	1.000	1.002	1.001	1.001	1.001	1.001	1.000-1.002	0.002
13C-2,3,7,8-TCDF	1.081	1.080	1.081	1.080	1.080	1.080	1.080-1.081	0.001
13C-1,2,3,4-TCDD	1.000	1.000	1.000	1.000	1.000	1.000	1.000-1.000	0.000

STL - Knoxville

IsoCalc Preliminary Sample Report

TCDD/F by EPA Method 1613B - DB-225

IsoCalc

Workorder	2960:14CS1	**Prep Batch**		**Lot No**	
Data File	/20060209i/c060209i1.d	**Prep Date**		**SDG No**	
Analysis ID	88810	**Prep Exp Date**		**Date Received**	
Analysis Date	2/9/2006	**Matrix**	UNKNOWN	**Date Sampled**	
Analysis Time	11:04	**Initial Wt/Vol**		**Lims Test Code**	
Anal Exp Date		**Extract Vol**		**Method**	DX1613_Conf
Instrument	M3C	**Dil Factor**	1.0	**Code**	L1c
Analyst	MSD				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (ng/mL)	DL (ng/mL)
2,3,7,8-TCDD	17:34	27686	5089	1.000	0.500	0.632907	126.58	0.632907	0.0174
2,3,7,8-TCDF	19:24	35849	6002	1.000	0.500	0.565863	113.17	0.565863	0.0138
37Cl4-2,3,7,8-TCDD	17:34	27577	5811	1.000	0.500	0.625021	125.00	0.625021	0.0116
13C-2,3,7,8-TCDD	17:34	4374418	874248	1.000	100.0	99.144322	99.14	99.144322	0.0460
13C-2,3,7,8-TCDF	19:24	6335282	1161505	1.000	100.0	143.586469	143.59	143.586469	0.0544
13C-1,2,3,4-TCDD	17:57	4412172	859010	1.000	100.0	100.000000	100.00	100.000000	0.0460

STL - Knoxville

IsoCalc Preliminary Peak Report

TCDD/F by EPA Method 1613B - DB-225

IsoCalc

Workorder	2960:14CS1	**Prep Batch**		**Lot No**	
Data File	/20060209i/c060209i1.d	**Prep Date**		**SDG No**	
Analysis ID	88810	**Prep Exp Date**		**Date Received**	
Analysis Date	02/09/06 11:04	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M3C	**Extract Vol**		**Method**	DX1613_Conf
Analyst	MSD	**Diluton Factor**	1.00	**Code**	L1c

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	60	100	24	40	0.60 *	/	
	2,3,7,8-TCDF	19:24	00:00	0	14809	21040	2886	3116	0.70	ABB/ABB	M
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	228	240	91	96	0.95 *	/	
	13C-2,3,7,8-TCDF	19:24	00:00	0	2826747	3508535	521093	640412	0.81	AVV/ABV	D
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	43	110	17	44	0.39 *	/	
	2,3,7,8-TCDD	17:34	00:00	0	12690	14996	2152	2937	0.85	ABB/ABV	D
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	100		40				
	37Cl4-2,3,7,8-TCDD	17:34	00:00	0	27577		5811			AVB	
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	238	158	95	63	1.51 *	/	
	13C-2,3,7,8-TCDD	17:34	00:00	0	1952586	2421832	391194	483054	0.81	ABV/ABV	M
	13C-1,2,3,4-TCDD	17:57	00:00	0	1963511	2448661	380116	478894	0.80	AVV/AVV	M

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Sample Report

TCDD/F by EPA Method 1613B - DB-225

IsoCalc

Workorder	2960:14CS2	**Prep Batch**		**Lot No**	
Data File	/20060209i/c060209i2.d	**Prep Date**		**SDG No**	
Analysis ID	88812	**Prep Exp Date**		**Date Received**	
Analysis Date	2/9/2006	**Matrix**	UNKNOWN	**Date Sampled**	
Analysis Time	11:35	**Initial Wt/Vol**		**Lims Test Code**	
Anal Exp Date		**Extract Vol**		**Method**	DX1613_Conf
Instrument	M3C	**Dil Factor**	1.0	**Code**	L1c
Analyst	MSD				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (ng/mL)	DL (ng/mL)
2,3,7,8-TCDD	17:33	213765	33301	1.000	2.000	4.706826	235.34	4.706826	0.0961
2,3,7,8-TCDF	19:24	137365	25450	1.000	2.000	2.113903	105.70	2.113903	0.0143
37Cl4-2,3,7,8-TCDD	17:34	105067	19465	1.000	2.000	2.361877	118.09	2.361877	0.0120
13C-2,3,7,8-TCDD	17:33	4541596	897783	1.000	100.0	102.093829	102.09	102.093829	0.0403
13C-2,3,7,8-TCDF	19:22	6498171	1244348	1.000	100.0	146.077097	146.08	146.077097	0.0509
13C-1,2,3,4-TCDD	17:56	4448453	874303	1.000	100.0	100.000000	100.00	100.000000	0.0403

STL - Knoxville

IsoCalc Preliminary Peak Report

TCDD/F by EPA Method 1613B - DB-225

IsoCalc

Workorder	2960:14CS2	**Prep Batch**		**Lot No**	
Data File	/20060209i/c060209i2.d	**Prep Date**		**SDG No**	
Analysis ID	88812	**Prep Exp Date**		**Date Received**	
Analysis Date	02/09/06 11:35	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M3C	**Extract Vol**		**Method**	DX1613_Conf
Analyst	MSD	**Diluton Factor**	1.00	**Code**	L1c

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	93	85	37	34	1.09 *	/	
	2,3,7,8-TCDF	19:24	00:00	0	62047	75318	11128	14322	0.82	ABB/AVB	M
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	233	213	93	85	1.09 *	/	
	13C-2,3,7,8-TCDF	19:22	00:00	0	2890461	3607710	554300	690048	0.80	AVV/AVV	D
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	400	463	160	185	0.86	/	
	2,3,7,8-TCDD	17:33	00:00	0	86542	127223	13657	19644	0.68	AVB/AVV	M
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	105		42				
	37Cl4-2,3,7,8-TCDD	17:34	00:00	0	105067		19465			AVB	
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	200	153	80	61	1.31 *	/	
	13C-2,3,7,8-TCDD	17:33	00:00	0	2023592	2518004	405680	492103	0.80	AVV/AVV	M
	13C-1,2,3,4-TCDD	17:56	00:00	0	1971277	2477176	387348	486955	0.80	AVV/AVV	M

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Sample Report

TCDD/F by EPA Method 1613B - DB-225

IsoCalc

Workorder	2960:14CS3	**Prep Batch**		**Lot No**	
Data File	/20060209i/c060209i3.d	**Prep Date**		**SDG No**	
Analysis ID	88813	**Prep Exp Date**		**Date Received**	
Analysis Date	2/9/2006	**Matrix**	UNKNOWN	**Date Sampled**	
Analysis Time	12:07	**Initial Wt/Vol**		**Lims Test Code**	
Anal Exp Date		**Extract Vol**		**Method**	DX1613_Conf
Instrument	M3C	**Dil Factor**	1.0	**Code**	L1c
Analyst	MSD				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (ng/mL)	DL (ng/mL)
2,3,7,8-TCDD	17:34	930294	156738	1.000	10.00	14.200505	142.01	14.200505	0.0514
2,3,7,8-TCDF	19:24	1098699	212141	1.000	10.00	10.708158	107.08	10.708158	0.00759
37Cl4-2,3,7,8-TCDD	17:34	731446	147187	1.000	10.00	10.274610	102.75	10.274610	0.00828
13C-2,3,7,8-TCDD	17:33	6551133	1260861	1.000	100.0	92.023659	92.02	92.023659	0.0281
13C-2,3,7,8-TCDF	19:23	10260392	1943973	1.000	100.0	144.127560	144.13	144.127560	0.0342
13C-1,2,3,4-TCDD	17:56	7118966	1388277	1.000	100.0	100.000000	100.00	100.000000	0.0281

STL - Knoxville

IsoCalc Preliminary Peak Report

TCDD/F by EPA Method 1613B - DB-225

IsoCalc

Workorder	2960:14CS3	**Prep Batch**		**Lot No**	
Data File	/20060209i/c060209i3.d	**Prep Date**		**SDG No**	
Analysis ID	88813	**Prep Exp Date**		**Date Received**	
Analysis Date	02/09/06 12:07	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M3C	**Extract Vol**		**Method**	DX1613_Conf
Analyst	MSD	**Diluton Factor**	1.00	**Code**	L1c

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	68	80	27	32	0.84	/	
	2,3,7,8-TCDF	19:24	00:00	0	490948	607751	92464	119677	0.81	ABB/AVB	M
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	235	240	94	96	0.98 *	/	
	13C-2,3,7,8-TCDF	19:23	00:00	0	4532008	5728384	861025	1082948	0.79	AVV/AVV	D
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	275	373	110	149	0.74	/	
	2,3,7,8-TCDD	17:34	00:00	0	383699	546595	65270	91468	0.70	AVV/AVV	D
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	115		46				
	37Cl4-2,3,7,8-TCDD	17:34	00:00	0	731446		147187			AVB	
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	203	188	81	75	1.08 *	/	
	13C-2,3,7,8-TCDD	17:33	00:00	0	2877259	3673874	548427	712434	0.78	AVV/ABV	M
	13C-1,2,3,4-TCDD	17:56	00:00	0	3177980	3940986	617122	771155	0.81	AVB/AVV	M

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Sample Report

TCDD/F by EPA Method 1613B - DB-225

IsoCalc

Workorder	2960:14CS4	**Prep Batch**		**Lot No**	
Data File	/20060209i/c060209i4.d	**Prep Date**		**SDG No**	
Analysis ID	88818	**Prep Exp Date**		**Date Received**	
Analysis Date	2/9/2006	**Matrix**	UNKNOWN	**Date Sampled**	
Analysis Time	13:10	**Initial Wt/Vol**		**Lims Test Code**	
Anal Exp Date		**Extract Vol**		**Method**	DX1613_Conf
Instrument	M3C	**Dil Factor**	1.0	**Code**	L1c
Analyst	MSD				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (ng/mL)	DL (ng/mL)
2,3,7,8-TCDD	17:33	2486974	425011	1.000	40.00	57.570775	143.93	57.570775	0.0771
2,3,7,8-TCDF	19:23	2531791	471690	1.000	40.00	41.032280	102.58	41.032280	0.0240
37Cl4-2,3,7,8-TCDD	17:33	1905936	372262	1.000	40.00	44.867797	112.17	44.867797	0.0155
13C-2,3,7,8-TCDD	17:32	4319855	879282	1.000	100.0	101.694063	101.69	101.694063	0.0797
13C-2,3,7,8-TCDF	19:22	6170242	1164539	1.000	100.0	145.254177	145.25	145.254177	0.0622
13C-1,2,3,4-TCDD	17:56	4247893	840379	1.000	100.0	100.000000	100.00	100.000000	0.0797

STL - Knoxville

IsoCalc Preliminary Peak Report

TCDD/F by EPA Method 1613B - DB-225

IsoCalc

Workorder	2960:14CS4	**Prep Batch**		**Lot No**	
Data File	/20060209i/c060209i4.d	**Prep Date**		**SDG No**	
Analysis ID	88818	**Prep Exp Date**		**Date Received**	
Analysis Date	02/09/06 13:10	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M3C	**Extract Vol**		**Method**	DX1613_Conf
Analyst	MSD	**Diluton Factor**	1.00	**Code**	L1c

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	128	153	51	61	0.84	/	
	Unidentified	18:41	00:00	0	785	2421	254	526	0.32 *	ABB/ABV	R
	Unidentified	18:48	00:00	0	1108	814	235	204	1.36 *	ABB/AVB	RT
	2,3,7,8-TCDF	19:23	00:00	0	1120079	1411712	208850	262840	0.79	AVV/AVB	M
	Unidentified	19:40	00:00	0	5897	9498	1189	1459	0.62 *	AVV/ABV	R
	Unidentified	19:51	00:00	0	8315	3632	1234	933	2.29 *	AVV/AVV	R
	Unidentified	20:01	00:00	0	1178	2666	269	560	0.44 *	AVV/ABB	RT
	Unidentified	20:15	00:00	0	6780	765	1021	337	8.86 *	AVB/ABB	R
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	278	245	111	98	1.13 *	/	
	13C-2,3,7,8-TCDF	19:22	00:00	0	2743710	3426532	511261	653278	0.80	AVV/AVV	D
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	200	478	80	191	0.42 *	/	
	Unidentified	17:23	00:00	0	838735	1341197	65100	100651	0.63 *	AVV/AVV	R
	2,3,7,8-TCDD	17:33	00:00	0	1068466	1418508	184051	240960	0.75	AVV/AVV	D
	Unidentified	17:55	00:00	0	4341	7572	964	852	0.57 *	AVB/AVV	RT
	Unidentified	18:08	00:00	0	1163	3980	406	748	0.29 *	AVV/AVB	R
	Unidentified	18:21	00:00	0	1108	4461	343	755	0.25 *	AVB/ABB	RT
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	130		52				
	37Cl4-2,3,7,8-TCDD	17:33	00:00	0	1905936		372262			AVV	
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	378	293	151	117	1.29 *	/	
	13C-2,3,7,8-TCDD	17:32	00:00	0	1914123	2405732	386350	492932	0.80	AVV/ABV	M
	13C-1,2,3,4-TCDD	17:56	00:00	0	1891236	2356657	370798	469581	0.80	AVV/AVV	M

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Sample Report

TCDD/F by EPA Method 1613B - DB-225

IsoCalc

Workorder	2960:14CS5	**Prep Batch**		**Lot No**	
Data File	/20060209i/c060209i5.d	**Prep Date**		**SDG No**	
Analysis ID	88819	**Prep Exp Date**		**Date Received**	
Analysis Date	2/9/2006	**Matrix**	UNKNOWN	**Date Sampled**	
Analysis Time	13:42	**Initial Wt/Vol**		**Lims Test Code**	
Anal Exp Date		**Extract Vol**		**Method**	DX1613_Conf
Instrument	M3C	**Dil Factor**	1.0	**Code**	L1c
Analyst	MSD				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (ng/mL)	DL (ng/mL)
2,3,7,8-TCDD	17:35	14034715	2700553	1.000	200.0	229.887770	114.94	229.887770	0.0771
2,3,7,8-TCDF	19:24	17512528	3293112	1.000	200.0	200.956142	100.48	200.956142	0.0230
37Cl4-2,3,7,8-TCDD	17:35	13210841	2561713	1.000	200.0	224.007630	112.00	224.007630	0.0143
13C-2,3,7,8-TCDD	17:33	6105029	1219452	1.000	100.0	103.519002	103.52	103.519002	0.0446
13C-2,3,7,8-TCDF	19:23	8714602	1661488	1.000	100.0	147.767832	147.77	147.767832	0.0539
13C-1,2,3,4-TCDD	17:57	5897496	1172399	1.000	100.0	100.000000	100.00	100.000000	0.0446

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IsoCalc Preliminary Peak Report

TCDD/F by EPA Method 1613B - DB-225

IsoCalc

Workorder	2960:14CS5	**Prep Batch**		**Lot No**	
Data File	/20060209i/c06020915.d	**Prep Date**		**SDG No**	
Analysis ID	88819	**Prep Exp Date**		**Date Received**	
Analysis Date	02/09/06 13:42	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M3C	**Extract Vol**		**Method**	DX1613_Conf
Analyst	MSD	**Diluton Factor**	1.00	**Code**	L1c

View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	158	225	63	90	0.70	/	
	Unidentified	18:44	00:00	0	3136	2700	618	669	1.16 *	ABV/AVB	R
	Unidentified	18:52	00:00	0	1261	1431	339	310	0.88	AVB/ABB	
	2,3,7,8-TCDF	19:24	00:00	0	7635586	9876942	1423812	1869300	0.77	AVV/AVV	M
	Unidentified	19:43	00:00	0	30743	44635	4990	5884	0.69	AVV/AVV	
	Unidentified	19:51	00:00	0	13383	3809	1619	1203	3.51 *	AVV/AVV	RT
	Unidentified	20:02	00:00	0	1694	1219	497	549	1.39 *	AVB/AVB	R
	Unidentified	20:14	00:00	0	13429	14492	2627	2869	0.93 *	ABB/ABB	R
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	430	203	172	81	2.12 *	/	
	13C-2,3,7,8-TCDF	19:23	00:00	0	3885885	4828717	742125	919363	0.80	AVV/AVV	D
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	503	438	201	175	1.15 *	/	
	Unidentified	17:22	00:00	0	268700	346508	22497	35061	0.78	AVV/AVV	
	2,3,7,8-TCDD	17:35	00:00	0	6129785	7904930	1186530	1514023	0.78	AVV/AVV	D
	Unidentified	17:57	00:00	0	23956	17713	2712	2615	1.35 *	AVV/AVV	R
	Unidentified	18:14	00:00	0	7808	4451	773	737	1.75 *	AVV/AVV	R
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	168		67				
	37Cl4-2,3,7,8-TCDD	17:35	00:00	0	13210841		2561713			AVV	
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	348	175	139	70	1.99 *	/	
	13C-2,3,7,8-TCDD	17:33	00:00	0	2711216	3393813	544510	674942	0.80	AVV/ABV	M
	13C-1,2,3,4-TCDD	17:57	00:00	0	2608790	3288706	513717	658682	0.79	AVV/AVV	M

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Sample Report

TCDD/F by EPA Method 1613B - DB-225

IsoCalc

Workorder	1778:08CS3	**Prep Batch**		**Lot No**	
Data File	/20060209i/c060209ss.d	**Prep Date**		**SDG No**	
Analysis ID	88820	**Prep Exp Date**		**Date Received**	
Analysis Date	2/9/2006	**Matrix**	UNKNOWN	**Date Sampled**	
Analysis Time	12:39	**Initial Wt/Vol**		**Lims Test Code**	
Anal Exp Date		**Extract Vol**		**Method**	DX1613_Conf
Instrument	M3C	**Dil Factor**	1.0	**Code**	L1c
Analyst	MSD				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (ng/mL)	DL (ng/mL)
2,3,7,8-TCDD	17:35	1657668	294292	1.229	10.00	10.200464	102.00	10.200464	0.0241
2,3,7,8-TCDF	19:25	2056185	391535	1.071✓	10.00	10.099291	100.99	10.099291	0.00698
37Cl4-2,3,7,8-TCDD	17:35	1443373	279046	1.219	10.00	11.016802	110.17	11.016802	0.00594
13C-2,3,7,8-TCDD	17:33	13222870	2587829	1.018	100.0	120.853329	120.85	120.853329	0.0307
13C-2,3,7,8-TCDF	19:23	19009987	3577294	1.441✓	100.0	122.743501	122.74	122.743501	0.0168
13C-1,2,3,4-TCDD	17:57	10747794	2071702	1.000	100.0	100.000000	100.00	100.000000	0.0313

MSD 2/9/06
BPW 2/10/06

STL - Knoxville

IsoCalc Preliminary Peak Report

TCDD/F by EPA Method 1613B - DB-225

IsoCalc

Workorder	1778:08CS3 -	**Prep Batch**		**Lot No**	
Data File	/20060209i/c060209ss.d	**Prep Date**		**SDG No**	
Analysis ID	88820	**Prep Exp Date**		**Date Received**	
Analysis Date	02/09/06 12:39	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M3C	**Extract Vol**		**Method**	DX1613_Conf
Analyst	MSD	**Diluton Factor**	1.00	**Code**	L1c

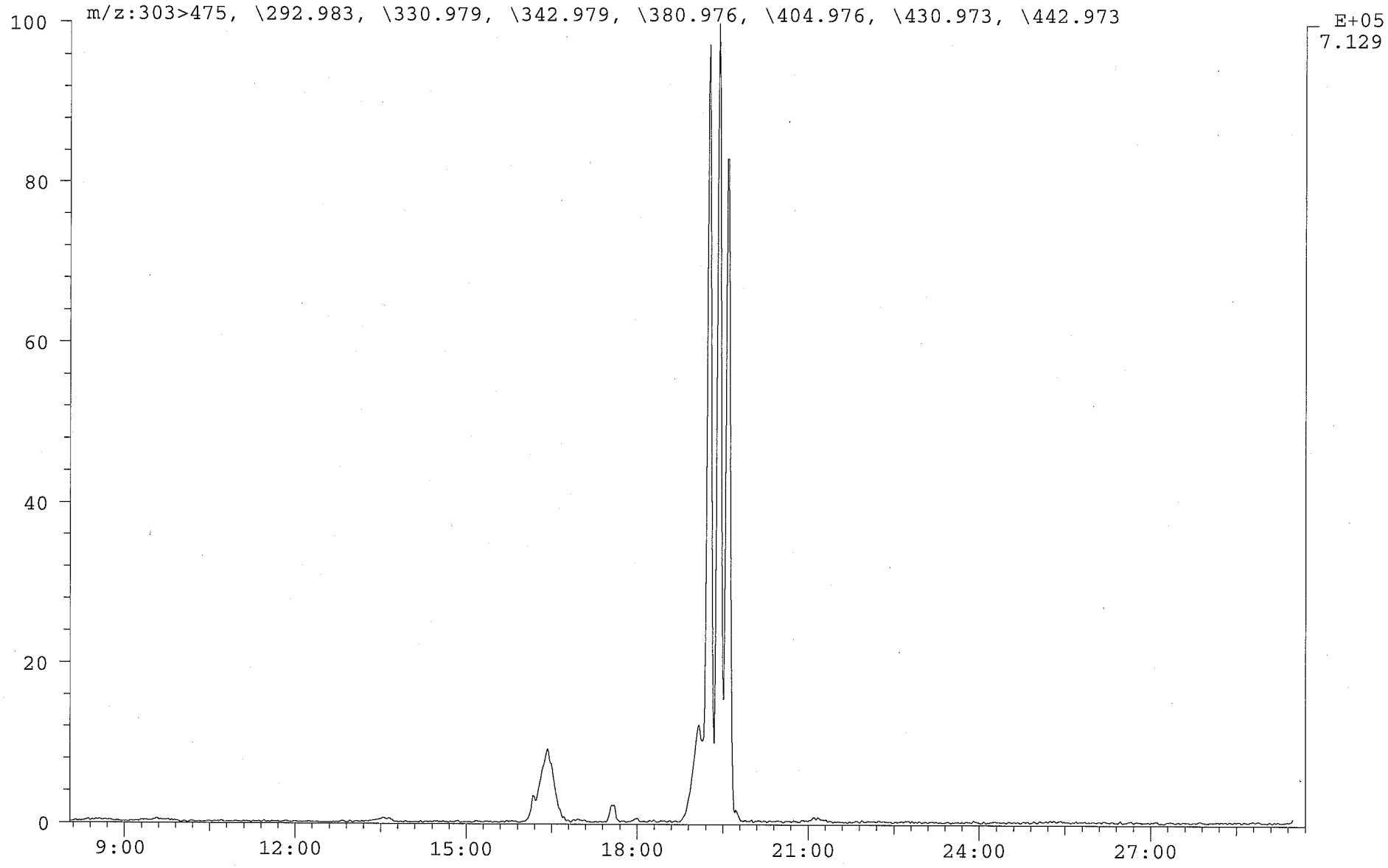
View Small Peaks? False **View deleted peaks?** False

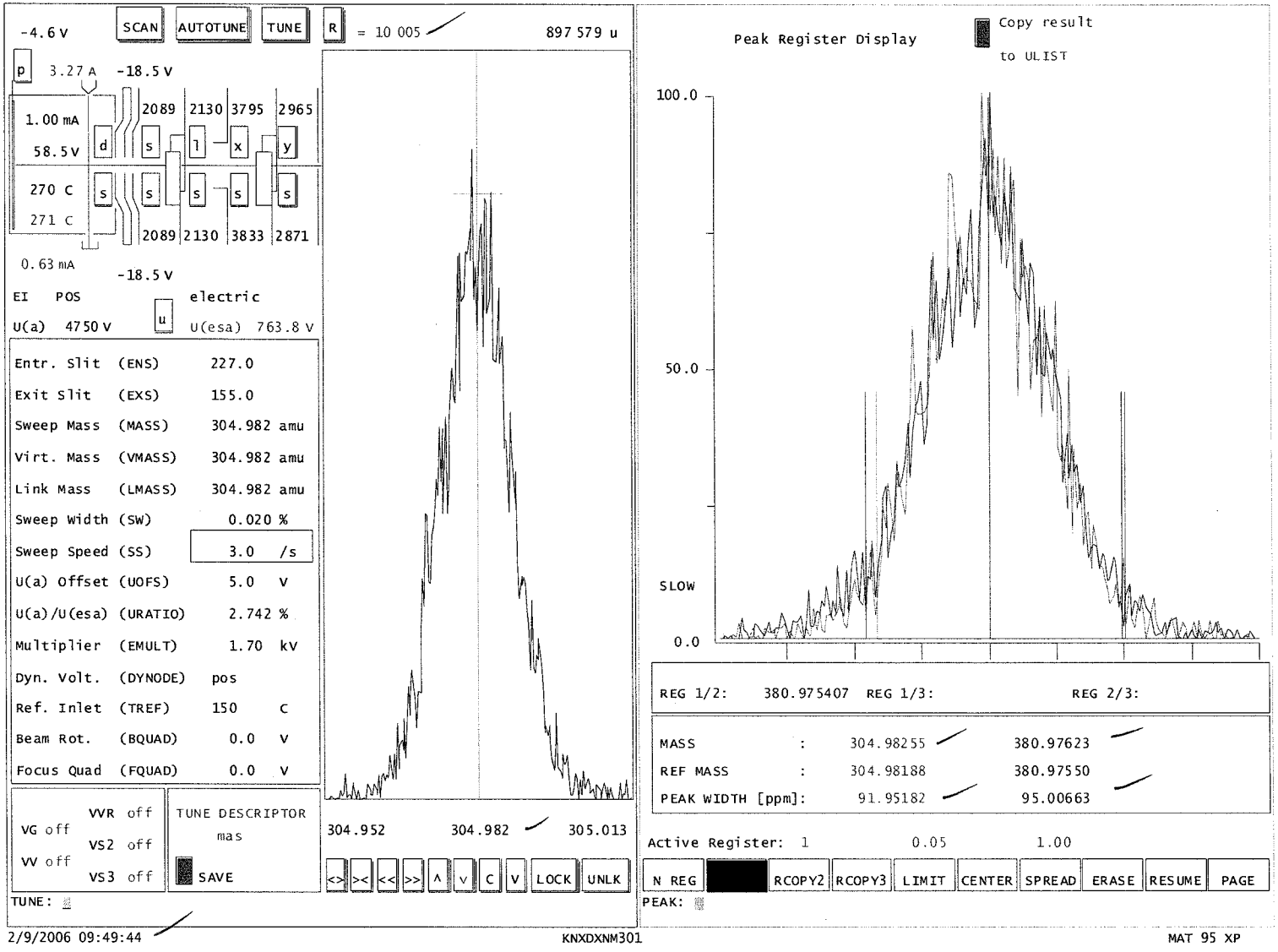
Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	133	135	53	54	0.98 *	/	
	Unidentified	18:36	00:00	0	582	1338	172	262	0.43 *	ABB/ABV	RT
	Unidentified	18:47	00:00	0	794	503	265	234	1.58 *	ABB/AVB	R
	Unidentified	19:01	00:00	0	589	1096	182	176	0.54 *	ABB/ABB	R
	2,3,7,8-TCDF	19:25	00:00	0	893858	1162327	172596	218939	0.77	AVV/AVV	
	Unidentified	19:43	00:00	0	4887	7444	1297	1698	0.66	AVV/AVV	
	Unidentified	19:51	00:00	0	4609	3765	823	743	1.22 *	AVV/AVB	RT
	Unidentified	19:59	00:00	0	1955	945	720	498	2.07 *	AVB/ABB	R
	Unidentified	20:14	00:00	0	2416	5861	700	1491	0.41 *	ABV/AVB	R
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	288	215	115	86	1.34 *	/	
	13C-2,3,7,8-TCDF	19:23	00:00	0	8424907	10585080	1592585	1984709	0.80	AVV/AVV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	345	420	138	168	0.82	/	
	Unidentified	17:24	00:00	0	529380	774004	41189	59287	0.68	AVV/AVV	
	2,3,7,8-TCDD	17:35	00:00	0	695940	961728	130340	163952	0.72	AVV/AVV	
	Unidentified	17:56	00:00	0	4881	6383	577	1008	0.76	AVB/AVB	
	Unidentified	18:28	00:00	0	3845	2305	710	743	1.67 *	ABB/ABV	RT
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	150		60				
	37Cl4-2,3,7,8-TCDD	17:35	00:00	0	1443373		279046			AVV	D
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	255	393	102	157	0.65	/	
	13C-2,3,7,8-TCDD	17:33	00:00	0	5824207	7398663	1137800	1450029	0.79	ABV/ABV	
	13C-1,2,3,4-TCDD	17:57	00:00	0	4764990	5982804	914740	1156962	0.80	AVV/AVV	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

CHRO: c060209w1 09-Feb-06 Elapse: 19:25.1 686
Samp: Vial 3 WO=1009:59 Meth=L1c Dil=1 Start : 09:51:06 1292
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : Win
Oper: MSD Client: STL Knoxville Inlet : Vial 3
Peak: 100.00 ppm Label wndw: 1 > 1305 Masses: 292 > 376
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

Int, Calc MSD 2/9/06
QC [illegible] 2/10/06




-4.6 V
SCAN
AUTOTUNE
TUNE
R
= 10 005
897 579 u
p
3.27 A
-18.5 V
1.00 mA
58.5 V
2089
2130
3795
2965
d
s
l
x
y
270 C
271 C
2089
2130
3833
2871
0.63 mA
-18.5 V
EI POS
electric
U(a) 4750 V
u
U(esa) 763.8 V
Entr. Slit (ENS) 227.0
Exit Slit (EXS) 155.0
Sweep Mass (MASS) 304.982 amu
Virt. Mass (VMASS) 304.982 amu
Link Mass (LMASS) 304.982 amu
Sweep Width (SW) 0.020 %
Sweep Speed (SS) 3.0 /s
U(a) Offset (UOFS) 5.0 V
U(a)/U(esa) (URATIO) 2.742 %
Multiplier (EMULT) 1.70 kV
Dyn. Volt. (DYNODE) pos
Ref. Inlet (TREF) 150 C
Beam Rot. (BQUAD) 0.0 V
Focus Quad (FQUAD) 0.0 V
VG off
VV off
VVR off
VS2 off
VS3 off
TUNE DESCRIPTOR
mas
SAVE
304.952
304.982
305.013
<>
><
<<
>>
^
v
C
V
LOCK
UNLK
TUNE:
2/9/2006 09:49:44
KNXDXNM301
Peak Register Display
Copy result
to ULIST
100.0
50.0
SLOW
0.0
REG 1/2: 380.975407 REG 1/3: REG 2/3:
MASS : 304.98255 380.97623
REF MASS : 304.98188 380.97550
PEAK WIDTH [ppm]: 91.95182 95.00663
Active Register: 1 0.05 1.00
N REG
RCOPY2
RCOPY3
LIMIT
CENTER
SPREAD
ERASE
RESUME
PAGE
PEAK:
MAT 95 XP

-4.6 V SCAN AUTOTUNE TUNE R = 10 005 897 579 u

p 3.27 A -18.5 V

1.00 mA 58.5 V d s l x y 2089 2130 3795 2965

270 C 271 C s s s s s 2089 2130 3833 2871

0.59 mA -18.5 V

EI POS electric

U(a) 4750 V u U(esa) 763.8 V

Entr. Slit	(ENS)	227.0	
Exit Slit	(EXS)	155.0	
Sweep Mass	(MASS)	304.982	amu
Virt. Mass	(VMASS)	304.982	amu
Link Mass	(LMASS)	304.982	amu
Sweep Width	(SW)	0.020	%
Sweep Speed	(SS)	3.0	/s
U(a) Offset	(UOFS)	5.0	V
U(a)/U(esa)	(URATIO)	2.742	%
Multiplier	(EMULT)	1.70	kV
Dyn. Volt.	(DYNODE)	pos	
Ref. Inlet	(TREF)	150	C
Beam Rot.	(BQUAD)	0.0	V
Focus Quad	(FQUAD)	0.0	V

VG off VVR off VS2 off VS3 off VV off

TUNE DESCRIPTOR mas

SAVE

TUNE:

304.952 304.982 305.013

<> >< << >> ^ v C V LOCK UNLK

Diagnostic Display

Copy result to ULIST

100.0 50.0 SLOW 0.0

R	pm	304.98255
E	rm	304.98188
G	fm	304.95194
I	lm	305.01290
S	pc	7969173.18
T	pl	7969507.05
E	pr	7968774.27
R	bl	0.00
1	v	1030112.00

R	pm	380.97623
E	rm	380.97550
G	fm	380.93794
I	lm	381.01414
S	pc	6379554.71
T	pl	6379848.29
E	pr	6379242.19
R	bl	0.00
2	v	1677822.00

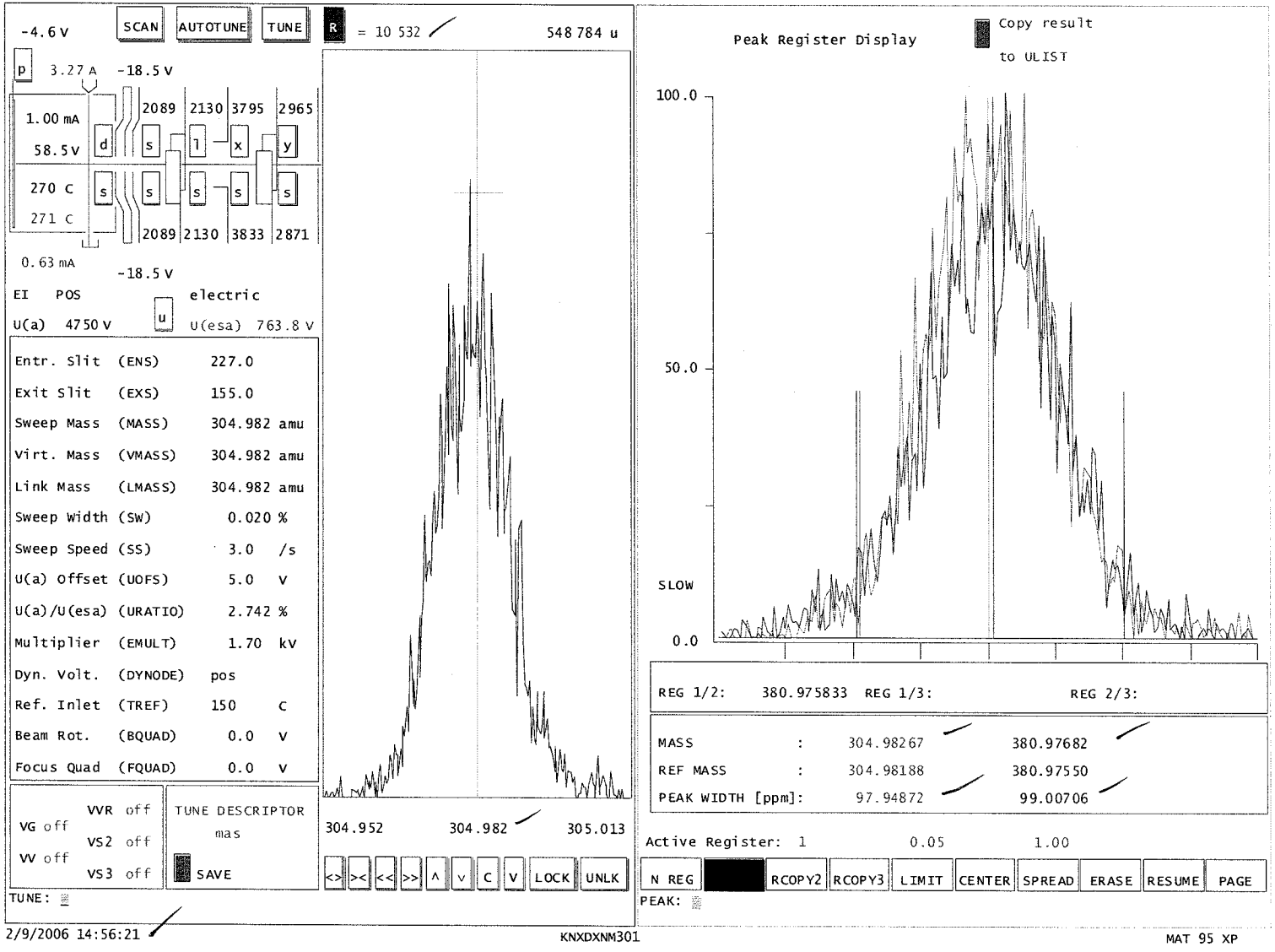
RATIO	REG 1/2	REG 1/3	REG 2/3
PEAK CENTER	1.2491739		
PC+DELTA	1.2491739		
PC+DELTA/RM	0.9999998		
REF MASS	1.2491742		

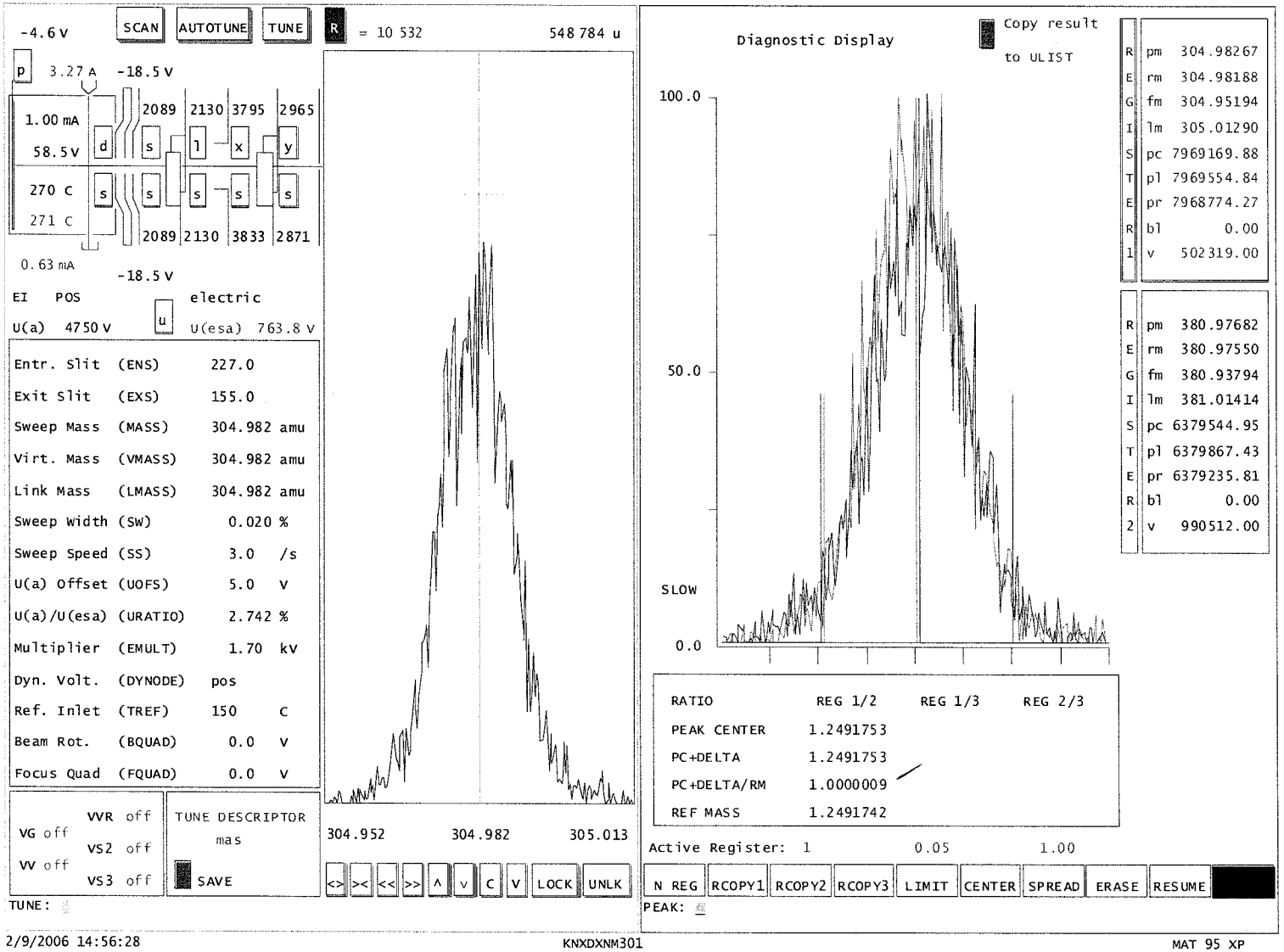
Active Register: 1 0.05 1.00

N REG RCOPY1 RCOPY2 RCOPY3 LIMIT CENTER SPREAD ERASE RESUME

PEAK:

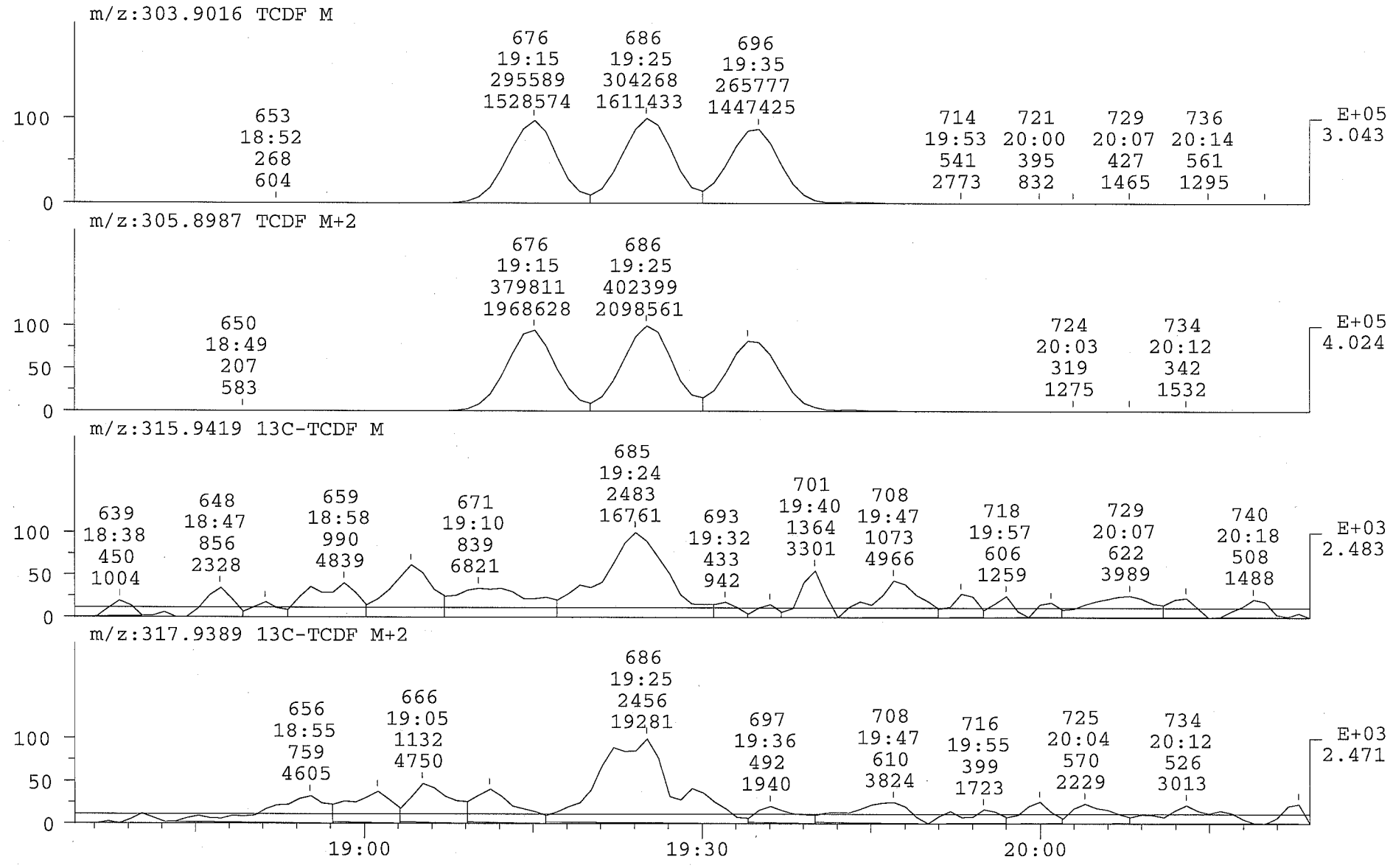
2/9/2006 09:49:50 KNXDXNM301 MAT 95 XP


-4.6 V
SCAN
AUTOTUNE
TUNE
R = 10 532
548 784 u
p 3.27 A -18.5 V
1.00 mA
58.5 V
270 C
271 C
2089 2130 3795 2965
2089 2130 3833 2871
0.63 mA
-18.5 V
EI POS
electric
U(a) 4750 V
U(esa) 763.8 V
Entr. Slit (ENS) 227.0
Exit Slit (EXS) 155.0
Sweep Mass (MASS) 304.982 amu
Virt. Mass (VMASS) 304.982 amu
Link Mass (LMASS) 304.982 amu
Sweep Width (SW) 0.020 %
Sweep Speed (SS) 3.0 /s
U(a) Offset (UOFS) 5.0 V
U(a)/U(esa) (URATIO) 2.742 %
Multiplier (EMULT) 1.70 kV
Dyn. Volt. (DYNODE) pos
Ref. Inlet (TREF) 150 C
Beam Rot. (BQUAD) 0.0 V
Focus Quad (FQUAD) 0.0 V
VG off
VV off
VVR off
VS2 off
VS3 off
TUNE DESCRIPTOR
mas
SAVE
304.952
304.982
305.013
LOCK
UNLK
TUNE:
2/9/2006 14:56:21
KNXDXNM301
Peak Register Display
Copy result
to ULIST
100.0
50.0
SLOW
0.0
REG 1/2: 380.975833 REG 1/3: REG 2/3:
MASS : 304.98267 380.97682
REF MASS : 304.98188 380.97550
PEAK WIDTH [ppm]: 97.94872 99.00706
Active Register: 1 0.05 1.00
N REG
RCOPY2
RCOPY3
LIMIT
CENTER
SPREAD
ERASE
RESUME
PAGE
PEAK:
MAT 95 XP

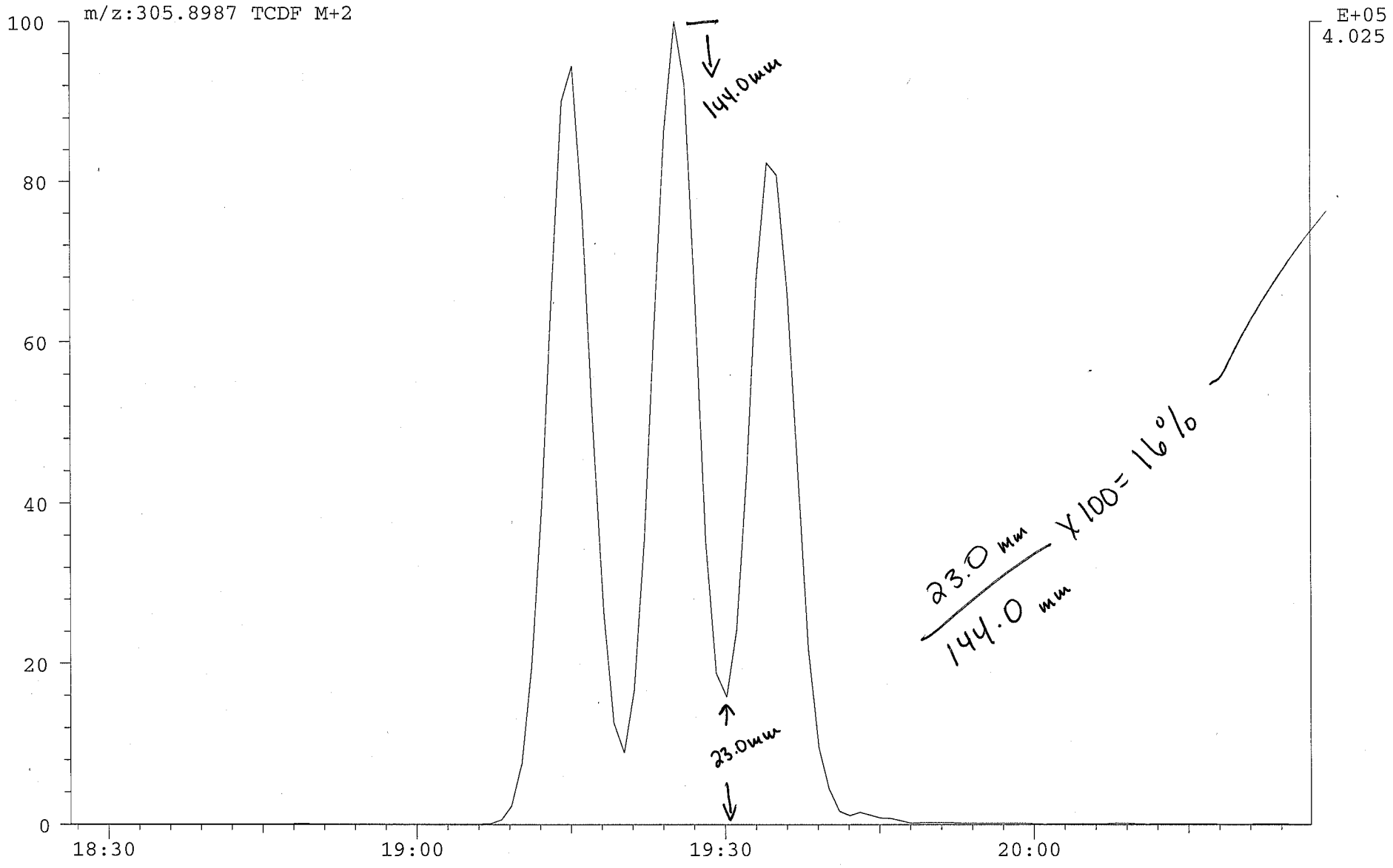


2/9/2006 14:56:28 KNXDXNM301 MAT 95 XP

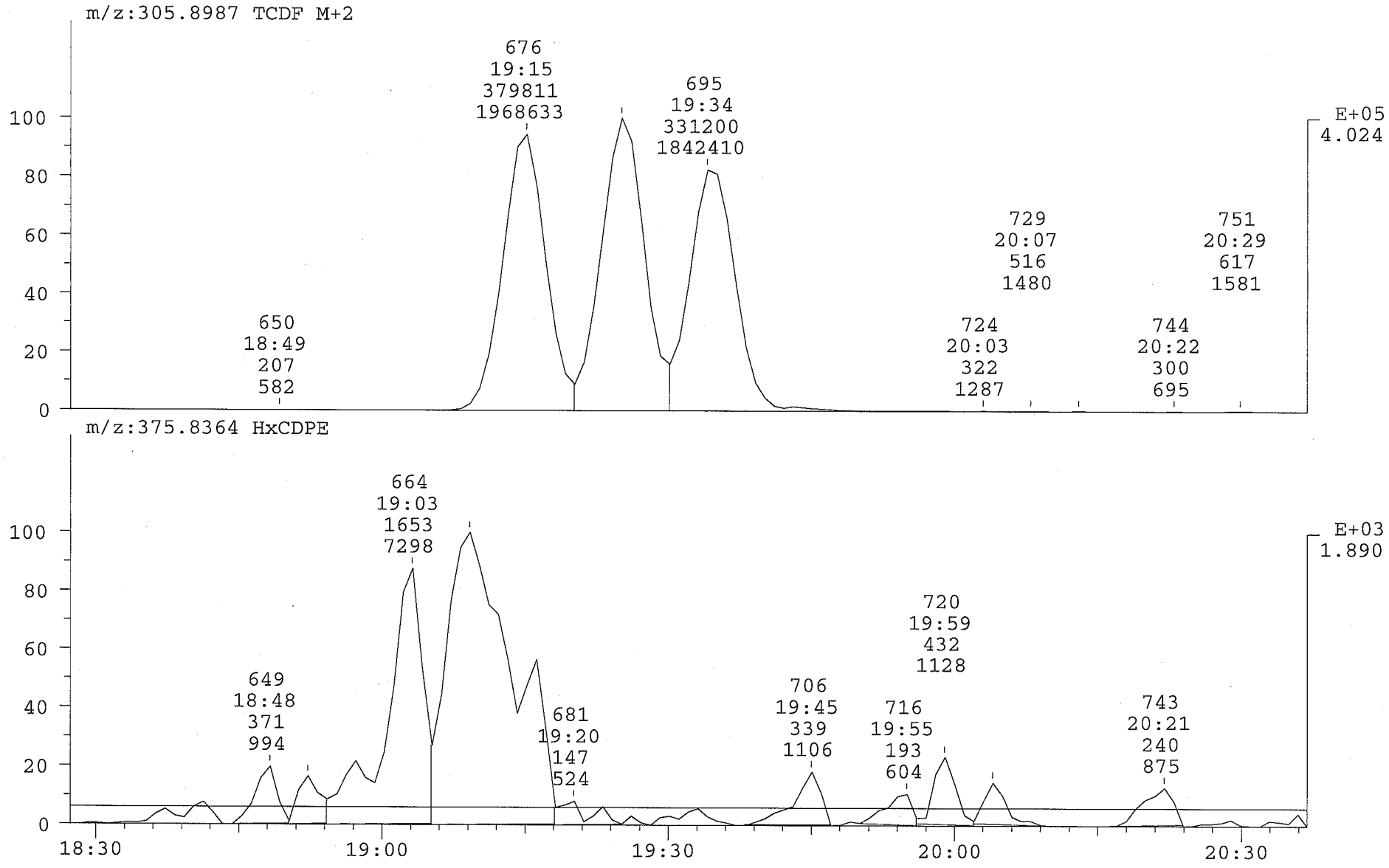
CHRO: c060209w1 09-Feb-06 Elapse: 19:25.1 686
Samp: Vial 3 WO=1009:59 Meth=L1c Dil=1 Start : 09:51:06 1292
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : Win
Oper: MSD Client: STL Knoxville Inlet : Vial 3
Peak: 100.00 ppm Label wndw: 635 > 745 Masses: 292 > 376
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



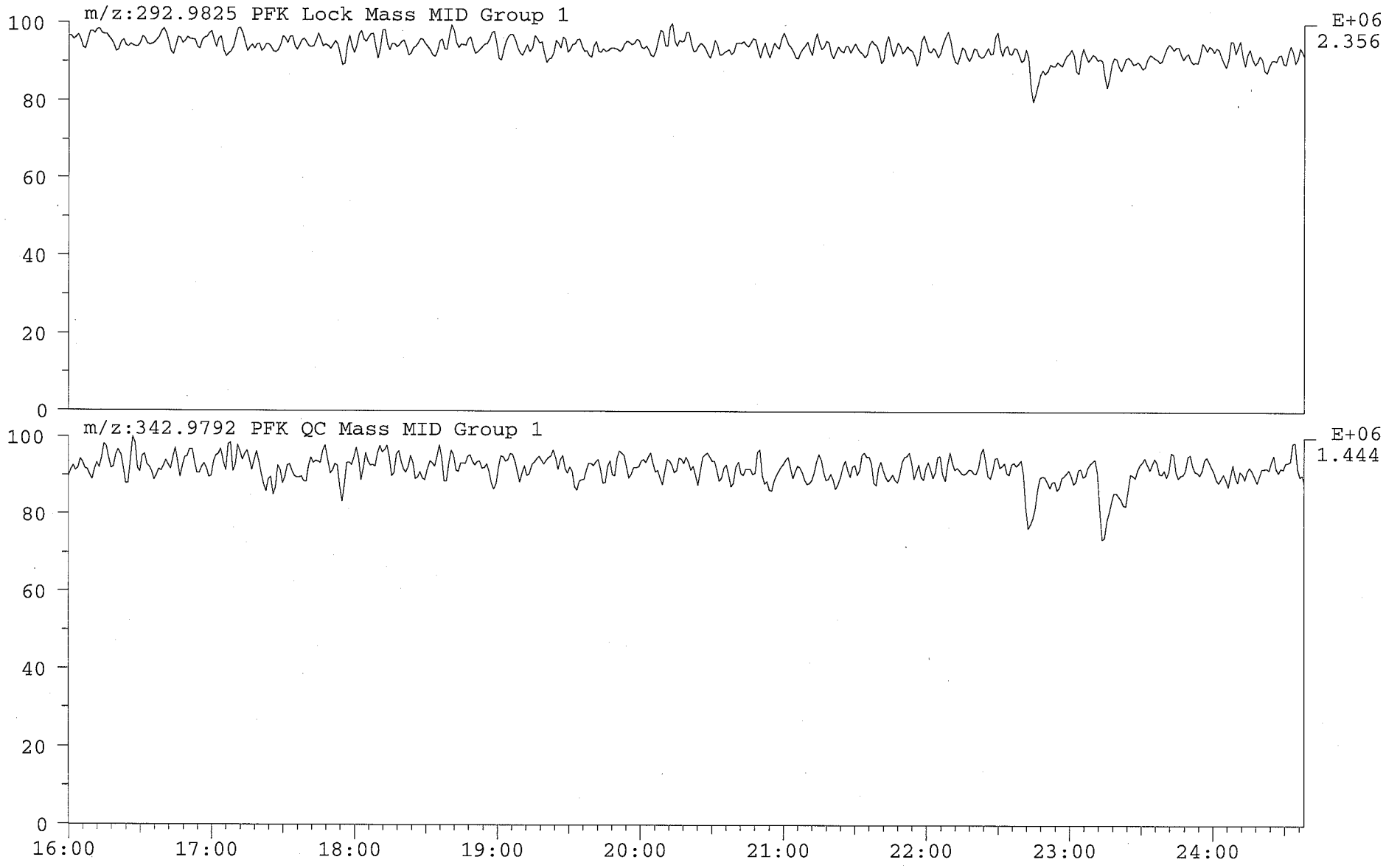
```
CHRO:  c060209w1                                09-Feb-06  Elapse:  19:25.1      686
Samp:  Vial 3 WO=1009:59 Meth=L1c Dil=1                    Start :  09:51:06    1292
Comm:  Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode:  EI + Q1MS UP LR                                     Study :  Win
Oper:  MSD            Client:  STL Knoxville               Inlet :          Vial   3
Peak:  100.00  ppm      Label wndw:   627 > 748            Masses:  292 > 376
Area:  0, 0.50, 0       Baseline  :   100, 3               Label :  0, 2.5
```



```
CHRO:  c060209w1                                09-Feb-06  Elapse:  19:25.1      686
Samp:  Vial 3 WO=1009:59 Meth=L1c Dil=1                    Start :  09:51:06    1292
Comm:  Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode:  EI + Q1MS UP LR                                     Study :  Win
Oper:  MSD            Client:  STL Knoxville               Inlet :          Vial   3
Peak:  100.00  ppm      Label wndw:   628 > 758            Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: c060209w1 09-Feb-06 Elapse: 19:25.1 686
Samp: Vial 3 WO=1009:59 Meth=L1c Dil=1 Start : 09:51:06 1292
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : Win
Oper: MSD Client: STL Knoxville Inlet : Vial 3
Peak: 100.00 ppm Label wndw: 480 > 1000 Masses: 292 > 376
Area: 0, 0.00, 0 Baseline : 0, 3 Label : 0, 0.0



*** file opened Thu Feb 09 09:51:06 2006 ***

Started by - Mat95InstCtrl
Instrument Internet name - MAT 95 XP
Instrument model - MAT 95 XP
Instrument service number - 0000
Workstation internet name - KNXDXNM301

ICL Version: 11.68
File name: c060209w1
Study: Win
Sample: WO=1009:59 Meth=L1c Dil=1
Amount: 0.0
Volume: 0.0
Injected volume: 2.0
Operator: MSD
Client: STL Knoxville
Comments: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Sample from Vial 3
Analysis will stop when MID run finishes
Tune file name: mas
MCAL file name: mcal1
Single File
ICL procedure: sleep90 6
MID procedure: db225

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	22:00 min	30:00 min	1.00 sec

Mid Masses:
Window # 1

mass	F	int	gr	time (ms)
292.9825	l	10	1	8
303.9016		1	1	84
305.8987		1	1	84
315.9419		1	1	84
317.9389		1	1	84
319.8965		1	1	84
321.8936		1	1	84
327.8847		1	1	84
331.9368		1	1	84
333.9338		1	1	84
342.9792	c	10	1	8
375.8364		1	1	84

Auto Sampler descriptor:a200s_knox1
Normal Injection
Injector A

Slvnt A cln before inj	(K):	3	times
Slvnt B cln before inj	(L):	0	times
Sample rinse cycles	(R):	0	times
Syringe filling volume	(F):	1.0	ul
Pullup delay time	(D):	4	sec
Sample pullup count	(P):	5	times
Sample pullup speed	(E):	5.0	ul/sec
Slvnt aftr pre inj cln	(U):	0.0	ul
Air after pre inj clean	(G):	2.0	ul
Sample volume	(V):	2.0	ul

Sample air volume	(A):	2.0	ul
Injection speed	(S):	10.0	ul/sec
Pre injection wait time	(W):	10	sec
Post injectn hold time	(H):	3	sec
Solvent A clean cycles	(C):	5	times
Solvent B clean cycles	(B):	0	times
Loop clean wth slvnt A	(LC):	0	times
Loop clean wth slvnt B	(LB):	0	times
Standard sample volume	(X):	0.0	ul
Standard air volume	(Y):	0.0	ul
2nd Injection volume	(I):	0.0	ul
Air volume 2nd injectn	(J):	0.0	ul
Time btwn 2 injections	(T):	0	sec

GC descriptor: db225

Injector:	270 deg		270 deg max
Transfer Line:	220 deg		230 deg max
Column:	140 deg at	0.0 minutes	230 deg max
	140 deg at	2.0 minutes	
	200 deg at	5.0 minutes	
	230 deg at	20.0 minutes	
	230 deg at	30.0 minutes	

Stabilize time 0.0 minutes

Inlet:

Splitless Mode	
Purge Time	1.50 min
Purge Flow	40.0 ml/min
Gas saver is on	
Saver Time	3.00 min
Saver Flow	15.0 ml/min

Column:

Constant Flow	1.2 ml
Standby Flow	0.5 ml/min

ICL Parameters

ACCU	666.0000	BCORRL	0.0150	BCORRS	0.0130
BFM	2.0000	BLM	2862.8777	BMASS	304.9824
BQUAD	0.0000	CAPIL	0.0000	CAPTEMP	0.0000
CAPTSET	0.0000	CCURR	3.2706	CORONA	0.0000
COUNTING	0.0000	DELAY	0.0000	DITEMP	399.9996
DITSET	0.0000	DRAW	-18.5000	DRAWC	0.0000
DRAWS	0.0000	ECORR	1.0012	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9997	EDACZ	2387.5000
ELEN	58.5000	EMULT	1.7000	ENS	227.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	0.0000
ESIPAR	0.0000	EXS	155.0000	FDMA	18000000.0000
FILTER	100.0000	FLENS	1.0000	FM	20.0000
FMII	0.2000	FQUAD	0.0000	FREQ	600.6006
FSLOPE	36000000.0000	FVANAL	91.0000	FVINLET	911.0000
FVSRC	795.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	220.0000	HCURR	1.3922
HVANAL	882.0000	HVSRC	0.0000	ICAL0	0.0011
ICAL1	0.4030	ICAL2	0.5865	IONEN	4749.6900
IST	271.3713	ISTC	0.0000	ISTCKP	5.0000
ISTCTD	1.0000	ISTCTN	2.0000	ISTCTS	60.0000
ISTCTV	3.0000	ISTS	270.0000	LENS	2130.0000
LENSS	0.0000	LKM	304.9824	LM	800.0000
LMASS	304.9824	LMII	0.2000	MASS	304.9824

MDAC	2017207.9536	MRANGE	2862.8777	MSFM	2.0000
MSLM	3790.0000	NPEAK	12.0000	NSAM	200.0000
NSCAN	1328.0000	NSMAX	8.0000	NSMIN	66.0000
OCT	-2.0000	PSAM	10.0000	PUSHER	-4.5700
RDRAW	0.0000	RDRAWC	0.0000	RECURR	0.0000
RELEN	0.0000	RES	10005.2559	RFAMP	0.0000
RFCUR	0.0000	RPUSHER	0.0000	RWIN	2.0000
SCIDLE	1.0000	SHIELD	2089.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000
SPRAY	0.0000	SS	3.0000	SW	0.0500
TANAL	381.8026	TCURR	0.5859	TD	0.9999
THRESH	2.0000	TIS	0.2000	TREF	150.0000
TS	1.6019	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.7425
UROT	0.0000	USERVAR	0.0000	UTQ1	150.0000
UTQ2	190.0000	UTQ3	80.0000	VAPTEMP	0.0000
VAPTSET	0.0000	VMASS	304.9824	XLENS	3814.0000
XLENSS	19.4000	YLENS	2918.0000	YLENSS	-47.0000

Scantype is electric
Sourcemode is EI POS

Analysis started at: 09-Feb-06 09:52:43
MID Window terminated because MID was aborted
Autosampler has injected sample from vial 3
MID Time Window 1: Resolution is 8617.

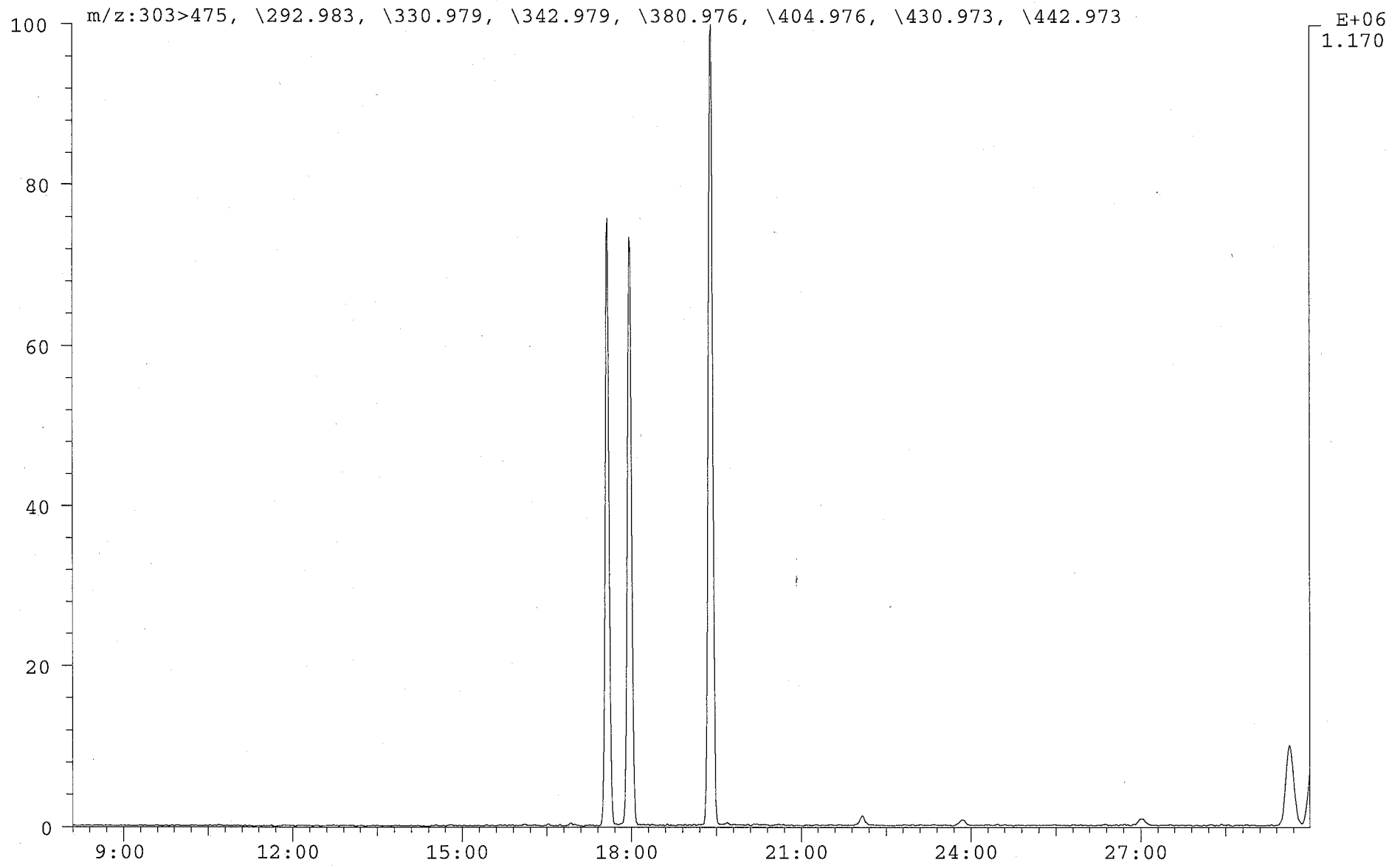
Amplifier Offset: 90.

Analysis stopped at: 09-Feb-06 10:22:13 (run time 29.50 minutes)
Analysis stopped because MID run finished

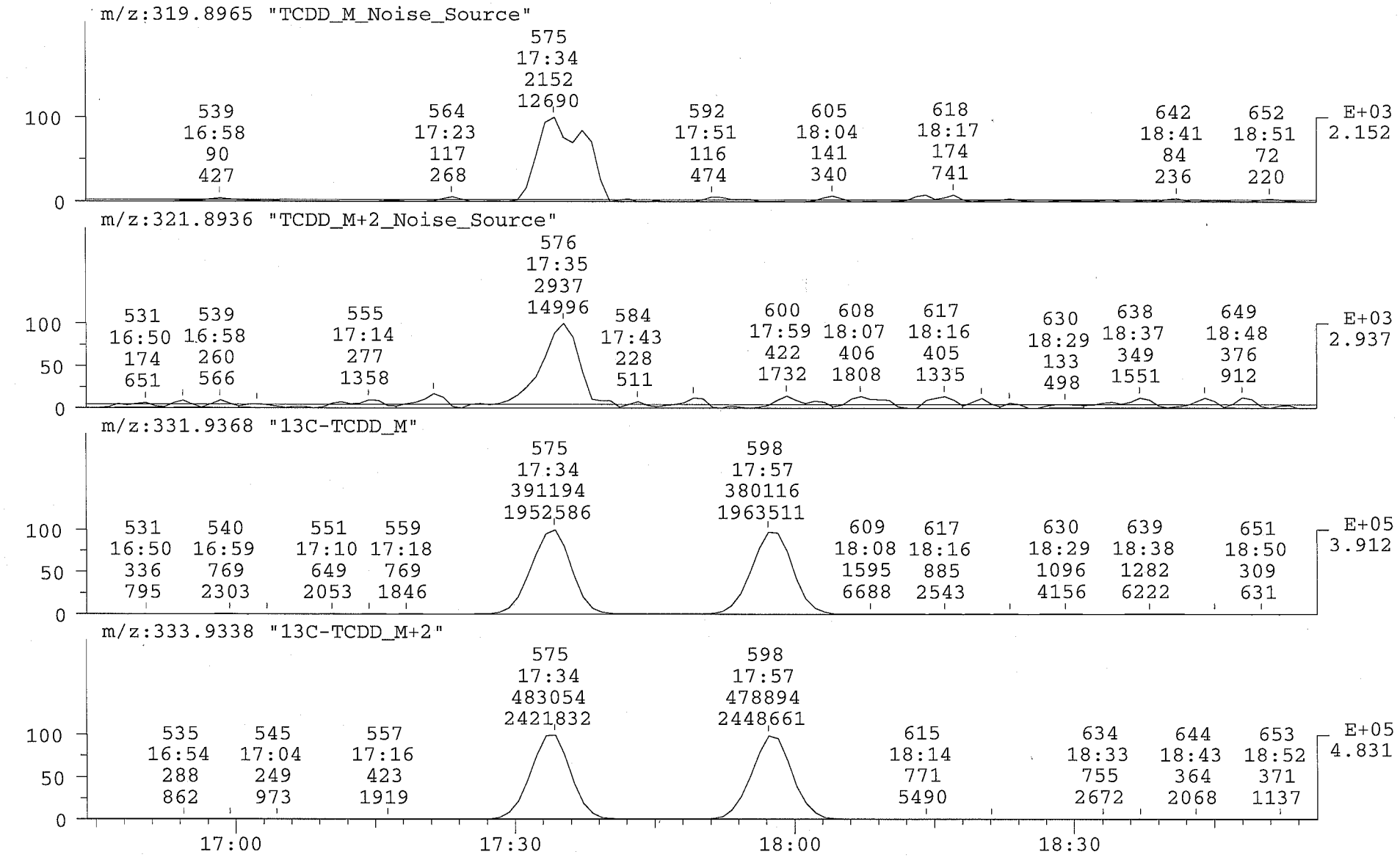
*** File closed Thu Feb 09 10:22:13 2006 ***

CHRO: c060209i1 09-Feb-06 Elapse: 19:24.9 686
Samp: Vial 4 WO=2960:14CS1 Meth=F8 Dil=1 Start : 11:04:03 1324
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : 1613/8290 Ical
Oper: MSD Client: STL Knoxville Inlet : Vial 4
Peak: 100.00 ppm Label wndw: 5 > 1322 Masses: 292 > 376
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

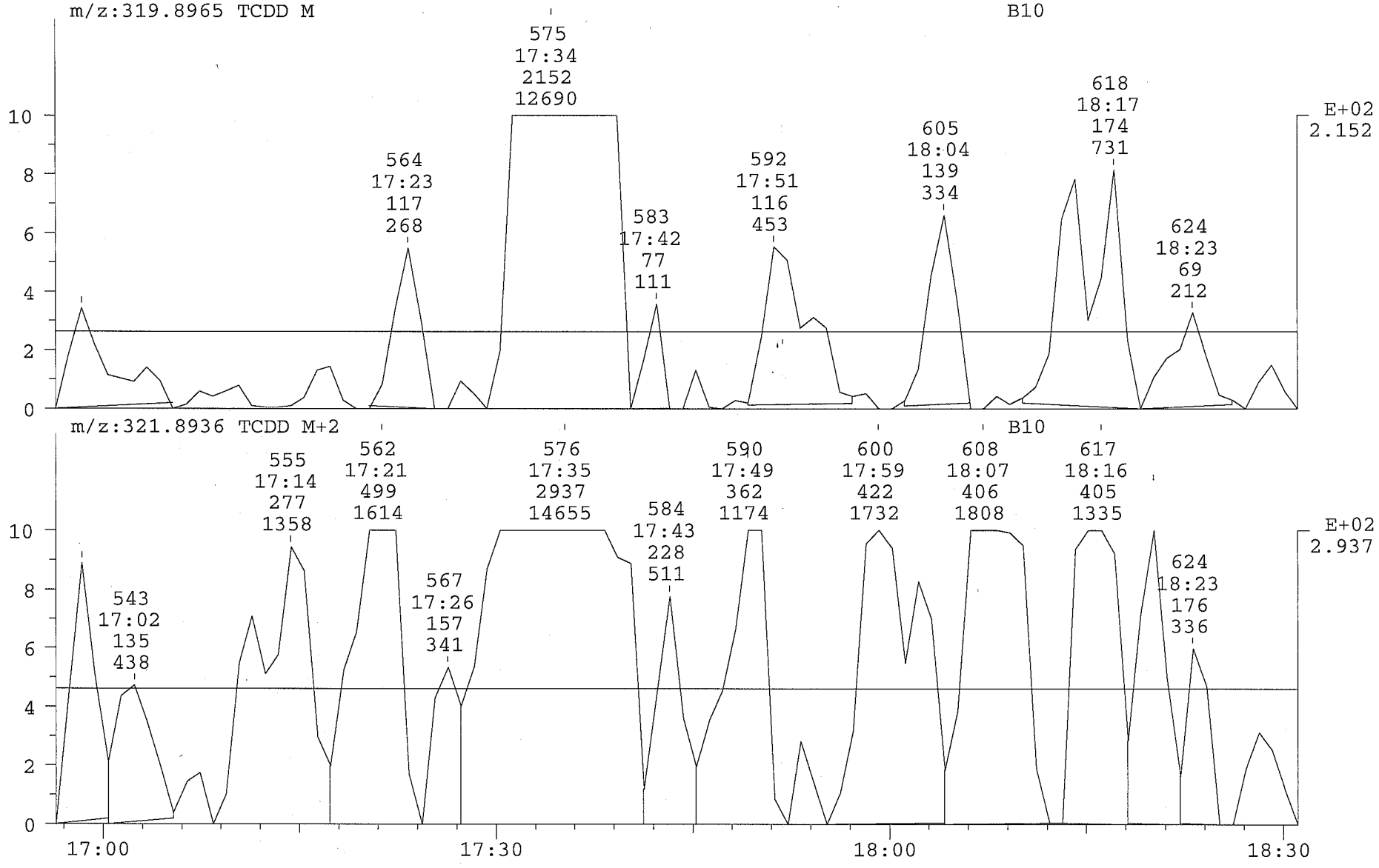
Int, Calc MSD 2/9/04
QC BKW 2/10/04



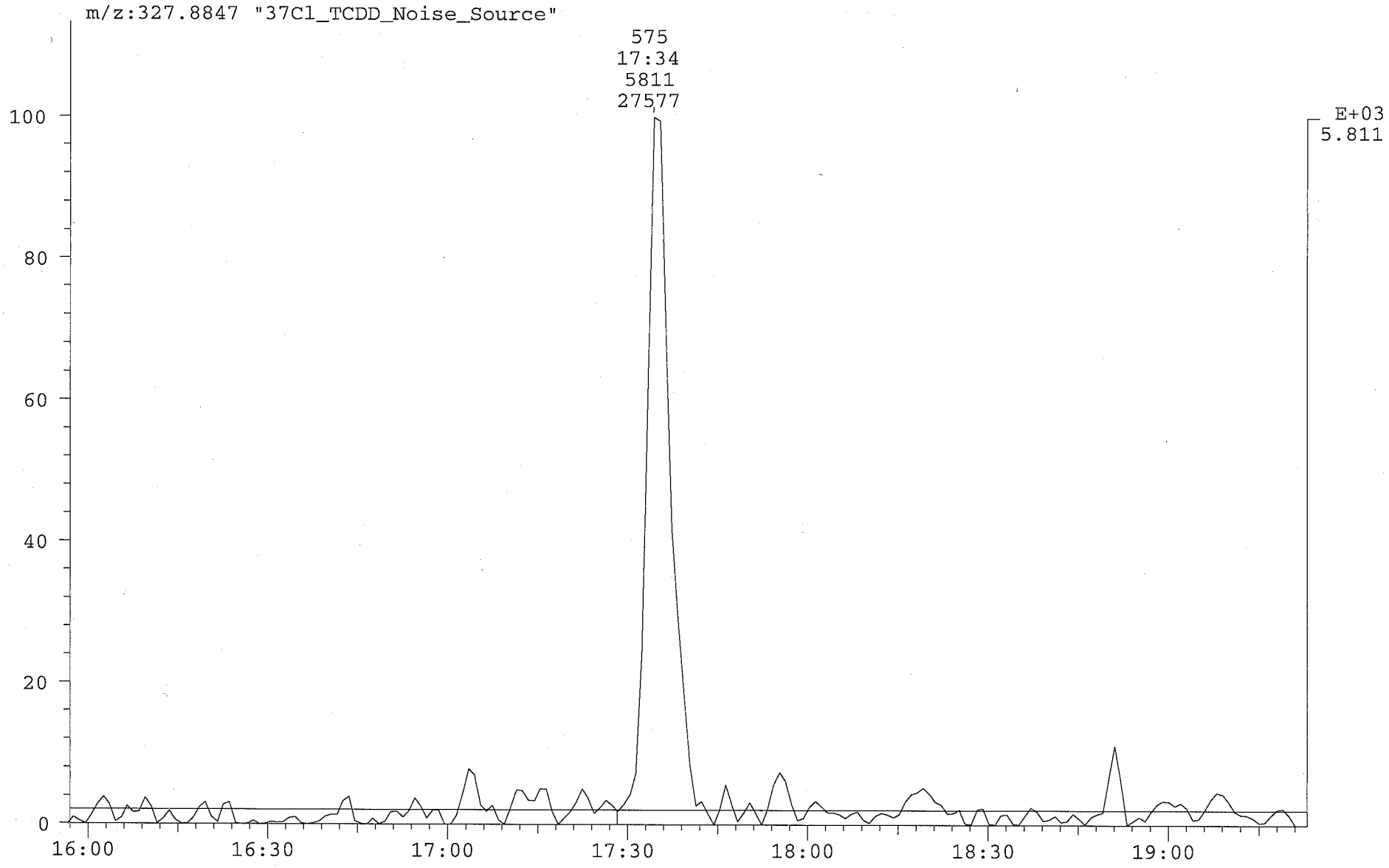
CHRO: c060209i1 09-Feb-06 Elapse: 17:50.2 591
Samp: Vial 4 WO=2960:14CS1 Meth=F8 Dil=1 Start : 11:04:03 1324
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : 1613/8290 Ical
Oper: MSD Client: STL Knoxville Inlet : Vial 4
Peak: 100.00 ppm Label wndw: 525 > 657 Masses: 292 > 376
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



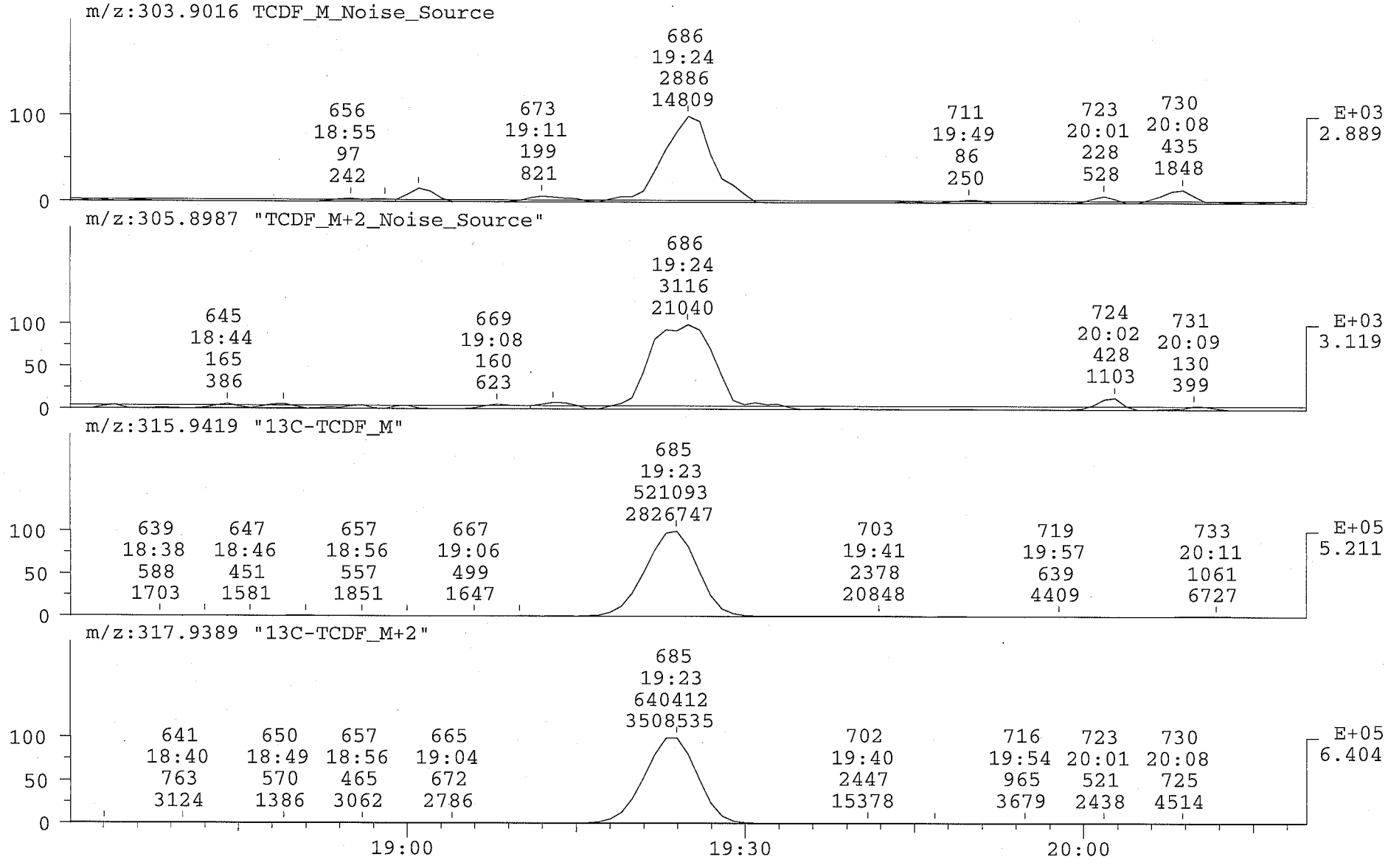
```
CHRO:  c060209i1                                09-Feb-06  Elapse:  19:24.9      686
Samp:  Vial 4 WO=2960:14CS1 Meth=F8 Dil=1                  Start :  11:04:03    1324
Comm:  Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode:  EI + Q1MS UP LR                                     Study :  1613/8290 Ical
Oper:  MSD            Client:  STL Knoxville               Inlet :          Vial   4
Peak:  100.00  ppm      Label wndw:   537 > 632            Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -1, 3.0
Disp:  Height  Area
```



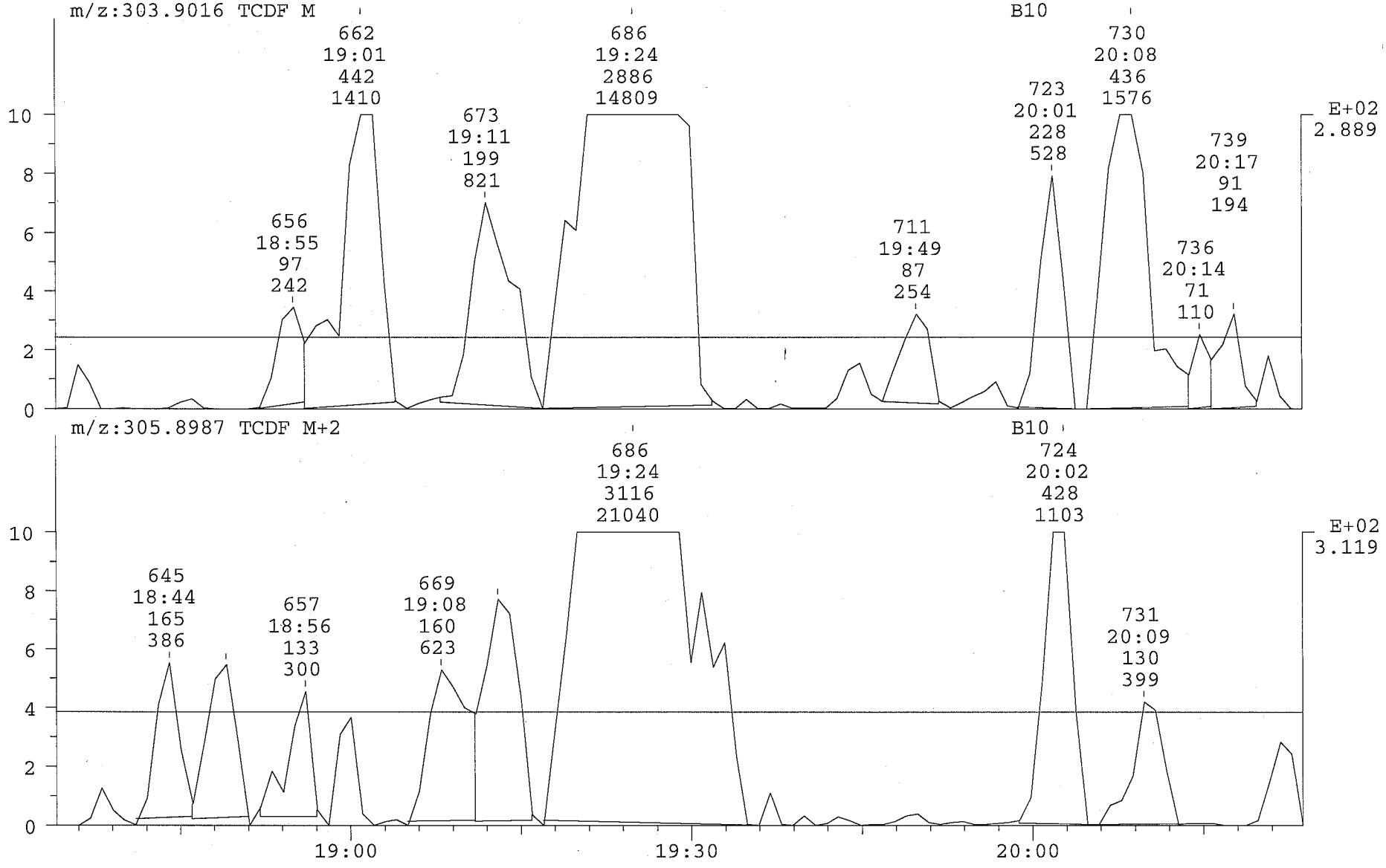
```
CHRO:  c060209i1                                09-Feb-06  Elapse:  17:37.3      578
Samp:  Vial 4 WO=2960:14CS1 Meth=F8 Dil=1                  Start :  11:04:03    1324
Comm:  Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode:  EI + Q1MS UP LR                                     Study :  1613/8290 Ical
Oper:  MSD            Client:  STL Knoxville               Inlet :          Vial   4
Peak:  100.00  ppm      Label wndw:   477 > 684            Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



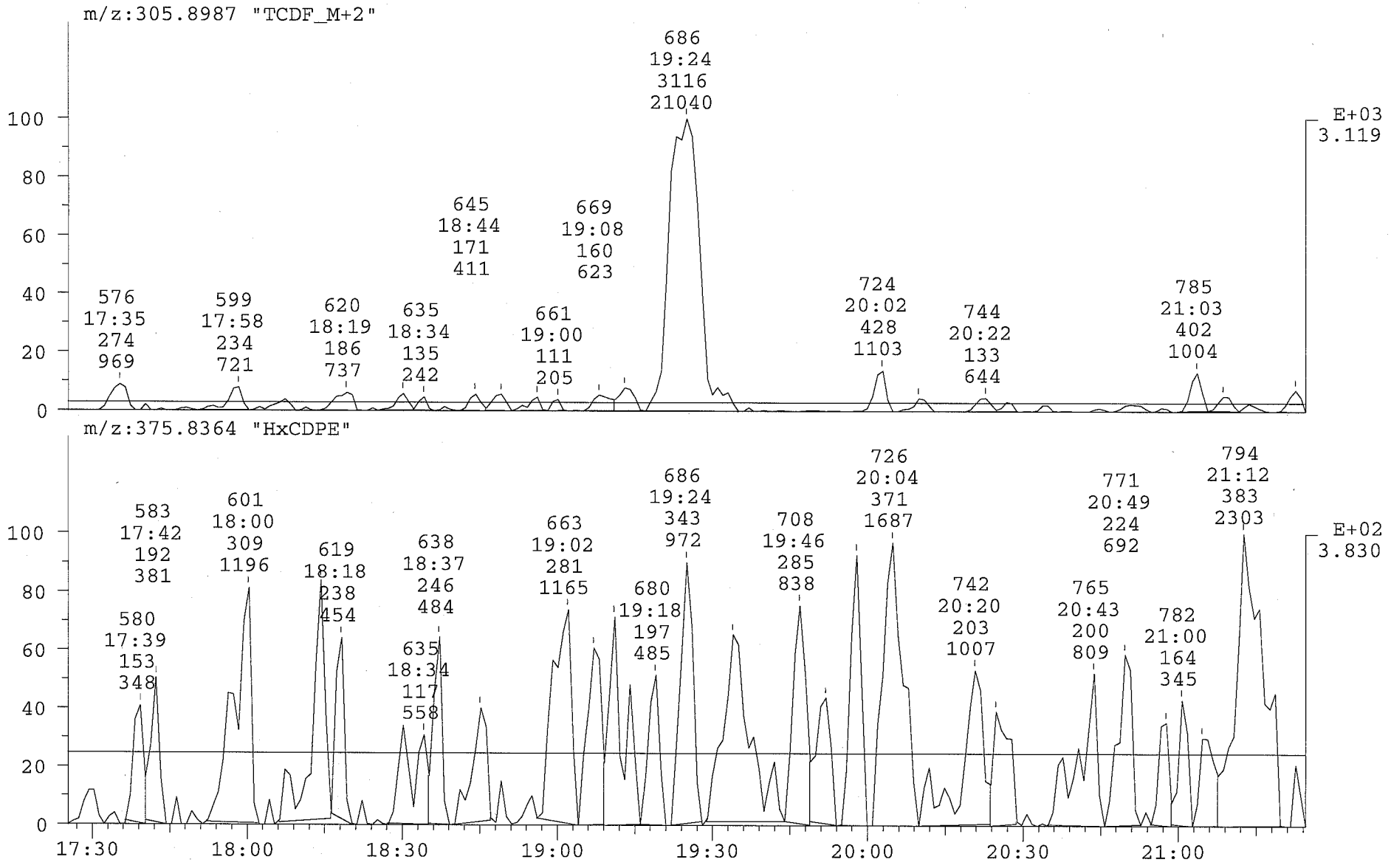
CHRO: c060209i1 09-Feb-06 Elapse: 19:24.9 686
Samp: Vial 4 WO=2960:14CS1 Meth=F8 Dil=1 Start : 11:04:03 1324
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : 1613/8290 Ical
Oper: MSD Client: STL Knoxville Inlet : Vial 4
Peak: 100.00 ppm Label wndw: 631 > 741 Masses: 292 > 376
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



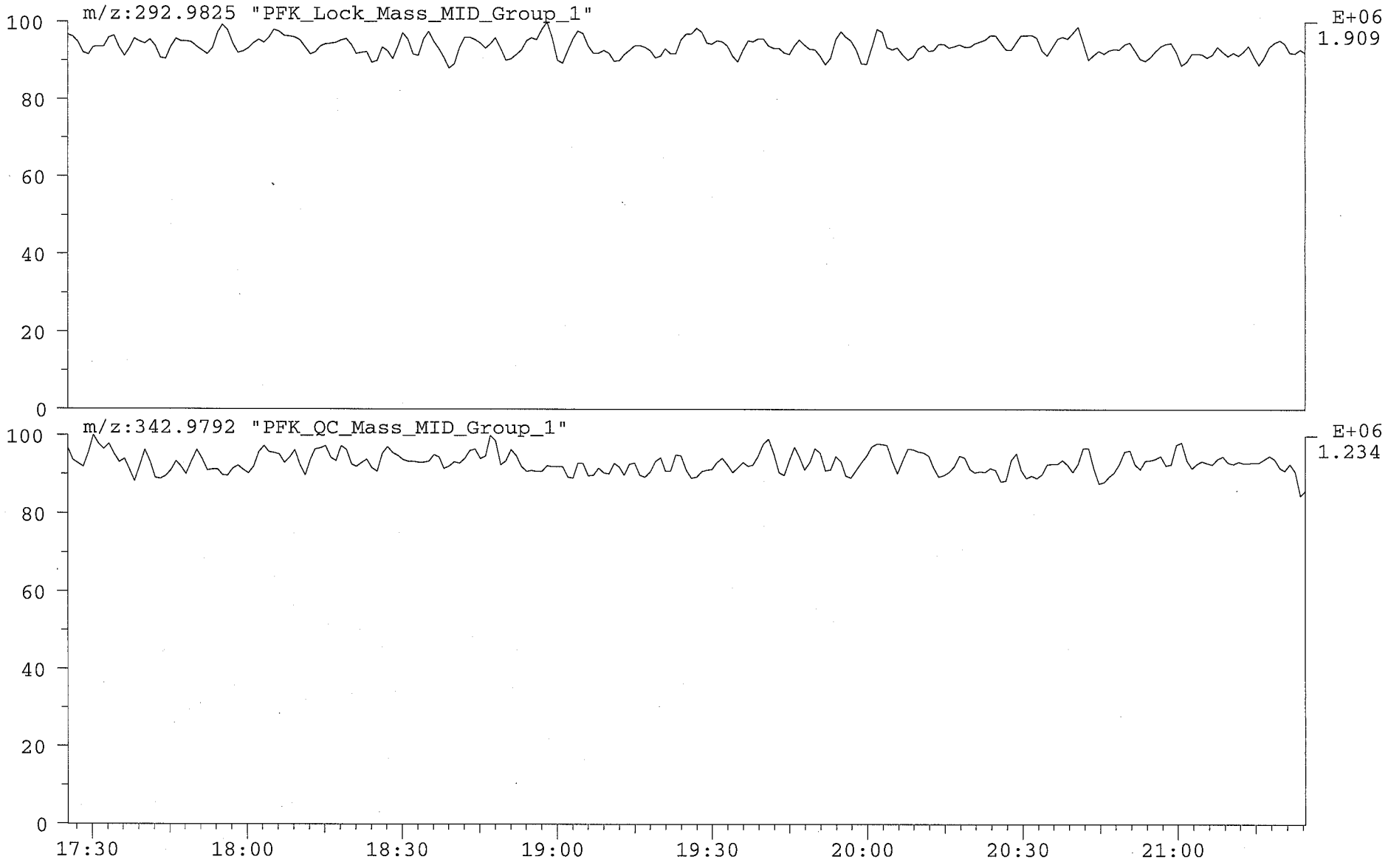
```
CHRO:  c060209i1                                  09-Feb-06  Elapse:  19:24.9      686
Samp:  Vial 4 WO=2960:14CS1 Meth=F8 Dil=1                    Start :  11:04:03    1324
Comm:  Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode:  EI + Q1MS UP LR                                       Study :  1613/8290 Ical
Oper:  MSD            Client:  STL Knoxville                 Inlet :          Vial   4
Peak:  100.00  ppm      Label wndw:   635 > 745              Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -1, 3.0
Disp:  Height  Area
```



CHRO: c060209i1 09-Feb-06 Elapse: 19:24.9 686
Samp: Vial 4 WO=2960:14CS1 Meth=F8 Dil=1 Start : 11:04:03 1324
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : 1613/8290 Ical
Oper: MSD Client: STL Knoxville Inlet : Vial 4
Peak: 100.00 ppm Label wndw: 566 > 806 Masses: 292 > 376
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  c060209i1                                09-Feb-06  Elapse:  19:24.9      686
Samp:  Vial 4 WO=2960:14CS1 Meth=F8 Dil=1                  Start :  11:04:03    1324
Comm:  Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode:  EI + Q1MS UP LR                                     Study :  1613/8290 Ical
Oper:  MSD            Client:  STL Knoxville               Inlet :          Vial   4
Peak:  100.00  ppm      Label wndw:   566 > 806            Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
```



*** file opened Thu Feb 09 11:04:03 2006 ***

Started by - Mat95InstCtrl
Instrument Internet name - MAT 95 XP
Instrument model - MAT 95 XP
Instrument service number - 0000
Workstation internet name - KNXDXNM301

ICL Version: 11.68
File name: c060209i1
Study: 1613/8290 Ical
Sample: WO=2960:14CS1 Meth=F8 Dil=1
Amount: 0.0
Volume: 0.0
Injected volume: 2.0
Operator: MSD
Client: STL Knoxville
Comments: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Sample from Vial 4
Analysis will stop when MID run finishes
Tune file name: mas
MCAL file name: mcal1
Single File
ICL procedure: sleep90 6
MID procedure: db225

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	22:00 min	30:00 min	1.00 sec

Mid Masses:
Window # 1

mass	F	int	gr	time (ms)
292.9825	l	10	1	8
303.9016		1	1	84
305.8987		1	1	84
315.9419		1	1	84
317.9389		1	1	84
319.8965		1	1	84
321.8936		1	1	84
327.8847		1	1	84
331.9368		1	1	84
333.9338		1	1	84
342.9792	c	10	1	8
375.8364		1	1	84

Auto Sampler descriptor:a200s_knox1
Normal Injection
Injector A

Slvnt A cln before inj	(K):	3	times
Slvnt B cln before inj	(L):	0	times
Sample rinse cycles	(R):	0	times
Syringe filling volume	(F):	1.0	ul
Pullup delay time	(D):	4	sec
Sample pullup count	(P):	5	times
Sample pullup speed	(E):	5.0	ul/sec
Slvnt aftr pre inj cln	(U):	0.0	ul
Air after pre inj clean	(G):	2.0	ul
Sample volume	(V):	2.0	ul

Sample air volume	(A):	2.0	ul
Injection speed	(S):	10.0	ul/sec
Pre injection wait time	(W):	10	sec
Post injectn hold time	(H):	3	sec
Solvent A clean cycles	(C):	5	times
Solvent B clean cycles	(B):	0	times
Loop clean wth slvnt A	(LC):	0	times
Loop clean wth slvnt B	(LB):	0	times
Standard sample volume	(X):	0.0	ul
Standard air volume	(Y):	0.0	ul
2nd Injection volume	(I):	0.0	ul
Air volume 2nd injectn	(J):	0.0	ul
Time btwn 2 injections	(T):	0	sec

GC descriptor: db225

Injector:	270 deg		270 deg max
Transfer Line:	220 deg		230 deg max
Column:	140 deg at	0.0 minutes	230 deg max
	140 deg at	2.0 minutes	
	200 deg at	5.0 minutes	
	230 deg at	20.0 minutes	
	230 deg at	30.0 minutes	

Stabilize time 0.0 minutes

Inlet:

Splitless Mode	
Purge Time	1.50 min
Purge Flow	40.0 ml/min
Gas saver is on	
Saver Time	3.00 min
Saver Flow	15.0 ml/min

Column:

Constant Flow	1.2 ml
Standby Flow	0.5 ml/min

ICL Parameters

ACCU	666.0000	BCORRL	0.0150	BCORRS	0.0130
BFM	2.0000	BLM	2862.8777	BMASS	304.9824
BQUAD	0.0000	CAPIL	0.0000	CAPTEMP	0.0000
CAPTSET	0.0000	CCURR	3.2706	CORONA	0.0000
COUNTING	0.0000	DELAY	0.0000	DITEMP	399.9996
DITSET	0.0000	DRAW	-18.5000	DRAWC	0.0000
DRAWS	0.0000	ECORR	1.0012	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9997	EDACZ	2387.5000
ELEN	58.5000	EMULT	1.7000	ENS	227.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	0.0000
ESIPAR	0.0000	EXS	155.0000	FDMA	18000000.0000
FILTER	100.0000	FLENS	1.0000	FM	20.0000
FMII	0.2000	FQUAD	0.0000	FREQ	600.6006
FSLOPE	36000000.0000	FVANAL	91.0000	FVINLET	911.0000
FVSRC	795.0000	FWIN	0.7000	GCTC	229.0000
GCTI	270.0000	GCTL	220.0000	HCURR	1.3725
HVANAL	882.0000	HVSRC	0.0000	ICAL0	0.0011
ICAL1	0.4030	ICAL2	0.5865	IONEN	4749.6900
IST	271.3713	ISTC	0.0000	ISTCKP	5.0000
ISTCTD	1.0000	ISTCTN	2.0000	ISTCTS	60.0000
ISTCTV	3.0000	ISTS	270.0000	LENS	2130.0000
LENSS	0.0000	LKM	292.9825	LM	800.0000
LMASS	304.9824	LMII	0.2000	MASS	304.9824

MDAC	2017207.9536	MRANGE	2862.8777	MSFM	2.0000
MSLM	3790.0000	NPEAK	12.0000	NSAM	200.0000
NSCAN	1296.0000	NSMAX	8.0000	NSMIN	66.0000
OCT	-2.0000	PSAM	10.0000	PUSHER	-4.5700
RDRAW	0.0000	RDRAWC	0.0000	RECURR	0.0000
RELEN	0.0000	RES	10005.2559	RFAMP	0.0000
RFCUR	0.0000	RPUSHER	0.0000	RWIN	2.0000
SCIDLE	1.0000	SHIELD	2089.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000
SPRAY	0.0000	SS	3.0000	SW	0.0500
TANAL	381.0241	TCURR	0.6250	TD	0.9999
THRESH	2.0000	TIS	0.2000	TREF	150.0000
TS	1.6019	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.7425
UROT	0.0000	USERVAR	0.0000	UTQ1	150.0000
UTQ2	190.0000	UTQ3	80.0000	VAPTEMP	0.0000
VAPTSET	0.0000	VMASS	304.9824	XLENS	3814.0000
XLENSS	19.4000	YLENS	2918.0000	YLENSS	-47.0000

Scantype is electric
Sourcemode is EI POS

Analysis started at: 09-Feb-06 11:05:38
MID Window terminated after 30.016667 minutes
MID Window end time was 30.000000 minutes
Autosampler has injected sample from vial 4
MID Time Window 1: Resolution is 8138.

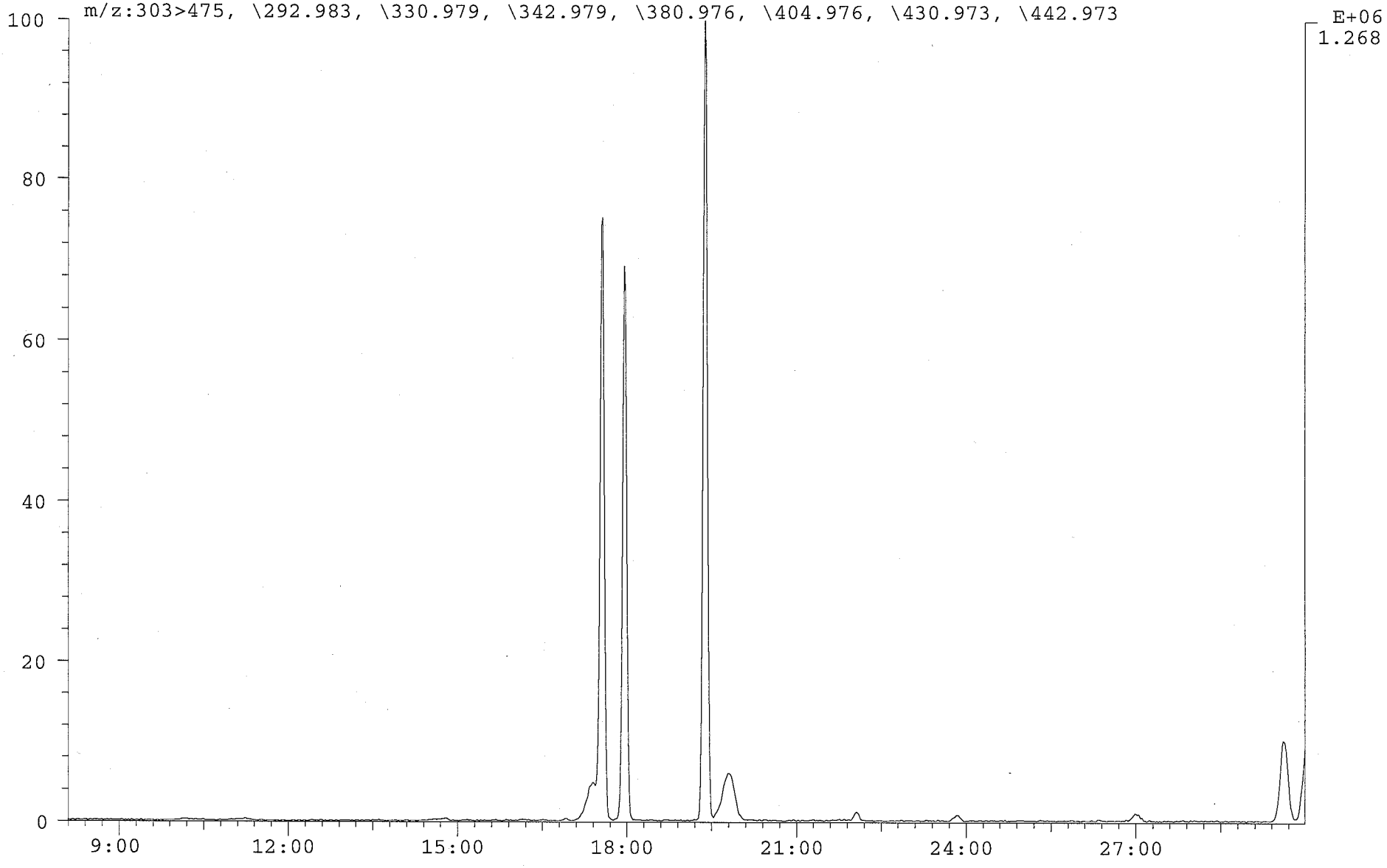
Amplifier Offset: 89.

Analysis stopped at: 09-Feb-06 11:35:40 (run time 30.03 minutes)
Analysis stopped because MID run finished

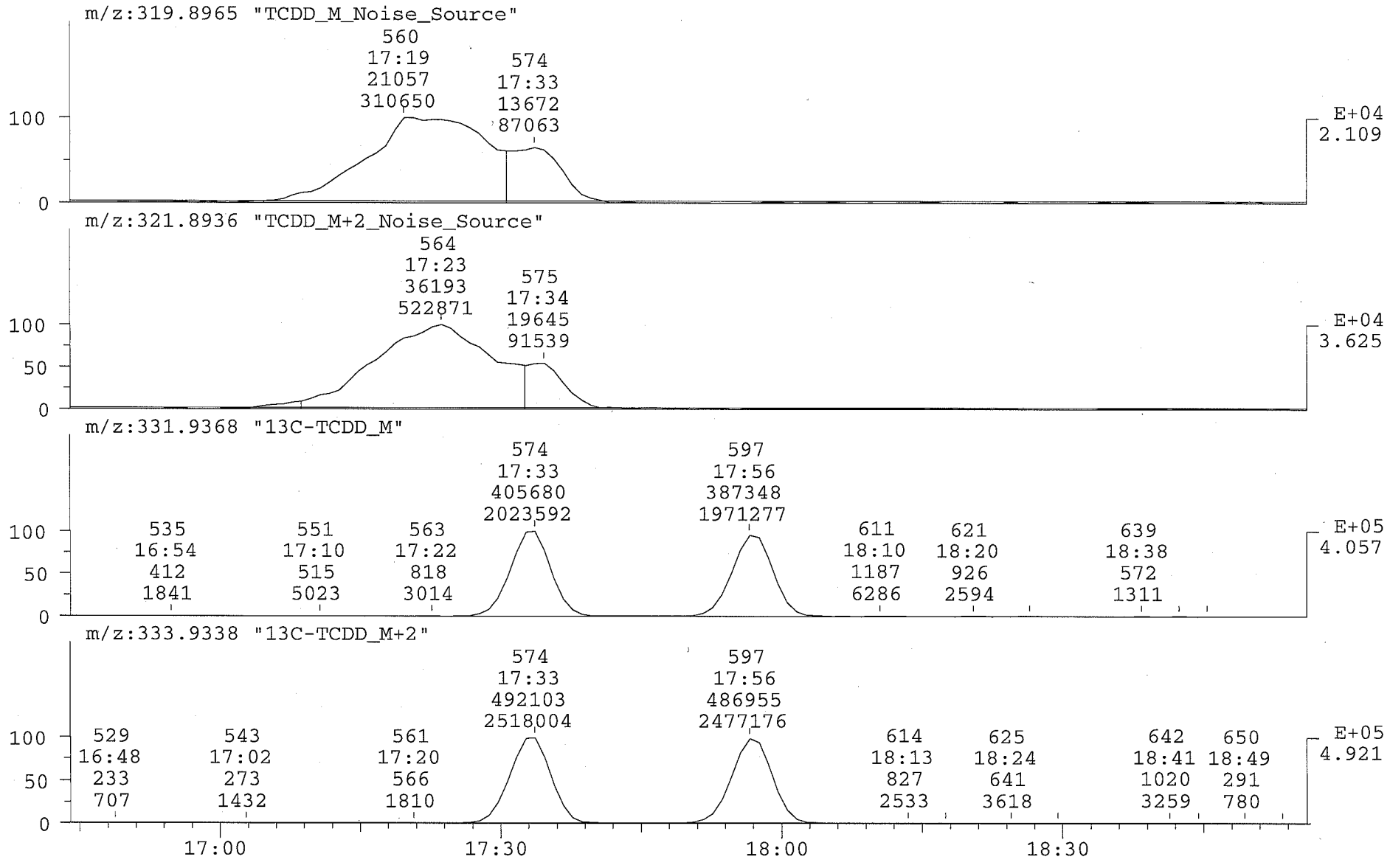
*** File closed Thu Feb 09 11:35:41 2006 ***

CHRO: c060209i2 09-Feb-06 Elapse: 08:02.5 1
Samp: Vial 5 WO=2960:14CS2 Meth=F8 Dil=1 Start : 11:35:43 1324
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : 1613/8290 Ical
Oper: MSD Client: STL Knoxville Inlet : Vial 5
Peak: 100.00 ppm Label wndw: 4 > 1322 Masses: 292 > 376
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

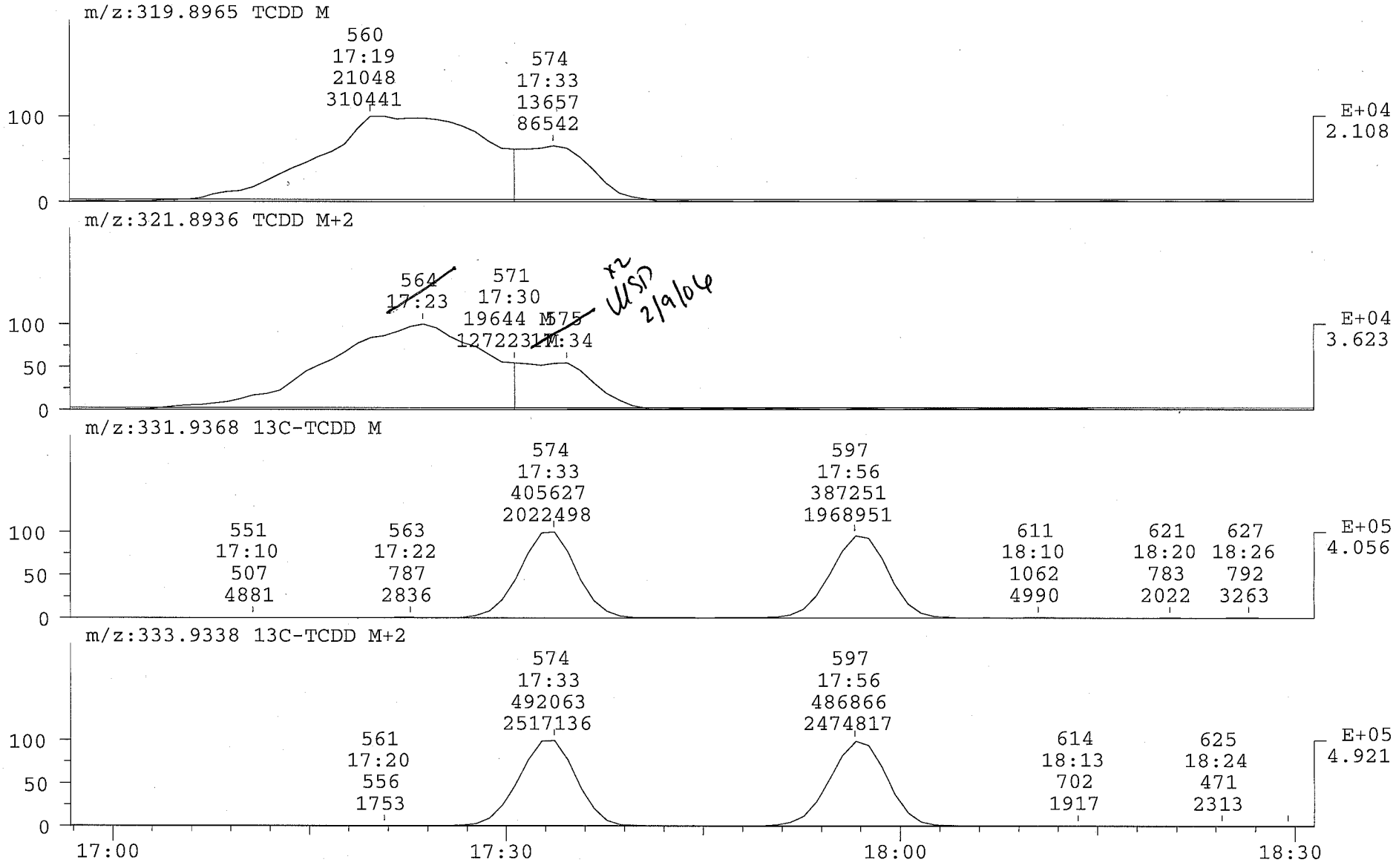
Int, Calc MSD 2/9/06
QC DRW 2/10/06



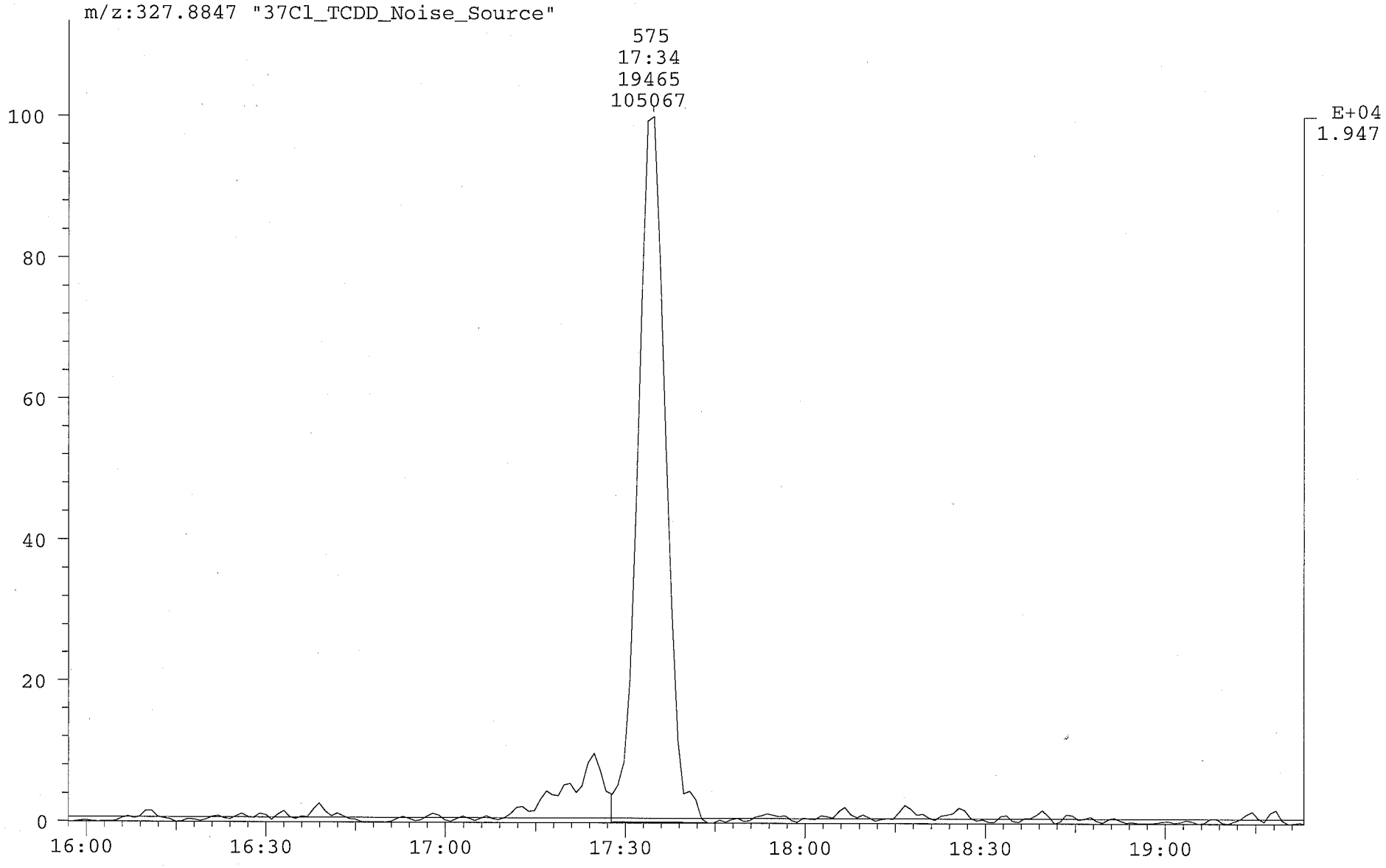
```
CHRO:  c060209i2                                09-Feb-06   Elapse:  17:49.6      590
Samp:  Vial 5 WO=2960:14CS2 Meth=F8 Dil=1                   Start :  11:35:43    1324
Comm:  Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode:  EI + Q1MS UP LR                                      Study :  1613/8290 Ical
Oper:  MSD            Client:  STL Knoxville                Inlet :          Vial   5
Peak:  100.00  ppm      Label wndw:   524 > 657             Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



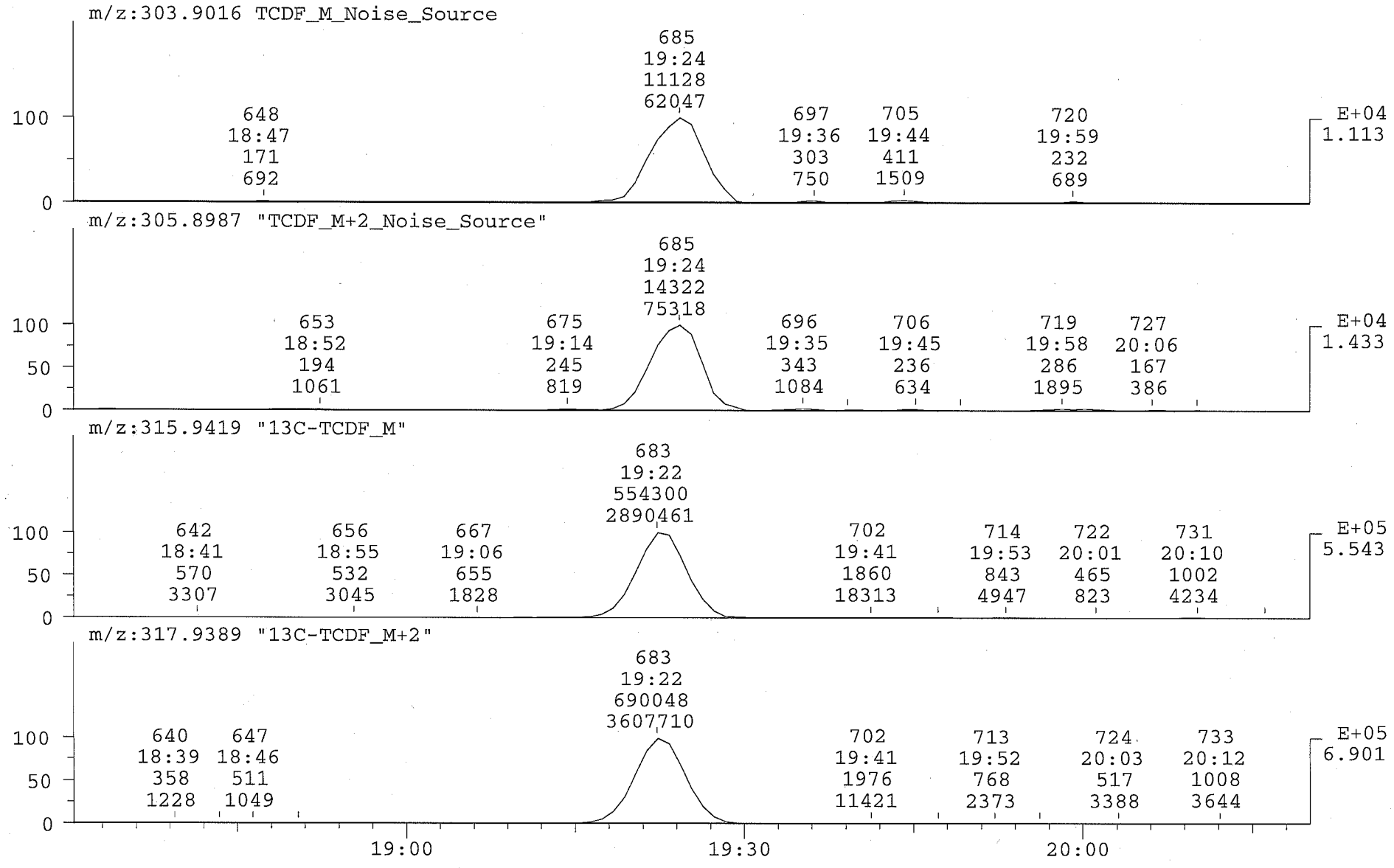
CHRO: c060209i2 09-Feb-06 Elapse: 17:34.6 575
Samp: Vial 5 WO=2960:14CS2 Meth=F8 Dil=1 Start : 11:35:43 1324
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : 1613/8290 Ical
Oper: MSD Client: STL Knoxville Inlet : Vial 5
Peak: 100.00 ppm Label wndw: 537 > 632 Masses: 292 > 376
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



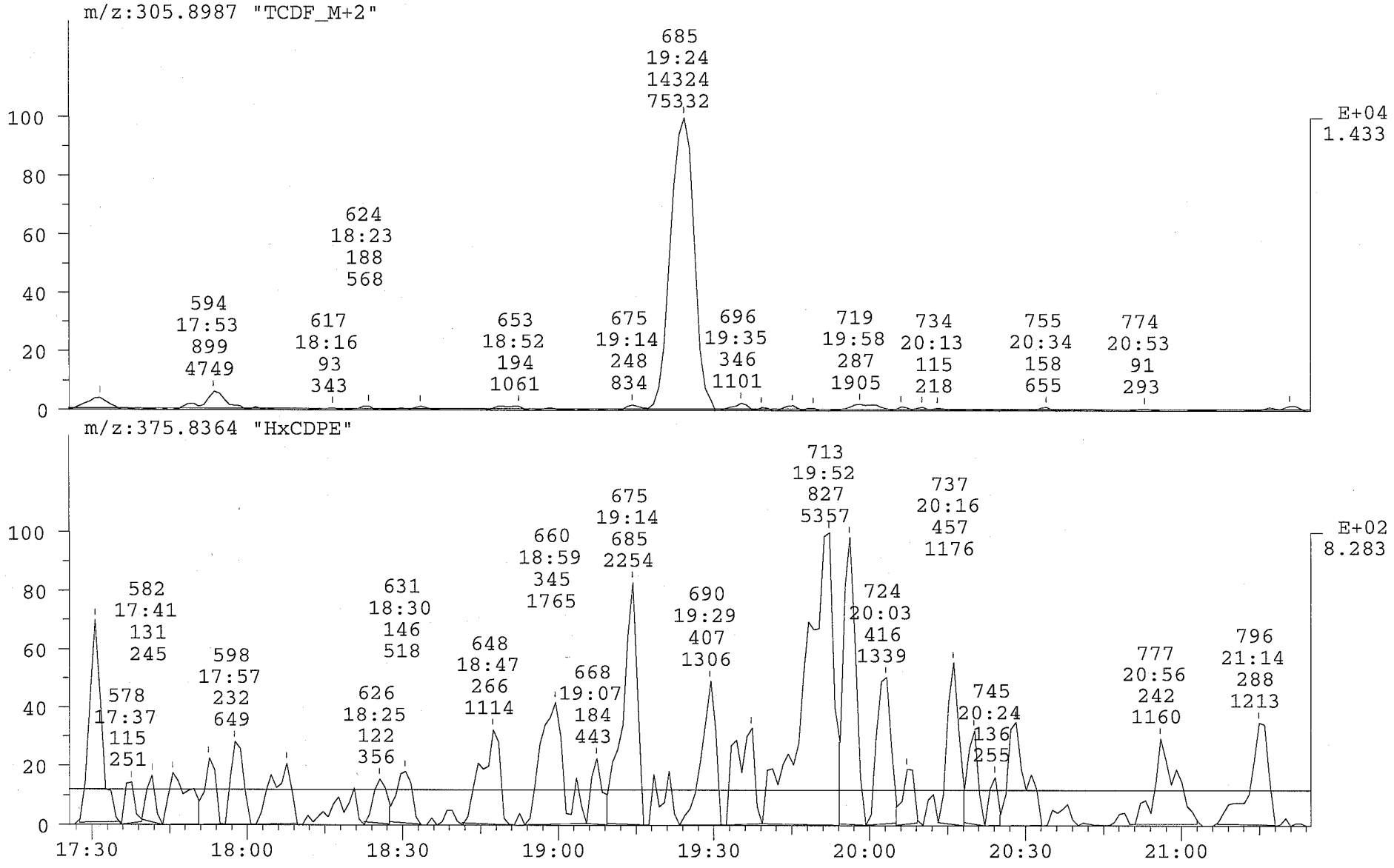
```
CHRO:  c060209i2                                09-Feb-06  Elapse:  17:36.6      577
Samp:  Vial 5 WO=2960:14CS2 Meth=F8 Dil=1                  Start :  11:35:43    1324
Comm:  Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode:  EI + Q1MS UP LR                                     Study :  1613/8290 Ical
Oper:  MSD            Client:  STL Knoxville               Inlet :          Vial   5
Peak:  100.00  ppm      Label wndw:   477 > 684            Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



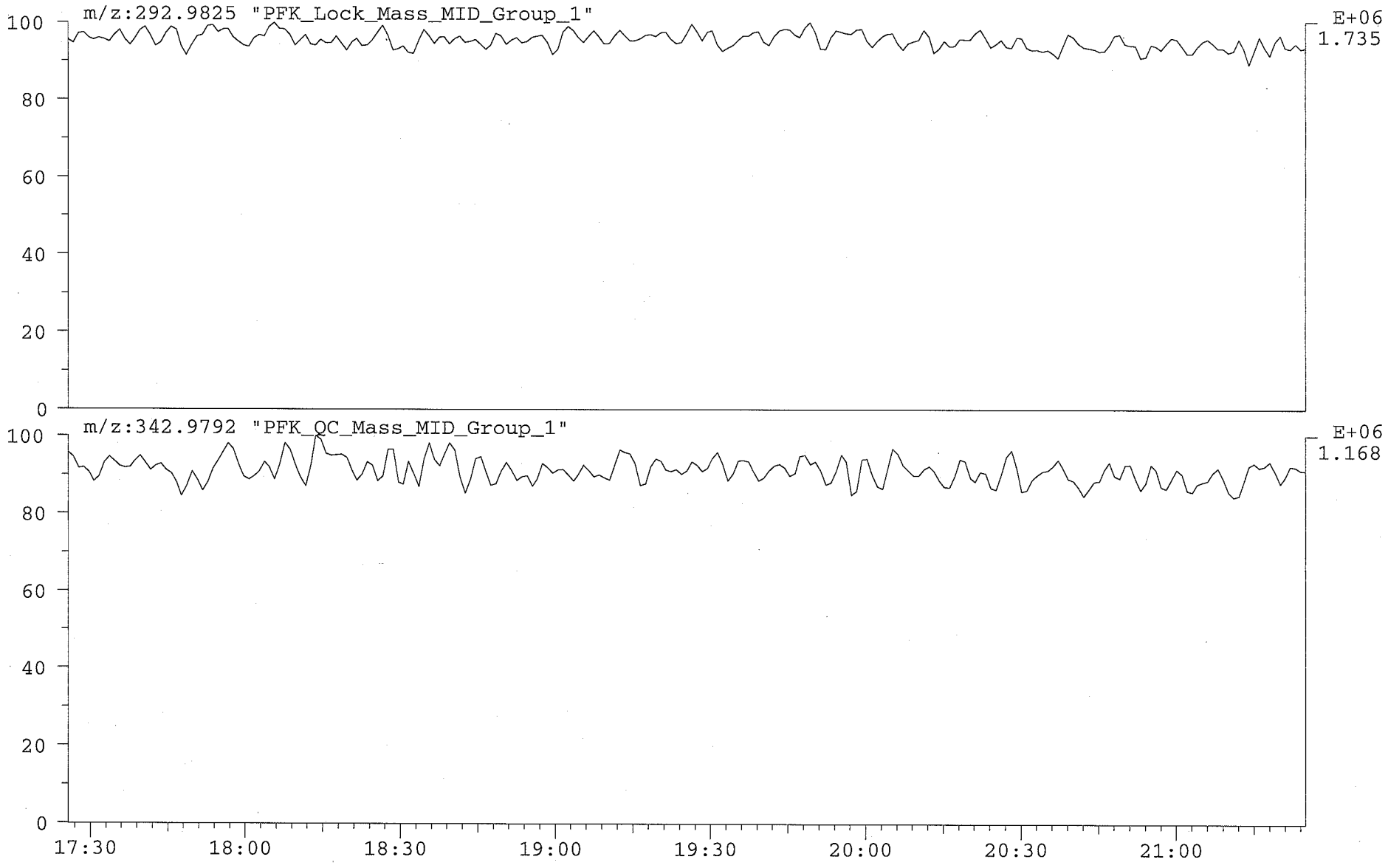
CHRO: c060209i2 09-Feb-06 Elapse: 19:25.3 686
Samp: Vial 5 WO=2960:14CS2 Meth=F8 Dil=1 Start : 11:35:43 1324
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : 1613/8290 Ical
Oper: MSD Client: STL Knoxville Inlet : Vial 5
Peak: 100.00 ppm Label wndw: 631 > 741 Masses: 292 > 376
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: c060209i2 09-Feb-06 Elapse: 19:25.3 686
Samp: Vial 5 WO=2960:14CS2 Meth=F8 Dil=1 Start : 11:35:43 1324
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : 1613/8290 Ical
Oper: MSD Client: STL Knoxville Inlet : Vial 5
Peak: 100.00 ppm Label wndw: 566 > 806 Masses: 292 > 376
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  c060209i2                                09-Feb-06  Elapse:  19:25.3      686
Samp:  Vial 5 WO=2960:14CS2 Meth=F8 Dil=1                  Start :  11:35:43    1324
Comm:  Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode:  EI + Q1MS UP LR                                     Study :  1613/8290 Ical
Oper:  MSD            Client:  STL Knoxville               Inlet :          Vial   5
Peak:  100.00  ppm      Label wndw:   566 > 806            Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
```



```
*** file opened Thu Feb 09 11:35:43 2006 ***

Started by                  - Mat95InstCtrl
Instrument Internet name    - MAT 95 XP
Instrument model            - MAT 95 XP
Instrument service number   - 0000
Workstation internet name   - KNXDXNM301

ICL Version: 11.68
File name: c060209i2
Study: 1613/8290 Ical
Sample: WO=2960:14CS2 Meth=F8 Dil=1
Amount:   0.0
Volume:   0.0
Injected volume:   2.0
Operator: MSD
Client: STL Knoxville
Comments: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Sample from Vial 5
Analysis will stop when MID run finishes
Tune file name: mas
MCAL file name: mcal1
Single File
ICL procedure: sleep90 6
  MID procedure: db225


  Mid Time Windows:
        Start        Measure      End        Cycletime
  # 1   8:00 min  22:00 min  30:00 min   1.00 sec

  Mid Masses:
   Window # 1
        mass F  int  gr  time (ms)
    292.9825 l  10  1        8
    303.9016     1  1       84
    305.8987     1  1       84
    315.9419     1  1       84
    317.9389     1  1       84
    319.8965     1  1       84
    321.8936     1  1       84
    327.8847     1  1       84
    331.9368     1  1       84
    333.9338     1  1       84
    342.9792 c  10  1        8
    375.8364     1  1       84

  Auto Sampler descriptor:a200s_knox1
   Normal Injection
   Injector A
  Slvnt A cln before inj  (K):    3 times
  Slvnt B cln before inj  (L):    0 times
  Sample rinse cycles     (R):    0 times
  Syringe filling volume  (F):  1.0 ul
  Pullup delay time       (D):    4 sec
  Sample pullup count     (P):    5 times
  Sample pullup speed     (E):  5.0 ul/sec
  Slvnt aftr pre inj cln  (U):  0.0 ul
  Air after pre inj clean (G):  2.0 ul
  Sample volume           (V):  2.0 ul
```

Sample air volume	(A):	2.0 ul
Injection speed	(S):	10.0 ul/sec
Pre injection wait time	(W):	10 sec
Post injectn hold time	(H):	3 sec
Solvent A clean cycles	(C):	5 times
Solvent B clean cycles	(B):	0 times
Loop clean wth slvnt A	(LC):	0 times
Loop clean wth slvnt B	(LB):	0 times
Standard sample volume	(X):	0.0 ul
Standard air volume	(Y):	0.0 ul
2nd Injection volume	(I):	0.0 ul
Air volume 2nd injectn	(J):	0.0 ul
Time btwn 2 injections	(T):	0 sec

GC descriptor: db225

Injector:	270 deg		270 deg max
Transfer Line:	220 deg		230 deg max
Column:	140 deg at	0.0 minutes	230 deg max
	140 deg at	2.0 minutes	
	200 deg at	5.0 minutes	
	230 deg at	20.0 minutes	
	230 deg at	30.0 minutes	

Stabilize time 0.0 minutes

Inlet:

Splitless Mode	
Purge Time	1.50 min
Purge Flow	40.0 ml/min
Gas saver is on	
Saver Time	3.00 min
Saver Flow	15.0 ml/min

Column:

Constant Flow	1.2 ml
Standby Flow	0.5 ml/min

ICL Parameters

ACCU	666.0000	BCORRL	0.0150	BCORRS	0.0130
BFM	2.0000	BLM	2862.8777	BMASS	304.9824
BQUAD	0.0000	CAPIL	0.0000	CAPTEMP	0.0000
CAPTSET	0.0000	CCURR	3.2706	CORONA	0.0000
COUNTING	0.0000	DELAY	0.0000	DITEMP	399.9996
DITSET	0.0000	DRAW	-18.5000	DRAWC	0.0000
DRAWS	0.0000	ECORR	1.0012	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9997	EDACZ	2387.5000
ELEN	58.5000	EMULT	1.7000	ENS	227.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	0.0000
ESIPAR	0.0000	EXS	155.0000	FDMA	18000000.0000
FILTER	100.0000	FLENS	1.0000	FM	20.0000
FMII	0.2000	FQUAD	0.0000	FREQ	600.6006
FSLOPE	36000000.0000	FVANAL	91.0000	FVINLET	911.0000
FVSRC	795.0000	FWIN	0.7000	GCTC	229.0000
GCTI	270.0000	GCTL	220.0000	HCURR	1.4216
HVANAL	882.0000	HVSRC	0.0000	ICAL0	0.0011
ICAL1	0.4030	ICAL2	0.5865	IONEN	4749.6900
IST	271.3713	ISTC	0.0000	ISTCKP	5.0000
ISTCTD	1.0000	ISTCTN	2.0000	ISTCTS	60.0000
ISTCTV	3.0000	ISTS	270.0000	LENS	2130.0000
LENSS	0.0000	LKM	292.9825	LM	800.0000
LMASS	304.9824	LMII	0.2000	MASS	304.9824

MDAC	2017207.9536	MRANGE	2862.8777	MSFM	2.0000
MSLM	3790.0000	NPEAK	12.0000	NSAM	200.0000
NSCAN	1328.0000	NSMAX	8.0000	NSMIN	66.0000
OCT	-2.0000	PSAM	10.0000	PUSHER	-4.5700
RDRAW	0.0000	RDRAWC	0.0000	RECURR	0.0000
RELEN	0.0000	RES	10005.2559	RFAMP	0.0000
RFCUR	0.0000	RPUSHER	0.0000	RWIN	2.0000
SCIDLE	1.0000	SHIELD	2089.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000
SPRAY	0.0000	SS	3.0000	SW	0.0500
TANAL	381.4464	TCURR	0.6641	TD	0.9999
THRESH	2.0000	TIS	0.2000	TREF	150.0000
TS	1.6019	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.7425
UROT	0.0000	USERVAR	0.0000	UTQ1	150.0000
UTQ2	190.0000	UTQ3	80.0000	VAPTEMP	0.0000
VAPTSET	0.0000	VMASS	304.9824	XLENS	3814.0000
XLENSS	19.4000	YLENS	2918.0000	YLENSS	-47.0000

Scantype is electric
Sourcemode is EI POS

Analysis started at: 09-Feb-06 11:37:20
MID Window terminated after 30.016667 minutes
MID Window end time was 30.000000 minutes
Autosampler has injected sample from vial 5
MID Time Window 1: Resolution is 8138.

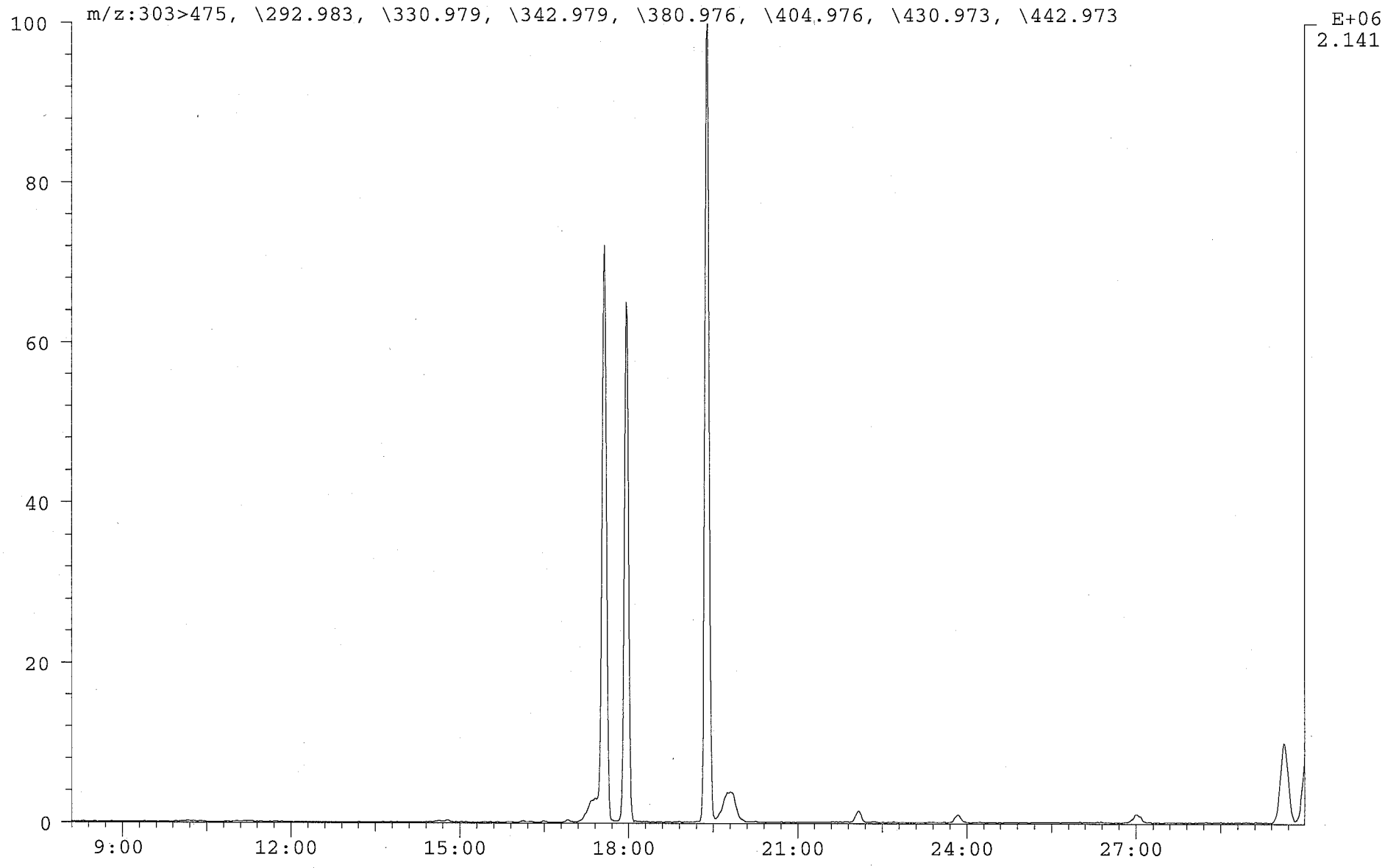
Amplifier Offset: 89.

Analysis stopped at: 09-Feb-06 12:07:23 (run time 30.04 minutes)
Analysis stopped because MID run finished

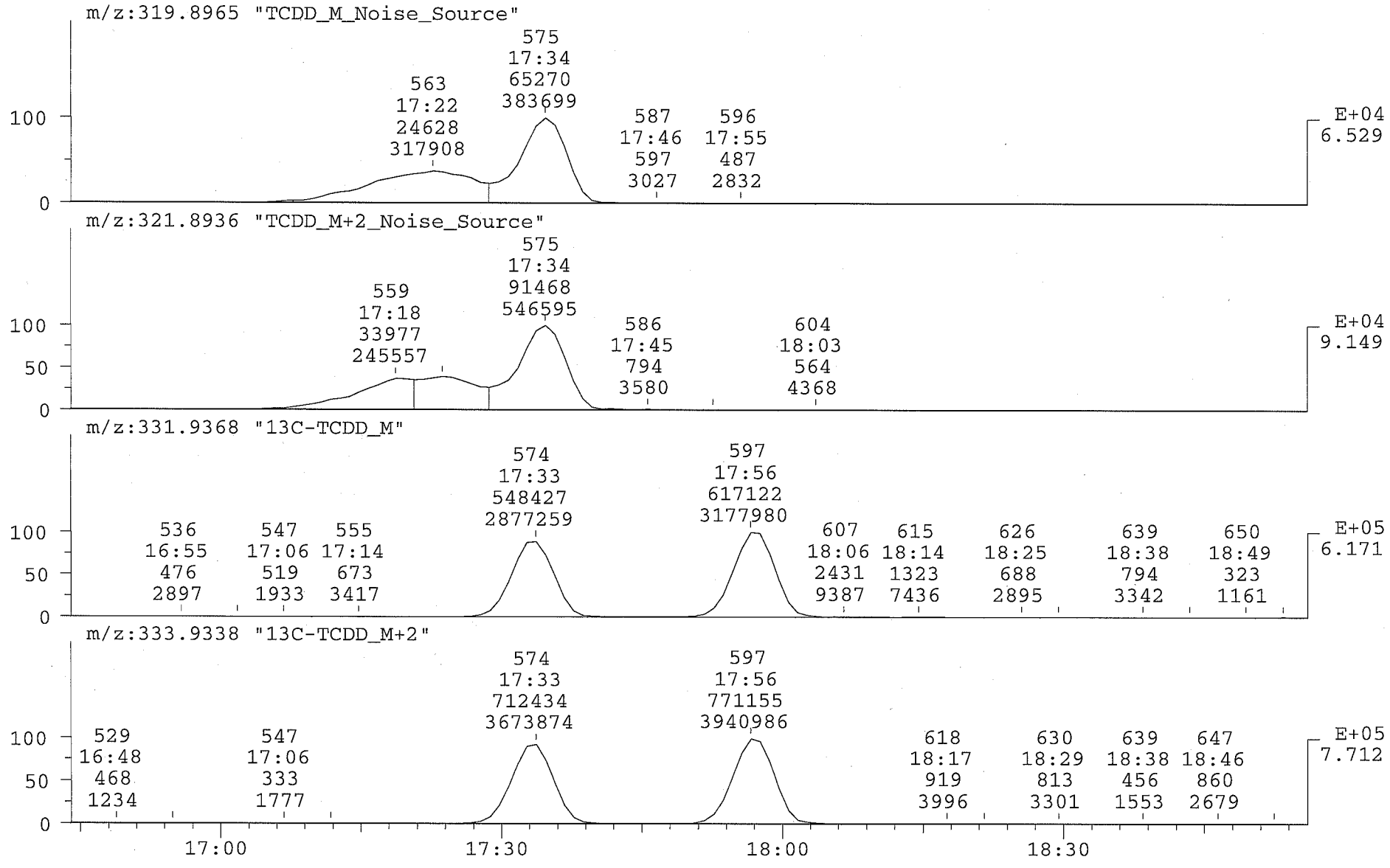
*** File closed Thu Feb 09 12:07:23 2006 ***

CHRO: c060209i3 09-Feb-06 Elapse: 19:25.3 686
Samp: Vial 6 WO=2960:14CS3 Meth=F8 Dil=1 Start : 12:07:25 1324
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : 1613/8290 Ical
Oper: MSD Client: STL Knoxville Inlet : Vial 6
Peak: 100.00 ppm Label wndw: 4 > 1322 Masses: 292 > 376
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

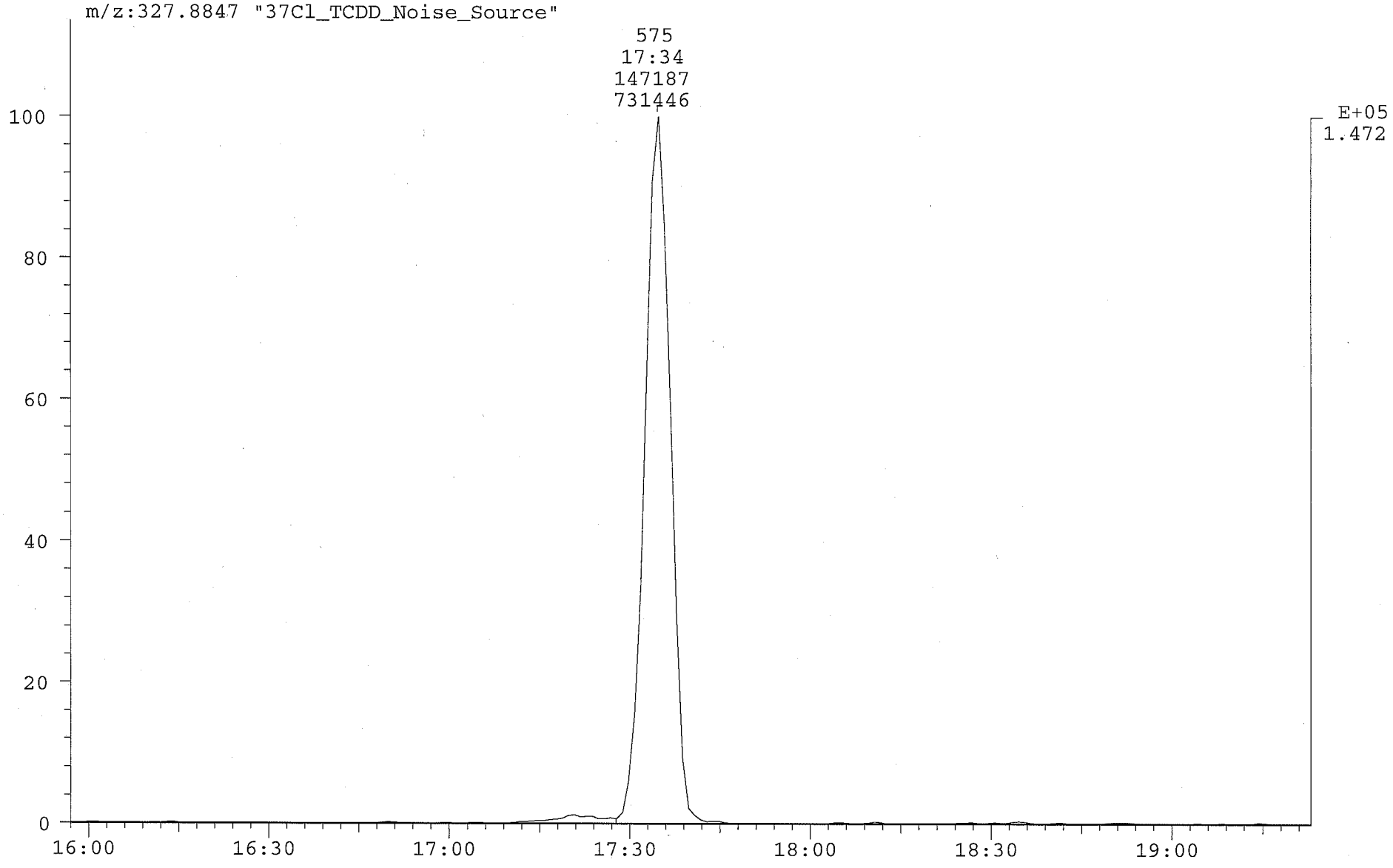
Int, Calc MSD 2/9/06
ac BFW 2/10/06



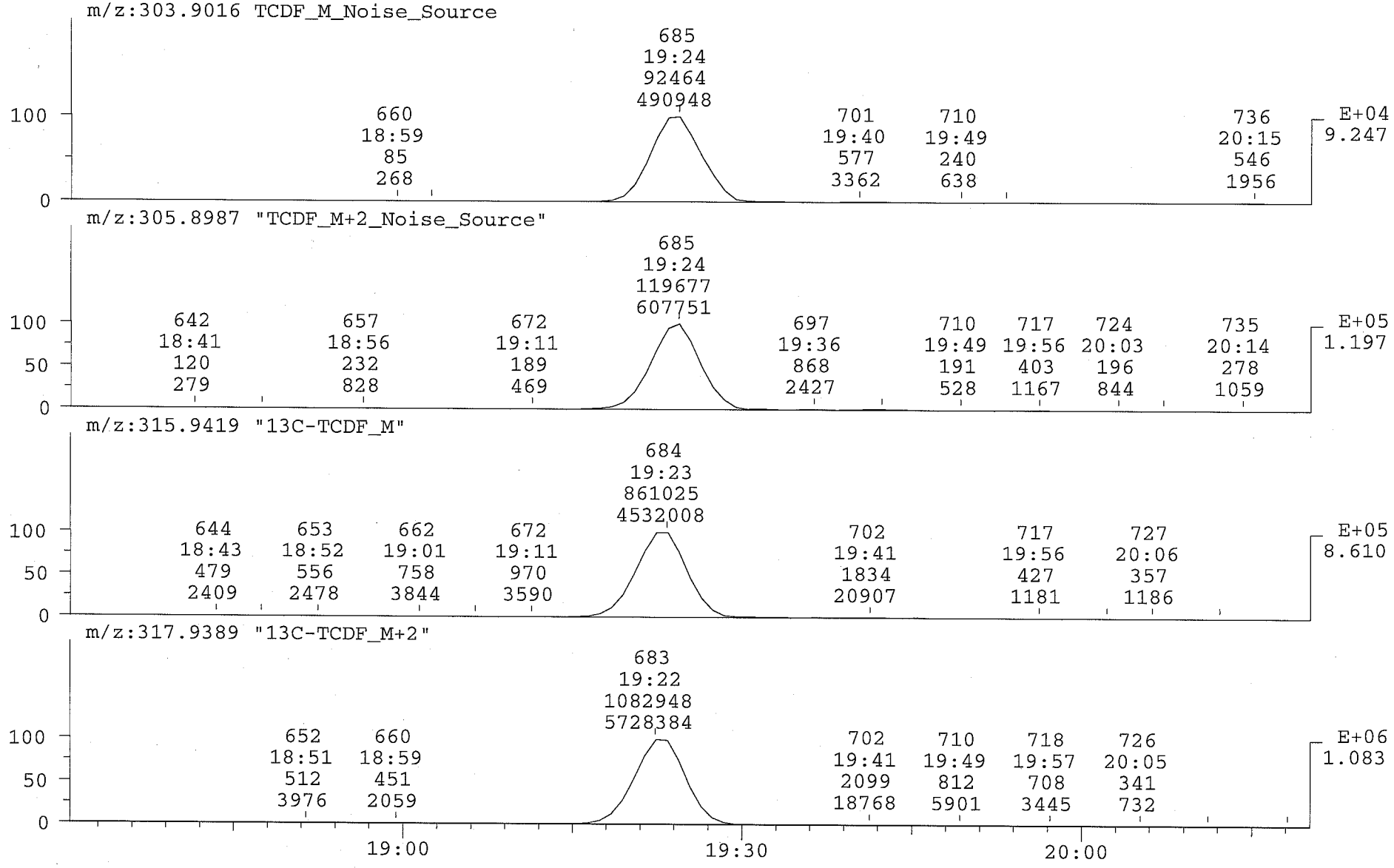
CHRO: c060209i3 09-Feb-06 Elapse: 17:49.6 590
Samp: Vial 6 WO=2960:14CS3 Meth=F8 Dil=1 Start : 12:07:25 1324
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : 1613/8290 Ical
Oper: MSD Client: STL Knoxville Inlet : Vial 6
Peak: 100.00 ppm Label wndw: 524 > 657 Masses: 292 > 376
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



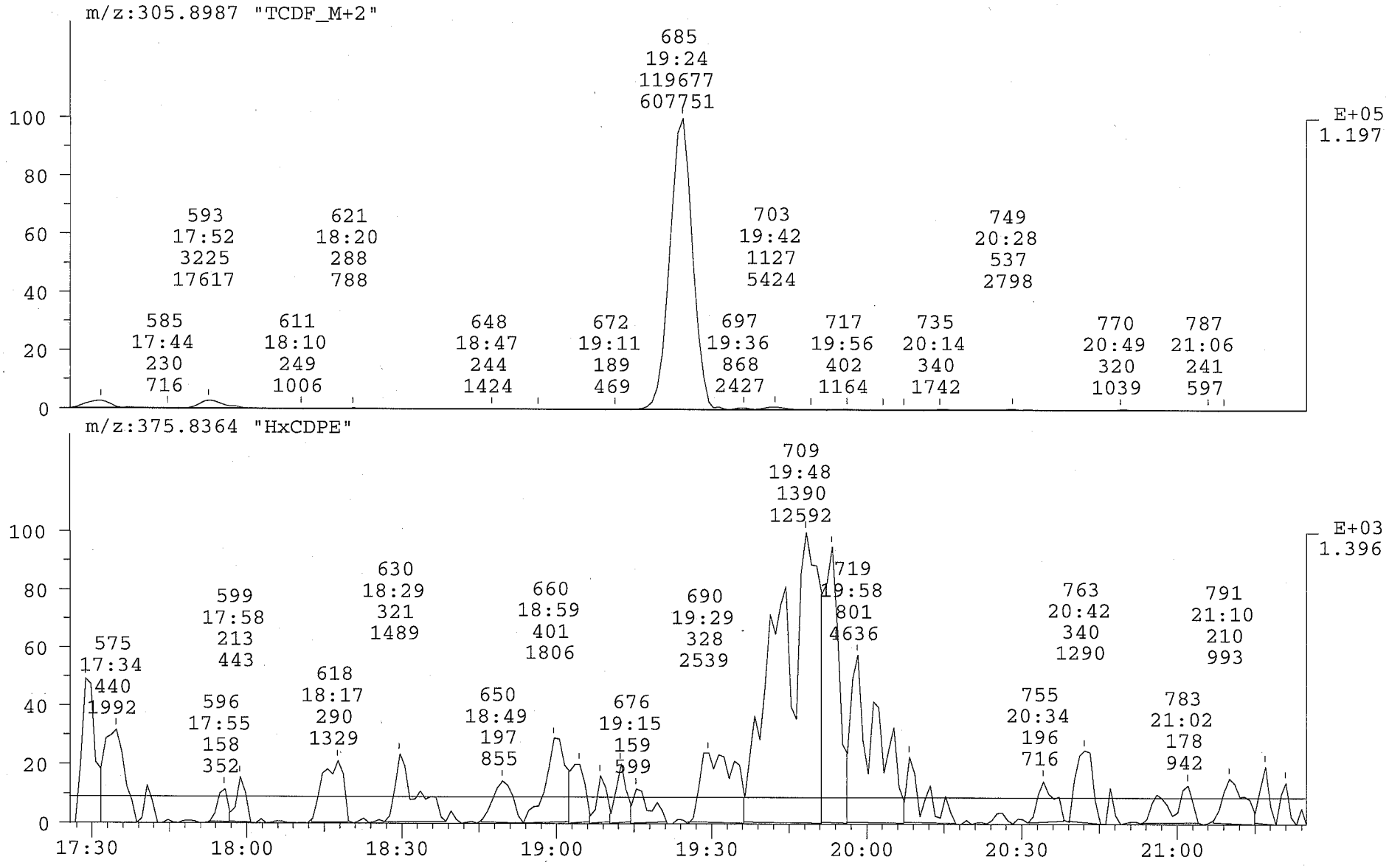
```
CHRO:  c060209i3                                09-Feb-06   Elapse:  17:36.7      577
Samp:  Vial 6 WO=2960:14CS3 Meth=F8 Dil=1                   Start :  12:07:25    1324
Comm:  Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode:  EI + Q1MS UP LR                                      Study :  1613/8290 Ical
Oper:  MSD            Client:  STL Knoxville                Inlet :          Vial  6
Peak:  100.00  ppm      Label wndw:   477 > 684             Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



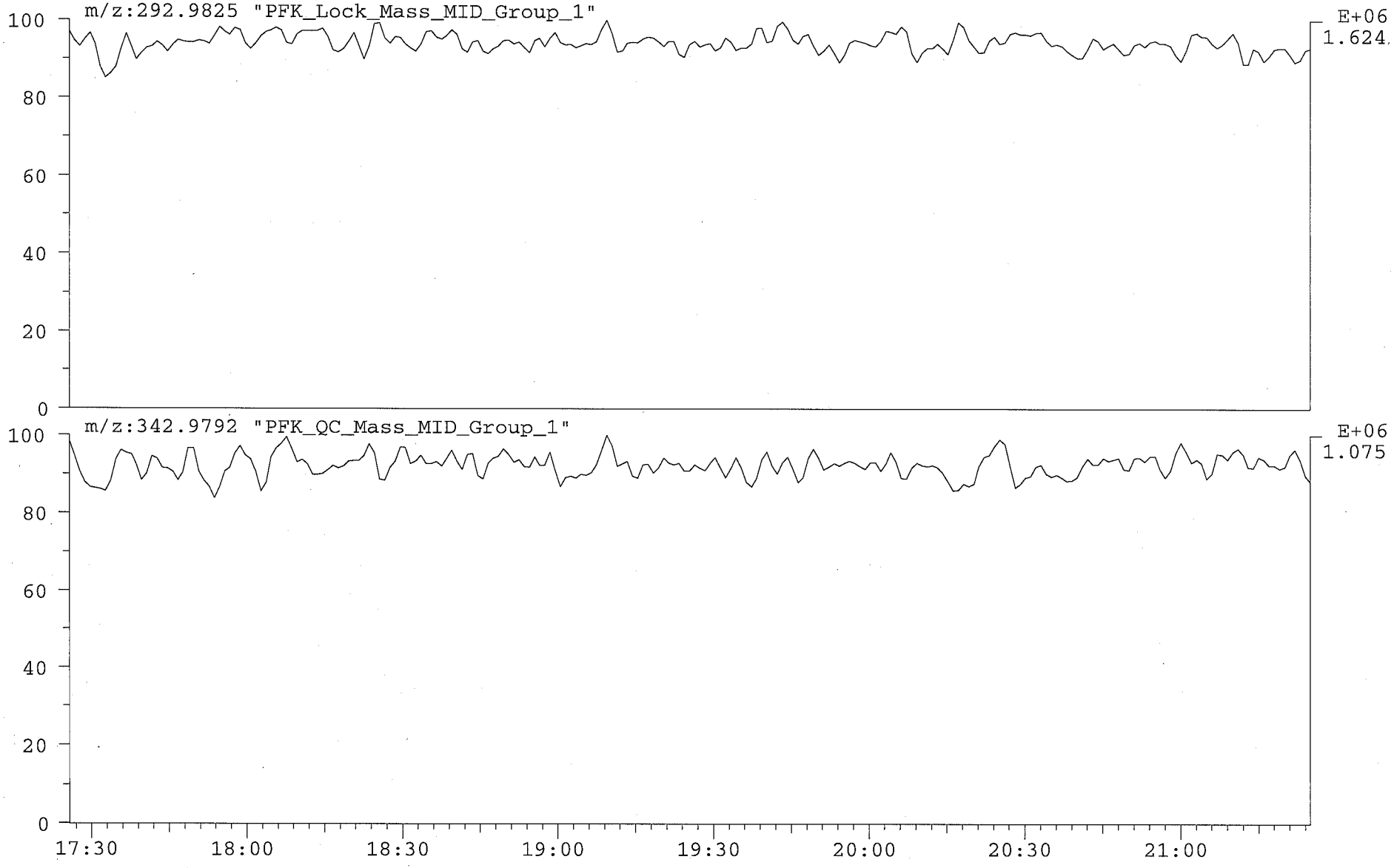
CHRO: c060209i3 09-Feb-06 Elapse: 19:25.3 686
Samp: Vial 6 WO=2960:14CS3 Meth=F8 Dil=1 Start : 12:07:25 1324
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : 1613/8290 Ical
Oper: MSD Client: STL Knoxville Inlet : Vial 6
Peak: 100.00 ppm Label wndw: 631 > 741 Masses: 292 > 376
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: c060209i3 09-Feb-06 Elapse: 19:25.3 686
Samp: Vial 6 WO=2960:14CS3 Meth=F8 Dil=1 Start : 12:07:25 1324
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : 1613/8290 Ical
Oper: MSD Client: STL Knoxville Inlet : Vial 6
Peak: 100.00 ppm Label wndw: 566 > 806 Masses: 292 > 376
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: c060209i3 09-Feb-06 Elapse: 19:25.3 686
Samp: Vial 6 WO=2960:14CS3 Meth=F8 Dil=1 Start : 12:07:25 1324
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : 1613/8290 Ical
Oper: MSD Client: STL Knoxville Inlet : Vial 6
Peak: 100.00 ppm Label wndw: 566 > 806 Masses: 292 > 376
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



*** file opened Thu Feb 09 12:07:25 2006 ***

Started by - Mat95InstCtrl
Instrument Internet name - MAT 95 XP
Instrument model - MAT 95 XP
Instrument service number - 0000
Workstation internet name - KNXDXNM301

ICL Version: 11.68
File name: c060209i3
Study: 1613/8290 Ical
Sample: WO=2960:14CS3 Meth=F8 Dil=1
Amount: 0.0
Volume: 0.0
Injected volume: 2.0
Operator: MSD
Client: STL Knoxville
Comments: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Sample from Vial 6
Analysis will stop when MID run finishes
Tune file name: mas
MCAL file name: mcal1
Single File
ICL procedure: sleep90 6
MID procedure: db225

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	22:00 min	30:00 min	1.00 sec

Mid Masses:
Window # 1

mass	F	int	gr	time (ms)
292.9825	l	10	1	8
303.9016		1	1	84
305.8987		1	1	84
315.9419		1	1	84
317.9389		1	1	84
319.8965		1	1	84
321.8936		1	1	84
327.8847		1	1	84
331.9368		1	1	84
333.9338		1	1	84
342.9792	c	10	1	8
375.8364		1	1	84

Auto Sampler descriptor:a200s_knox1
Normal Injection
Injector A

Slvnt A cln before inj	(K):	3	times
Slvnt B cln before inj	(L):	0	times
Sample rinse cycles	(R):	0	times
Syringe filling volume	(F):	1.0	ul
Pullup delay time	(D):	4	sec
Sample pullup count	(P):	5	times
Sample pullup speed	(E):	5.0	ul/sec
Slvnt aftr pre inj cln	(U):	0.0	ul
Air after pre inj clean	(G):	2.0	ul
Sample volume	(V):	2.0	ul

Sample air volume	(A):	2.0 ul
Injection speed	(S):	10.0 ul/sec
Pre injection wait time	(W):	10 sec
Post injectn hold time	(H):	3 sec
Solvent A clean cycles	(C):	5 times
Solvent B clean cycles	(B):	0 times
Loop clean wth slvnt A	(LC):	0 times
Loop clean wth slvnt B	(LB):	0 times
Standard sample volume	(X):	0.0 ul
Standard air volume	(Y):	0.0 ul
2nd Injection volume	(I):	0.0 ul
Air volume 2nd injectn	(J):	0.0 ul
Time btwn 2 injections	(T):	0 sec

GC descriptor: db225

Injector:	270 deg		270 deg max
Transfer Line:	220 deg		230 deg max
Column:	140 deg at	0.0 minutes	230 deg max
	140 deg at	2.0 minutes	
	200 deg at	5.0 minutes	
	230 deg at	20.0 minutes	
	230 deg at	30.0 minutes	

Stabilize time 0.0 minutes

Inlet:

Splitless Mode	
Purge Time	1.50 min
Purge Flow	40.0 ml/min
Gas saver is on	
Saver Time	3.00 min
Saver Flow	15.0 ml/min

Column:

Constant Flow	1.2 ml
Standby Flow	0.5 ml/min

ICL Parameters

ACCU	666.0000	BCORRL	0.0150	BCORRS	0.0130
BFM	2.0000	BLM	2862.8777	BMASS	304.9824
BQUAD	0.0000	CAPIL	0.0000	CAPTEMP	0.0000
CAPTSET	0.0000	CCURR	3.2706	CORONA	0.0000
COUNTING	0.0000	DELAY	0.0000	DITEMP	399.9996
DITSET	0.0000	DRAW	-18.5000	DRAWC	0.0000
DRAWS	0.0000	ECORR	1.0012	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9997	EDACZ	2387.5000
ELEN	58.5000	EMULT	1.7000	ENS	227.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	0.0000
ESIPAR	0.0000	EXS	155.0000	FDMA	18000000.0000
FILTER	100.0000	FLENS	1.0000	FM	20.0000
FMII	0.2000	FQUAD	0.0000	FREQ	600.6006
FSLOPE	36000000.0000	FVANAL	91.0000	FVINLET	911.0000
FVSRC	795.0000	FWIN	0.7000	GCTC	229.0000
GCTI	270.0000	GCTL	220.0000	HCURR	1.3922
HVANAL	882.0000	HVSRC	0.0000	ICAL0	0.0011
ICAL1	0.4030	ICAL2	0.5865	IONEN	4749.6900
IST	271.3713	ISTC	0.0000	ISTCKP	5.0000
ISTCTD	1.0000	ISTCTN	2.0000	ISTCTS	60.0000
ISTCTV	3.0000	ISTS	270.0000	LENS	2130.0000
LENSS	0.0000	LKM	292.9825	LM	800.0000
LMASS	304.9824	LMII	0.2000	MASS	304.9824

MDAC	2017207.9536	MRANGE	2862.8777	MSFM	2.0000
MSLM	3790.0000	NPEAK	12.0000	NSAM	200.0000
NSCAN	1328.0000	NSMAX	8.0000	NSMIN	66.0000
OCT	-2.0000	PSAM	10.0000	PUSHER	-4.5700
RDRAW	0.0000	RDRAWC	0.0000	RECURR	0.0000
RELEN	0.0000	RES	10005.2559	RFAMP	0.0000
RFCUR	0.0000	RPUSHER	0.0000	RWIN	2.0000
SCIDLE	1.0000	SHIELD	2089.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000
SPRAY	0.0000	SS	3.0000	SW	0.0500
TANAL	380.9520	TCURR	0.6250	TD	0.9999
THRESH	2.0000	TIS	0.2000	TREF	150.0000
TS	1.6019	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.7425
UROT	0.0000	USERVAR	0.0000	UTQ1	150.0000
UTQ2	190.0000	UTQ3	80.0000	VAPTEMP	0.0000
VAPTSET	0.0000	VMASS	304.9824	XLENS	3814.0000
XLENSS	19.4000	YLENS	2918.0000	YLENSS	-47.0000

Scantype is electric
Sourcemode is EI POS

Analysis started at: 09-Feb-06 12:09:02
MID Window terminated after 30.016667 minutes
MID Window end time was 30.000000 minutes
Autosampler has injected sample from vial 6
MID Time Window 1: Resolution is 8138.

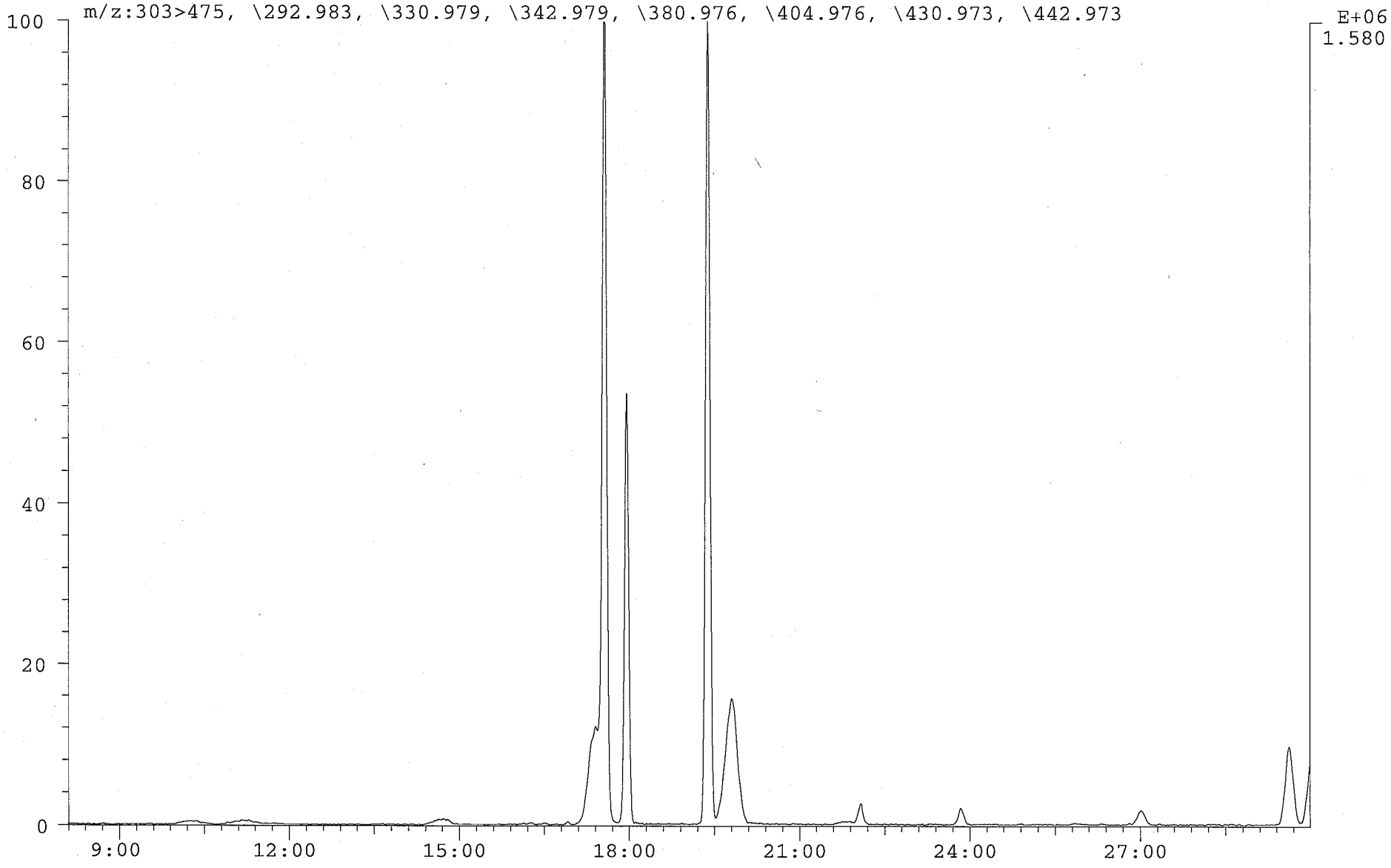
Amplifier Offset: 89.

Analysis stopped at: 09-Feb-06 12:39:05 (run time 30.04 minutes)
Analysis stopped because MID run finished

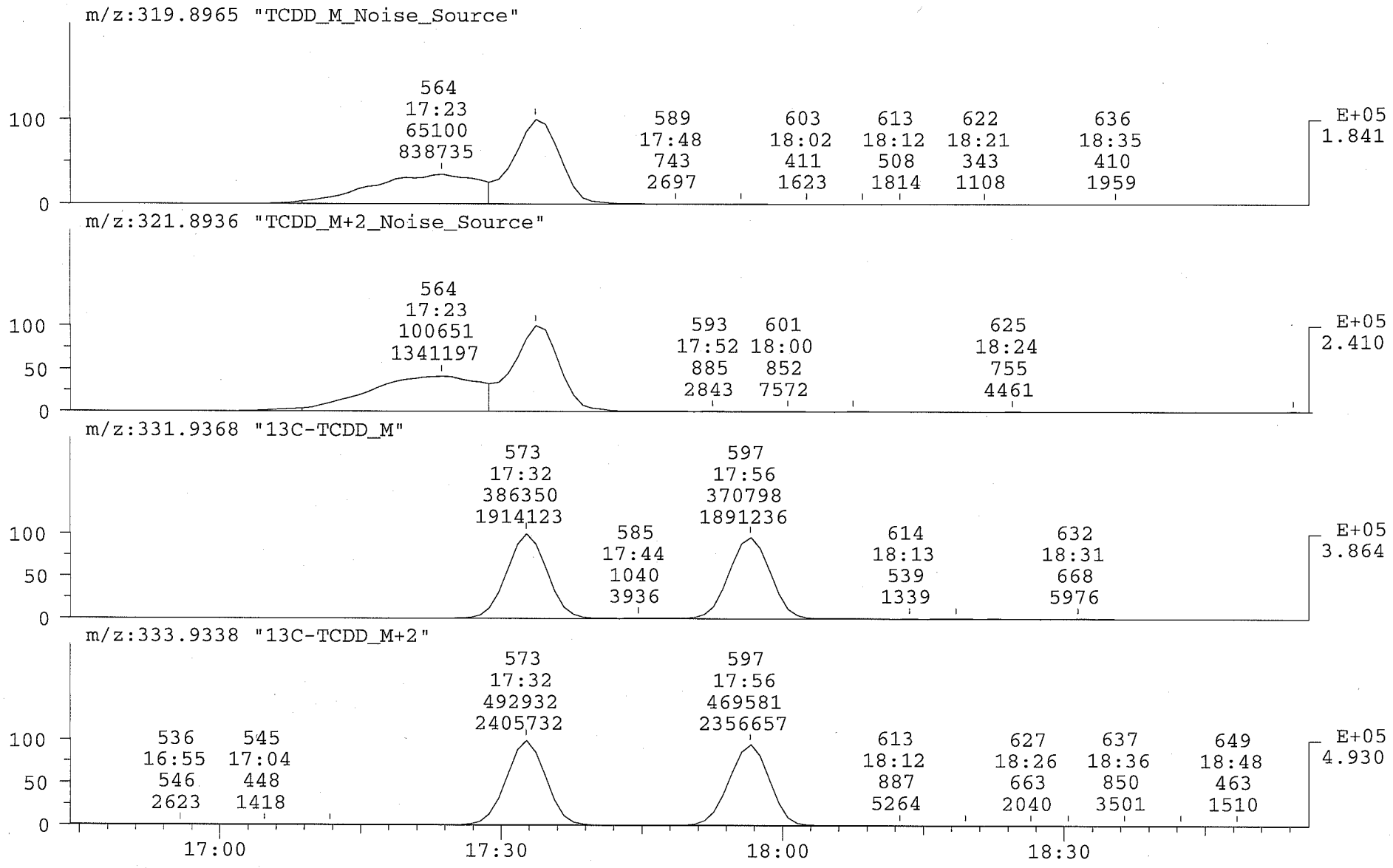
*** File closed Thu Feb 09 12:39:06 2006 ***

CHRO: c060209i4 09-Feb-06 Elapse: 19:25.3 686
Samp: Vial 8 WO=2960:14CS4 Meth=F8 Dil=1 Start : 13:10:49 1324
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : 1613/8290 Ical
Oper: MSD Client: STL Knoxville Inlet : Vial 8
Peak: 100.00 ppm Label wndw: 4 > 1322 Masses: 292 > 376
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

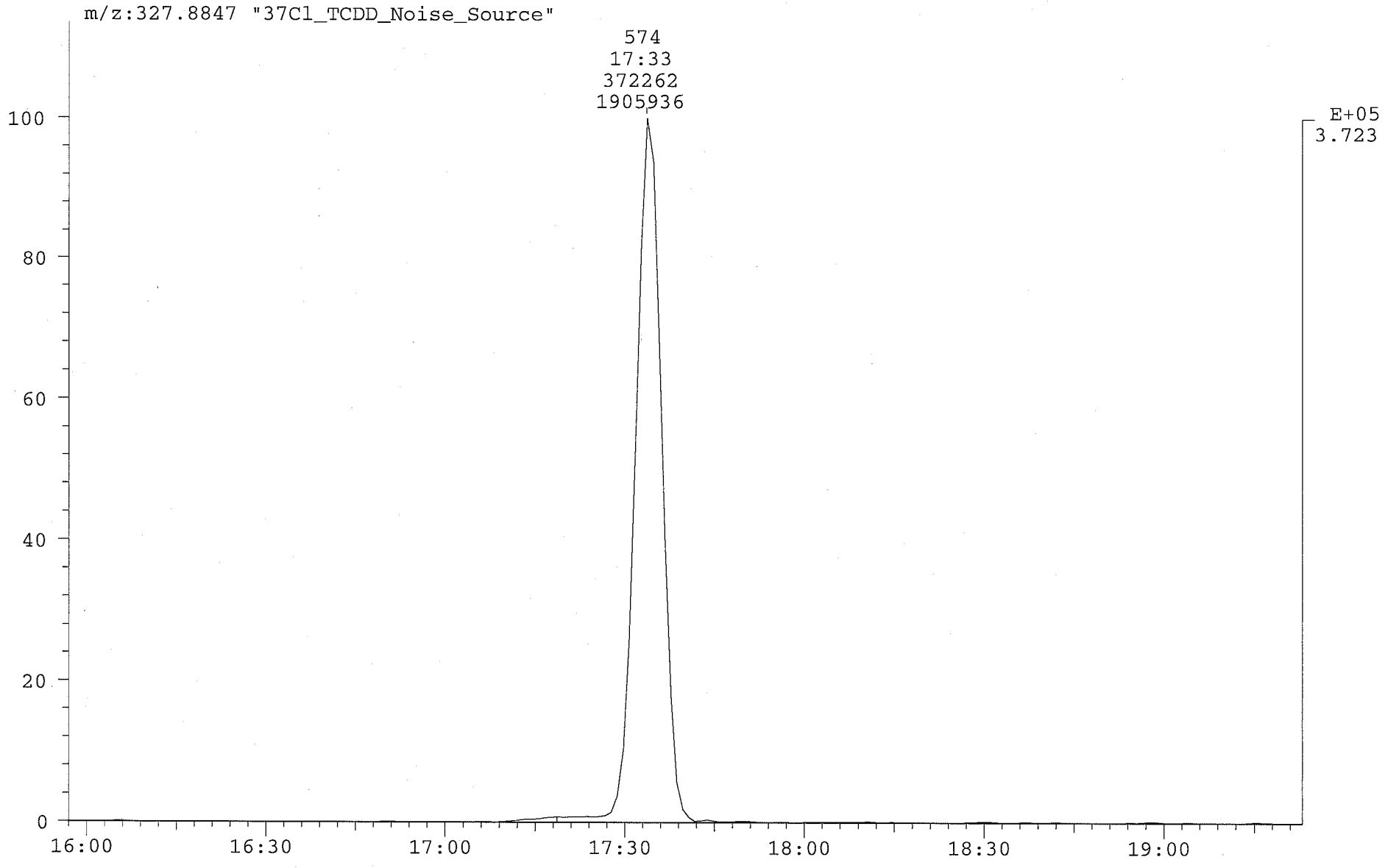
Int, Calc MSD 2/9/06
QC BPW 2/10/06



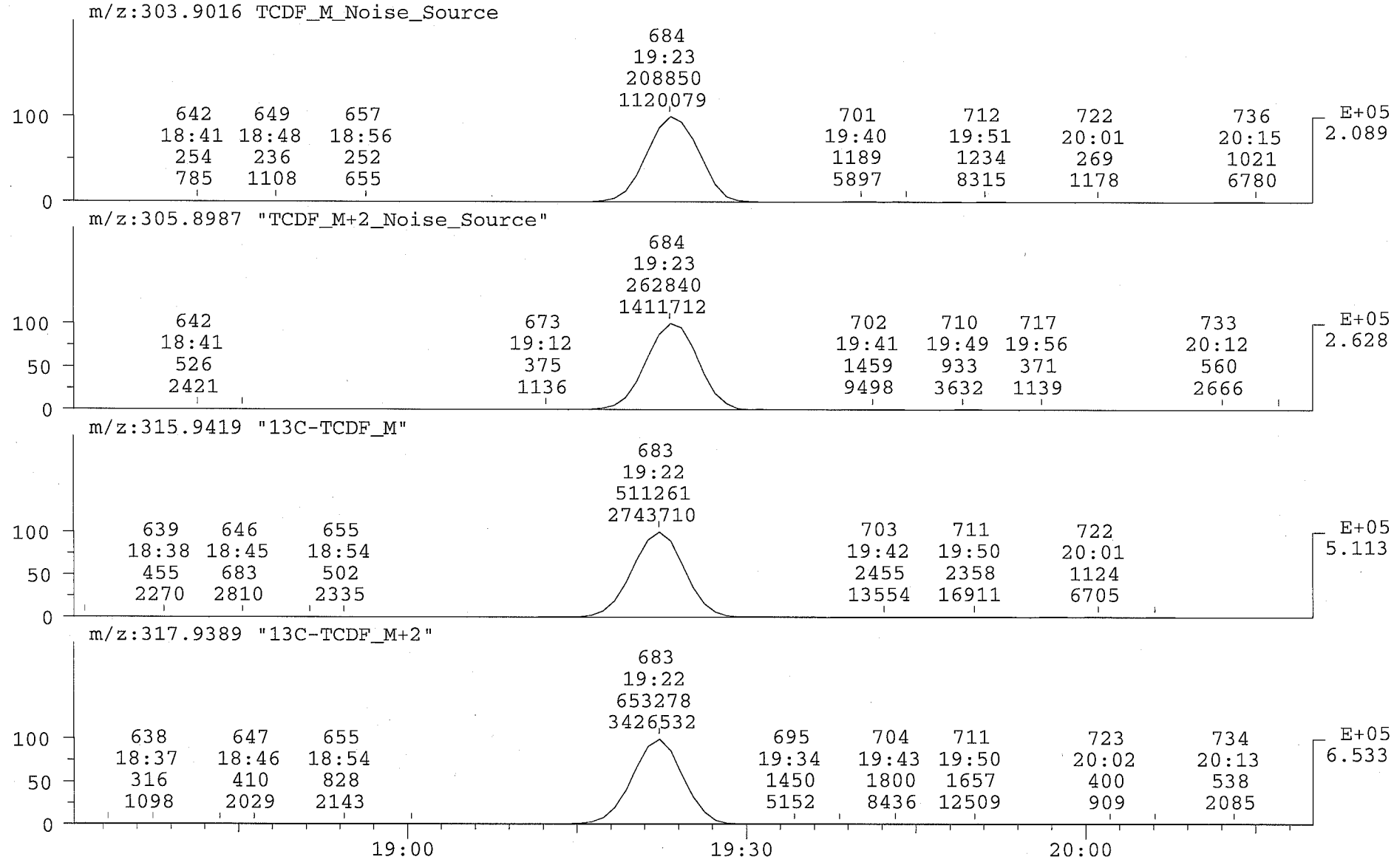
CHRO: c060209i4 09-Feb-06 Elapse: 17:49.6 590
Samp: Vial 8 WO=2960:14CS4 Meth=F8 Dil=1 Start : 13:10:49 1324
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : 1613/8290 Ical
Oper: MSD Client: STL Knoxville Inlet : Vial 8
Peak: 100.00 ppm Label wndw: 524 > 657 Masses: 292 > 376
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



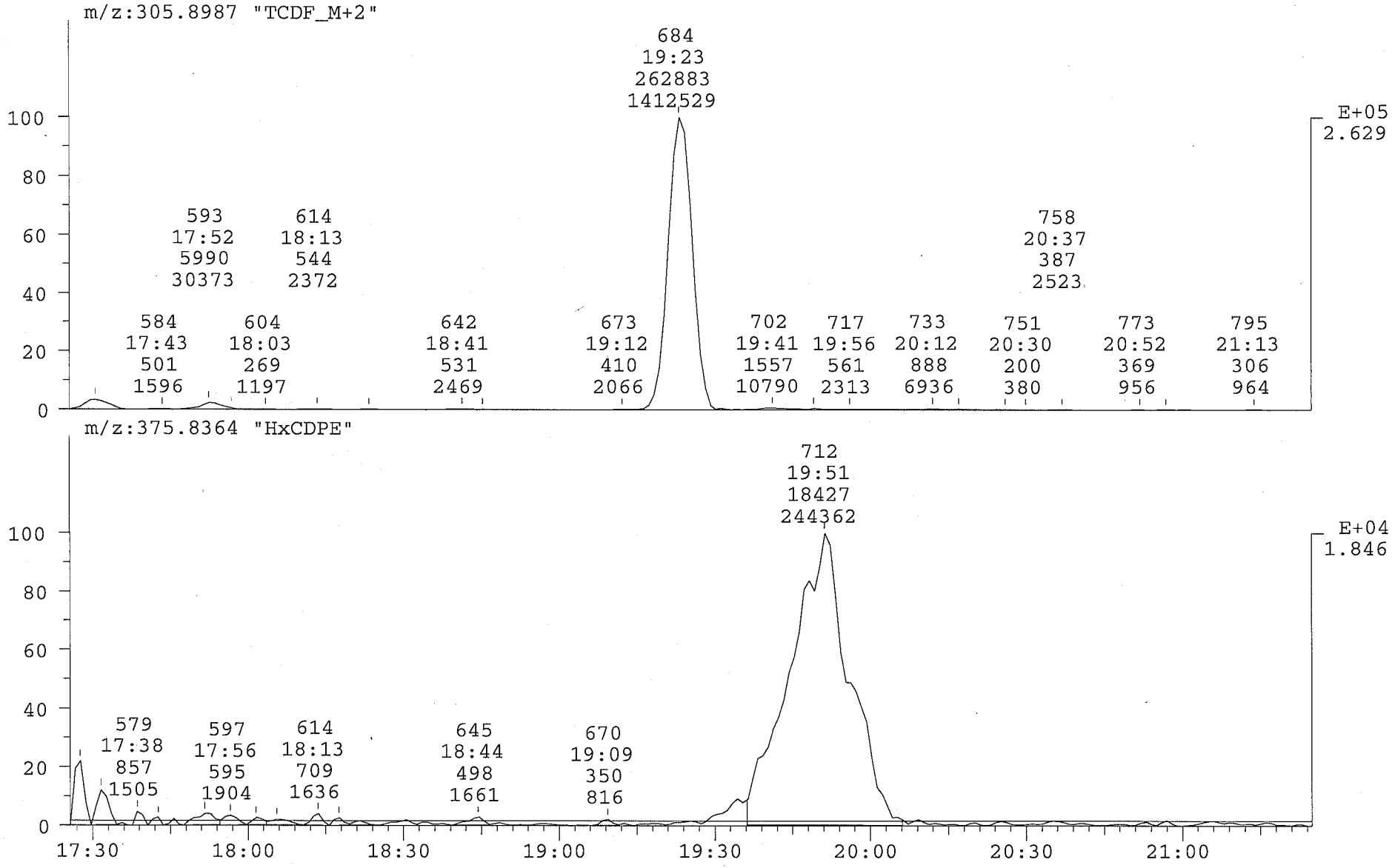
```
CHRO:  c060209i4                                09-Feb-06   Elapse:  17:36.6      577
Samp:  Vial 8 WO=2960:14CS4 Meth=F8 Dil=1                   Start :  13:10:49    1324
Comm:  Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode:  EI + Q1MS UP LR                                      Study :  1613/8290 Ical
Oper:  MSD            Client:  STL Knoxville                Inlet :          Vial   8
Peak:  100.00  ppm      Label wndw:   477 > 684             Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



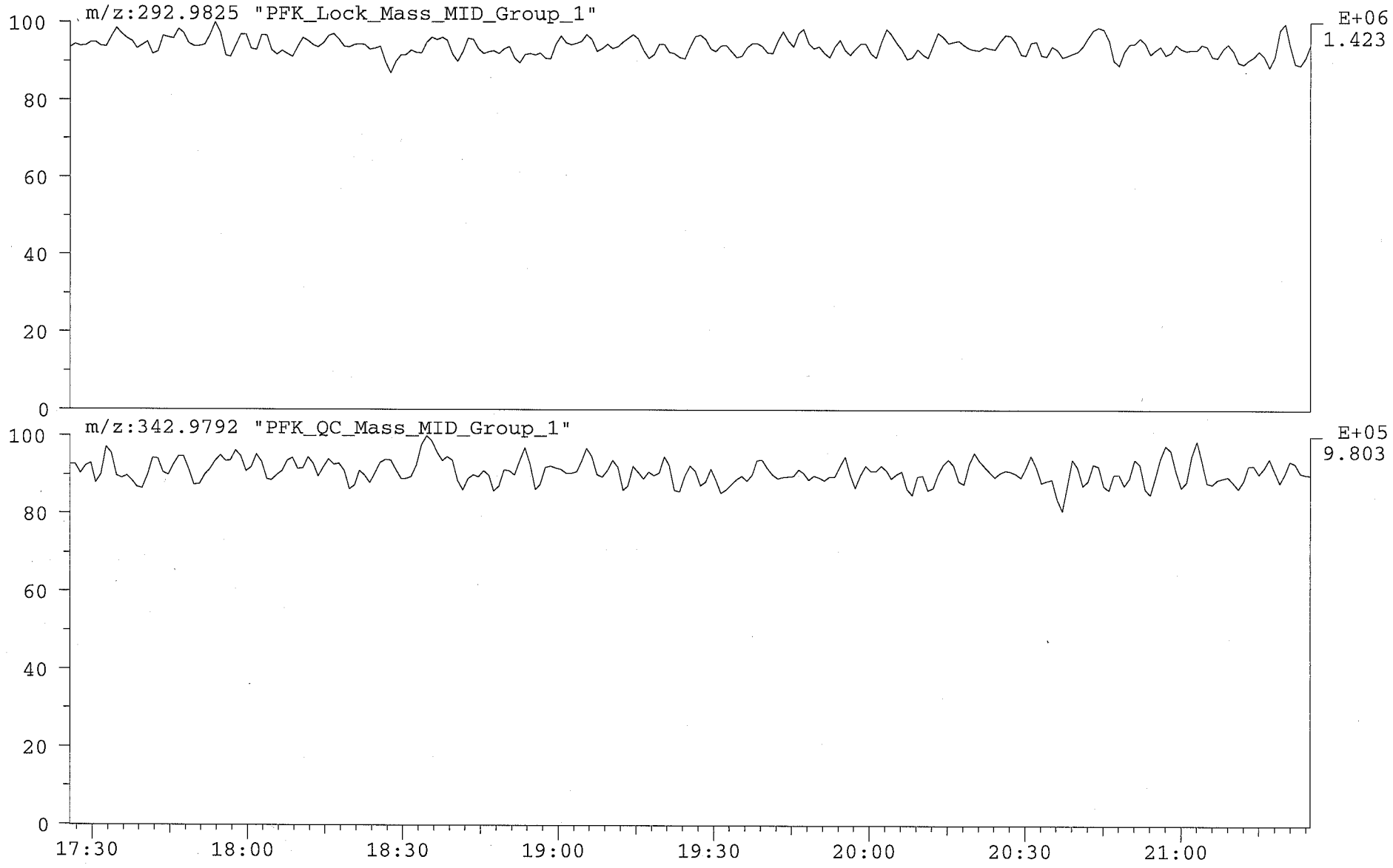
CHRO: c060209i4 09-Feb-06 Elapse: 19:25.3 686
Samp: Vial 8 WO=2960:14CS4 Meth=F8 Dil=1 Start : 13:10:49 1324
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : 1613/8290 Ical
Oper: MSD Client: STL Knoxville Inlet : Vial 8
Peak: 100.00 ppm Label wndw: 631 > 741 Masses: 292 > 376
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  c060209i4                                09-Feb-06   Elapse:  19:25.3      686
Samp:  Vial 8 WO=2960:14CS4 Meth=F8 Dil=1                   Start :  13:10:49    1324
Comm:  Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode:  EI + Q1MS UP LR                                      Study :  1613/8290 Ical
Oper:  MSD            Client:  STL Knoxville                Inlet :          Vial   8
Peak:  100.00  ppm      Label wndw:   566 > 806             Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: c060209i4 09-Feb-06 Elapse: 19:25.3 686
Samp: Vial 8 WO=2960:14CS4 Meth=F8 Dil=1 Start : 13:10:49 1324
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : 1613/8290 Ical
Oper: MSD Client: STL Knoxville Inlet : Vial 8
Peak: 100.00 ppm Label wndw: 566 > 806 Masses: 292 > 376
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



```
*** file opened Thu Feb 09 13:10:49 2006 ***

Started by                  - Mat95InstCtrl
Instrument Internet name    - MAT 95 XP
Instrument model            - MAT 95 XP
Instrument service number   - 0000
Workstation internet name   - KNXDXNM301

ICL Version: 11.68
File name: c060209i4
Study: 1613/8290 Ical
Sample: WO=2960:14CS4 Meth=F8 Dil=1
Amount:    0.0
Volume:    0.0
Injected volume:    2.0
Operator: MSD
Client: STL Knoxville
Comments: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Sample from Vial 8
Analysis will stop when MID run finishes
Tune file name: mas
MCAL file name: mcal1
Single File
ICL procedure: sleep90 6
  MID procedure: db225


  Mid Time Windows:
        Start         Measure       End        Cycletime
  # 1   8:00 min  22:00 min  30:00 min   1.00 sec

  Mid Masses:
   Window # 1
        mass F  int  gr  time (ms)
    292.9825 l  10  1        8
    303.9016     1  1       84
    305.8987     1  1       84
    315.9419     1  1       84
    317.9389     1  1       84
    319.8965     1  1       84
    321.8936     1  1       84
    327.8847     1  1       84
    331.9368     1  1       84
    333.9338     1  1       84
    342.9792 c  10  1        8
    375.8364     1  1       84

  Auto Sampler descriptor:a200s_knox1
   Normal Injection
   Injector A
  Slvnt A cln before inj  (K):    3 times
  Slvnt B cln before inj  (L):    0 times
  Sample rinse cycles     (R):    0 times
  Syringe filling volume  (F):  1.0 ul
  Pullup delay time       (D):    4 sec
  Sample pullup count     (P):    5 times
  Sample pullup speed     (E):  5.0 ul/sec
  Slvnt aftr pre inj cln  (U):  0.0 ul
  Air after pre inj clean (G):  2.0 ul
  Sample volume           (V):  2.0 ul
```

Sample air volume	(A):	2.0 ul
Injection speed	(S):	10.0 ul/sec
Pre injection wait time	(W):	10 sec
Post injectn hold time	(H):	3 sec
Solvent A clean cycles	(C):	5 times
Solvent B clean cycles	(B):	0 times
Loop clean wth slvnt A	(LC):	0 times
Loop clean wth slvnt B	(LB):	0 times
Standard sample volume	(X):	0.0 ul
Standard air volume	(Y):	0.0 ul
2nd Injection volume	(I):	0.0 ul
Air volume 2nd injectn	(J):	0.0 ul
Time btwn 2 injections	(T):	0 sec

GC descriptor: db225

Injector:	270 deg		270 deg max
Transfer Line:	220 deg		230 deg max
Column:	140 deg at	0.0 minutes	230 deg max
	140 deg at	2.0 minutes	
	200 deg at	5.0 minutes	
	230 deg at	20.0 minutes	
	230 deg at	30.0 minutes	

Stabilize time 0.0 minutes

Inlet:

Splitless Mode	
Purge Time	1.50 min
Purge Flow	40.0 ml/min
Gas saver is on	
Saver Time	3.00 min
Saver Flow	15.0 ml/min

Column:

Constant Flow	1.2 ml
Standby Flow	0.5 ml/min

ICL Parameters

ACCU	666.0000	BCORRL	0.0150	BCORRS	0.0130
BFM	2.0000	BLM	2862.8777	BMASS	304.9824
BQUAD	0.0000	CAPIL	0.0000	CAPTEMP	0.0000
CAPTSET	0.0000	CCURR	3.2706	CORONA	0.0000
COUNTING	0.0000	DELAY	0.0000	DITEMP	399.9996
DITSET	0.0000	DRAW	-18.5000	DRAWC	0.0000
DRAWS	0.0000	ECORR	1.0012	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9997	EDACZ	2387.5000
ELEN	58.5000	EMULT	1.7000	ENS	227.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	0.0000
ESIPAR	0.0000	EXS	155.0000	FDMA	18000000.0000
FILTER	100.0000	FLENS	1.0000	FM	20.0000
FMII	0.2000	FQUAD	0.0000	FREQ	600.6006
FSLOPE	36000000.0000	FVANAL	91.0000	FVINLET	911.0000
FVSRC	795.0000	FWIN	0.7000	GCTC	229.0000
GCTI	270.0000	GCTL	220.0000	HCURR	1.4020
HVANAL	882.0000	HVSRC	0.0000	ICAL0	0.0011
ICAL1	0.4030	ICAL2	0.5865	IONEN	4749.6900
IST	271.3713	ISTC	0.0000	ISTCKP	5.0000
ISTCTD	1.0000	ISTCTN	2.0000	ISTCTS	60.0000
ISTCTV	3.0000	ISTS	270.0000	LENS	2130.0000
LENSS	0.0000	LKM	292.9825	LM	800.0000
LMASS	304.9824	LMII	0.2000	MASS	304.9824

MDAC	2017207.9536	MRANGE	2862.8777	MSFM	2.0000
MSLM	3790.0000	NPEAK	12.0000	NSAM	200.0000
NSCAN	1328.0000	NSMAX	8.0000	NSMIN	66.0000
OCT	-2.0000	PSAM	10.0000	PUSHER	-4.5700
RDRAW	0.0000	RDRAWC	0.0000	RECURR	0.0000
RELEN	0.0000	RES	10005.2559	RFAMP	0.0000
RFCUR	0.0000	RPUSHER	0.0000	RWIN	2.0000
SCIDLE	1.0000	SHIELD	2089.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000
SPRAY	0.0000	SS	3.0000	SW	0.0500
TANAL	381.8977	TCURR	0.6641	TD	0.9999
THRESH	2.0000	TIS	0.2000	TREF	150.0000
TS	1.6019	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.7425
UROT	0.0000	USERVAR	0.0000	UTQ1	150.0000
UTQ2	190.0000	UTQ3	80.0000	VAPTEMP	0.0000
VAPTSET	0.0000	VMASS	304.9824	XLENS	3814.0000
XLENSS	19.4000	YLENS	2918.0000	YLENSS	-47.0000

Scantype is electric
Sourcemode is EI POS

Analysis started at: 09-Feb-06 13:12:26
MID Window terminated after 30.016667 minutes
MID Window end time was 30.000000 minutes
Autosampler has injected sample from vial 8
MID Time Window 1: Resolution is 8617.

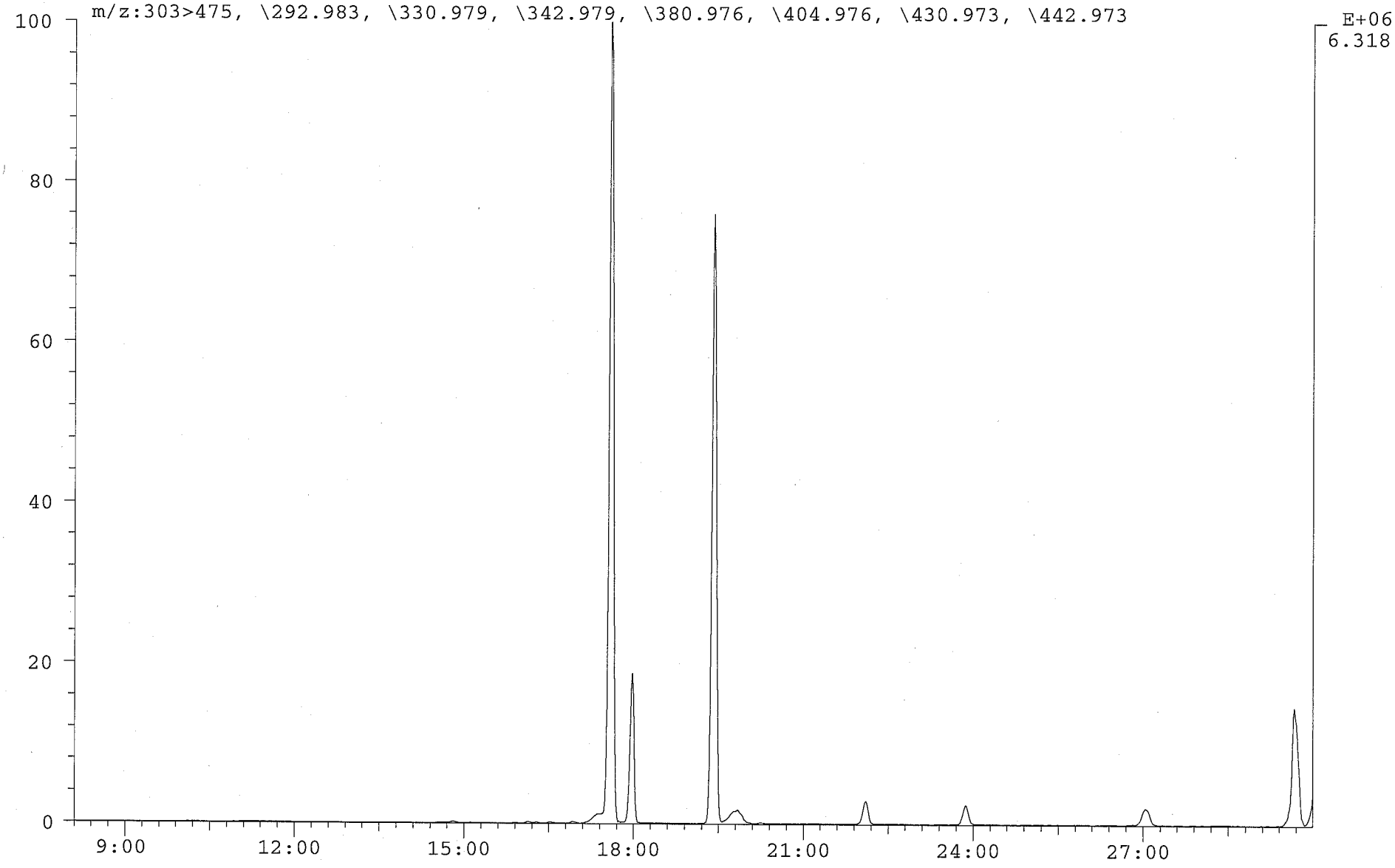
Amplifier Offset: 90.

Analysis stopped at: 09-Feb-06 13:42:29 (run time 30.04 minutes)
Analysis stopped because MID run finished

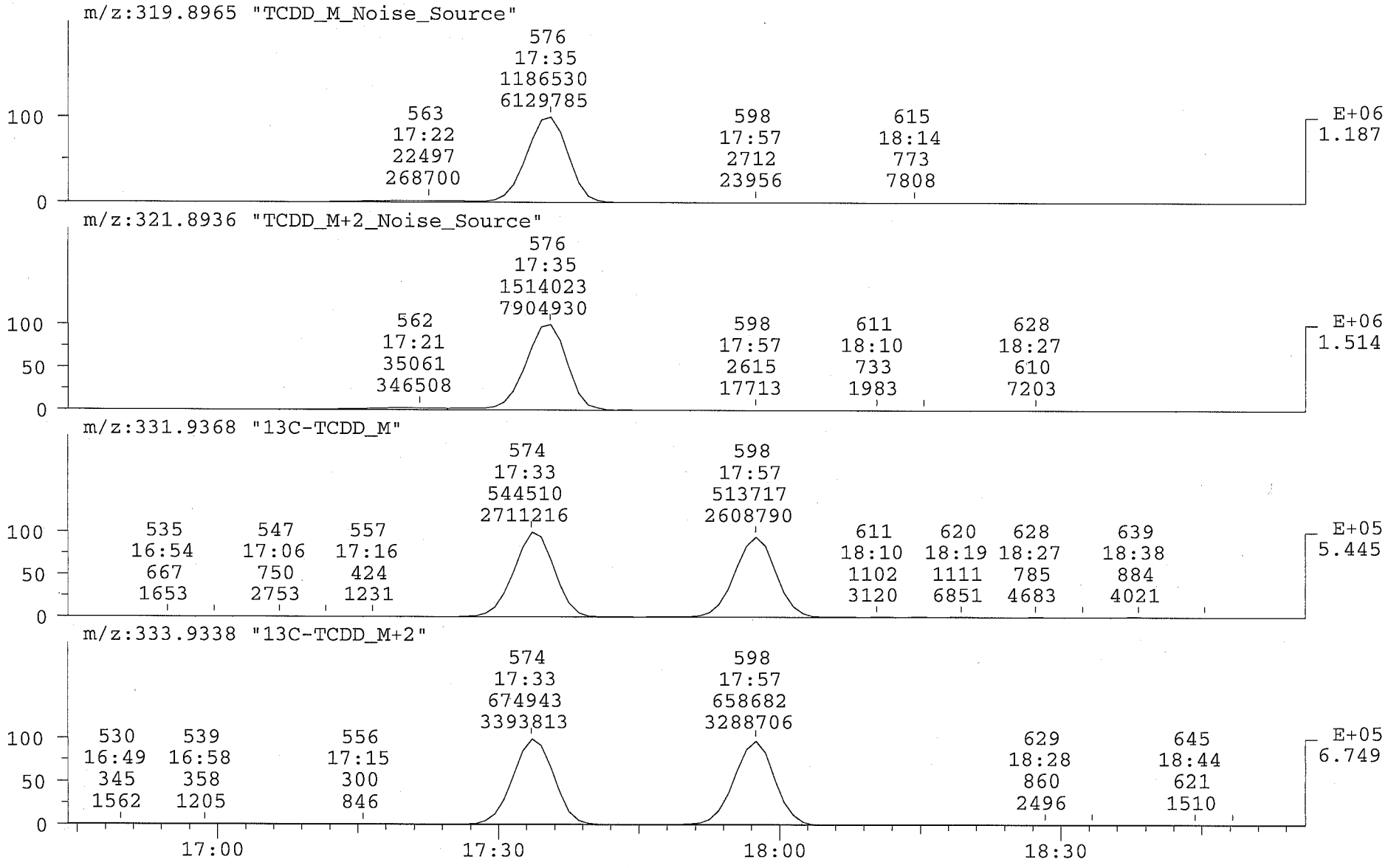
*** File closed Thu Feb 09 13:42:30 2006 ***

CHRO: c060209i5 09-Feb-06 Elapse: 19:25.1 686
Samp: Vial 9 WO=2960:14CS5 Meth=F8 Dil=1 Start : 13:42:32 1324
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : 1613/8290 Ical
Oper: MSD Client: STL Knoxville Inlet : Vial 9
Peak: 100.00 ppm Label wndw: 5 > 1322 Masses: 292 > 376
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

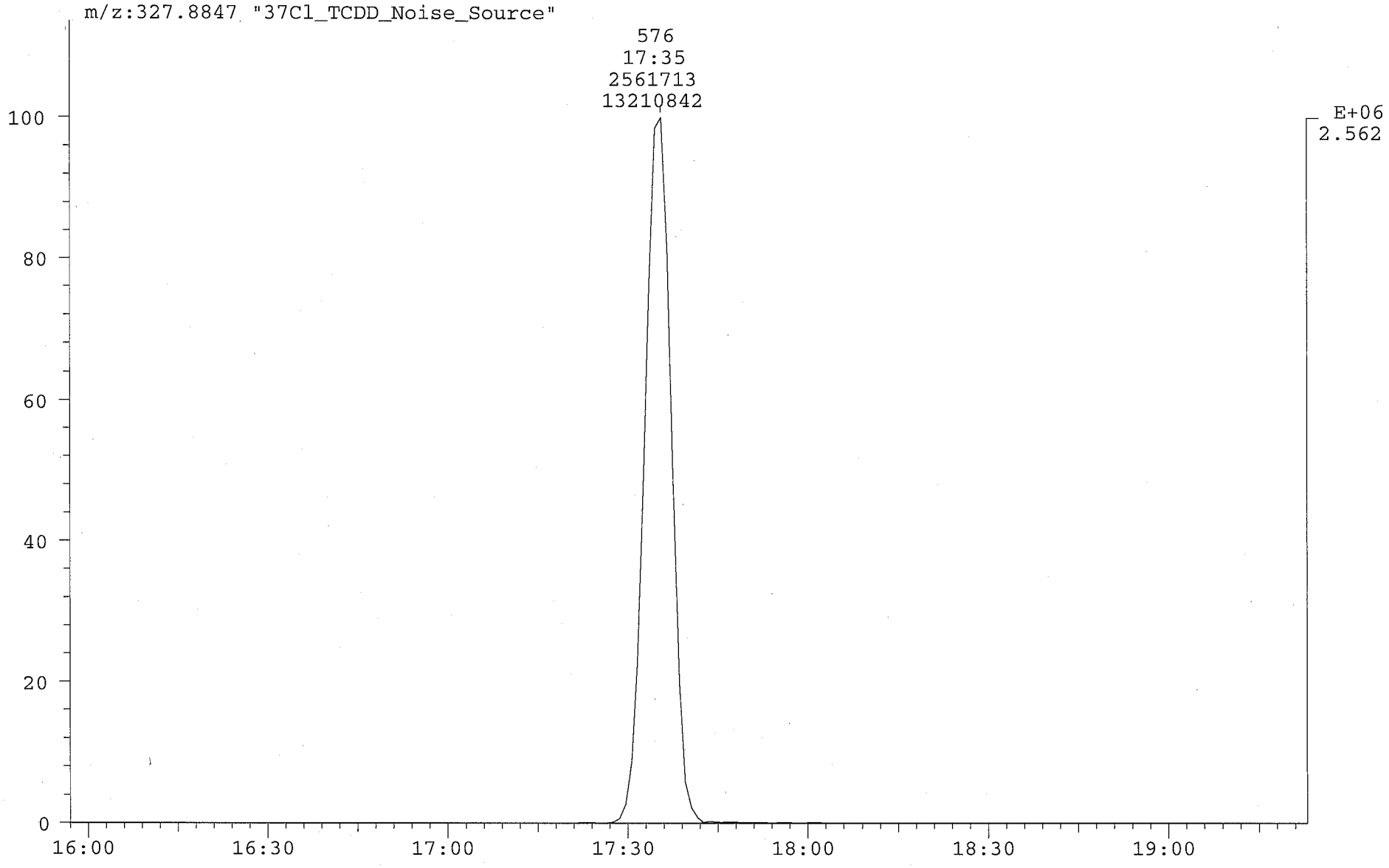
Int, Calc MSD 2/9/06
QC BPW 2/10/06



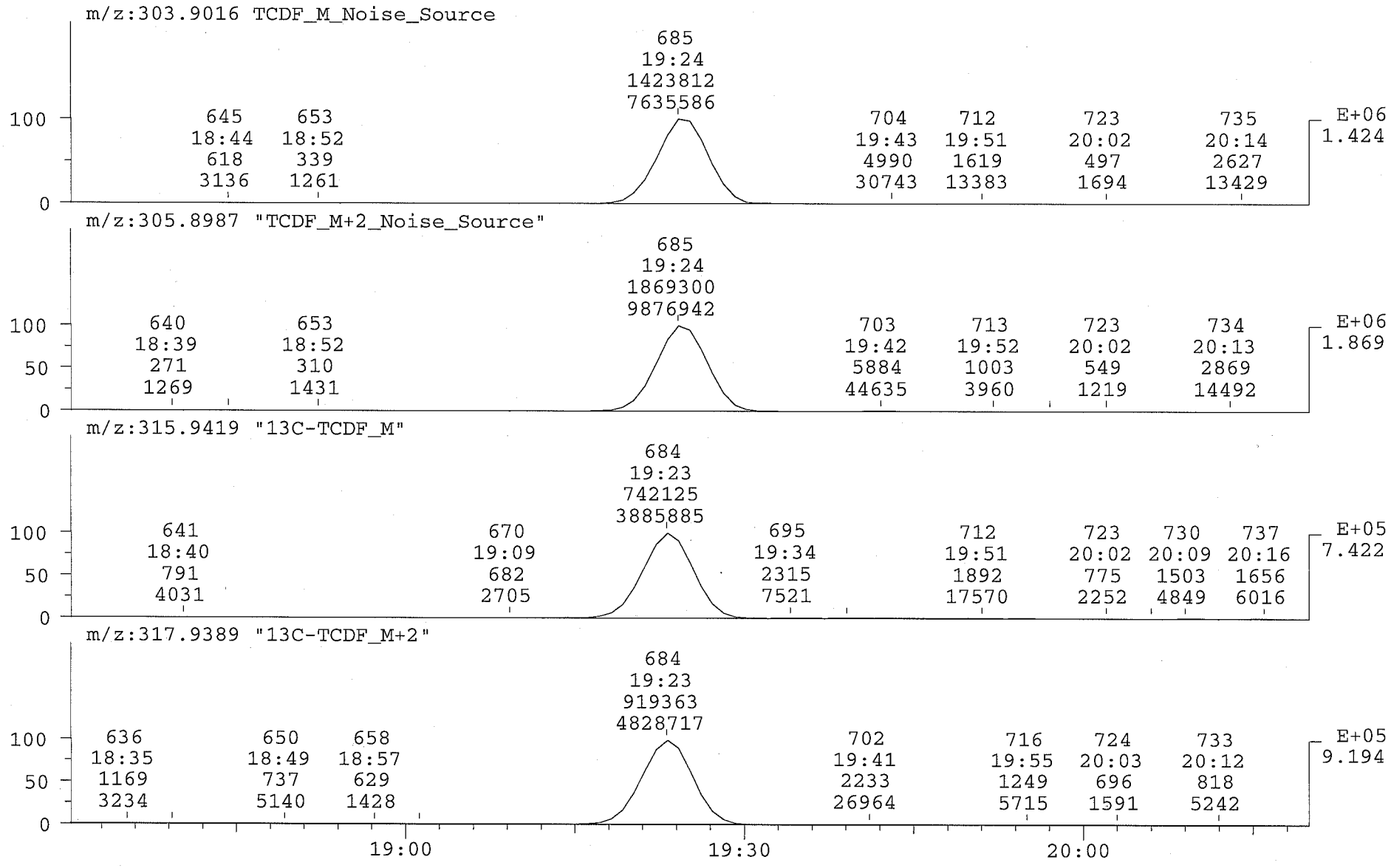
```
CHRO:  c060209i5                                09-Feb-06   Elapse:  17:50.4      591
Samp:  Vial 9 WO=2960:14CS5 Meth=F8 Dil=1                   Start :  13:42:32    1324
Comm:  Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode:  EI + Q1MS UP LR                                      Study :  1613/8290 Ical
Oper:  MSD            Client:  STL Knoxville                Inlet :          Vial   9
Peak:  100.00  ppm      Label wndw:   524 > 657             Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



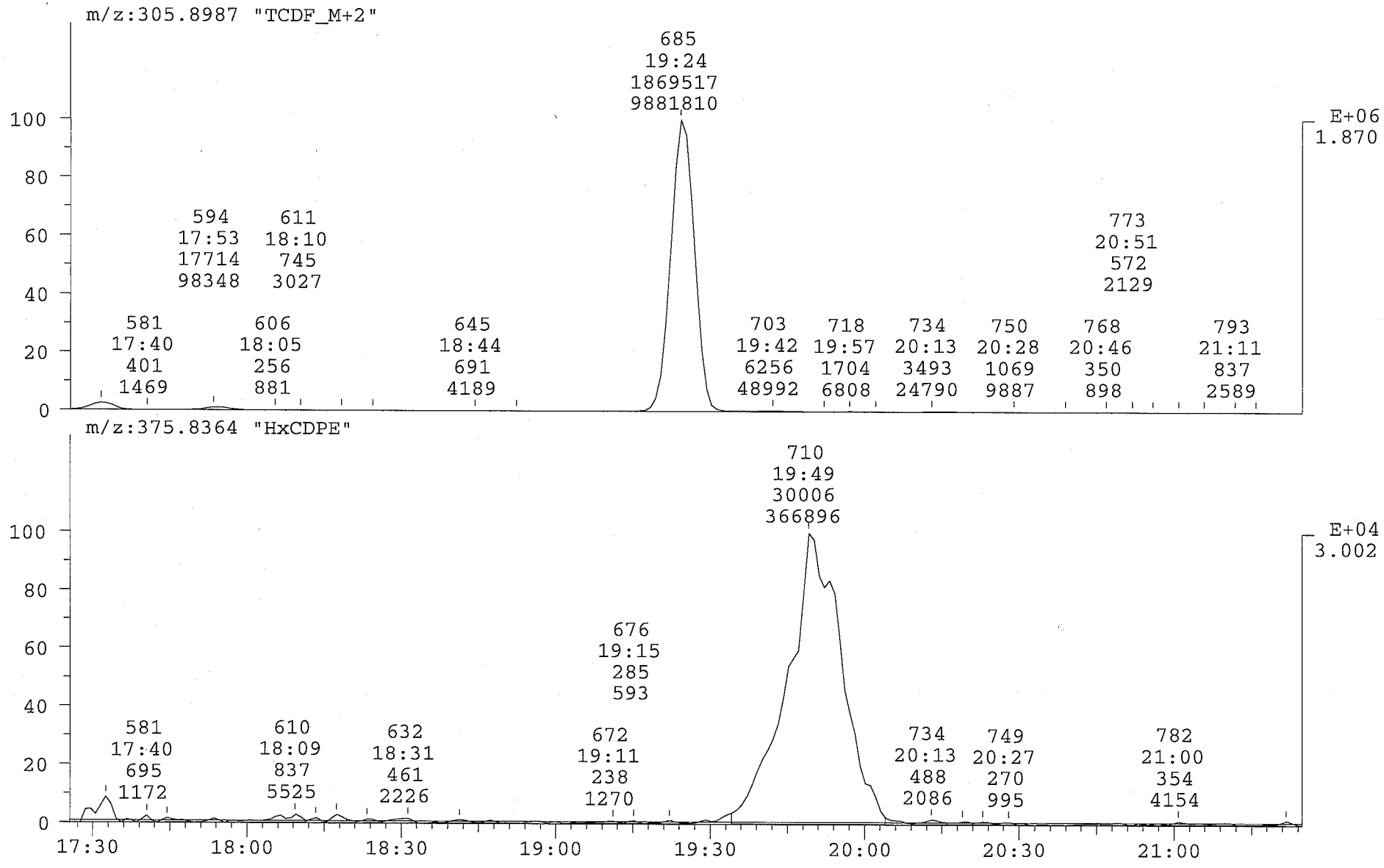
```
CHRO:  c060209i5                                09-Feb-06  Elapse:  17:37.5      578
Samp:  Vial 9 WO=2960:14CS5 Meth=F8 Dil=1                  Start :  13:42:32    1324
Comm:  Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode:  EI + Q1MS UP LR                                     Study :  1613/8290 Ical
Oper:  MSD            Client:  STL Knoxville               Inlet :          Vial   9
Peak:  100.00  ppm      Label wndw:   477 > 684            Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



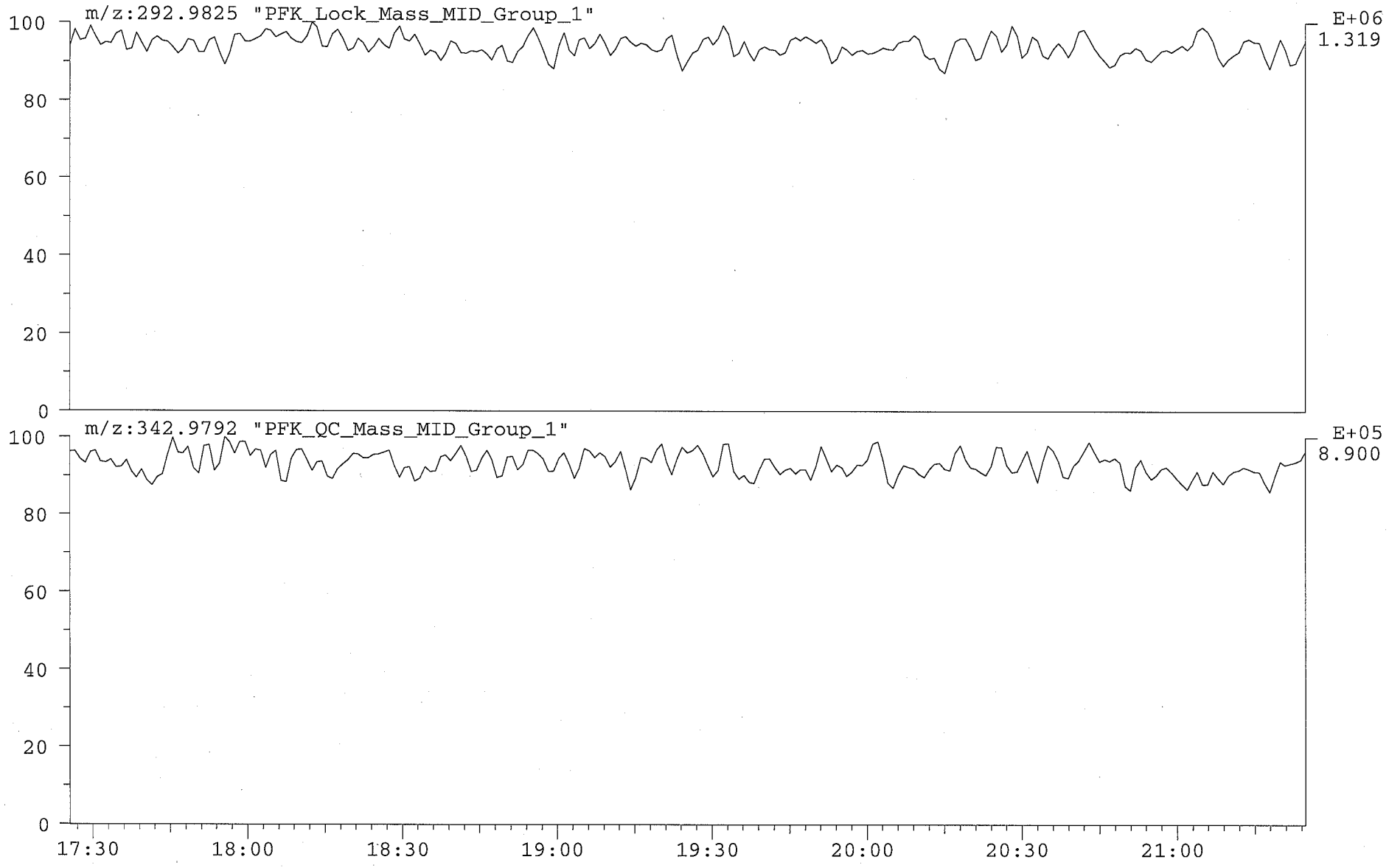
CHRO: c060209i5 09-Feb-06 Elapse: 19:25.1 686
Samp: Vial 9 WO=2960:14CS5 Meth=F8 Dil=1 Start : 13:42:32 1324
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : 1613/8290 Ical
Oper: MSD Client: STL Knoxville Inlet : Vial 9
Peak: 100.00 ppm Label wndw: 631 > 741 Masses: 292 > 376
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: c060209i5 09-Feb-06 Elapse: 19:25.1 686
Samp: Vial 9 WO=2960:14CS5 Meth=F8 Dil=1 Start : 13:42:32 1324
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : 1613/8290 Ical
Oper: MSD Client: STL Knoxville Inlet : Vial 9
Peak: 100.00 ppm Label wndw: 566 > 806 Masses: 292 > 376
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  c060209i5                                09-Feb-06  Elapse:  19:25.1      686
Samp:  Vial 9 WO=2960:14CS5 Meth=F8 Dil=1                  Start :  13:42:32    1324
Comm:  Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode:  EI + Q1MS UP LR                                     Study :  1613/8290 Ical
Oper:  MSD            Client:  STL Knoxville               Inlet :          Vial   9
Peak:  100.00  ppm      Label wndw:   566 > 806            Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
```



```
*** file opened Thu Feb 09 13:42:32 2006 ***

Started by                  - Mat95InstCtrl
Instrument Internet name    - MAT 95 XP
Instrument model            - MAT 95 XP
Instrument service number   - 0000
Workstation internet name   - KNXDXNM301

ICL Version: 11.68
File name: c060209i5
Study: 1613/8290 Ical
Sample: WO=2960:14CS5 Meth=F8 Dil=1
Amount:    0.0
Volume:    0.0
Injected volume:    2.0
Operator: MSD
Client: STL Knoxville
Comments: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Sample from Vial 9
Analysis will stop when MID run finishes
Tune file name: mas
MCAL file name: mcal1
Single File
ICL procedure: sleep90 6
  MID procedure: db225


  Mid Time Windows:
        Start         Measure       End        Cycletime
  # 1   8:00 min   22:00 min   30:00 min    1.00 sec

  Mid Masses:
   Window # 1
        mass F  int  gr  time (ms)
    292.9825 l  10  1        8
    303.9016     1  1       84
    305.8987     1  1       84
    315.9419     1  1       84
    317.9389     1  1       84
    319.8965     1  1       84
    321.8936     1  1       84
    327.8847     1  1       84
    331.9368     1  1       84
    333.9338     1  1       84
    342.9792 c  10  1        8
    375.8364     1  1       84

  Auto Sampler descriptor:a200s_knox1
   Normal Injection
   Injector A
  Slvnt A cln before inj  (K):    3 times
  Slvnt B cln before inj  (L):    0 times
  Sample rinse cycles     (R):    0 times
  Syringe filling volume  (F):  1.0 ul
  Pullup delay time       (D):    4 sec
  Sample pullup count     (P):    5 times
  Sample pullup speed     (E):  5.0 ul/sec
  Slvnt aftr pre inj cln  (U):  0.0 ul
  Air after pre inj clean (G):  2.0 ul
  Sample volume           (V):  2.0 ul
```

Sample air volume	(A):	2.0 ul
Injection speed	(S):	10.0 ul/sec
Pre injection wait time	(W):	10 sec
Post injectn hold time	(H):	3 sec
Solvent A clean cycles	(C):	5 times
Solvent B clean cycles	(B):	0 times
Loop clean wth slvnt A	(LC):	0 times
Loop clean wth slvnt B	(LB):	0 times
Standard sample volume	(X):	0.0 ul
Standard air volume	(Y):	0.0 ul
2nd Injection volume	(I):	0.0 ul
Air volume 2nd injectn	(J):	0.0 ul
Time btwn 2 injections	(T):	0 sec

GC descriptor: db225

Injector:	270 deg		270 deg max
Transfer Line:	220 deg		230 deg max
Column:	140 deg at	0.0 minutes	230 deg max
	140 deg at	2.0 minutes	
	200 deg at	5.0 minutes	
	230 deg at	20.0 minutes	
	230 deg at	30.0 minutes	

Stabilize time 0.0 minutes

Inlet:

Splitless Mode	
Purge Time	1.50 min
Purge Flow	40.0 ml/min
Gas saver is on	
Saver Time	3.00 min
Saver Flow	15.0 ml/min

Column:

Constant Flow	1.2 ml
Standby Flow	0.5 ml/min

ICL Parameters

ACCU	666.0000	BCORRL	0.0150	BCORRS	0.0130
BFM	2.0000	BLM	2862.8777	BMASS	304.9824
BQUAD	0.0000	CAPIL	0.0000	CAPTEMP	0.0000
CAPTSET	0.0000	CCURR	3.2706	CORONA	0.0000
COUNTING	0.0000	DELAY	0.0000	DITEMP	399.9996
DITSET	0.0000	DRAW	-18.5000	DRAWC	0.0000
DRAWS	0.0000	ECORR	1.0012	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9997	EDACZ	2387.5000
ELEN	58.5000	EMULT	1.7000	ENS	227.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	0.0000
ESIPAR	0.0000	EXS	155.0000	FDMA	18000000.0000
FILTER	100.0000	FLENS	1.0000	FM	20.0000
FMII	0.2000	FQUAD	0.0000	FREQ	600.6006
FSLOPE	36000000.0000	FVANAL	91.0000	FVINLET	911.0000
FVSRC	795.0000	FWIN	0.7000	GCTC	229.0000
GCTI	270.0000	GCTL	220.0000	HCURR	1.4020
HVANAL	882.0000	HVSRC	0.0000	ICAL0	0.0011
ICAL1	0.4030	ICAL2	0.5865	IONEN	4749.6900
IST	271.3713	ISTC	0.0000	ISTCKP	5.0000
ISTCTD	1.0000	ISTCTN	2.0000	ISTCTS	60.0000
ISTCTV	3.0000	ISTS	270.0000	LENS	2130.0000
LENSS	0.0000	LKM	292.9825	LM	800.0000
LMASS	304.9824	LMII	0.2000	MASS	304.9824

MDAC	2017207.9536	MRANGE	2862.8777	MSFM	2.0000
MSLM	3790.0000	NPEAK	12.0000	NSAM	200.0000
NSCAN	1328.0000	NSMAX	8.0000	NSMIN	66.0000
OCT	-2.0000	PSAM	10.0000	PUSHER	-4.5700
RDRAW	0.0000	RDRAWC	0.0000	RECURR	0.0000
RELEN	0.0000	RES	10005.2559	RFAMP	0.0000
RFCUR	0.0000	RPUSHER	0.0000	RWIN	2.0000
SCIDLE	1.0000	SHIELD	2089.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000
SPRAY	0.0000	SS	3.0000	SW	0.0500
TANAL	381.0001	TCURR	0.6250	TD	0.9999
THRESH	2.0000	TIS	0.2000	TREF	150.0000
TS	1.6019	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.7425
UROT	0.0000	USERVAR	0.0000	UTQ1	150.0000
UTQ2	190.0000	UTQ3	80.0000	VAPTEMP	0.0000
VAPTSET	0.0000	VMASS	304.9824	XLENS	3814.0000
XLENSS	19.4000	YLENS	2918.0000	YLENSS	-47.0000

Scantype is electric
Sourcemode is EI POS

Analysis started at: 09-Feb-06 13:44:08
MID Window terminated after 30.016667 minutes
MID Window end time was 30.000000 minutes
Autosampler has injected sample from vial 9
MID Time Window 1: Resolution is 8617.

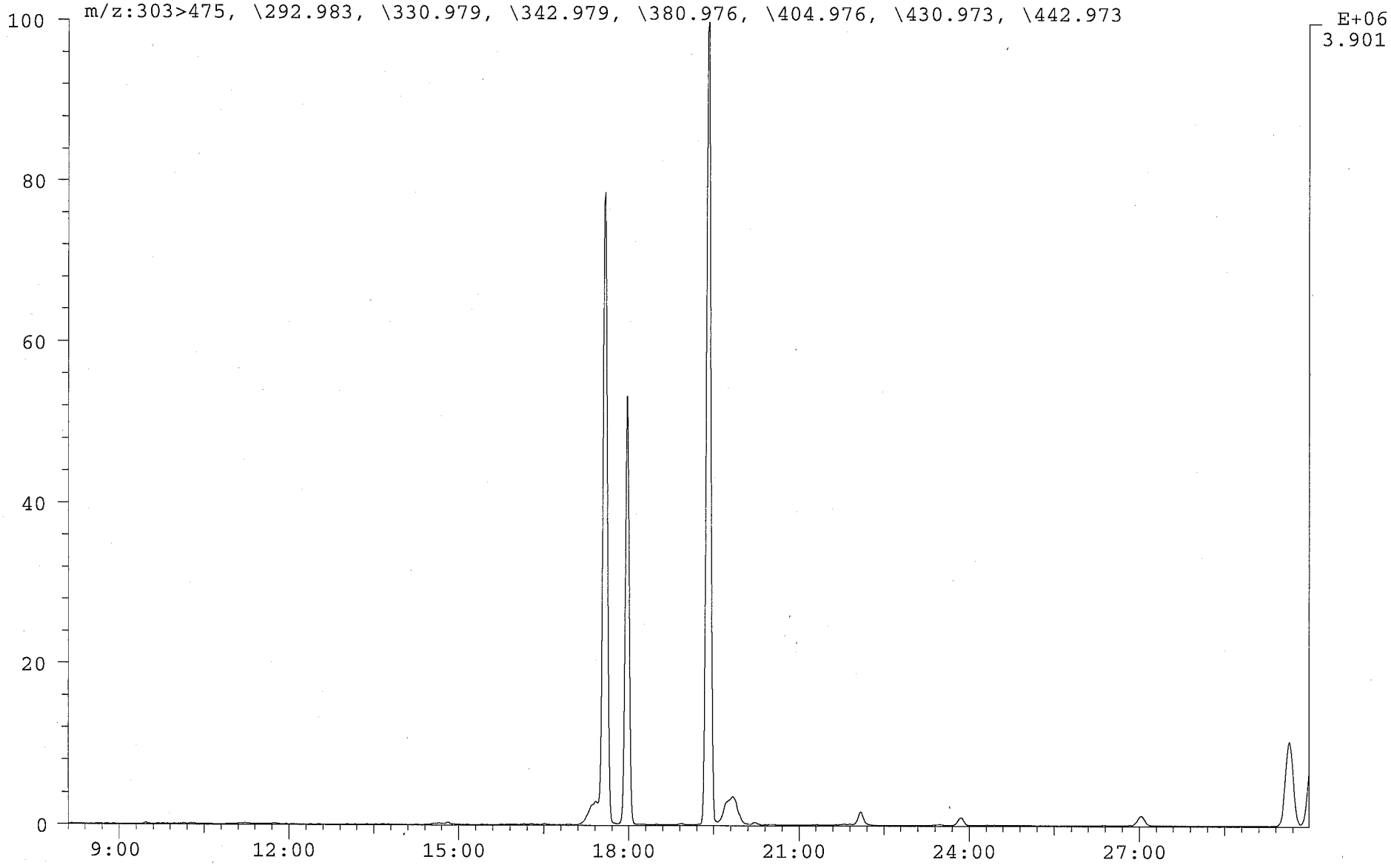
Amplifier Offset: 90.

Analysis stopped at: 09-Feb-06 14:14:10 (run time 30.03 minutes)
Analysis stopped because MID run finished

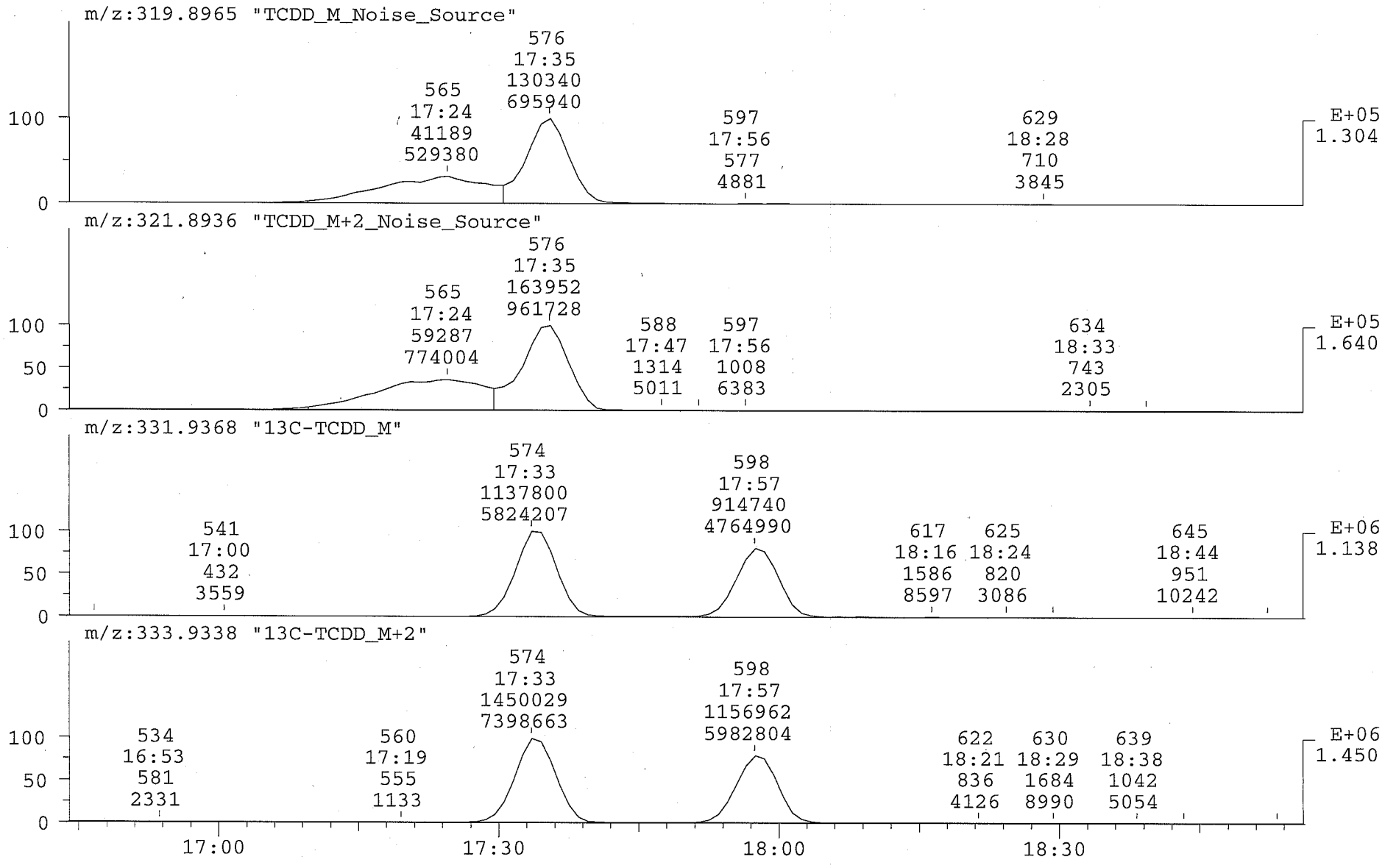
*** File closed Thu Feb 09 14:14:11 2006 ***

CHRO: c060209ss 09-Feb-06 Elapse: 17:34.5 575
Samp: Vial 7 WO=1778:08CS3 Meth=F8 Dil=1 Start : 12:39:08 1324
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : 1613/8290 Ical
Oper: MSD Client: STL Knoxville Inlet : Vial 7
Peak: 100.00 ppm Label wndw: 5 > 1322 Masses: 292 > 376
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

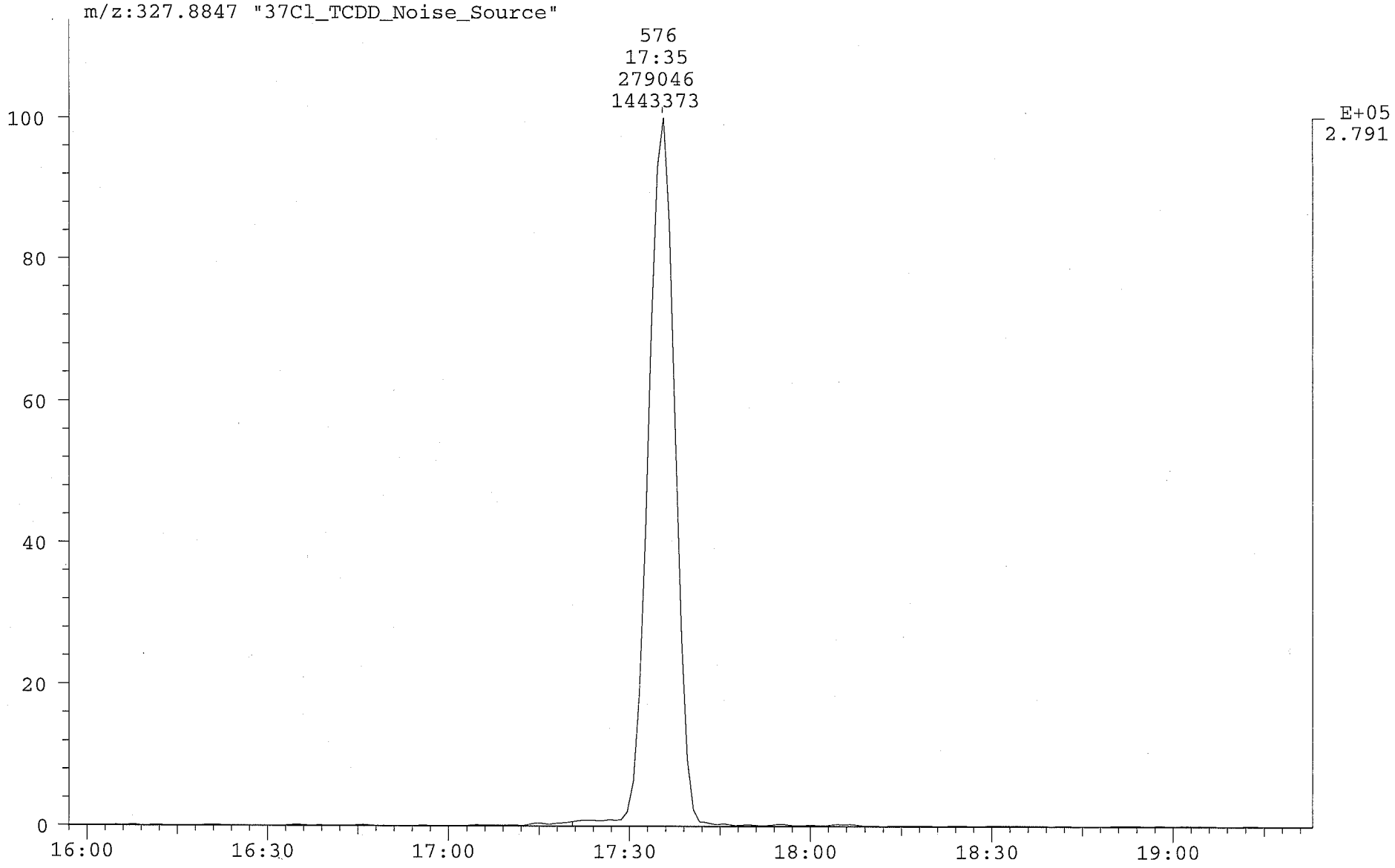
Int, Calc MSD 2/9/06
QC BPW 2/10/06



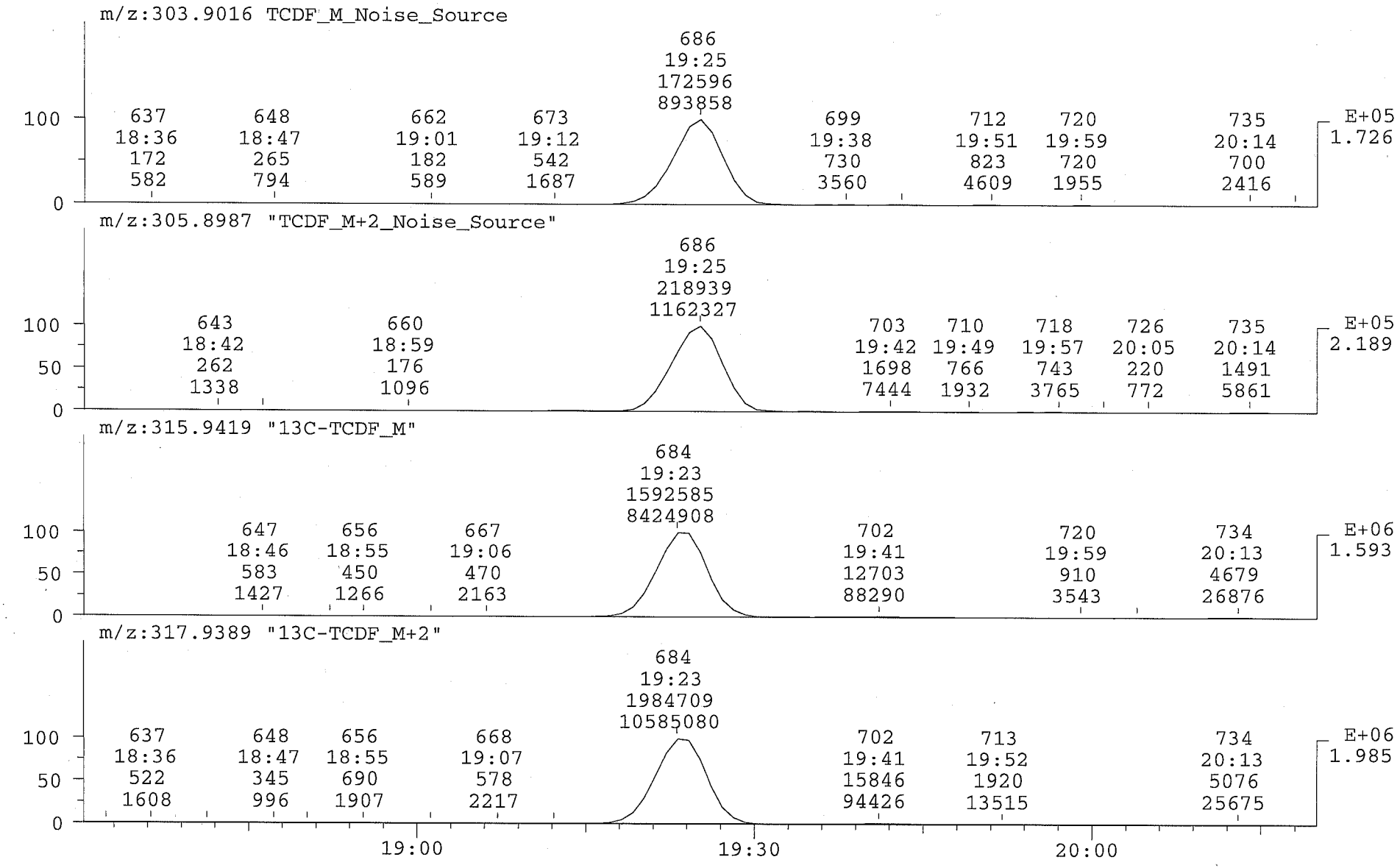
```
CHRO:  c060209ss                                09-Feb-06   Elapse:  17:50.4      591
Samp:  Vial 7 WO=1778:08CS3 Meth=F8 Dil=1                   Start :  12:39:08    1324
Comm:  Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode:  EI + Q1MS UP LR                                      Study :  1613/8290 Ical
Oper:  MSD            Client:  STL Knoxville                Inlet :          Vial   7
Peak:  100.00  ppm      Label wndw:   524 > 657             Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



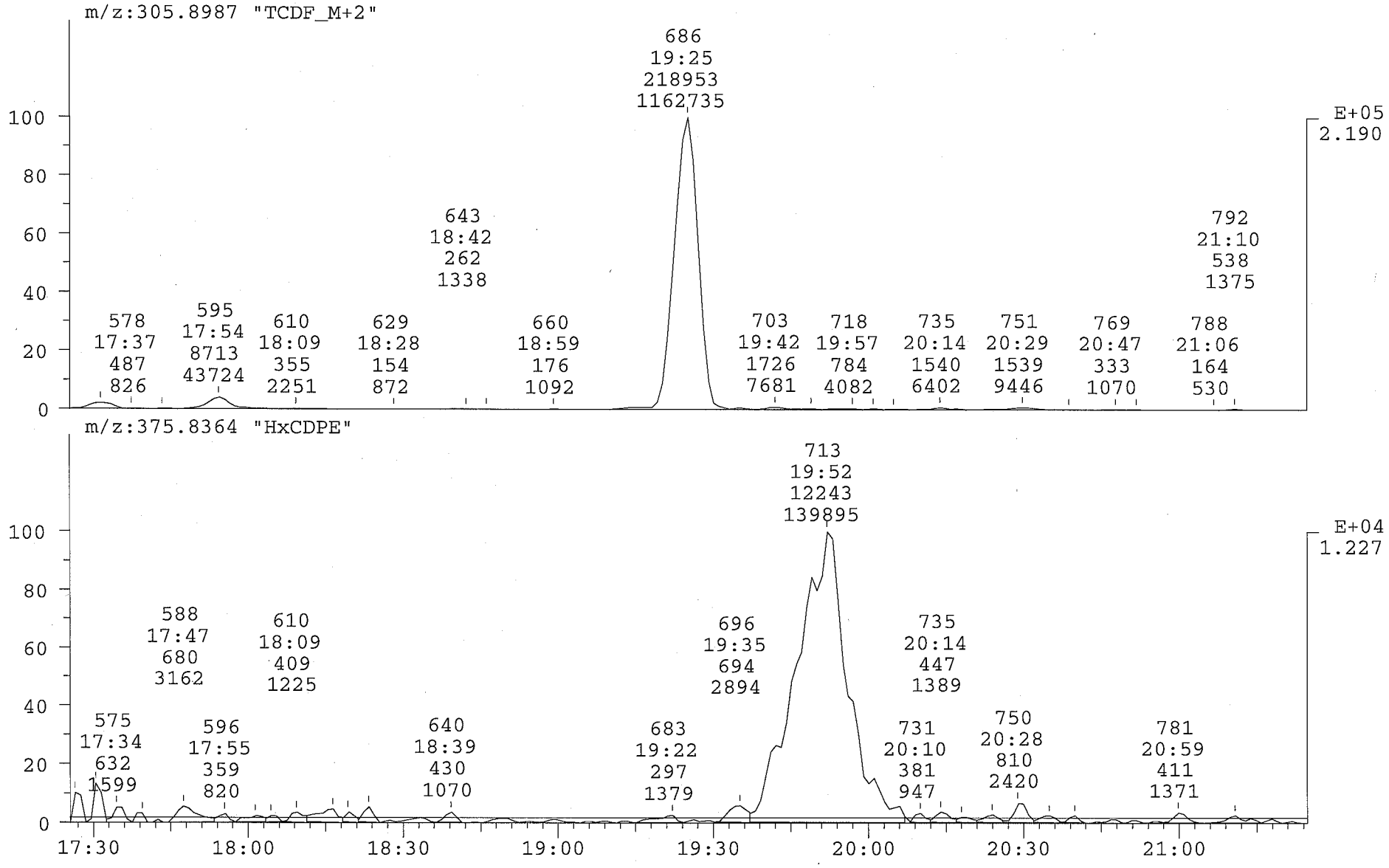
```
CHRO:  c060209ss                                09-Feb-06  Elapse:  17:37.5      578
Samp:  Vial 7 WO=1778:08CS3 Meth=F8 Dil=1                  Start :  12:39:08    1324
Comm:  Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode:  EI + Q1MS UP LR                                     Study :  1613/8290 Ical
Oper:  MSD            Client:  STL Knoxville               Inlet :          Vial   7
Peak:  100.00  ppm      Label wndw:   477 > 684            Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



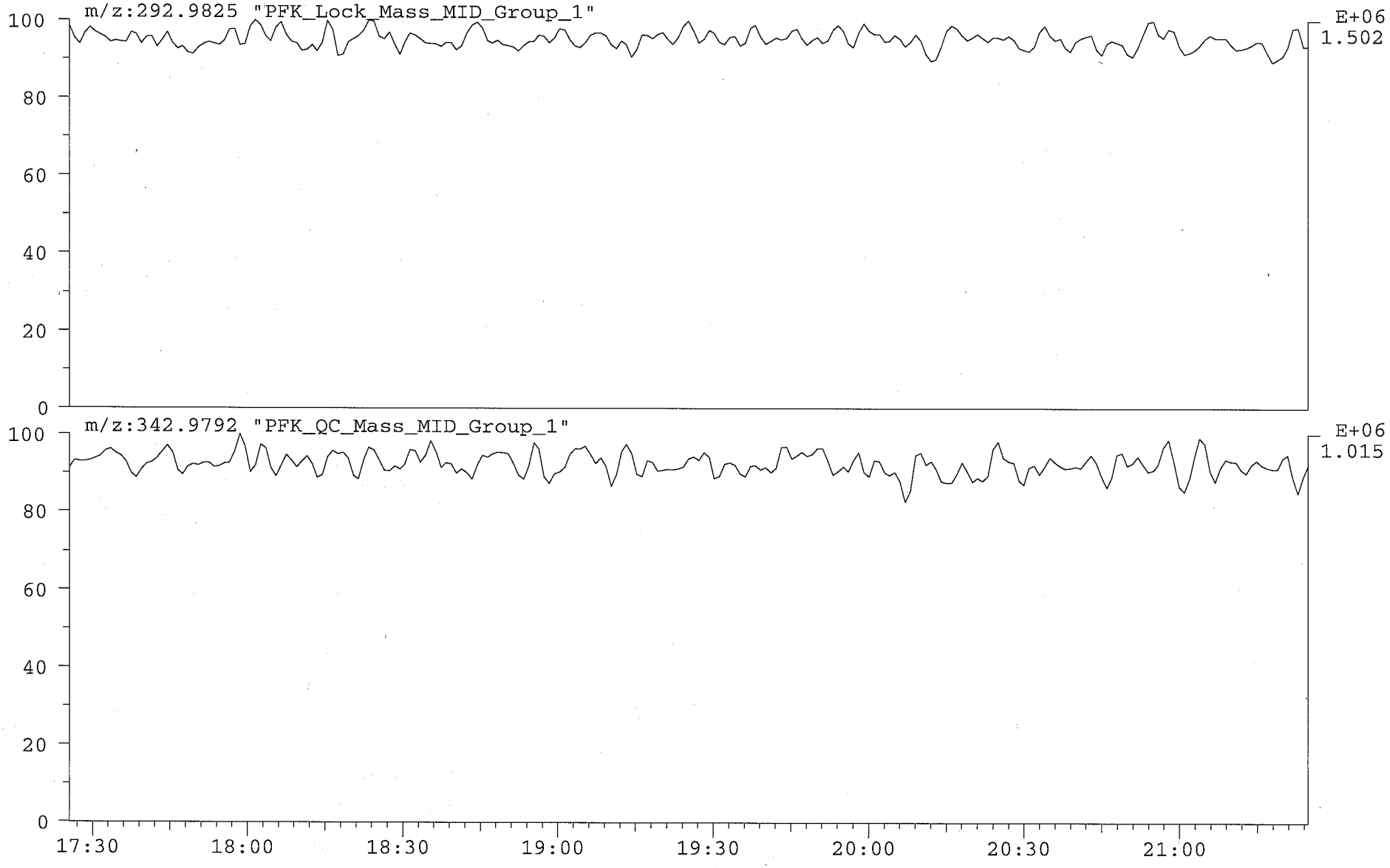
```
CHRO:  c060209ss                                09-Feb-06  Elapse:  19:25.1      686
Samp:  Vial 7 WO=1778:08CS3 Meth=F8 Dil=1                  Start :  12:39:08    1324
Comm:  Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode:  EI + Q1MS UP LR                                     Study :  1613/8290 Ical
Oper:  MSD            Client:  STL Knoxville               Inlet :          Vial   7
Peak:  100.00  ppm      Label wndw:   631 > 741            Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: c060209ss 09-Feb-06 Elapse: 19:25.1 686
Samp: Vial 7 WO=1778:08CS3 Meth=F8 Dil=1 Start : 12:39:08 1324
Comm: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode: EI + Q1MS UP LR Study : 1613/8290 Ical
Oper: MSD Client: STL Knoxville Inlet : Vial 7
Peak: 100.00 ppm Label wndw: 566 > 806 Masses: 292 > 376
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  c060209ss                                09-Feb-06   Elapse:  19:25.1      686
Samp:  Vial 7 WO=1778:08CS3 Meth=F8 Dil=1                   Start :  12:39:08    1324
Comm:  Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Mode:  EI + Q1MS UP LR                                      Study :  1613/8290 Ical
Oper:  MSD            Client:  STL Knoxville                Inlet :          Vial   7
Peak:  100.00  ppm      Label wndw:   566 > 806             Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```



*** file opened Thu Feb 09 12:39:08 2006 ***

Started by - Mat95InstCtrl
Instrument Internet name - MAT 95 XP
Instrument model - MAT 95 XP
Instrument service number - 0000
Workstation internet name - KNXDXNM301

ICL Version: 11.68
File name: c060209ss
Study: 1613/8290 Ical
Sample: WO=1778:08CS3 Meth=F8 Dil=1
Amount: 0.0
Volume: 0.0
Injected volume: 2.0
Operator: MSD
Client: STL Knoxville
Comments: Inst=m3c/4809826 Batch=20060209i Ccal=C060125S2
Sample from Vial 7
Analysis will stop when MID run finishes
Tune file name: mas
MCAL file name: mcal1
Single File
ICL procedure: sleep90 6
MID procedure: db225

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	22:00 min	30:00 min	1.00 sec

Mid Masses:
Window # 1

mass	F	int	gr	time (ms)
292.9825	l	10	1	8
303.9016		1	1	84
305.8987		1	1	84
315.9419		1	1	84
317.9389		1	1	84
319.8965		1	1	84
321.8936		1	1	84
327.8847		1	1	84
331.9368		1	1	84
333.9338		1	1	84
342.9792	c	10	1	8
375.8364		1	1	84

Auto Sampler descriptor:a200s_knox1
Normal Injection
Injector A

Slvnt A cln before inj	(K):	3	times
Slvnt B cln before inj	(L):	0	times
Sample rinse cycles	(R):	0	times
Syringe filling volume	(F):	1.0	ul
Pullup delay time	(D):	4	sec
Sample pullup count	(P):	5	times
Sample pullup speed	(E):	5.0	ul/sec
Slvnt aftr pre inj cln	(U):	0.0	ul
Air after pre inj clean	(G):	2.0	ul
Sample volume	(V):	2.0	ul

Sample air volume	(A):	2.0 ul
Injection speed	(S):	10.0 ul/sec
Pre injection wait time	(W):	10 sec
Post injectn hold time	(H):	3 sec
Solvent A clean cycles	(C):	5 times
Solvent B clean cycles	(B):	0 times
Loop clean wth slvnt A	(LC):	0 times
Loop clean wth slvnt B	(LB):	0 times
Standard sample volume	(X):	0.0 ul
Standard air volume	(Y):	0.0 ul
2nd Injection volume	(I):	0.0 ul
Air volume 2nd injectn	(J):	0.0 ul
Time btwn 2 injections	(T):	0 sec

GC descriptor: db225

Injector:	270 deg		270 deg max
Transfer Line:	220 deg		230 deg max
Column:	140 deg at	0.0 minutes	230 deg max
	140 deg at	2.0 minutes	
	200 deg at	5.0 minutes	
	230 deg at	20.0 minutes	
	230 deg at	30.0 minutes	

Stabilize time 0.0 minutes

Inlet:

Splitless Mode	
Purge Time	1.50 min
Purge Flow	40.0 ml/min
Gas saver is on	
Saver Time	3.00 min
Saver Flow	15.0 ml/min

Column:

Constant Flow	1.2 ml
Standby Flow	0.5 ml/min

ICL Parameters

ACCU	666.0000	BCORRL	0.0150	BCORRS	0.0130
BFM	2.0000	BLM	2862.8777	BMASS	304.9824
BQUAD	0.0000	CAPIL	0.0000	CAPTEMP	0.0000
CAPTSET	0.0000	CCURR	3.2706	CORONA	0.0000
COUNTING	0.0000	DELAY	0.0000	DITEMP	399.9996
DITSET	0.0000	DRAW	-18.5000	DRAWC	0.0000
DRAWS	0.0000	ECORR	1.0012	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9997	EDACZ	2387.5000
ELEN	58.5000	EMULT	1.7000	ENS	227.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	0.0000
ESIPAR	0.0000	EXS	155.0000	FDMA	18000000.0000
FILTER	100.0000	FLENS	1.0000	FM	20.0000
FMII	0.2000	FQUAD	0.0000	FREQ	600.6006
FSLOPE	36000000.0000	FVANAL	91.0000	FVINLET	911.0000
FVSRC	795.0000	FWIN	0.7000	GCTC	229.0000
GCTI	270.0000	GCTL	220.0000	HCURR	1.4118
HVANAL	882.0000	HVSRC	0.0000	ICAL0	0.0011
ICAL1	0.4030	ICAL2	0.5865	IONEN	4749.6900
IST	271.3713	ISTC	0.0000	ISTCKP	5.0000
ISTCTD	1.0000	ISTCTN	2.0000	ISTCTS	60.0000
ISTCTV	3.0000	ISTS	270.0000	LENS	2130.0000
LENSS	0.0000	LKM	292.9825	LM	800.0000
LMASS	304.9824	LMII	0.2000	MASS	304.9824

MDAC	2017207.9536	MRANGE	2862.8777	MSFM	2.0000
MSLM	3790.0000	NPEAK	12.0000	NSAM	200.0000
NSCAN	1328.0000	NSMAX	8.0000	NSMIN	66.0000
OCT	-2.0000	PSAM	10.0000	PUSHER	-4.5700
RDRAW	0.0000	RDRAWC	0.0000	RECURR	0.0000
RELEN	0.0000	RES	10005.2559	RFAMP	0.0000
RFCUR	0.0000	RPUSHER	0.0000	RWIN	2.0000
SCIDLE	1.0000	SHIELD	2089.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000
SPRAY	0.0000	SS	3.0000	SW	0.0500
TANAL	380.9590	TCURR	0.6250	TD	0.9999
THRESH	2.0000	TIS	0.2000	TREF	150.0000
TS	1.6019	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.7425
UROT	0.0000	USERVAR	0.0000	UTQ1	150.0000
UTQ2	190.0000	UTQ3	80.0000	VAPTEMP	0.0000
VAPTSET	0.0000	VMASS	304.9824	XLENS	3814.0000
XLENSS	19.4000	YLENS	2918.0000	YLENSS	-47.0000

Scantype is electric
Sourcemode is EI POS

Analysis started at: 09-Feb-06 12:40:45
MID Window terminated after 30.016667 minutes
MID Window end time was 30.000000 minutes
Autosampler has injected sample from vial 7
MID Time Window 1: Resolution is 8138.

Amplifier Offset: 89.

Analysis stopped at: 09-Feb-06 13:10:47 (run time 30.03 minutes)
Analysis stopped because MID run finished

*** File closed Thu Feb 09 13:10:47 2006 ***

STL Knoxville Dioxin GC/MS Continuing Calibration Review / Narrative Checklist

KNOX-ID-0004-R6 **Method:** ☒ 0023A/8290 ☐ EPA 23

Start PFK:	08:31	VER Filename:	C060508S1	Win Filename:	NA	Inst:	Mat903
End PFK:	14:24	VER Filename:	C060508S2	Col Perf Filename:	C060508W1	ICAL Date:	2-9-06

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd Level
1. Was the mass resolution documented at both the beginning and end of the 12 hour shift?		✓			✓
2. Was the instrument resolution >10,000 (<100 ppm) on PFK m/z 304.9824 and m/z 380.9760 (at reduced voltage)?		✓			✓
3. Was the measured exact mass of m/z 380.9760 (PFK) within 5 ppm at reduced accelerating voltage?		✓			✓
4. Was date/time of analysis verified between analysis header and logbook as correct?		✓			✓
5. Was the Window Defining Mixture analyzed and the MID switchpoints set to encompass the retention time windows of each congener group?	✓				✓
6. Was the Column Performance solution analyzed and the %Valley ≤25 for separation between 2378-TCDD/F and the closest eluting non-2378 isomer?		✓			✓
7. Were continuing calibrations performed at the beginning and end of the 12-hour period, with successful mass resolution and GC resolution performance checks?		✓			✓
8. Were the response factors calculated for each labeled standard and unlabeled native analyte using the SOP specified reference compound (Table 4), quantitation ions (Table 22), and formula (Section 10.2.6)?		✓			✓
9. Are the measured RRFs for each compound within the specified control limits in Table 8 for all PCDDs/PCDFs?		✓			✓
10. Are the relative retention times of all PCDDs/PCDFs and all labeled compounds within the limits specified in Table 3?		✓			✓
11. Are all S/N ratios ≥10 for the GC signals in each EICP (extracted ion chromatographic profile) including internal standards?		✓			✓
12. Are the ion abundance ratios for all labeled and unlabeled analytes within the control limits specified in Table 22 of the SOP?		✓			✓
13. If manual integrations were performed, are they clearly identified, initialed and dated?	✓				✓
14. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				✓
15. Does the CCAL folder contain **complete** data in the following order: Data review checklist, a **complete** runlog, CCAL summary, Ratio summary, Calculation summary, PFK resolution/peak match documentation; Total RIC, EICP's and manual integration - for window and all standards?		✓			✓

Analyst: VMK	**Date:** 5/8/06	**2nd Level Reviewer:** [signature]	**Date:** 5/8/06
Comments:		**Comments:**	

STL Knoxville Dioxin GC/MS Continuing Calibration Review / Narrative Checklist
Method: 8290 - KNOX-ID-0004-R6

Start PFK:	08:31	VER Filename:	C06050851	Win Filename:	NA	Inst:	MAT 90S
End PFK:	14:24	VER Filename:	C06050852	Col Perf Filename:	C06050841	ICAL Date:	2-9-06

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd Level
1. Was the mass resolution documented at both the beginning and end of the 12 hour shift?		✓			✓
2. Was the instrument resolution >10,000 (<100 ppm) on PFK m/z 304.9824 and m/z 380.9760 (at reduced voltage)?		✓			✓
3. Was the measured exact mass of m/z 380.9760 (PFK) within 5 ppm at reduced accelerating voltage?		✓			✓
4. Was date/time of analysis verified between analysis header and logbook as correct?		✓			✓
5. Was the Window Defining Mixture analyzed and the MID switchpoints set to encompass the retention time windows of each congener group?	✓				✓
6. Was the Column Performance solution analyzed and the %Valley ≤25 for separation between 2378-TCDD/F and the closest eluting non-2378 isomer?		✓			✓
7. Were continuing calibrations performed at the beginning and end of the 12-hour period, with successful mass resolution and GC resolution performance checks?		✓			✓
8. Were the response factors calculated for each labeled standard and unlabeled native analyte using the SOP specified reference compound (Table 3), quantitation ions (Table 22), and formula (Section 10.2.6)?		✓			✓
9. Are the measured RRFs for each compound within the specified control limits in Table 7 for all PCDDs/PCDFs?		✓			✓
10. Are the relative retention times of all PCDDs/PCDFs and all labeled compounds within the limits specified in Table 3?		✓			✓
11. Are all S/N ratios ≥10 for the GC signals in each EICP (extracted ion chromatographic profile) including internal standards?		✓			✓
12. Are the ion abundance ratios for all labeled and unlabeled analytes within the control limits specified in Table 22 of the SOP?		✓			✓
13. If manual integrations were performed, are they clearly identified, initialed and dated?	✓				✓
14. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				✓
15. Does the CCAL folder contain **complete** data in the following order: Data review checklist, a **complete** runlog, CCAL summary, Ratio summary, Calculation summary, PFK resolution/peak match documentation; Total RIC, EICP's and manual integration - for window and all standards?		✓			✓

Analyst: UMK	**Date:** 5/8/06	**2nd Level Reviewer:** [signature]	**Date:** 5/8/06
Comments:		**Comments:**	

STL KNOXVILLE
SPECIALTY ORGANICS INSTRUMENT MAT 90S RUN LOG

Date	Time	Opr	Sample ID	Filename	Code	Matrix	Type	Tape	Lot#/Comments
5-4-06	8:23	VMK	PFK	—	OK	—	Res		Mass Res check
5-4-06	8:28	VMK	1009:59	C060504W1	OK	—	WIN		Col Perf.
5-4-06	9:00	VMK	nonane	fr	OK	—	QC		flush
5-4-06	9:14	VMK	3262:44	C060504S1	OK		VER		ver std
5-4-06	9:46	VMK	nonane	fr	OK	—	QC		flush
5-4-06	10:00	VMK	H3Q7K1AA	cfh3q7kb	OK	solid	QC		Syst blank
5-4-06	10:33	VMK	H2V3L1AD	cfh2v3l	OK	solid	SAM		H6D070382-001
5-4-06	11:05	VMK	H2V3M1AD	cfh2v3m	OK	solid	SAM		-002
5-4-06	11:37	VMK	H2V3N1AG	cfh2v3n	OK	solid	SAM		-003
5-4-06	—	VMK	H2V3N1AH	cfh2v3nd	DR	solid	QC		-003D
5-4-06	—	VMK	H2V3N1AJ	cfh2v3ns	DR	solid	QC		-003S
5-4-06	12:08	VMK	H2V3P1AD	cfh2v3p	OK	solid	sam		-004
5-4-06	12:40	VMK	H2V3Q1AD	cfh2v3q	OK	solid	sam		-005
5-4-06	13:12	VMK	H2V3R1AD	cfh2v3r	OK	solid	sam		-006
5-4-06	13:43	VMK	H2V3T1AD	cfh2v3t	OK	solid	Sam		-007
5-4-06	14:15	VMK	H2V3V1AD	cfh2v3v	OK	solid	Sam		-008
5-4-06	14:47	VMK	H2V3W1AD	cfh2v3w	OK	solid	Sam		-009
5-4-06	15:18	VMK	H2V3X1AD	cfh2v3x	OK	solid	Sam		-010
5-4-06	15:50	VMK	H2V301AD	cfh2v30	OK	solid	Sam		-011
5-4-06	16:22	VMK	H2V311AD	cfh2v31	OK	solid	Sam		-012
5-4-06	16:54	VMK	H2V321AD	cfh2v32	OK	solid	Sam		-013
5-4-06	17:25	VMK	H229X1AC	cfh229x	OK	solid	sam		-014
5-4-06	17:57	VMK	H2V3N1AH	cfh2v3nd	OK	solid	sam		-003D
5-4-06	18:29	VMK	H2V3N1AJ	cfh2v3ns	OK	solid	sam		-003S
5-4-06	18:56	DCS	PFK	—	ok	-	Res		mass res ck
5-8-06	08:31	VMK	PFK	—	OK	—	Res		Mass Res check
5-8-06	08:33	VMK	1009:59	C060508W1	OK	—	WIN		col Perf
5-8-06	09:05	VMK	nonane	fr	OK	—	QC		flush
5-8-06	09:18	VMK	3262:44	C060508S1	OK	—	VER		ver std
5-8-06	09:50	VMK	nonane	fr	OK	—	QC		flush
5-8-06	10:04	VMK	H3ED81AH	cfh3ed8b	OK	air	QC		Syst blank
5-8-06	10:35	VMK	H2H1F1AC	cfh2h1f	OK	air	Sam		H6D030236-002

Read and Understood by:

[signature] Date: 5/8/06

STL KNOXVILLE
SPECIALTY ORGANICS INSTRUMENT MAT 90S RUN LOG

VMK 5/8/06

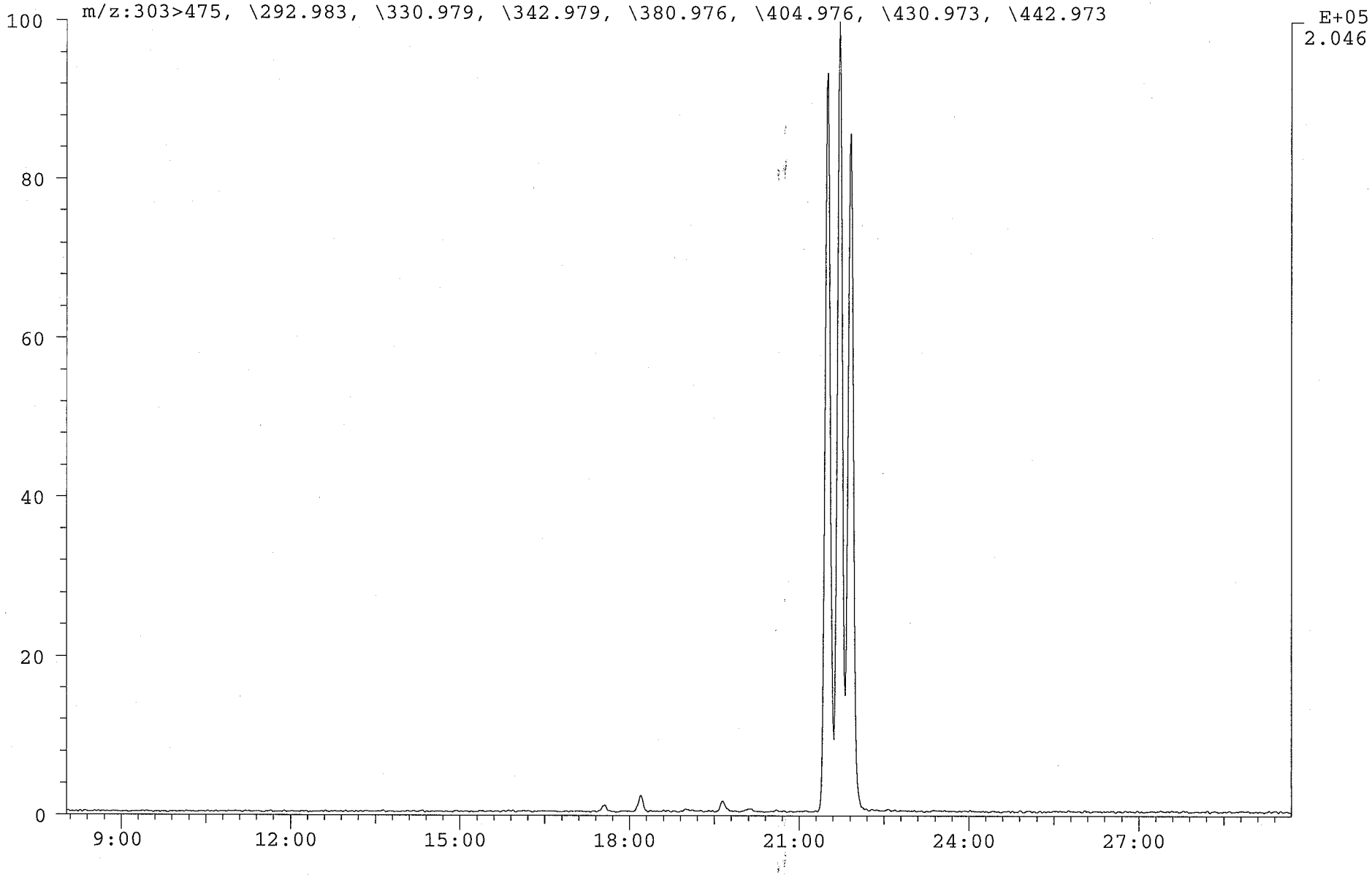
Date	Time	Opr	Sample ID	Filename	Code	Matrix	Type	Tape	Lot#/Comments
5-8-06	~~10:07~~ 11:07	VMK	H2H1J1AC	cfh2h1j	OK	Sam	air		H6D030236-004
5-8-06	11:39	VMK	H2H1L1AC	cfh2h1l	OK	Sam	air		↓ -006
5-8-06	12:10	VMK	H3GAF1AD	cfh3gaf	OK	Sam	Solid		C6D180112-001
5-8-06	12:42	VMK	H3GAN1AE	cfh3gan	OK	Sam	Solid		↓ -002
5-8-06	13:14	VMK	H3GAR1AD	cfh3gar	OK	Sam	Solid		↓ -003
5-8-06	~~13:54~~ 13:45	VMK USD 5/8/06	nonane	fr	OK	—	—		flush
5-8-06	13:54	VMK	3262:44	C06050852	OK	—	—		Ver
5-8-06	14:24	USD	PFK	—	OK	—	RES		Mass Res WK

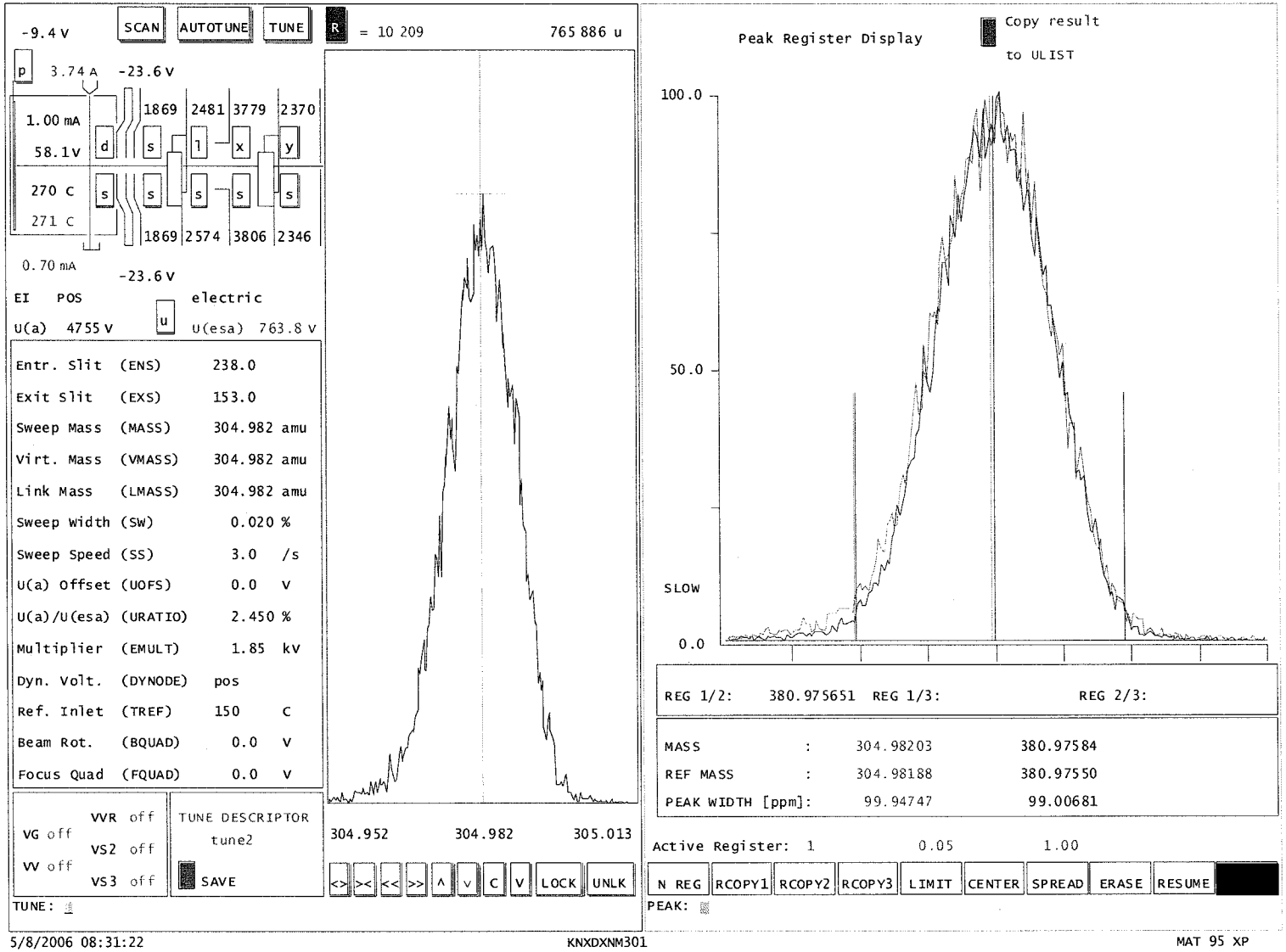
Read and Understood by:

_____ Date: _____

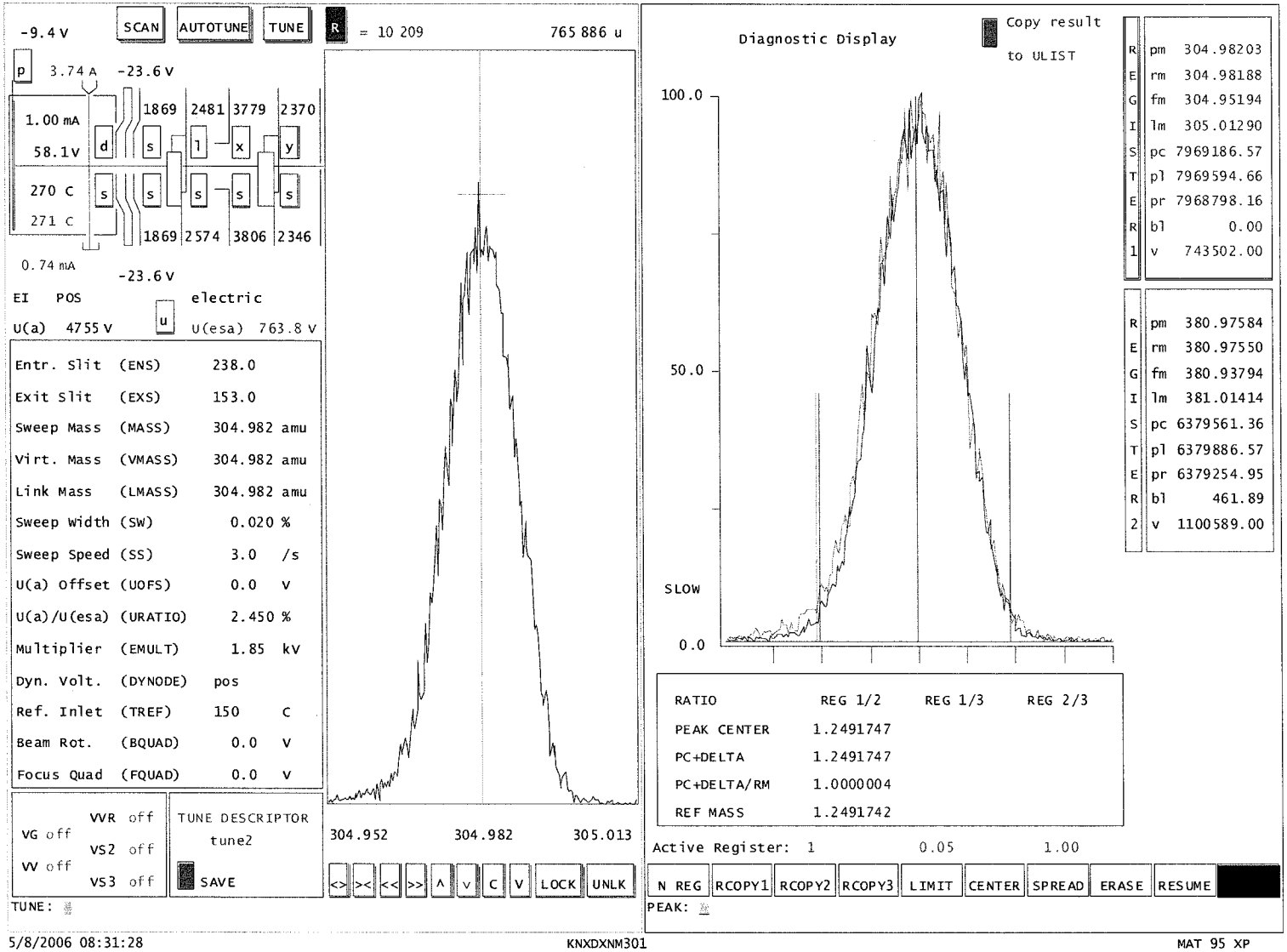
```
CHRO:  c060508w1                                08-May-06   Elapse:  21:39.9      822
Samp:  Vial 3 WO=1009:59 Meth=X8c Dil=1                     Start :  08:33:01    1324
Comm:  Inst=m3c/6502634 Batch=20060508s1 Ccal=C060508S1
Mode:  EI + Q1MS UP LR                                      Study :  Column Perf. Mix
Oper:  VMK            Client:  STL Knoxville                Inlet :        Vial   3
Peak:  100.00  ppm      Label wndw:   1 > 1305              Masses:  292 > 376
Area:  5, 0.50, 0       Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```

Int. calc VMK 5/8/06
QC MSD 5/8/06



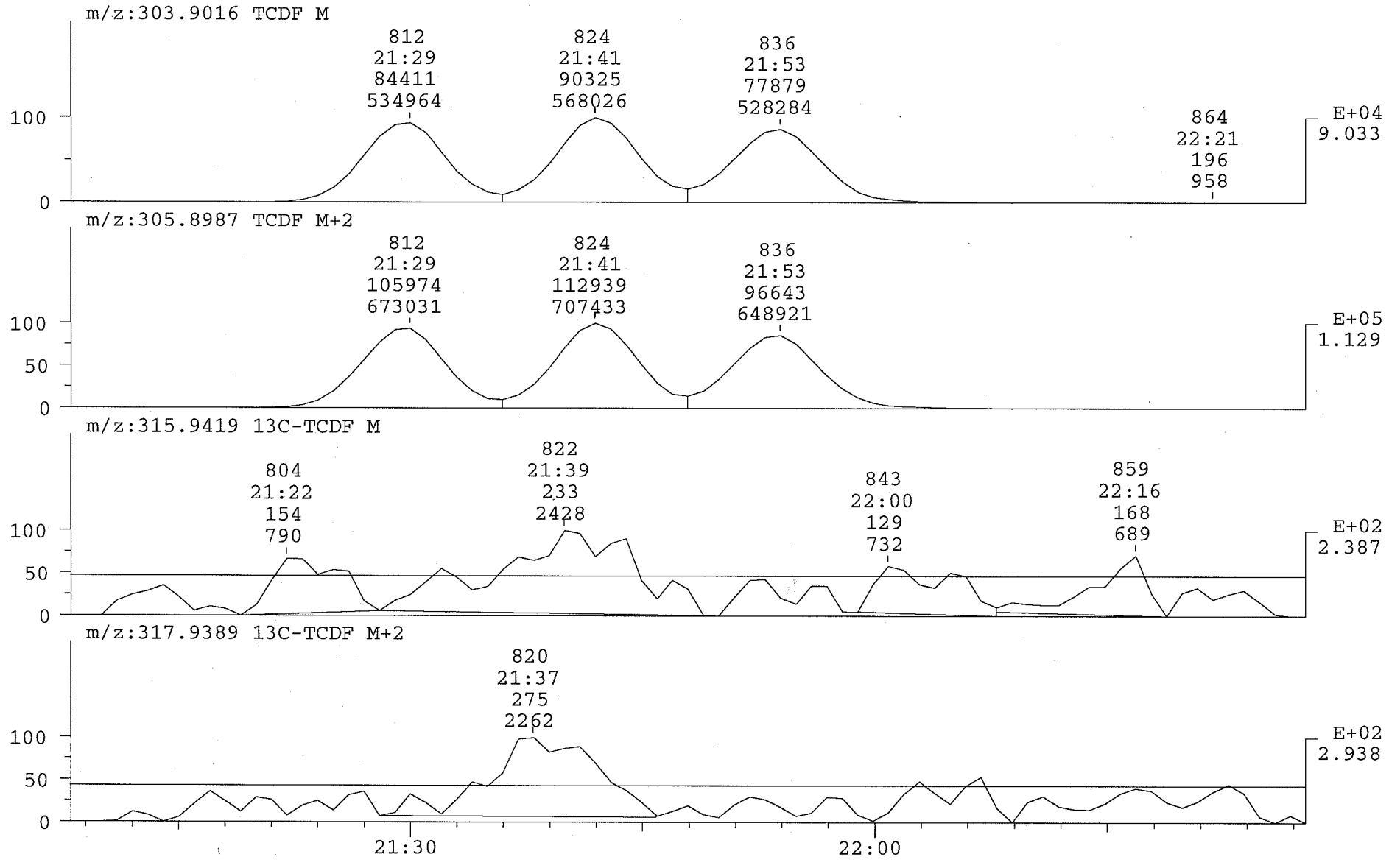


5/8/2006 08:31:22 KNXDXNM301 MAT 95 XP

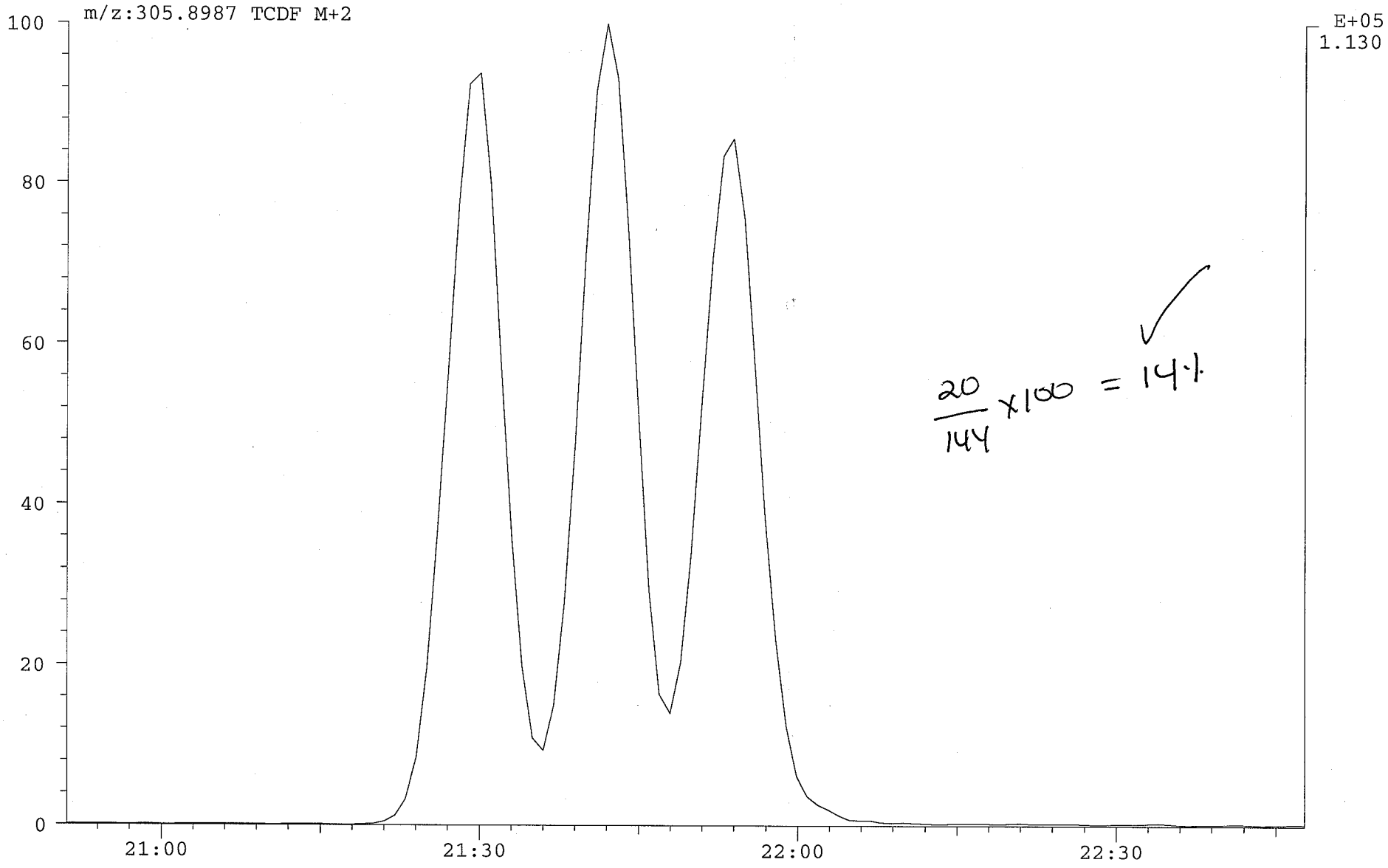


5/8/2006 08:31:28 KNXDXNM301 MAT 95 XP

CHRO: c060508w1 08-May-06 Elapse: 21:39.9 822
Samp: Vial 3 WO=1009:59 Meth=X8c Dil=1 Start : 08:33:01 1324
Comm: Inst=m3c/6502634 Batch=20060508s1 Ccal=C060508S1
Mode: EI + Q1MS UP LR Study : Column Perf. Mix
Oper: VMK Client: STL Knoxville Inlet : Vial 3
Peak: 100.00 ppm Label wndw: 790 > 870 Masses: 292 > 376
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area

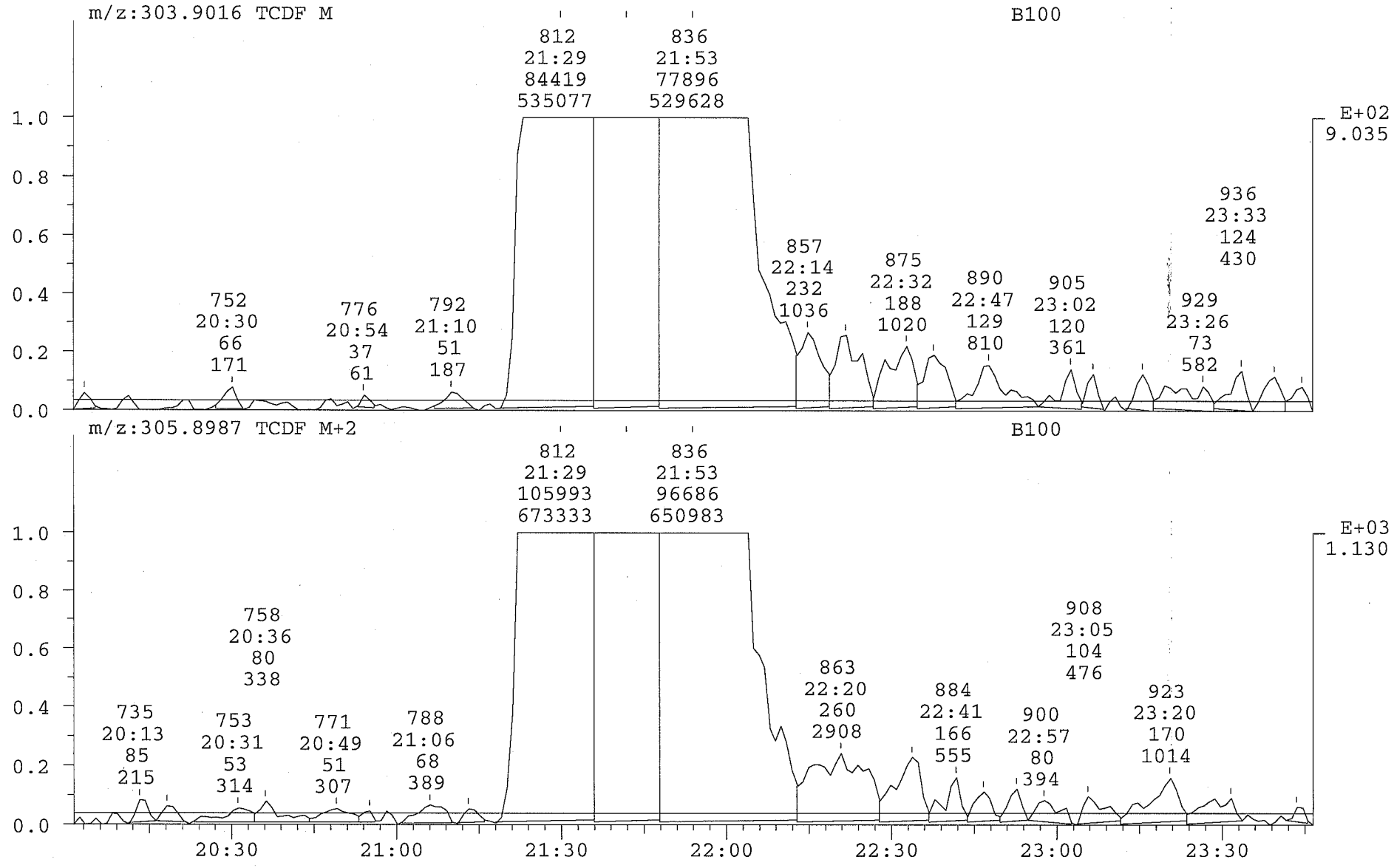


CHRO: c060508w1 08-May-06 Elapse: 21:39.9 822
Samp: Vial 3 WO=1009:59 Meth=X8c Dil=1 Start : 08:33:01 1324
Comm: Inst=m3c/6502634 Batch=20060508s1 Ccal=C060508S1
Mode: EI + Q1MS UP LR Study : Column Perf. Mix
Oper: VMK Client: STL Knoxville Inlet : Vial 3
Peak: 100.00 ppm Label wndw: 773 > 890 Masses: 292 > 376
Area: 0, 0.50, 0 Baseline : 100, 3 Label : 0, 2.5

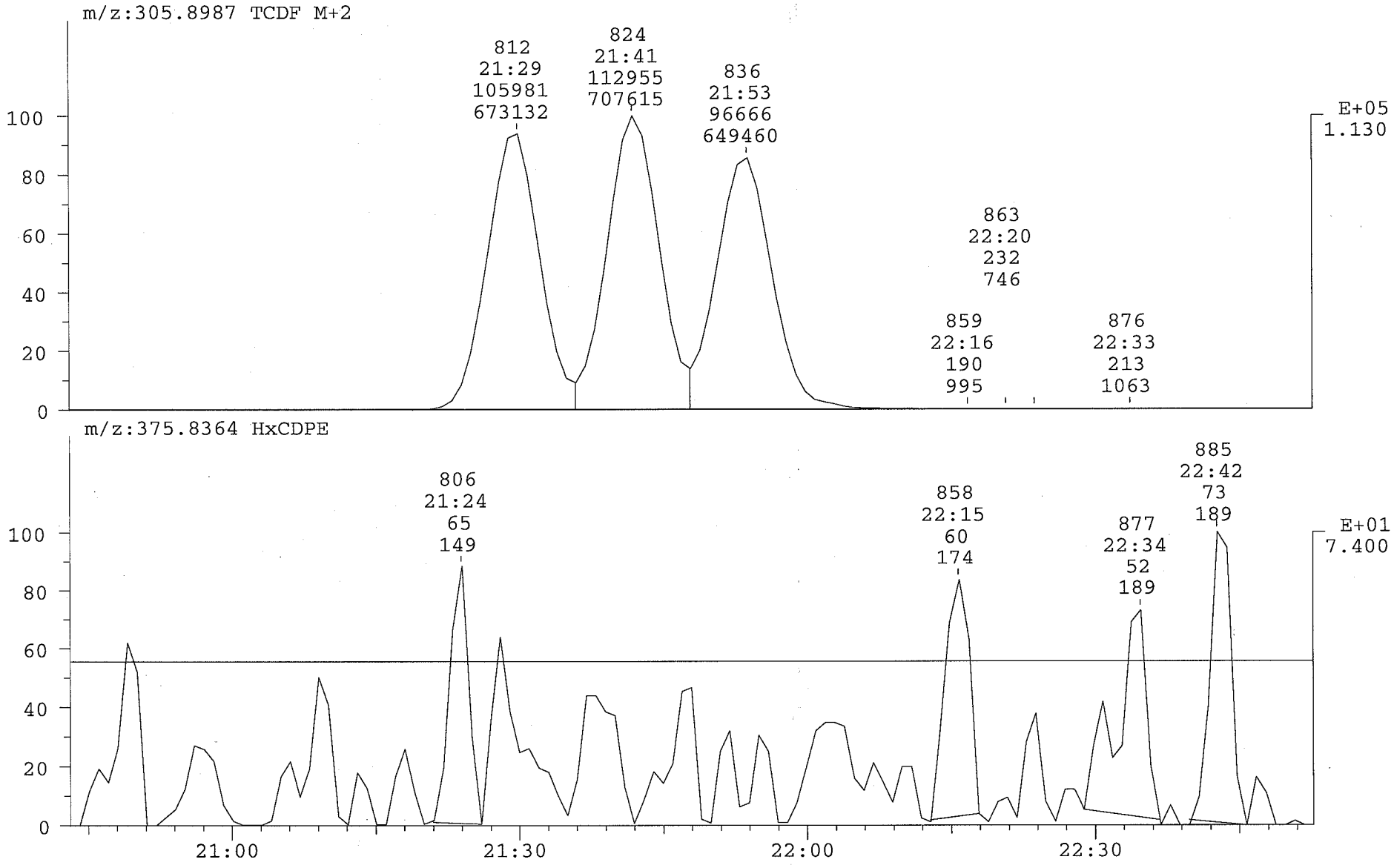


$\frac{20}{144} \times 100 = 14\%$ ✓

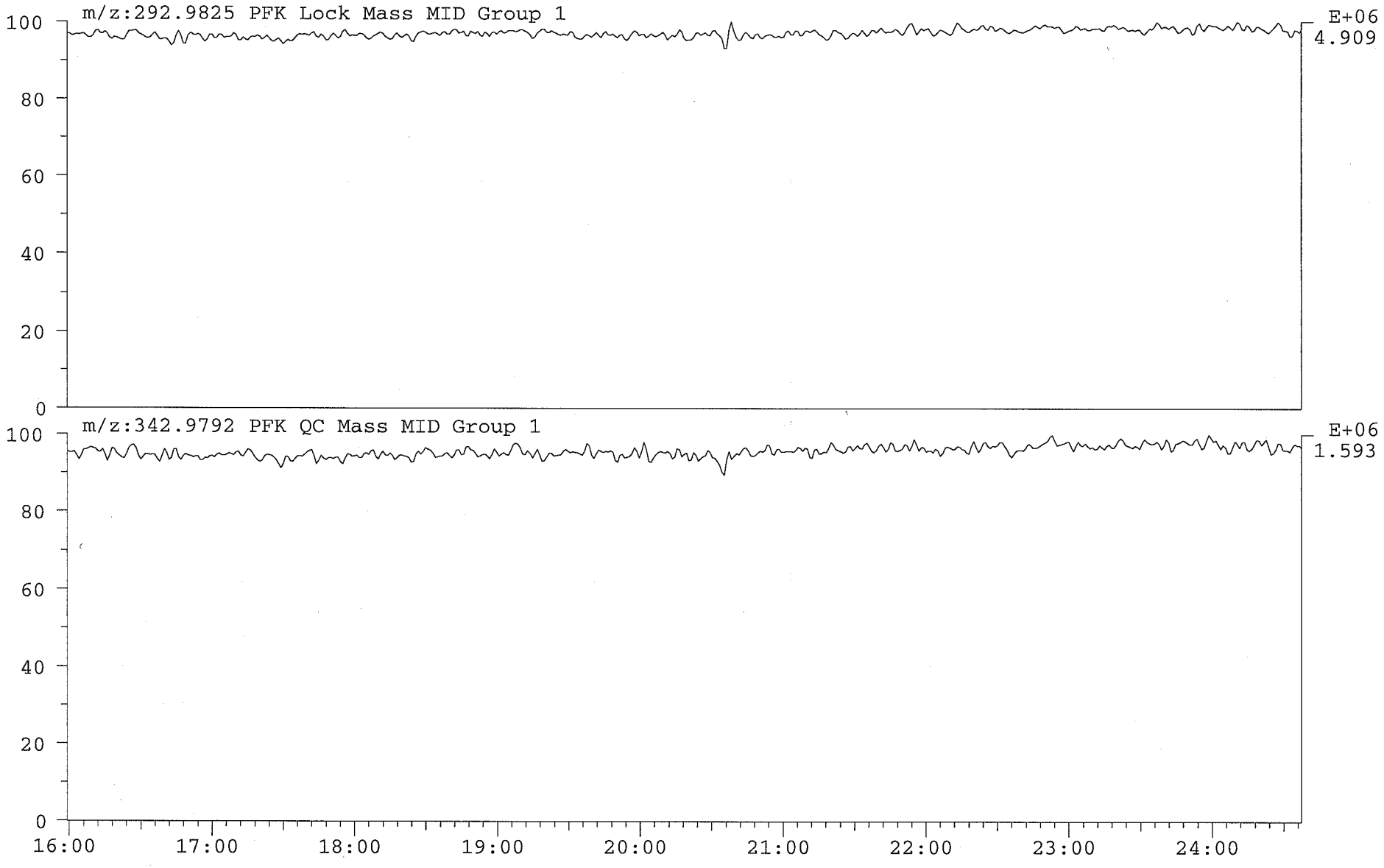
CHRO: c060508w1 08-May-06 Elapse: 21:38.9 821
Samp: Vial 3 WO=1009:59 Meth=X8c Dil=1 Start : 08:33:01 1324
Comm: Inst=m3c/6502634 Batch=20060508s1 Ccal=C060508S1
Mode: EI + Q1MS UP LR Study : Column Perf. Mix
Oper: VMK Client: STL Knoxville Inlet : Vial 3
Peak: 100.00 ppm Label wndw: 723 > 949 Masses: 292 > 376
Area: 5, 0.50, 0 Baseline : 100, 3 Label : -2, 1.0
Disp: Height Area



CHRO: c060508w1 08-May-06 Elapse: 21:39.9 822
Samp: Vial 3 WO=1009:59 Meth=X8c Dil=1 Start : 08:33:01 1324
Comm: Inst=m3c/6502634 Batch=20060508s1 Ccal=C060508S1
Mode: EI + Q1MS UP LR Study : Column Perf. Mix
Oper: VMK Client: STL Knoxville Inlet : Vial 3
Peak: 100.00 ppm Label wndw: 765 > 895 Masses: 292 > 376
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  c060508w1                                08-May-06  Elapse:  21:39.9      822
Samp:  Vial 3 WO=1009:59 Meth=X8c Dil=1                    Start :  08:33:01    1324
Comm:  Inst=m3c/6502634 Batch=20060508s1 Ccal=C060508S1
Mode:  EI + Q1MS UP LR                                     Study :  Column Perf. Mix
Oper:  VMK            Client:  STL Knoxville               Inlet :          Vial   3
Peak:  100.00  ppm      Label wndw:   480 > 1000           Masses:  292 > 376
Area:  0, 0.00, 0       Baseline  :   0, 3                 Label :  0, 0.0
```



*** file opened Mon May 08 08:33:01 2006 ***

Started by - Mat95InstCtrl
Instrument Internet name - MAT 95 XP
Instrument model - MAT 95 XP
Instrument service number - 0000
Workstation internet name - KNXDXNM301

ICL Version: 11.68
File name: c060508w1
Study: Column Perf. Mix
Sample: WO=1009:59 Meth=X8c Dil=1
Amount: 0.0
Volume: 0.0
Injected volume: 2.0
Operator: VMK
Client: STL Knoxville
Comments: Inst=m3c/6502634 Batch=20060508s1 Ccal=C060508S1
Sample from Vial 3
Analysis will stop when MID run finishes
Tune file name: tune2
MCAL file name: mcal1
Single File
ICL procedure: sleep90 6
MID procedure: db225

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	22:00 min	30:00 min	1.00 sec

Mid Masses:
Window # 1

mass	F	int	gr	time (ms)
292.9825	l	10	1	8
303.9016		1	1	84
305.8987		1	1	84
315.9419		1	1	84
317.9389		1	1	84
319.8965		1	1	84
321.8936		1	1	84
327.8847		1	1	84
331.9368		1	1	84
333.9338		1	1	84
342.9792	c	10	1	8
375.8364		1	1	84

Auto Sampler descriptor:2ul
Normal Injection
Injector A

Slvnt A cln before inj	(K):	3	times
Slvnt B cln before inj	(L):	0	times
Sample rinse cycles	(R):	0	times
Syringe filling volume	(F):	1.0	ul
Pullup delay time	(D):	4	sec
Sample pullup count	(P):	5	times
Sample pullup speed	(E):	5.0	ul/sec
Slvnt aftr pre inj cln	(U):	0.0	ul
Air after pre inj clean	(G):	2.0	ul
Sample volume	(V):	2.0	ul

Sample air volume	(A):	2.0 ul
Injection speed	(S):	10.0 ul/sec
Pre injection wait time	(W):	10 sec
Post injectn hold time	(H):	3 sec
Solvent A clean cycles	(C):	5 times
Solvent B clean cycles	(B):	0 times
Loop clean wth slvnt A	(LC):	0 times
Loop clean wth slvnt B	(LB):	0 times
Standard sample volume	(X):	0.0 ul
Standard air volume	(Y):	0.0 ul
2nd Injection volume	(I):	0.0 ul
Air volume 2nd injectn	(J):	0.0 ul
Time btwn 2 injections	(T):	0 sec

GC descriptor: db225

Injector:	270 deg		270 deg max
Transfer Line:	220 deg		230 deg max
Column:	140 deg at	0.0 minutes	230 deg max
	140 deg at	2.0 minutes	
	200 deg at	5.0 minutes	
	230 deg at	20.0 minutes	
	230 deg at	30.0 minutes	

Stabilize time 0.0 minutes

Inlet:

Splitless Mode	
Purge Time	1.50 min
Purge Flow	40.0 ml/min
Gas saver is on	
Saver Time	3.00 min
Saver Flow	15.0 ml/min

Column:

Constant Flow	1.2 ml
Standby Flow	0.5 ml/min

ICL Parameters

ACCU	666.0000	BCORRL	0.0150	BCORRS	0.0130
BFM	2.0000	BLM	2862.8777	BMASS	304.9824
BQUAD	0.0000	CAPIL	0.0000	CAPTEMP	0.0000
CAPTSET	0.0000	CCURR	3.7412	CORONA	0.0000
COUNTING	0.0000	DELAY	0.0000	DITEMP	399.9996
DITSET	0.0000	DRAW	-23.6000	DRAWC	0.0000
DRAWS	0.0000	ECORR	1.0009	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9999	EDACZ	928.5000
ELEN	58.1100	EMULT	1.8500	ENS	238.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	0.0000
ESIPAR	0.0000	EXS	153.0000	FDMA	18000000.0000
FILTER	100.0000	FLENS	1.0000	FM	292.6306
FMII	0.2000	FQUAD	0.0000	FREQ	600.6006
FSLOPE	36000000.0000	FVANAL	83.0000	FVINLET	927.0000
FVSRC	835.0000	FWIN	0.7000	GCTC	180.0000
GCTI	270.0000	GCTL	220.0000	HCURR	1.3333
HVANAL	827.0000	HVSRC	2459.0000	ICAL0	0.0011
ICAL1	0.4030	ICAL2	0.5865	IONEN	4754.5740
IST	271.3713	ISTC	0.0000	ISTCKP	5.0000
ISTCTD	1.0000	ISTCTN	2.0000	ISTCTS	60.0000
ISTCTV	3.0000	ISTS	270.0000	LENS	2527.5000
LENSS	46.2000	LKM	304.9824	LM	800.0000
LMASS	304.9824	LMII	0.2000	MASS	304.9824

MDAC	2017207.9536	MRANGE	2862.8777	MSFM	2.0000
MSLM	3790.0000	NPEAK	12.0000	NSAM	200.0000
NSCAN	896.0000	NSMAX	8.0000	NSMIN	66.0000
OCT	-2.0000	PSAM	10.0000	PUSHER	-9.3500
RDRAW	0.0000	RDRAWC	0.0000	RECURR	0.0000
RELEN	0.0000	RES	10209.4360	RFAMP	0.0000
RFCUR	0.0000	RPUSHER	0.0000	RWIN	2.0000
SCIDLE	1.0000	SHIELD	1869.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000
SPRAY	0.0000	SS	3.0000	SW	0.0500
TANAL	381.5045	TCURR	0.7422	TD	0.9999
THRESH	2.0000	TIS	0.2000	TREF	150.0000
TS	0.4367	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	0.0000	URATIO	2.4500
UROT	-10.0000	USERVAR	0.0000	UTQ1	150.0000
UTQ2	190.0000	UTQ3	80.0000	VAPTEMP	0.0000
VAPTSET	0.0000	VMASS	304.9824	XLENS	3792.5000
XLENSS	13.3000	YLENS	2357.5000	YLENSS	-12.0000

Scantype is electric
Sourcemode is EI POS

Analysis started at: 08-May-06 08:34:37
MID Window terminated after 30.016667 minutes
MID Window end time was 30.000000 minutes
Autosampler has injected sample from vial 3
MID Time Window 1: Resolution is 9766.

Amplifier Offset: 92.

Analysis stopped at: 08-May-06 09:04:39 (run time 30.02 minutes)
Analysis stopped because MID run finished

*** File closed Mon May 08 09:04:40 2006 ***

STL - Knoxville IsoCalc Continuing Calibration Report

TCDD/F by EPA Method 0023/8290 - DB-225

CCAL ID: 17119 - C060508S1
ICAL Date: 02/09/06
CCAL Filename: c060508s1
Method: X8c - 0023/8290_Conf
CCAL Sample ID: 3262:44
Instrument: M3C
CCAL Result Dir: /20060508s1/c060508s1.d
Column SN: 6502634
CCAL Date/Time: 05/08/06 09:18
Column Desc: DB-225 30m x 0.32mm ID x 0.25um

Analytes	m/z's Forming Ratio	Ion Abund Ratio	QC Limits	Calc Conc (ng/g)	ICAL RF	CCAL RF	%D	QC Limit	Valid?
2,3,7,8-TCDD	M/M+2		0.65-0.89	0.0	0.000		0.0	20.0	False
2,3,7,8-TCDF	M/M+2	0.80	0.65-0.89	10.2	1.058	1.079	2.0	20.0	True ✓
37Cl4-2,3,7,8-TCDD	M		-	0.0	0.000		0.0	30.0	False
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	0.0	0.000	1.044	0.0	30.0	True
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	107	1.454	1.553	6.8	30.0	True ✓

VMK 5/8/06
MSD 5/8/06

STL - Knoxville IsoCalc Continuing Calibration Report

TCDD/F by EPA Method 0023/8290 - DB-225

CCAL ID: 17119 - C060508S1
ICAL Date: 02/09/06
CCAL Filename: c060508s1
Method: X8c - 0023/8290_Conf
CCAL Sample ID: 3262:44
Instrument: M3C
CCAL Result Dir: /20060508s1/c060508s1.d
Column SN: 6502634
CCAL Date/Time: 05/08/06 09:18
Column Desc: DB-225 30m x 0.32mm ID x 0.25um

Analytes	ICAL RT	CCAL RT	RT Diff	ICAL RRT	CCAL RRT	RRT QC Limit	Valid?
2,3,7,8-TCDD	00:00	00:00		0.000	0.000	-	
2,3,7,8-TCDF	19:24	21:41	137	1.001	1.002	-	
37Cl4-2,3,7,8-TCDD	00:00	00:00		0.000	0.000	-	
13C-2,3,7,8-TCDD	00:00	19:42	1,182	0.000	0.982	-	
13C-2,3,7,8-TCDF	19:23	21:39	136	1.080	1.079	-	

STL - Knoxville

IsoCalc Continuing Calibration Report

TCDD/F by EPA Method 8290 - DB-225

CCAL ID: 17117 - C060508S1
CCAL Filename: c060508s1
CCAL Sample ID: 3262:44
CCAL Result Dir: /20060508s1/c060508s1.d
CCAL Date/Time: 05/08/06 09:18

ICAL Date: 02/09/06
Method: INc - DX8290_Conf
Instrument: M3C
Column SN: 6502634
Column Desc: DB-225 30m x 0.32mm ID x 0.25um

Analytes	m/z's Forming Ratio	Ion Abund Ratio	QC Limits	Calc Conc (ng/g)	ICAL RF	CCAL RF	%D	QC Limit	Valid?
2,3,7,8-TCDD	M/M+2		0.65-0.89	0.0	0.000		0.0	20.0	False
2,3,7,8-TCDF	M/M+2	0.80	0.65-0.89	10.2	1.058	1.079	2.0	20.0	True
37Cl4-2,3,7,8-TCDD	M		-	0.0	0.000		0.0	30.0	False
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	0.0	0.000	1.044	0.0	30.0	True
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	107	1.454	1.553	6.8	30.0	True

VMK 5/8/06

STL - Knoxville IsoCalc Continuing Calibration Report

TCDD/F by EPA Method 8290 - DB-225

CCAL ID: 17117 - C060508S1
CCAL Filename: c060508s1
CCAL Sample ID: 3262:44
CCAL Result Dir: /20060508s1/c060508s1.d
CCAL Date/Time: 05/08/06 09:18

ICAL Date: 02/09/06
Method: INc - DX8290_Conf
Instrument: M3C
Column SN: 6502634
Column Desc: DB-225 30m x 0.32mm ID x 0.25um

Analytes	ICAL RT	CCAL RT	RT Diff	ICAL RRT	CCAL RRT	RRT QC Limit	Valid?
2,3,7,8-TCDD	00:00	00:00		0.000	0.000	-	
2,3,7,8-TCDF	19:24	21:41	137	1.001	1.002	-	
37Cl4-2,3,7,8-TCDD	00:00	00:00		0.000	0.000	-	
13C-2,3,7,8-TCDD	00:00	19:42	1,182	0.000	0.982	-	
13C-2,3,7,8-TCDF	19:23	21:39	136	1.080	1.079	-	

STL - Knoxville

IsoCalc Preliminary Sample Report

TCDD/F by EPA Method 0023/8290 - DB-225

IsoCalc

Workorder	3262:44	**Prep Batch**		**Lot No**	
Data File	/20060508s1/c060508s1.d	**Prep Date**		**SDG No**	
Analysis ID	90557	**Prep Exp Date**		**Date Received**	
Analysis Date	5/8/2006	**Matrix**	UNKNOWN	**Date Sampled**	
Analysis Time	09:18	**Initial Wt/Vol**		**Lims Test Code**	
Anal Exp Date		**Extract Vol**		**Method**	0023/8290_Conf
Instrument	M3C	**Dil Factor**	1.0	**Code**	X8c
Analyst	VMK				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (ng/g)		DL (ng/g)
2,3,7,8-TCDD					10.00			ND		0.000000
2,3,7,8-TCDF	21:41	297798	46692	1.058	10.00	10.199236	101.99	10.199236	E	0.0468
37Cl4-2,3,7,8-TCDD					10.00			ND		0.000000
13C-2,3,7,8-TCDD	19:42	1855587	318184		100.0			ND		0.000000
13C-2,3,7,8-TCDF	21:39	2759700	429328	1.454	100.0	106.804664	106.80	106.804664		0.0496
13C-1,2,3,4-TCDD	20:04	1777538	308667	1.000	100.0	100.000000	100.00	100.000000		0.0737

STL - Knoxville

IsoCalc Preliminary Peak Report

TCDD/F by EPA Method 0023/8290 - DB-225

IsoCalc

Workorder	3262:44	**Prep Batch**		**Lot No**	
Data File	/20060508s1/c060508s1.	**Prep Date**		**SDG No**	
Analysis ID	90557	**Prep Exp Date**		**Date Received**	
Analysis Date	05/08/06 09:18	**Matrix**	UNKNOWN	**Date Sampled**	
Anal Exp Date		**Initial Wt/Vol**		**Lims Test Code**	
Instrument	M3C	**Extract Vol**		**Method**	0023/8290_Conf
Analyst	VMK	**Diluton Factor**	1.00	**Code**	X8c

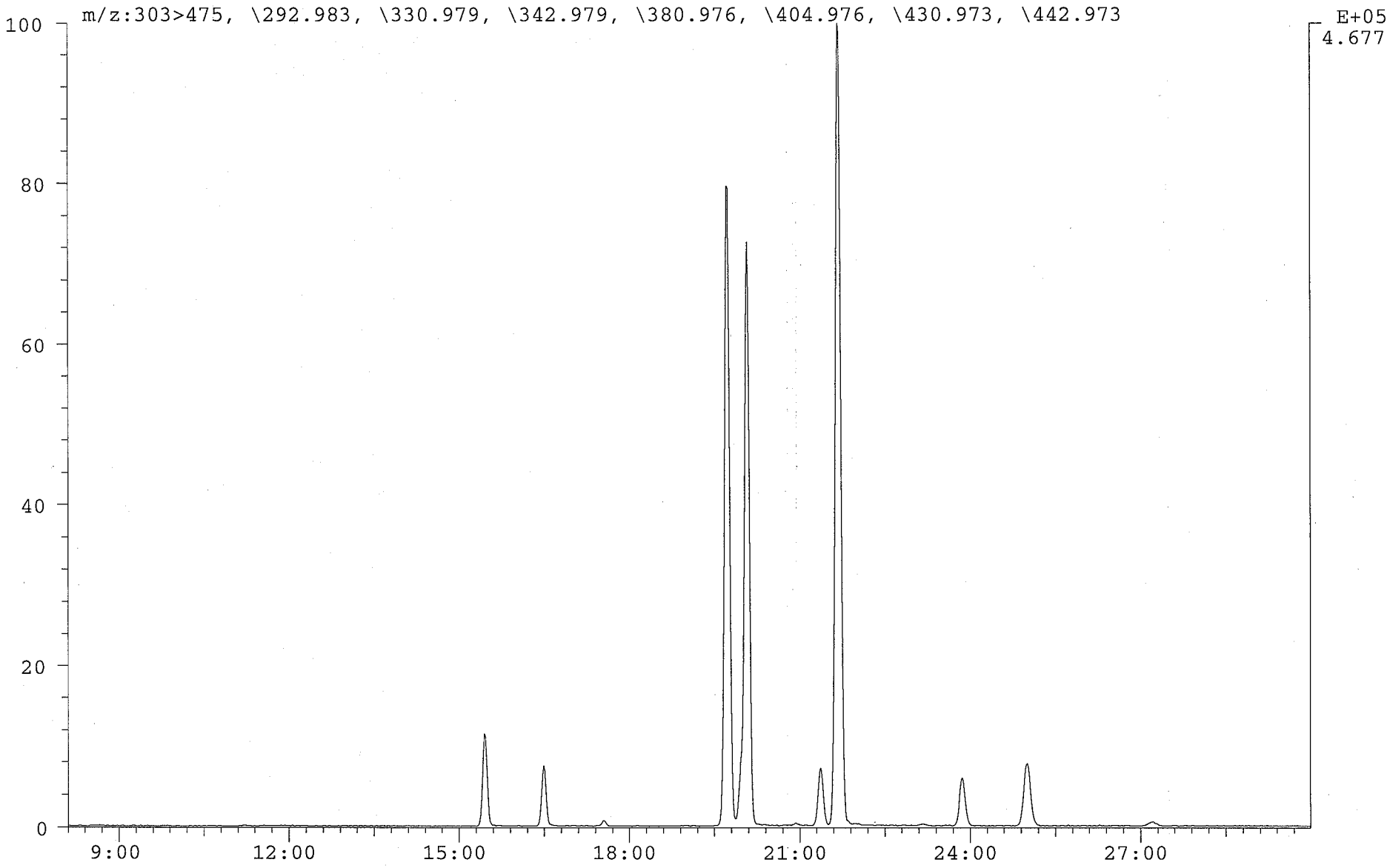
View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	75	138	30	55	0.55 *	/	
	2,3,7,8-TCDF	21:41	20:56	45	131919	165879	20383	26309	0.80	AVV/AVV	M
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	103	120	41	48	0.85	/	
	13C-2,3,7,8-TCDF	21:39	20:56	43	1220185	1539515	190697	238631	0.79	AVV/AVV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	85	85	34	34	1.00 *	/	
	Unidentified	19:44	00:00	0	91753	118628	15702	20628	0.77	ABV/AVV	
	Unidentified	19:57	00:00	0	80618	100530	14210	17512	0.80	AVV/AVV	
	Unidentified	20:05	00:00	0	85058	108246	14482	18214	0.79	AVV/AVV	
	Unidentified	20:20	00:00	0	691	1701	140	265	0.41 *	AVV/AVB	R
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	55		22				
	Unidentified	8:40	00:00	0	1651		369			AVV	
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	143	85	57	34	1.68 *	/	
	13C-2,3,7,8-TCDD	19:42	19:39	3	817345	1038242	139413	178771	0.79	ABV/ABV	
	13C-1,2,3,4-TCDD	20:04	20:50	-46	792710	984828	136944	171723	0.80	AVV/AVV	

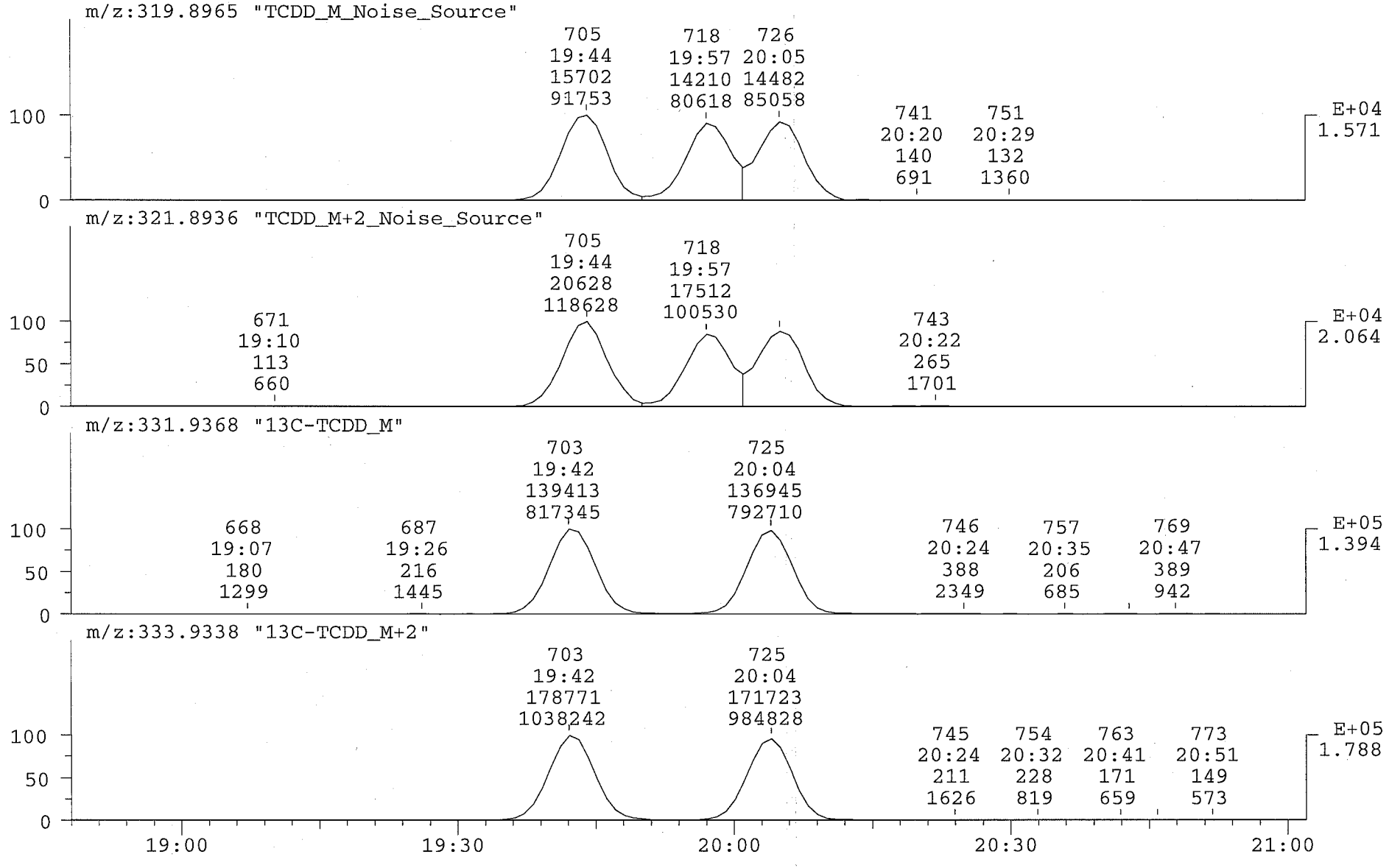
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

CHRO: c060508s1 08-May-06 Elapse: 21:40.7 822
Samp: Vial 1 WO=3262:44 Meth=X8c Dil=1 Start : 09:18:48 1324
Comm: Inst=m3c/6502634 Batch=20060508s1 Ccal=C060504S1
Mode: EI + Q1MS UP LR Study : Ver
Oper: VMK Client: STL Knoxville Inlet : Vial 1
Peak: 100.00 ppm Label wndw: 5 > 1322 Masses: 292 > 376
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

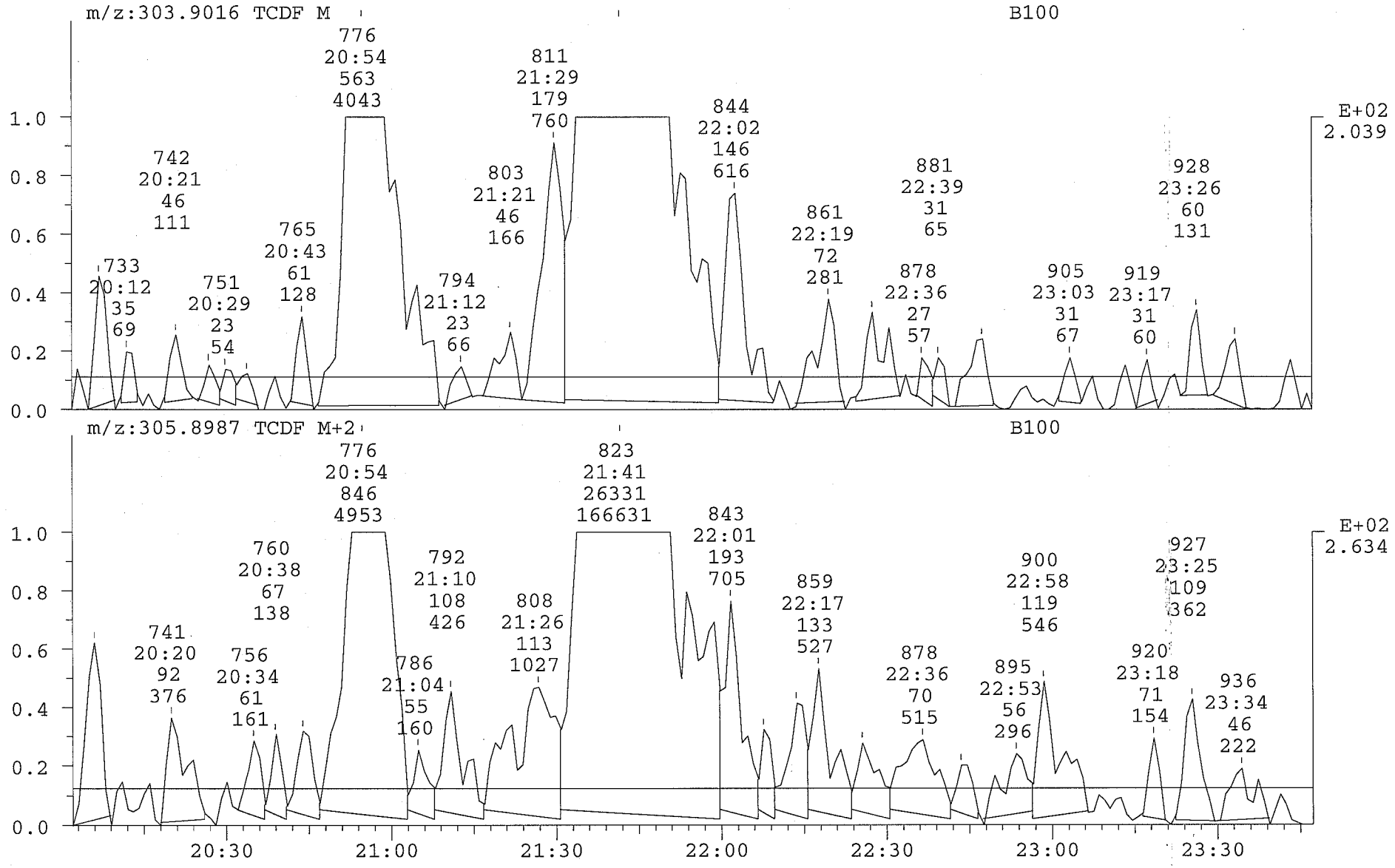
Int, calc VMK 5/8/06
QC MSD 5/8/06



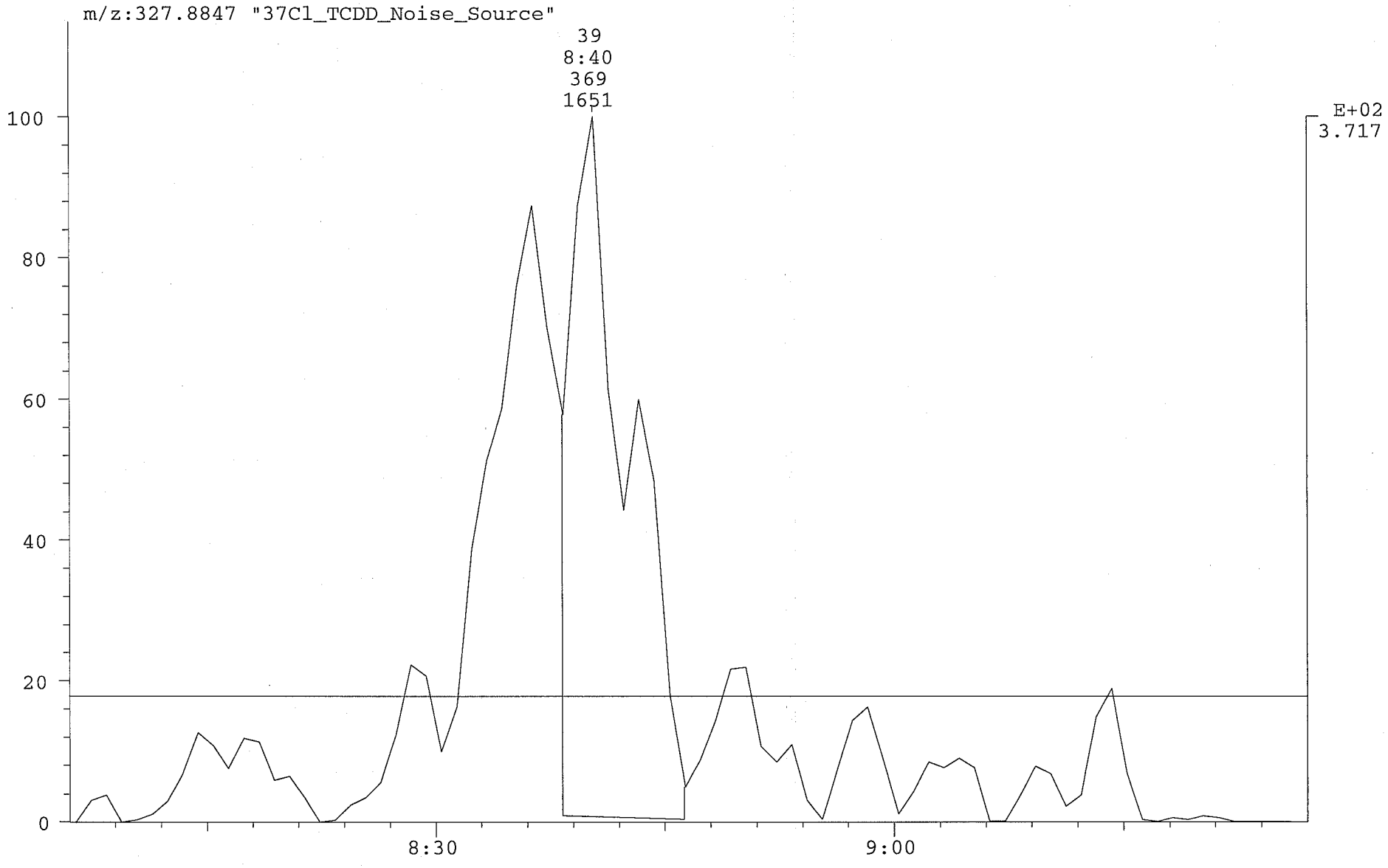
```
CHRO:  c060508s1                                08-May-06  Elapse:  19:55.0      716
Samp:  Vial 1 WO=3262:44 Meth=X8c Dil=1                    Start :  09:18:48    1324
Comm:  Inst=m3c/6502634 Batch=20060508s1 Ccal=C060504S1
Mode:  EI + Q1MS UP LR                                     Study :  Ver
Oper:  VMK            Client:  STL Knoxville               Inlet :          Vial   1
Peak:  100.00  ppm      Label wndw:   649 > 783            Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



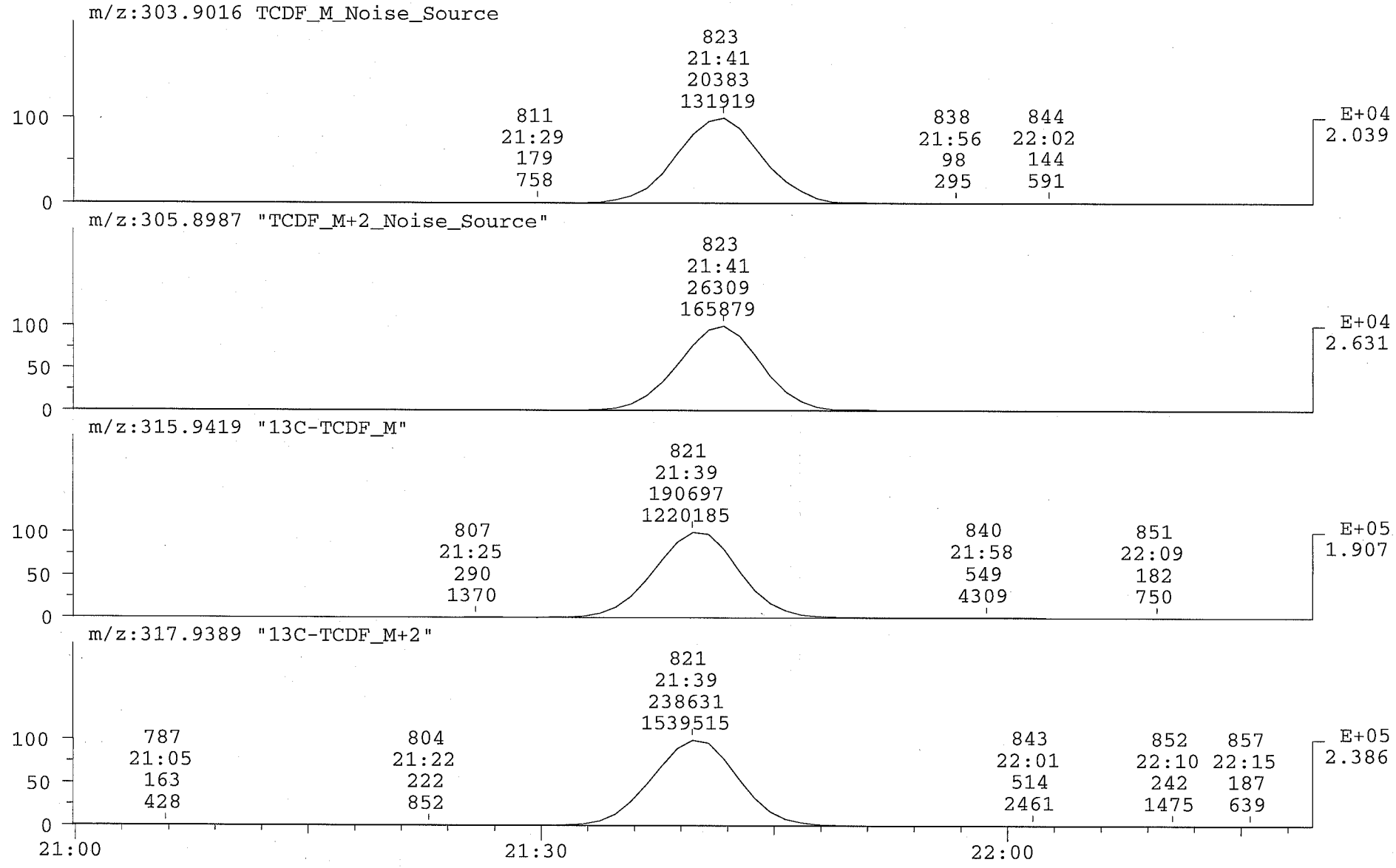
CHRO: c060508s1 08-May-06 Elapse: 21:39.7 821
Samp: Vial 1 WO=3262:44 Meth=X8c Dil=1 Start : 09:18:48 1324
Comm: Inst=m3c/6502634 Batch=20060508s1 Ccal=C060504S1
Mode: EI + Q1MS UP LR Study : Ver
Oper: VMK Client: STL Knoxville Inlet : Vial 1
Peak: 100.00 ppm Label wndw: 723 > 949 Masses: 292 > 376
Area: 5, 0.50, 0 Baseline : 100, 3 Label : -2, 1.0
Disp: Height Area



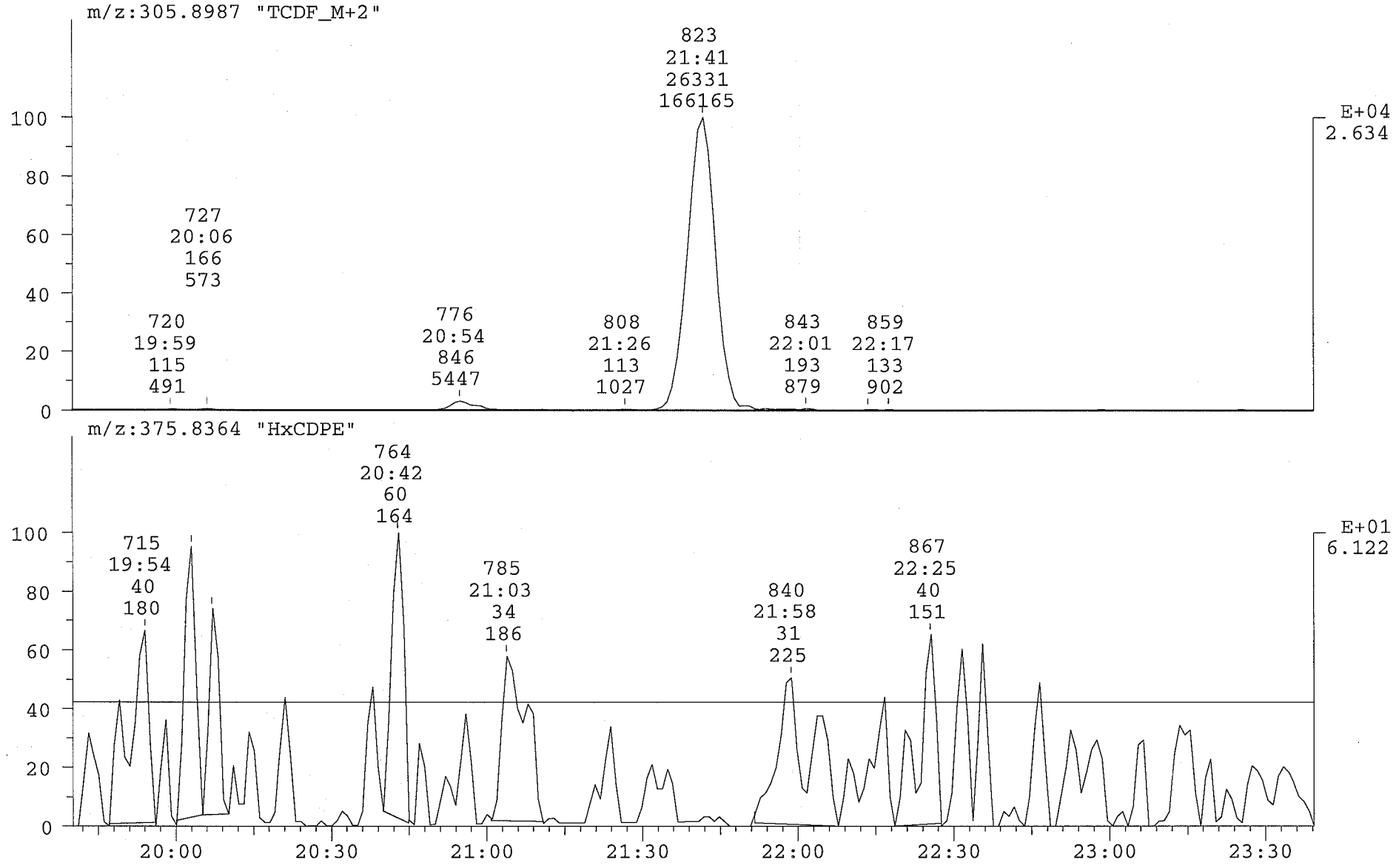
```
CHRO:  c060508s1                                08-May-06  Elapse:  19:55.0      716
Samp:  Vial 1 WO=3262:44 Meth=X8c Dil=1                    Start :  09:18:48    1324
Comm:  Inst=m3c/6502634 Batch=20060508s1 Ccal=C060504S1
Mode:  EI + Q1MS UP LR                                     Study :  Ver
Oper:  VMK            Client:  STL Knoxville               Inlet :          Vial   1
Peak:  100.00  ppm      Label wndw:   5 > 86               Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



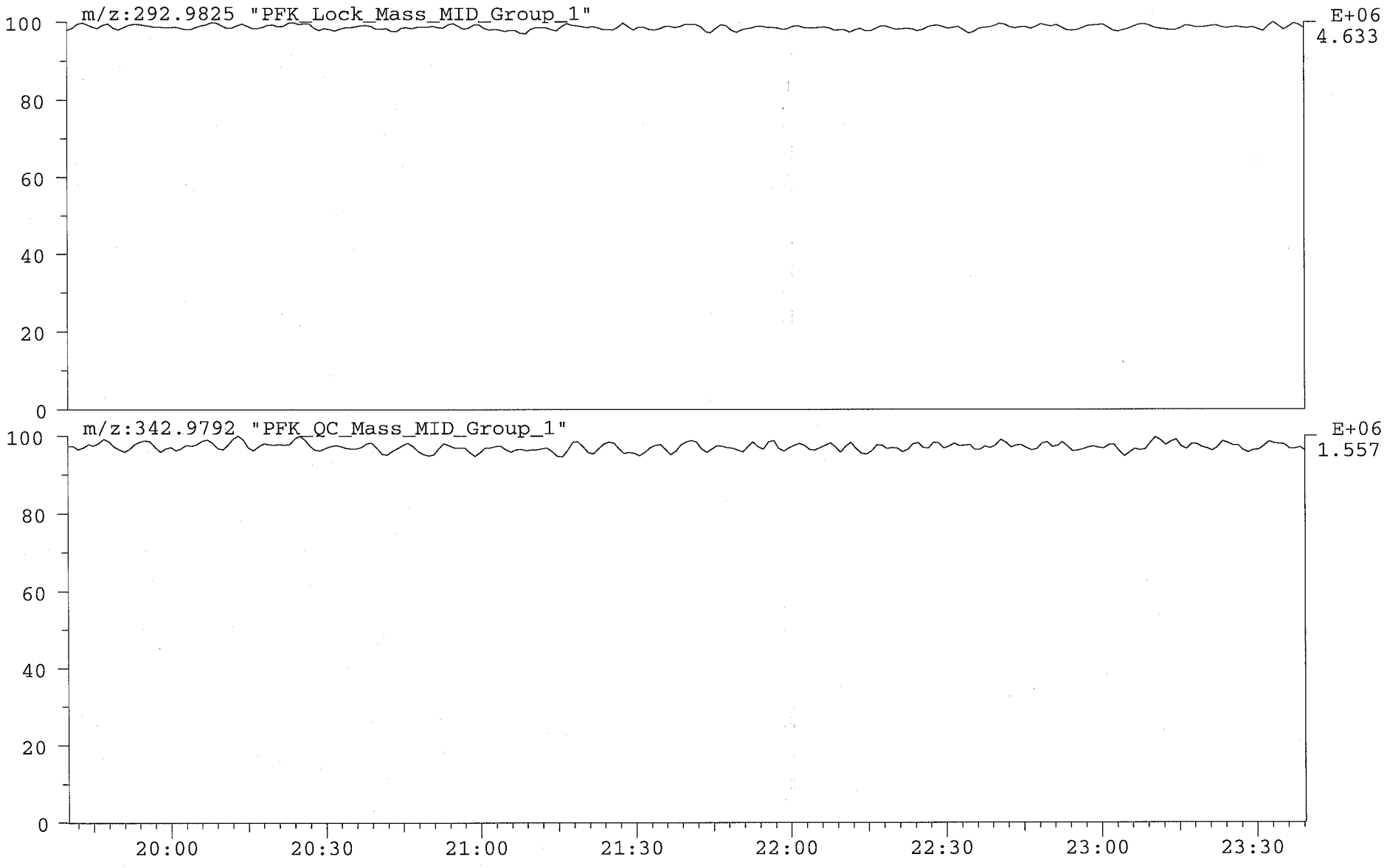
```
CHRO:  c060508s1                                08-May-06  Elapse:  21:39.7      821
Samp:  Vial 1 WO=3262:44 Meth=X8c Dil=1                    Start :  09:18:48    1324
Comm:  Inst=m3c/6502634 Batch=20060508s1 Ccal=C060504S1
Mode:  EI + Q1MS UP LR                                     Study :  Ver
Oper:  VMK            Client:  STL Knoxville               Inlet :          Vial   1
Peak:  100.00  ppm      Label wndw:   781 > 861            Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  c060508s1                                08-May-06  Elapse:  21:39.7      821
Samp:  Vial 1 WO=3262:44 Meth=X8c Dil=1                    Start :  09:18:48    1324
Comm:  Inst=m3c/6502634 Batch=20060508s1 Ccal=C060504S1
Mode:  EI + Q1MS UP LR                                     Study :  Ver
Oper:  VMK            Client:  STL Knoxville               Inlet :          Vial   1
Peak:  100.00  ppm      Label wndw:   701 > 941            Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  c060508s1                                08-May-06  Elapse:  21:39.7      821
Samp:  Vial 1 WO=3262:44 Meth=X8c Dil=1                    Start :  09:18:48    1324
Comm:  Inst=m3c/6502634 Batch=20060508s1 Ccal=C060504S1
Mode:  EI + Q1MS UP LR                                     Study :  Ver
Oper:  VMK            Client:  STL Knoxville               Inlet :          Vial   1
Peak:  100.00  ppm      Label wndw:   701 > 941            Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
```



```
*** file opened Mon May 08 09:18:48 2006 ***

Started by                  - Mat95InstCtrl
Instrument Internet name    - MAT 95 XP
Instrument model            - MAT 95 XP
Instrument service number   - 0000
Workstation internet name   - KNXDXNM301

ICL Version: 11.68
File name: c060508s1
Study: Ver
Sample: WO=3262:44 Meth=X8c Dil=1
Amount:    0.0
Volume:    0.0
Injected volume:    2.0
Operator: VMK
Client: STL Knoxville                                          4
Comments: Inst=m3c/6502634 Batch=20060508s1 Ccal=C060508S1
Sample from Vial 1                                             VMK 5/8/06
Analysis will stop when MID run finishes
Tune file name: tune2
MCAL file name: mcal1
Single File
ICL procedure: sleep90 6
  MID procedure: db225


  Mid Time Windows:
        Start         Measure       End        Cycletime
  # 1   8:00 min  22:00 min  30:00 min   1.00 sec

  Mid Masses:
   Window # 1
        mass F  int  gr  time (ms)
    292.9825 l  10  1        8
    303.9016     1  1       84
    305.8987     1  1       84
    315.9419     1  1       84
    317.9389     1  1       84
    319.8965     1  1       84
    321.8936     1  1       84
    327.8847     1  1       84
    331.9368     1  1       84
    333.9338     1  1       84
    342.9792 c  10  1        8
    375.8364     1  1       84

  Auto Sampler descriptor:2ul
   Normal Injection
   Injector A
  Slvnt A cln before inj  (K):    3 times
  Slvnt B cln before inj  (L):    0 times
  Sample rinse cycles     (R):    0 times
  Syringe filling volume  (F):  1.0 ul
  Pullup delay time       (D):    4 sec
  Sample pullup count     (P):    5 times
  Sample pullup speed     (E):  5.0 ul/sec
  Slvnt aftr pre inj cln  (U):  0.0 ul
  Air after pre inj clean (G):  2.0 ul
  Sample volume           (V):  2.0 ul
```

Sample air volume	(A):	2.0 ul
Injection speed	(S):	10.0 ul/sec
Pre injection wait time	(W):	10 sec
Post injectn hold time	(H):	3 sec
Solvent A clean cycles	(C):	5 times
Solvent B clean cycles	(B):	0 times
Loop clean wth slvnt A	(LC):	0 times
Loop clean wth slvnt B	(LB):	0 times
Standard sample volume	(X):	0.0 ul
Standard air volume	(Y):	0.0 ul
2nd Injection volume	(I):	0.0 ul
Air volume 2nd injectn	(J):	0.0 ul
Time btwn 2 injections	(T):	0 sec

GC descriptor: db225

Injector:	270 deg		270 deg max
Transfer Line:	220 deg		230 deg max
Column:	140 deg at	0.0 minutes	230 deg max
	140 deg at	2.0 minutes	
	200 deg at	5.0 minutes	
	230 deg at	20.0 minutes	
	230 deg at	30.0 minutes	

Stabilize time 0.0 minutes

Inlet:

Splitless Mode	
Purge Time	1.50 min
Purge Flow	40.0 ml/min
Gas saver is on	
Saver Time	3.00 min
Saver Flow	15.0 ml/min

Column:

Constant Flow	1.2 ml
Standby Flow	0.5 ml/min

ICL Parameters

ACCU	666.0000	BCORRL	0.0150	BCORRS	0.0130
BFM	2.0000	BLM	2862.8777	BMASS	304.9824
BQUAD	0.0000	CAPIL	0.0000	CAPTEMP	0.0000
CAPTSET	0.0000	CCURR	3.7412	CORONA	0.0000
COUNTING	0.0000	DELAY	0.0000	DITEMP	399.9996
DITSET	0.0000	DRAW	-23.6000	DRAWC	0.0000
DRAWS	0.0000	ECORR	1.0009	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9999	EDACZ	928.5000
ELEN	58.1100	EMULT	1.8500	ENS	238.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	0.0000
ESIPAR	0.0000	EXS	153.0000	FDMA	18000000.0000
FILTER	100.0000	FLENS	1.0000	FM	292.6306
FMII	0.2000	FQUAD	0.0000	FREQ	600.6006
FSLOPE	36000000.0000	FVANAL	83.0000	FVINLET	927.0000
FVSRC	835.0000	FWIN	0.7000	GCTC	230.0000
GCTI	270.0000	GCTL	220.0000	HCURR	1.3725
HVANAL	827.0000	HVSRC	2459.0000	ICAL0	0.0011
ICAL1	0.4030	ICAL2	0.5865	IONEN	4754.5740
IST	271.3713	ISTC	0.0000	ISTCKP	5.0000
ISTCTD	1.0000	ISTCTN	2.0000	ISTCTS	60.0000
ISTCTV	3.0000	ISTS	270.0000	LENS	2527.5000
LENSS	46.2000	LKM	292.9825	LM	800.0000
LMASS	304.9824	LMII	0.2000	MASS	304.9824

MDAC	2017207.9536	MRANGE	2862.8777	MSFM	2.0000
MSLM	3790.0000	NPEAK	12.0000	NSAM	200.0000
NSCAN	1328.0000	NSMAX	8.0000	NSMIN	66.0000
OCT	-2.0000	PSAM	10.0000	PUSHER	-9.3500
RDRAW	0.0000	RDRAWC	0.0000	RECURR	0.0000
RELEN	0.0000	RES	10209.4360	RFAMP	0.0000
RFCUR	0.0000	RPUSHER	0.0000	RWIN	2.0000
SCIDLE	1.0000	SHIELD	1869.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000
SPRAY	0.0000	SS	3.0000	SW	0.0500
TANAL	381.0271	TCURR	0.7422	TD	0.9999
THRESH	2.0000	TIS	0.2000	TREF	150.0000
TS	0.4367	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	0.0000	URATIO	2.4500
UROT	-10.0000	USERVAR	0.0000	UTQ1	150.0000
UTQ2	190.0000	UTQ3	80.0000	VAPTEMP	0.0000
VAPTSET	0.0000	VMASS	304.9824	XLENS	3792.5000
XLENSS	13.3000	YLENS	2357.5000	YLENSS	-12.0000

Scantype is electric
Sourcemode is EI POS

Analysis started at: 08-May-06 09:20:24
MID Window terminated after 30.016667 minutes
MID Window end time was 30.000000 minutes
Autosampler has injected sample from vial 1
MID Time Window 1: Resolution is 10464.

Amplifier Offset: 91.

Analysis stopped at: 08-May-06 09:50:26 (run time 30.03 minutes)
Analysis stopped because MID run finished

*** File closed Mon May 08 09:50:27 2006 ***

STL - Knoxville

IsoCalc Continuing Calibration Report

TCDD/F by EPA Method 0023/8290 - DB-225

CCAL ID: 17126 - C060508S2

CCAL Filename: c060508s2

CCAL Sample ID: 3262:44

CCAL Result Dir: /20060508s2/c060508s2.d

CCAL Date/Time: 05/08/06 13:54

ICAL Date: 02/09/06

Method: X8c - 0023/8290_Conf

Instrument: M3C

Column SN: 6502634

Column Desc: DB-225 30m x 0.32mm ID x 0.25um

Analytes	m/z's Forming Ratio	Ion Abund Ratio	QC Limits	Calc Conc (ng/mL)	ICAL RF	CCAL RF	%D	QC Limit	Valid?
2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	0.0	0.000	1.075	0.0	20.0	True
2,3,7,8-TCDF	M/M+2	0.77	0.65-0.89	10.1	1.058	1.070	1.1	20.0	True
37Cl4-2,3,7,8-TCDD	M		-	0.0	0.000		0.0	30.0	False
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65-0.89	0.0	0.000	1.057	0.0	30.0	True
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65-0.89	105	1.454	1.531	5.3	30.0	True

UKSD 5/8/06
VMK 5/8/06

STL - Knoxville

IsoCalc Continuing Calibration Report

TCDD/F by EPA Method 0023/8290 - DB-225

CCAL ID: 17126 - C060508S2

CCAL Filename: c060508s2

CCAL Sample ID: 3262:44

CCAL Result Dir: /20060508s2/c060508s2.d

CCAL Date/Time: 05/08/06 13:54

ICAL Date: 02/09/06

Method: X8c - 0023/8290_Conf

Instrument: M3C

Column SN: 6502634

Column Desc: DB-225 30m x 0.32mm ID x 0.25um

Analytes	ICAL RT	CCAL RT	RT Diff	ICAL RRT	CCAL RRT	RRT QC Limit	Valid?
2,3,7,8-TCDD	00:00	19:48	1,188	0.000	1.001	-	
2,3,7,8-TCDF	19:24	21:45	141	1.001	1.002	-	
37Cl4-2,3,7,8-TCDD	00:00	00:00		0.000	0.000	-	
13C-2,3,7,8-TCDD	00:00	19:47	1,187	0.000	0.983	-	
13C-2,3,7,8-TCDF	19:23	21:43	140	1.080	1.079	-	

STL - Knoxville

IsoCalc Continuing Calibration Report

TCDD/F by EPA Method 8290 - DB-225

CCAL ID: 17124 - C060508S2
CCAL Filename: c060508s2
CCAL Sample ID: 3262:44
CCAL Result Dir: /20060508s2/c060508s2.d
CCAL Date/Time: 05/08/06 13:54

ICAL Date: 02/09/06
Method: INc - DX8290_Conf
Instrument: M3C
Column SN: 6502634
Column Desc: DB-225 30m x 0.32mm ID x 0.25um

Analytes	m/z's Forming Ratio	Ion Abund Ratio	QC Limits	Calc Conc (ng/mL)	ICAL RF	CCAL RF	%D	QC Limit	Valid?
2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	0.0	0.000	1.075	0.0	20.0	True
2,3,7,8-TCDF	M/M+2	0.77	0.65-0.89	10.1	1.058	1.070	1.1	20.0	True
37Cl4-2,3,7,8-TCDD	M		-	0.0	0.000		0.0	30.0	False
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65-0.89	0.0	0.000	1.057	0.0	30.0	True
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65-0.89	105	1.454	1.531	5.3	30.0	True

MSD 5/8/06
VMIC 5/8/06

STL - Knoxville

IsoCalc Continuing Calibration Report

TCDD/F by EPA Method 8290 - DB-225

CCAL ID: 17124 - C060508S2
ICAL Date: 02/09/06
CCAL Filename: c060508s2
Method: INc - DX8290_Conf
CCAL Sample ID: 3262:44
Instrument: M3C
CCAL Result Dir: /20060508s2/c060508s2.d
Column SN: 6502634
CCAL Date/Time: 05/08/06 13:54
Column Desc: DB-225 30m x 0.32mm ID x 0.25um

Analytes	ICAL RT	CCAL RT	RT Diff	ICAL RRT	CCAL RRT	RRT QC Limit	Valid?
2,3,7,8-TCDD	00:00	19:48	1,188	0.000	1.001	-	
2,3,7,8-TCDF	19:24	21:45	141	1.001	1.002	-	
37Cl4-2,3,7,8-TCDD	00:00	00:00		0.000	0.000	-	
13C-2,3,7,8-TCDD	00:00	19:47	1,187	0.000	0.983	-	
13C-2,3,7,8-TCDF	19:23	21:43	140	1.080	1.079	-	

STL - Knoxville

IsoCalc Preliminary Sample Report

TCDD/F by EPA Method 0023/8290 - DB-225

IsoCalc

Workorder	3262:44	**Prep Batch**		**Lot No**	
Data File	/20060508s2/c060508s2.d	**Prep Date**		**SDG No**	
Analysis ID	90567	**Prep Exp Date**		**Date Received**	
Analysis Date	5/8/2006	**Matrix**	UNKNOWN	**Date Sampled**	
Analysis Time	13:54	**Initial Wt/Vol**		**Lims Test Code**	
Anal Exp Date		**Extract Vol**		**Method**	0023/8290_Conf
Instrument	M3C	**Dil Factor**	1.0	**Code**	X8c
Analyst	VMK				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (ng/mL)	DL (ng/mL)
2,3,7,8-TCDD	19:48	182850	30822		10.00			ND	0.000000
2,3,7,8-TCDF	21:45	263645	40337	1.058	10.00	10.113937	101.14	10.113937 E	0.0411
37Cl4-2,3,7,8-TCDD					10.00			ND	0.000000
13C-2,3,7,8-TCDD	19:47	1701535	282627		100.0			ND	0.000000
13C-2,3,7,8-TCDF	21:43	2463809	379679	1.454	100.0	105.326660	105.33	105.326660	0.0858
13C-1,2,3,4-TCDD	20:08	1609222	274630	1.000	100.0	100.000000	100.00	100.000000	0.124

STL - Knoxville

IsoCalc Preliminary Peak Report

TCDD/F by EPA Method 0023/8290 - DB-225

IsoCalc

Workorder	3262:44	Prep Batch		Lot No	
Data File	/20060508s2/c060508s2.	Prep Date		SDG No	
Analysis ID	90567	Prep Exp Date		Date Received	
Analysis Date	05/08/06 13:54	Matrix	UNKNOWN	Date Sampled	
Anal Exp Date		Initial Wt/Vol		Lims Test Code	
Instrument	M3C	Extract Vol		Method	0023/8290_Conf
Analyst	VMK	Diluton Factor	1.00	Code	X8c

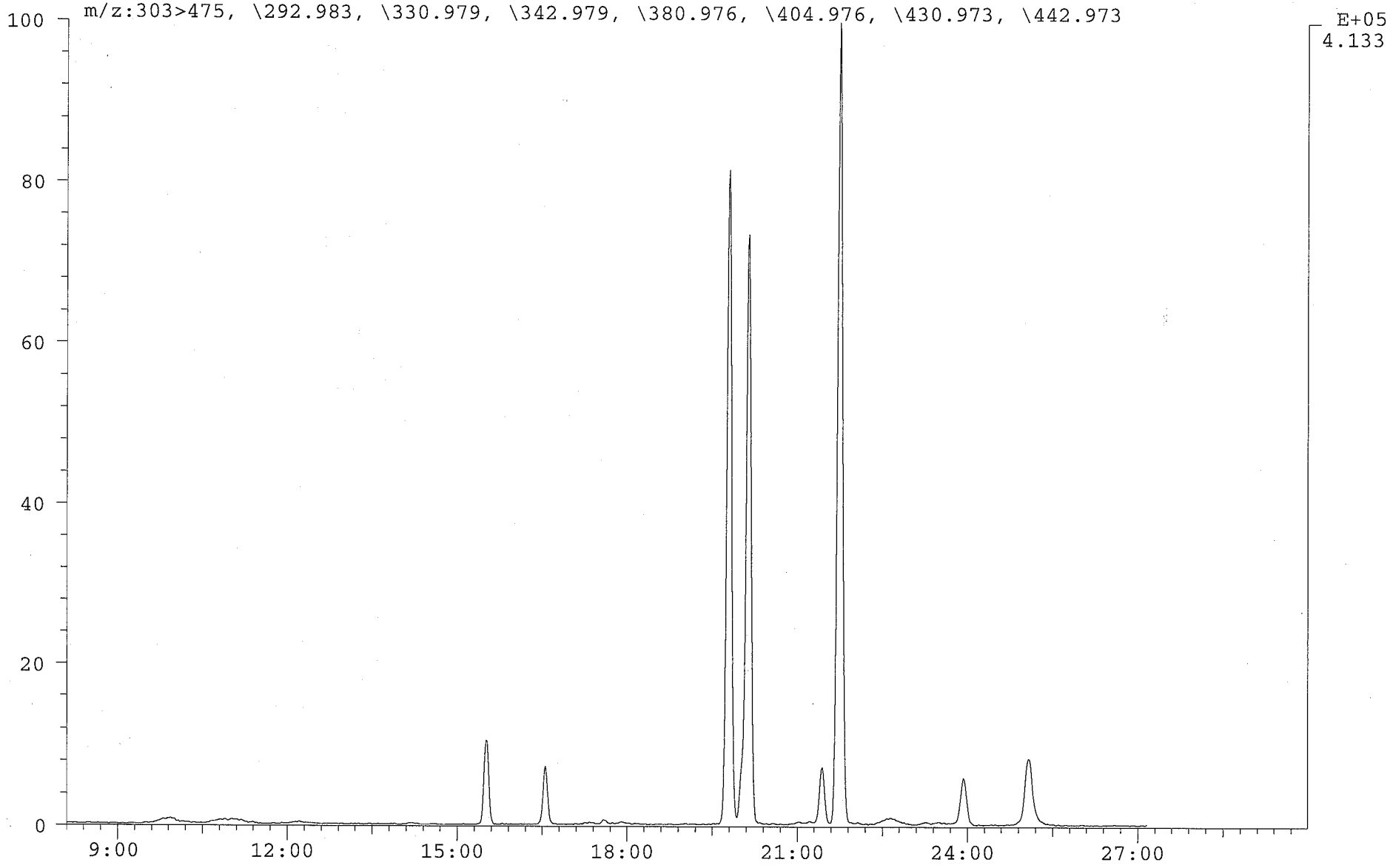
View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	90	75	36	30	1.20 *	/	
	2,3,7,8-TCDF	21:45	21:00	45	114273	149372 ✓	17587	22750	0.77	AVV/AVV	M
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	168	175	67	70	0.96 *	/	
	13C-2,3,7,8-TCDF	21:43	21:00	43	1097053	1366756 ✓	168594	211085	0.80	AVV/AVV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	100	100	40	40	1.00 *	/	
	2,3,7,8-TCDD	19:48	19:44	4	79878	102972	13544	17278	0.78	ABV/ABV	M
	Unidentified	20:01	00:00	0	72348	91137	12483	14931	0.79	AVV/AVV	
	Unidentified	20:09	00:00	0	77527	97421	13478	16733	0.80	AVV/AVV	
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	33		13				
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	170	170	68	68	1.00 *	/	
	13C-2,3,7,8-TCDD	19:47	19:44	3	754858	946677	125728	156899	0.80	AVV/ABV	
	13C-1,2,3,4-TCDD	20:08	20:54	-46	721205	888017 ✓	123796	150834	0.81	AVV/AVV	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

CHRO: c060508s2 08-May-06 Elapse: 21:40.6 822
Samp: Vial 1 WO=3262:44 Meth=X8c Dil=1 Start : 13:54:06 1152
Comm: Inst=m3c/6502634 Batch=20060508s2 Ccal=C060508S1
Mode: EI + Q1MS UP LR Study : Ver
Oper: VMK Client: STL Knoxville Inlet : Vial 1
Peak: 100.00 ppm Label wndw: 5 > 1322 Masses: 292 > 376
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

Int, Calc WSD 5/8/06
QC VMK 5/8/06



-9.4 V SCAN AUTOTUNE TUNE R = 10 209 523 724 u

p 3.74 A -23.6 V

1.00 mA 58.1 V d s l x y 1869 2481 3779 2370

270 C 271 C s s s s s 1869 2574 3806 2346

0.70 mA -23.6 V

EI POS electric

U(a) 4755 V u U(esa) 763.8 V

Entr. Slit	(ENS)	238.0	
Exit Slit	(EXS)	153.0	
Sweep Mass	(MASS)	304.982	amu
Virt. Mass	(VMASS)	304.982	amu
Link Mass	(LMASS)	304.982	amu
Sweep Width	(SW)	0.020	%
Sweep Speed	(SS)	3.0	/s
U(a) Offset	(UOFS)	0.0	V
U(a)/U(esa)	(URATIO)	2.450	%
Multiplier	(EMULT)	1.85	kV
Dyn. Volt.	(DYNODE)	pos	
Ref. Inlet	(TREF)	150	C
Beam Rot.	(BQUAD)	0.0	V
Focus Quad	(FQUAD)	0.0	V

VG off VVR off VS2 off VV off VS3 off

TUNE DESCRIPTOR tune2

SAVE

TUNE:

304.952 304.982 305.013

<> >< << >> ^ v C V LOCK UNLK

Peak Register Display

Copy result to ULIST

100.0 50.0 SLOW 0.0

REG 1/2: 380.974902 REG 1/3: REG 2/3:

MASS	:	304.98272	380.97595
REF MASS	:	304.98188	380.97550
PEAK WIDTH [ppm]:		98.94821	95.00656

Active Register: 1 0.05 1.00

N REG RCOPY2 RCOPY3 LIMIT CENTER SPREAD ERASE RESUME PAGE

PEAK:

5/8/2006 14:24:30 KNXDXNM301 MAT 95 XP

1400

-9.4 V SCAN AUTOTUNE TUNE R = 10 209 523 724 u

p 3.74 A -23.6 V

1.00 mA 58.1 V d s l x y 1869 2481 3779 2370

270 C 271 C s s s s s 1869 2574 3806 2346

0.74 mA -23.6 V

EI POS electric

U(a) 4755 V u U(esa) 763.8 V

Entr. Slit	(ENS)	238.0	
Exit Slit	(EXS)	153.0	
Sweep Mass	(MASS)	304.982	amu
Virt. Mass	(VMASS)	304.982	amu
Link Mass	(LMASS)	304.982	amu
Sweep Width	(SW)	0.020	%
Sweep Speed	(SS)	3.0	/s
U(a) Offset	(UOFS)	0.0	V
U(a)/U(esa)	(URATIO)	2.450	%
Multiplier	(EMULT)	1.85	kV
Dyn. Volt.	(DYNODE)	pos	
Ref. Inlet	(TREF)	150	C
Beam Rot.	(BQUAD)	0.0	V
Focus Quad	(FQUAD)	0.0	V

VG off VVR off VS2 off VV off VS3 off

TUNE DESCRIPTOR tune2

SAVE

TUNE:

304.952 304.982 305.013

<> >< << >> ^ v C V LOCK UNLK

Diagnostic Display

Copy result to ULIST

100.0 50.0 SLOW 0.0

R	pm	304.98272
E	rm	304.98188
G	fm	304.95194
I	lm	305.01290
S	pc	7969168.56
T	pl	7969570.77
E	pr	7968782.23
R	bl	0.00
1	v	515908.00

R	pm	380.97595
E	rm	380.97550
G	fm	380.93794
I	lm	381.01414
S	pc	6379559.47
T	pl	6379867.43
E	pr	6379261.33
R	bl	0.00
2	v	805885.00

RATIO	REG 1/2	REG 1/3	REG 2/3
PEAK CENTER	1.2491722		
PC+DELTA	1.2491722		
PC+DELTA/RM	0.9999984		
REF MASS	1.2491742		

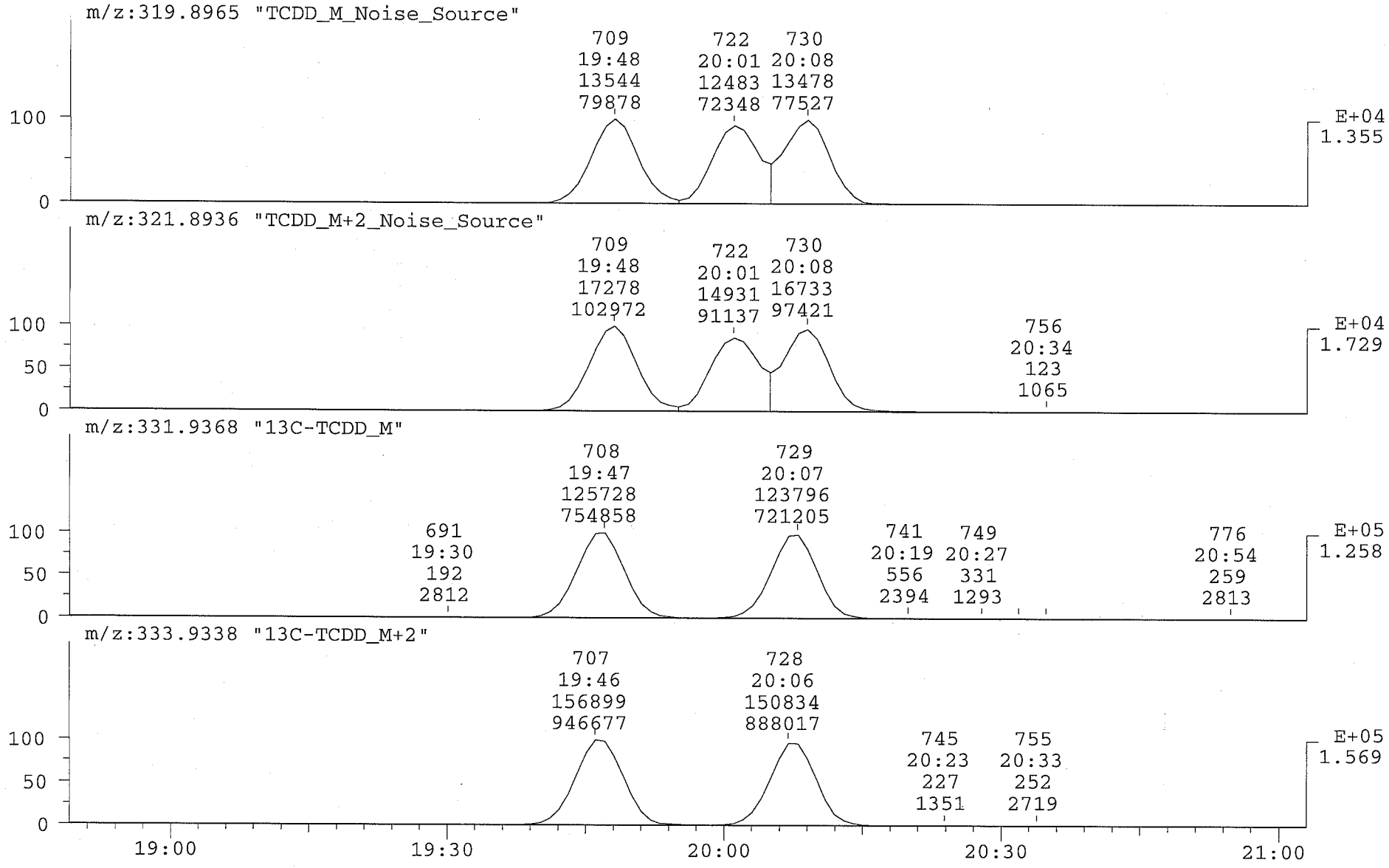
Active Register: 1 0.05 1.00

N REG RCOPY1 RCOPY2 RCOPY3 LIMIT CENTER SPREAD ERASE RESUME

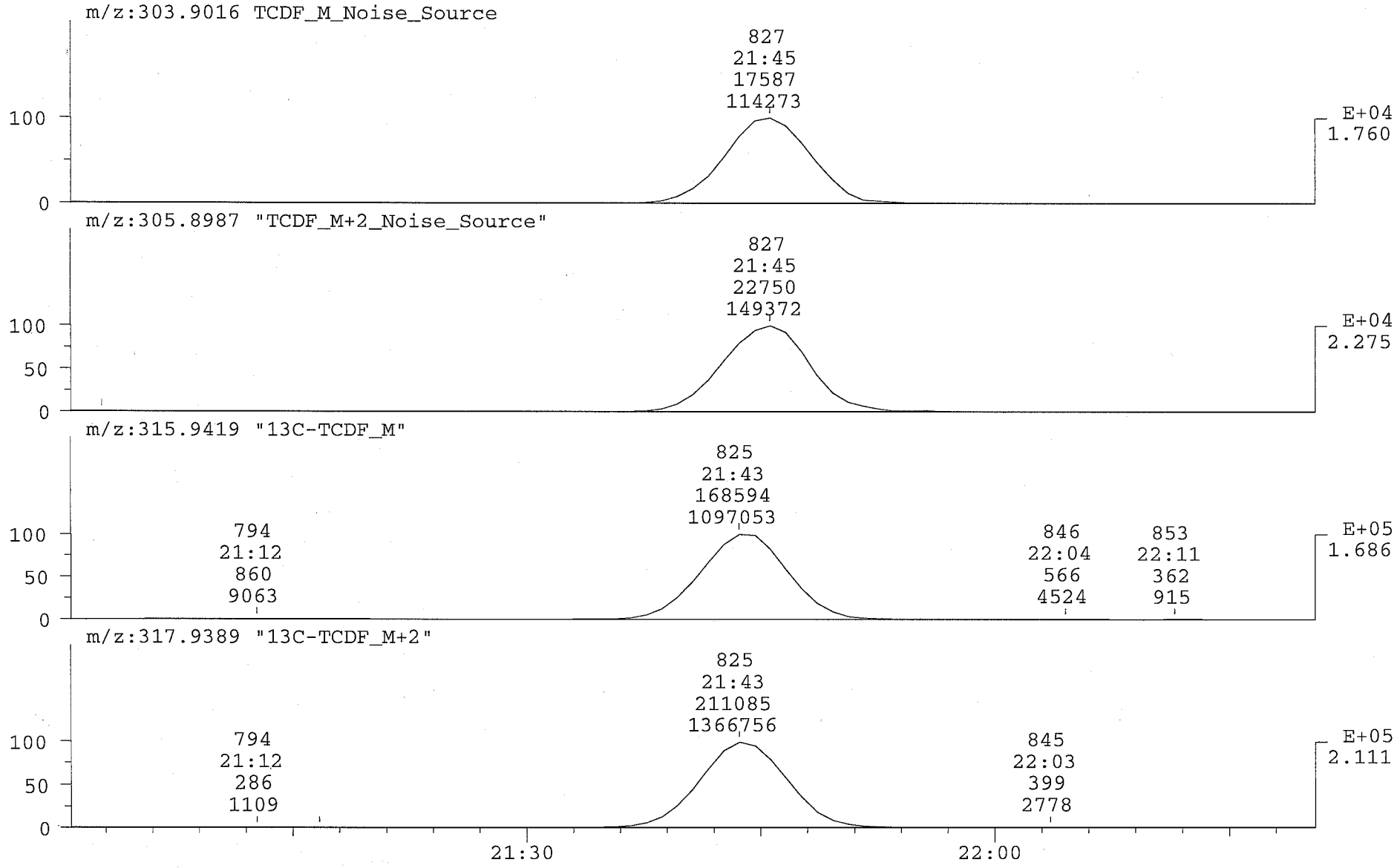
PEAK:

5/8/2006 14:24:35 KNXDXNM301 MAT 95 XP

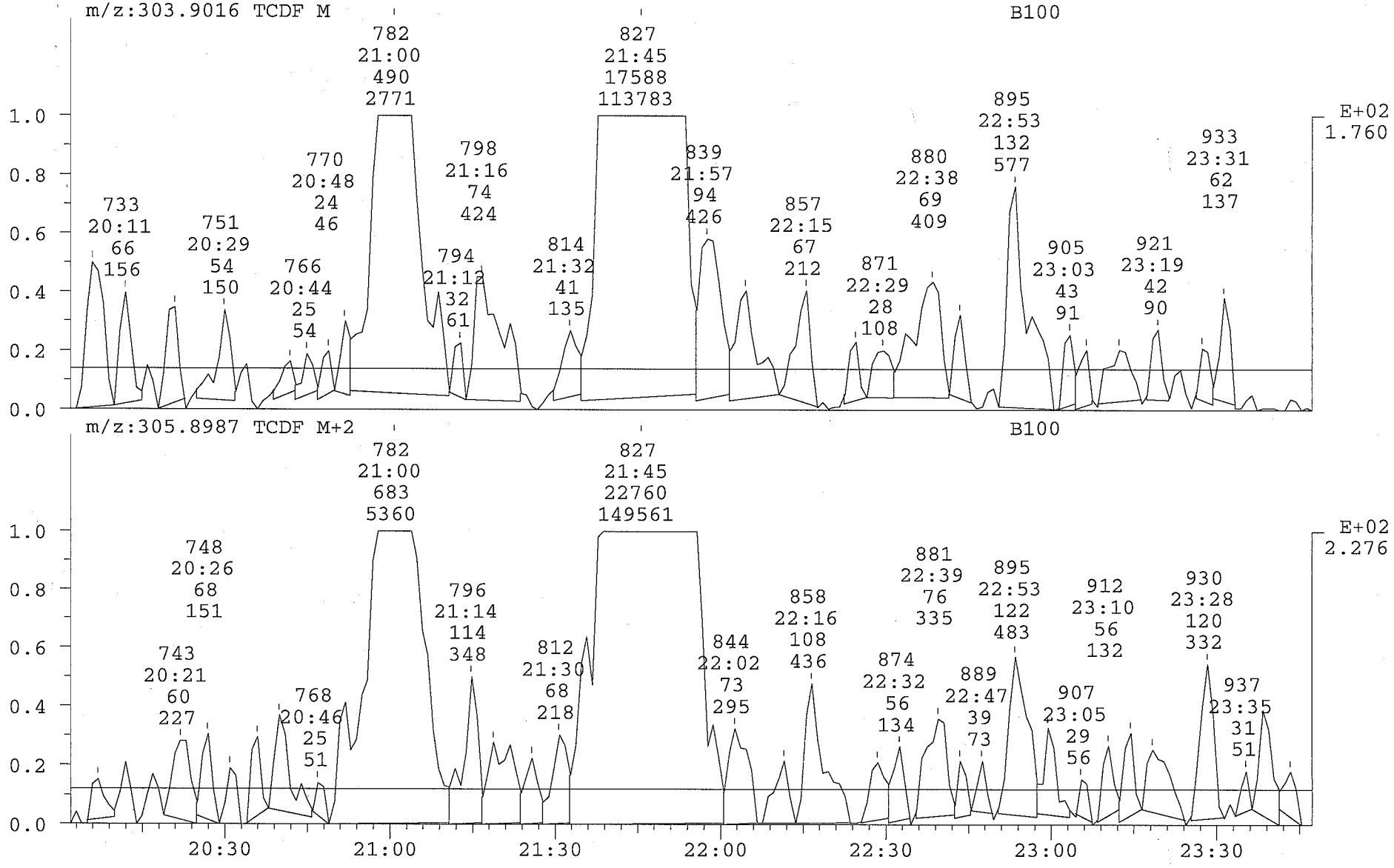
CHRO: c060508s2 08-May-06 Elapse: 19:56.9 717
Samp: Vial 1 WO=3262:44 Meth=X8c Dil=1 Start : 13:54:06 1152
Comm: Inst=m3c/6502634 Batch=20060508s2 Ccal=C060508S1
Mode: EI + Q1MS UP LR Study : Ver
Oper: VMK Client: STL Knoxville Inlet : Vial 1
Peak: 100.00 ppm Label wndw: 650 > 784 Masses: 292 > 376
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



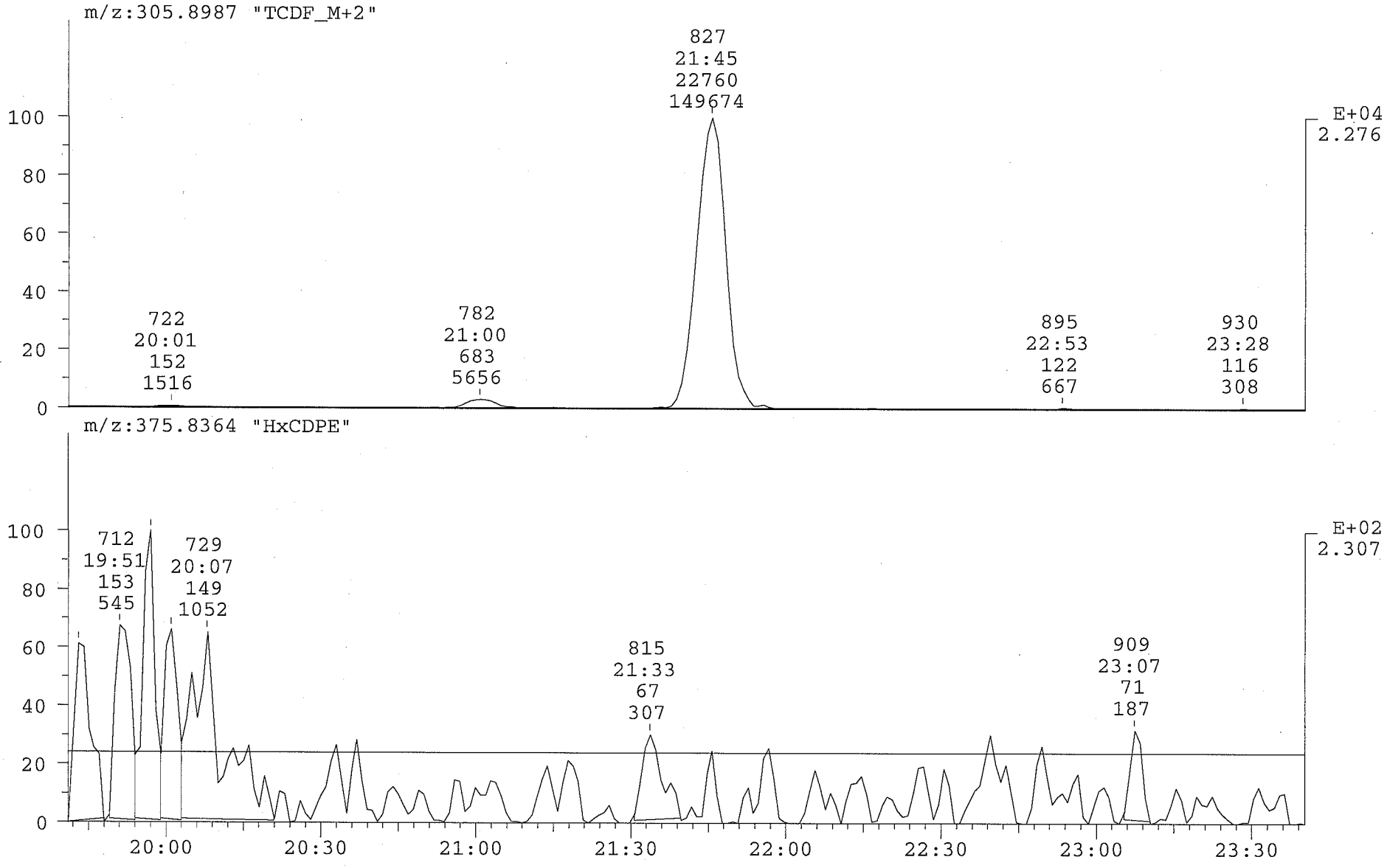
```
CHRO:  c060508s2                                08-May-06  Elapse:  21:40.6      822
Samp:  Vial 1 WO=3262:44 Meth=X8c Dil=1                    Start :  13:54:06    1152
Comm:  Inst=m3c/6502634 Batch=20060508s2 Ccal=C060508S1
Mode:  EI + Q1MS UP LR                                     Study :  Ver
Oper:  VMK            Client:  STL Knoxville               Inlet :          Vial   1
Peak:  100.00  ppm      Label wndw:   782 > 862            Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



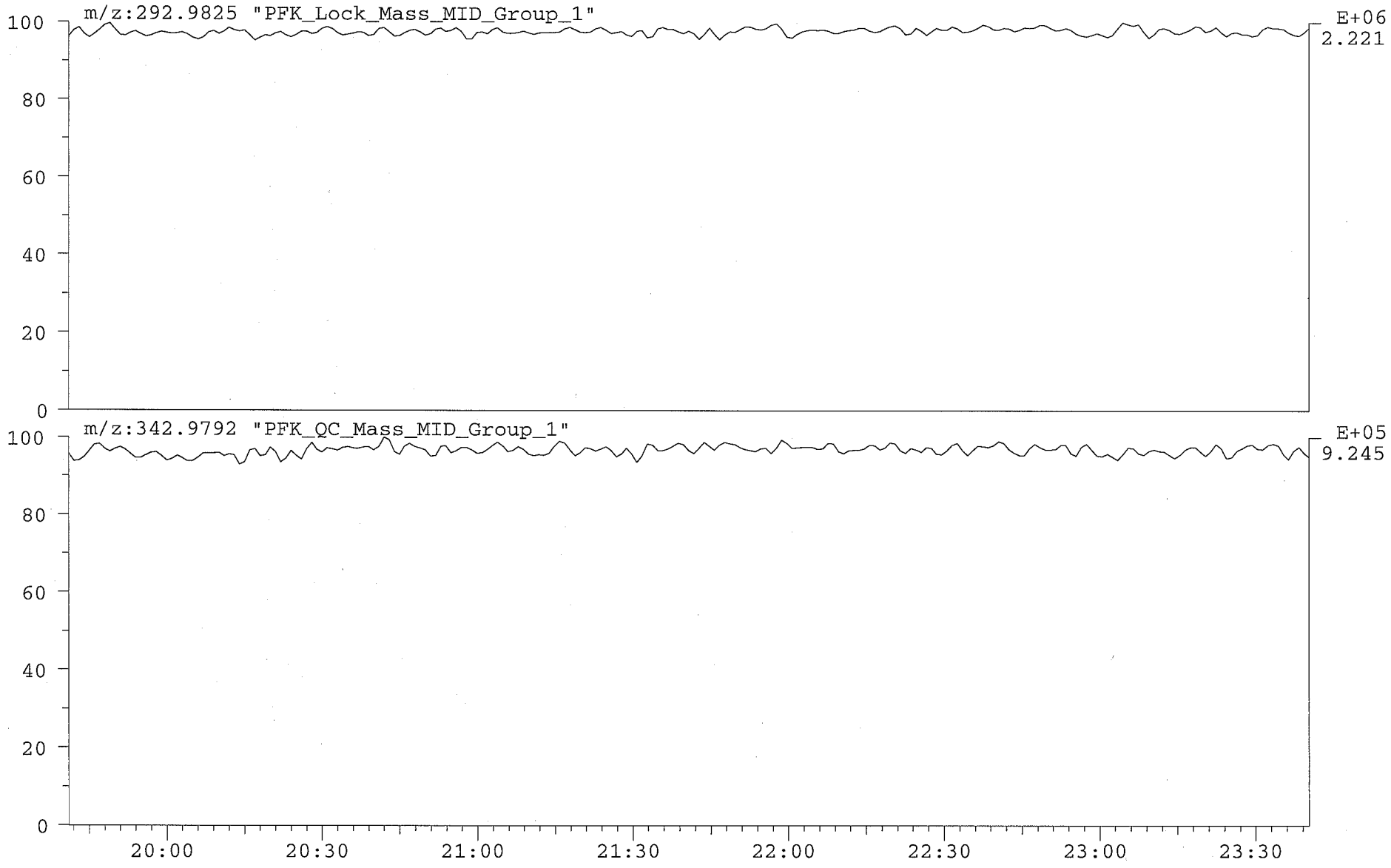
CHRO: c060508s2 08-May-06 Elapse: 21:40.6 822
Samp: Vial 1 WO=3262:44 Meth=X8c Dil=1 Start : 13:54:06 1152
Comm: Inst=m3c/6502634 Batch=20060508s2 Ccal=C060508S1
Mode: EI + Q1MS UP LR Study : Ver
Oper: VMK Client: STL Knoxville Inlet : Vial 1
Peak: 100.00 ppm Label wndw: 723 > 949 Masses: 292 > 376
Area: 5, 0.50, 0 Baseline : 100, 3 Label : -2, 1.0
Disp: Height Area



```
CHRO:  c060508s2                                08-May-06  Elapse:  21:40.6      822
Samp:  Vial 1 WO=3262:44 Meth=X8c Dil=1                    Start :  13:54:06    1152
Comm:  Inst=m3c/6502634 Batch=20060508s2 Ccal=C060508S1
Mode:  EI + Q1MS UP LR                                     Study :  Ver
Oper:  VMK            Client:  STL Knoxville               Inlet :          Vial   1
Peak:  100.00  ppm      Label wndw:   702 > 942            Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  c060508s2                              08-May-06   Elapse:  21:40.6      822
Samp:  Vial 1 WO=3262:44 Meth=X8c Dil=1                   Start :  13:54:06    1152
Comm:  Inst=m3c/6502634 Batch=20060508s2 Ccal=C060508S1
Mode:  EI + Q1MS UP LR                                    Study :  Ver
Oper:  VMK            Client:  STL Knoxville              Inlet :          Vial   1
Peak:  100.00  ppm      Label wndw:   702 > 942           Masses:  292 > 376
Area:  5, 0.50, 15      Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



```
*** file opened Mon May 08 13:54:06 2006 ***

Started by                  - Mat95InstCtrl
Instrument Internet name    - MAT 95 XP
Instrument model            - MAT 95 XP
Instrument service number   - 0000
Workstation internet name   - KNXDXNM301

ICL Version: 11.68
File name: c060508s2
Study: Ver
Sample: WO=3262:44 Meth=X8c Dil=1
Amount:   0.0
Volume:   0.0
Injected volume:   2.0
Operator: VMK
Client: STL Knoxville
Comments: Inst=m3c/6502634 Batch=20060508s2 Ccal=C060508S1
Sample from Vial 1
Analysis will stop when MID run finishes
Tune file name: tune2
MCAL file name: mcal1
Single File
ICL procedure: sleep90 6
  MID procedure: db225


  Mid Time Windows:
        Start        Measure      End        Cycletime
  # 1   8:00 min  22:00 min  30:00 min   1.00 sec

  Mid Masses:
   Window # 1
        mass F  int  gr  time (ms)
    292.9825 l  10  1        8
    303.9016     1  1       84
    305.8987     1  1       84
    315.9419     1  1       84
    317.9389     1  1       84
    319.8965     1  1       84
    321.8936     1  1       84
    327.8847     1  1       84
    331.9368     1  1       84
    333.9338     1  1       84
    342.9792 c  10  1        8
    375.8364     1  1       84

  Auto Sampler descriptor:2ul
   Normal Injection
   Injector A
  Slvnt A cln before inj  (K):    3 times
  Slvnt B cln before inj  (L):    0 times
  Sample rinse cycles     (R):    0 times
  Syringe filling volume  (F):  1.0 ul
  Pullup delay time       (D):    4 sec
  Sample pullup count     (P):    5 times
  Sample pullup speed     (E):  5.0 ul/sec
  Slvnt aftr pre inj cln  (U):  0.0 ul
  Air after pre inj clean (G):  2.0 ul
  Sample volume           (V):  2.0 ul
```

Sample air volume	(A):	2.0	ul
Injection speed	(S):	10.0	ul/sec
Pre injection wait time	(W):	10	sec
Post injectn hold time	(H):	3	sec
Solvent A clean cycles	(C):	5	times
Solvent B clean cycles	(B):	0	times
Loop clean wth slvnt A	(LC):	0	times
Loop clean wth slvnt B	(LB):	0	times
Standard sample volume	(X):	0.0	ul
Standard air volume	(Y):	0.0	ul
2nd Injection volume	(I):	0.0	ul
Air volume 2nd injectn	(J):	0.0	ul
Time btwn 2 injections	(T):	0	sec

GC descriptor: db225

Injector:	270 deg		270 deg max
Transfer Line:	220 deg		230 deg max
Column:	140 deg at	0.0 minutes	230 deg max
	140 deg at	2.0 minutes	
	200 deg at	5.0 minutes	
	230 deg at	20.0 minutes	
	230 deg at	30.0 minutes	

Stabilize time 0.0 minutes

Inlet:

Splitless Mode	
Purge Time	1.50 min
Purge Flow	40.0 ml/min
Gas saver is on	
Saver Time	3.00 min
Saver Flow	15.0 ml/min

Column:

Constant Flow	1.2 ml
Standby Flow	0.5 ml/min

ICL Parameters

ACCU	666.0000	BCORRL	0.0150	BCORRS	0.0130
BFM	2.0000	BLM	2862.8777	BMASS	304.9824
BQUAD	0.0000	CAPIL	0.0000	CAPTEMP	0.0000
CAPTSET	0.0000	CCURR	3.8353	CORONA	0.0000
COUNTING	0.0000	DELAY	0.0000	DITEMP	399.9996
DITSET	0.0000	DRAW	-23.6000	DRAWC	0.0000
DRAWS	0.0000	ECORR	1.0009	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9999	EDACZ	928.5000
ELEN	58.1100	EMULT	1.8500	ENS	238.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	0.0000
ESIPAR	0.0000	EXS	153.0000	FDMA	18000000.0000
FILTER	100.0000	FLENS	1.0000	FM	292.6306
FMII	0.2000	FQUAD	0.0000	FREQ	600.6006
FSLOPE	36000000.0000	FVANAL	83.0000	FVINLET	927.0000
FVSRC	835.0000	FWIN	0.7000	GCTC	229.0000
GCTI	270.0000	GCTL	220.0000	HCURR	1.3039
HVANAL	827.0000	HVSRC	2459.0000	ICAL0	0.0011
ICAL1	0.4030	ICAL2	0.5865	IONEN	4754.5740
IST	269.8026	ISTC	0.0000	ISTCKP	5.0000
ISTCTD	1.0000	ISTCTN	2.0000	ISTCTS	60.0000
ISTCTV	3.0000	ISTS	270.0000	LENS	2527.5000
LENSS	46.2000	LKM	304.9824	LM	800.0000
LMASS	304.9824	LMII	0.2000	MASS	304.9824

MDAC	2017207.9536	MRANGE	2862.8777	MSFM	2.0000
MSLM	3790.0000	NPEAK	12.0000	NSAM	200.0000
NSCAN	1328.0000	NSMAX	8.0000	NSMIN	66.0000
OCT	-2.0000	PSAM	10.0000	PUSHER	-9.3500
RDRAW	0.0000	RDRAWC	0.0000	RECURR	0.0000
RELEN	0.0000	RES	10209.4360	RFAMP	0.0000
RFCUR	0.0000	RPUSHER	0.0000	RWIN	2.0000
SCIDLE	0.0000	SHIELD	1869.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000
SPRAY	0.0000	SS	3.0000	SW	0.0200
TANAL	381.1312	TCURR	0.7031	TD	0.9999
THRESH	2.0000	TIS	0.2000	TREF	150.0000
TS	0.4367	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	0.0000	URATIO	2.4500
UROT	-10.0000	USERVAR	0.0000	UTQ1	150.0000
UTQ2	190.0000	UTQ3	80.0000	VAPTEMP	0.0000
VAPTSET	0.0000	VMASS	304.9824	XLENS	3792.5000
XLENSS	13.3000	YLENS	2357.5000	YLENSS	-12.0000

Scantype is electric
Sourcemode is EI POS

Analysis started at: 08-May-06 13:55:42
MID Window terminated because MID was aborted
Autosampler has injected sample from vial 1
MID Time Window 1: Resolution is 10464.

Amplifier Offset: 90.

Analysis stopped at: 08-May-06 14:22:52 (run time 27.18 minutes)
Analysis stopped because MID run finished

*** File closed Mon May 08 14:22:53 2006 ***

Raw QC Data

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....: H6D170000 - 079B **Work Order #....:** H3EDD1AA **Matrix....:** AIR
Dilution Factor: 1
Prep Date....: 04/17/06 **Analysis Date....:** 05/04/06
Prep Batch # ....: 6107079
Initial Wgt/Vol : 1 Sample **Instrument ID....:** M2A **Method:** SW846 0023A/8290
Analyst ID....: Patricia(Trish) M. Parsly

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	1.5	pg/sampl
Total TCDD	ND		10	1.5	pg/sampl
1,2,3,7,8-PeCDD	ND		50	0.67	pg/sampl
Total PeCDD	ND		50	0.67	pg/sampl
1,2,3,4,7,8-HxCDD	ND		50	0.72	pg/sampl
1,2,3,6,7,8-HxCDD	ND		50	0.71	pg/sampl
1,2,3,7,8,9-HxCDD	**0.80**	**Q J**	**50**	**0.65**	**pg/sampl**
Total HxCDD	**0.80**	**Q J**	**50**	**0.69**	**pg/sampl**
1,2,3,4,6,7,8-HpCDD	ND		50	0.75	pg/sampl
Total HpCDD	ND		50	0.75	pg/sampl
OCDD	**17**	**J**	**100**	**0.70**	**pg/sampl**
2,3,7,8-TCDF	ND		10	1.1	pg/sampl
Total TCDF	ND		10	1.1	pg/sampl
1,2,3,7,8-PeCDF	ND		50	0.50	pg/sampl
2,3,4,7,8-PeCDF	ND		50	0.47	pg/sampl
Total PeCDF	ND		50	0.49	pg/sampl
1,2,3,4,7,8-HxCDF	ND		50	0.46	pg/sampl
1,2,3,6,7,8-HxCDF	ND		50	0.43	pg/sampl
2,3,4,6,7,8-HxCDF	**1.0**	**Q J**	**50**	**0.48**	**pg/sampl**
1,2,3,7,8,9-HxCDF	ND		50	0.51	pg/sampl
Total HxCDF	**1.0**	**Q J**	**50**	**0.47**	**pg/sampl**
1,2,3,4,6,7,8-HpCDF	**1.2**	**Q J**	**50**	**0.61**	**pg/sampl**
1,2,3,4,7,8,9-HpCDF	**1.1**	**J**	**50**	**0.71**	**pg/sampl**
Total HpCDF	**2.3**	**Q J**	**50**	**0.65**	**pg/sampl**
OCDF	**4.5**	**J**	**100**	**0.81**	**pg/sampl**

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H6D170000 - 079B	**Work Order #....:**	H3EDD1AA	**Matrix....:**	AIR
Dilution Factor:	1				
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107079				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	101	40 - 135
13C-1,2,3,7,8-PeCDD	120	40 - 135
13C-1,2,3,6,7,8-HxCDD	99	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	113	40 - 135
13C-OCDD	103	40 - 135
13C-2,3,7,8-TCDF	102	40 - 135
13C-1,2,3,7,8-PeCDF	112	40 - 135
13C-1,2,3,6,7,8-HxCDF	91	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	99	40 - 135

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

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IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H3EDD1AA	**Prep Batch**	6107079	**Lot No**	H6D170000-079
Data File	/20060503s3/bth3eddb.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90487	**Prep Exp Date**	04/27/06	**Date Received**	04/17/06
Analysis Date	5/4/2006	**Matrix**	AIR	**Date Sampled**	03/28/06
Analysis Time	04:05	**Initial Wt/Vol**	1	**Lims Test Code**	XXSINX801
Anal Exp Date	06/01/06	**Extract Vol**	20	**Method**	0023/8290
Instrument	M2A	**Dil Factor**	1.0	**Code**	X8
Analyst	PMP				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (pg/sample		DL (pg/samp
2,3,7,8-TCDD				1.060				ND		1.50
Total TCDD				1.060				ND		1.50
2,3,7,8-TCDF				1.064				ND		1.06
Total TCDF				1.064				ND		1.06
1,2,3,7,8-PeCDD				0.977				ND		0.669
Total PeCDD				0.977				ND		0.669
1,2,3,7,8-PeCDF				0.955				ND		0.504
2,3,4,7,8-PeCDF				1.018				ND		0.473
Total PeCDF				0.987				ND		0.488
1,2,3,4,7,8-HxCDD				1.047				ND		0.716
1,2,3,6,7,8-HxCDD				1.055				ND		0.711
1,2,3,7,8,9-HxCDD	47:46	1288	262	1.146		0.797387		0.797387	QJ	0.655
Total HxCDD				1.083		0.797387		0.797387	QJ	0.693
1,2,3,4,7,8-HxCDF				1.101				ND		0.459
1,2,3,6,7,8-HxCDF				1.184				ND		0.427
2,3,4,6,7,8-HxCDF	47:03	1893	578	1.052		1.026038		1.026038	QJ	0.480
1,2,3,7,8,9-HxCDF				0.982				ND		0.515
Total HxCDF				1.080		1.026038		1.026038	QJ	0.468
1,2,3,4,6,7,8-HpCDD				1.018				ND		0.747
Total HpCDD				1.018				ND		0.747
1,2,3,4,6,7,8-HpCDF	50:37	2250	575	1.403		1.166570		1.166570	QJ	0.605
1,2,3,4,7,8,9-HpCDF	52:58	1817	531	1.197		1.104680		1.104680	J	0.710
Total HpCDF				1.300		2.271250		2.271250	QJ	0.653
OCDD	56:42	22183	5972	0.965		17.332739		17.332739	J	0.701
OCDF	56:49	6517	1499	1.103		4.452229		4.452229	J	0.811
13C-2,3,7,8-TCDD	35:17	1663592	181043	1.068	1000	1013.01664	101.30	1013.01664		5.09
13C-2,3,7,8-TCDF	33:03	2219312	238331	1.413	1000	1021.13113	102.11	1021.13113		2.28
13C-1,2,3,7,8-PeCDD	43:01	1630397	455082	0.882	1000	1202.27329	120.23	1202.27329		2.33
13C-1,2,3,7,8-PeCDF	41:27	2052727	503995	1.188	1000	1123.58182	112.36	1123.58182		1.54
13C-1,2,3,6,7,8-HxCDD	47:21	1409781	373263	0.943	1000	987.572757	98.76	987.572757		0.968
13C-1,2,3,6,7,8-HxCDF	46:17	1752906	479602	1.272	1000	910.580493	91.06	910.580493		0.639
13C-1,2,3,4,6,7,8-HpCDD	52:20	1569577	361663	0.918	1000	1129.40444	112.94	1129.40444		0.762
13C-1,2,3,4,6,7,8-HpCDF	50:36	1374500	294383	0.916	1000	991.425760	99.14	991.425760		0.839
13C-OCDD	56:39	2653192	709678	0.850	2000	2063.00126	103.15	2063.00126		0.868
37Cl4-2,3,7,8-TCDD				1.046	2000			ND		0.990
13C-2,3,4,7,8-PeCDF				1.010	2000			ND		0.560
13C-1,2,3,4,7,8-HxCDD				0.902	2000			ND		1.08
13C-1,2,3,4,7,8-HxCDF				0.988	2000			ND		0.686
13C-1,2,3,7,8,9-HxCDF				1.113				ND		0.730
13C-1,2,3,4,7,8,9-HpCDF				0.912	2000			ND		1.15
13C-1,2,3,4-TCDD	34:43	3075355	312002	1.000	2000	2000.00000	100.00	2000.00000		5.43
13C-1,2,3,7,8,9-HxCDD	47:45	3026764	799784	1.000	2000	2000.00000	100.00	2000.00000		0.913

BW 5/4/06
PMP 5-6-06

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IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H3EDD1AA	Prep Batch	6107079	Lot No	H6D170000-079
Data File	/20060503s3/bth3eddb.d	Prep Date	04/17/06	SDG No	
Analysis ID	90487	Prep Exp Date	04/27/06	Date Received	04/17/06
Analysis Date	05/04/06 04:05	Matrix	AIR	Date Sampled	03/28/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSINX801
Instrument	M2A	Extract Vol	20 uL	Method	0023/8290
Analyst	PMP	Diluton Factor	1.00	Code	X8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	110	158	44	63	0.70	/	
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	230	273	92	109	0.84	/	
	13C-2,3,7,8-TCDF	33:03	33:05	-2	980956	1238356	106180	132151	0.79	ABV/ABV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	138	150	55	60	0.92 *	/	
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	188		75				
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	608	240	243	96	2.53 *	/	
	13C-1,2,3,4-TCDD	34:43	34:43	0	1360425	1714930	136280	175722	0.79	AVV/ABV	
	13C-2,3,7,8-TCDD	35:17	35:16	1	738993	924599	80015	101028	0.80	AVV/AVV	
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**		
	Noise	00:00	00:00	0	93	150	37	60	0.62 *	/	
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**		
	Noise	00:00	00:00	0	143	143	57	57	1.00 *	/	
	13C-1,2,3,7,8-PeCDF	41:27	41:26	1	1251856	800871	307653	196342	1.56	ABV/ABV	
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**		
	Noise	00:00	00:00	0	153	145	61	58	1.05 *	/	
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**		
	Noise	00:00	00:00	0	168	153	67	61	1.10 *	/	
	13C-1,2,3,7,8-PeCDD	43:01	43:00	1	993806	636591	275358	179724	1.56	ABV/ABV	
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	Noise	00:00	00:00	0	138	105	55	42	1.31	/	
	2,3,4,6,7,8-HxCDF	47:03	47:02	1	1294	845	278	258	1.53 *	ABB/ABB	R
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**		
	Noise	00:00	00:00	0	143	183	57	73	0.78 *	/	
	13C-1,2,3,6,7,8-HxCDF	46:17	46:15	2	599575	1153331	165168	314434	0.52	AVV/AVV	
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	Noise	00:00	00:00	0	115	165	46	66	0.70 *	/	
	1,2,3,7,8,9-HxCDD	47:46	47:46	0	713	898	145	338	0.79 *	ABB/MBB	R
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**		
	Noise	00:00	00:00	0	145	220	58	88	0.66 *	/	
	13C-1,2,3,6,7,8-HxCDD	47:21	47:20	1	779595	630186	208611	164652	1.24	ABV/AVB	
	13C-1,2,3,7,8,9-HxCDD	47:45	47:45	0	1674136	1352628	442415	357369	1.24	AVV/ABV	
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**		
	Noise	00:00	00:00	0	115	135	46	54	0.85 *	/	
	1,2,3,4,6,7,8-HpCDF	50:37	50:37	0	1737	1103	397	282	1.57 *	ABB/ABB	R
	1,2,3,4,7,8,9-HpCDF	52:58	52:58	0	941	876	223	308	1.07	ABB/ABB	
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	Noise	00:00	00:00	0	175	133	70	53	1.32 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	50:36	50:36	0	433512	940988	92816	201567	0.46	ABV/ABV	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H3EDD1AA	Prep Batch	6107079	Lot No	H6D170000-079
Data File	/20060503s3/bth3eddb.d	Prep Date	04/17/06	SDG No	
Analysis ID	90487	Prep Exp Date	04/27/06	Date Received	04/17/06
Analysis Date	05/04/06 04:05	Matrix	AIR	Date Sampled	03/28/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSINX801
Instrument	M2A	Extract Vol	20 uL	Method	0023/8290
Analyst	PMP	Diluton Factor	1.00	Code	X8

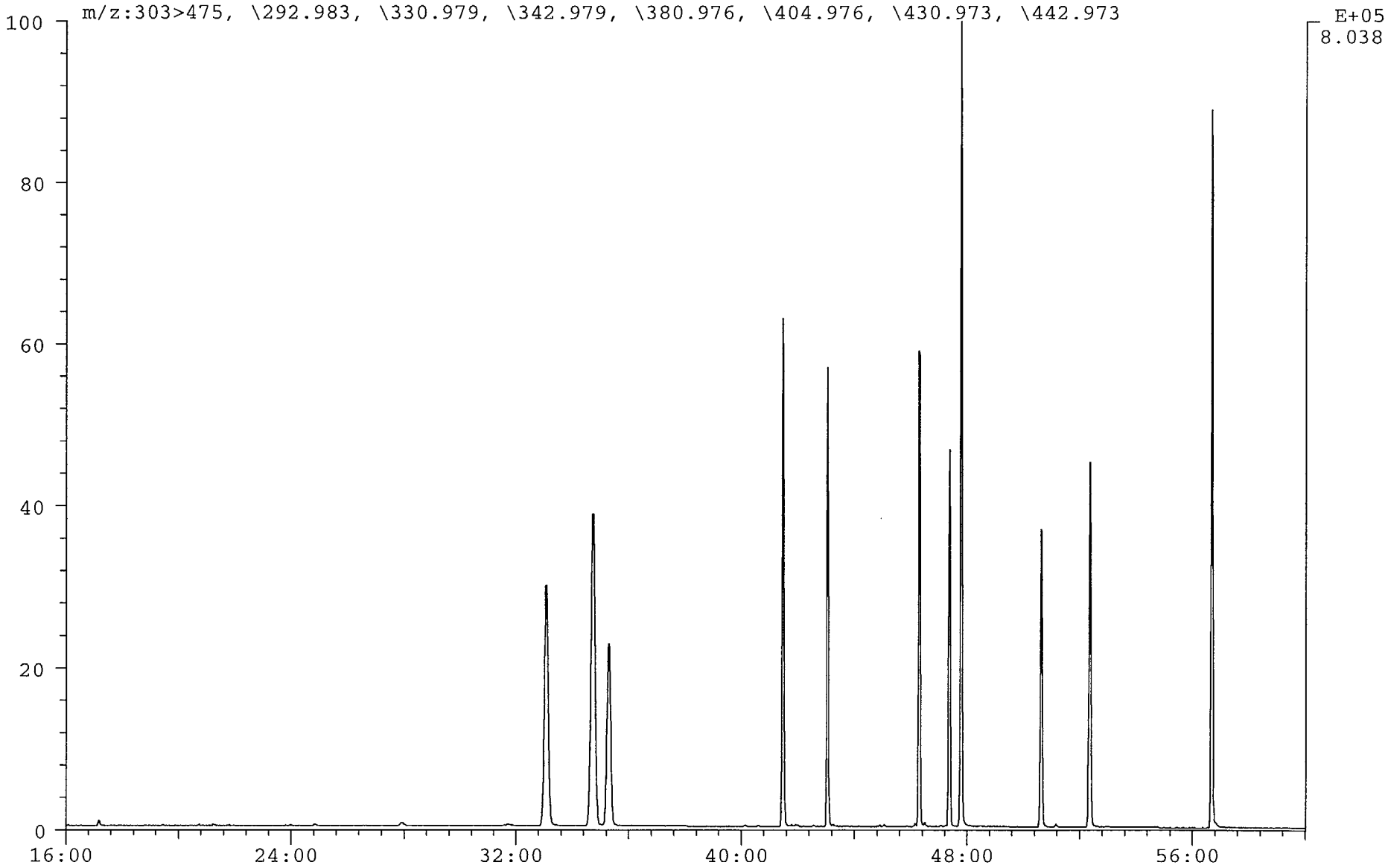
View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration Flags
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**	
	Noise	00:00	00:00	0	163	113	65	45	1.44 *	/
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**	
	Noise	00:00	00:00	0	173	108	69	43	1.60 *	/
	13C-1,2,3,4,6,7,8-HpCDD	52:20	52:20	0	807298	762279	184992	176671	1.06	ABV/ABV
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**	
	Noise	00:00	00:00	0	143	175	57	70	0.81	/
	OCDF	56:49	56:49	0	2979	3538	774	725	0.84	ABB/ABB
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**	
	Noise	00:00	00:00	0	108	133	43	53	0.81	/
	OCDD	56:42	56:40	2	10589	11594	2626	3346	0.91	MBB/MBV
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**	
	Noise	00:00	00:00	0	145	150	58	60	0.97	/
	13C-OCDD	56:39	56:39	0	1257423	1395769	332487	377191	0.90	ABV/ABV

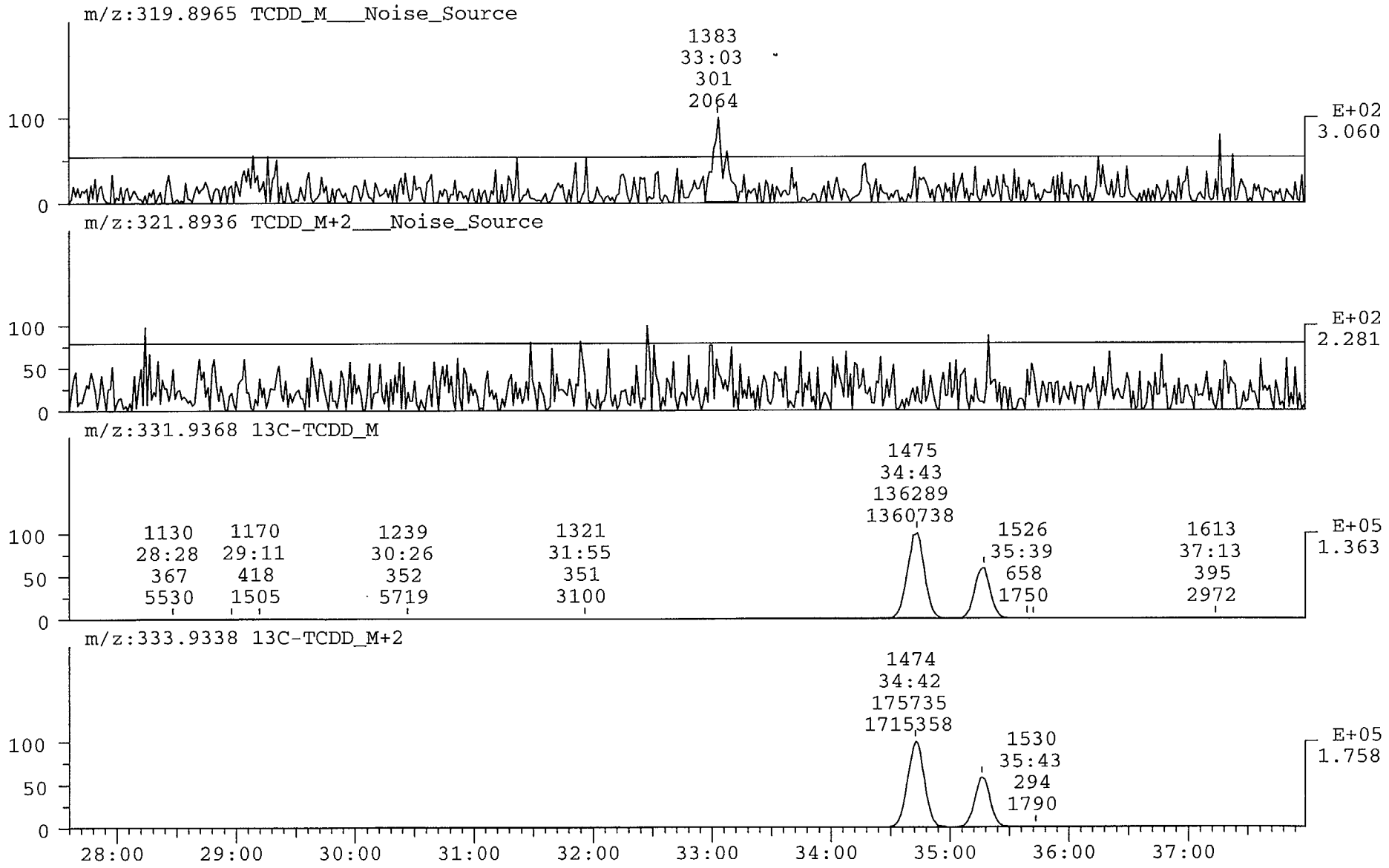
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

CHRO: bth3eddb 04-May-06 Elapse: 56:45 2707
Samp: Vial 9 WO=h3edd1aa Meth=X8 Dil=1 Start : 04:05:23 2891
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D170000-079B Inlet : GC Vial 9
Peak: 100.00 ppm Label wndw: 442 > 2891 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

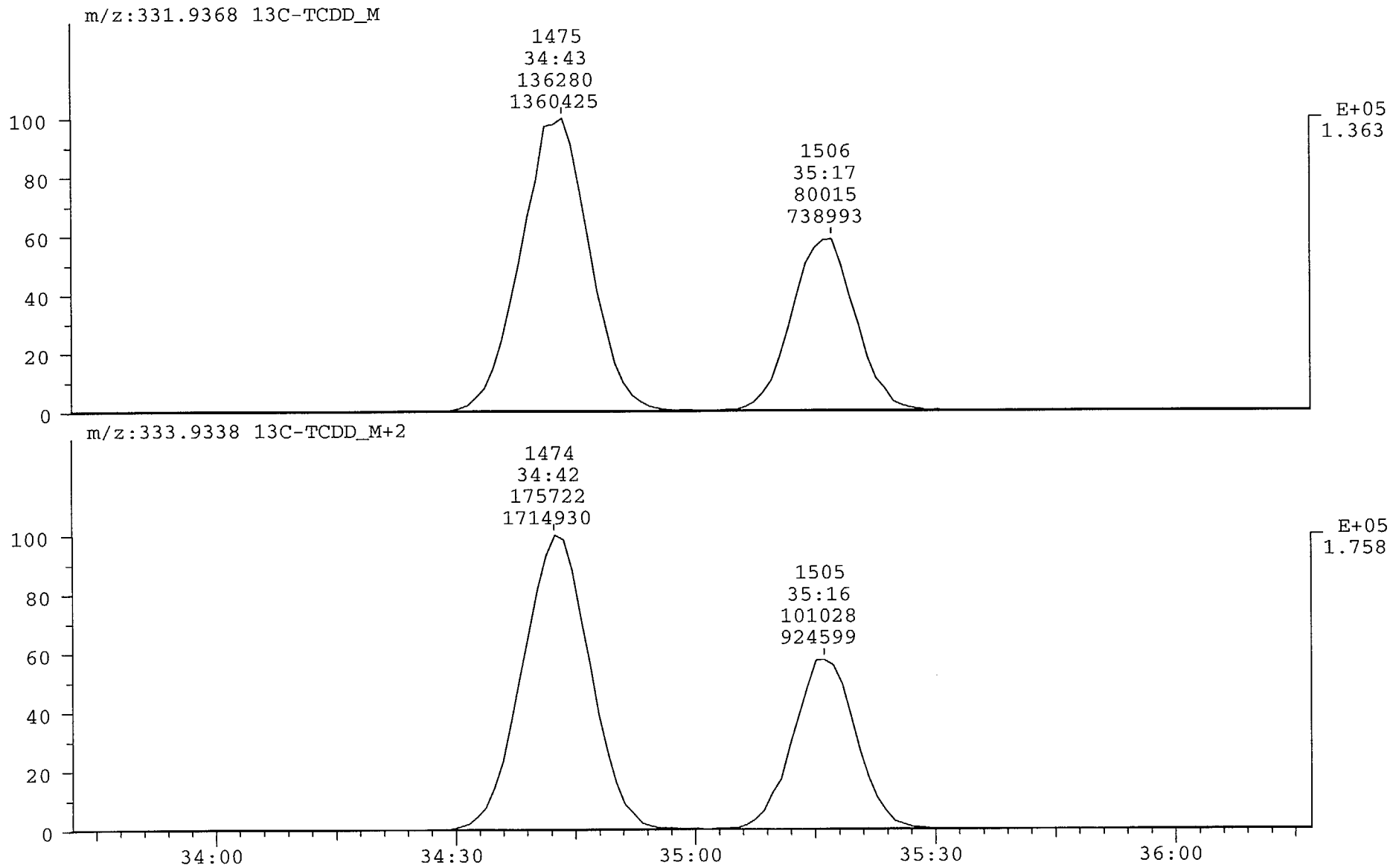
Int BKW 5/4/06
Calc BKW 5/4/06
QC/Rev PMP 5-6-06



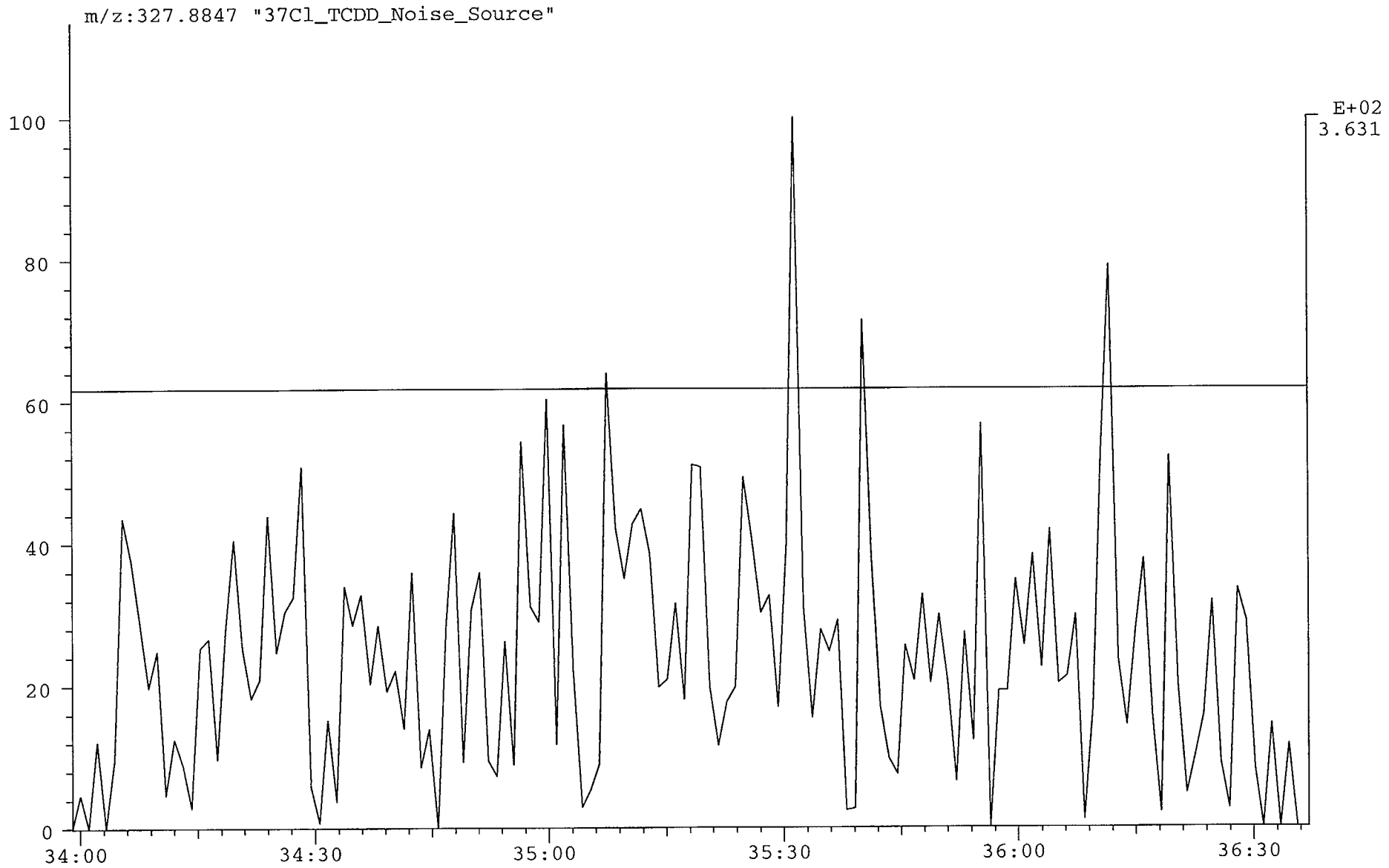
CHRO: bth3eddb 04-May-06 Elapse: 56:45 2707
Samp: Vial 9 WO=h3edd1aa Meth=X8 Dil=1 Start : 04:05:23 2891
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D170000-079B Inlet : GC Vial 9
Peak: 100.00 ppm Label wndw: 1082 > 1655 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



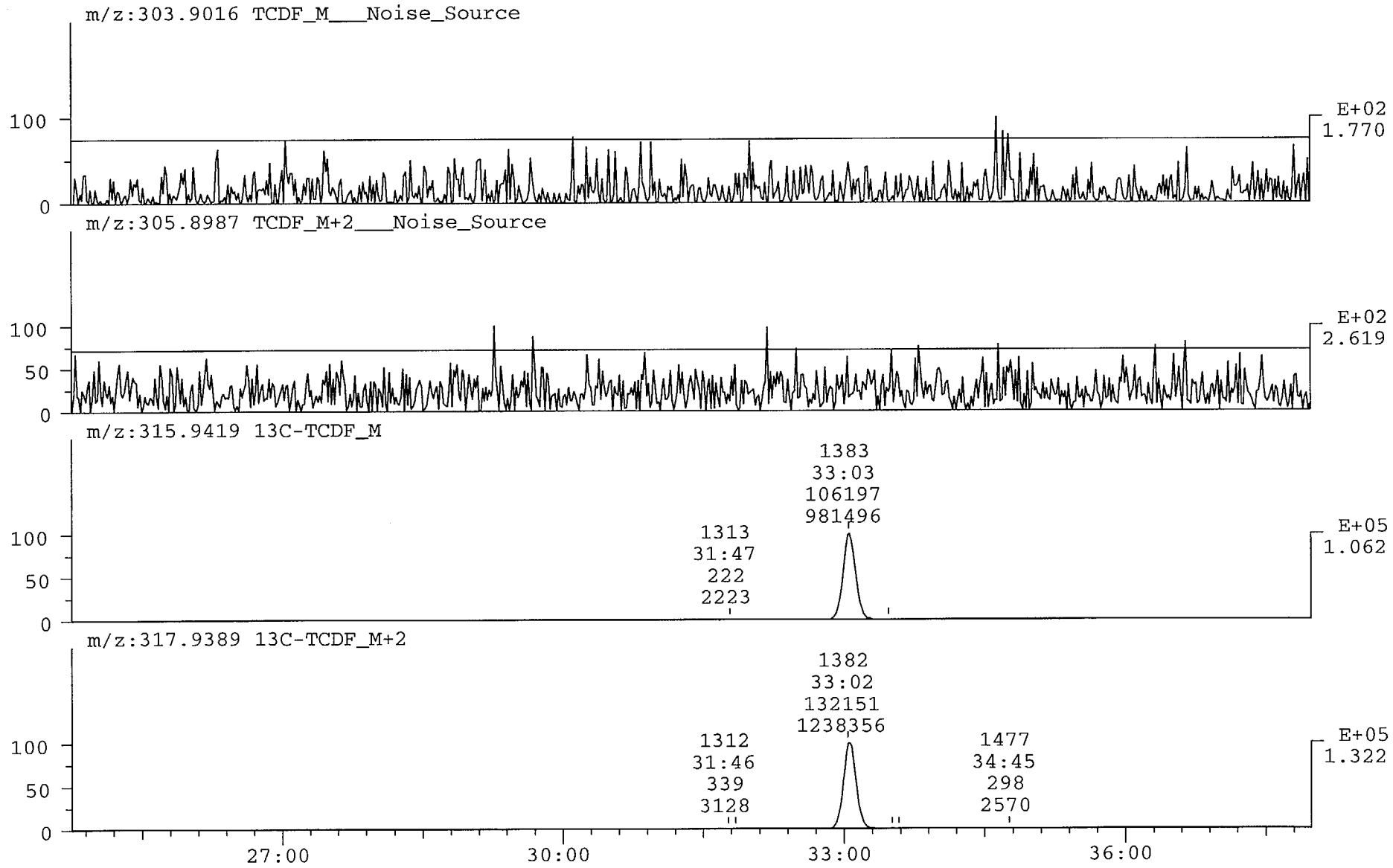
```
CHRO:  bth3eddb                                  04-May-06   Elapse:  34:58      1489
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                      Start :  04:05:23   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079B                Inlet :  GC     Vial   9
Peak:  100.00  ppm      Label wndw:   1418 > 1561            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



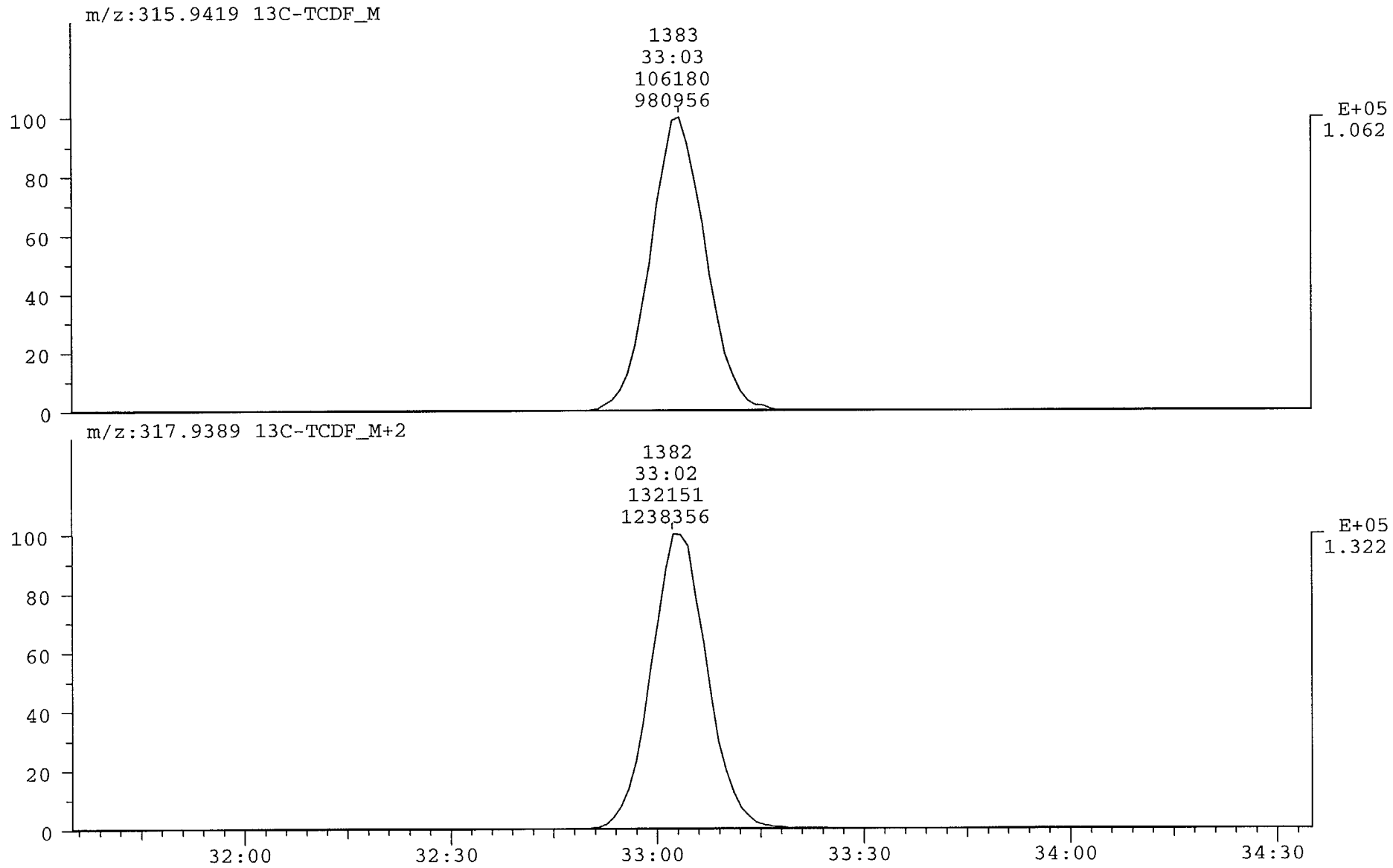
```
CHRO:  bth3eddb                                04-May-06   Elapse:  35:15      1504
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                    Start :  04:05:23   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079B              Inlet :  GC     Vial   9
Peak:  100.00  ppm      Label wndw:   1434 > 1579          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



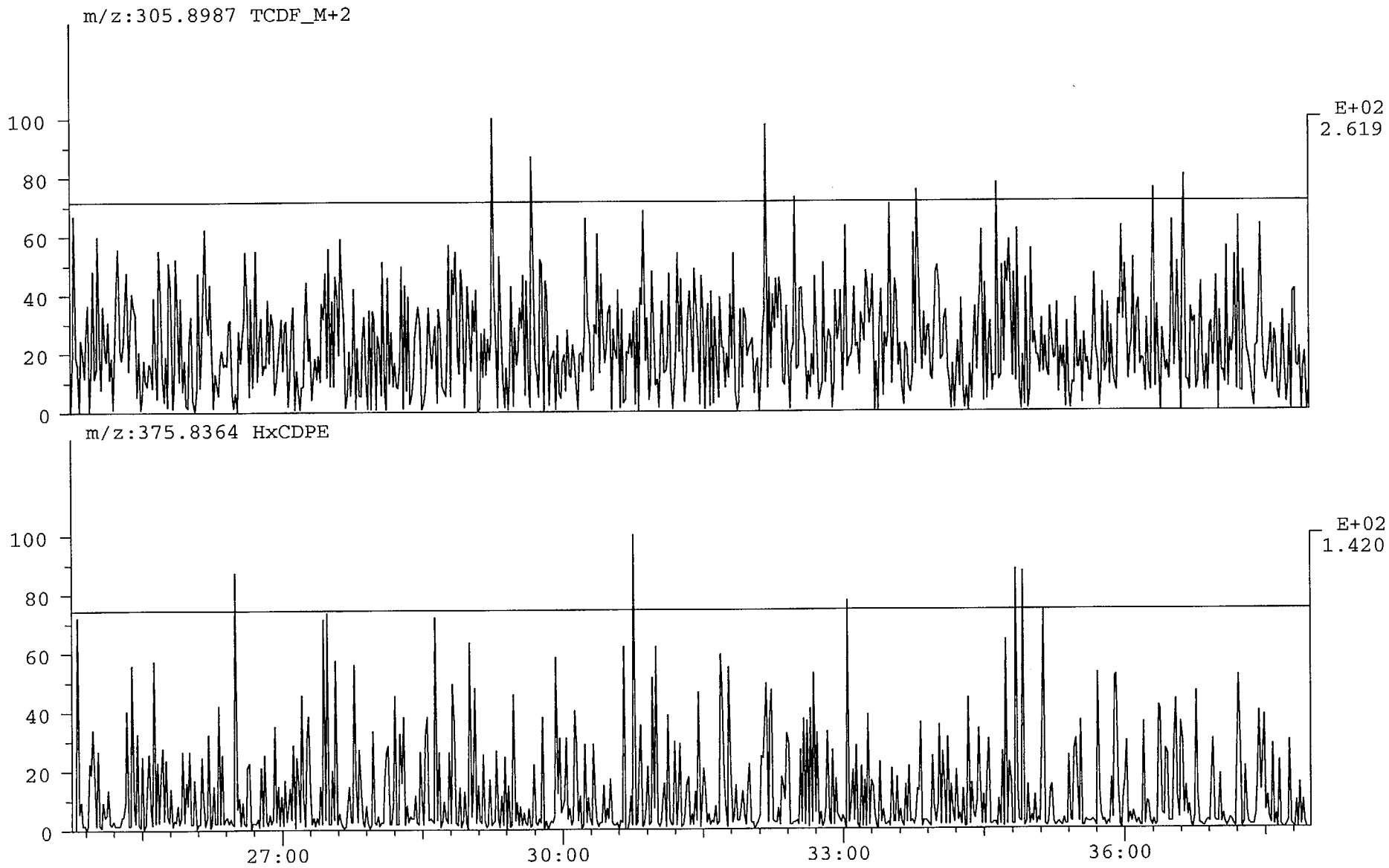
```
CHRO:  bth3eddb                                04-May-06  Elapse:  35:15      1504
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                   Start :  04:05:23   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079B             Inlet :  GC     Vial   9
Peak:  100.00  ppm      Label wndw:   925 > 1655          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



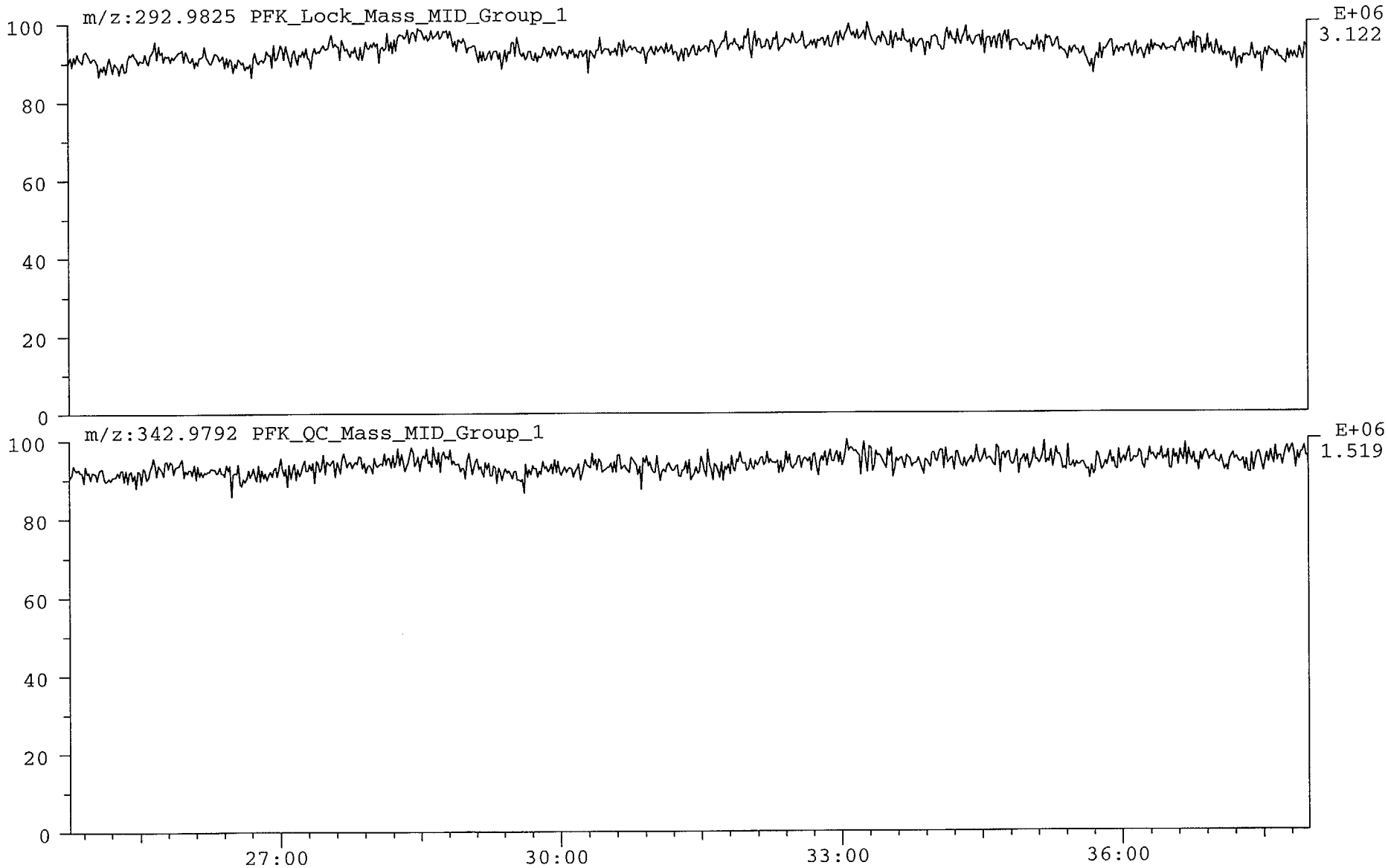
```
CHRO:  bth3eddb                                  04-May-06  Elapse:  33:02      1382
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                     Start :  04:05:23   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                            Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079B               Inlet :  GC     Vial   9
Peak:  100.00  ppm      Label wndw:   1302 > 1467           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



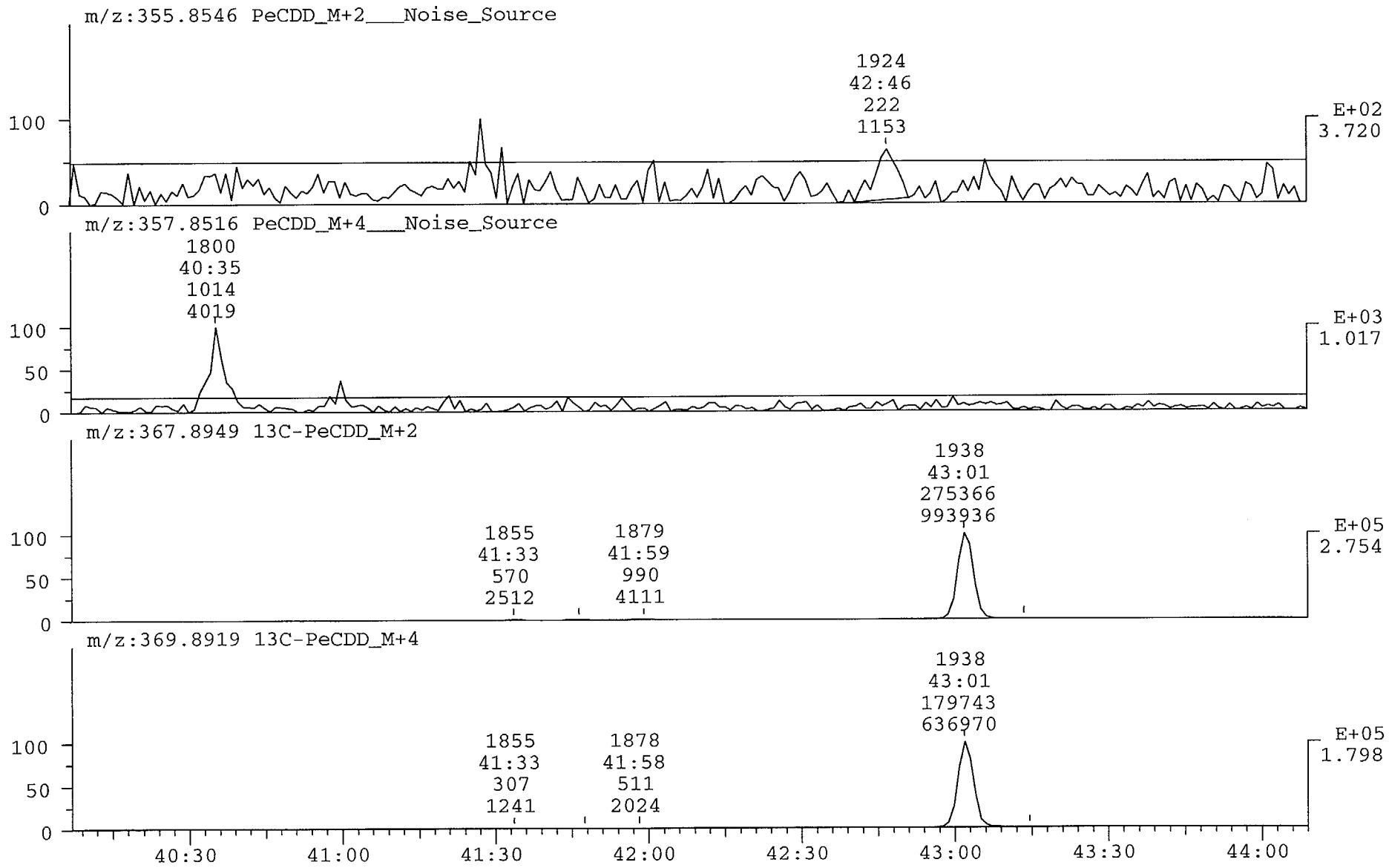
```
CHRO:  bth3eddb                                  04-May-06   Elapse:  33:02       1382
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                      Start :  04:05:23    2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079B                Inlet :  GC     Vial   9
Peak:  100.00  ppm      Label wndw:   925 > 1655             Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



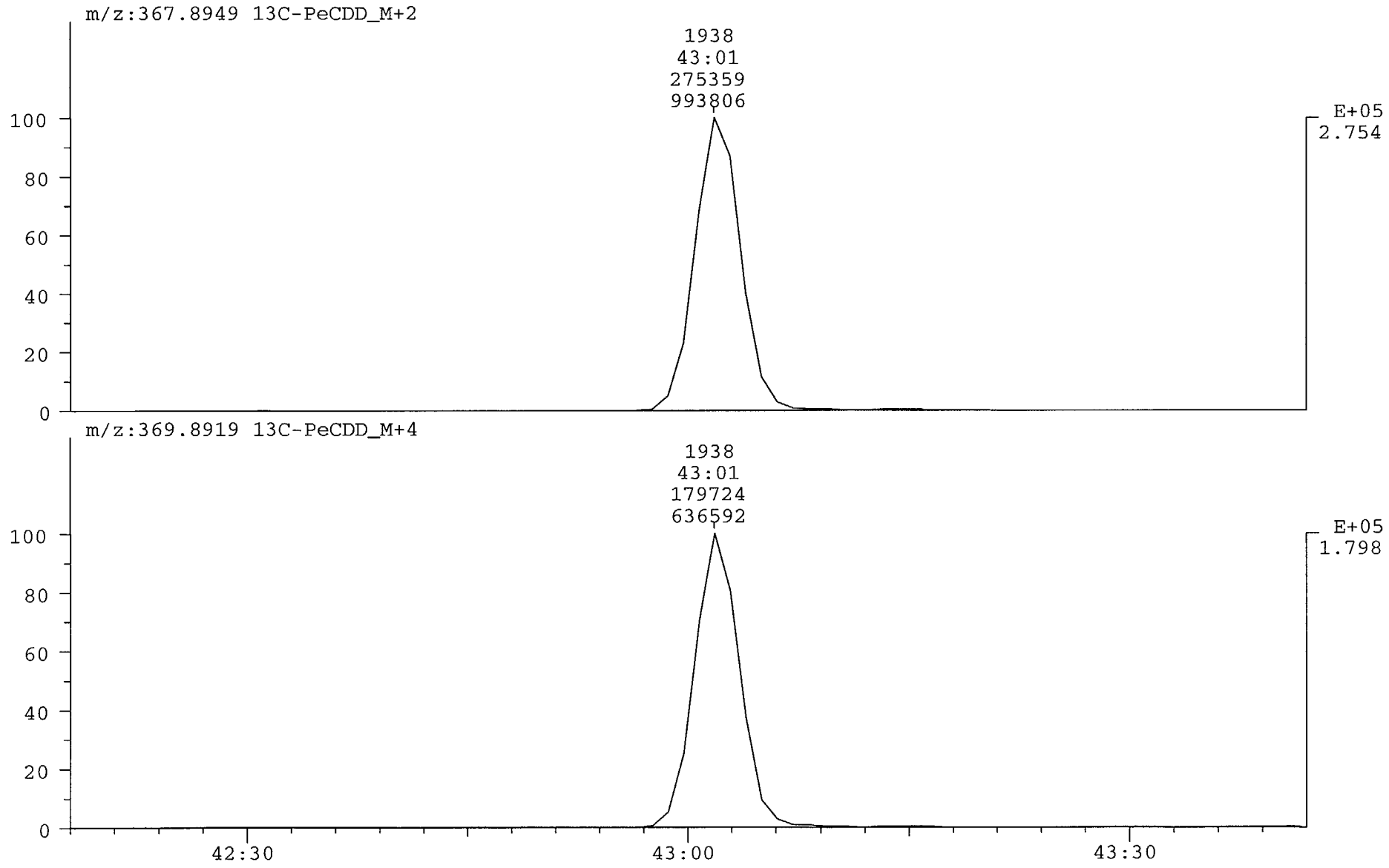
```
CHRO:  bth3eddb                                04-May-06  Elapse:  33:02      1382
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                   Start :  04:05:23   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107079 (air)
Oper:  PMP          Client:  H6D170000-079B               Inlet :  GC     Vial   9
Peak:  100.00  ppm     Label wndw:   925 > 1655           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
```



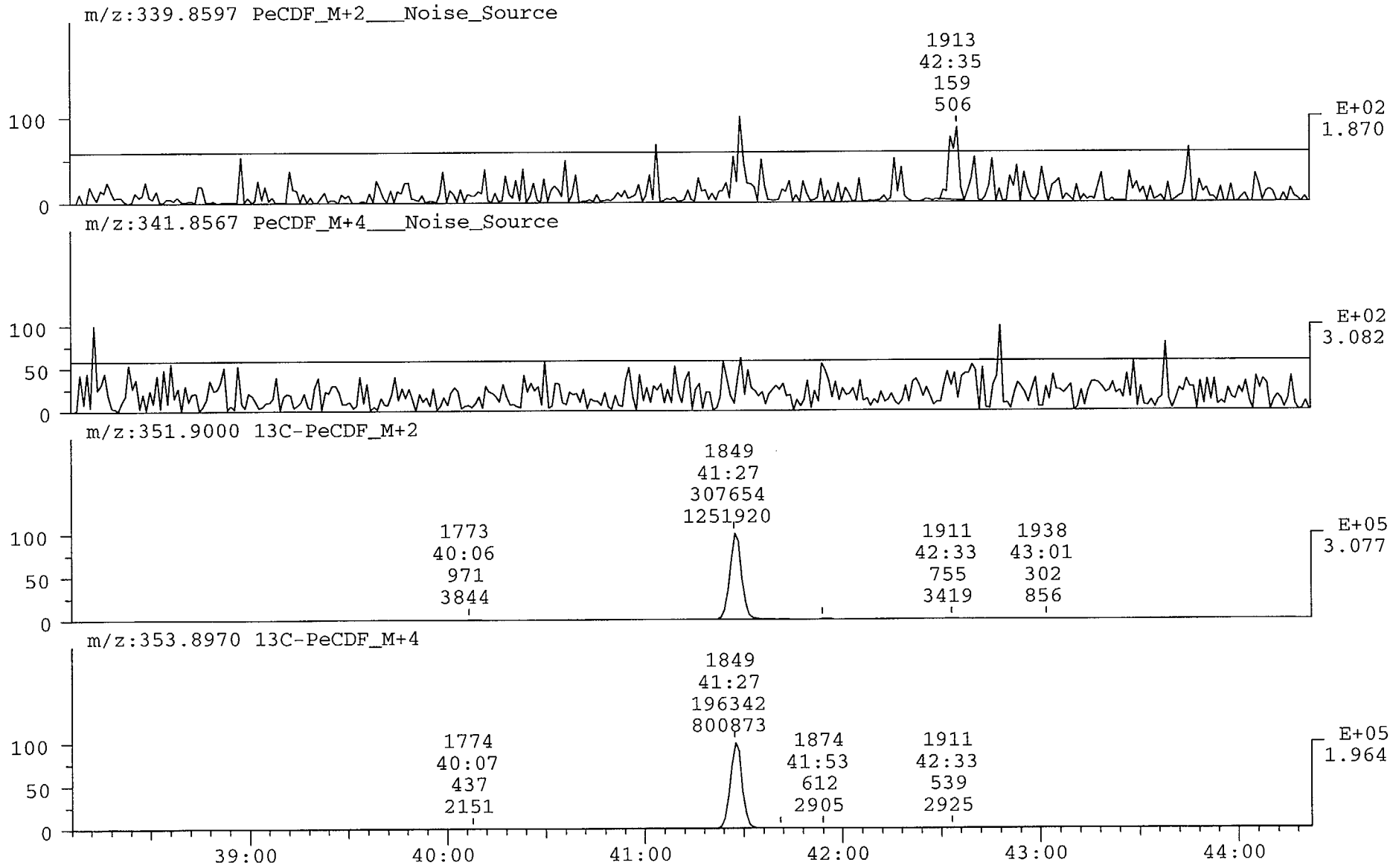
CHRO: bth3eddb 04-May-06 Elapse: 33:02 1382
Samp: Vial 9 WO=h3edd1aa Meth=X8 Dil=1 Start : 04:05:23 2891
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D170000-079B Inlet : GC Vial 9
Peak: 100.00 ppm Label wndw: 1773 > 2001 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



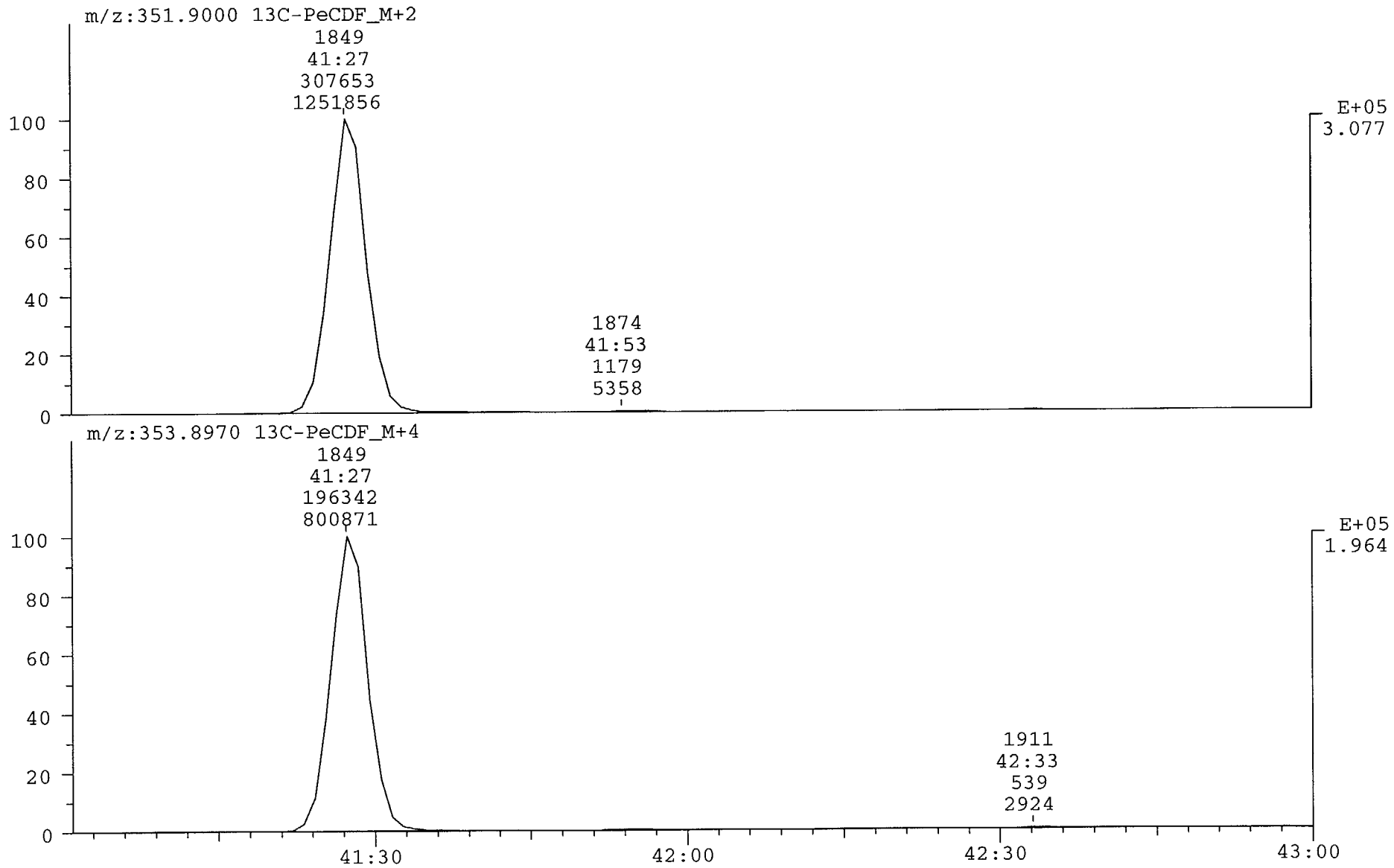
```
CHRO:  bth3eddb                                04-May-06  Elapse:  42:56      1933
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                   Start :  04:05:23   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107079 (air)
Oper:  PMP          Client:  H6D170000-079B               Inlet :  GC     Vial   9
Peak:  100.00  ppm     Label wndw:   1897 > 1976          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



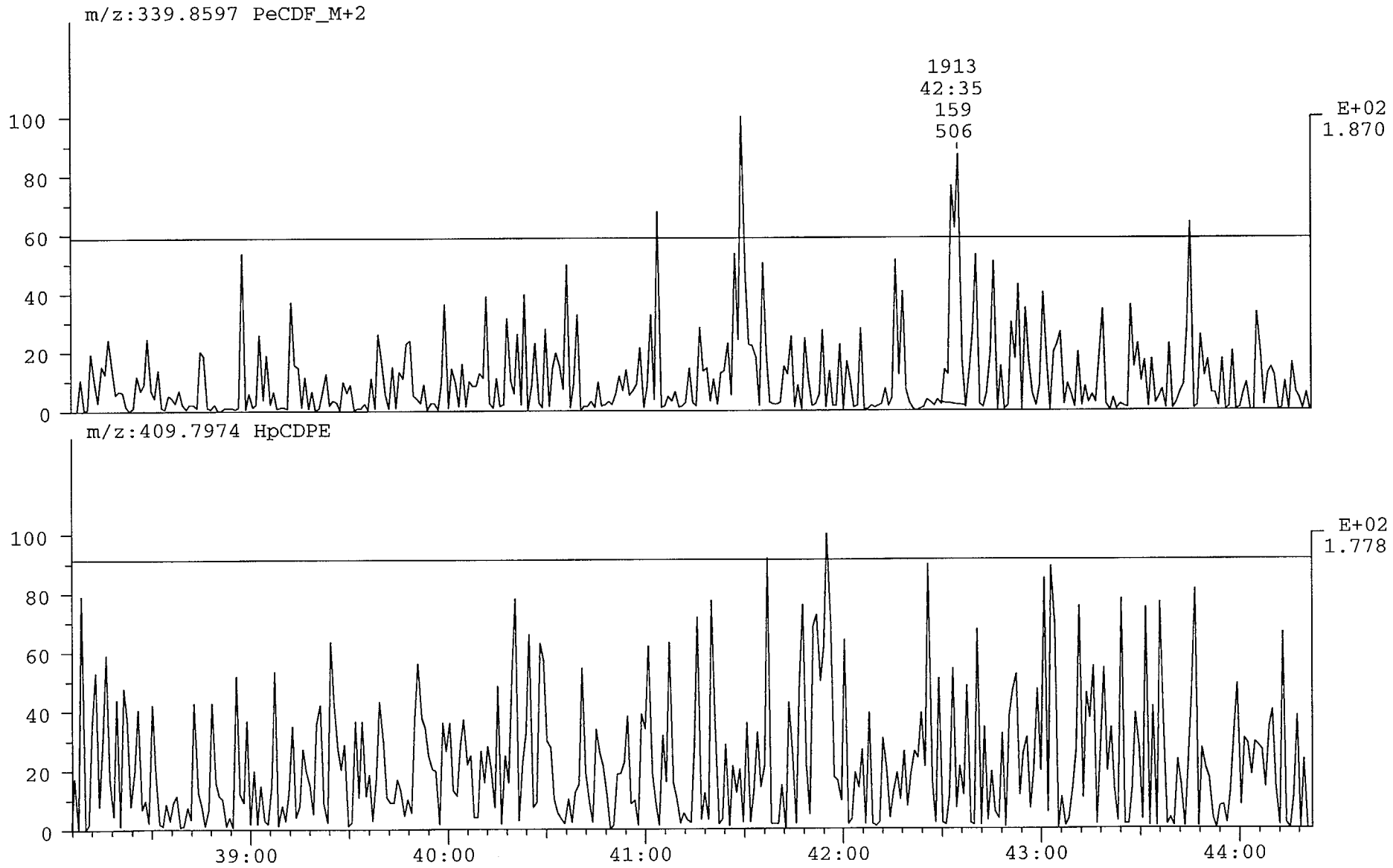
```
CHRO:  bth3eddb                                  04-May-06   Elapse:  42:56      1933
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                      Start :  04:05:23   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079B                Inlet :  GC     Vial   9
Peak:  100.00  ppm      Label wndw:   1659 > 2014            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



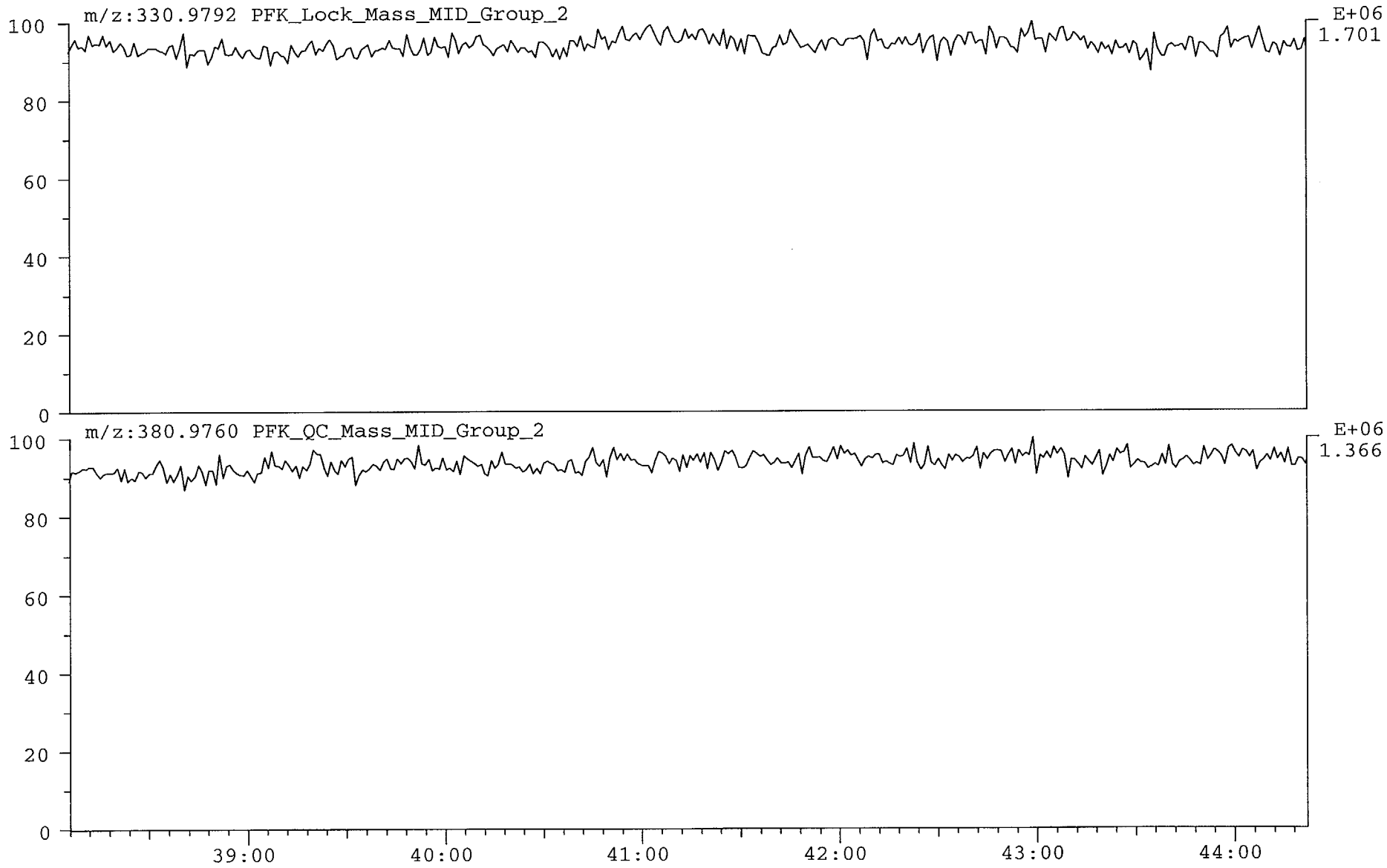
```
CHRO:  bth3eddb                                  04-May-06   Elapse:  42:00      1880
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                      Start :  04:05:23   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079B                Inlet :  GC     Vial   9
Peak:  100.00  ppm      Label wndw:   1824 > 1936            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



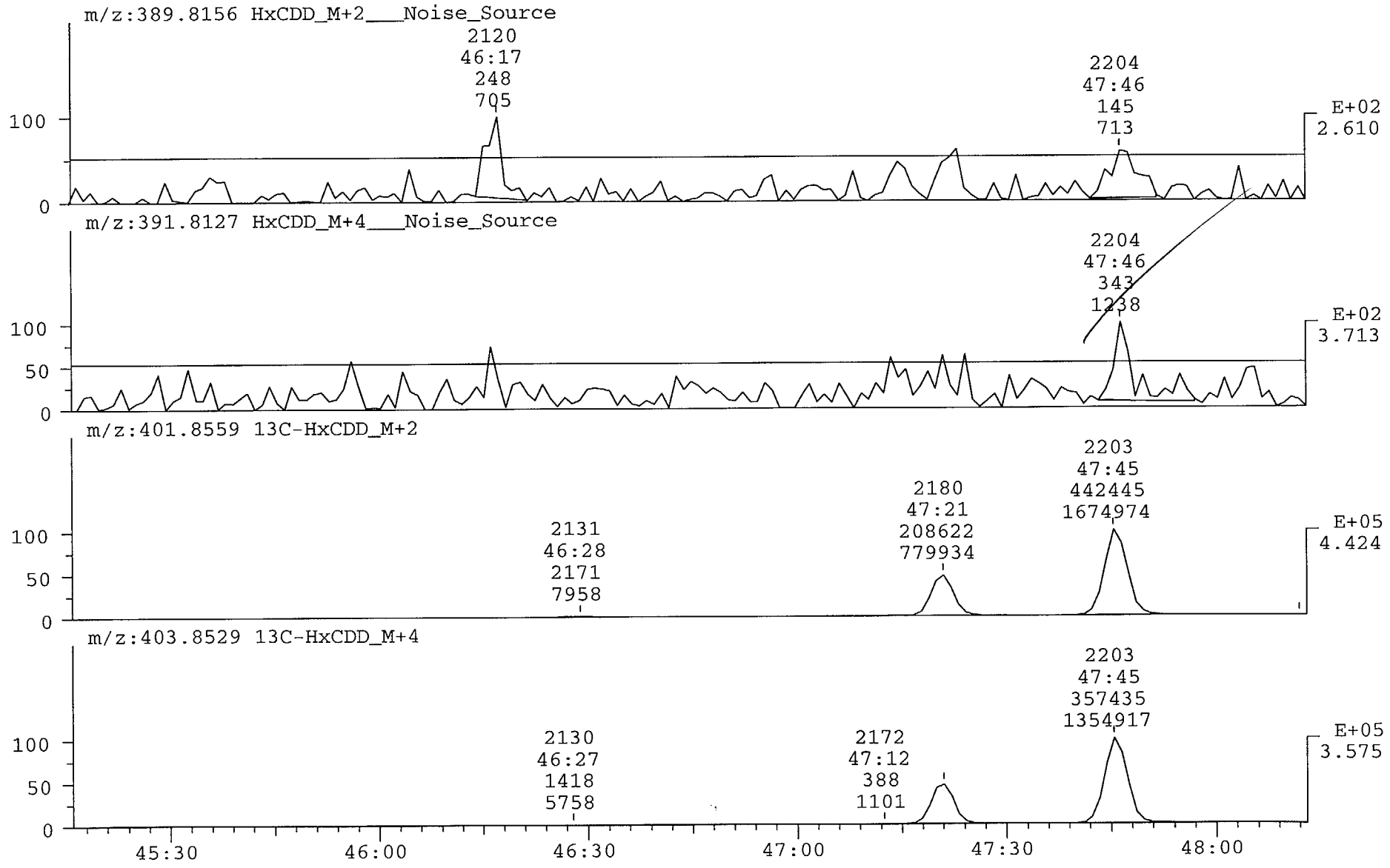
```
CHRO:  bth3eddb                                04-May-06  Elapse:  42:00      1880
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                   Start :  04:05:23   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107079 (air)
Oper:  PMP          Client:  H6D170000-079B               Inlet :  GC     Vial   9
Peak:  100.00  ppm     Label wndw:   1659 > 2014          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



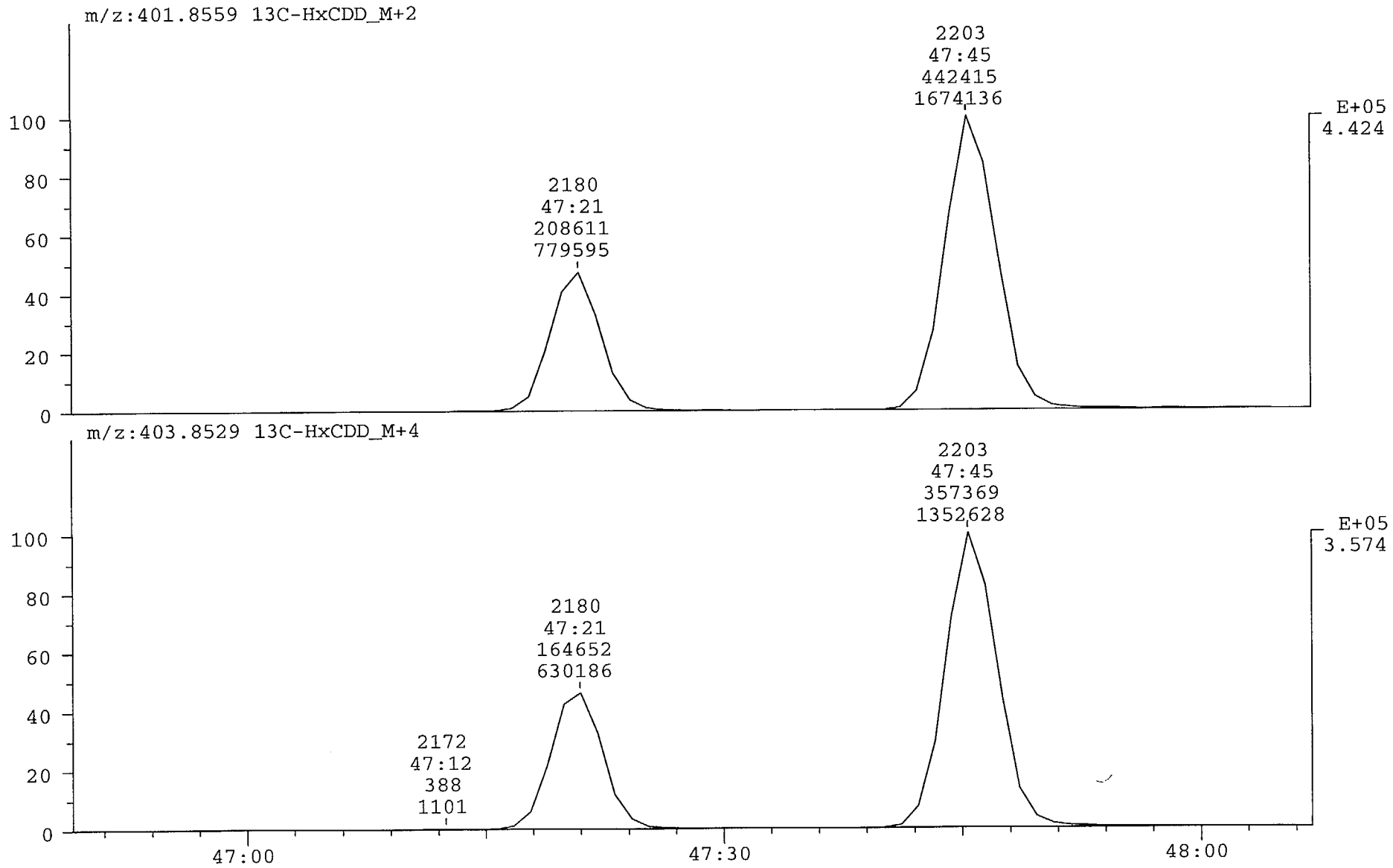
```
CHRO:  bth3eddb                                04-May-06  Elapse:  42:00      1880
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                   Start :  04:05:23   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107079 (air)
Oper:  PMP          Client:  H6D170000-079B               Inlet :  GC     Vial   9
Peak:  100.00  ppm     Label wndw:   1659 > 2014          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
```



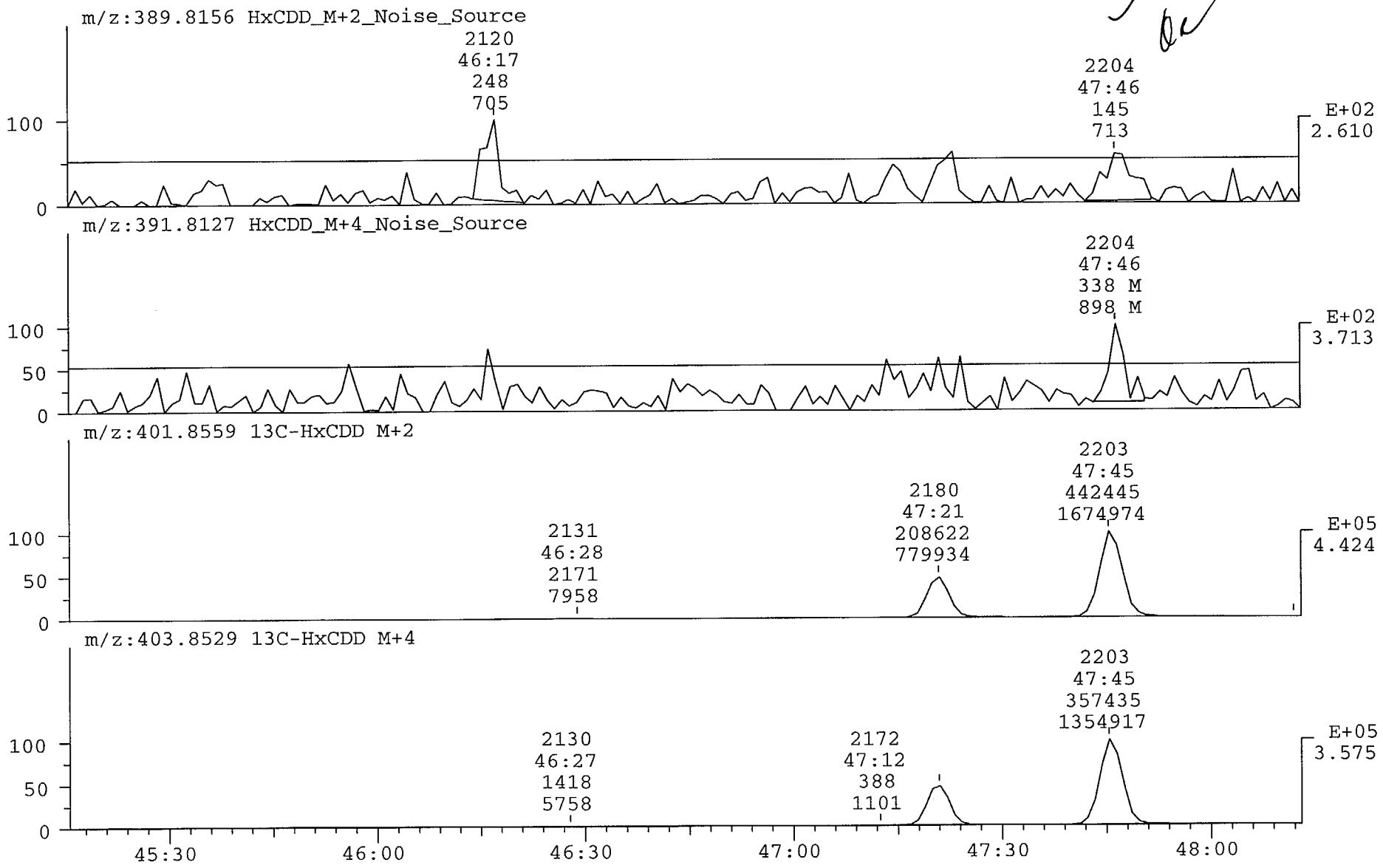
CHRO: bth3eddb 04-May-06 Elapse: 42:00 1880
Samp: Vial 9 WO=h3edd1aa Meth=X8 Dil=1 Start : 04:05:23 2891
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D170000-079B Inlet : GC Vial 9
Peak: 100.00 ppm Label wndw: 2062 > 2229 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  bth3eddb                                  04-May-06   Elapse:  47:28      2187
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                      Start :  04:05:23   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079B                Inlet :  GC     Vial   9
Peak:  100.00  ppm      Label wndw:   2150 > 2223            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```

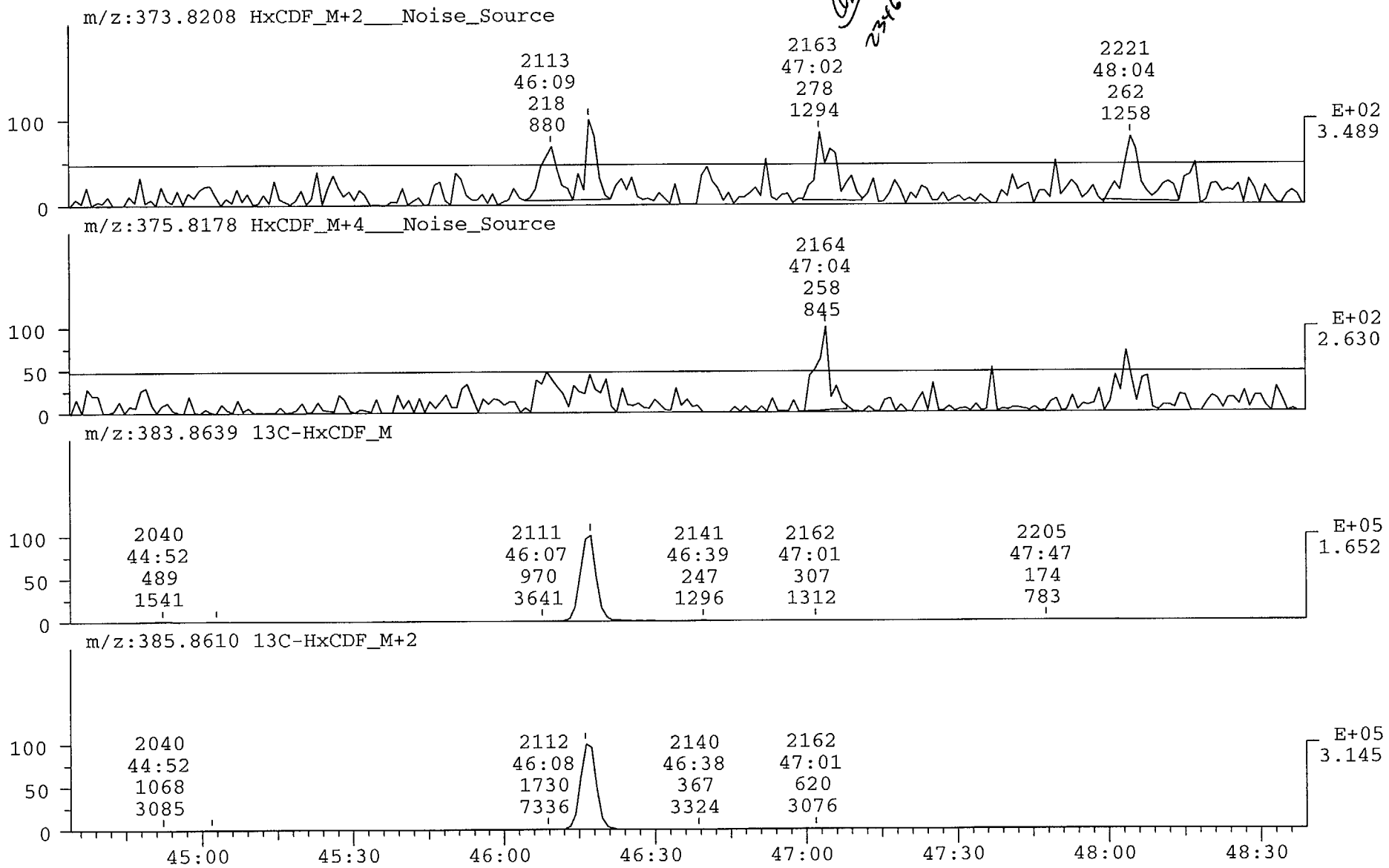


CHRO: bth3eddb 04-May-06 Elapse: 08:00.4 1
Samp: Vial 9 WO=h3edd1aa Meth=X8 Dil=1 Start : 04:05:23 2891
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D170000-079B Inlet : GC Vial 9
Peak: 100.00 ppm Label wndw: 2062 > 2229 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area

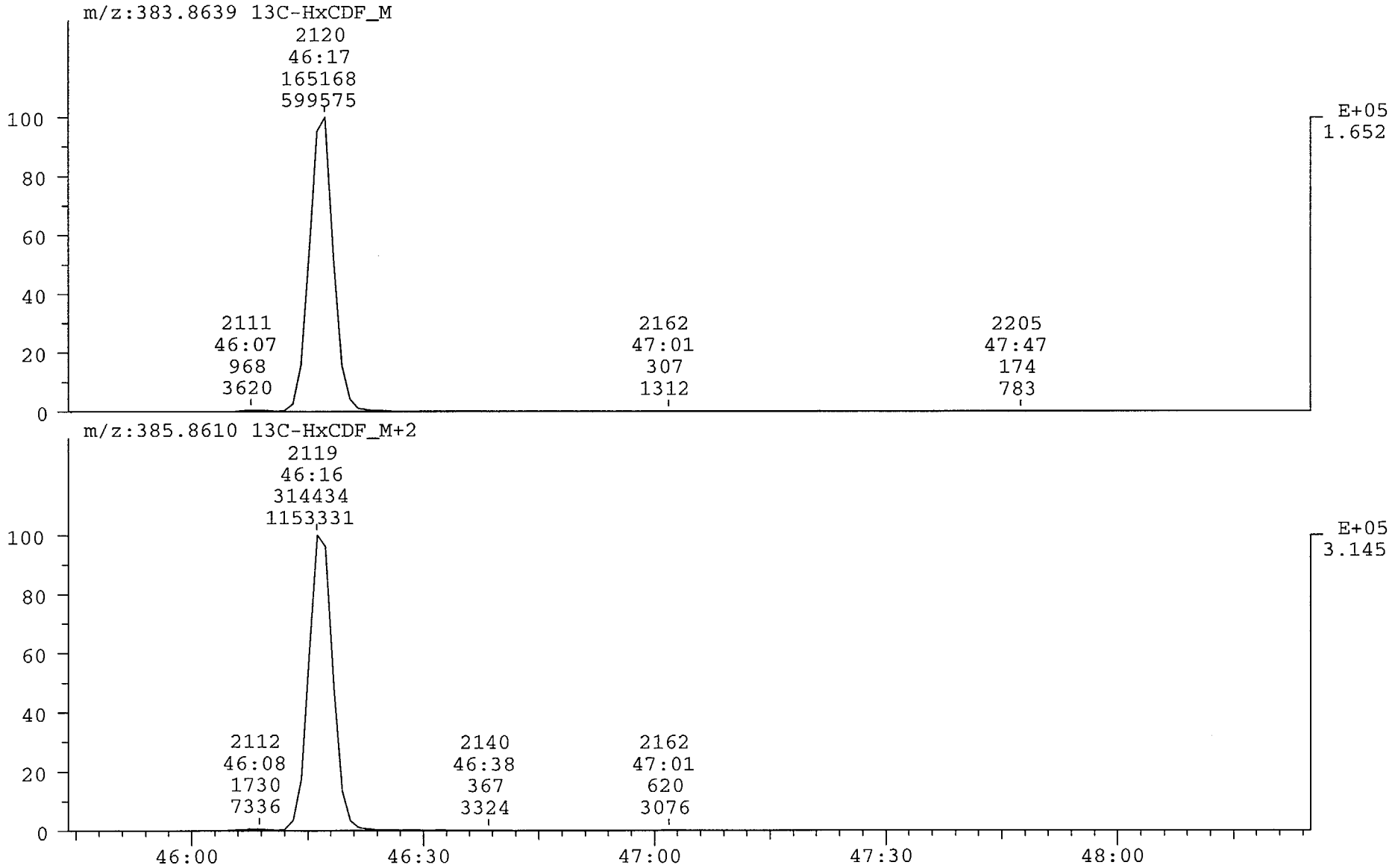


CHRO: bth3eddb 04-May-06 Elapse: 47:28 2187
Samp: Vial 9 WO=h3edd1aa Meth=X8 Dil=1 Start : 04:05:23 2891
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D170000-079B Inlet : GC Vial 9
Peak: 100.00 ppm Label wndw: 2023 > 2253 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area

234678



```
CHRO:  bth3eddb                                  04-May-06   Elapse:  47:04      2164
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                      Start :  04:05:23   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079B                Inlet :  GC     Vial   9
Peak:  100.00  ppm      Label wndw:   2089 > 2240            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



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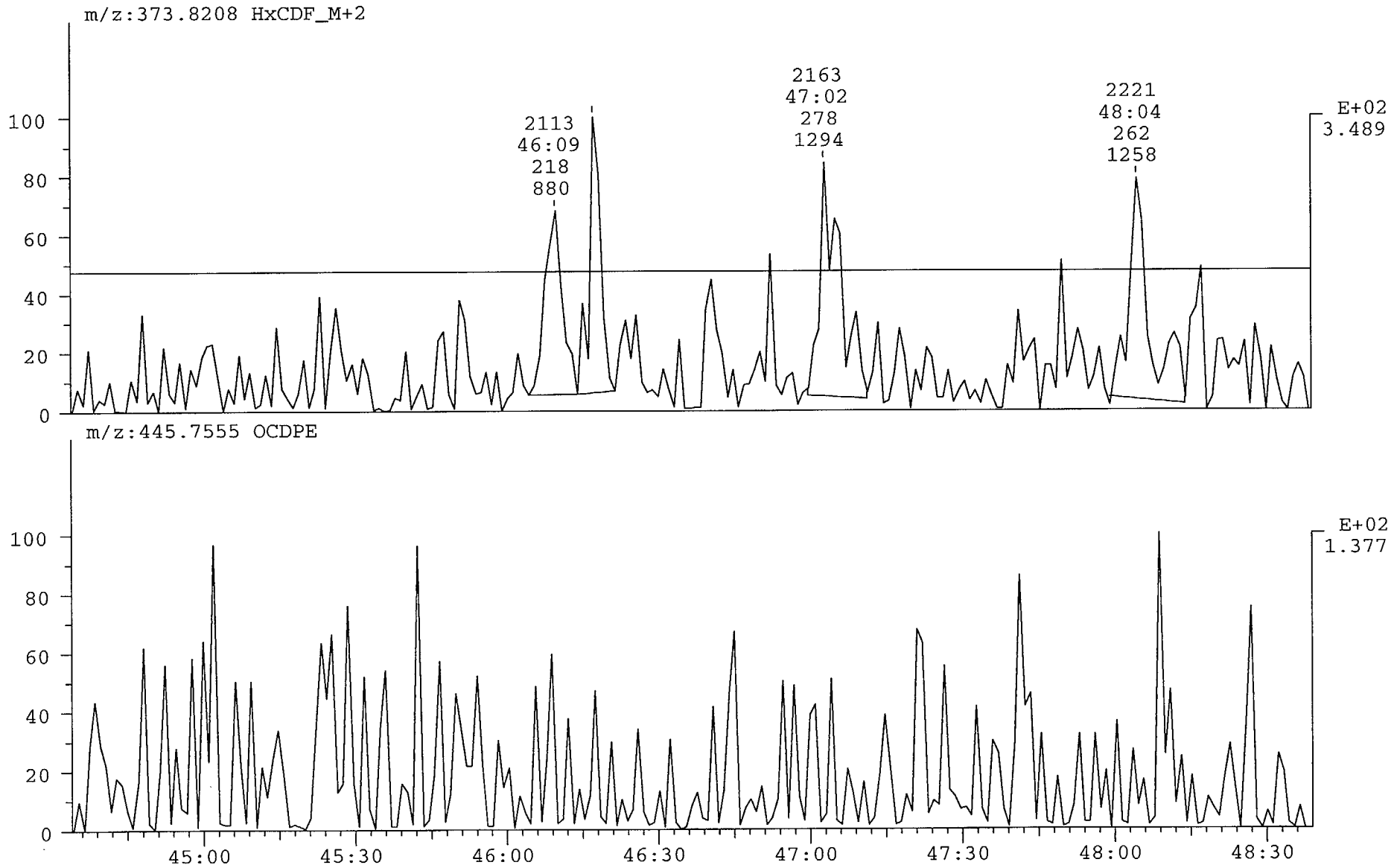
CHRO:  bth3eddb                                  04-May-06   Elapse:  46:13      2116
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                      Start :  04:05:23   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079B                Inlet :  GC     Vial   9
Peak:  100.00  ppm      Label wndw:   2023 > 2253            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  bth3eddb                                04-May-06  Elapse:  46:13      2116
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                   Start :  04:05:23   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107079 (air)
Oper:  PMP           Client:  H6D170000-079B              Inlet :  GC     Vial   9
Peak:  100.00  ppm     Label wndw:   2023 > 2253          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
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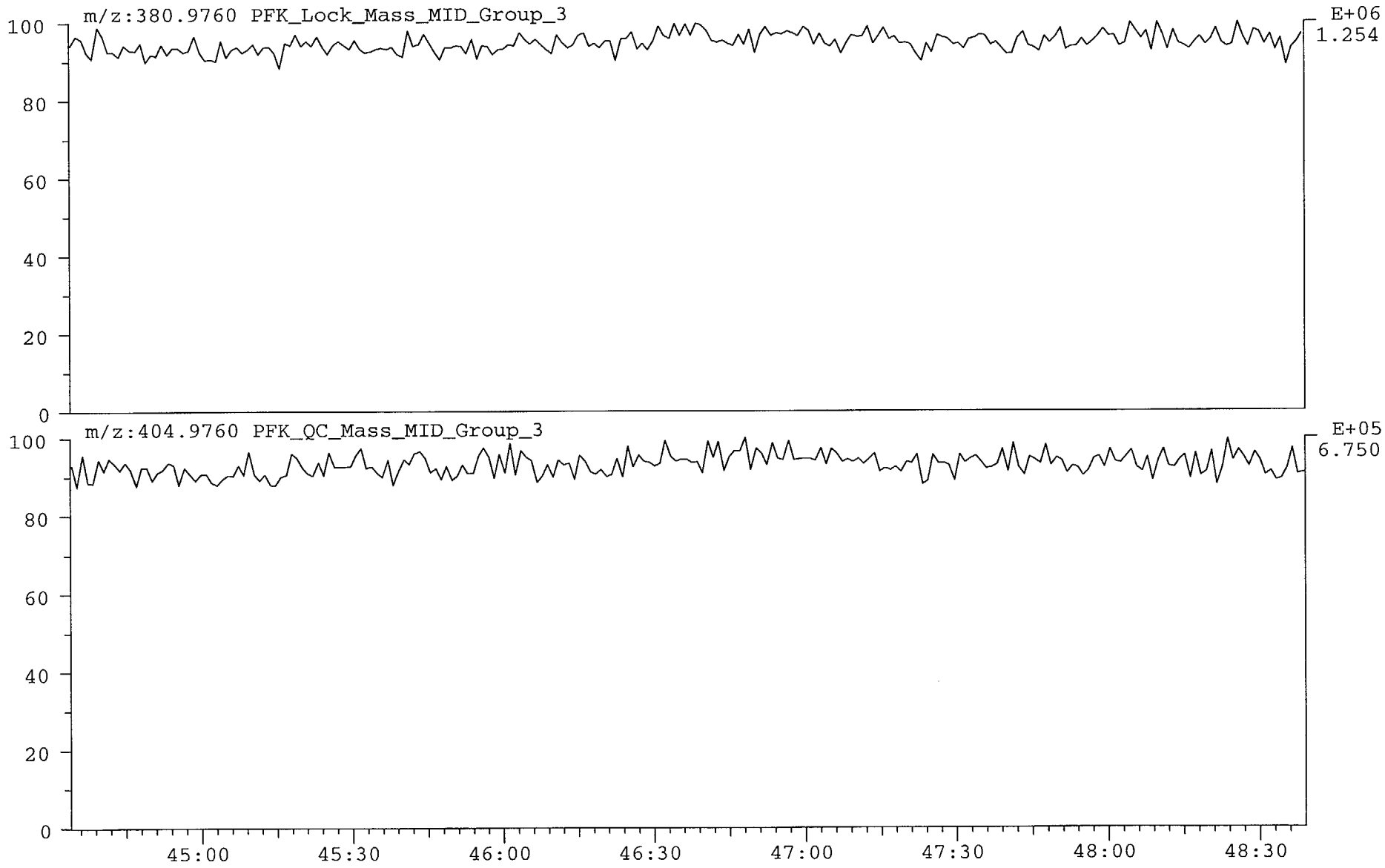

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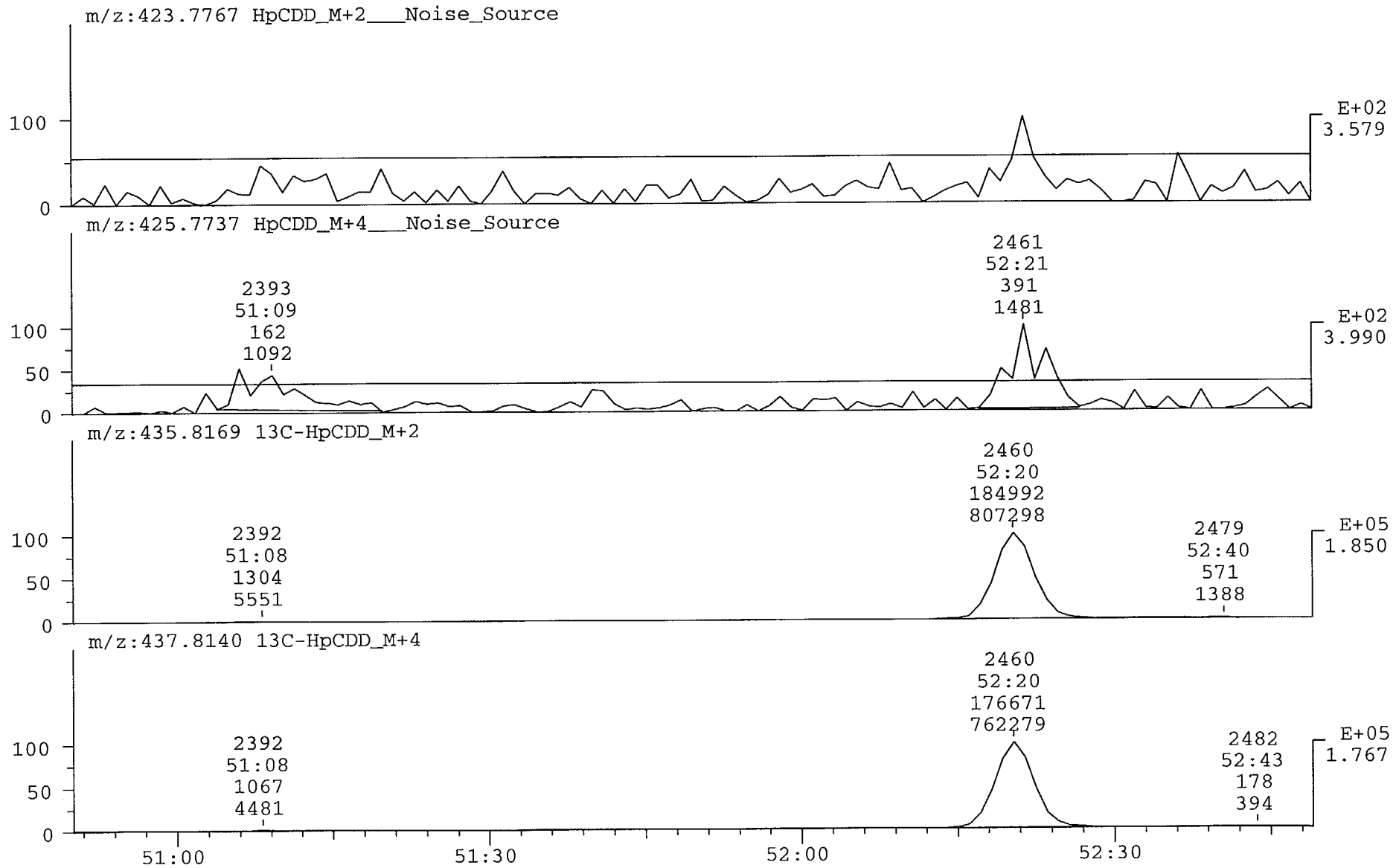
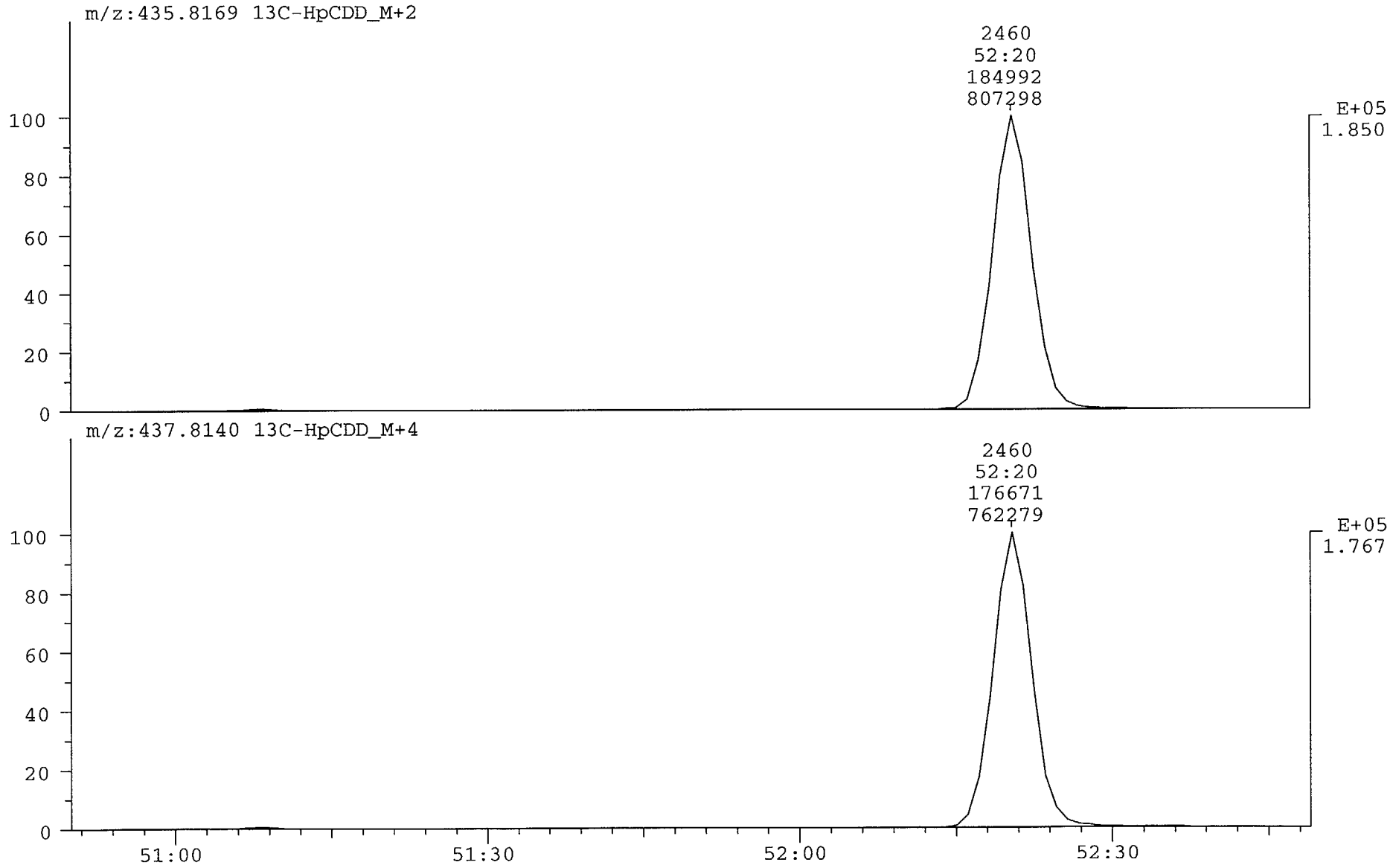
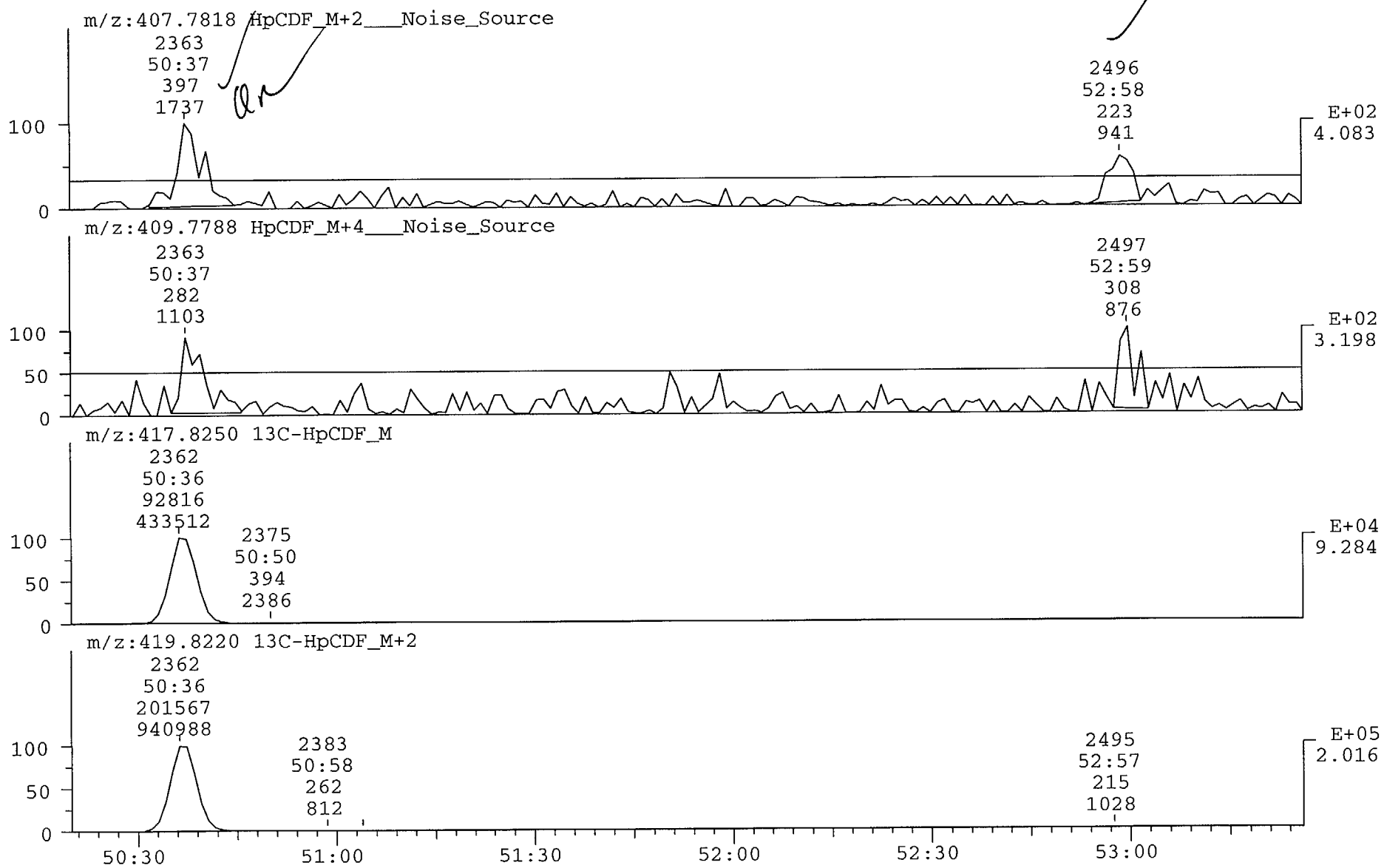
CHRO:  bth3eddb                                  04-May-06   Elapse:  46:13      2116
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                      Start :  04:05:23   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP           Client:  H6D170000-079B                 Inlet :  GC     Vial   9
Peak:  100.00  ppm     Label wndw:   2375 > 2487             Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                  Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  bth3eddb                                04-May-06   Elapse:  46:13      2116
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                    Start :  04:05:23   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107079 (air)
Oper:  PMP          Client:  H6D170000-079B                Inlet :  GC     Vial   9
Peak:  100.00  ppm     Label wndw:   2375 > 2487           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: bth3eddb 04-May-06 Elapse: 46:13 2116
Samp: Vial 9 WO=h3edd1aa Meth=X8 Dil=1 Start : 04:05:23 2891
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D170000-079B Inlet : GC Vial 9
Peak: 100.00 ppm Label wndw: 2347 > 2522 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  bth3eddb                                  04-May-06   Elapse:  46:13      2116
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                      Start :  04:05:23   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079B                Inlet :  GC     Vial   9
Peak:  100.00  ppm      Label wndw:   2347 > 2522            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
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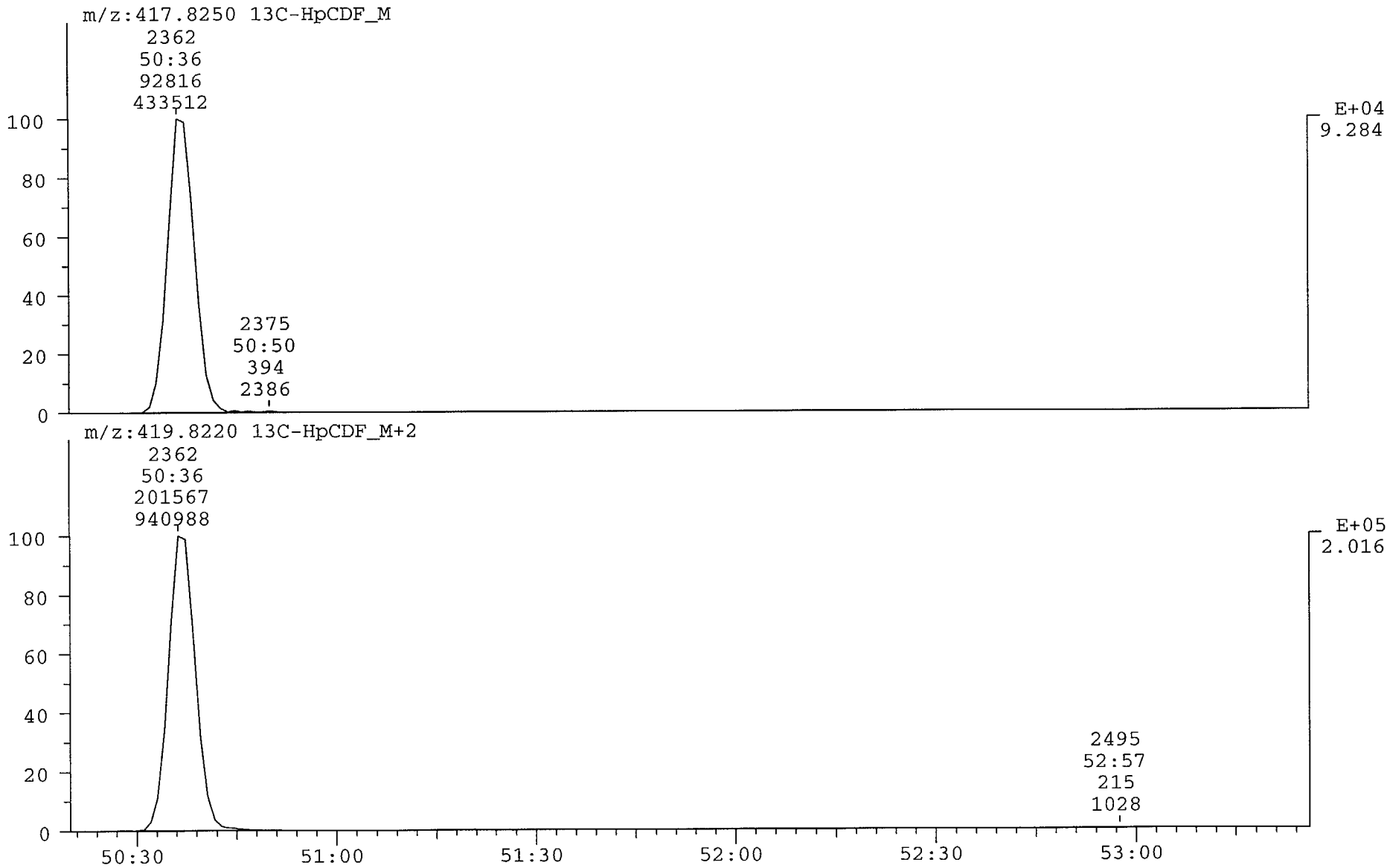
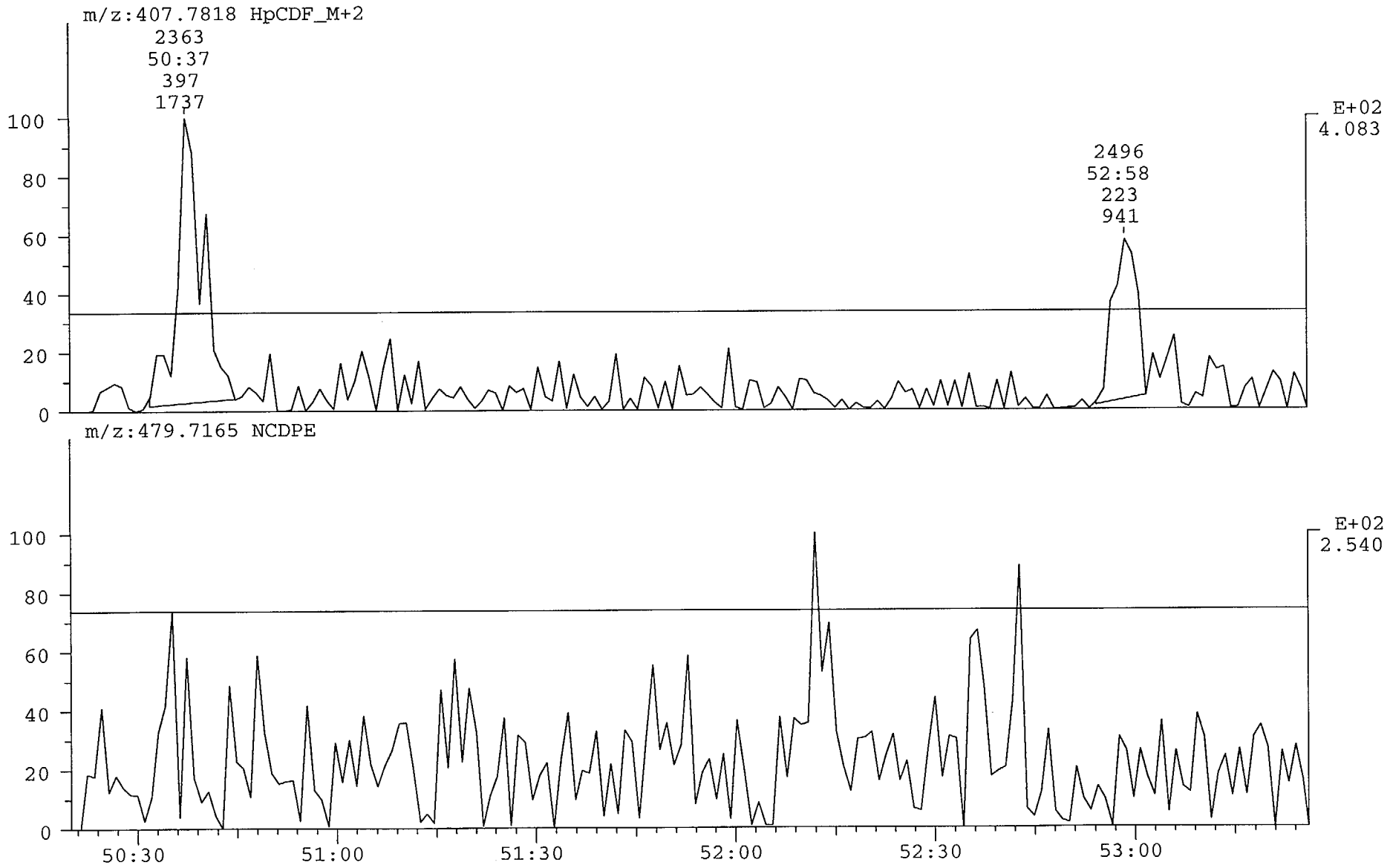
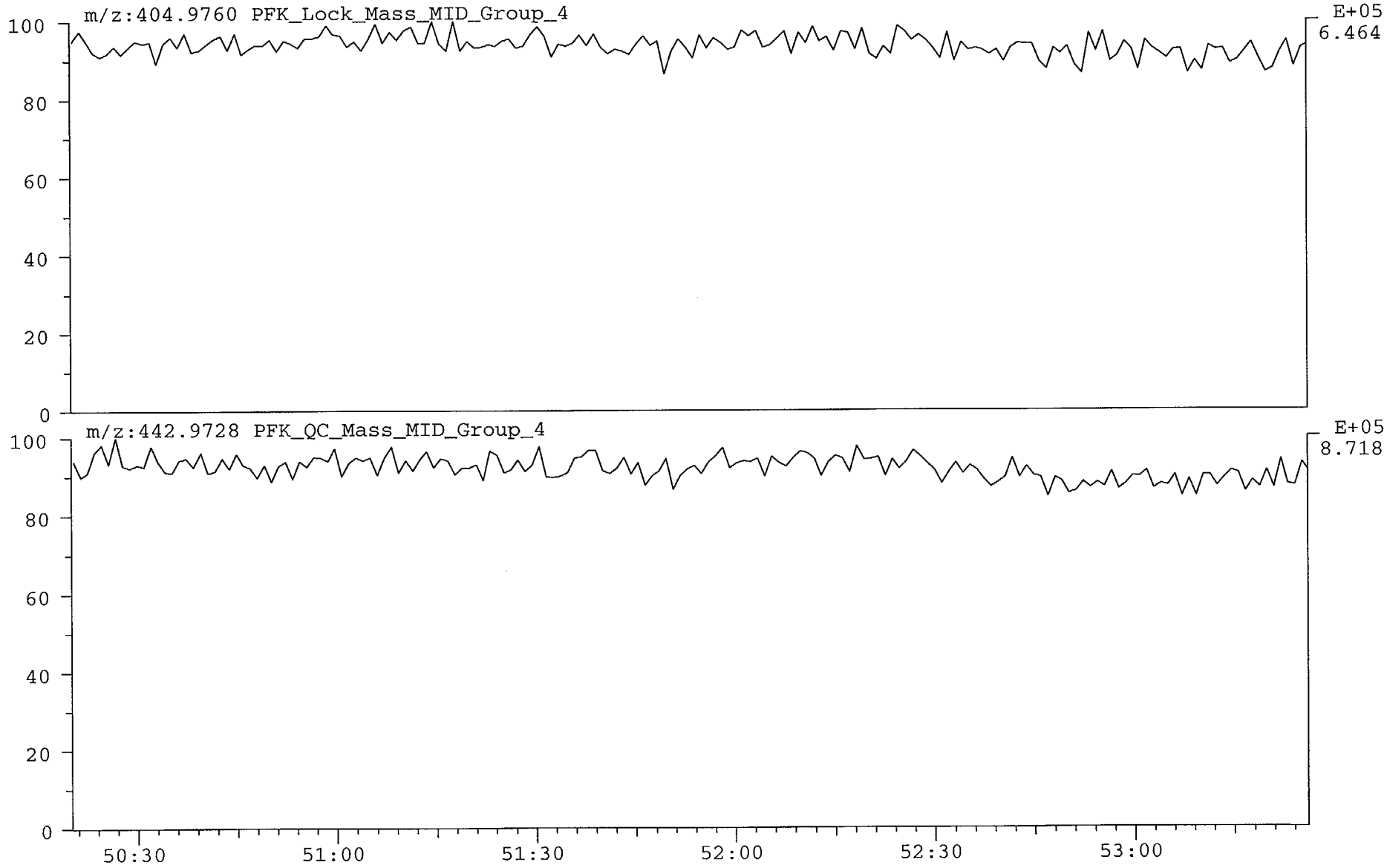


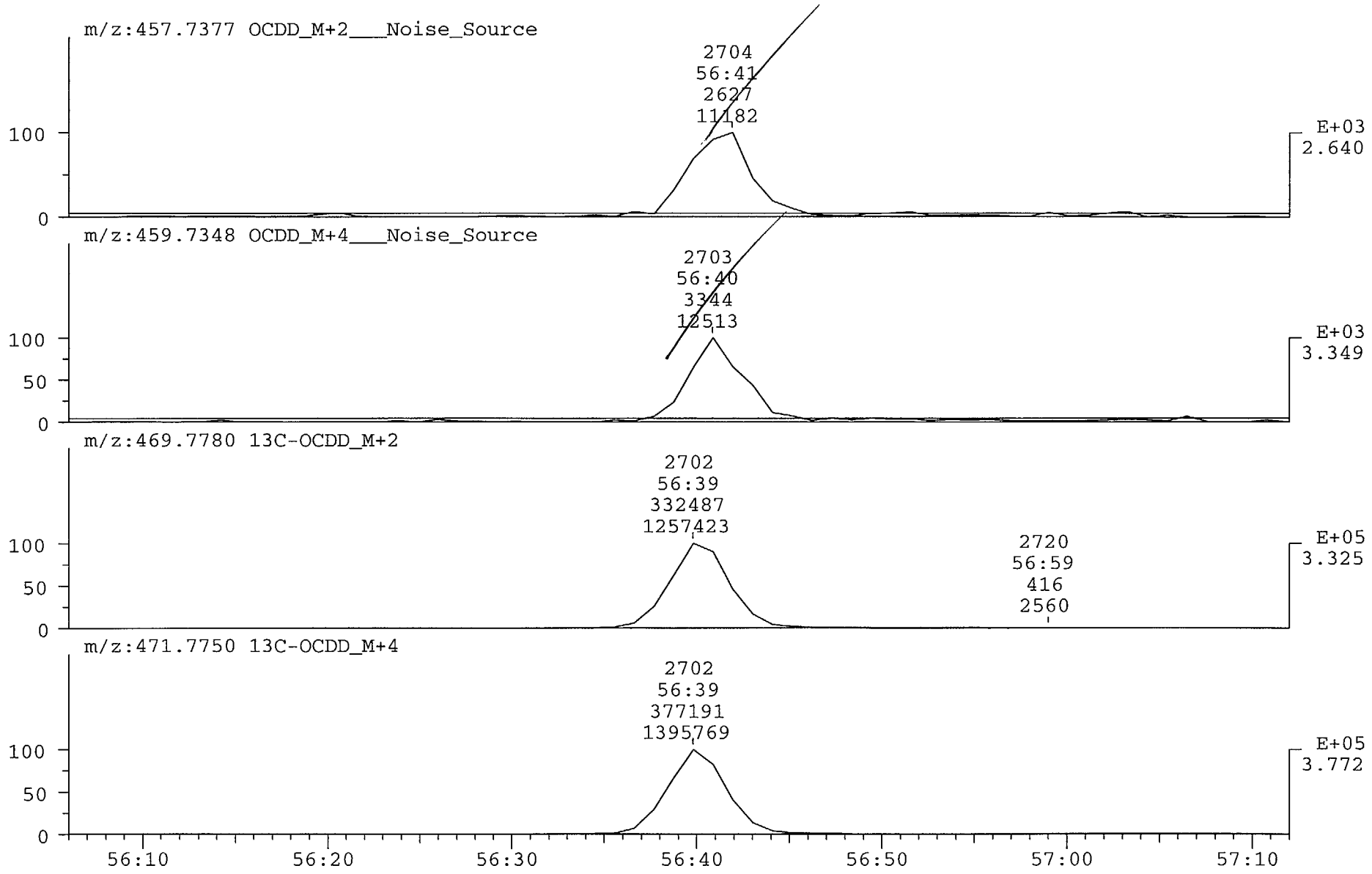
```
CHRO:  bth3eddb                                  04-May-06   Elapse:  46:13      2116
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                      Start :  04:05:23   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079B                Inlet :  GC     Vial   9
Peak:  100.00  ppm      Label wndw:   2347 > 2522            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



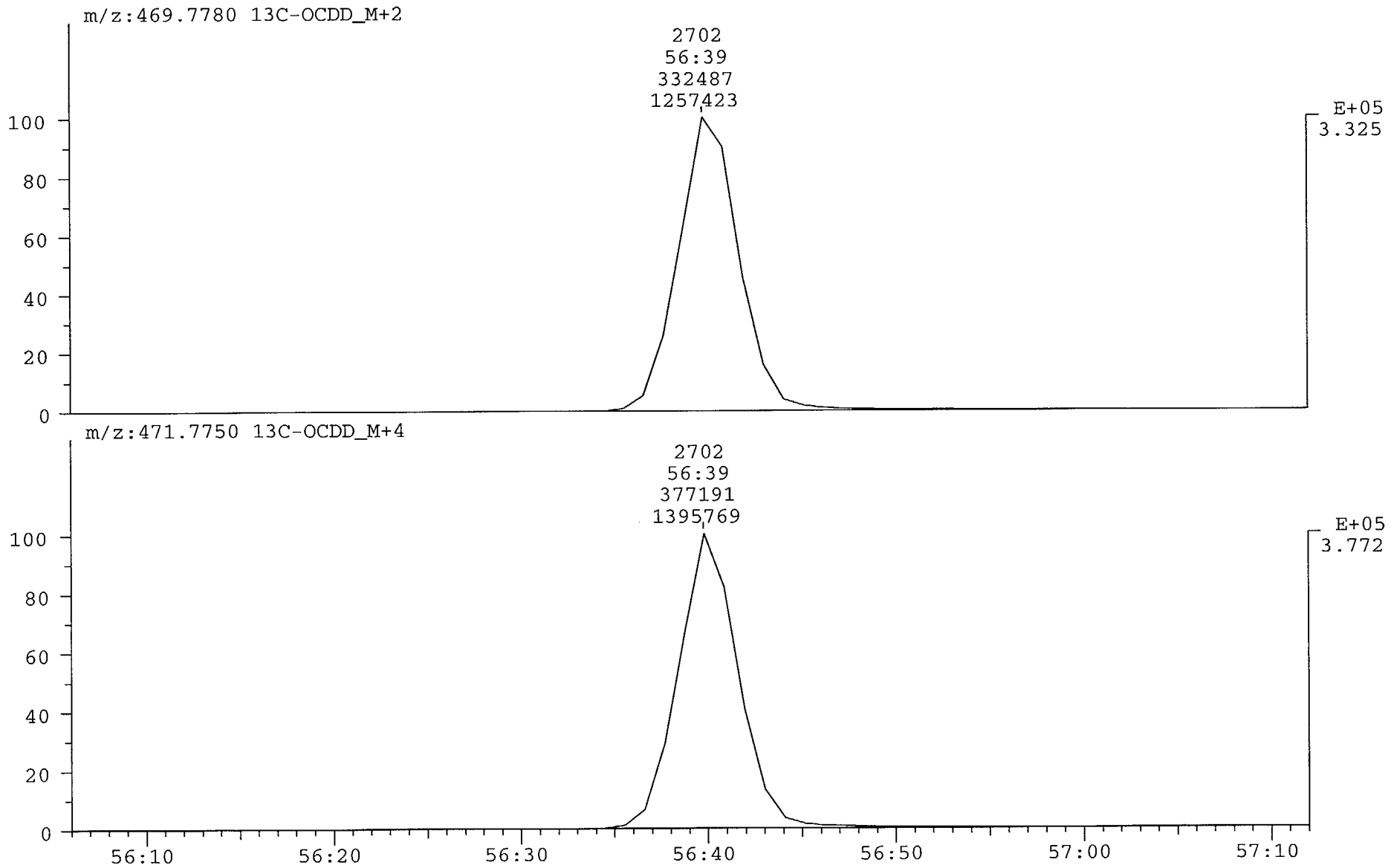
```
CHRO:  bth3eddb                                04-May-06   Elapse:  46:13      2116
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                    Start :  04:05:23   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079B              Inlet :  GC     Vial   9
Peak:  100.00  ppm      Label wndw:   2347 > 2522          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```



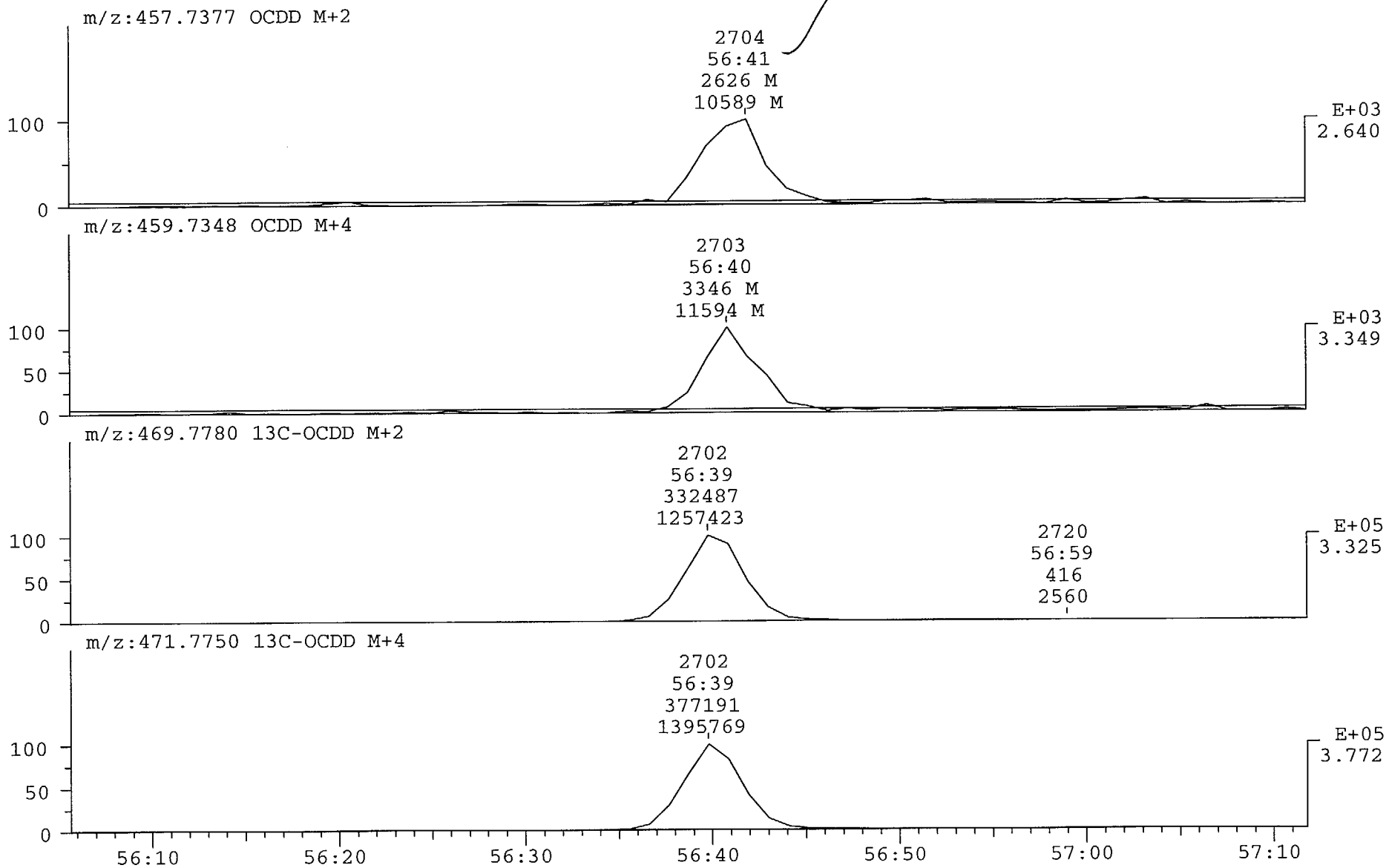
```
CHRO:  bth3eddb                              04-May-06   Elapse:  56:35      2698
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                  Start :  04:05:23   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (air)
Oper:  PMP          Client:  H6D170000-079B              Inlet :  GC     Vial   9
Peak:  100.00  ppm     Label wndw:   2670 > 2732         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



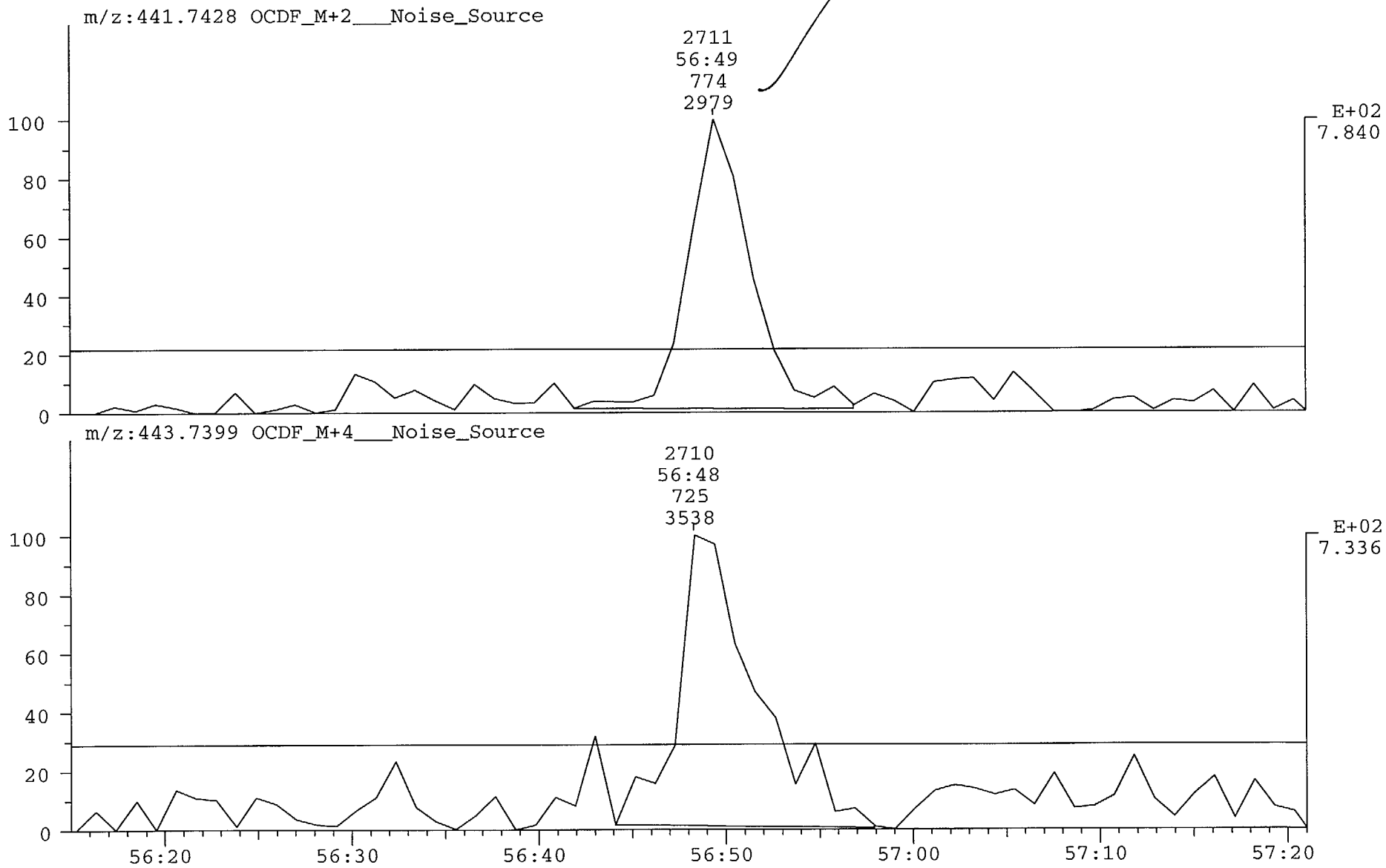
```
CHRO:  bth3eddb                                  04-May-06   Elapse:  56:35      2698
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                      Start :  04:05:23   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079B                Inlet :  GC     Vial   9
Peak:  100.00  ppm      Label wndw:   2670 > 2732            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



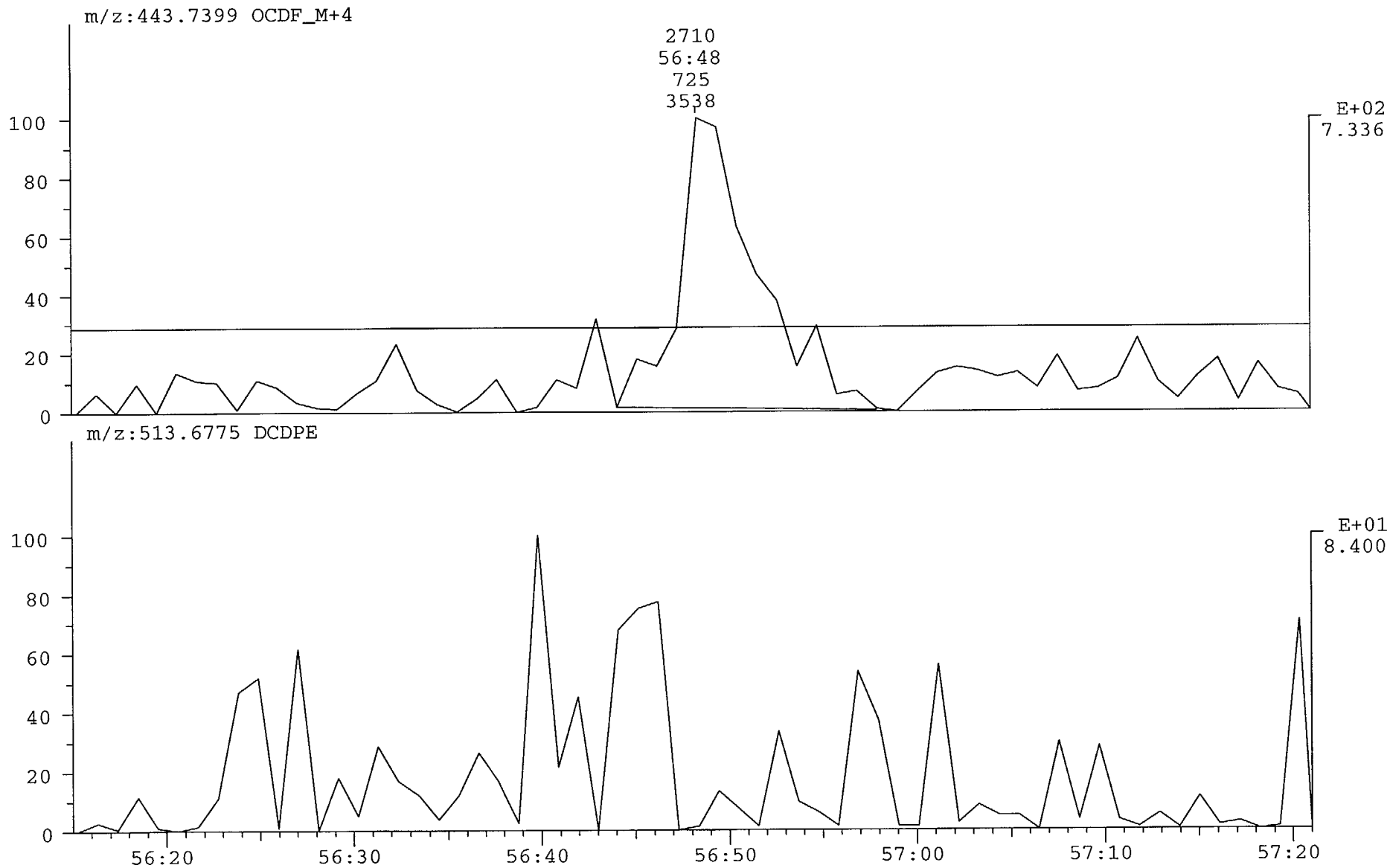
```
CHRO:  bth3eddb                                  04-May-06   Elapse:  08:00.4        1
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                      Start :  04:05:23    2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079B                Inlet :  GC     Vial   9
Peak:  100.00  ppm      Label wndw:   2670 > 2732            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



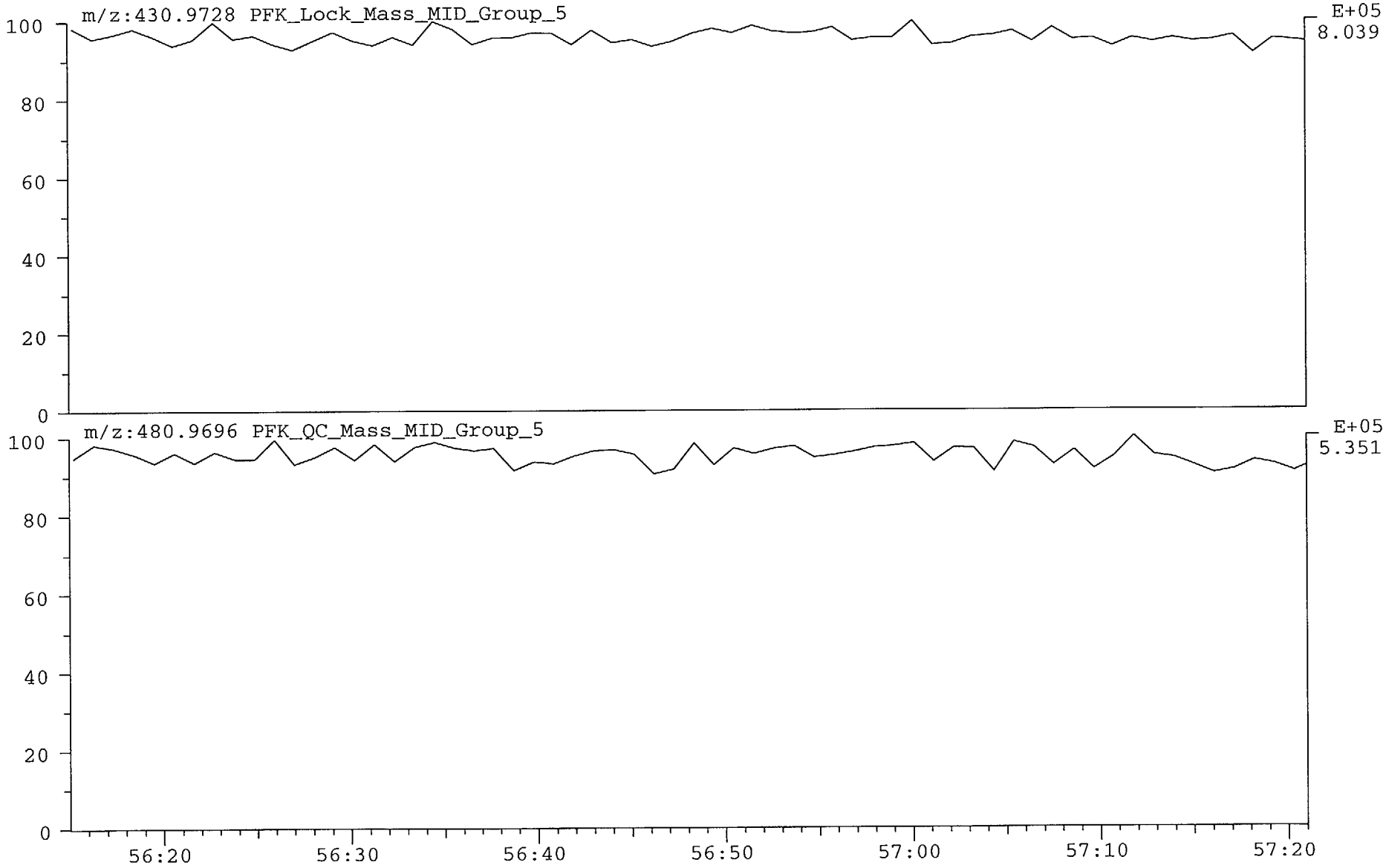
```
CHRO:  bth3eddb                                  04-May-06   Elapse:  56:45      2707
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                      Start :  04:05:23   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079B                Inlet :  GC     Vial   9
Peak:  100.00  ppm      Label wndw:   2679 > 2741            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  bth3eddb                                  04-May-06   Elapse:  56:45      2707
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                      Start :  04:05:23   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079B                Inlet :  GC     Vial   9
Peak:  100.00  ppm      Label wndw:   2679 > 2741            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  bth3eddb                                04-May-06   Elapse:  56:45      2707
Samp:  Vial 9 WO=h3edd1aa Meth=X8 Dil=1                    Start :  04:05:23   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079B              Inlet :  GC     Vial   9
Peak:  100.00  ppm      Label wndw:   2679 > 2741          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: bth3eddb
Study: 6107079 (air)
Sample: WO=h3edd1aa Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: PMP
Client: H6D170000-079B
Comments: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Injected volume: 2.0
Sample from Vial 9
Analysis will stop when MID run finishes
Tune file name: tune2
File 6 of list 060503
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	TRUE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	140 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	30:00 min	38:00 min	1.00 sec
# 2	38:00 min	6:25 min	44:25 min	1.00 sec
# 3	44:25 min	5:05 min	49:30 min	1.00 sec
# 4	49:30 min	5:15 min	54:45 min	1.00 sec
# 5	54:45 min	5:15 min	60:00 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

351.9000		1	1	91.48
353.8970		1	1	91.48
355.8546		1	1	91.48
357.8516		1	1	91.48
367.8949		1	1	91.48
369.8919		1	1	91.48
380.9760	c	10	1	8.19
409.7974		1	1	91.48

Window # 3

mass	F	int	gr	time (ms)
373.8208		1	1	91.48
375.8178		1	1	91.48
380.9760	1	10	1	8.19
383.8639		1	1	91.48
385.8610		1	1	91.48
389.8156		1	1	91.48
391.8127		1	1	91.48
401.8559		1	1	91.48
403.8529		1	1	91.48
404.9760	c	10	1	8.19
445.7555		1	1	91.48

Window # 4

mass	F	int	gr	time (ms)
404.9760	1	10	1	8.19
407.7818		1	1	91.48
409.7788		1	1	91.48
417.8250		1	1	91.48
419.8220		1	1	91.48
423.7767		1	1	91.48
425.7737		1	1	91.48
435.8169		1	1	91.48
437.8140		1	1	91.48
442.9728	c	10	1	8.19
479.7165		1	1	91.48

Window # 5

mass	F	int	gr	time (ms)
430.9728	1	10	1	10.92
441.7428		1	1	120.15
443.7399		1	1	120.15
457.7377		1	1	120.15
459.7348		1	1	120.15
469.7780		1	1	120.15
471.7750		1	1	120.15
480.9696	c	10	1	10.92
513.6775		1	1	120.15

Auto Sampler descriptor: pcdd2ul

Injector A

Normal Injection

Slvnt A cln before inj	(K):	3	times
Slvnt B cln before inj	(L):	0	times
Sample rinse cycles	(R):	0	times
Syringe filling volume	(F):	1.0	ul
Pullup delay time	(D):	4	sec
Sample pullup speed	(E):	5.0	ul/sec
Slvnt aftr pre inj cln	(U):	0.0	ul
Air after pre inj cln	(G):	2.0	ul
Sample volume	(V):	2.0	ul
Sample air volume	(A):	2.0	ul
Sample pullup count	(P):	2	times
Injection speed	(S):	10.0	ul/sec
Injection wait time	(W):	10	sec
Injection hold time	(H):	3	sec
Solvent A clean cycles	(C):	15	times
Solvent B clean cycles	(B):	20	times
Loop clean w slvnt A	(LC):	0	times

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8424.0000
BDEV	8283.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.7814	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9992
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-738.5000	ELEN	61.7750
EMULT	1.8000	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	189.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	548.0000	FVINLET	573.0000
FVSRC	997.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.5980	HVANAL	1576.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4757.0160	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	292.9825
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	224.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10643.8407	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.8300	TCURR	0.8984	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 04-May-06 04:05:23.7

Autosampler has injected sample from vial 9
Analysis stopped at: 04-May-06 05:05:26.2 (run time 60.03 minutes)
Analysis stopped because MID run finished

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H6D030236	**Work Order # ...:**	H3EDD1AC-LCS H3EDD1AD-LCSD	**Matrix .....:**	AIR
LCS Lot-Sample# :	H6D170000 - 079				
Prep Date .....:	04/17/06	**Analysis Date ..:**	05/04/06		
Prep Batch # ...:	6107079				
Dilution Factor :	1				
Analyst ID.....:	Patricia(Trish) M. Parsl	**Instrument ID..:**	M2A	**Method.....:**	SW846 0023A/8290
Initial Wgt/Vol:	1 Sample				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS	RPD	RPD LIMITS
2,3,7,8-TCDD	**200**	**200**	**pg/sampl**	**100**		**(70 - 130)**		
	200	**200**	**pg/sampl**	**100**		**(70 - 130)**	**0.0**	**(0 - 50)**
1,2,3,7,8-PeCDD	**1000**	**973**	**pg/sampl**	**97**		**(70 - 130)**		
	1000	**977**	**pg/sampl**	**98**		**(70 - 130)**	**0.41**	**(0 - 50)**
1,2,3,4,7,8-HxCDD	**1000**	**952**	**pg/sampl**	**95**		**(70 - 130)**		
	1000	**979**	**pg/sampl**	**98**		**(70 - 130)**	**2.8**	**(0 - 50)**
1,2,3,6,7,8-HxCDD	**1000**	**962**	**pg/sampl**	**96**		**(70 - 130)**		
	1000	**987**	**pg/sampl**	**99**		**(70 - 130)**	**2.6**	**(0 - 50)**
1,2,3,7,8,9-HxCDD	**1000**	**993**	**pg/sampl**	**99**	**B**	**(70 - 130)**		
	1000	**1010**	**pg/sampl**	**101**	**B**	**(70 - 130)**	**1.4**	**(0 - 50)**
1,2,3,4,6,7,8-HpCDD	**1000**	**894**	**pg/sampl**	**89**		**(70 - 130)**		
	1000	**908**	**pg/sampl**	**91**		**(70 - 130)**	**1.6**	**(0 - 50)**
OCDD	**2000**	**1860**	**pg/sampl**	**93**	**B**	**(70 - 130)**		
	2000	**2000**	**pg/sampl**	**100**	**B**	**(70 - 130)**	**7.0**	**(0 - 50)**
2,3,7,8-TCDF	**200**	**181**	**pg/sampl**	**90**		**(70 - 130)**		
	200	**188**	**pg/sampl**	**94**		**(70 - 130)**	**3.9**	**(0 - 50)**
1,2,3,7,8-PeCDF	**1000**	**979**	**pg/sampl**	**98**		**(70 - 130)**		
	1000	**1010**	**pg/sampl**	**101**		**(70 - 130)**	**3.1**	**(0 - 50)**
2,3,4,7,8-PeCDF	**1000**	**1010**	**pg/sampl**	**101**		**(70 - 130)**		
	1000	**964**	**pg/sampl**	**96**		**(70 - 130)**	**4.2**	**(0 - 50)**
1,2,3,4,7,8-HxCDF	**1000**	**1010**	**pg/sampl**	**101**		**(70 - 130)**		
	1000	**1020**	**pg/sampl**	**102**		**(70 - 130)**	**0.80**	**(0 - 50)**
1,2,3,6,7,8-HxCDF	**1000**	**1010**	**pg/sampl**	**101**		**(70 - 130)**		
	1000	**1060**	**pg/sampl**	**106**		**(70 - 130)**	**4.3**	**(0 - 50)**
2,3,4,6,7,8-HxCDF	**1000**	**1060**	**pg/sampl**	**106**	**B**	**(70 - 130)**		
	1000	**1030**	**pg/sampl**	**103**	**B**	**(70 - 130)**	**2.5**	**(0 - 50)**
1,2,3,7,8,9-HxCDF	**1000**	**984**	**pg/sampl**	**98**		**(70 - 130)**		
	1000	**993**	**pg/sampl**	**99**		**(70 - 130)**	**0.90**	**(0 - 50)**
1,2,3,4,6,7,8-HpCDF	**1000**	**984**	**pg/sampl**	**98**	**B**	**(70 - 130)**		
	1000	**1040**	**pg/sampl**	**104**	**B**	**(70 - 130)**	**5.8**	**(0 - 50)**
1,2,3,4,7,8,9-HpCDF	**1000**	**909**	**pg/sampl**	**91**	**B**	**(70 - 130)**		
	1000	**928**	**pg/sampl**	**93**	**B**	**(70 - 130)**	**2.0**	**(0 - 50)**
OCDF	**2000**	**1670**	**pg/sampl**	**84**	**B**	**(70 - 130)**		
	2000	**1850**	**pg/sampl**	**93**	**B**	**(70 - 130)**	**10**	**(0 - 50)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	78	(40 - 135)
	106	(40 - 135)
13C-1,2,3,7,8-PeCDD	104	(40 - 135)
	127	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	92	(40 - 135)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...: H6D030236 **Work Order # ...:** H3EDD1AC-LCS **Matrix .....:** AIR
LCS Lot-Sample# : H6D170000 - 079 H3EDD1AD-LCSD

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
	101	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	105	(40 - 135)
	111	(40 - 135)
13C-OCDD	91	(40 - 135)
	104	(40 - 135)
13C-2,3,7,8-TCDF	78	(40 - 135)
	107	(40 - 135)
13C-1,2,3,7,8-PeCDF	99	(40 - 135)
	120	(40 - 135)
13C-1,2,3,6,7,8-HxCDF	83	(40 - 135)
	94	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	91	(40 - 135)
	102	(40 - 135)

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

STL - Knoxville

IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H3EDD1AC	**Prep Batch**	6107079	**Lot No**	H6D170000-079
Data File	/20060503s3/bth3eddc.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90488	**Prep Exp Date**	04/27/06	**Date Received**	04/17/06
Analysis Date	5/4/2006	**Matrix**	AIR	**Date Sampled**	03/28/06
Analysis Time	01:11	**Initial Wt/Vol**	1	**Lims Test Code**	XXSINX801
Anal Exp Date	06/01/06	**Extract Vol**	20	**Method**	0023/8290
Instrument	M2A	**Dil Factor**	1.0	**Code**	X8
Analyst	PMP				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (pg/sample		DL (pg/samp
2,3,7,8-TCDD	35:19	210599	22806	1.060	200.0	199.550447	99.78	199.550447		2.86
Total TCDD				1.060		199.550447		199.550447		2.86
2,3,7,8-TCDF	33:04	253049	27120	1.064	200.0	180.965923	90.48	180.965923		2.13
Total TCDF				1.064		180.965923		180.965923		2.13
1,2,3,7,8-PeCDD	43:01	1039573	299122	0.977	1000	973.373152	97.34	973.373152		1.07
Total PeCDD				0.977		973.373152		973.373152		1.07
1,2,3,7,8-PeCDF	41:26	1305510	307203	0.955	1000	979.210464	97.92	979.210464		1.13
2,3,4,7,8-PeCDF	42:32	1428083	384139	1.018	1000	1005.40325	100.54	1005.40325		1.06
Total PeCDF				0.987		1984.61371		1984.61371		1.10
1,2,3,4,7,8-HxCDD	47:13	1030535	272865	1.047	1000	951.947165	95.19	951.947165		1.33
1,2,3,6,7,8-HxCDD	47:20	1049072	273501	1.055	1000	962.149350	96.21	962.149350		1.32
1,2,3,7,8,9-HxCDD	47:45	1175605	310355	1.146	1000	992.546449	99.25	992.546449	B	1.22
Total HxCDD				1.083		2906.64296		2906.64296	B	1.29
1,2,3,4,7,8-HxCDF	46:08	1401327	387756	1.101	1000	1011.75343	101.18	1011.75343		1.17
1,2,3,6,7,8-HxCDF	46:15	1509360	413644	1.184	1000	1013.08600	101.31	1013.08600		1.09
2,3,4,6,7,8-HxCDF	47:02	1404624	374254	1.052	1000	1060.84449	106.08	1060.84449	B	1.22
1,2,3,7,8,9-HxCDF	48:02	1216051	300199	0.982	1000	984.312958	98.43	984.312958		1.31
Total HxCDF				1.080		4069.99688		4069.99688	B	1.19
1,2,3,4,6,7,8-HpCDD	52:20	1042622	244268	1.018	1000	893.771694	89.38	893.771694		1.13
Total HpCDD				1.018		893.771694		893.771694		1.13
1,2,3,4,6,7,8-HpCDF	50:36	1367824	303822	1.403	1000	983.705650	98.37	983.705650	B	1.06
1,2,3,4,7,8,9-HpCDF	52:57	1077855	249526	1.197	1000	909.016613	90.90	909.016613	B	1.25
Total HpCDF				1.300		1892.72226		1892.72226	B	1.15
OCDD	56:39	1659712	446051	0.965	2000	1863.51804	93.18	1863.51804	B	1.38
OCDF	56:48	1703538	476033	1.103	2000	1672.38226	83.62	1672.38226	B	1.10
13C-2,3,7,8-TCDD	35:16	995255	108973	1.068	1000	784.900129	78.49	784.900129		6.47
13C-2,3,7,8-TCDF	33:02	1314509	138913	1.413	1000	783.316000	78.33	783.316000		2.68
13C-1,2,3,7,8-PeCDD	43:00	1093486	311890	0.882	1000	1044.31938	104.43	1044.31938		2.66
13C-1,2,3,7,8-PeCDF	41:25	1395640	344668	1.188	1000	989.366484	98.94	989.366484		2.49
13C-1,2,3,6,7,8-HxCDD	47:19	1033750	275894	0.943	1000	920.180562	92.02	920.180562		1.17
13C-1,2,3,6,7,8-HxCDF	46:14	1258130	353875	1.272	1000	830.472618	83.05	830.472618		0.907
13C-1,2,3,4,6,7,8-HpCDD	52:18	1146396	256726	0.918	1000	1048.19386	104.82	1048.19386		0.881
13C-1,2,3,4,6,7,8-HpCDF	50:34	990866	220811	0.916	1000	908.176930	90.82	908.176930		1.10
13C-OCDD	56:38	1846353	489689	0.850	2000	1824.25537	91.21	1824.25537		1.10
37Cl4-2,3,7,8-TCDD				1.046	2000			ND		1.47
13C-2,3,4,7,8-PeCDF				1.010	2000			ND		1.03
13C-1,2,3,4,7,8-HxCDD				0.902	2000			ND		1.39
13C-1,2,3,4,7,8-HxCDF				0.988	2000			ND		1.03
13C-1,2,3,7,8,9-HxCDF				1.113				ND		1.04
13C-1,2,3,4,7,8,9-HpCDF				0.912	2000			ND		1.56
13C-1,2,3,4-TCDD	34:41	2374570	243062	1.000	2000	2000.00000	100.00	2000.00000		6.91
13C-1,2,3,7,8,9-HxCDD	47:43	2381982	623952	1.000	2000	2000.00000	100.00	2000.00000		1.11

BW 5/4/06
PMP 5-6-06

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H3EDD1AC	Prep Batch	6107079	Lot No	H6D170000-079
Data File	/20060503s3/bth3eddc.d	Prep Date	04/17/06	SDG No	
Analysis ID	90488	Prep Exp Date	04/27/06	Date Received	04/17/06
Analysis Date	05/04/06 01:11	Matrix	AIR	Date Sampled	03/28/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSINX801
Instrument	M2A	Extract Vol	20 uL	Method	0023/8290
Analyst	PMP	Diluton Factor	1.00	Code	X8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	150	165	60	66	0.91 *	/	
	2,3,7,8-TCDF	33:04	33:06	-2	111840	141209	12239	14881	0.79	ABV/AVV	
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	215	245	86	98	0.88	/	
	13C-2,3,7,8-TCDF	33:02	33:03	-1	576468	738041	61068	77845	0.78	ABV/AVV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	120	210	48	84	0.57 *	/	
	2,3,7,8-TCDD	35:19	35:17	2	91424	119175	9715	13091	0.77	AVB/ABB	
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	168		67				
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	498	343	199	137	1.45 *	/	
	13C-1,2,3,4-TCDD	34:41	34:41	0	1056694	1317876	107769	135293	0.80	AVV/ABV	
	13C-2,3,7,8-TCDD	35:16	35:15	1	436695	558560	47506	61467	0.78	AVV/AVV	
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**		
	Noise	00:00	00:00	0	193	180	77	72	1.07 *	/	
	1,2,3,7,8-PeCDF	41:26	41:27	-1	793428	512082	186146	121057	1.55	ABV/ABV	
	2,3,4,7,8-PeCDF	42:32	42:32	0	865485	562598	234206	149933	1.54	ABV/ABV	
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**		
	Noise	00:00	00:00	0	208	153	83	61	1.36	/	
	13C-1,2,3,7,8-PeCDF	41:25	41:25	0	854637	541003	211125	133543	1.58	ABV/ABV	
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**		
	Noise	00:00	00:00	0	163	163	65	65	1.00 *	/	
	1,2,3,7,8-PeCDD	43:01	43:00	1	629683	409890	181170	117952	1.54	ABV/ABV	
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**		
	Noise	00:00	00:00	0	155	130	62	52	1.19 *	/	
	13C-1,2,3,7,8-PeCDD	43:00	42:59	1	663408	430078	190239	121651	1.54	ABV/ABV	
	Unidentified	43:14	00:00	0	4766	2457	883	581	1.94 *	AVB/AVB	R
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	Noise	00:00	00:00	0	265	190	106	76	1.39	/	
	1,2,3,4,7,8-HxCDF	46:08	46:06	2	786984	614343	215988	171768	1.28	ABV/ABV	
	1,2,3,6,7,8-HxCDF	46:15	46:15	0	847090	662270	232913	180731	1.28	AVV/AVV	
	2,3,4,6,7,8-HxCDF	47:02	47:00	2	775715	628909	206176	168078	1.23	AVV/ABV	
	1,2,3,7,8,9-HxCDF	48:02	48:01	1	678582	537469	165987	134212	1.26	ABV/ABV	
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**		
	Noise	00:00	00:00	0	170	190	68	76	0.89 *	/	
	13C-1,2,3,6,7,8-HxCDF	46:14	46:13	1	433979	824151	118251	235624	0.53	AVV/AVV	
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	Noise	00:00	00:00	0	165	220	66	88	0.75 *	/	
	1,2,3,4,7,8-HxCDD	47:13	47:12	1	571969	458566	153300	119565	1.25	ABV/ABV	
	1,2,3,6,7,8-HxCDD	47:20	47:19	1	582888	466184	150754	122747	1.25	AVV/AVV	
	1,2,3,7,8,9-HxCDD	47:45	47:44	1	651044	524561	171727	138628	1.24	AVV/AVV	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H3EDD1AC	**Prep Batch**	6107079	**Lot No**	H6D170000-079
Data File	/20060503s3/bth3eddc.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90488	**Prep Exp Date**	04/27/06	**Date Received**	04/17/06
Analysis Date	05/04/06 01:11	**Matrix**	AIR	**Date Sampled**	03/28/06
Anal Exp Date	06/01/06	**Initial Wt/Vol**	1 Sample	**Lims Test Code**	XXSINX801
Instrument	M2A	**Extract Vol**	20 uL	**Method**	0023/8290
Analyst	PMP	**Diluton Factor**	1.00	**Code**	X8

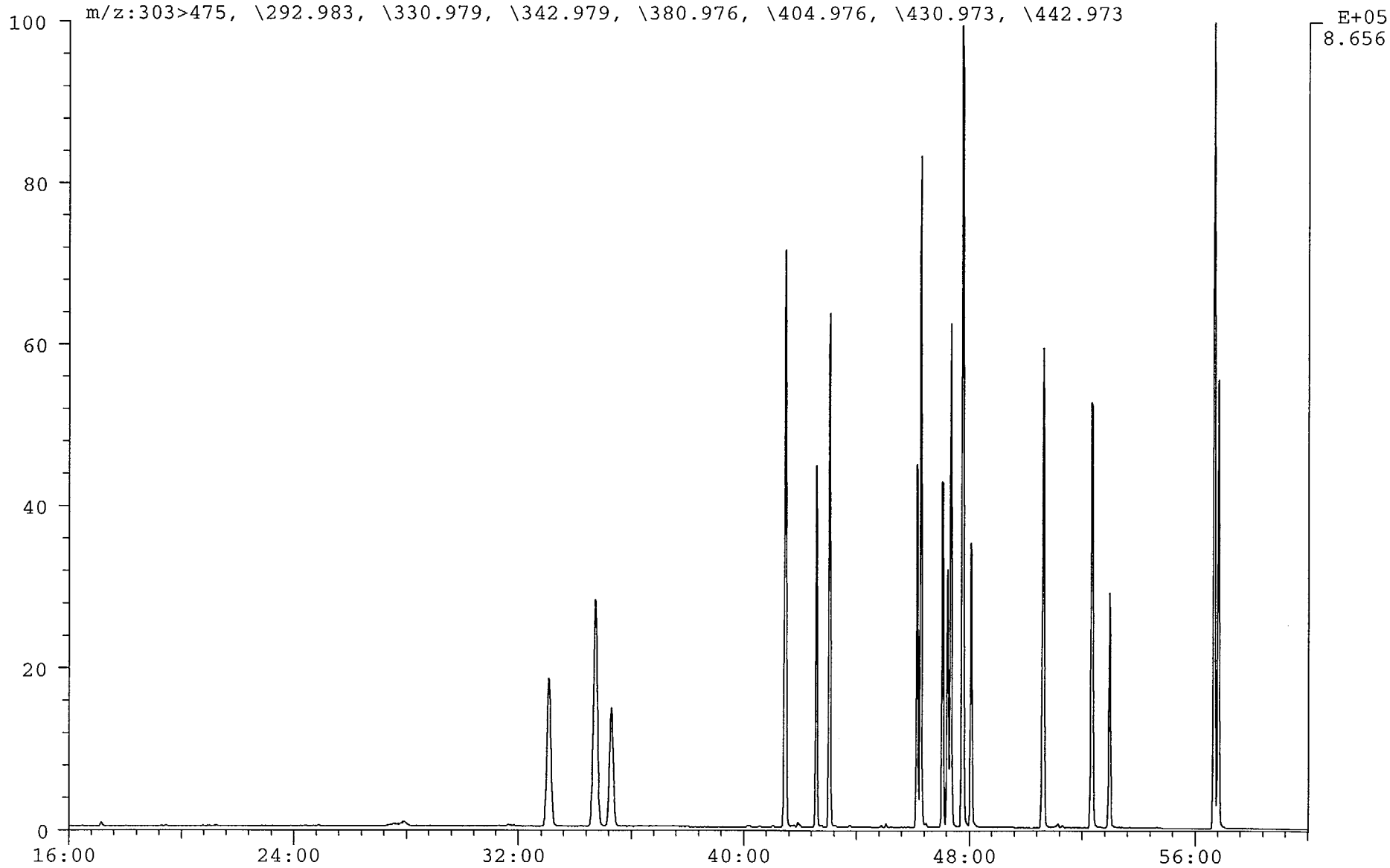
View Small Peaks? False **View deleted peaks?** False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**		
	Noise	00:00	00:00	0	168	178	67	71	0.94 *	/	
	13C-1,2,3,6,7,8-HxCDD	47:19	47:18	1	570464	463286	153705	122189	1.23	AVB/ABV	XM
	13C-1,2,3,7,8,9-HxCDD	47:43	47:43	0	1331649	1050333	347239	276713	1.27	ABV/AVV	
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**		
	Noise	00:00	00:00	0	158	173	63	69	0.91	/	
	1,2,3,4,6,7,8-HpCDF	50:36	50:36	0	697242	670582	154990	148832	1.04	ABV/ABV	
	1,2,3,4,7,8,9-HpCDF	52:57	52:57	0	550096	527759	127993	121533	1.04	ABV/ABB	
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**		
	Noise	00:00	00:00	0	173	143	69	57	1.21 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	50:34	50:35	-1	309283	681583	68005	152806	0.45	ABV/ABV	
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**		
	Noise	00:00	00:00	0	160	135	64	54	1.19	/	
	1,2,3,4,6,7,8-HpCDD	52:20	52:20	0	533852	508770	125029	119239	1.05	ABV/ABV	
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**		
	Noise	00:00	00:00	0	165	88	66	35	1.89 *	/	
	Unidentified	51:05	00:00	0	4968	3990	1226	822	1.25 *	ABB/ABB	R
	13C-1,2,3,4,6,7,8-HpCDD	52:18	52:19	-1	584885	561511	130391	126335	1.04	ABV/ABV	
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**		
	Noise	00:00	00:00	0	150	148	60	59	1.02	/	
	OCDF	56:48	56:48	0	801821	901717	226786	249247	0.89	ABV/ABV	
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**		
	Noise	00:00	00:00	0	155	170	62	68	0.91	/	
	OCDD	56:39	56:39	0	782256	877456	211398	234653	0.89	ABV/ABV	
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**		
	Noise	00:00	00:00	0	130	163	52	65	0.80	/	
	13C-OCDD	56:38	56:38	0	877579	968774	234591	255098	0.91	ABV/ABV	

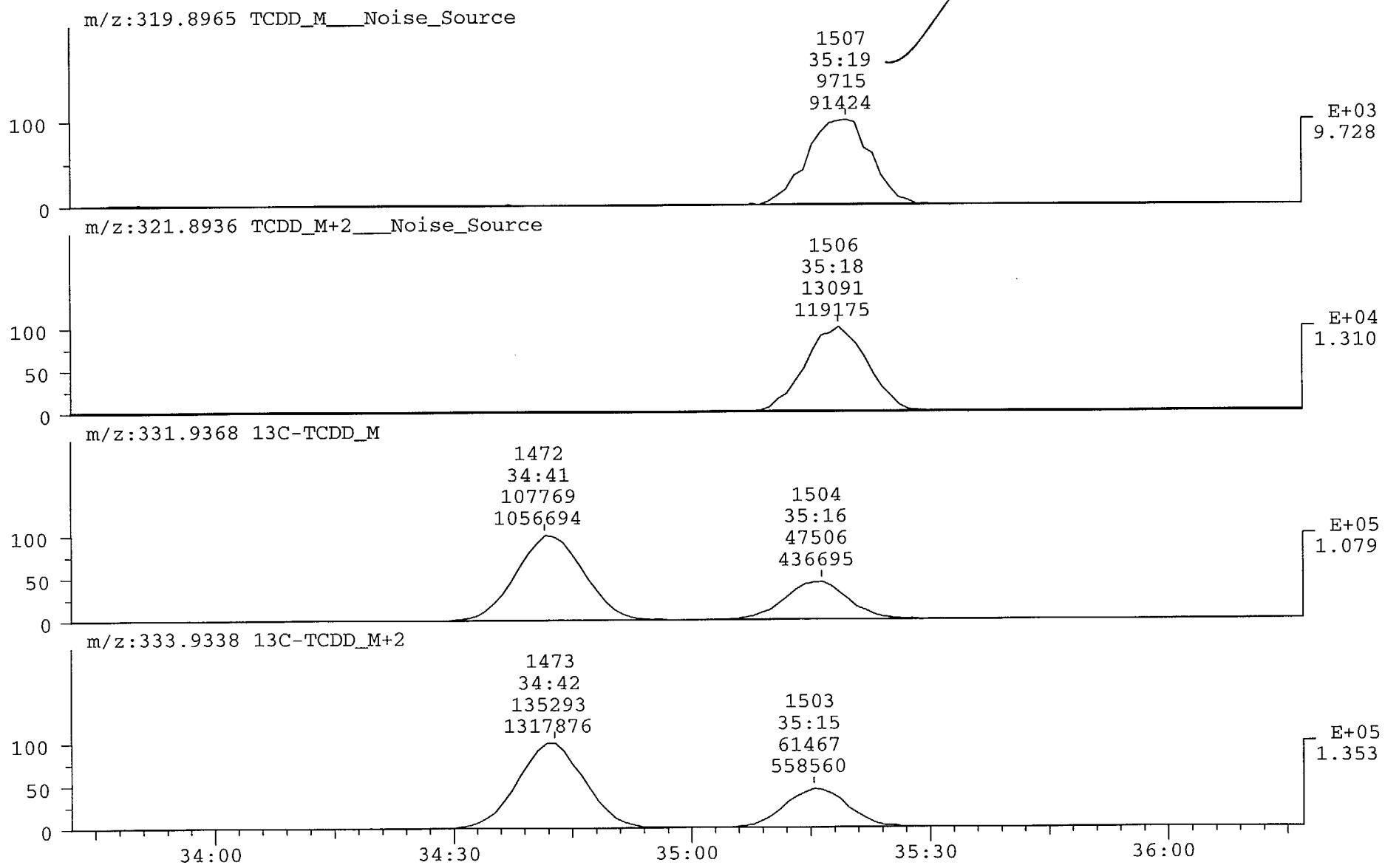
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

CHRO: bth3eddc 04-May-06 Elapse: 46:06 2108
Samp: Vial 10 WO=h3edd1ac Meth=X8 Dil=1 Start : 01:11:49 2889
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D170000-079C Inlet : GC Vial 10
Peak: 100.00 ppm Label wndw: 441 > 2889 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

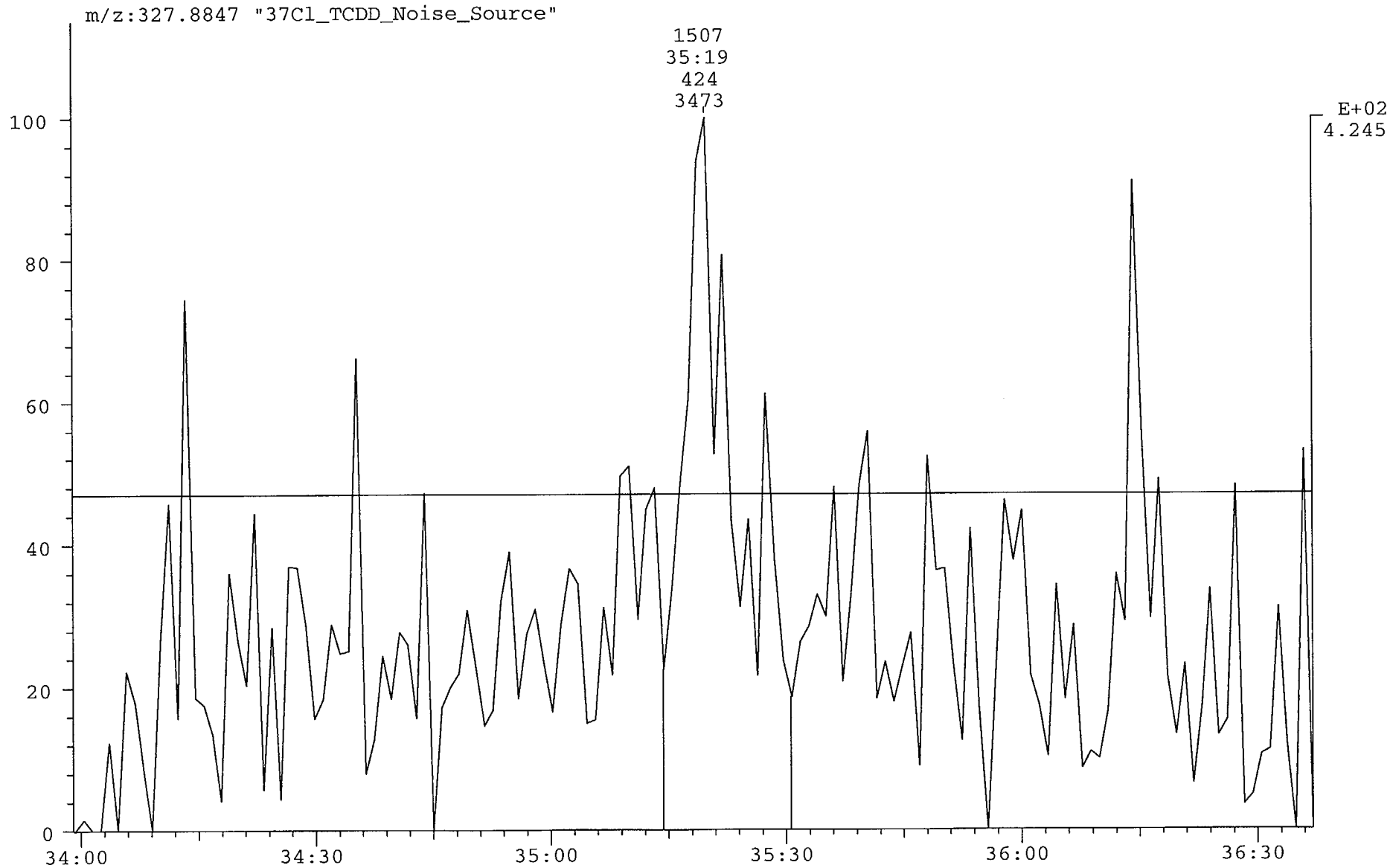
Int PMP 5-4-06
Calc BTW 5/4/06
QC/Raw PMP 5-6-06



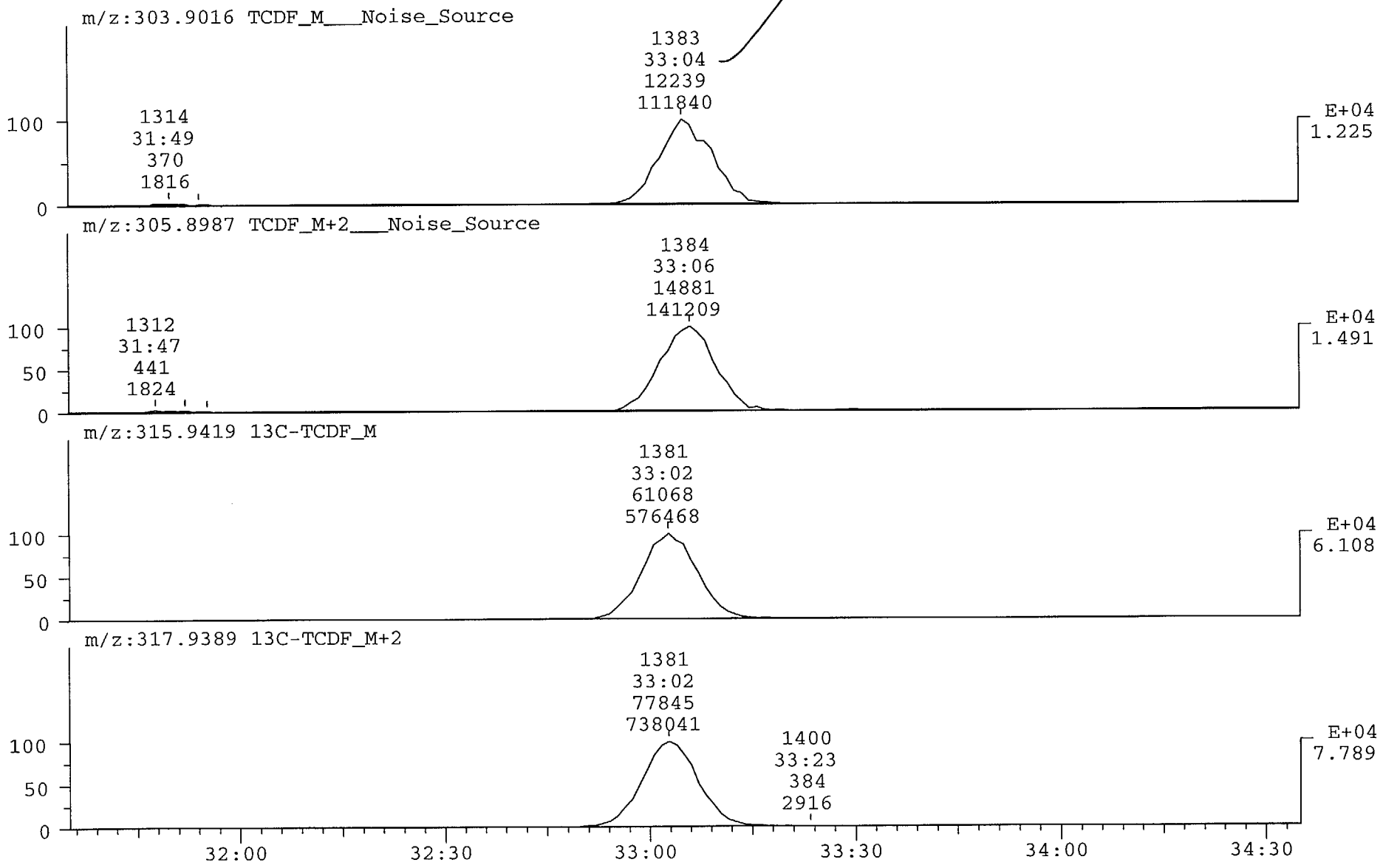
CHRO: bth3eddc 04-May-06 Elapse: 34:59 1488
Samp: Vial 10 WO=h3edd1ac Meth=X8 Dil=1 Start : 01:11:49 2889
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D170000-079C Inlet : GC Vial 10
Peak: 100.00 ppm Label wndw: 1417 > 1560 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



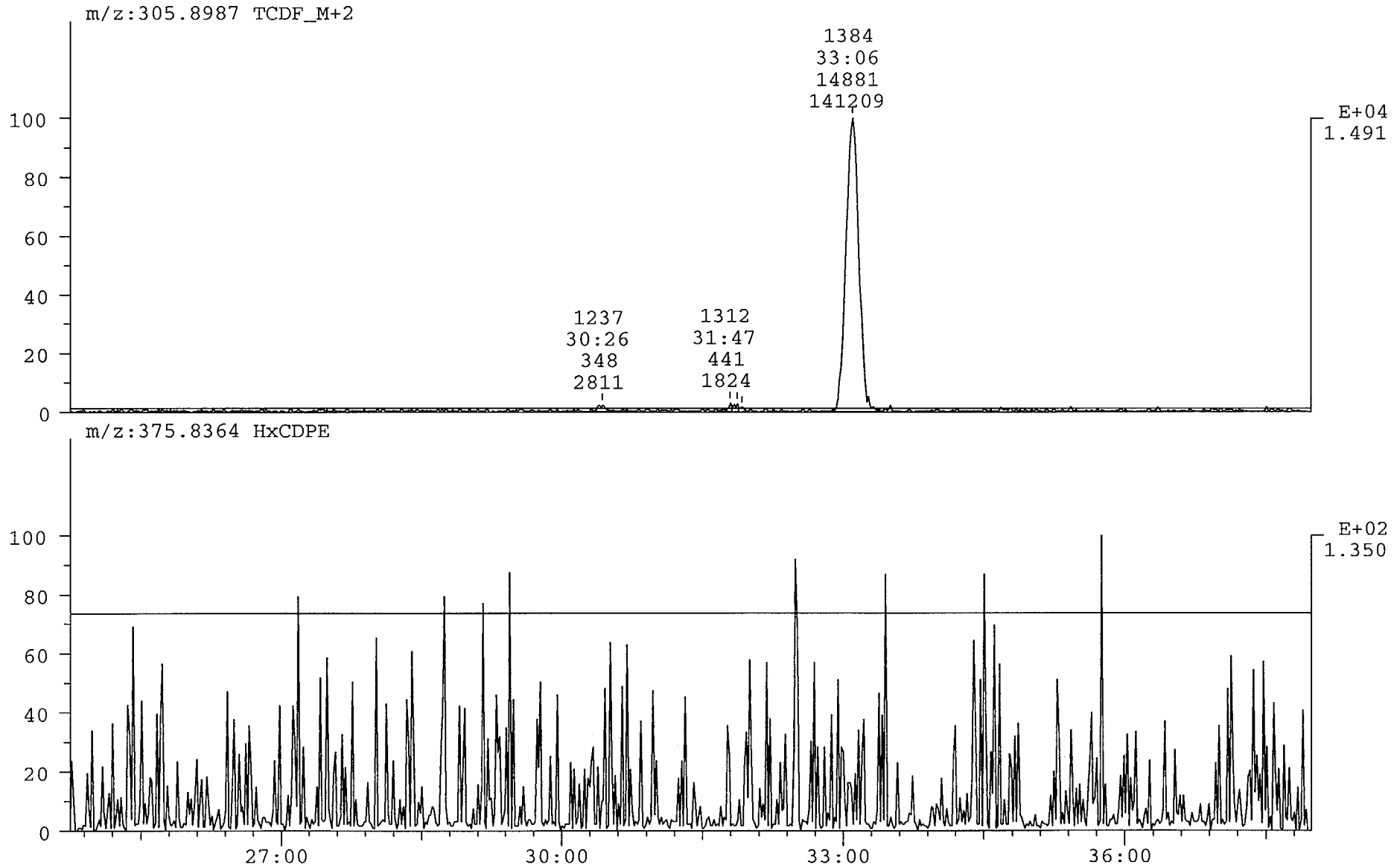
```
CHRO:  bth3eddc                                04-May-06  Elapse:  35:15      1503
Samp:  Vial 10 WO=h3edd1ac Meth=X8 Dil=1                  Start :  01:11:49   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079C             Inlet :  GC     Vial  10
Peak:  100.00  ppm      Label wndw:   1433 > 1578         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



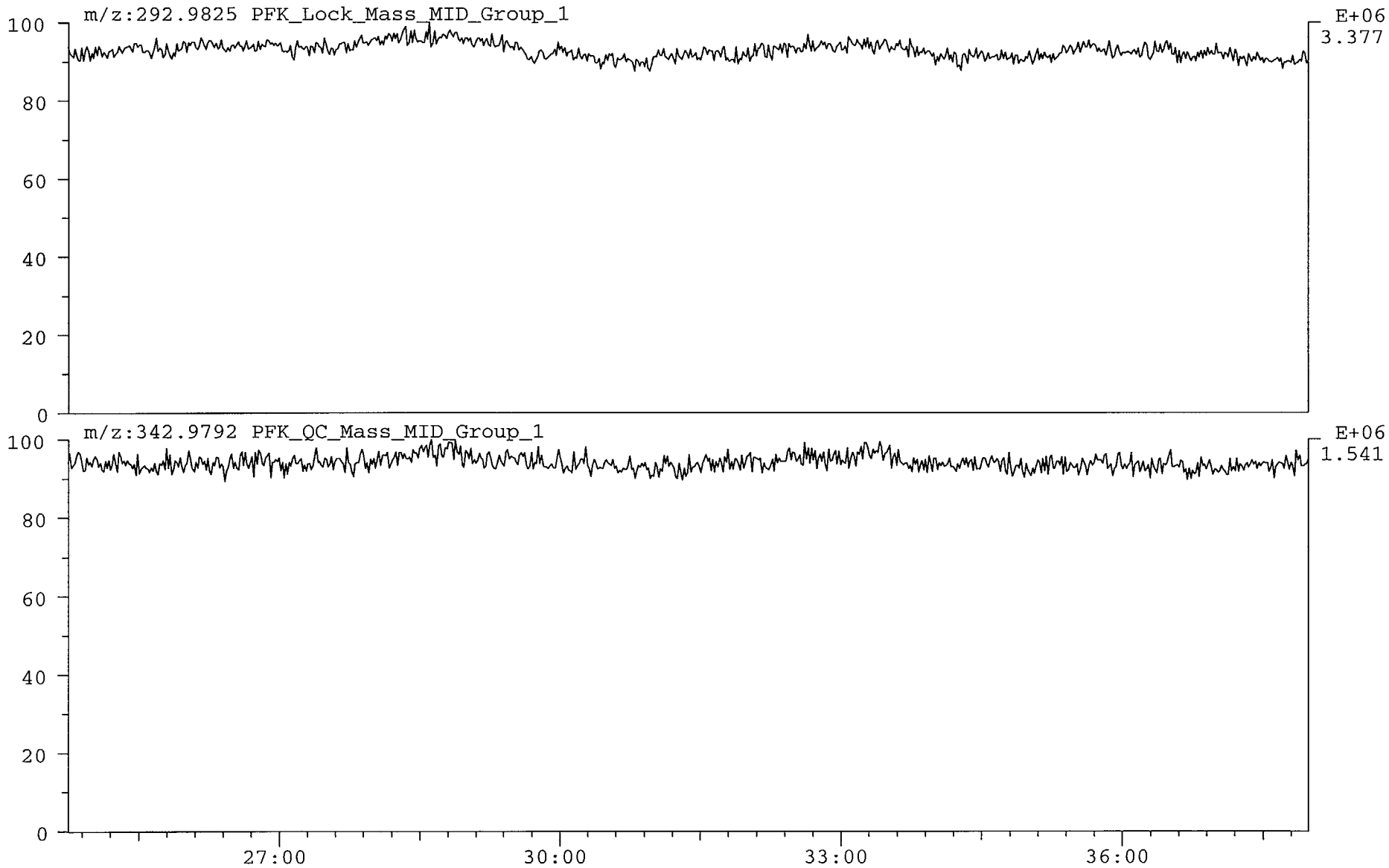
```
CHRO:  bth3eddc                                  04-May-06   Elapse:  33:01      1380
Samp:  Vial 10 WO=h3edd1ac Meth=X8 Dil=1                     Start :  01:11:49   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079C                Inlet :  GC      Vial  10
Peak:  100.00  ppm      Label wndw:   1300 > 1466            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



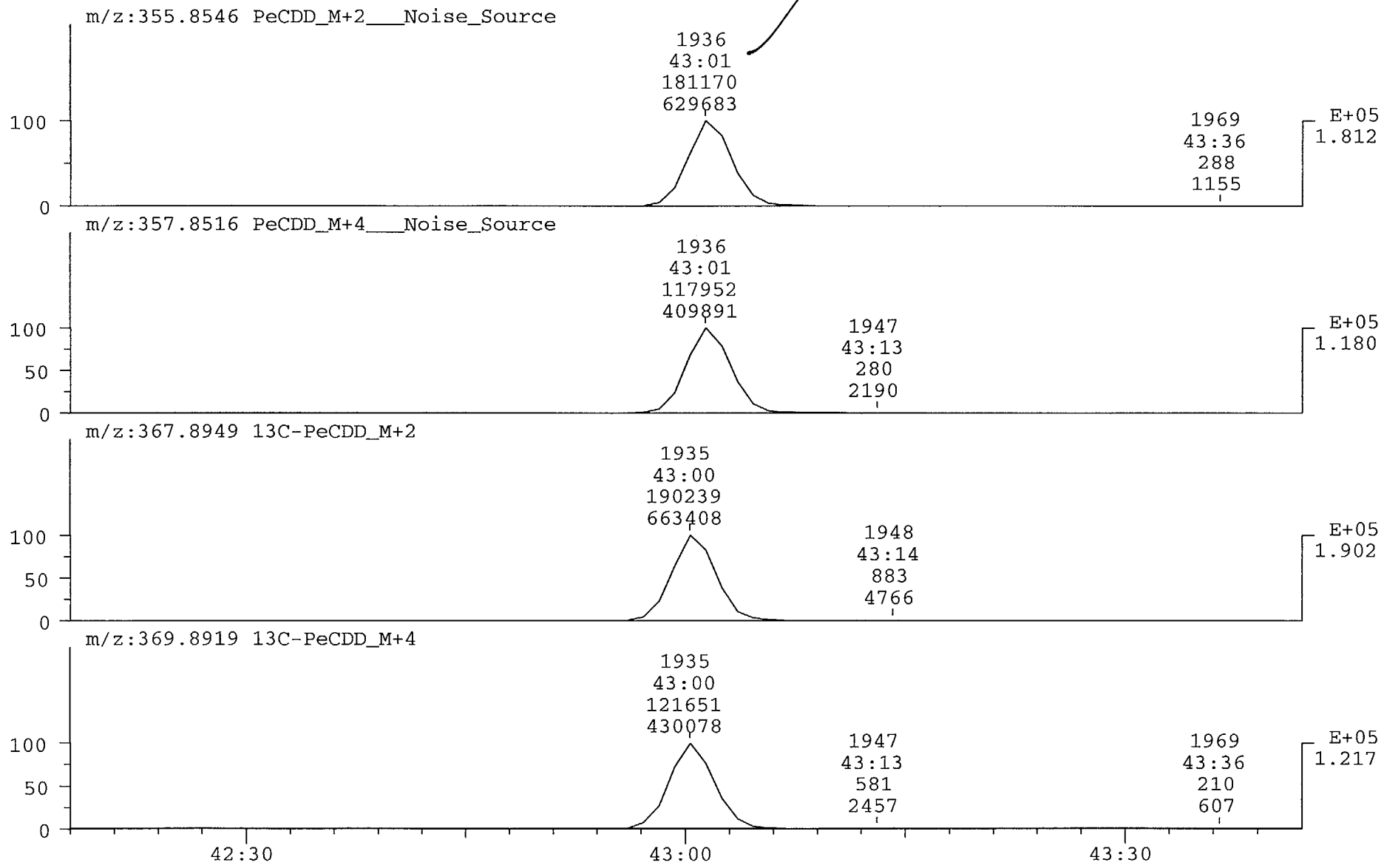
```
CHRO:  bth3eddc                              04-May-06   Elapse:  33:01      1380
Samp:  Vial 10 WO=h3edd1ac Meth=X8 Dil=1                 Start :  01:11:49   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (air)
Oper:  PMP          Client:  H6D170000-079C              Inlet :  GC     Vial  10
Peak:  100.00  ppm     Label wndw:   923 > 1653          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



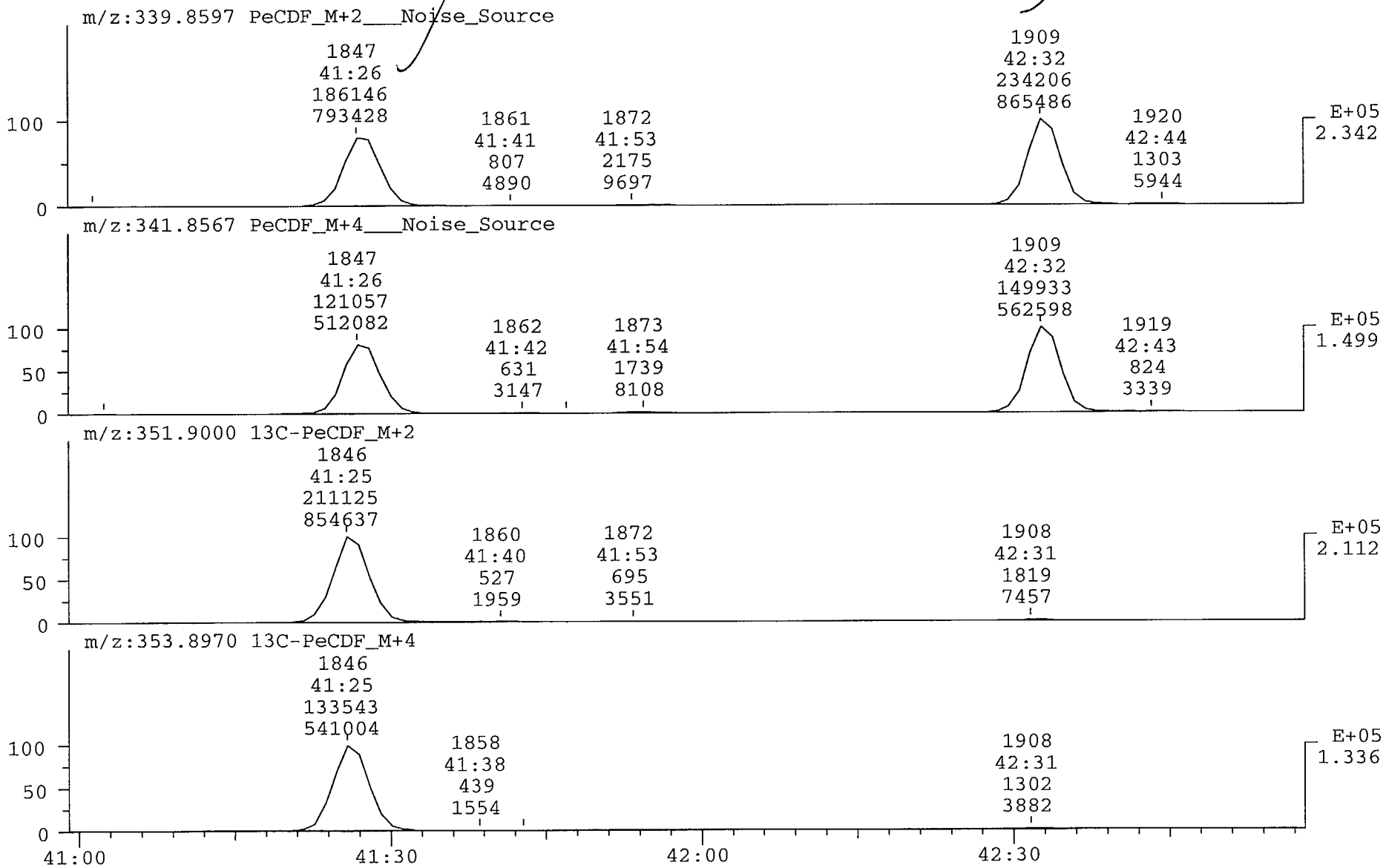
```
CHRO:  bth3eddc                              04-May-06   Elapse:  33:01      1380
Samp:  Vial 10 WO=h3edd1ac Meth=X8 Dil=1                 Start :  01:11:49   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (air)
Oper:  PMP           Client:  H6D170000-079C             Inlet :  GC     Vial  10
Peak:  100.00  ppm     Label wndw:   923 > 1653          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



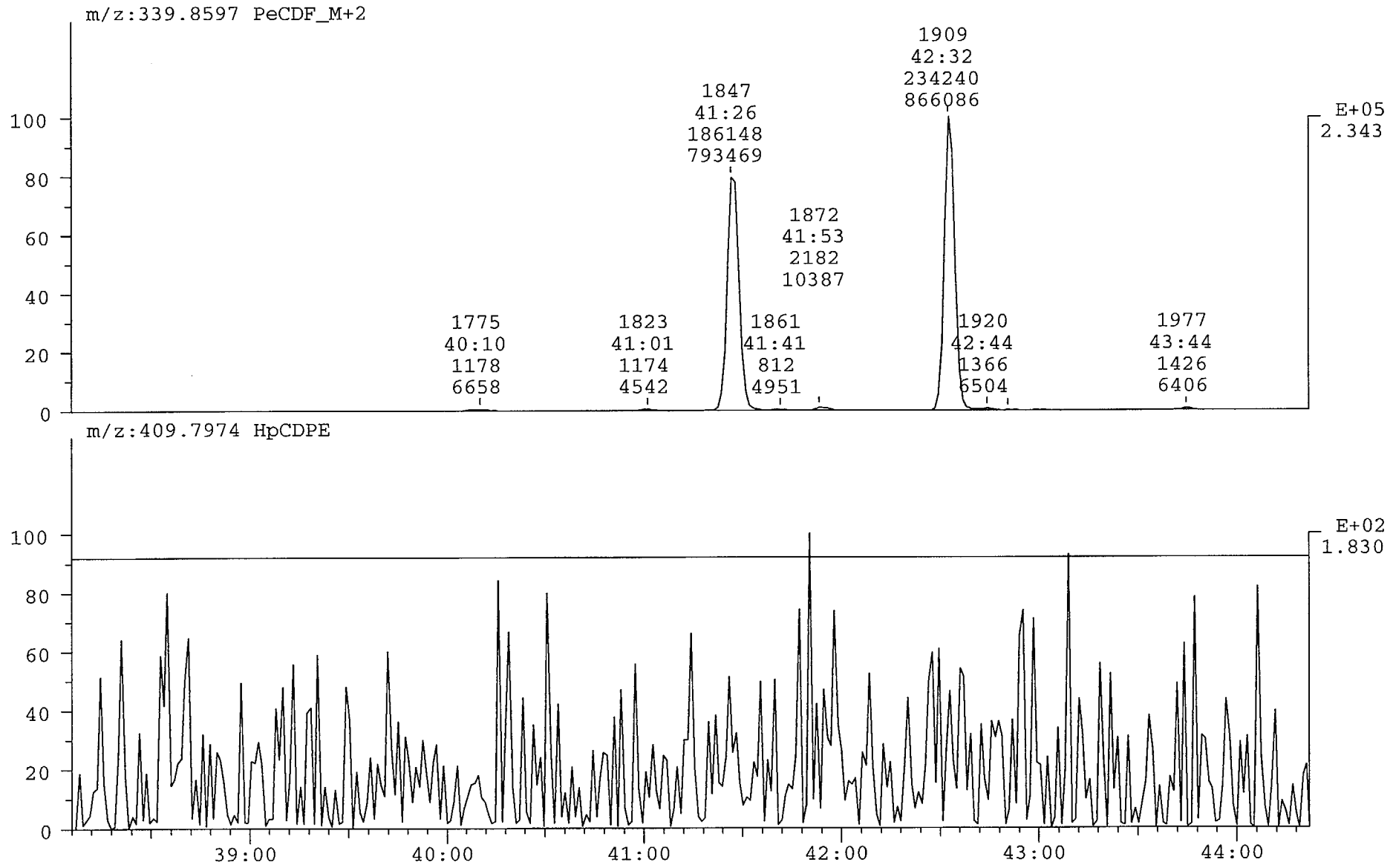
CHRO: bth3eddc 04-May-06 Elapse: 42:57 1932
Samp: Vial 10 WO=h3edd1ac Meth=X8 Dil=1 Start : 01:11:49 2889
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D170000-079C Inlet : GC Vial 10
Peak: 100.00 ppm Label wndw: 1895 > 1974 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



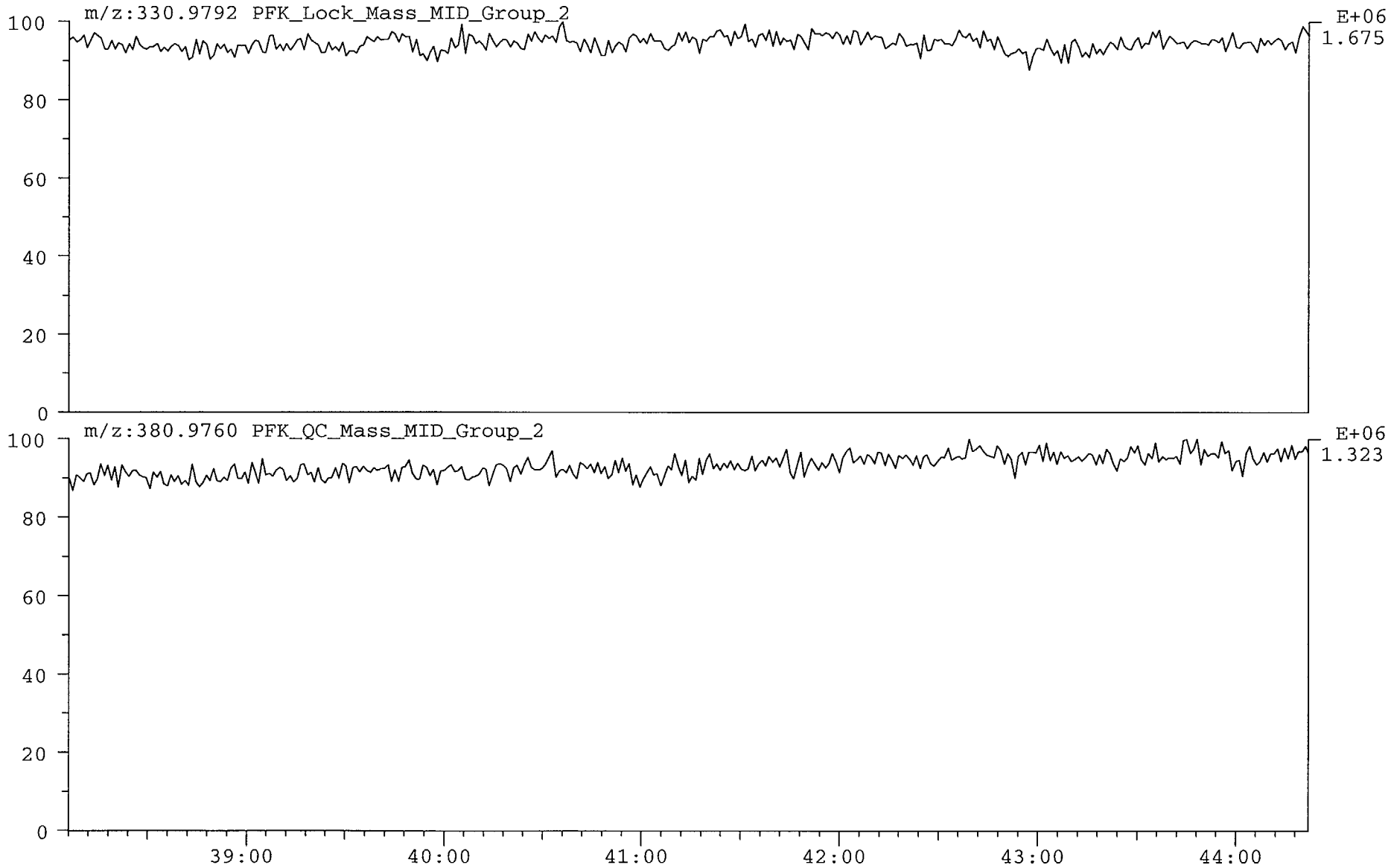
CHRO: bth3eddc 04-May-06 Elapse: 41:57 1876
Samp: Vial 10 WO=h3edd1ac Meth=X8 Dil=1 Start : 01:11:49 2889
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D170000-079C Inlet : GC Vial 10
Peak: 100.00 ppm Label wndw: 1821 > 1933 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



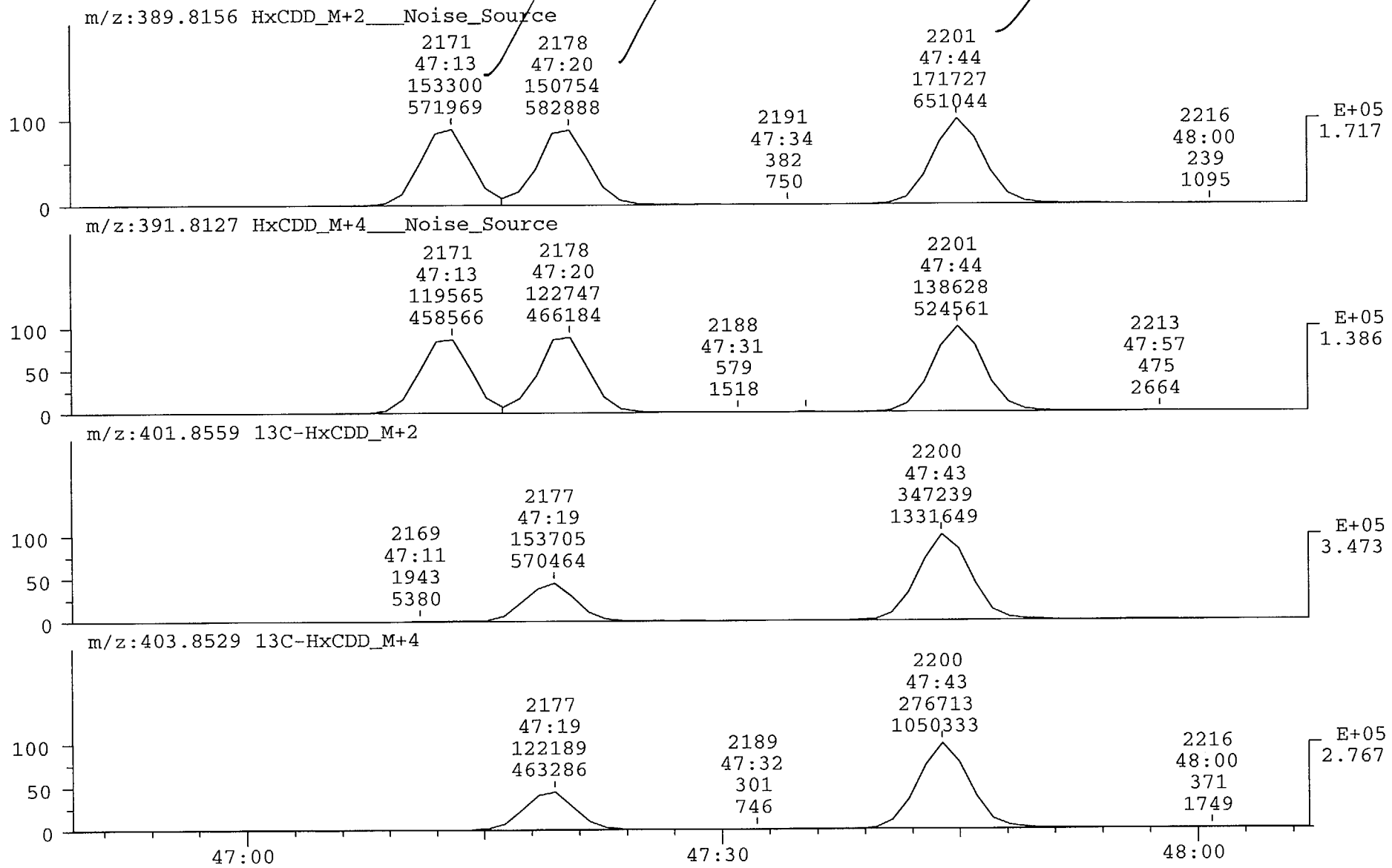
```
CHRO:  bth3eddc                                  04-May-06   Elapse:  41:57      1876
Samp:  Vial 10 WO=h3edd1ac Meth=X8 Dil=1                     Start :  01:11:49   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079C                Inlet :  GC     Vial  10
Peak:  100.00  ppm      Label wndw:   1658 > 2012            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



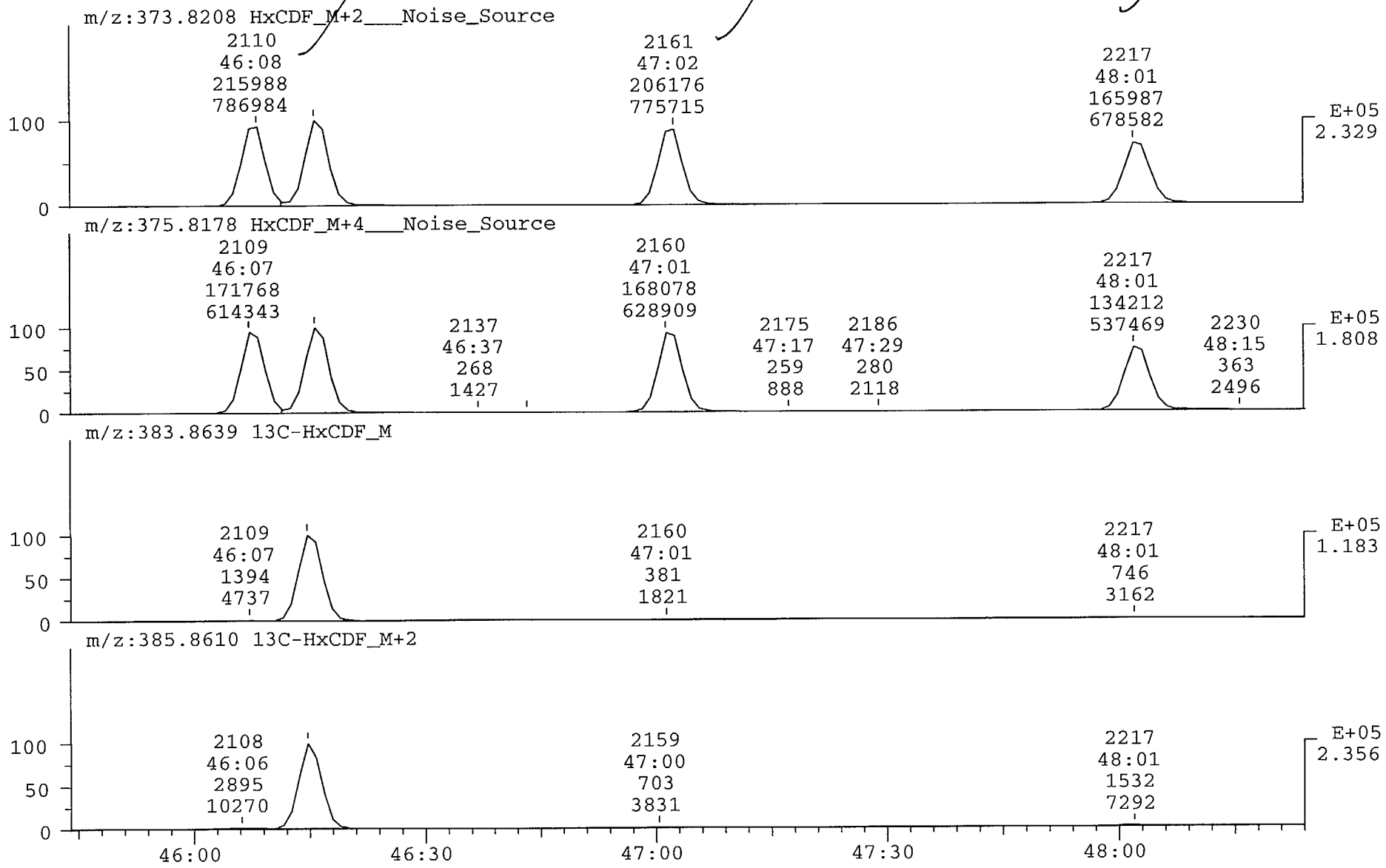
```
CHRO:  bth3eddc                              04-May-06   Elapse:  41:57      1876
Samp:  Vial 10 WO=h3edd1ac Meth=X8 Dil=1                 Start :  01:11:49   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (air)
Oper:  PMP           Client:  H6D170000-079C             Inlet :  GC     Vial  10
Peak:  100.00  ppm     Label wndw:   1658 > 2012         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



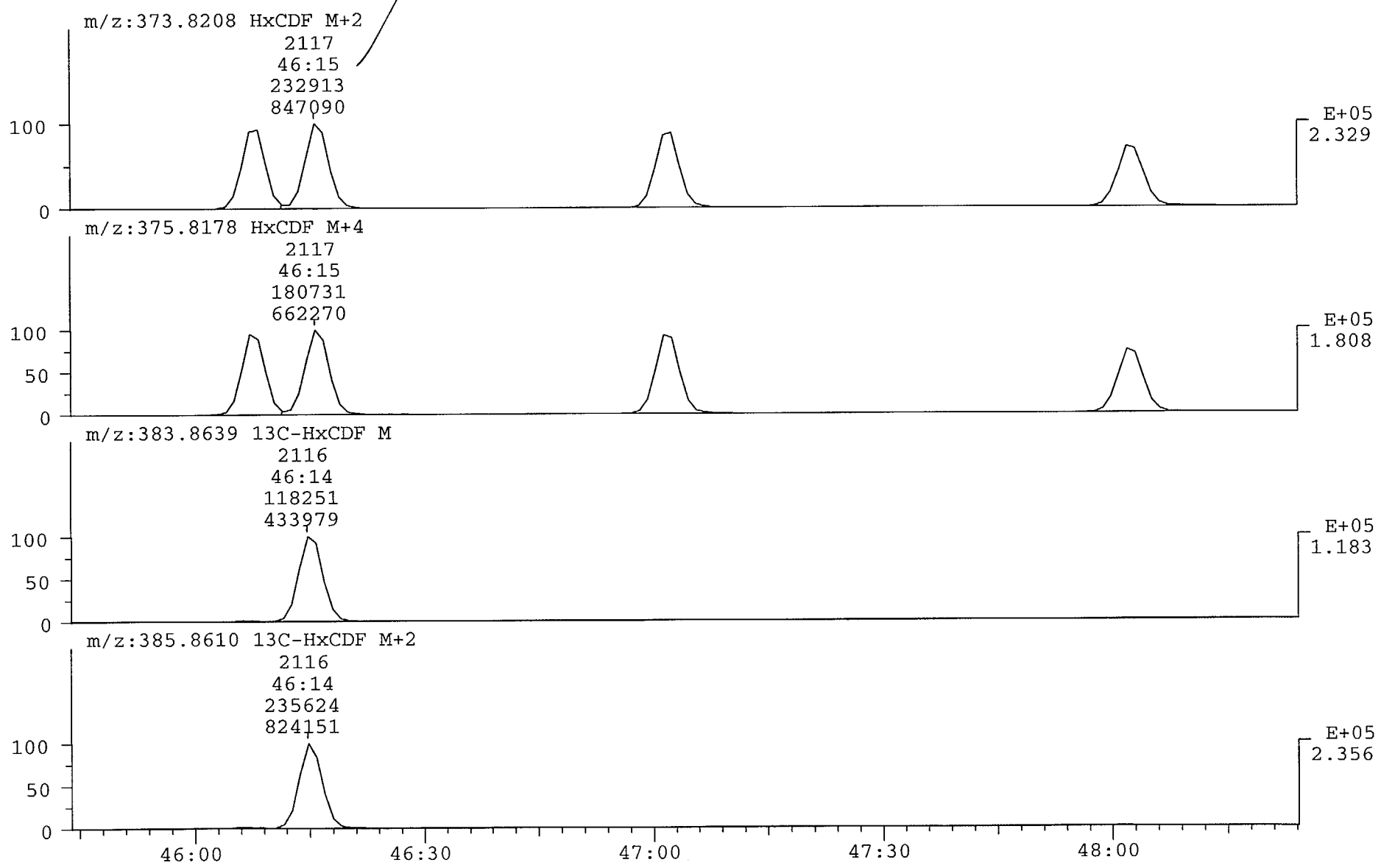
CHRO: bth3eddc 04-May-06 Elapse: 47:27 2185
Samp: Vial 10 WO=h3edd1ac Meth=X8 Dil=1 Start : 01:11:49 2889
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D170000-079C Inlet : GC Vial 10
Peak: 100.00 ppm Label wndw: 2148 > 2222 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



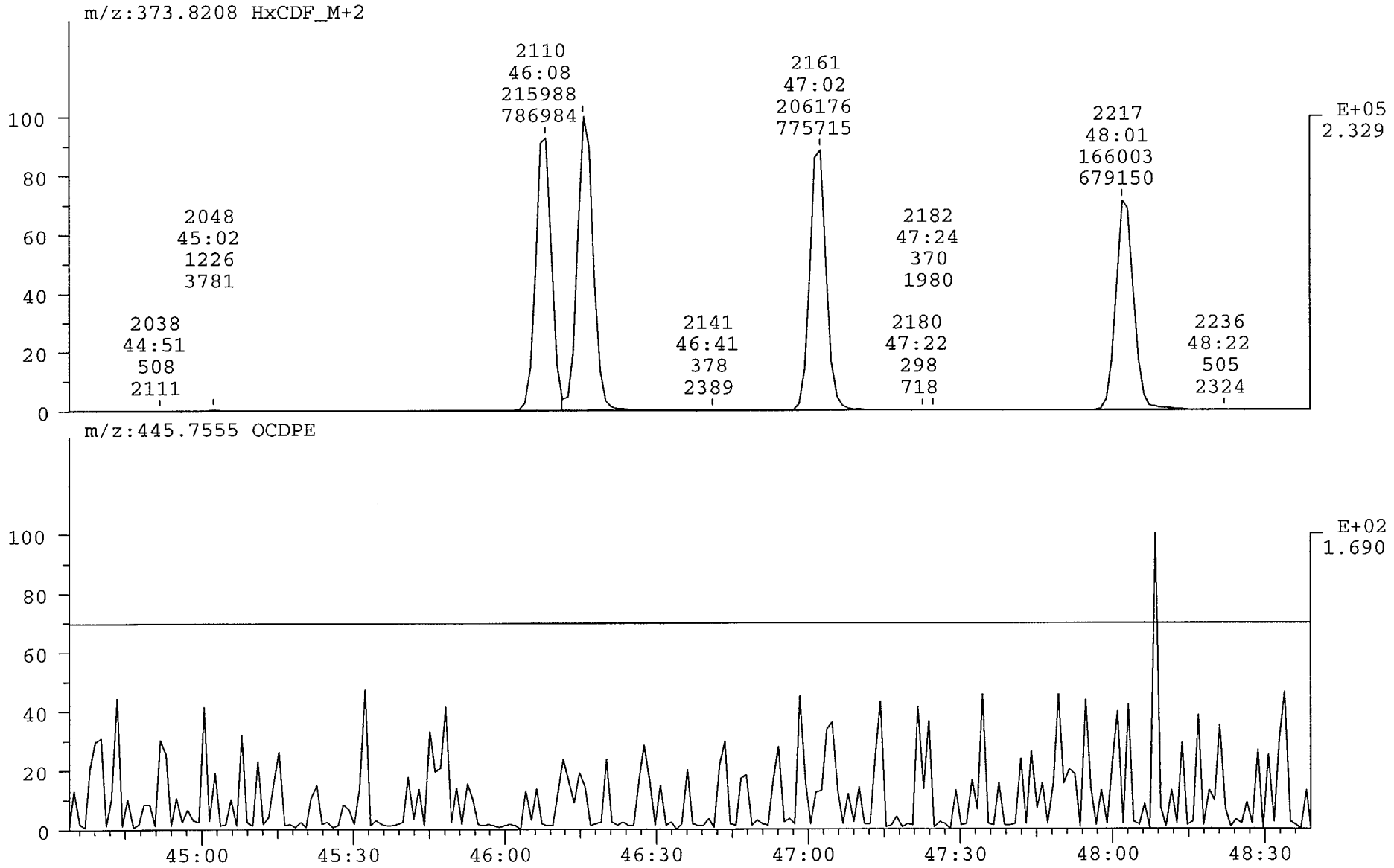
CHRO: bth3eddc 04-May-06 Elapse: 47:03 2162
Samp: Vial 10 WO=h3edd1ac Meth=X8 Dil=1 Start : 01:11:49 2889
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D170000-079C Inlet : GC Vial 10
Peak: 100.00 ppm Label wndw: 2087 > 2238 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



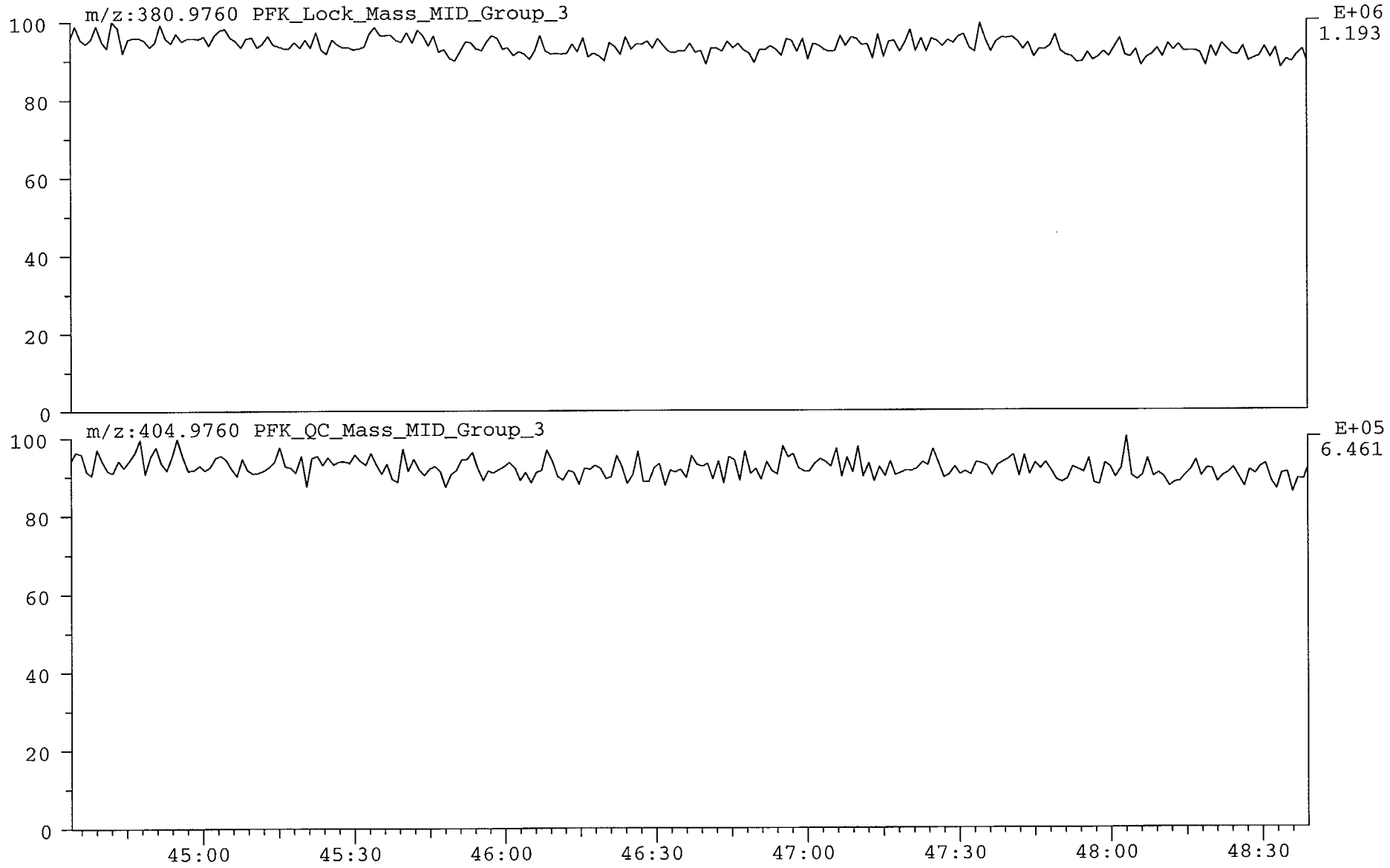
CHRO: bth3eddc 04-May-06 Elapse: 46:17 2119
Samp: Vial 10 WO=h3edd1ac Meth=X8 Dil=1 Start : 01:11:49 2889
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D170000-079C Inlet : GC Vial 10
Peak: 100.00 ppm Label wndw: 2116 > 2122 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



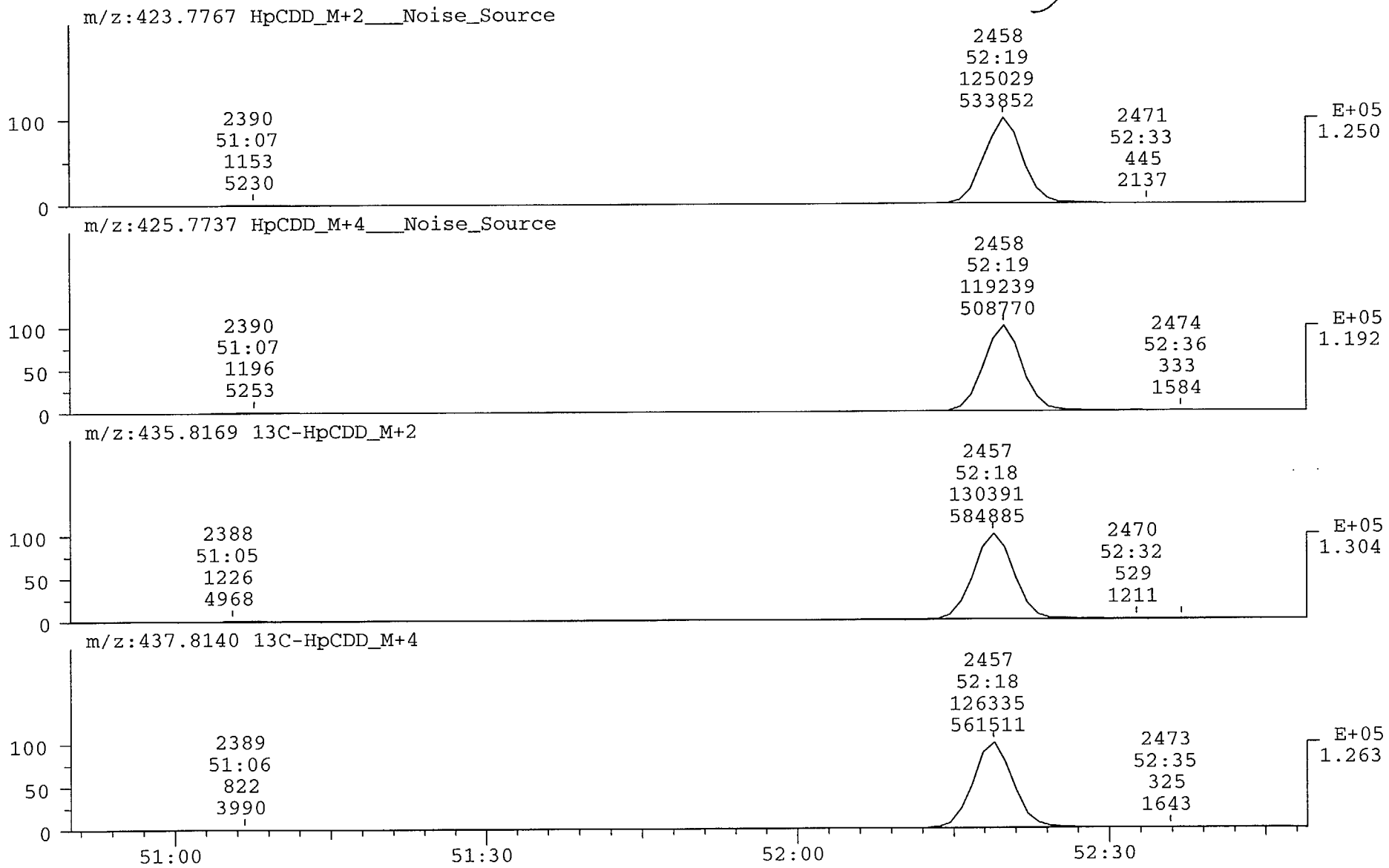
```
CHRO:  bth3eddc                                  04-May-06   Elapse:  46:11      2113
Samp:  Vial 10 WO=h3edd1ac Meth=X8 Dil=1                     Start :  01:11:49   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079C                Inlet :  GC     Vial  10
Peak:  100.00  ppm      Label wndw:   2021 > 2252            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



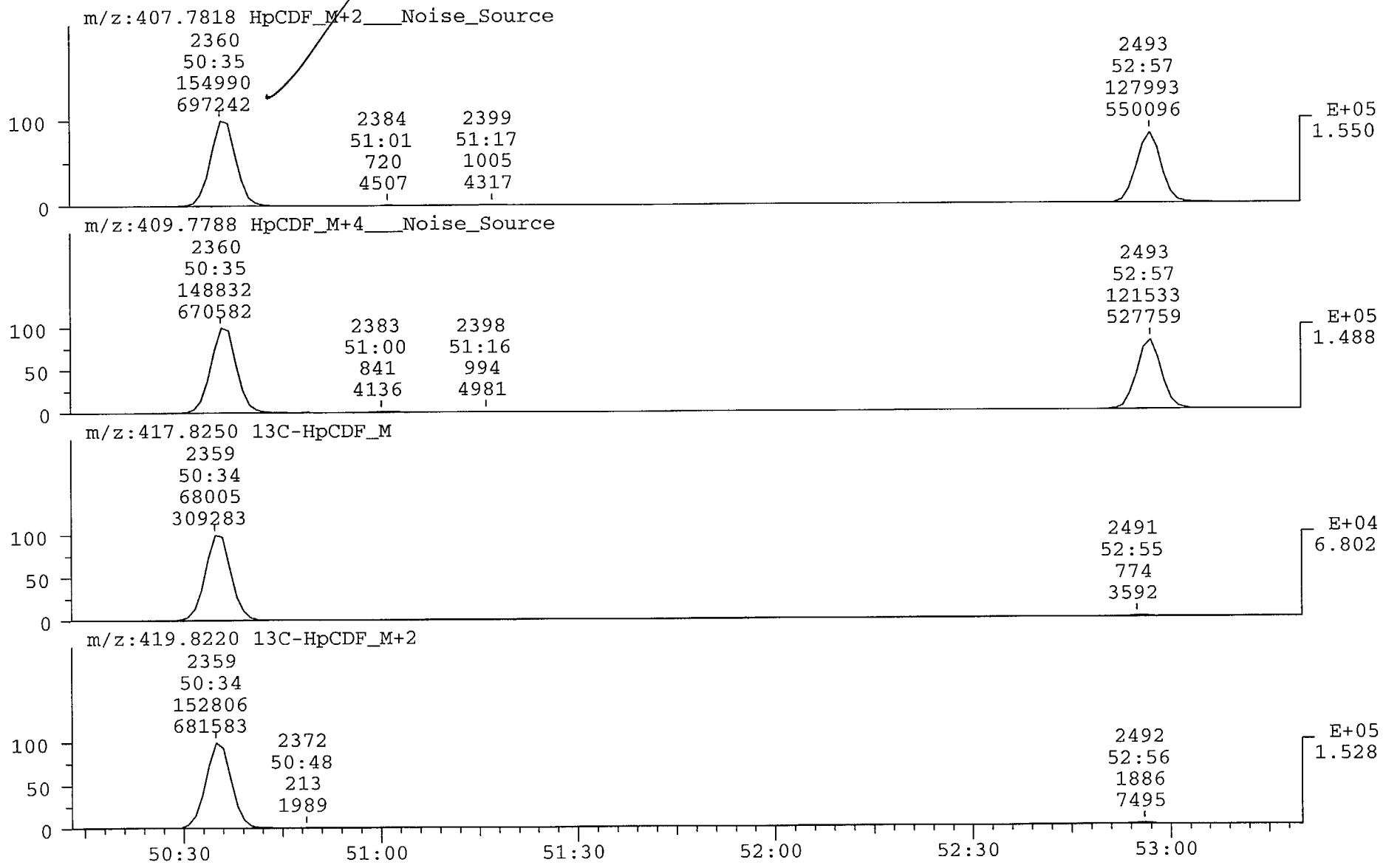
```
CHRO:  bth3eddc                                04-May-06  Elapse:  46:11      2113
Samp:  Vial 10 WO=h3edd1ac Meth=X8 Dil=1                  Start :  01:11:49   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107079 (air)
Oper:  PMP          Client:  H6D170000-079C               Inlet :  GC     Vial  10
Peak:  100.00  ppm     Label wndw:   2021 > 2252          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  0, 0.0
Disp:  Height  Area
```



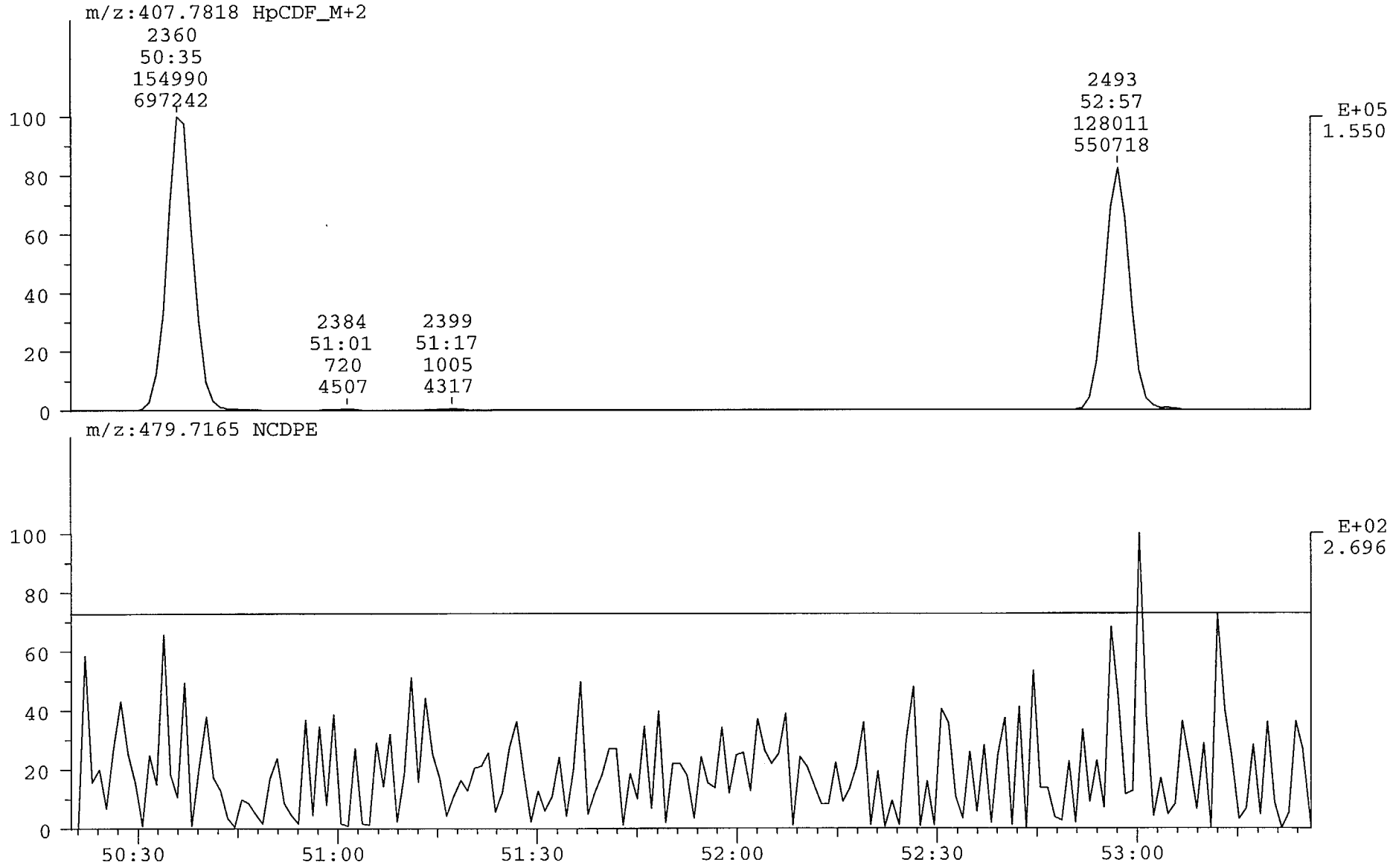
CHRO: bth3eddc 04-May-06 Elapse: 46:11 2113
Samp: Vial 10 WO=h3edd1ac Meth=X8 Dil=1 Start : 01:11:49 2889
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D170000-079C Inlet : GC Vial 10
Peak: 100.00 ppm Label wndw: 2373 > 2485 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



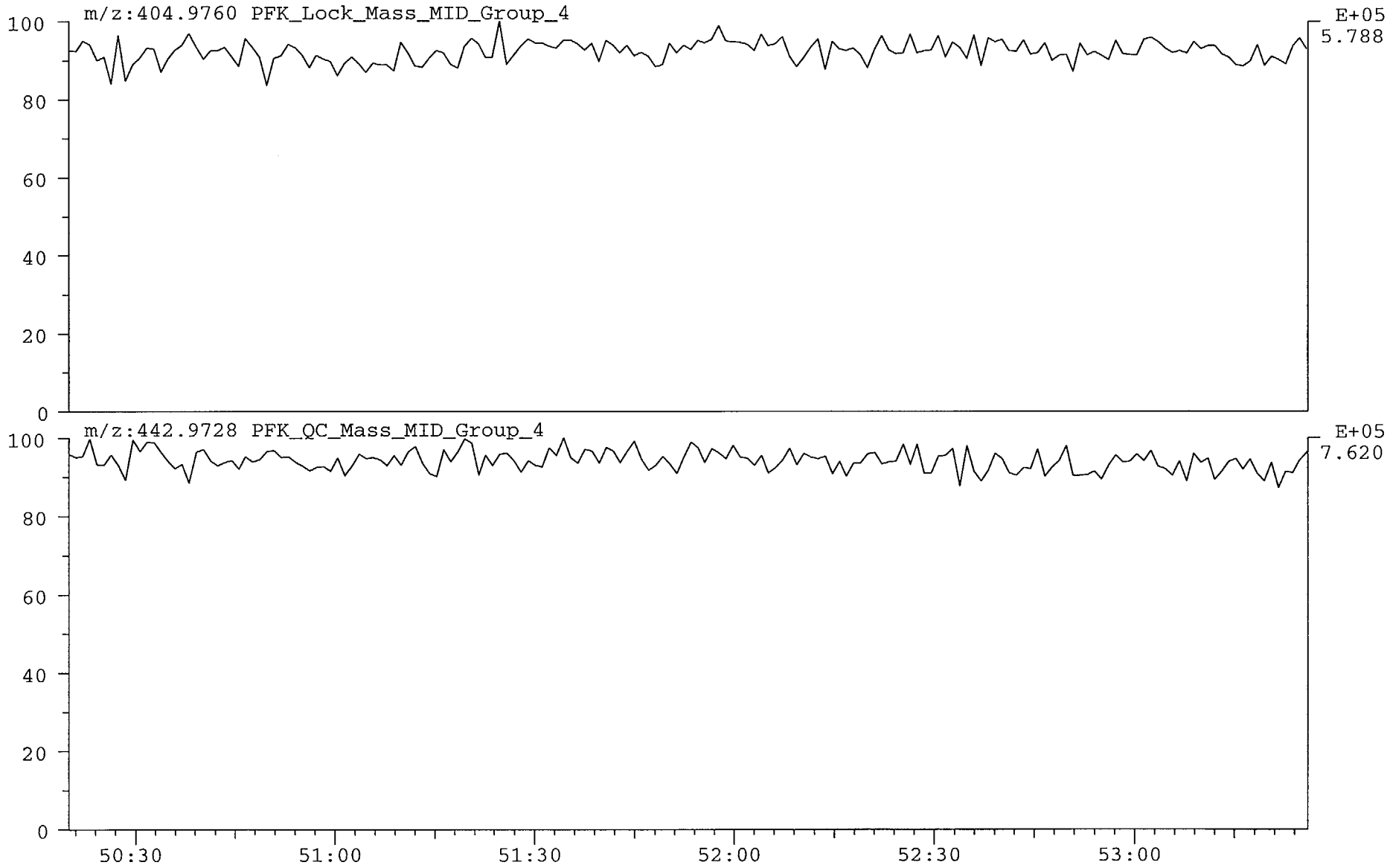
CHRO: bth3eddc 04-May-06 Elapse: 51:46 2426
Samp: Vial 10 WO=h3edd1ac Meth=X8 Dil=1 Start : 01:11:49 2889
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D170000-079C Inlet : GC Vial 10
Peak: 100.00 ppm Label wndw: 2338 > 2515 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



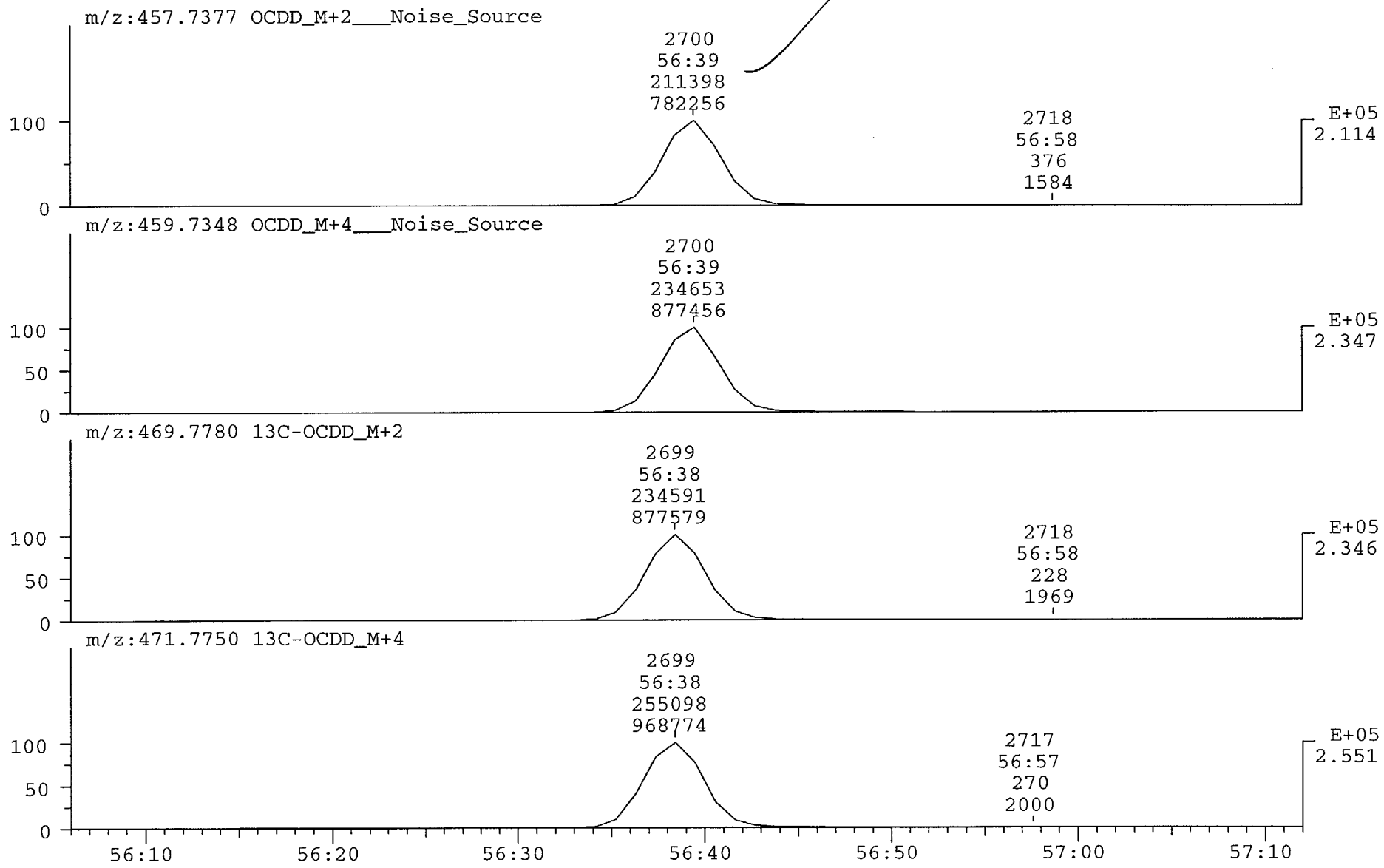
```
CHRO:  bth3eddc                                04-May-06   Elapse:  51:46      2426
Samp:  Vial 10 WO=h3edd1ac Meth=X8 Dil=1                   Start :  01:11:49   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079C              Inlet :  GC     Vial  10
Peak:  100.00  ppm      Label wndw:   2345 > 2520          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



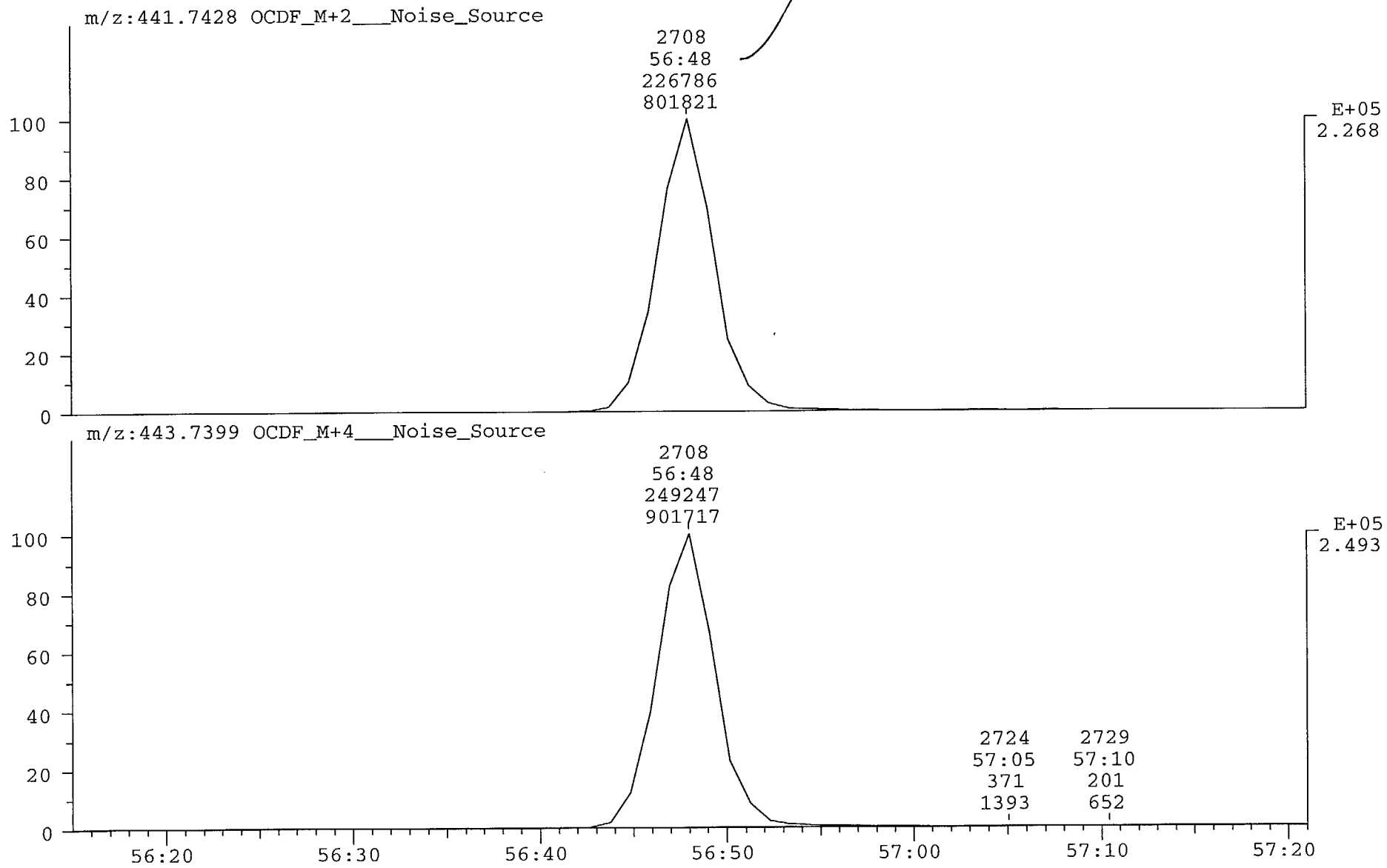
```
CHRO:  bth3eddc                              04-May-06   Elapse:  51:46      2426
Samp:  Vial 10 WO=h3edd1ac Meth=X8 Dil=1                 Start :  01:11:49   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (air)
Oper:  PMP          Client:  H6D170000-079C              Inlet :  GC     Vial  10
Peak:  100.00  ppm     Label wndw:   2345 > 2520         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



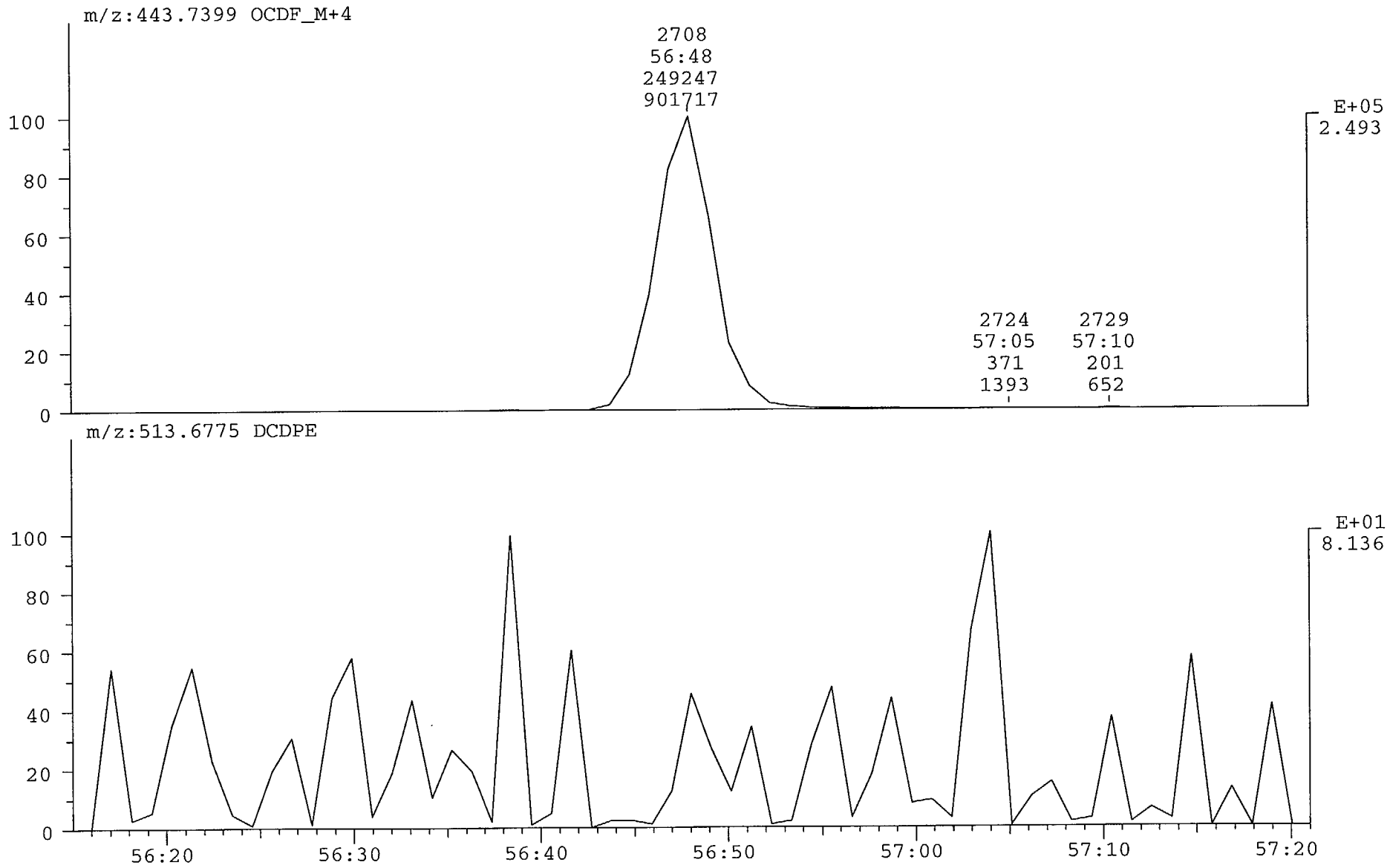
CHRO: bth3eddc 04-May-06 Elapse: 56:36 2697
Samp: Vial 10 WO=h3edd1ac Meth=X8 Dil=1 Start : 01:11:49 2889
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D170000-079C Inlet : GC Vial 10
Peak: 100.00 ppm Label wndw: 2669 > 2730 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



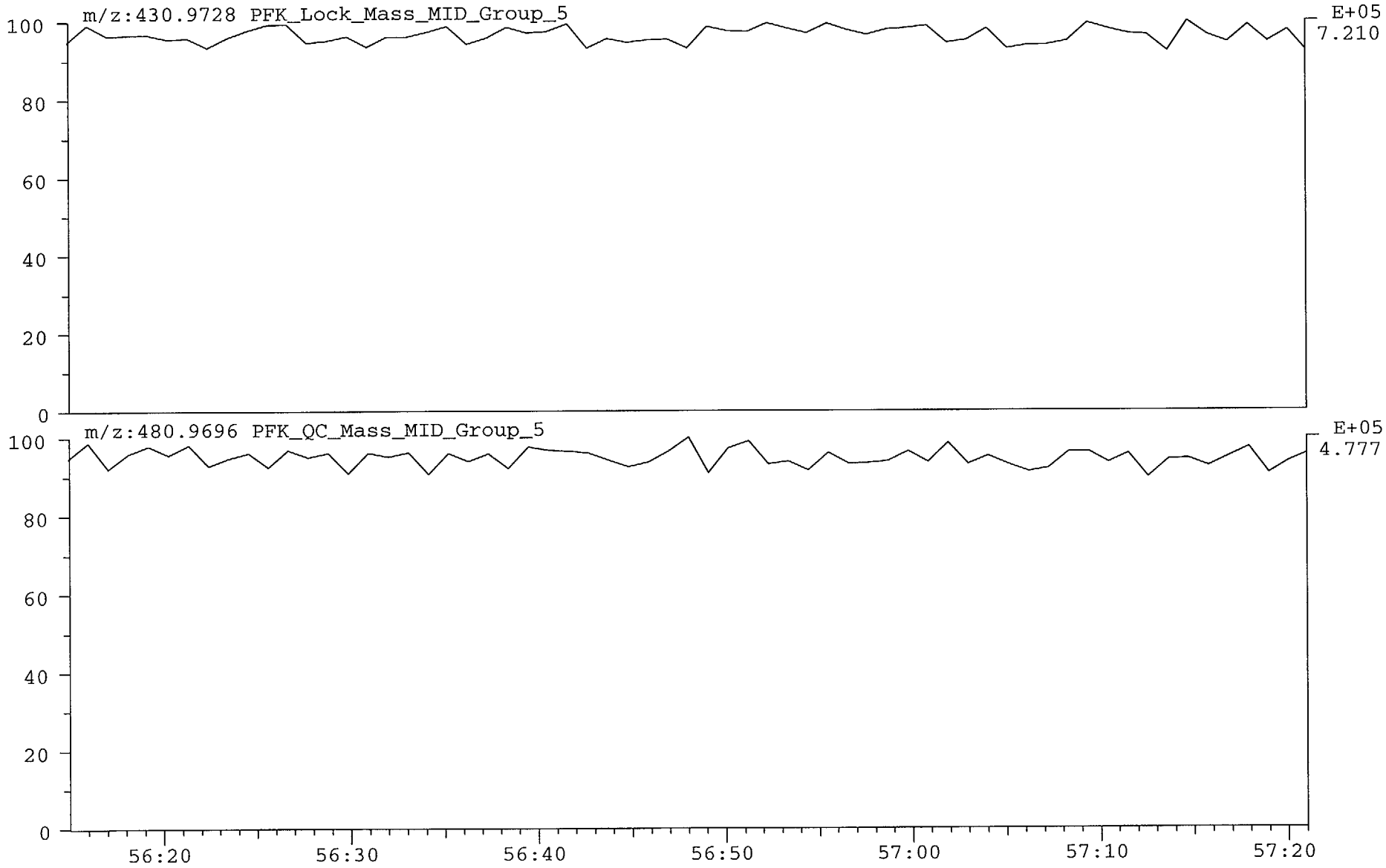
```
CHRO:  bth3eddc                                  04-May-06   Elapse:  56:44      2705
Samp:  Vial 10 WO=h3edd1ac Meth=X8 Dil=1                     Start :  01:11:49   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079C                Inlet :  GC     Vial  10
Peak:  100.00  ppm      Label wndw:   2677 > 2739            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: bth3eddc 04-May-06 Elapse: 56:44 2705
Samp: Vial 10 WO=h3edd1ac Meth=X8 Dil=1 Start : 01:11:49 2889
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D170000-079C Inlet : GC Vial 10
Peak: 100.00 ppm Label wndw: 2677 > 2739 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  bth3eddc                                04-May-06   Elapse:  56:44      2705
Samp:  Vial 10 WO=h3edd1ac Meth=X8 Dil=1                   Start :  01:11:49   2889
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079C              Inlet :  GC     Vial  10
Peak:  100.00  ppm      Label wndw:   2677 > 2739          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: bth3eddc
Study: 6107079 (air)
Sample: WO=h3edd1ac Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: PMP
Client: H6D170000-079C
Comments: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Injected volume: 2.0
Sample from Vial 10
Analysis will stop when MID run finishes
Tune file name: tune2
File 1 of list 060503
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	TRUE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	140 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	30:00 min	38:00 min	1.00 sec
# 2	38:00 min	6:25 min	44:25 min	1.00 sec
# 3	44:25 min	5:05 min	49:30 min	1.00 sec
# 4	49:30 min	5:15 min	54:45 min	1.00 sec
# 5	54:45 min	5:15 min	60:00 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

```
 351.9000       1   1      91.48
 353.8970       1   1      91.48
 355.8546       1   1      91.48
 357.8516       1   1      91.48
 367.8949       1   1      91.48
 369.8919       1   1      91.48
 380.9760 c    10   1       8.19
 409.7974       1   1      91.48
Window # 3
     mass F  int  gr  time (ms)
 373.8208       1   1      91.48
 375.8178       1   1      91.48
 380.9760 l    10   1       8.19
 383.8639       1   1      91.48
 385.8610       1   1      91.48
 389.8156       1   1      91.48
 391.8127       1   1      91.48
 401.8559       1   1      91.48
 403.8529       1   1      91.48
 404.9760 c    10   1       8.19
 445.7555       1   1      91.48
Window # 4
     mass F  int  gr  time (ms)
 404.9760 l    10   1       8.19
 407.7818       1   1      91.48
 409.7788       1   1      91.48
 417.8250       1   1      91.48
 419.8220       1   1      91.48
 423.7767       1   1      91.48
 425.7737       1   1      91.48
 435.8169       1   1      91.48
 437.8140       1   1      91.48
 442.9728 c    10   1       8.19
 479.7165       1   1      91.48
Window # 5
     mass F  int  gr  time (ms)
 430.9728 l    10   1      10.92
 441.7428       1   1     120.15
 443.7399       1   1     120.15
 457.7377       1   1     120.15
 459.7348       1   1     120.15
 469.7780       1   1     120.15
 471.7750       1   1     120.15
 480.9696 c    10   1      10.92
 513.6775       1   1     120.15

Auto Sampler descriptor: pcdd2ul
 Injector A
 Normal Injection
 Slvnt A cln before inj(K):      3 times
 Slvnt B cln before inj(L):      0 times
 Sample rinse cycles   (R):      0 times
 Syringe filling volume(F):    1.0 ul
 Pullup delay time     (D):      4 sec
 Sample pullup speed   (E):    5.0 ul/sec
 Slvnt aftr pre inj cln(U):    0.0 ul
 Air after pre inj cln (G):    2.0 ul
 Sample volume         (V):    2.0 ul
 Sample air volume     (A):    2.0 ul
 Sample pullup count   (P):      2 times
 Injection speed       (S):   10.0 ul/sec
 Injection wait time   (W):     10 sec
 Injection hold time   (H):      3 sec
 Solvent A clean cycles(C):     15 times
 Solvent B clean cycles(B):     20 times
 Loop clean w slvnt A (LC):      0 times
```

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8412.0000
BDEV	8288.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.7814	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9992
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-738.5000	ELEN	61.7750
EMULT	1.8000	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	189.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	543.0000	FVINLET	559.0000
FVSRC	992.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.5588	HVANAL	1581.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4754.5740	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	430.9728
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	2781.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10643.8407	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.6700	TCURR	0.8984	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 04-May-06 01:11:49.5

Autosampler has injected sample from vial 10
Analysis stopped at: 04-May-06 02:11:51.7 (run time 60.03 minutes)
Analysis stopped because MID run finished

STL - Knoxville

IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H3EDD1AD	**Prep Batch**	6107079	**Lot No**	H6D170000-079
Data File	/20060503s3/bth3eddl.d	**Prep Date**	04/17/06	**SDG No**	
Analysis ID	90489	**Prep Exp Date**	04/27/06	**Date Received**	04/17/06
Analysis Date	5/4/2006	**Matrix**	AIR	**Date Sampled**	03/28/06
Analysis Time	02:14	**Initial Wt/Vol**	1	**Lims Test Code**	XXSINX801
Anal Exp Date	06/01/06	**Extract Vol**	20	**Method**	0023/8290
Instrument	M2A	**Dil Factor**	1.0	**Code**	X8
Analyst	PMP				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (pg/sample		DL (pg/samp
2,3,7,8-TCDD	35:15	294717	33314	1.060	200.0	199.553647	99.78	199.553647		2.18
Total TCDD				1.060		199.553647		199.553647		2.18
2,3,7,8-TCDF	33:02	372558	39994	1.064	200.0	188.116392	94.06	188.116392		1.89
Total TCDF				1.064		188.116392		188.116392		1.89
1,2,3,7,8-PeCDD	42:58	1318202	365089	0.977	1000	977.456848	97.75	977.456848		1.07
Total PeCDD				0.977		977.456848		977.456848		1.07
1,2,3,7,8-PeCDF	41:24	1694833	407982	0.955	1000	1010.46981	101.05	1010.46981		1.01
2,3,4,7,8-PeCDF	42:29	1722476	478622	1.018	1000	963.919137	96.39	963.919137		0.948
Total PeCDF				0.987		1974.38895		1974.38895		0.978
1,2,3,4,7,8-HxCDD	47:10	1182294	315176	1.047	1000	978.501115	97.85	978.501115		1.24
1,2,3,6,7,8-HxCDD	47:17	1201581	314965	1.055	1000	987.361043	98.74	987.361043		1.23
1,2,3,7,8,9-HxCDD	47:42	1330023	359872	1.146	1000	1006.08415	100.61	1006.08415	B	1.13
Total HxCDD				1.083		2971.94631		2971.94631	B	1.20
1,2,3,4,7,8-HxCDF	46:04	1634083	450029	1.101	1000	1019.94190	101.99	1019.94190		1.11
1,2,3,6,7,8-HxCDF	46:12	1822401	506547	1.184	1000	1057.45903	105.75	1057.45903		1.03
2,3,4,6,7,8-HxCDF	46:59	1584117	415708	1.052	1000	1034.29642	103.43	1034.29642	B	1.16
1,2,3,7,8,9-HxCDF	48:00	1419359	344306	0.982	1000	993.207051	99.32	993.207051		1.24
Total HxCDF				1.080		4104.90440		4104.90440	B	1.13
1,2,3,4,6,7,8-HpCDD	52:17	1142371	263434	1.018	1000	908.134121	90.81	908.134121		1.10
Total HpCDD				1.018		908.134121		908.134121		1.10
1,2,3,4,6,7,8-HpCDF	50:33	1660719	369619	1.403	1000	1042.39043	104.24	1042.39043	B	0.979
1,2,3,4,7,8,9-HpCDF	52:54	1260157	294456	1.197	1000	927.545989	92.75	927.545989	B	1.15
Total HpCDF				1.300		1969.93642		1969.93642	B	1.06
OCDD	56:36	2074220	564665	0.965	2000	1998.20881	99.91	1998.20881	B	1.15
OCDF	56:45	2199419	596156	1.103	2000	1852.57963	92.63	1852.57963	B	1.14
13C-2,3,7,8-TCDD	35:11	1392760	158785	1.068	1000	1055.88528	105.59	1055.88528		4.61
13C-2,3,7,8-TCDF	33:00	1861757	198458	1.413	1000	1066.49015	106.65	1066.49015		2.52
13C-1,2,3,7,8-PeCDD	42:57	1380772	390336	0.882	1000	1267.65916	126.77	1267.65916		2.97
13C-1,2,3,7,8-PeCDF	41:22	1755791	422318	1.188	1000	1196.51190	119.65	1196.51190		2.10
13C-1,2,3,6,7,8-HxCDD	47:16	1153798	312328	0.943	1000	1007.56357	100.76	1007.56357		1.26
13C-1,2,3,6,7,8-HxCDF	46:11	1455323	407956	1.272	1000	942.419654	94.24	942.419654		0.775
13C-1,2,3,4,6,7,8-HpCDD	52:16	1236208	273603	0.918	1000	1108.87768	110.89	1108.87768		0.899
13C-1,2,3,4,6,7,8-HpCDF	50:32	1135313	252870	0.916	1000	1020.83674	102.08	1020.83674		1.02
13C-OCDD	56:35	2151937	581860	0.850	2000	2085.86210	104.29	2085.86210		0.953
37Cl4-2,3,7,8-TCDD				1.046	2000			ND		1.08
13C-2,3,4,7,8-PeCDF				1.010	2000			ND		0.727
13C-1,2,3,4,7,8-HxCDD				0.902	2000			ND		1.38
13C-1,2,3,4,7,8-HxCDF				0.988	2000			ND		0.800
13C-1,2,3,7,8,9-HxCDF				1.113				ND		0.886
13C-1,2,3,4,7,8,9-HpCDF				0.912	2000			ND		1.32
13C-1,2,3,4-TCDD	34:38	2470157	247995	1.000	2000	2000.00000	100.00	2000.00000		4.92
13C-1,2,3,7,8,9-HxCDD	47:41	2428026	654342	1.000	2000	2000.00000	100.00	2000.00000		1.18

BJW 5/4/06
Prep 5-6-06

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H3EDD1AD	Prep Batch	6107079	Lot No	H6D170000-079
Data File	/20060503s3/bth3eddl.d	Prep Date	04/17/06	SDG No	
Analysis ID	90489	Prep Exp Date	04/27/06	Date Received	04/17/06
Analysis Date	05/04/06 02:14	Matrix	AIR	Date Sampled	03/28/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSINX801
Instrument	M2A	Extract Vol	20 uL	Method	0023/8290
Analyst	PMP	Diluton Factor	1.00	Code	X8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					**303.9016**	**305.8987**	**303.9016**	**305.8987**	**0.65-0.89**		
	Noise	00:00	00:00	0	188	213	75	85	0.88	/	
	2,3,7,8-TCDF	33:02	33:03	-1	163946	208612	17927	22067	0.79	ABV/ABB	
316					**315.9419**	**317.9389**	**315.9419**	**317.9389**	**0.65-0.89**		
	Noise	00:00	00:00	0	200	243	80	97	0.82	/	
	13C-2,3,7,8-TCDF	33:00	33:00	0	817875	1043882	87791	110667	0.78	ABV/AVV	
320					**319.8965**	**321.8936**	**319.8965**	**321.8936**	**0.65-0.89**		
	Noise	00:00	00:00	0	175	193	70	77	0.91 *	/	
	2,3,7,8-TCDD	35:15	35:13	2	127555	167162	14929	18385	0.76	ABB/ABV	D
328					**327.8847**		**327.8847**				
	Noise	00:00	00:00	0	180		72				
332					**331.9368**	**333.9338**	**331.9368**	**333.9338**	**0.65-0.89**		
	Noise	00:00	00:00	0	300	310	120	124	0.97 *	/	
	13C-1,2,3,4-TCDD	34:38	34:38	0	1100340	1369817	109981	138014	0.80	AVV/ABV	
	13C-2,3,7,8-TCDD	35:11	35:11	0	610887	781873	68759	90026	0.78	AVV/AVV	
340					**339.8597**	**341.8567**	**339.8597**	**341.8567**	**1.32-1.78**		
	Noise	00:00	00:00	0	195	213	78	85	0.92 *	/	
	1,2,3,7,8-PeCDF	41:24	41:24	0	1031909	662924	244296	163686	1.56	ABV/ABV	
	2,3,4,7,8-PeCDF	42:29	42:29	0	1039022	683454	288245	190377	1.52	ABV/ABV	
352					**351.9000**	**353.8970**	**351.9000**	**353.8970**	**1.32-1.78**		
	Noise	00:00	00:00	0	145	165	58	66	0.88 *	/	
	13C-1,2,3,7,8-PeCDF	41:22	41:22	0	1067571	688220	255978	166340	1.55	ABV/ABV	
356					**355.8546**	**357.8516**	**355.8546**	**357.8516**	**1.32-1.78**		
	Noise	00:00	00:00	0	223	185	89	74	1.20 *	/	
	1,2,3,7,8-PeCDD	42:58	42:57	1	802120	516082	220261	144828	1.55	ABV/ABV	
368					**367.8949**	**369.8919**	**367.8949**	**369.8919**	**1.32-1.78**		
	Noise	00:00	00:00	0	163	163	65	65	1.00 *	/	
	13C-1,2,3,7,8-PeCDD	42:57	42:56	1	834712	546060	238275	152061	1.53	ABV/ABV	
	Unidentified	43:10	00:00	0	7034	3963	1097	1073	1.77	AVV/AVB	
374					**373.8208**	**375.8178**	**373.8208**	**375.8178**	**1.05-1.43**		
	Noise	00:00	00:00	0	275	223	110	89	1.24	/	
	1,2,3,4,7,8-HxCDF	46:04	46:03	1	904518	729565	246676	203353	1.24	ABV/ABV	
	1,2,3,6,7,8-HxCDF	46:12	46:12	0	1016344	806057	279283	227264	1.26	AVV/AVV	
	2,3,4,6,7,8-HxCDF	46:59	46:57	2	880274	703843	228033	187675	1.25	AVV/ABV	
	1,2,3,7,8,9-HxCDF	48:00	47:59	1	797638	621721	190131	154175	1.28	ABV/ABV	
384					**383.8639**	**385.8610**	**383.8639**	**385.8610**	**0.43-0.59**		
	Noise	00:00	00:00	0	143	180	57	72	0.79 *	/	
	13C-1,2,3,6,7,8-HxCDF	46:11	46:10	1	501279	954044	139163	268793	0.53	AVV/AVV	
390					**389.8156**	**391.8127**	**389.8156**	**391.8127**	**1.05-1.43**		
	Noise	00:00	00:00	0	193	213	77	85	0.91 *	/	
	1,2,3,4,7,8-HxCDD	47:10	47:09	1	648774	533520	171864	143312	1.22	ABV/ABV	
	1,2,3,6,7,8-HxCDD	47:17	47:16	1	659640	541941	172733	142232	1.22	AVV/AVV	
	1,2,3,7,8,9-HxCDD	47:42	47:42	0	742550	587473	201923	157949	1.26	AVV/AVV	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H3EDD1AD	Prep Batch	6107079	Lot No	H6D170000-079
Data File	/20060503s3/bth3eddl.d	Prep Date	04/17/06	SDG No	
Analysis ID	90489	Prep Exp Date	04/27/06	Date Received	04/17/06
Analysis Date	05/04/06 02:14	Matrix	AIR	Date Sampled	03/28/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSINX801
Instrument	M2A	Extract Vol	20 uL	Method	0023/8290
Analyst	PMP	Diluton Factor	1.00	Code	X8

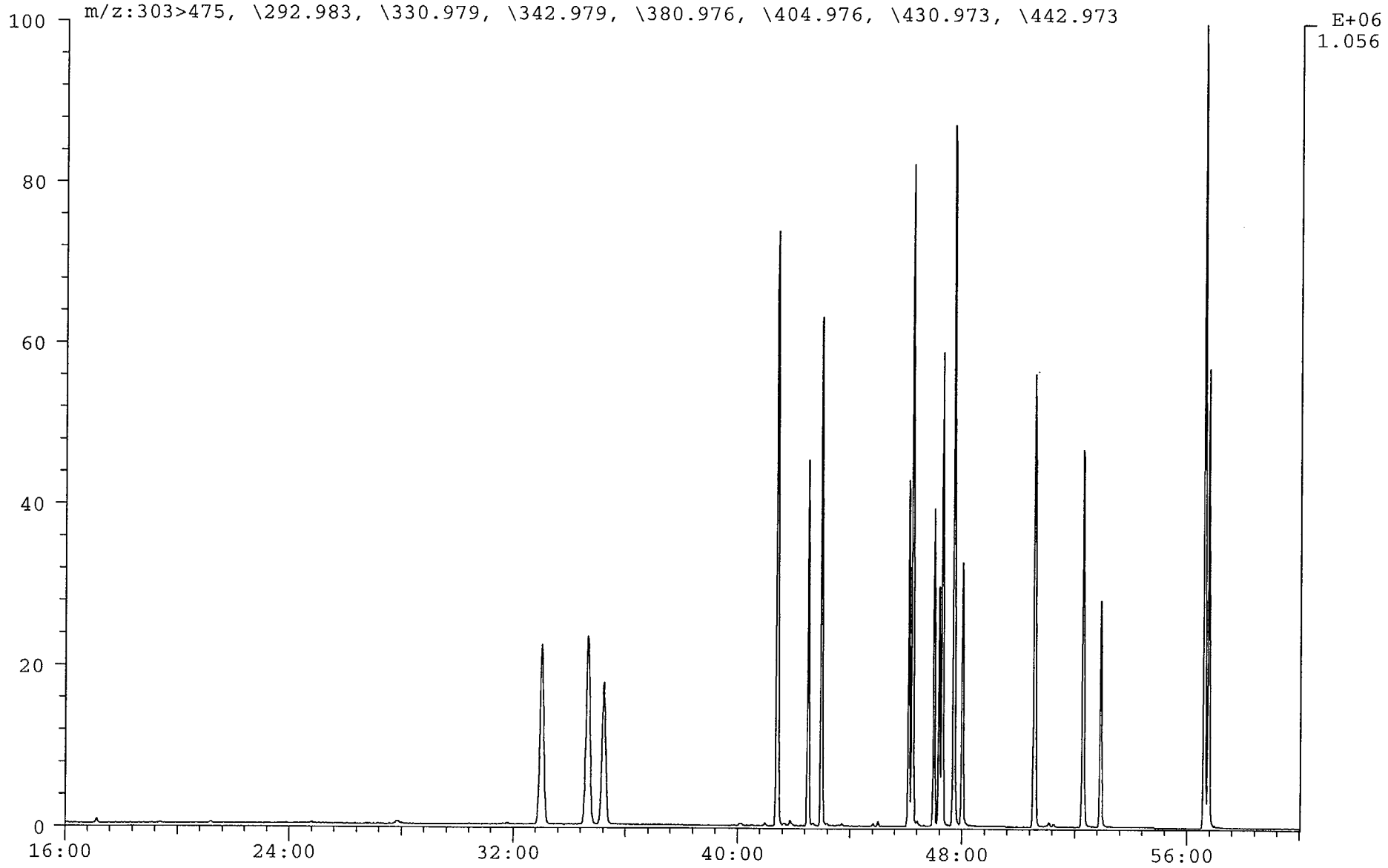
View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration Flags
402					**401.8559**	**403.8529**	**401.8559**	**403.8529**	**1.05-1.43**	
	Noise	00:00	00:00	0	173	215	69	86	0.80 *	/
	13C-1,2,3,6,7,8-HxCDD	47:16	47:15	1	638063	515735	173632	138696	1.24	AVV/AVB
	13C-1,2,3,7,8,9-HxCDD	47:41	47:41	0	1350370	1077656	360876	293466	1.25	AVV/ABV
408					**407.7818**	**409.7788**	**407.7818**	**409.7788**	**0.88-1.20**	
	Noise	00:00	00:00	0	160	188	64	75	0.85 *	/
	1,2,3,4,6,7,8-HpCDF	50:33	50:33	0	846315	814404	186663	182956	1.04	ABV/ABV
	1,2,3,4,7,8,9-HpCDF	52:54	52:54	0	642677	617480	148748	145708	1.04	ABV/ABV
418					**417.8250**	**419.8220**	**417.8250**	**419.8220**	**0.37-0.51**	
	Noise	00:00	00:00	0	145	160	58	64	0.91 *	/
	13C-1,2,3,4,6,7,8-HpCDF	50:32	50:32	0	355099	780214	78002	174868	0.46	ABV/ABV
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**	
	Noise	00:00	00:00	0	173	135	69	54	1.28 *	/
	1,2,3,4,6,7,8-HpCDD	52:17	52:17	0	577198	565173	130617	132817	1.02	ABV/ABV
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**	
	Noise	00:00	00:00	0	150	120	60	48	1.25 *	/
	Unidentified	51:03	00:00	0	7093	5941	1581	1262	1.19	ABB/ABB
	13C-1,2,3,4,6,7,8-HpCDD	52:16	52:16	0	624354	611854	136987	136616	1.02	ABV/ABV
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**	
	Noise	00:00	00:00	0	178	188	71	75	0.95	/
	OCDF	56:45	56:45	0	1039599	1159820	285260	310896	0.90	ABV/ABV
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**	
	Noise	00:00	00:00	0	153	170	61	68	0.90	/
	OCDD	56:36	56:36	0	971979	1102241	265584	299081	0.88	ABV/ABV
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**	
	Noise	00:00	00:00	0	108	158	43	63	0.68 *	/
	13C-OCDD	56:35	56:35	0	1018946	1132991	277935	303925	0.90	ABV/ABV

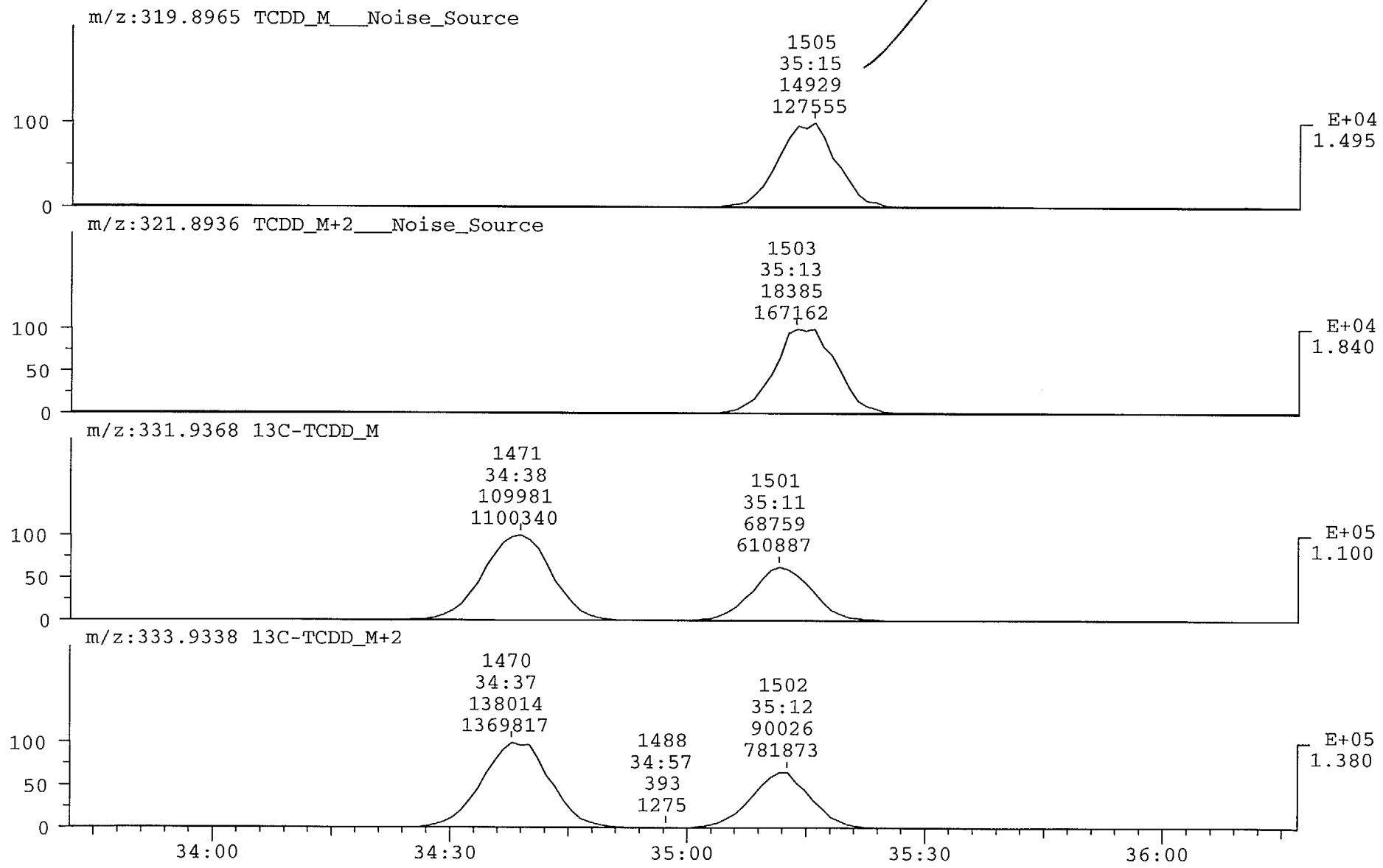
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

```
CHRO:  bth3edd1                                  04-May-06   Elapse:  46:16      2119
Samp:  Vial 11 WO=h3edd1ad Meth=X8 Dil=1                     Start :  02:14:51   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079L                Inlet :  GC     Vial  11
Peak:  100.00  ppm      Label wndw:   442 > 2891             Masses:  293 > 514
Area:  5, 0.50, 0       Baseline  :   100, 3                 Label :  0, 0.0
Disp:  Height  Area
```

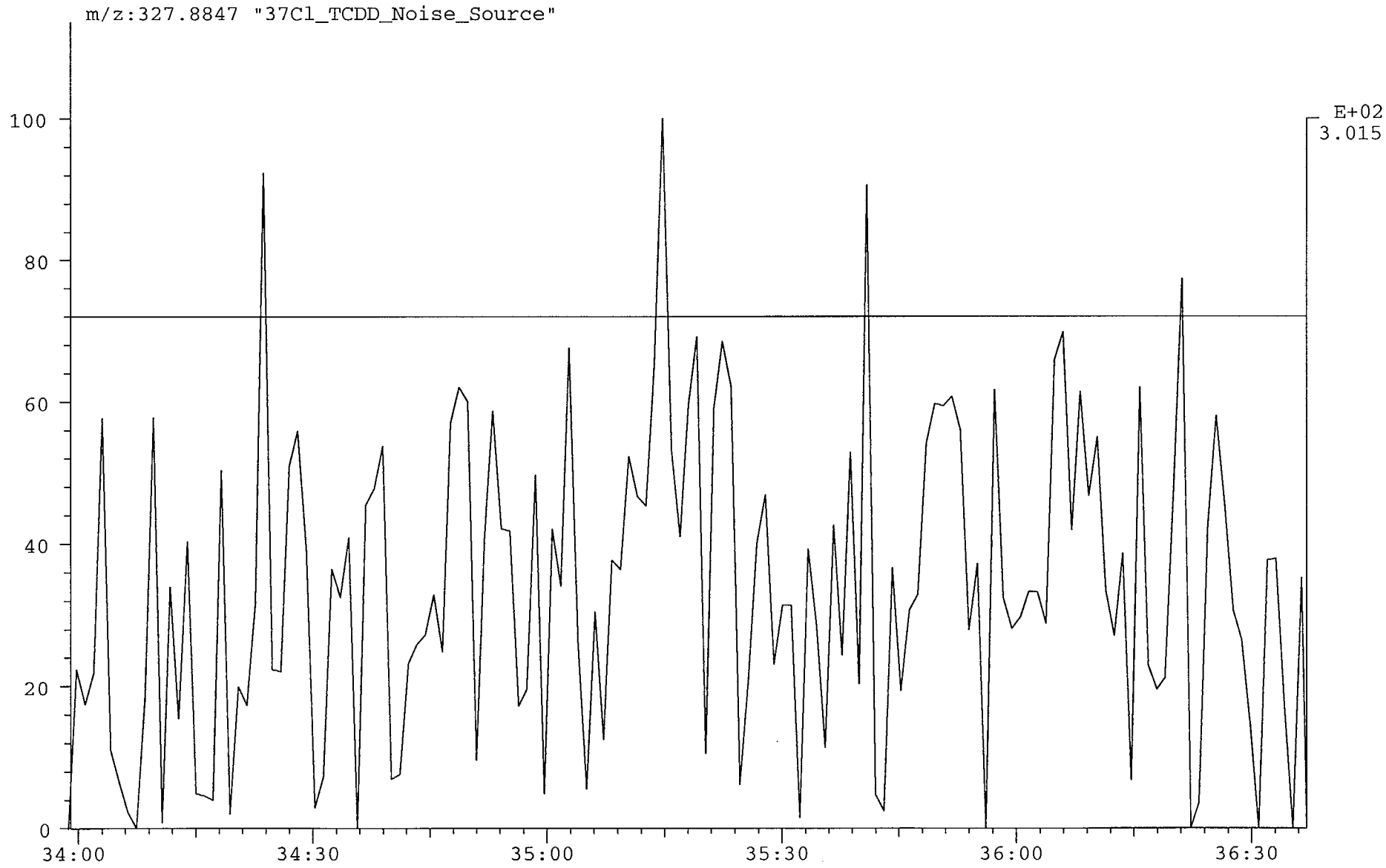
Int BFN 5/4/06
Calc BFN 5/4/06
QC/Rev PMP 5-6-06



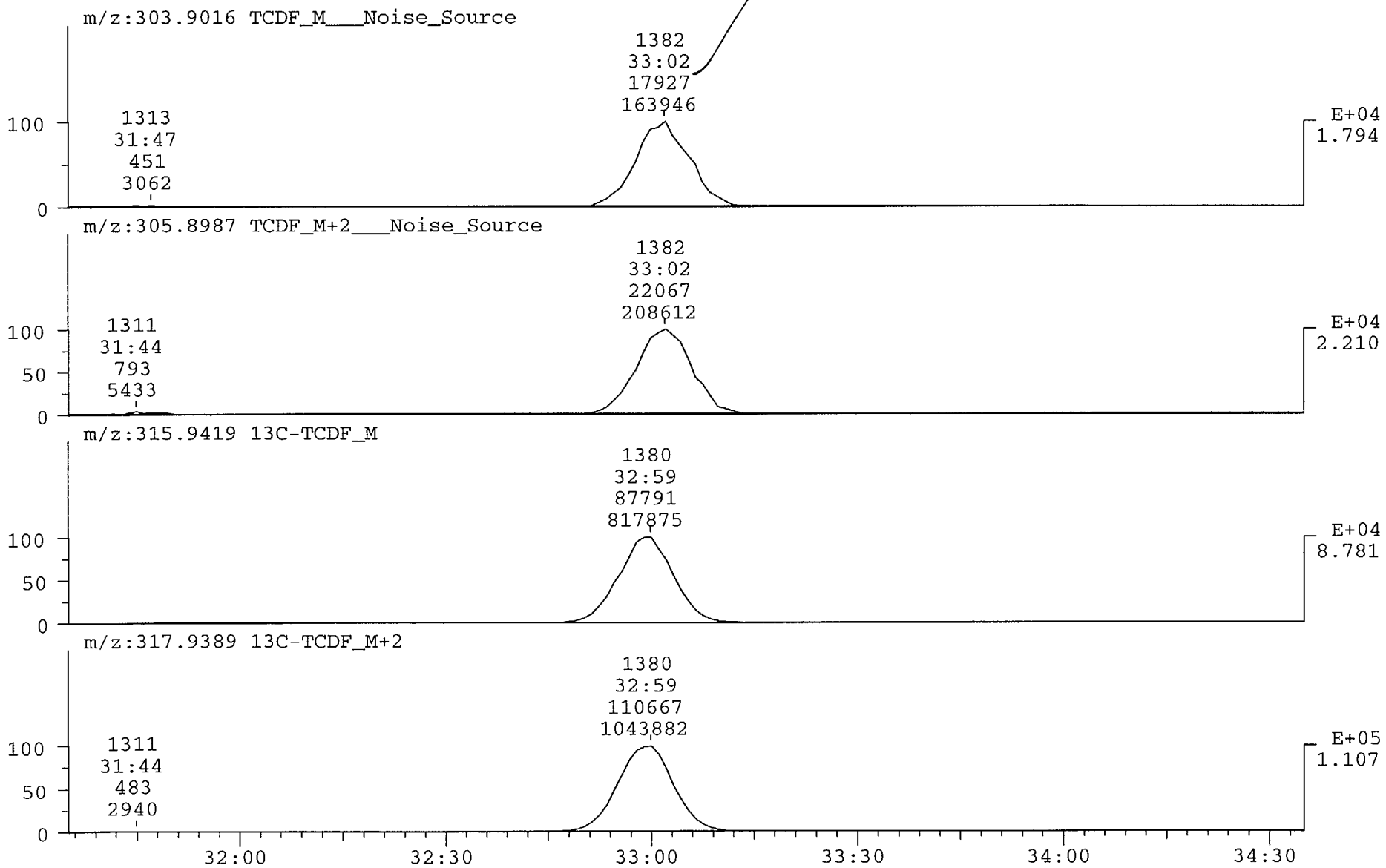
```
CHRO:  bth3eddl                                  04-May-06   Elapse:  34:59      1490
Samp:  Vial 11 WO=h3edd1ad Meth=X8 Dil=1                     Start :  02:14:51   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079L                Inlet :  GC     Vial  11
Peak:  100.00  ppm      Label wndw:   1419 > 1561            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



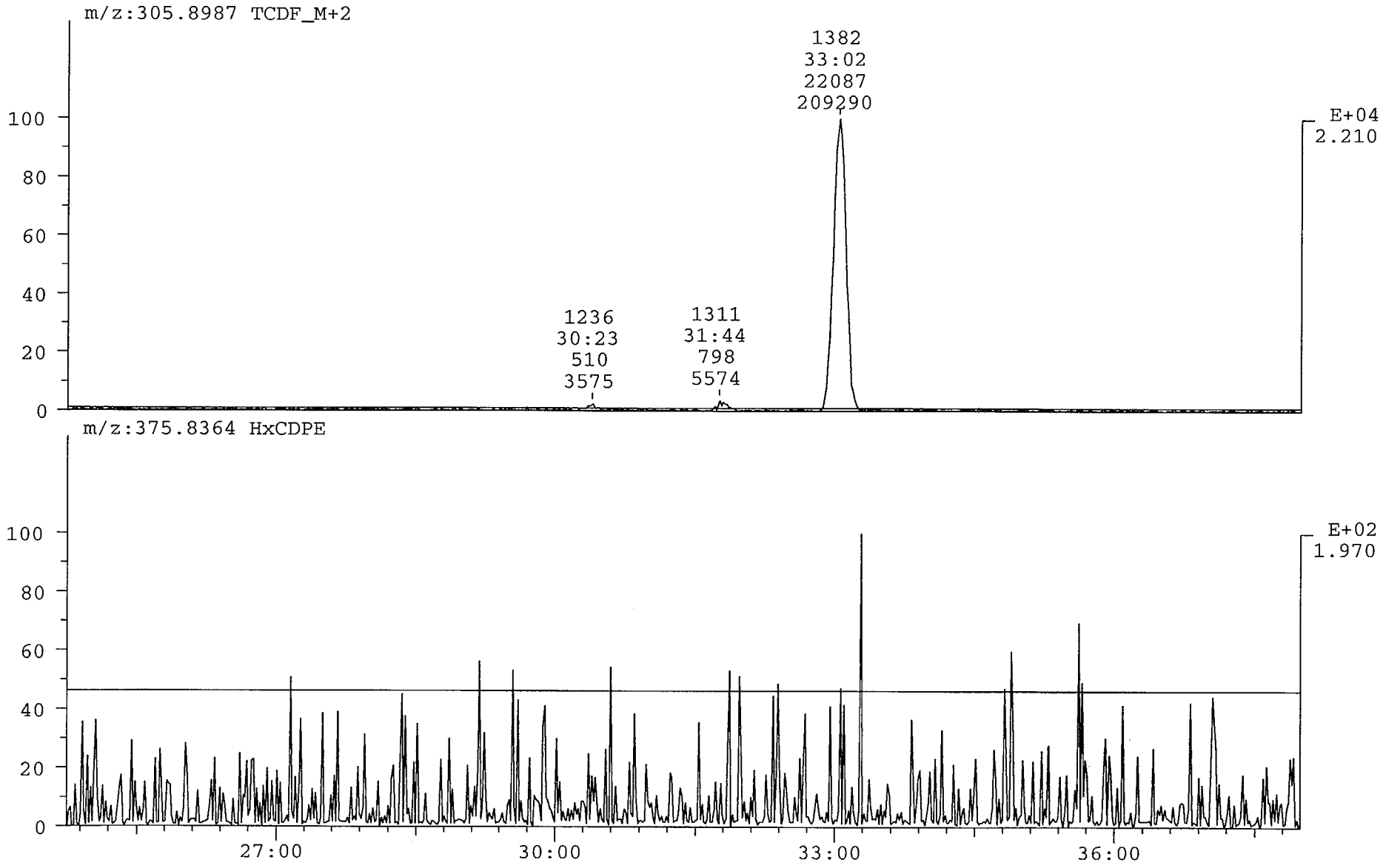
```
CHRO:  bth3edd1                              04-May-06   Elapse:  35:14      1504
Samp:  Vial 11 WO=h3edd1ad Meth=X8 Dil=1                 Start :  02:14:51   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (air)
Oper:  PMP           Client:  H6D170000-079L             Inlet :  GC     Vial  11
Peak:  100.00  ppm     Label wndw:   1434 > 1580         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



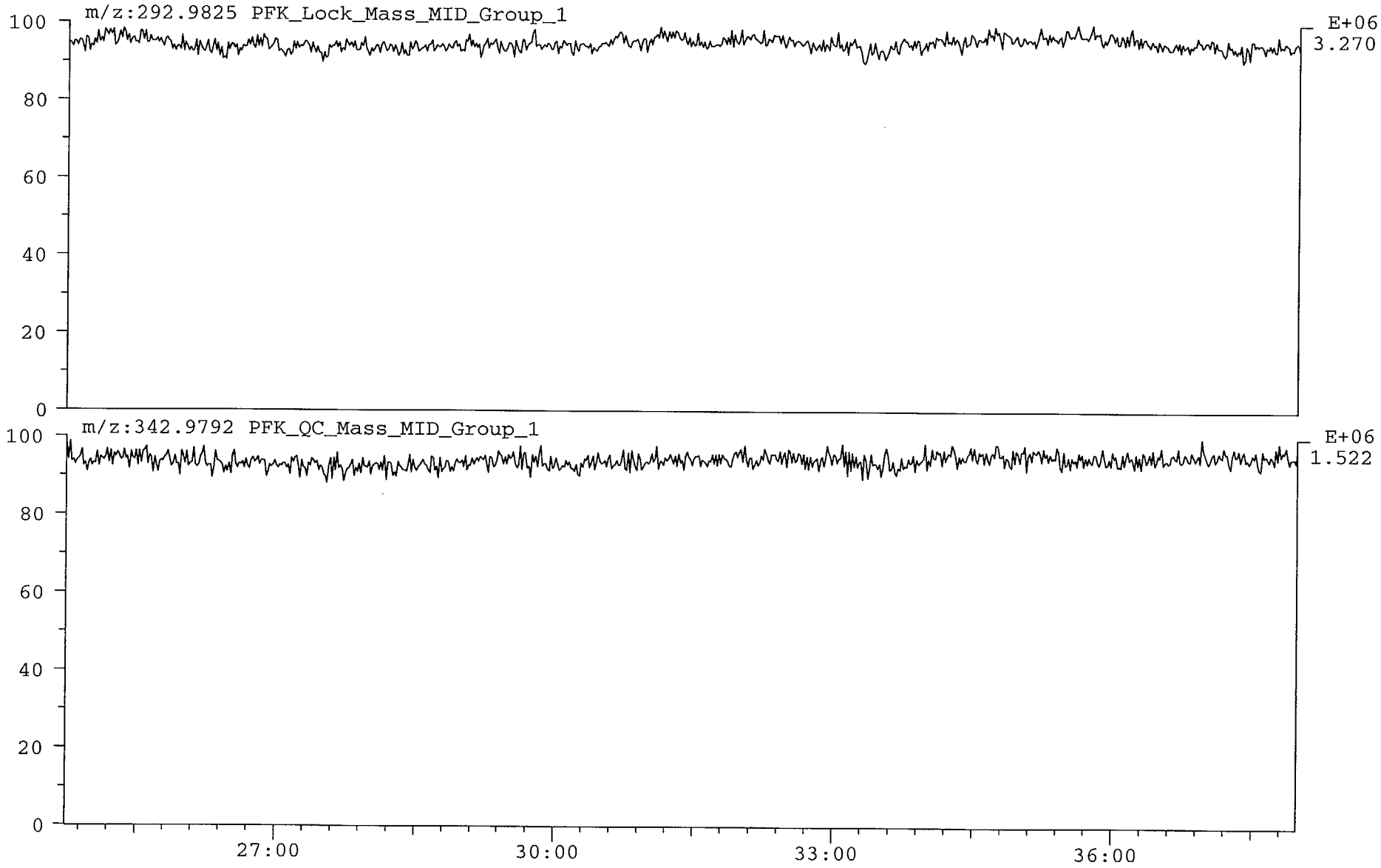
```
CHRO:  bth3edd1                                04-May-06  Elapse:  33:02      1382
Samp:  Vial 11 WO=h3edd1ad Meth=X8 Dil=1                  Start :  02:14:51   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079L             Inlet :  GC     Vial  11
Peak:  100.00  ppm      Label wndw:   1302 > 1467         Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



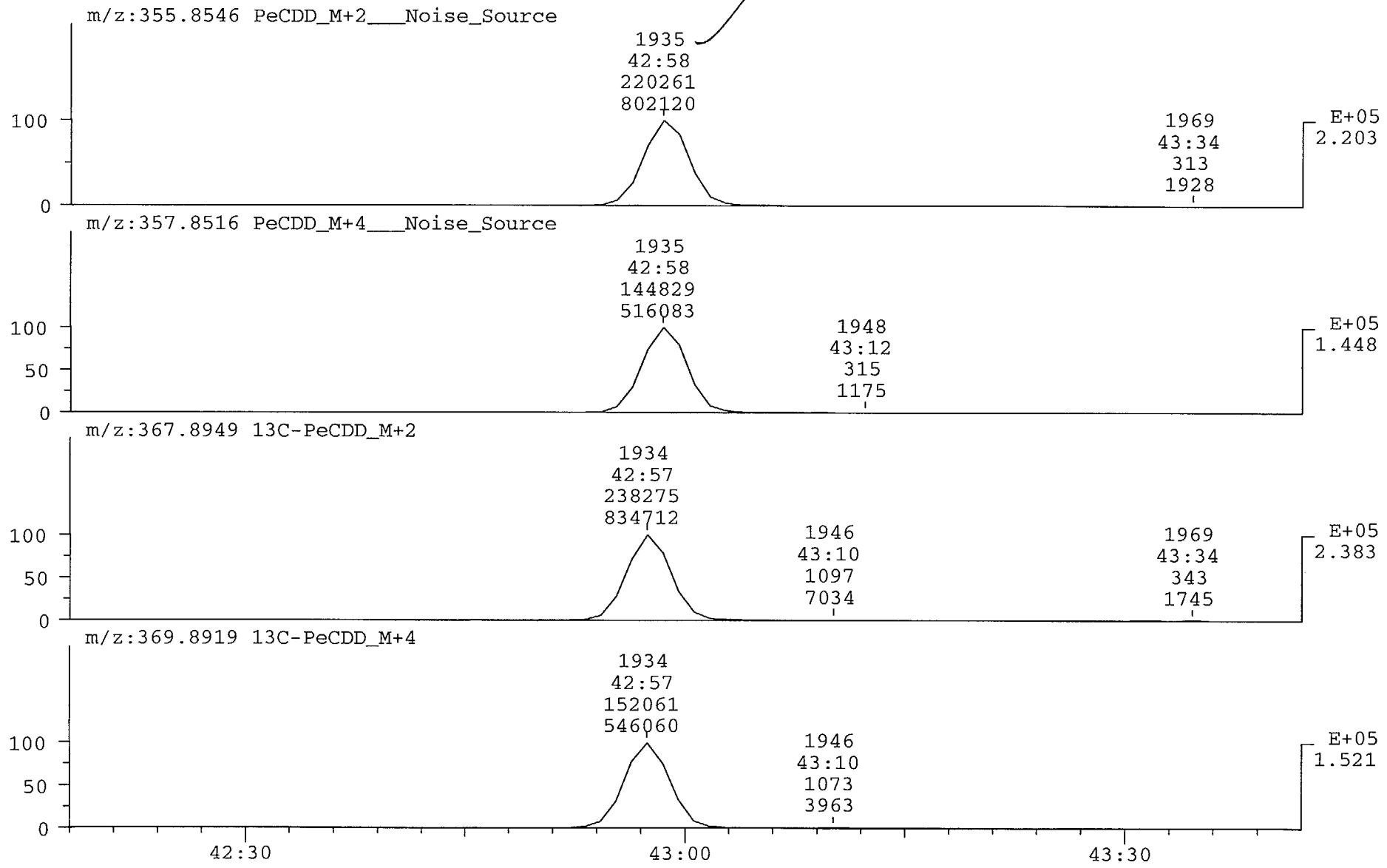
CHRO: bth3eddl 04-May-06 Elapse: 33:02 1382
Samp: Vial 11 WO=h3edd1ad Meth=X8 Dil=1 Start : 02:14:51 2891
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D170000-079L Inlet : GC Vial 11
Peak: 100.00 ppm Label wndw: 925 > 1655 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



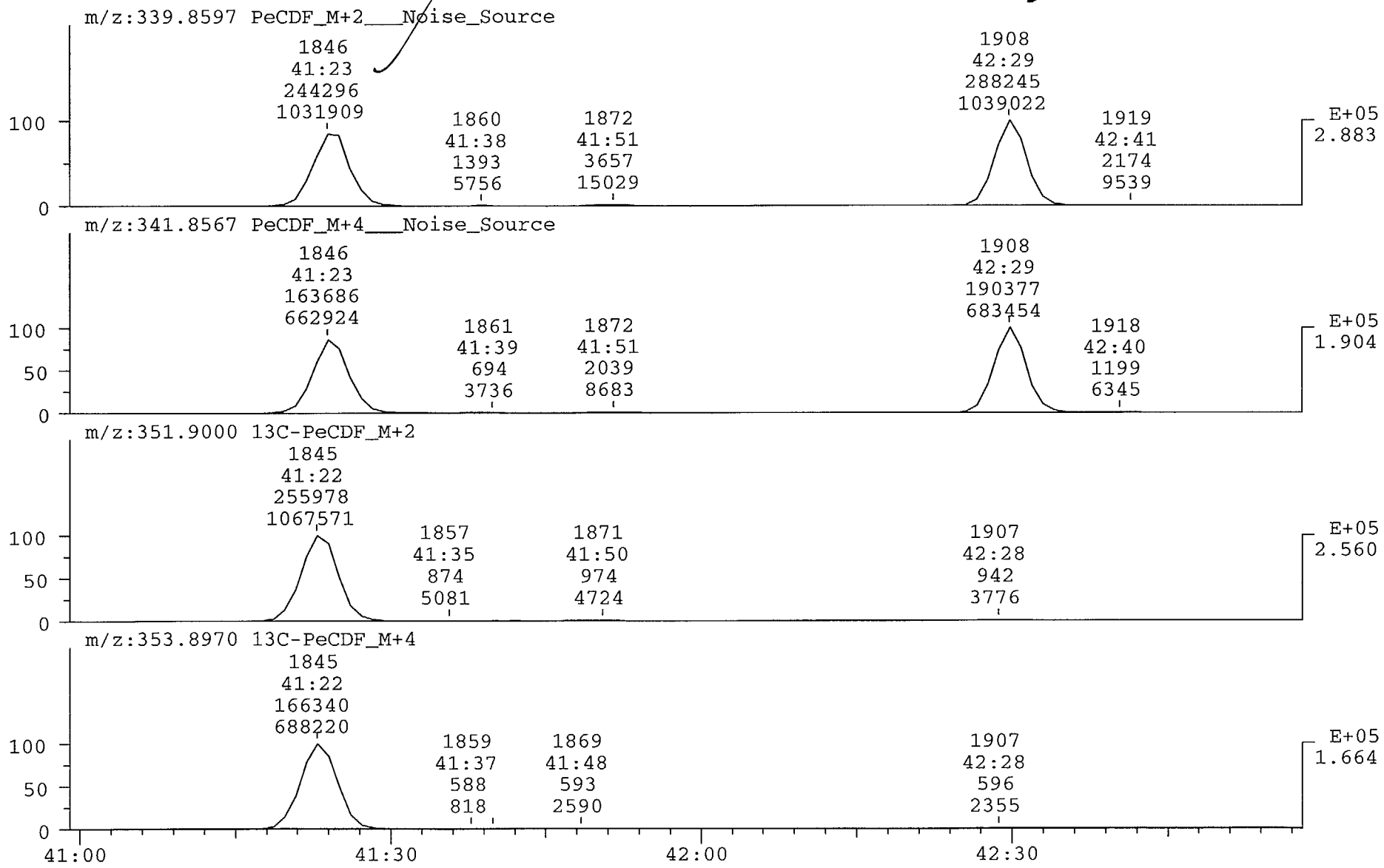
```
CHRO:  bth3edd1                                  04-May-06   Elapse:  33:02      1382
Samp:  Vial 11 WO=h3edd1ad Meth=X8 Dil=1                     Start :  02:14:51   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079L                Inlet :  GC     Vial  11
Peak:  100.00  ppm      Label wndw:   925 > 1655             Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  0, 0.0
Disp:  Height  Area
```



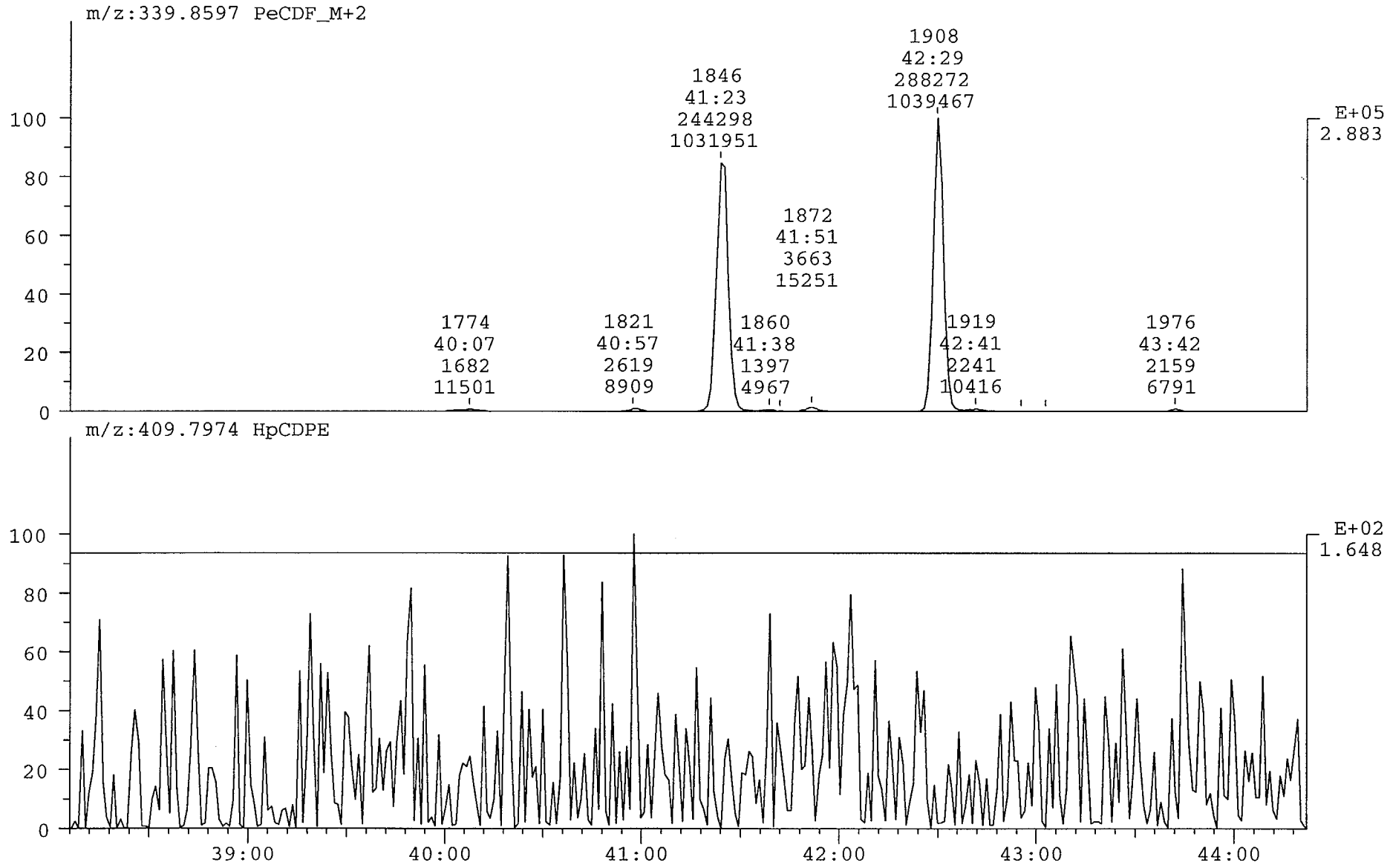
```
CHRO:  bth3edd1                              04-May-06   Elapse:  42:57      1934
Samp:  Vial 11 WO=h3edd1ad Meth=X8 Dil=1                 Start :  02:14:51   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (air)
Oper:  PMP          Client:  H6D170000-079L              Inlet :  GC     Vial  11
Peak:  100.00  ppm     Label wndw:   1897 > 1976         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



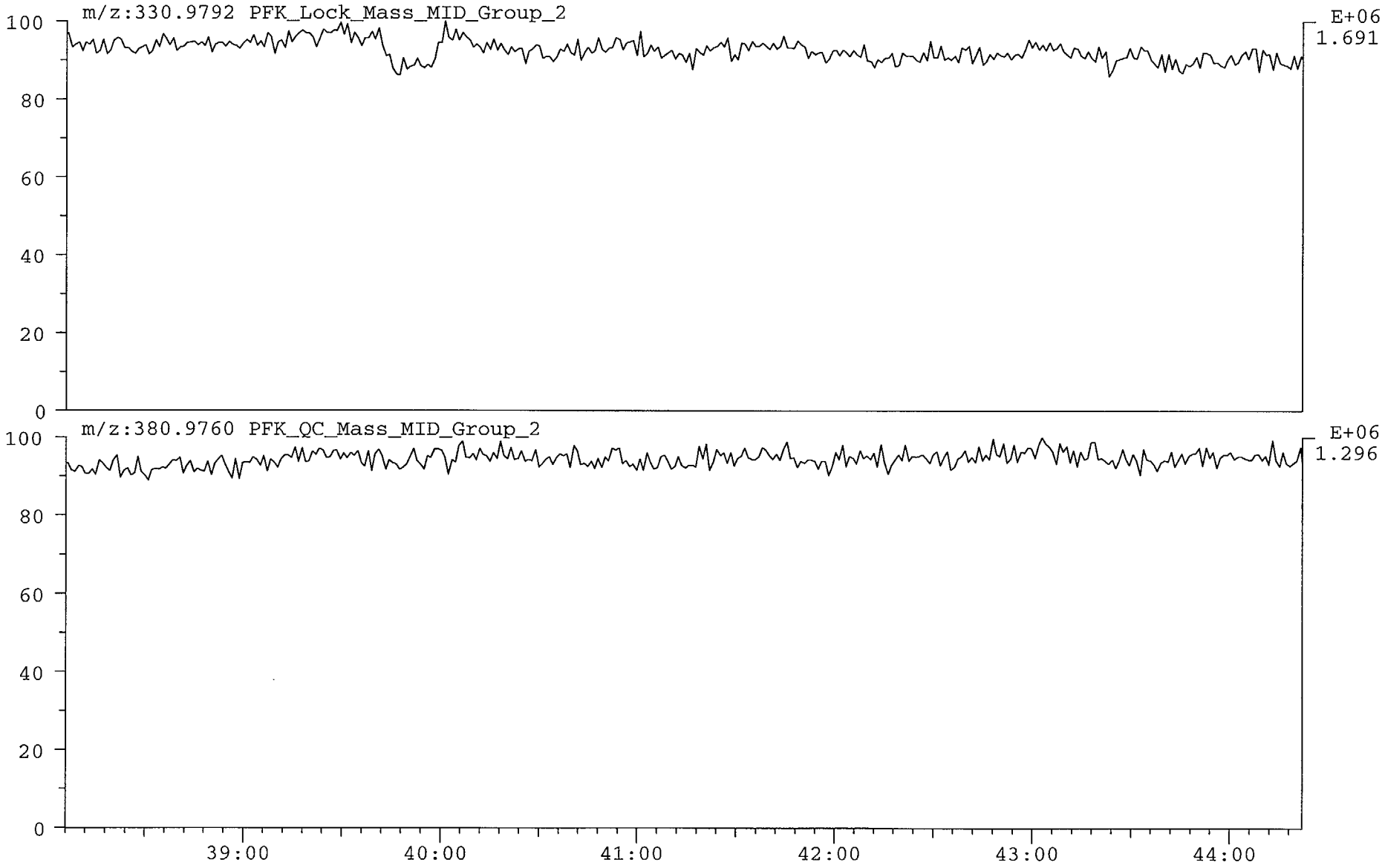
```
CHRO:  bth3eddl                                  04-May-06   Elapse:  41:57      1878
Samp:  Vial 11 WO=h3edd1ad Meth=X8 Dil=1                     Start :  02:14:51   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079L                Inlet :  GC     Vial  11
Peak:  100.00  ppm      Label wndw:   1822 > 1935            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



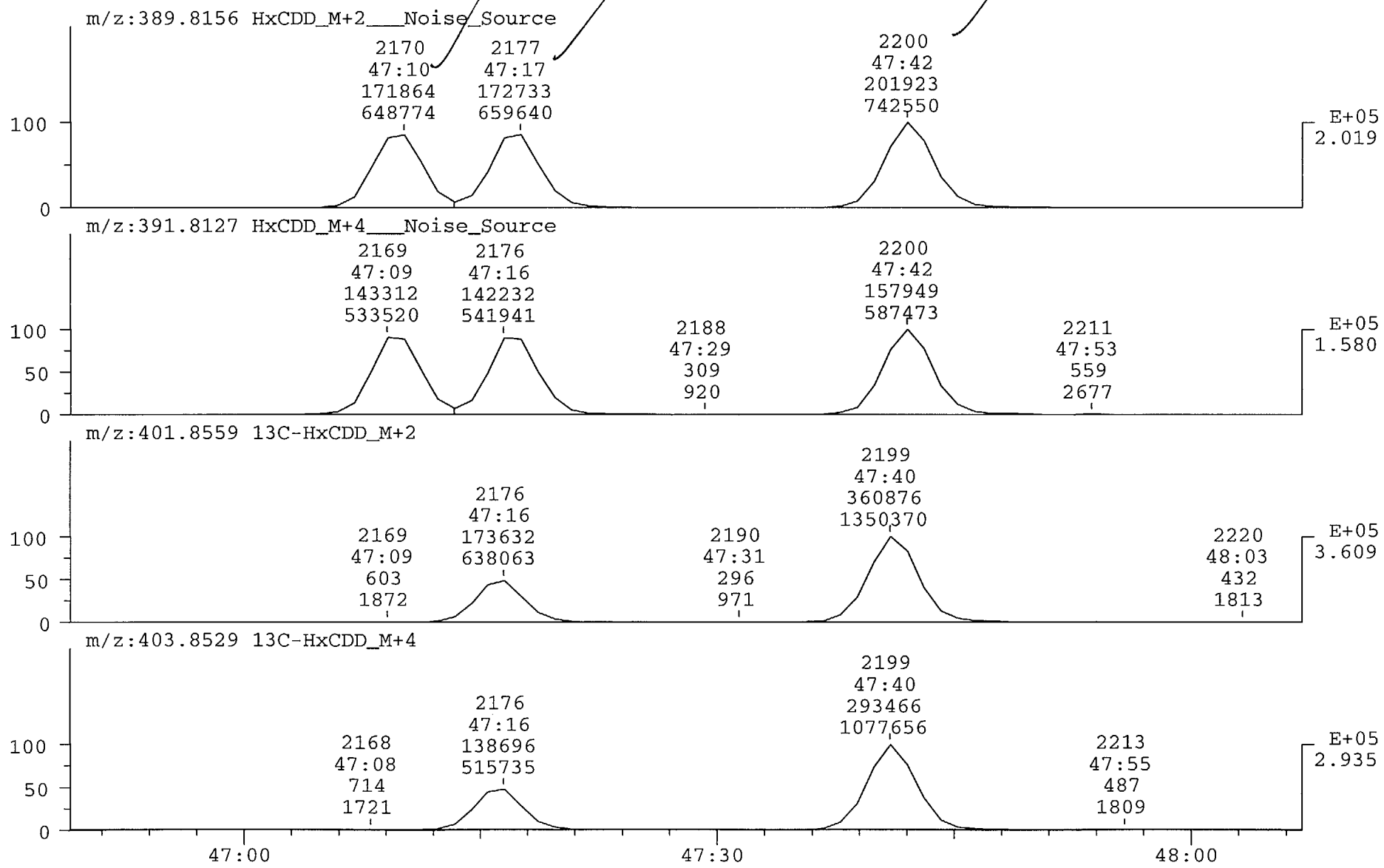
CHRO: bth3eddl 04-May-06 Elapse: 41:57 1878
Samp: Vial 11 WO=h3edd1ad Meth=X8 Dil=1 Start : 02:14:51 2891
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D170000-079L Inlet : GC Vial 11
Peak: 100.00 ppm Label wndw: 1660 > 2014 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



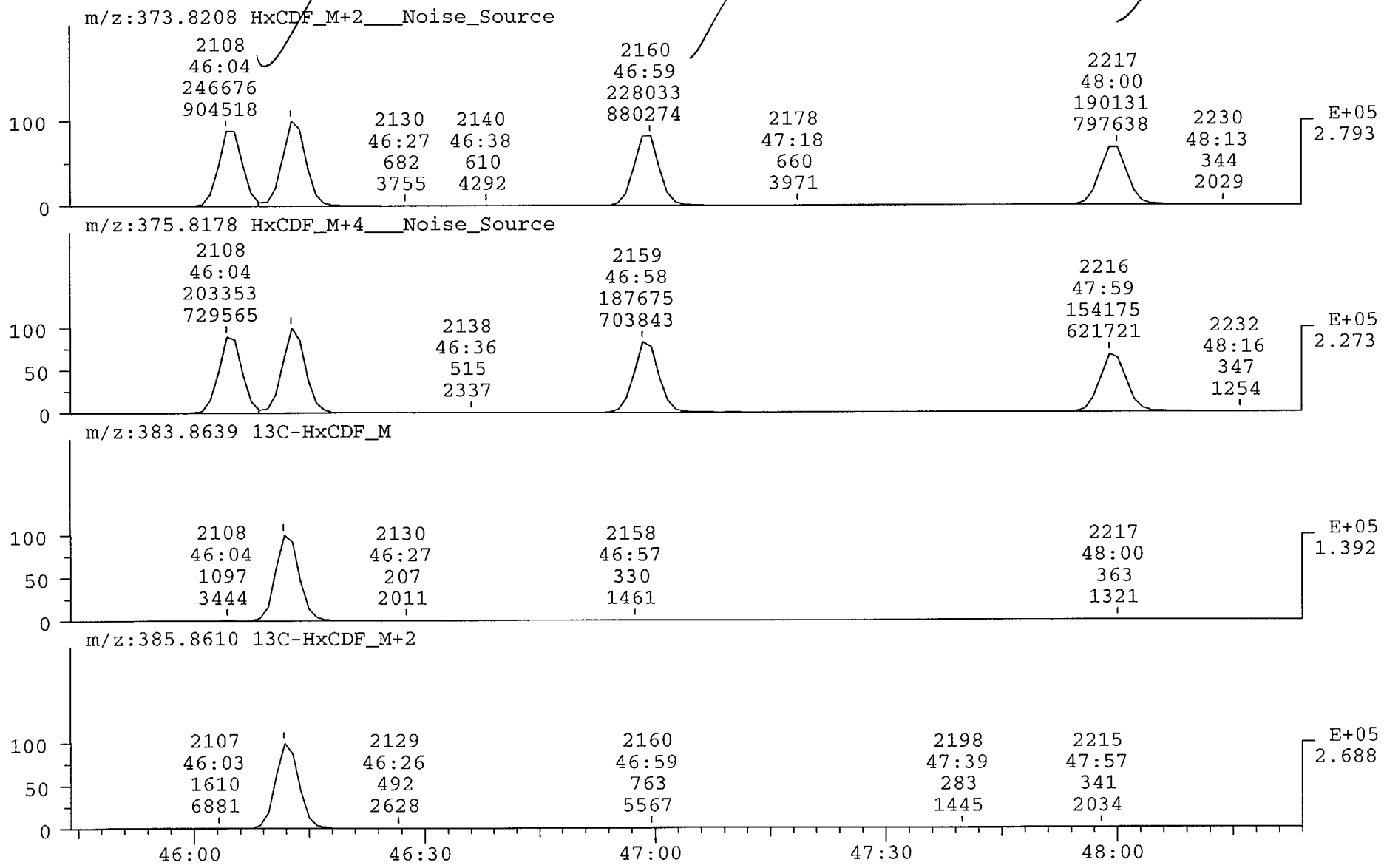
```
CHRO:  bth3edd1                              04-May-06   Elapse:  41:57      1878
Samp:  Vial 11 WO=h3edd1ad Meth=X8 Dil=1                 Start :  02:14:51   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (air)
Oper:  PMP           Client:  H6D170000-079L             Inlet :  GC     Vial  11
Peak:  100.00  ppm     Label wndw:   1660 > 2014         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



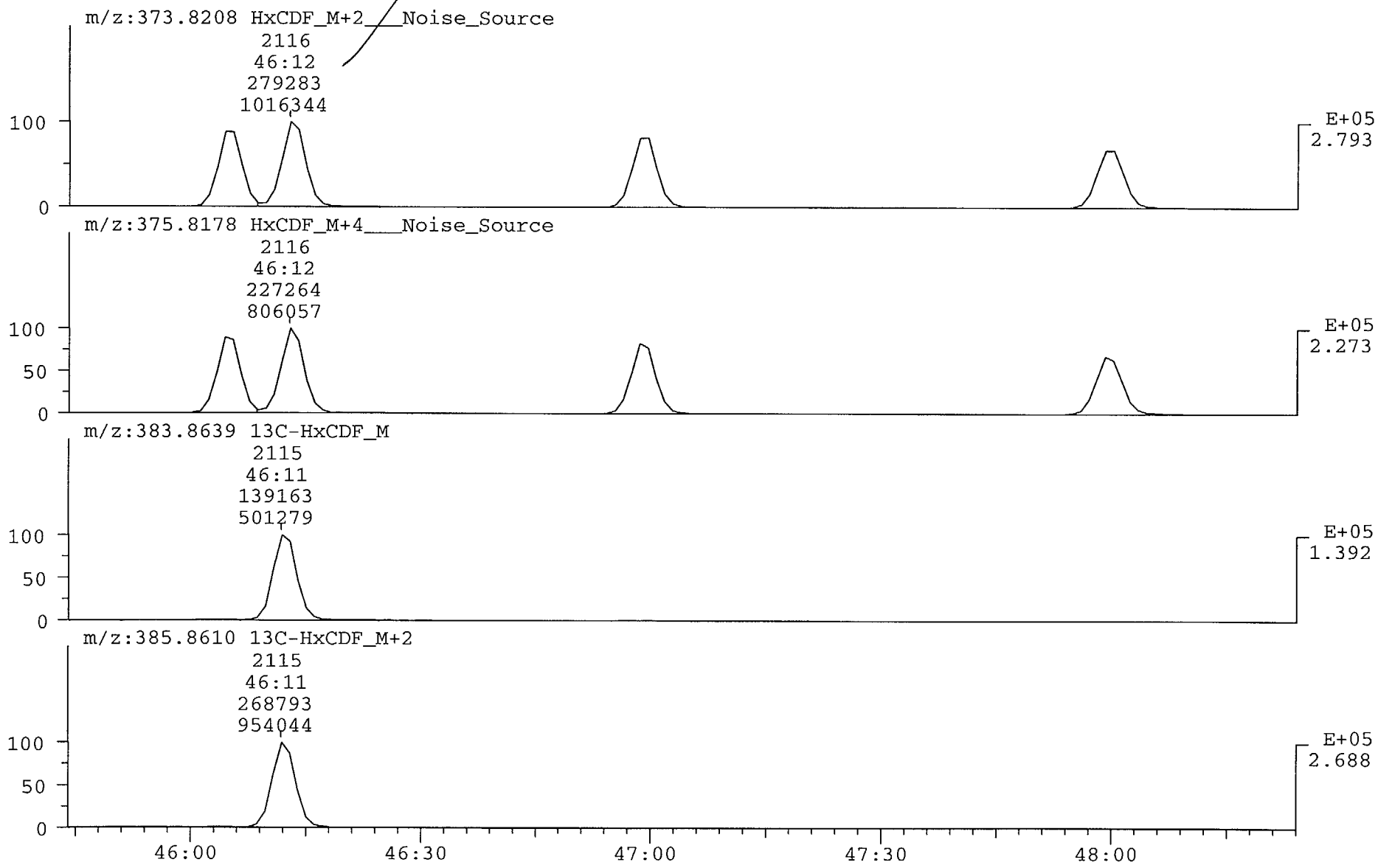
CHRO: bth3edd1 04-May-06 Elapse: 47:28 2187
Samp: Vial 11 WO=h3edd1ad Meth=X8 Dil=1 Start : 02:14:51 2891
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D170000-079L Inlet : GC Vial 11
Peak: 100.00 ppm Label wndw: 2150 > 2224 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



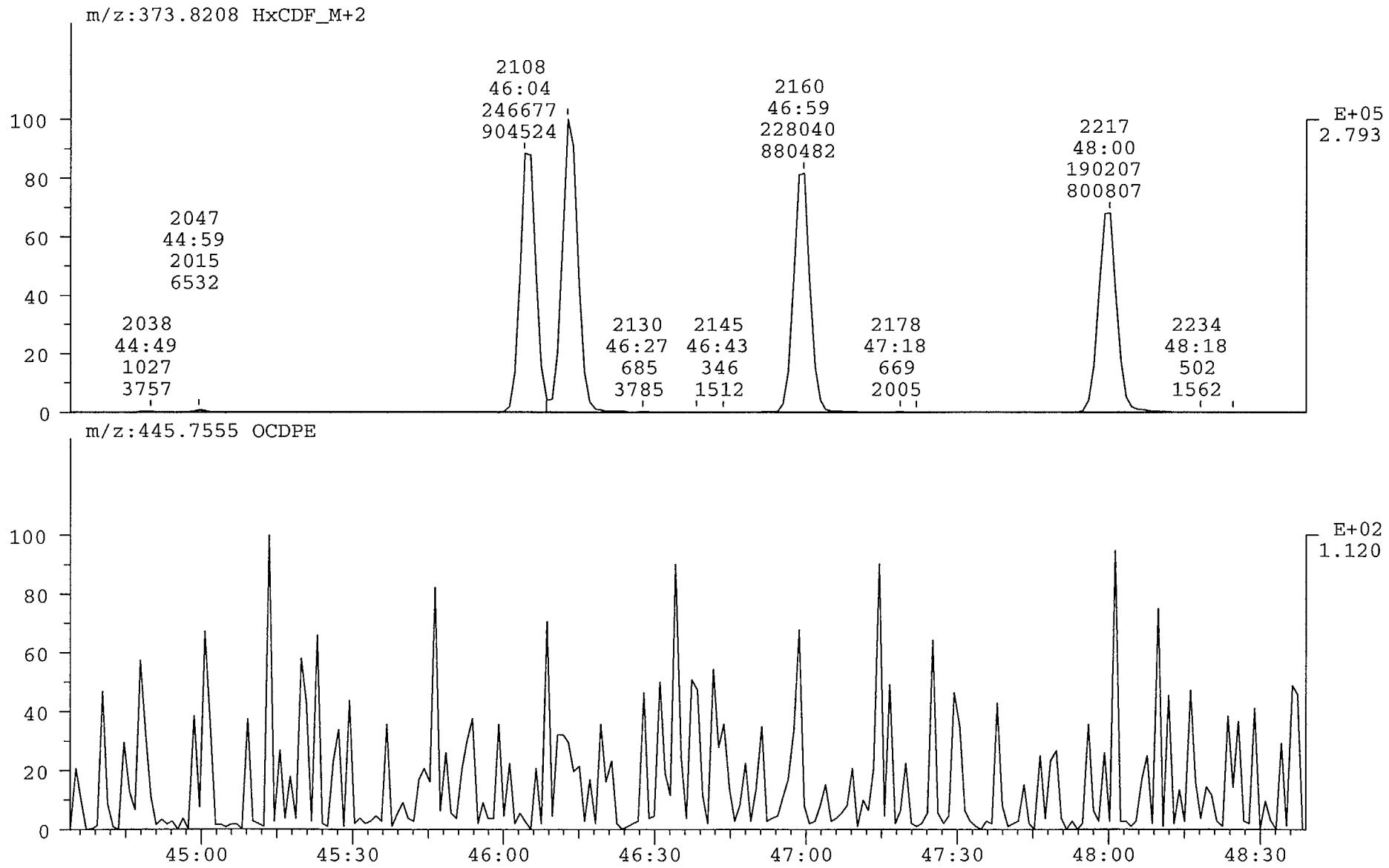
CHRO: bth3edd1 04-May-06 Elapse: 47:03 2164
Samp: Vial 11 WO=h3edd1ad Meth=X8 Dil=1 Start : 02:14:51 2891
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D170000-079L Inlet : GC Vial 11
Peak: 100.00 ppm Label wndw: 2089 > 2240 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



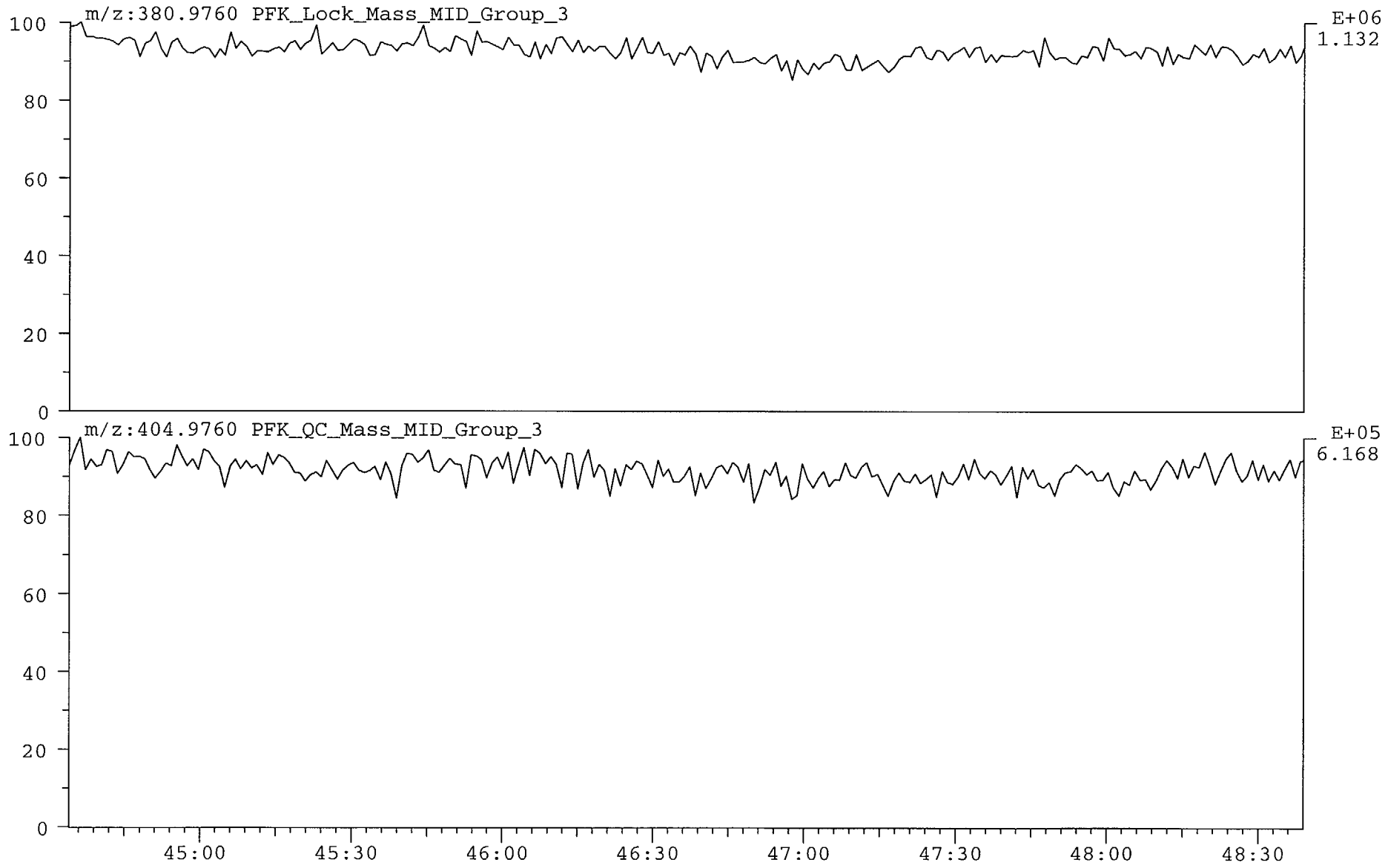
```
CHRO:  bth3eddl                                04-May-06  Elapse:  46:10      2114
Samp:  Vial 11 WO=h3edd1ad Meth=X8 Dil=1                  Start :  02:14:51   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107079 (air)
Oper:  PMP           Client:  H6D170000-079L              Inlet :  GC     Vial  11
Peak:  100.00  ppm     Label wndw:   2110 > 2118          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



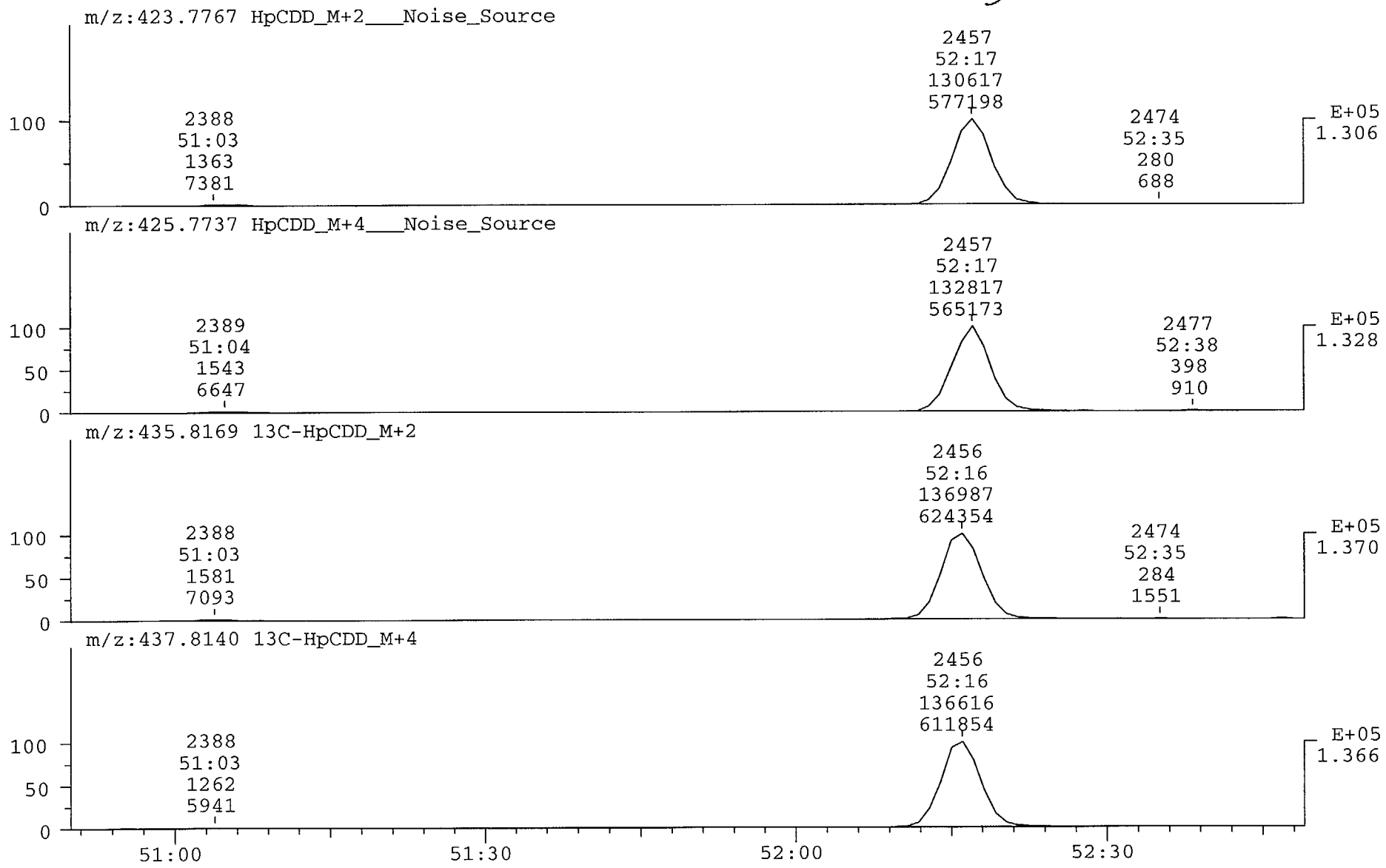
```
CHRO:  bth3edd1                              04-May-06   Elapse:  46:10      2114
Samp:  Vial 11 WO=h3edd1ad Meth=X8 Dil=1                 Start :  02:14:51   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (air)
Oper:  PMP          Client:  H6D170000-079L              Inlet :  GC     Vial  11
Peak:  100.00  ppm     Label wndw:   2023 > 2254         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



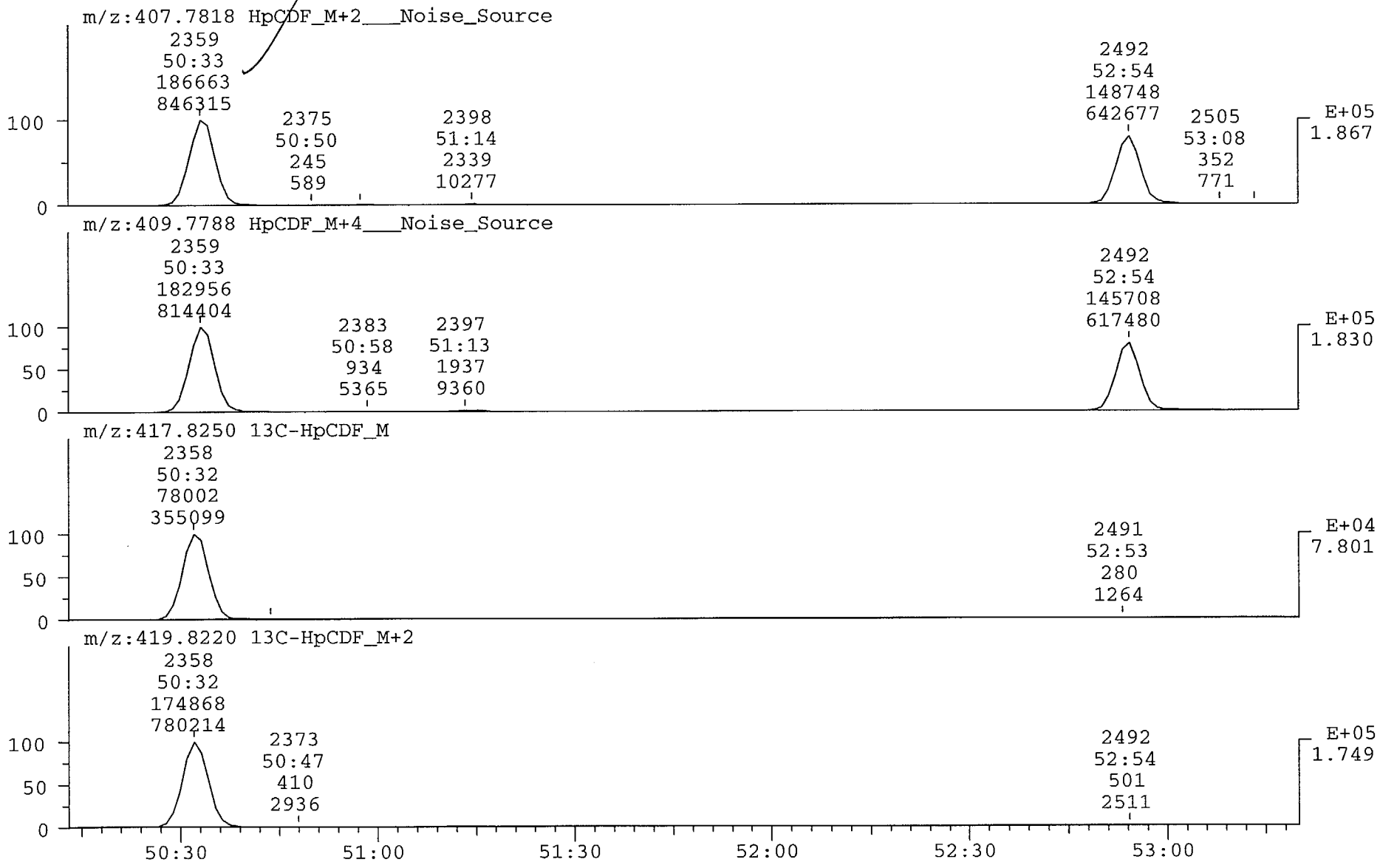
```
CHRO:  bth3eddl                              04-May-06   Elapse:  46:10      2114
Samp:  Vial 11 WO=h3eddlad Meth=X8 Dil=1                 Start :  02:14:51   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (air)
Oper:  PMP          Client:  H6D170000-079L              Inlet :  GC     Vial  11
Peak:  100.00  ppm     Label wndw:   2023 > 2254         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



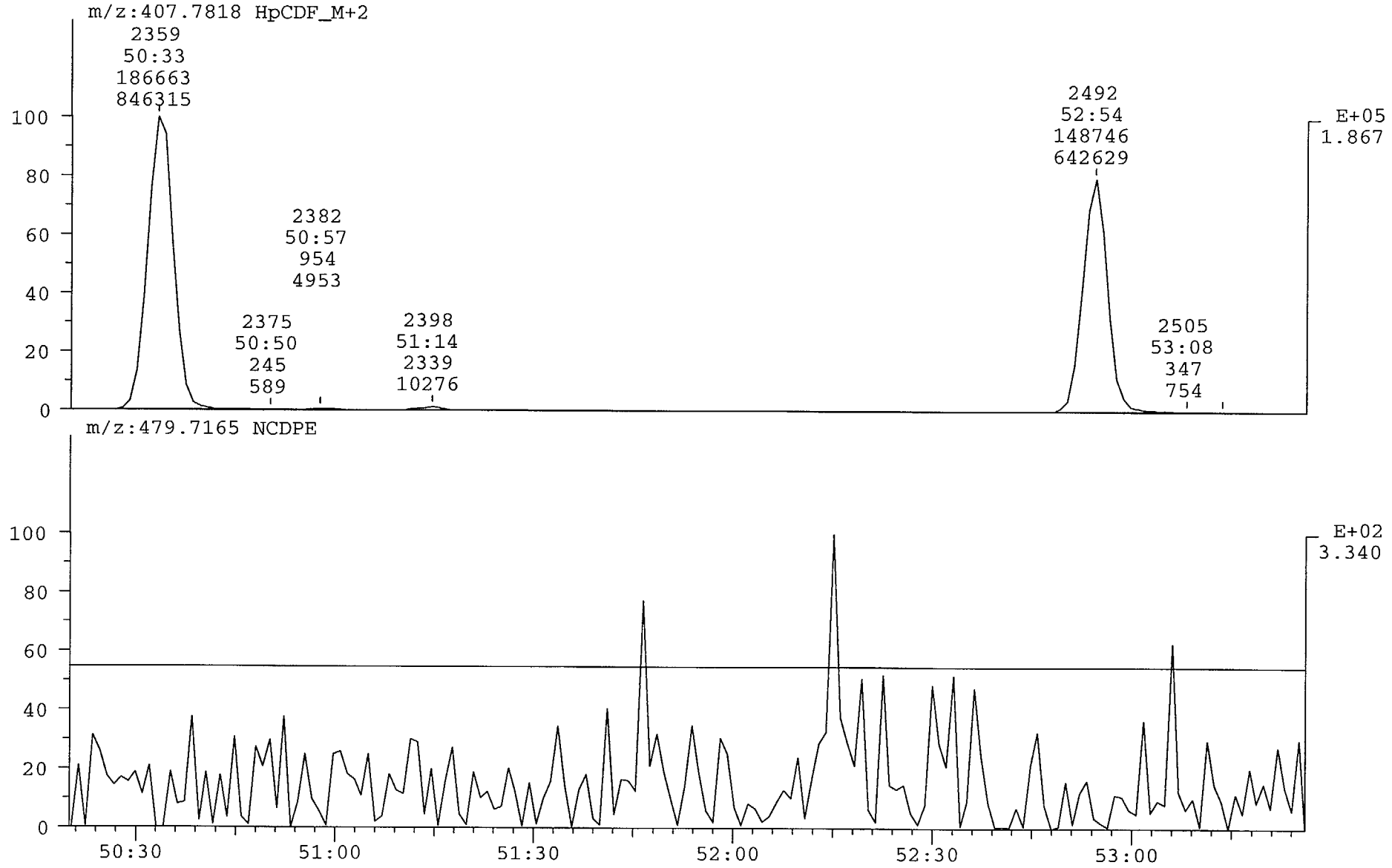
CHRO: bth3edd1 04-May-06 Elapse: 46:10 2114
Samp: Vial 11 WO=h3edd1ad Meth=X8 Dil=1 Start : 02:14:51 2891
Comm: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107079 (air)
Oper: PMP Client: H6D170000-079L Inlet : GC Vial 11
Peak: 100.00 ppm Label wndw: 2375 > 2487 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



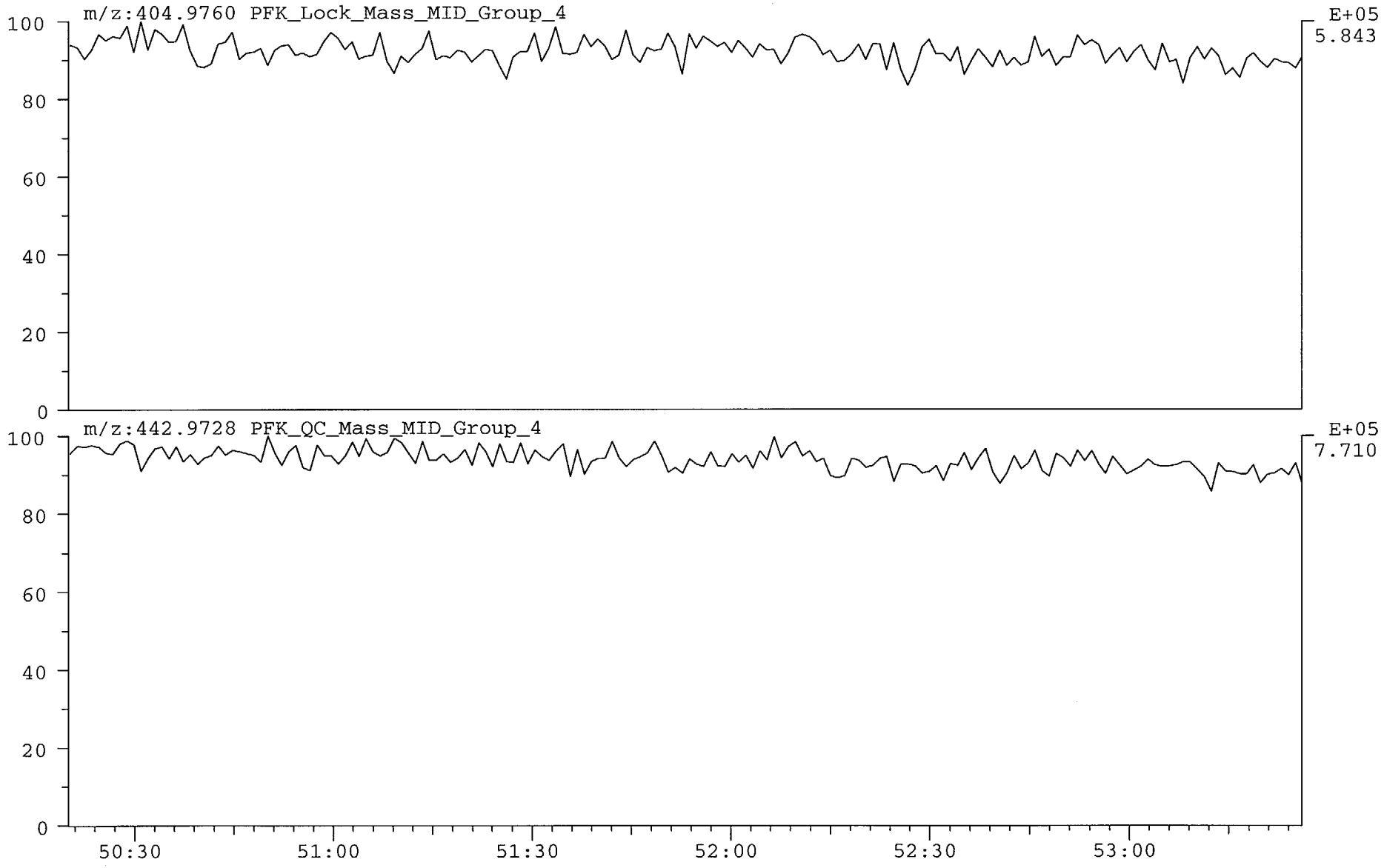
```
CHRO:  bth3eddl                                  04-May-06   Elapse:  51:46      2428
Samp:  Vial 11 WO=h3eddlad Meth=X8 Dil=1                     Start :  02:14:51   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP           Client:  H6D170000-079L                 Inlet :  GC     Vial  11
Peak:  100.00  ppm     Label wndw:   2340 > 2516             Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                  Label :  -2, 3.0
Disp:  Height  Area
```



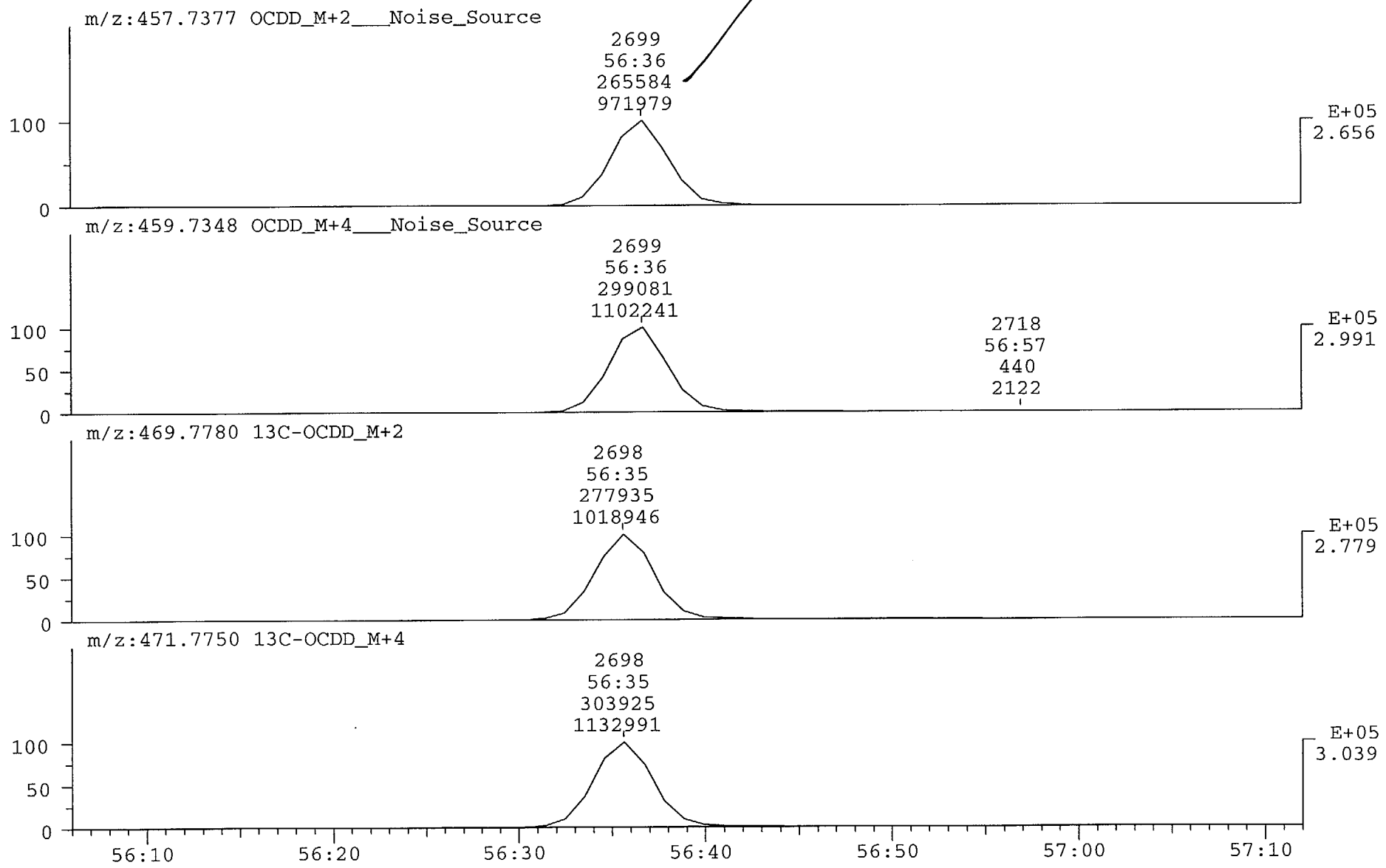
```
CHRO:  bth3eddl                                  04-May-06   Elapse:  51:46      2428
Samp:  Vial 11 WO=h3edd1ad Meth=X8 Dil=1                     Start :  02:14:51   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079L                Inlet :  GC     Vial  11
Peak:  100.00  ppm      Label wndw:   2347 > 2522            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



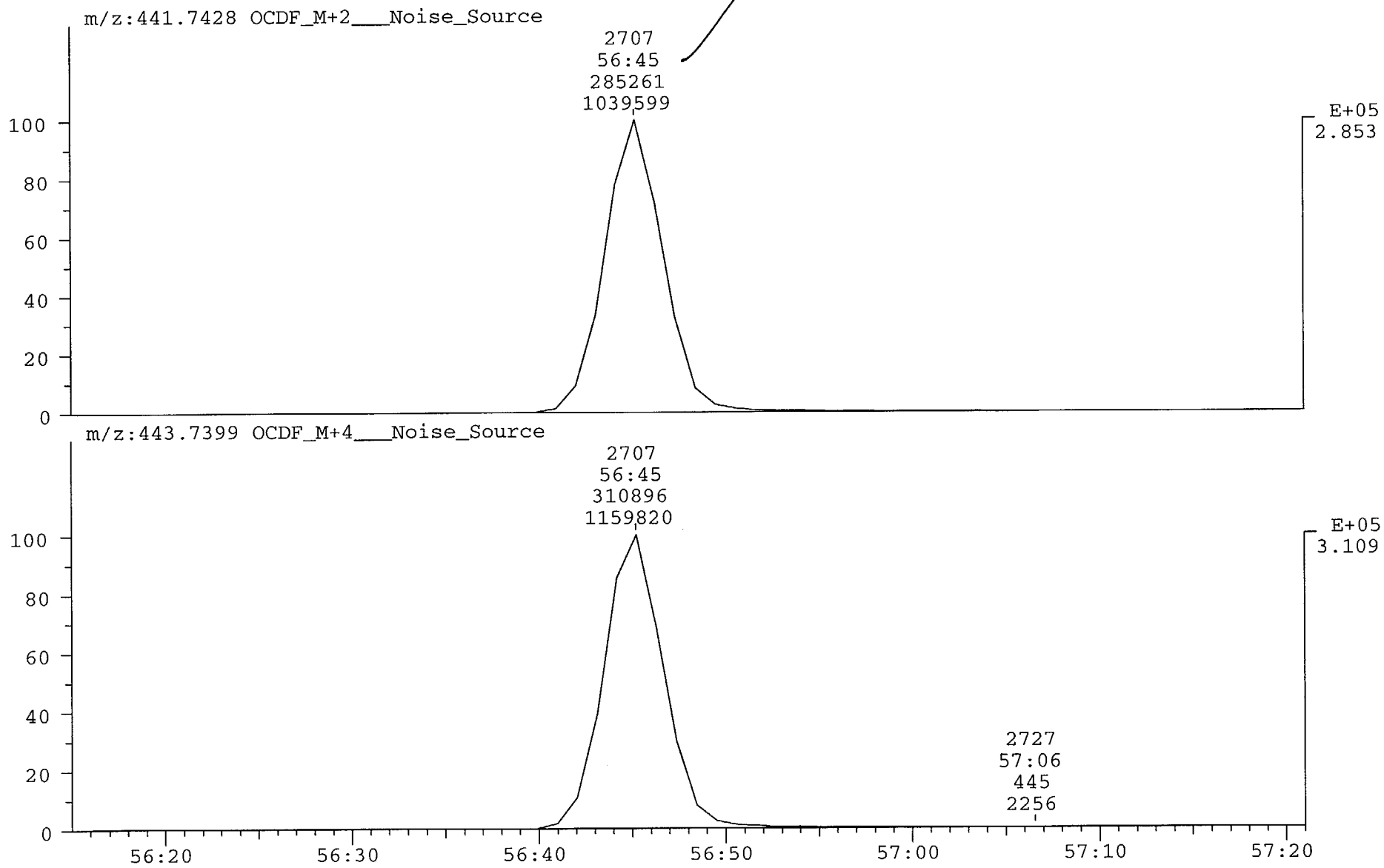
```
CHRO:  bth3edd1                              04-May-06   Elapse:  51:46      2428
Samp:  Vial 11 WO=h3edd1ad Meth=X8 Dil=1                 Start :  02:14:51   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107079 (air)
Oper:  PMP           Client:  H6D170000-079L             Inlet :  GC     Vial  11
Peak:  100.00  ppm     Label wndw:   2347 > 2522         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



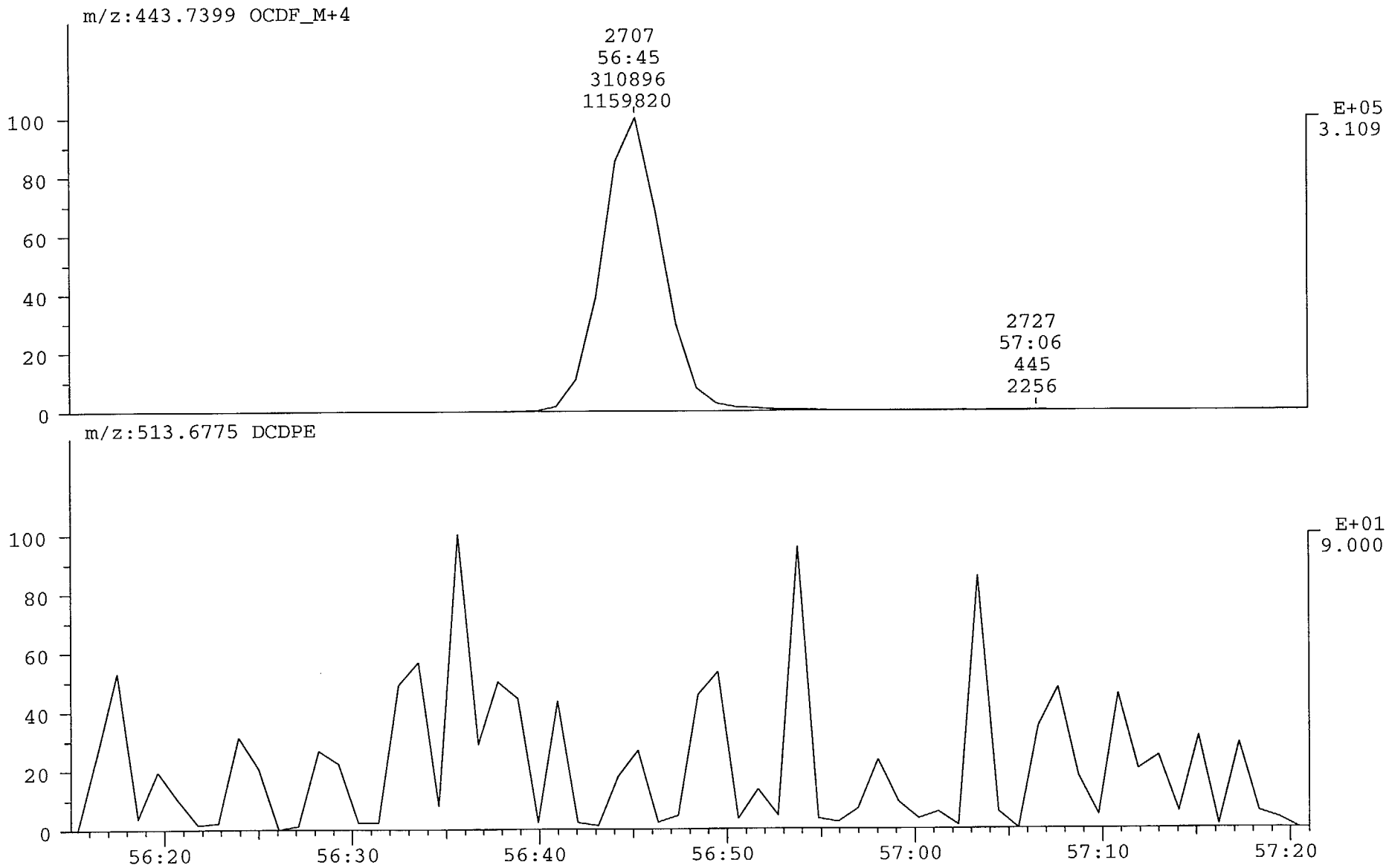
```
CHRO:  bth3edd1                                  04-May-06   Elapse:  56:35      2698
Samp:  Vial 11 WO=h3edd1ad Meth=X8 Dil=1                     Start :  02:14:51   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079L                Inlet :  GC     Vial  11
Peak:  100.00  ppm      Label wndw:   2670 > 2732            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



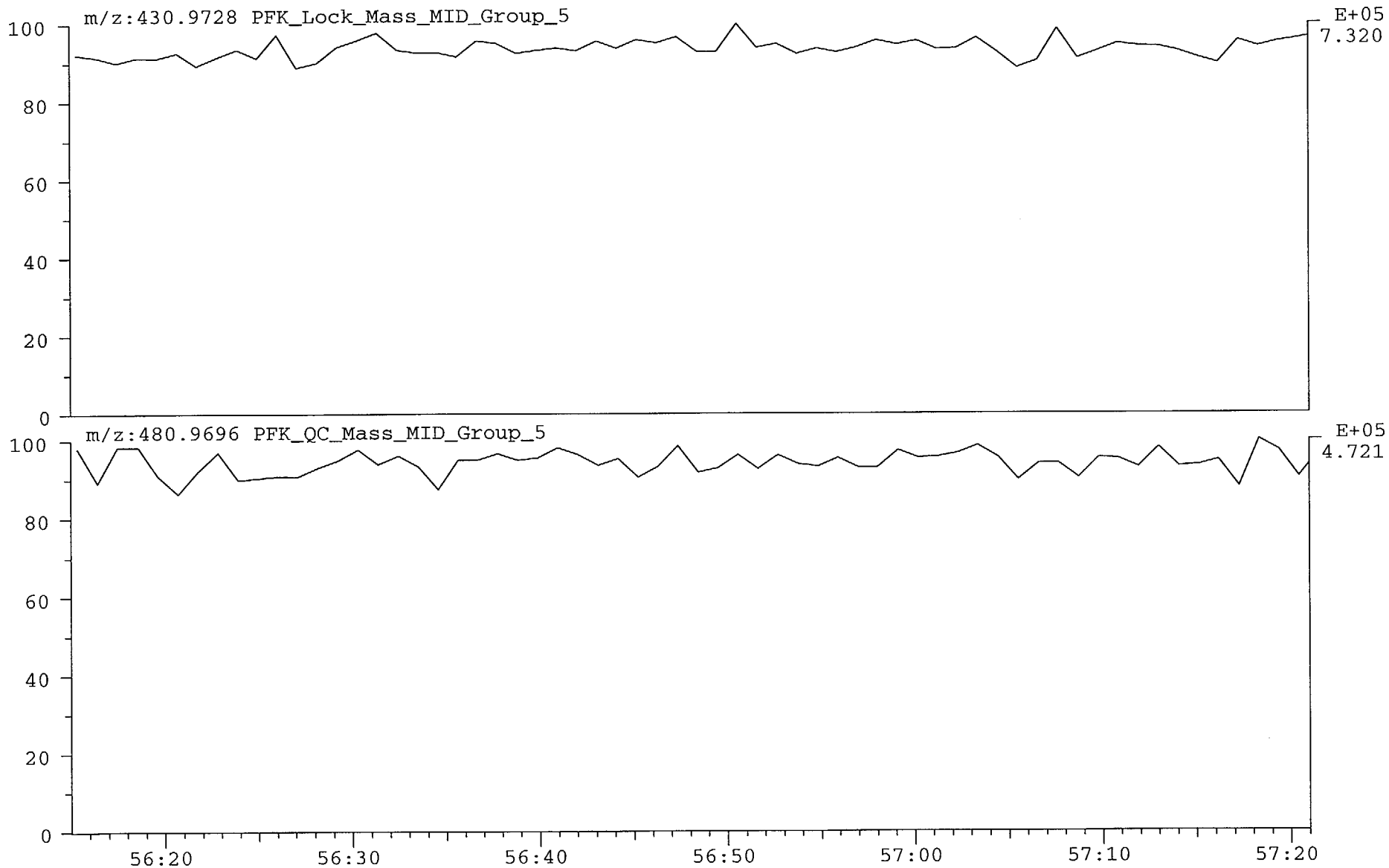
```
CHRO:  bth3edd1                                  04-May-06   Elapse:  56:45      2707
Samp:  Vial 11 WO=h3edd1ad Meth=X8 Dil=1                     Start :  02:14:51   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079L                Inlet :  GC     Vial  11
Peak:  100.00  ppm      Label wndw:   2679 > 2741            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  bth3edd1                                  04-May-06   Elapse:  56:45      2707
Samp:  Vial 11 WO=h3edd1ad Meth=X8 Dil=1                     Start :  02:14:51   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107079 (air)
Oper:  PMP            Client:  H6D170000-079L                Inlet :  GC     Vial  11
Peak:  100.00  ppm      Label wndw:   2679 > 2741            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  bth3edd1                                04-May-06   Elapse:  56:45      2707
Samp:  Vial 11 WO=h3edd1ad Meth=X8 Dil=1                   Start :  02:14:51   2891
Comm:  Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107079 (air)
Oper:  PMP          Client:  H6D170000-079L                Inlet :  GC     Vial  11
Peak:  100.00  ppm     Label wndw:   2679 > 2741           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  0, 0.0
Disp:  Height  Area
```



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: bth3edd1
Study: 6107079 (air)
Sample: WO=h3edd1ad Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: PMP
Client: H6D170000-079L
Comments: Inst=m2a/718320 Batch=20060503s3 Ccal=B060503S3
Injected volume: 2.0
Sample from Vial 11
Analysis will stop when MID run finishes
Tune file name: tune2
File 2 of list 060503
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	TRUE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	140 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	30:00 min	38:00 min	1.00 sec
# 2	38:00 min	6:25 min	44:25 min	1.00 sec
# 3	44:25 min	5:05 min	49:30 min	1.00 sec
# 4	49:30 min	5:15 min	54:45 min	1.00 sec
# 5	54:45 min	5:15 min	60:00 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

351.9000		1	1	91.48
353.8970		1	1	91.48
355.8546		1	1	91.48
357.8516		1	1	91.48
367.8949		1	1	91.48
369.8919		1	1	91.48
380.9760	c	10	1	8.19
409.7974		1	1	91.48

Window # 3

mass	F	int	gr	time (ms)
373.8208		1	1	91.48
375.8178		1	1	91.48
380.9760	l	10	1	8.19
383.8639		1	1	91.48
385.8610		1	1	91.48
389.8156		1	1	91.48
391.8127		1	1	91.48
401.8559		1	1	91.48
403.8529		1	1	91.48
404.9760	c	10	1	8.19
445.7555		1	1	91.48

Window # 4

mass	F	int	gr	time (ms)
404.9760	l	10	1	8.19
407.7818		1	1	91.48
409.7788		1	1	91.48
417.8250		1	1	91.48
419.8220		1	1	91.48
423.7767		1	1	91.48
425.7737		1	1	91.48
435.8169		1	1	91.48
437.8140		1	1	91.48
442.9728	c	10	1	8.19
479.7165		1	1	91.48

Window # 5

mass	F	int	gr	time (ms)
430.9728	l	10	1	10.92
441.7428		1	1	120.15
443.7399		1	1	120.15
457.7377		1	1	120.15
459.7348		1	1	120.15
469.7780		1	1	120.15
471.7750		1	1	120.15
480.9696	c	10	1	10.92
513.6775		1	1	120.15

Auto Sampler descriptor: pcdd2ul

Injector A

Normal Injection

Slvnt A cln before inj	(K):	3	times
Slvnt B cln before inj	(L):	0	times
Sample rinse cycles	(R):	0	times
Syringe filling volume	(F):	1.0	ul
Pullup delay time	(D):	4	sec
Sample pullup speed	(E):	5.0	ul/sec
Slvnt aftr pre inj cln	(U):	0.0	ul
Air after pre inj cln	(G):	2.0	ul
Sample volume	(V):	2.0	ul
Sample air volume	(A):	2.0	ul
Sample pullup count	(P):	2	times
Injection speed	(S):	10.0	ul/sec
Injection wait time	(W):	10	sec
Injection hold time	(H):	3	sec
Solvent A clean cycles	(C):	15	times
Solvent B clean cycles	(B):	20	times
Loop clean w slvnt A	(LC):	0	times

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8411.0000
BDEV	8285.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.5861	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9992
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-738.5000	ELEN	61.7750
EMULT	1.8000	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	189.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	547.0000	FVINLET	572.0000
FVSRC	992.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.6274	HVANAL	1579.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4757.0160	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	430.9728
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	2895.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10643.8407	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.7300	TCURR	0.8984	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 04-May-06 02:14:51.9

Autosampler has injected sample from vial 11
Analysis stopped at: 04-May-06 03:14:54.4 (run time 60.03 minutes)
Analysis stopped because MID run finished

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....: H6D170000 - 092B **Work Order #....:** H3ED81AA **Matrix....:** AIR
Dilution Factor: 1
Prep Date....: 04/17/06 **Analysis Date....:** 05/04/06
Prep Batch # ....: 6107092
Initial Wgt/Vol : 1 Sample **Instrument ID....:** M2A **Method:** SW846 0023A/8290
Analyst ID....: Bruce F. Wagner

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	2.3	pg/sampl
Total TCDD	ND		10	2.3	pg/sampl
1,2,3,7,8-PeCDD	ND		50	1.0	pg/sampl
Total PeCDD	ND		50	1.0	pg/sampl
1,2,3,4,7,8-HxCDD	ND		50	1.0	pg/sampl
1,2,3,6,7,8-HxCDD	ND		50	1.0	pg/sampl
1,2,3,7,8,9-HxCDD	ND		50	0.92	pg/sampl
Total HxCDD	ND		50	0.98	pg/sampl
1,2,3,4,6,7,8-HpCDD	**2.1**	**J**	**50**	**1.1**	**pg/sampl**
Total HpCDD	**2.1**	**J**	**50**	**1.1**	**pg/sampl**
OCDD	**15**	**J**	**100**	**1.3**	**pg/sampl**
2,3,7,8-TCDF	ND		10	1.7	pg/sampl
Total TCDF	ND		10	1.7	pg/sampl
1,2,3,7,8-PeCDF	ND		50	0.77	pg/sampl
2,3,4,7,8-PeCDF	ND		50	0.72	pg/sampl
Total PeCDF	ND		50	0.75	pg/sampl
1,2,3,4,7,8-HxCDF	ND		50	0.72	pg/sampl
1,2,3,6,7,8-HxCDF	ND		50	0.67	pg/sampl
2,3,4,6,7,8-HxCDF	**1.2**	**J**	**50**	**0.75**	**pg/sampl**
1,2,3,7,8,9-HxCDF	**1.1**	**J**	**50**	**0.81**	**pg/sampl**
Total HxCDF	**2.3**	**J**	**50**	**0.73**	**pg/sampl**
1,2,3,4,6,7,8-HpCDF	**1.3**	**Q J**	**50**	**0.72**	**pg/sampl**
1,2,3,4,7,8,9-HpCDF	ND		50	0.84	pg/sampl
Total HpCDF	**1.3**	**Q J**	**50**	**0.77**	**pg/sampl**
OCDF	**5.3**	**J**	**100**	**1.3**	**pg/sampl**

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H6D170000 - 092B	**Work Order #....:**	H3ED81AA	**Matrix....:**	AIR
Dilution Factor:	1				
Prep Date....:	04/17/06	**Analysis Date....:**	05/04/06		
Prep Batch # ....:	6107092				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Bruce F. Wagner				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	87	40 - 135
13C-1,2,3,7,8-PeCDD	99	40 - 135
13C-1,2,3,6,7,8-HxCDD	86	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	92	40 - 135
13C-OCDD	85	40 - 135
13C-2,3,7,8-TCDF	85	40 - 135
13C-1,2,3,7,8-PeCDF	95	40 - 135
13C-1,2,3,6,7,8-HxCDF	78	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	82	40 - 135

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

STL - Knoxville

IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H3ED81AA	Prep Batch	6107092	Lot No	H6D170000-092
Data File	/20060504s1/bth3ed8b.d	Prep Date	04/17/06	SDG No	
Analysis ID	90538	Prep Exp Date	04/27/06	Date Received	04/17/06
Analysis Date	5/4/2006	Matrix	AIR	Date Sampled	03/28/06
Analysis Time	14:02	Initial Wt/Vol	1	Lims Test Code	XXSIOX801
Anal Exp Date	06/01/06	Extract Vol	20	Method	0023/8290
Instrument	M2A	Dil Factor	1.0	Code	X8
Analyst	BFW				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (pg/sample		DL (pg/samp
2,3,7,8-TCDD				1.060				ND		2.26
Total TCDD				1.060				ND		2.26
2,3,7,8-TCDF				1.064				ND		1.71
Total TCDF				1.064				ND		1.71
1,2,3,7,8-PeCDD				0.977				ND		0.997
Total PeCDD				0.977				ND		0.997
1,2,3,7,8-PeCDF				0.955				ND		0.769
2,3,4,7,8-PeCDF				1.018				ND		0.722
Total PeCDF				0.987				ND		0.745
1,2,3,4,7,8-HxCDD				1.047				ND		1.01
1,2,3,6,7,8-HxCDD				1.055				ND		1.00
1,2,3,7,8,9-HxCDD				1.146				ND		0.921
Total HxCDD				1.083				ND		0.975
1,2,3,4,7,8-HxCDF				1.101				ND		0.720
1,2,3,6,7,8-HxCDF				1.184				ND		0.669
2,3,4,6,7,8-HxCDF	47:03	1248	359	1.052		1.178118		1.178118	J	0.753
1,2,3,7,8,9-HxCDF	48:04	1092	263	0.982		1.104807		1.104807	J	0.807
Total HxCDF				1.080		2.282925		2.282925	J	0.734
1,2,3,4,6,7,8-HpCDD	52:19	1819	576	1.018		2.095521		2.095521	J	1.14
Total HpCDD				1.018		2.095521		2.095521	J	1.14
1,2,3,4,6,7,8-HpCDF	50:39	1435	444	1.403		1.338352		1.338352	QJ	0.715
1,2,3,4,7,8,9-HpCDF				1.197				ND		0.839
Total HpCDF				1.300		1.338352		1.338352	QJ	0.772
OCDD	56:40	10919	2836	0.965		15.471586		15.471586	J	1.31
OCDF	56:49	4301	1010	1.103		5.328492		5.328492	J	1.28
13C-2,3,7,8-TCDD	35:14	1018064	112428	1.068	1000	873.099266	87.31	873.099266		5.07
13C-2,3,7,8-TCDF	33:02	1305815	136282	1.413	1000	846.181637	84.62	846.181637		2.53
13C-1,2,3,7,8-PeCDD	43:01	957586	267057	0.882	1000	994.503708	99.45	994.503708		2.79
13C-1,2,3,7,8-PeCDF	41:26	1235317	299294	1.188	1000	952.293267	95.23	952.293267		2.00
13C-1,2,3,6,7,8-HxCDD	47:19	821369	215509	0.943	1000	859.419229	85.94	859.419229		1.19
13C-1,2,3,6,7,8-HxCDF	46:15	1006568	287038	1.272	1000	781.001999	78.10	781.001999		0.922
13C-1,2,3,4,6,7,8-HpCDD	52:20	853051	189690	0.918	1000	916.834973	91.68	916.834973		0.815
13C-1,2,3,4,6,7,8-HpCDF	50:36	764067	171830	0.916	1000	823.182650	82.32	823.182650		1.15
13C-OCDD	56:39	1463065	376708	0.850	2000	1699.19705	84.96	1699.19705		1.20
37Cl4-2,3,7,8-TCDD				1.046	2000			ND		1.28
13C-2,3,4,7,8-PeCDF				1.010	2000			ND		0.876
13C-1,2,3,4,7,8-HxCDD				0.902	2000			ND		1.57
13C-1,2,3,4,7,8-HxCDF				0.988	2000			ND		1.12
13C-1,2,3,7,8,9-HxCDF				1.113				ND		1.05
13C-1,2,3,4,7,8,9-HpCDF				0.912	2000			ND		1.82
13C-1,2,3,4-TCDD	34:42	2183617	223288	1.000	2000	2000.00000	100.00	2000.00000		5.42
13C-1,2,3,7,8,9-HxCDD	47:45	2026419	541290	1.000	2000	2000.00000	100.00	2000.00000		1.13

VMK 5/5/06
MSD 5/8/06

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H3ED81AA	Prep Batch	6107092	Lot No	H6D170000-092
Data File	/20060504s1/bth3ed8b.d	Prep Date	04/17/06	SDG No	
Analysis ID	90538	Prep Exp Date	04/27/06	Date Received	04/17/06
Analysis Date	05/04/06 14:02	Matrix	AIR	Date Sampled	03/28/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSIOX801
Instrument	M2A	Extract Vol	20 uL	Method	0023/8290
Analyst	BFW	Diluton Factor	1.00	Code	X8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					303.9016	305.8987	303.9016	305.8987	0.65-0.89		
	Noise	00:00	00:00	0	103	145	41	58	0.71	/	
316					315.9419	317.9389	315.9419	317.9389	0.65-0.89		
	Noise	00:00	00:00	0	158	243	63	97	0.65	/	
	13C-2,3,7,8-TCDF	33:02	33:02	0	570518	735297	60499	75783	0.78	ABV/ABV	
320					319.8965	321.8936	319.8965	321.8936	0.65-0.89		
	Noise	00:00	00:00	0	130	140	52	56	0.93 *	/	
328					327.8847		327.8847				
	Noise	00:00	00:00	0	150		60				
332					331.9368	333.9338	331.9368	333.9338	0.65-0.89		
	Noise	00:00	00:00	0	358	248	143	99	1.44 *	/	
	13C-1,2,3,4-TCDD	34:42	34:42	0	966300	1217317	96440	126848	0.79	AVV/ABV	
	13C-2,3,7,8-TCDD	35:14	35:15	-1	455831	562233	48936	63492	0.81	AVV/AVV	
340					339.8597	341.8567	339.8597	341.8567	1.32-1.78		
	Noise	00:00	00:00	0	73	148	29	59	0.49 *	/	
352					351.9000	353.8970	351.9000	353.8970	1.32-1.78		
	Noise	00:00	00:00	0	130	135	52	54	0.96 *	/	
	13C-1,2,3,7,8-PeCDF	41:26	41:26	0	750305	485012	178862	120432	1.55	ABV/ABV	
356					355.8546	357.8516	355.8546	357.8516	1.32-1.78		
	Noise	00:00	00:00	0	165	95	66	38	1.74	/	
368					367.8949	369.8919	367.8949	369.8919	1.32-1.78		
	Noise	00:00	00:00	0	173	103	69	41	1.68	/	
	13C-1,2,3,7,8-PeCDD	43:01	43:00	1	575865	381721	161282	105775	1.51	ABV/ABV	
374					373.8208	375.8178	373.8208	375.8178	1.05-1.43		
	Noise	00:00	00:00	0	143	85	57	34	1.68 *	/	
	2,3,4,6,7,8-HxCDF	47:03	47:02	1	659	589	195	164	1.12	MBB/ABB	
	1,2,3,7,8,9-HxCDF	48:04	48:03	1	622	470	156	107	1.32	ABB/MBB	
384					383.8639	385.8610	383.8639	385.8610	0.43-0.59		
	Noise	00:00	00:00	0	138	180	55	72	0.76 *	/	
	13C-1,2,3,6,7,8-HxCDF	46:15	46:16	-1	342899	663669	96797	190241	0.52	AVV/AVV	
390					389.8156	391.8127	389.8156	391.8127	1.05-1.43		
	Noise	00:00	00:00	0	100	128	40	51	0.78 *	/	
402					401.8559	403.8529	401.8559	403.8529	1.05-1.43		
	Noise	00:00	00:00	0	123	183	49	73	0.67 *	/	
	13C-1,2,3,6,7,8-HxCDD	47:19	47:19	0	454664	366705	118597	96912	1.24	AVB/ABB	XM
	13C-1,2,3,7,8,9-HxCDD	47:45	47:45	0	1130736	895683	304124	237166	1.26	ABV/ABV	
408					407.7818	409.7788	407.7818	409.7788	0.88-1.20		
	Noise	00:00	00:00	0	78	95	31	38	0.82 *	/	
	1,2,3,4,6,7,8-HpCDF	50:39	50:36	3	775	660	154	290	1.17	ABB/MBB	T
418					417.8250	419.8220	417.8250	419.8220	0.37-0.51		
	Noise	00:00	00:00	0	153	133	61	53	1.15 *	/	
	13C-1,2,3,4,6,7,8-HpCDF	50:36	50:36	0	238061	526006	53146	118684	0.45	ABV/ABV	
424					423.7767	425.7737	423.7767	425.7737	0.88-1.20		

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H3ED81AA	Prep Batch	6107092	Lot No	H6D170000-092
Data File	/20060504s1/bth3ed8b.d	Prep Date	04/17/06	SDG No	
Analysis ID	90538	Prep Exp Date	04/27/06	Date Received	04/17/06
Analysis Date	05/04/06 14:02	Matrix	AIR	Date Sampled	03/28/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSIOX801
Instrument	M2A	Extract Vol	20 uL	Method	0023/8290
Analyst	BFW	Diluton Factor	1.00	Code	X8

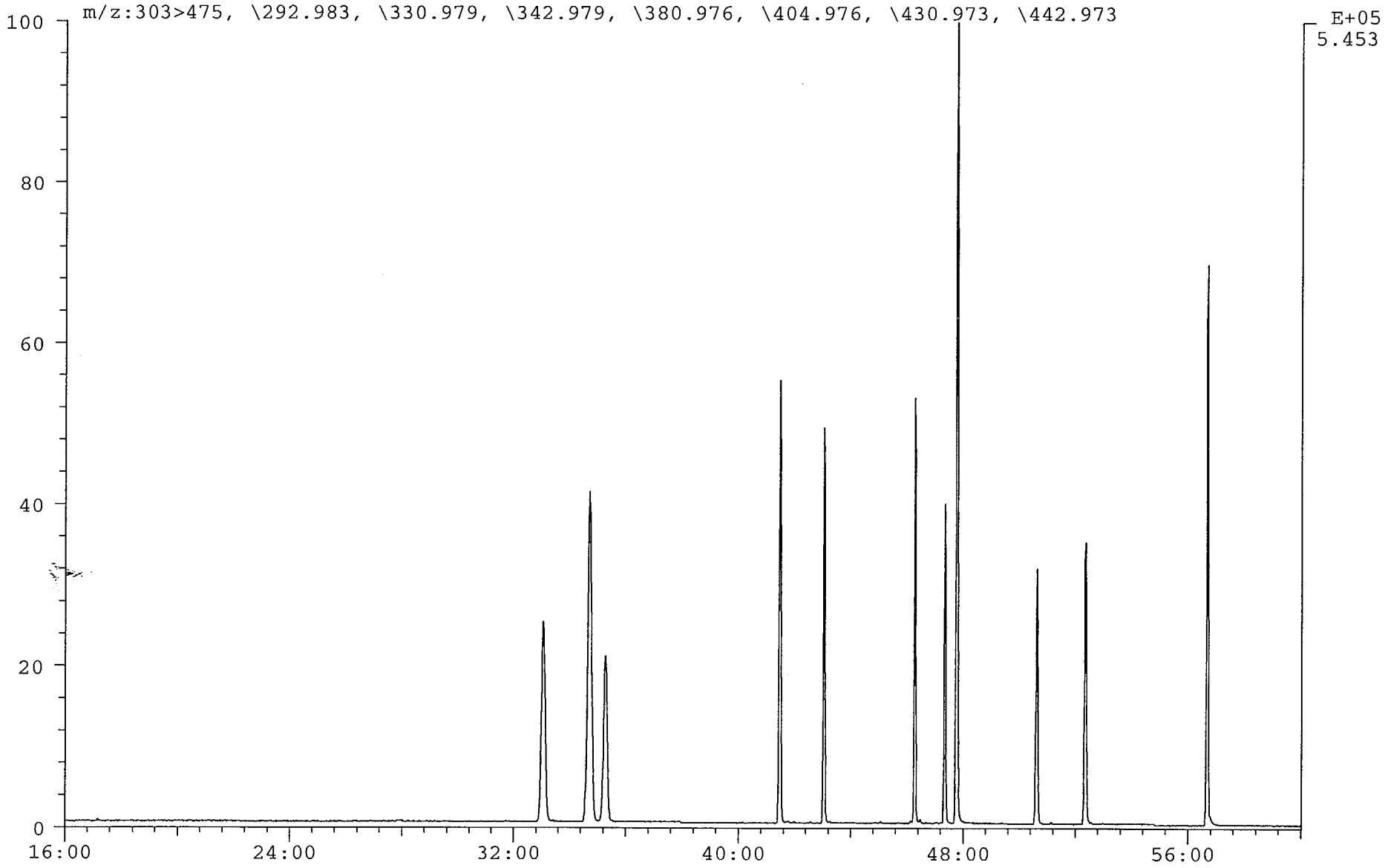
View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration Flags
424					**423.7767**	**425.7737**	**423.7767**	**425.7737**	**0.88-1.20**	
	Noise	00:00	00:00	0	133	88	53	35	1.51 *	/
	1,2,3,4,6,7,8-HpCDD	52:19	52:21	-2	958	861	264	312	1.11	ABB/ABB
436					**435.8169**	**437.8140**	**435.8169**	**437.8140**	**0.88-1.20**	
	Noise	00:00	00:00	0	143	60	57	24	2.38 *	/
	13C-1,2,3,4,6,7,8-HpCDD	52:20	52:20	0	435339	417712	97817	91873	1.04	ABV/ABV
442					**441.7428**	**443.7399**	**441.7428**	**443.7399**	**0.76-1.02**	
	Noise	00:00	00:00	0	128	138	51	55	0.93	/
	OCDF	56:49	56:49	0	1904	2397	418	592	0.79	ABB/MVV
458					**457.7377**	**459.7348**	**457.7377**	**459.7348**	**0.76-1.02**	
	Noise	00:00	00:00	0	130	108	52	43	1.21 *	/
	OCDD	56:40	56:41	-1	5160	5759	1431	1405	0.90	ABB/ABV
470					**469.7780**	**471.7750**	**469.7780**	**471.7750**	**0.76-1.02**	
	Noise	00:00	00:00	0	140	135	56	54	1.04 *	/
	13C-OCDD	56:39	56:40	-1	690532	772533	179668	197040	0.89	ABV/ABV

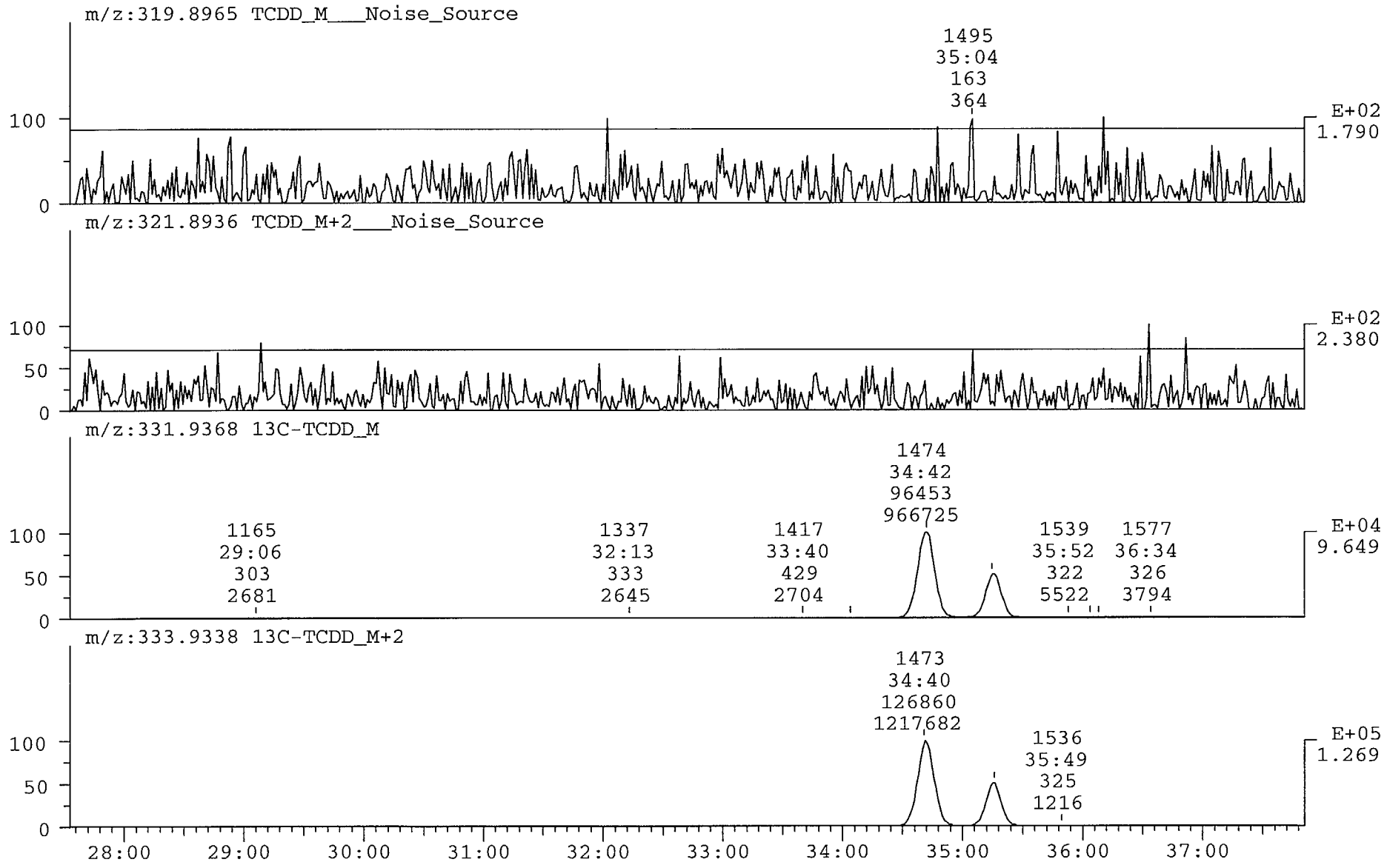
Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

```
CHRO:  bth3ed8b                                  04-May-06   Elapse:  08:00.3        1
Samp:  Vial 18 WO=h3ed81aa Meth=X8 Dil=1                     Start :  14:02:17    2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107092 (Air)
Oper:  BFW            Client:  H6D170000-092B                Inlet :  GC      Vial  18
Peak:  100.00  ppm      Label wndw:   442 > 2891             Masses:  293 > 514
Area:  5, 0.50, 0       Baseline  :   100, 3                 Label :  0, 0.0
Disp:  Height  Area
```

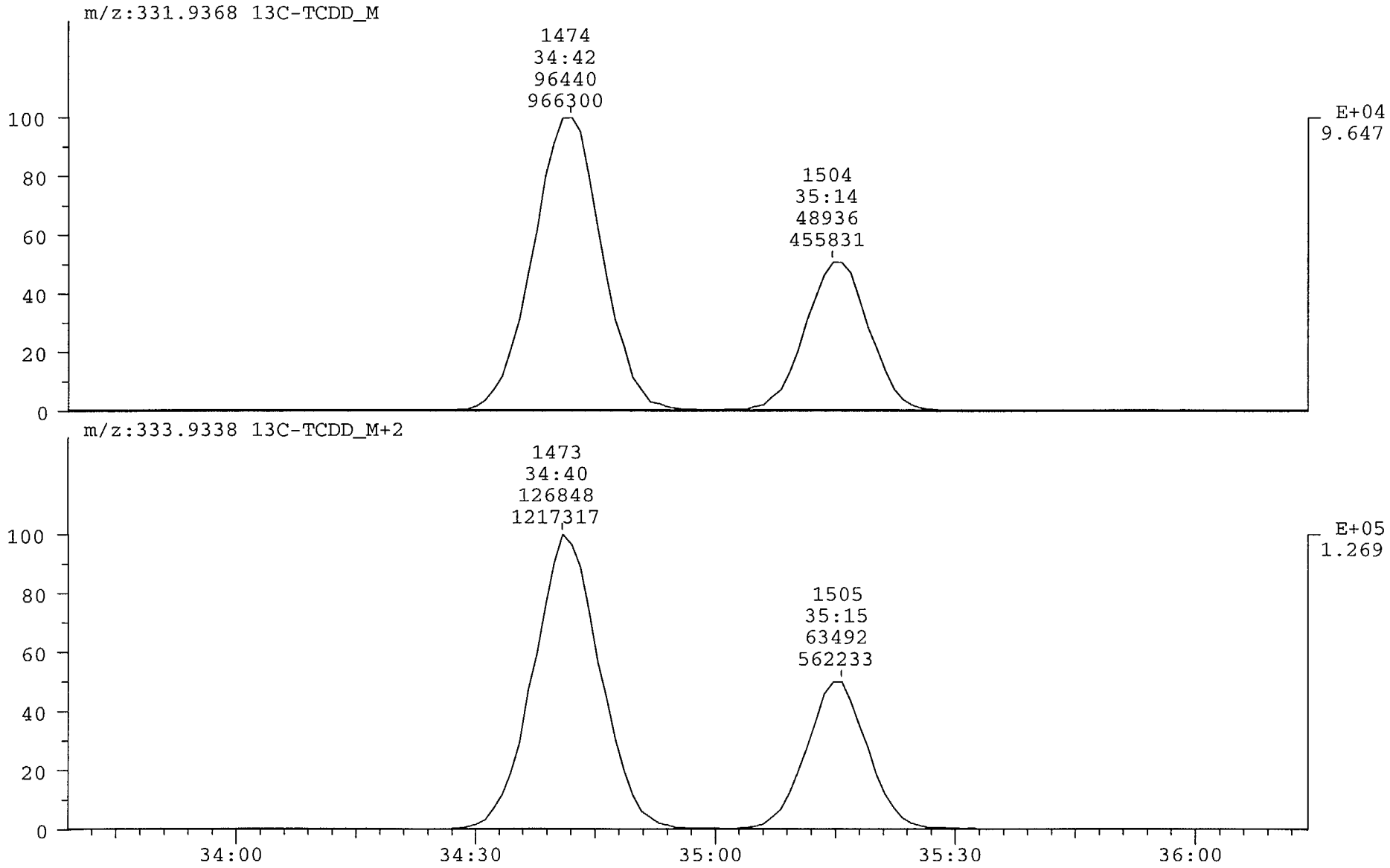
Int BFW 5/4/06
Calc VMK 5/5/06
QC Rev MSD 5/8/06



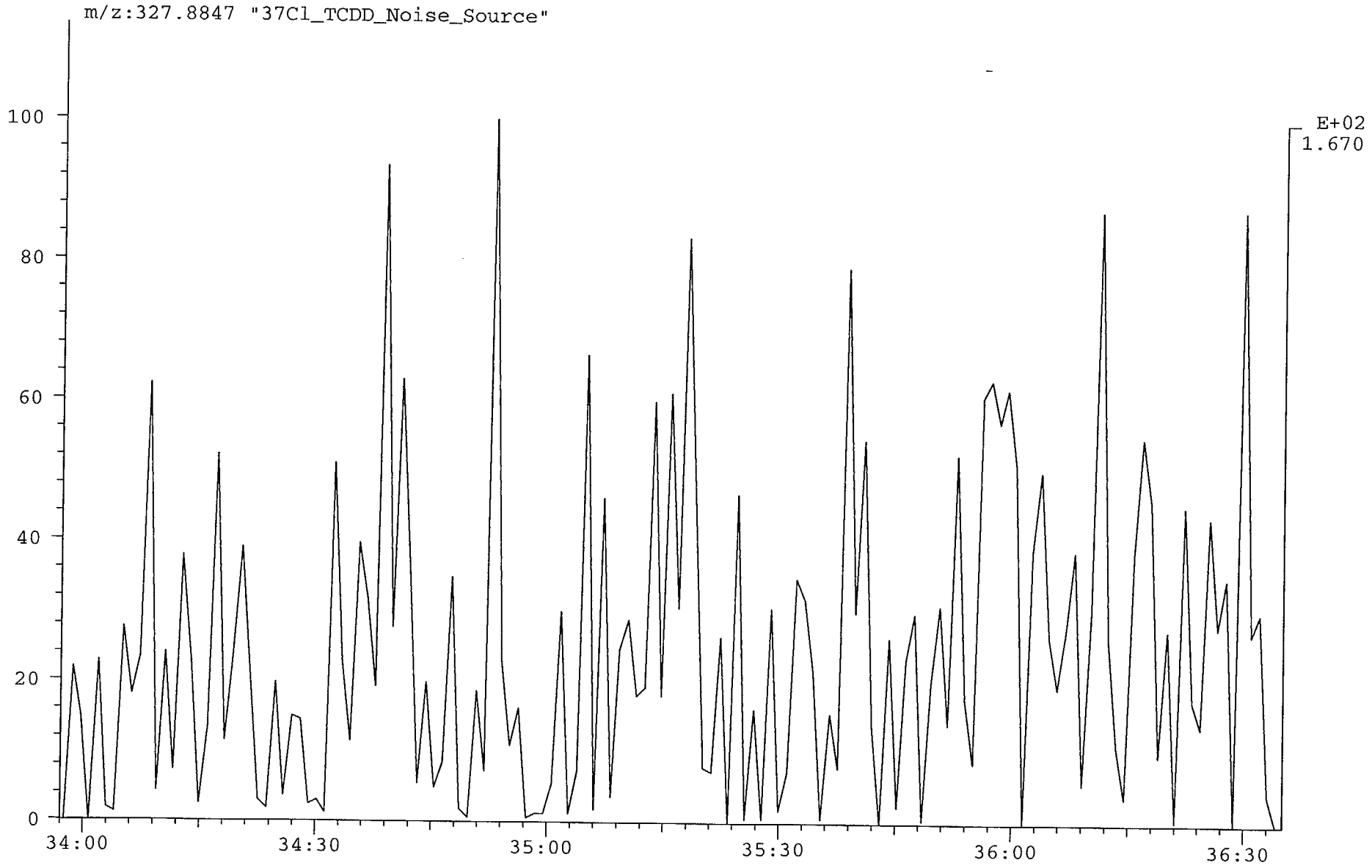
```
CHRO:  bth3ed8b                              04-May-06   Elapse:  08:00.3        1
Samp:  Vial 18 WO=h3ed81aa Meth=X8 Dil=1                 Start :  14:02:17    2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW            Client:  H6D170000-092B            Inlet :  GC     Vial  18
Peak:  100.00  ppm      Label wndw:   1079 > 1648        Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3             Label :  -2, 3.0
Disp:  Height  Area
```



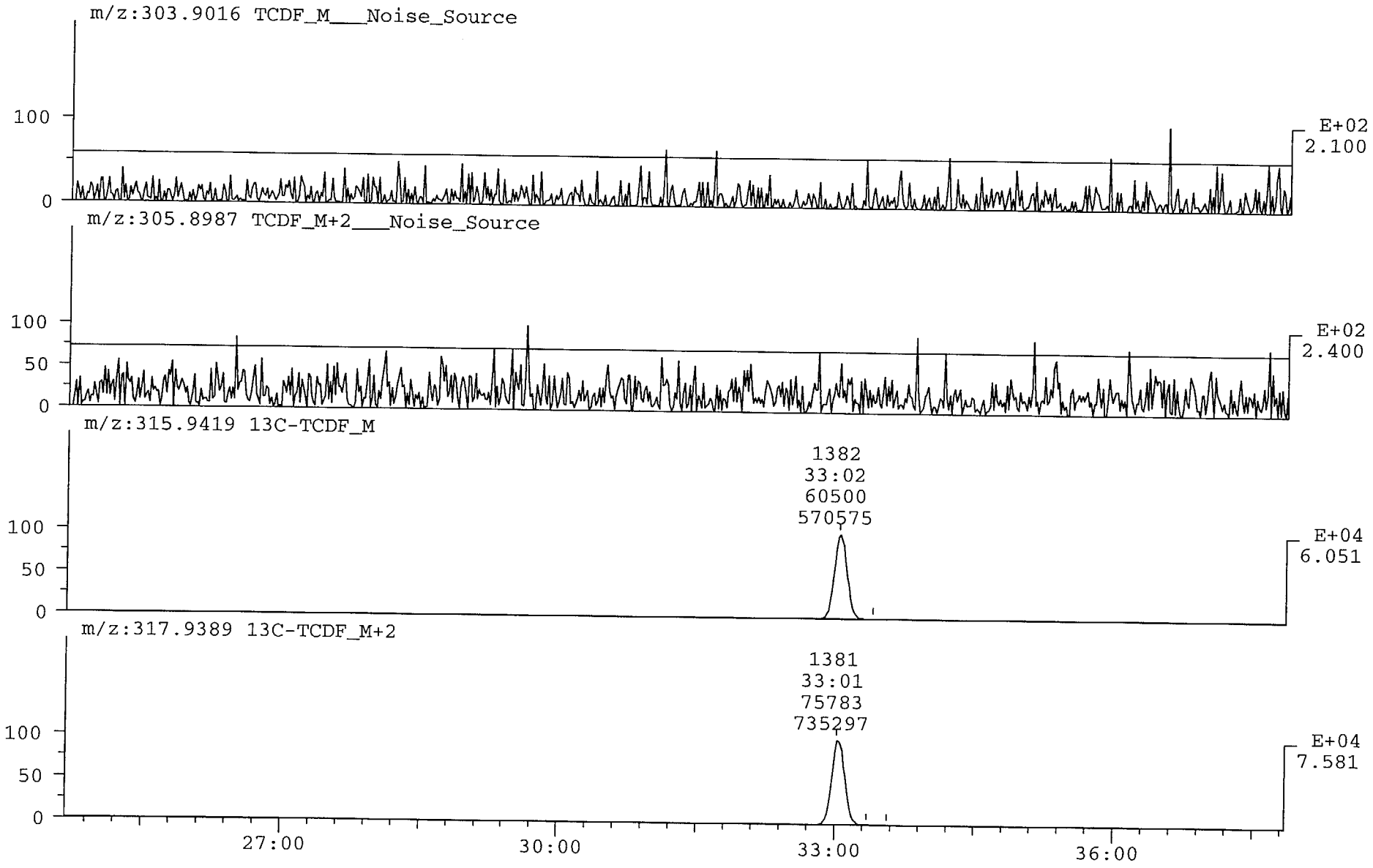
```
CHRO:  bth3ed8b                                04-May-06   Elapse:  34:56      1487
Samp:  Vial 18 WO=h3ed81aa Meth=X8 Dil=1                   Start :  14:02:17   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107092 (Air)
Oper:  BFW            Client:  H6D170000-092B              Inlet :  GC     Vial  18
Peak:  100.00  ppm      Label wndw:   1416 > 1559          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



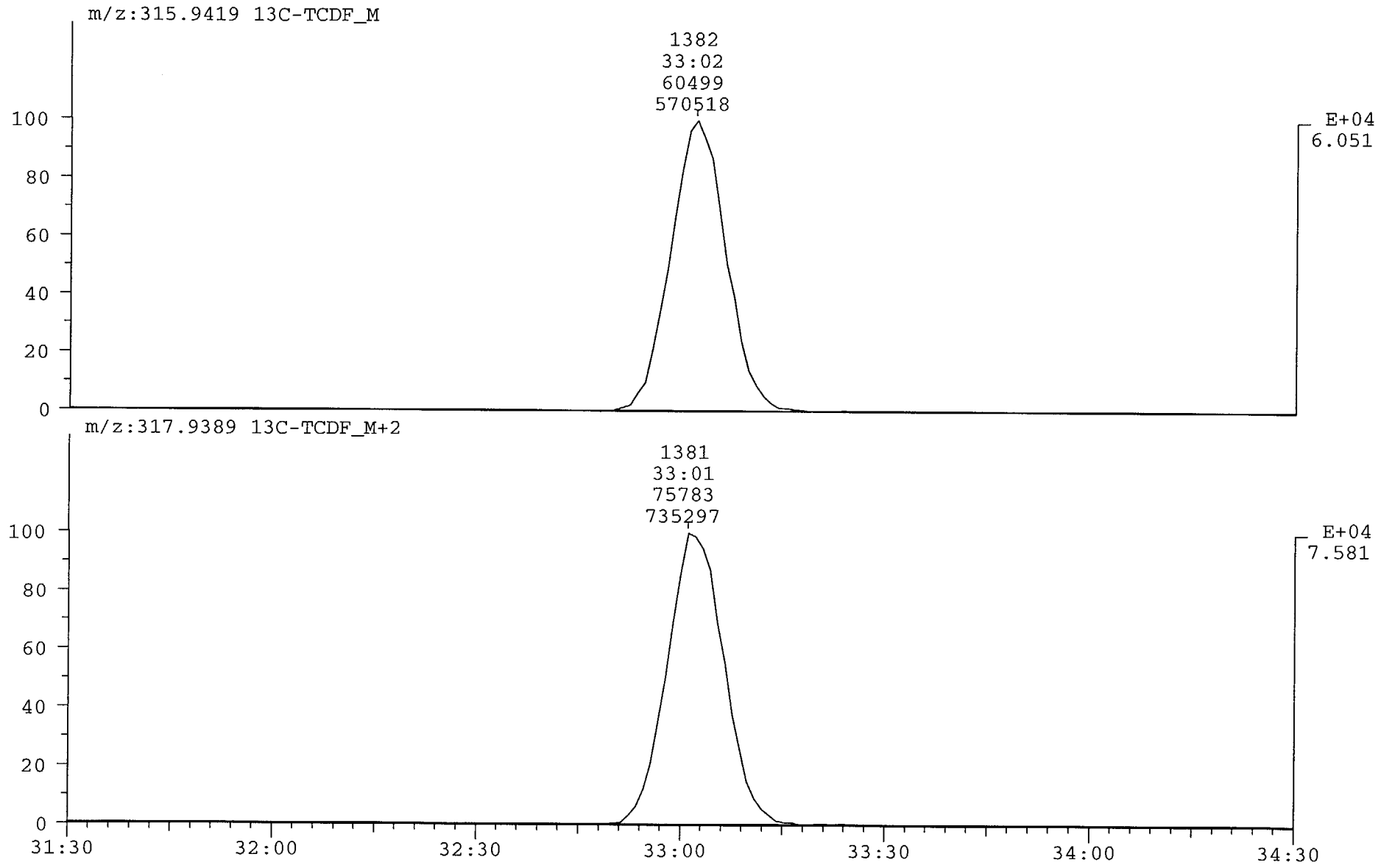
CHRO: bth3ed8b 04-May-06 Elapse: 35:12 1502
Samp: Vial 18 WO=h3ed81aa Meth=X8 Dil=1 Start : 14:02:17 2891
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092B Inlet : GC Vial 18
Peak: 100.00 ppm Label wndw: 1433 > 1578 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth3ed8b 04-May-06 Elapse: 35:12 1502
Samp: Vial 18 WO=h3ed81aa Meth=X8 Dil=1 Start : 14:02:17 2891
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092B Inlet : GC Vial 18
Peak: 100.00 ppm Label wndw: 921 > 1648 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  bth3ed8b                                04-May-06   Elapse:  32:56      1377
Samp:  Vial 18 WO=h3ed81aa Meth=X8 Dil=1                   Start :  14:02:17   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107092 (Air)
Oper:  BFW          Client:  H6D170000-092B                Inlet :  GC     Vial  18
Peak:  100.00  ppm     Label wndw:   1297 > 1463           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



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CHRO:  bth3ed8b                                04-May-06   Elapse:  32:56      1377
Samp:  Vial 18 WO=h3ed81aa Meth=X8 Dil=1                   Start :  14:02:17   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107092 (Air)
Oper:  BFW            Client:  H6D170000-092B              Inlet :  GC     Vial  18
Peak:  100.00  ppm      Label wndw:   921 > 1648           Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
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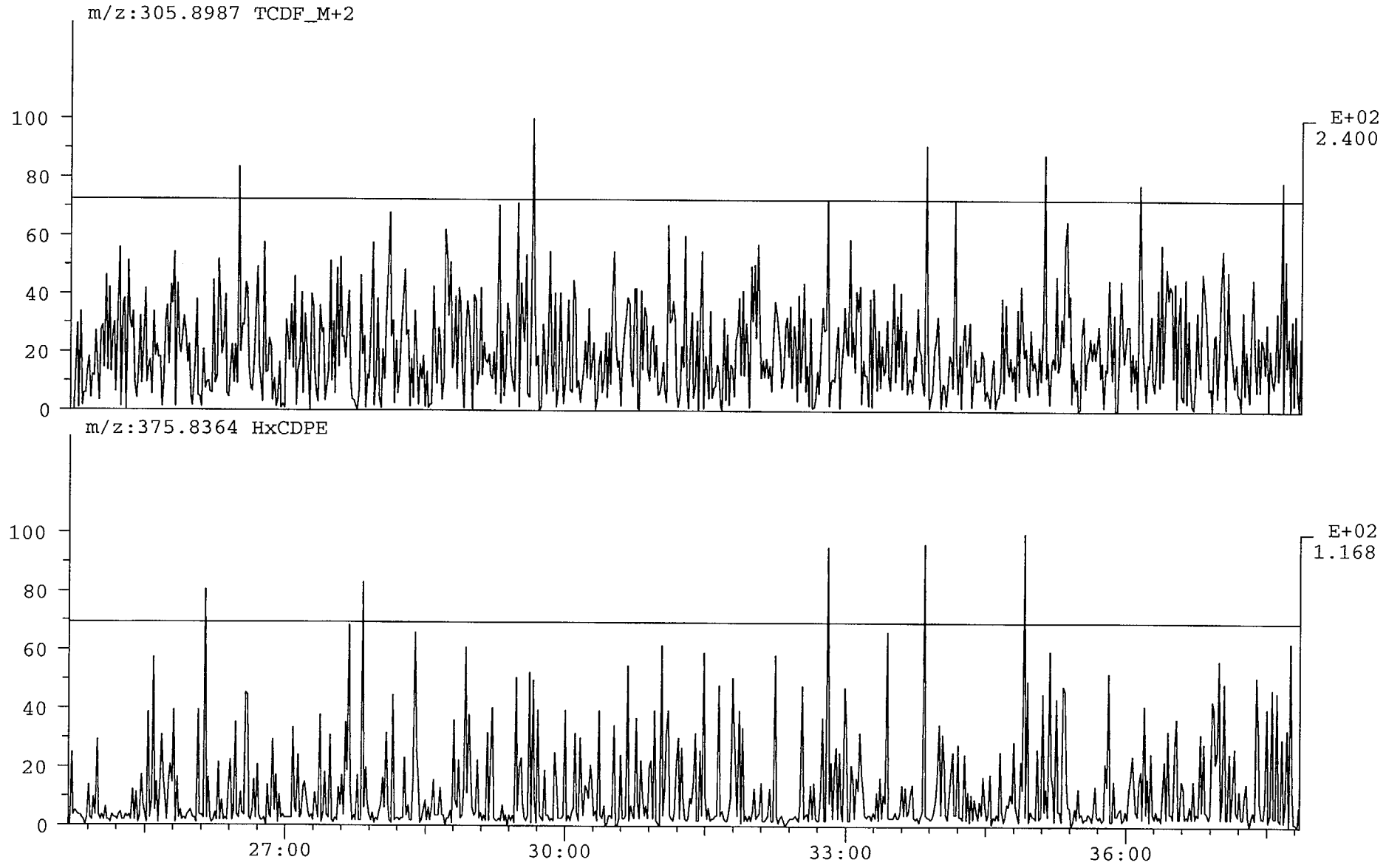
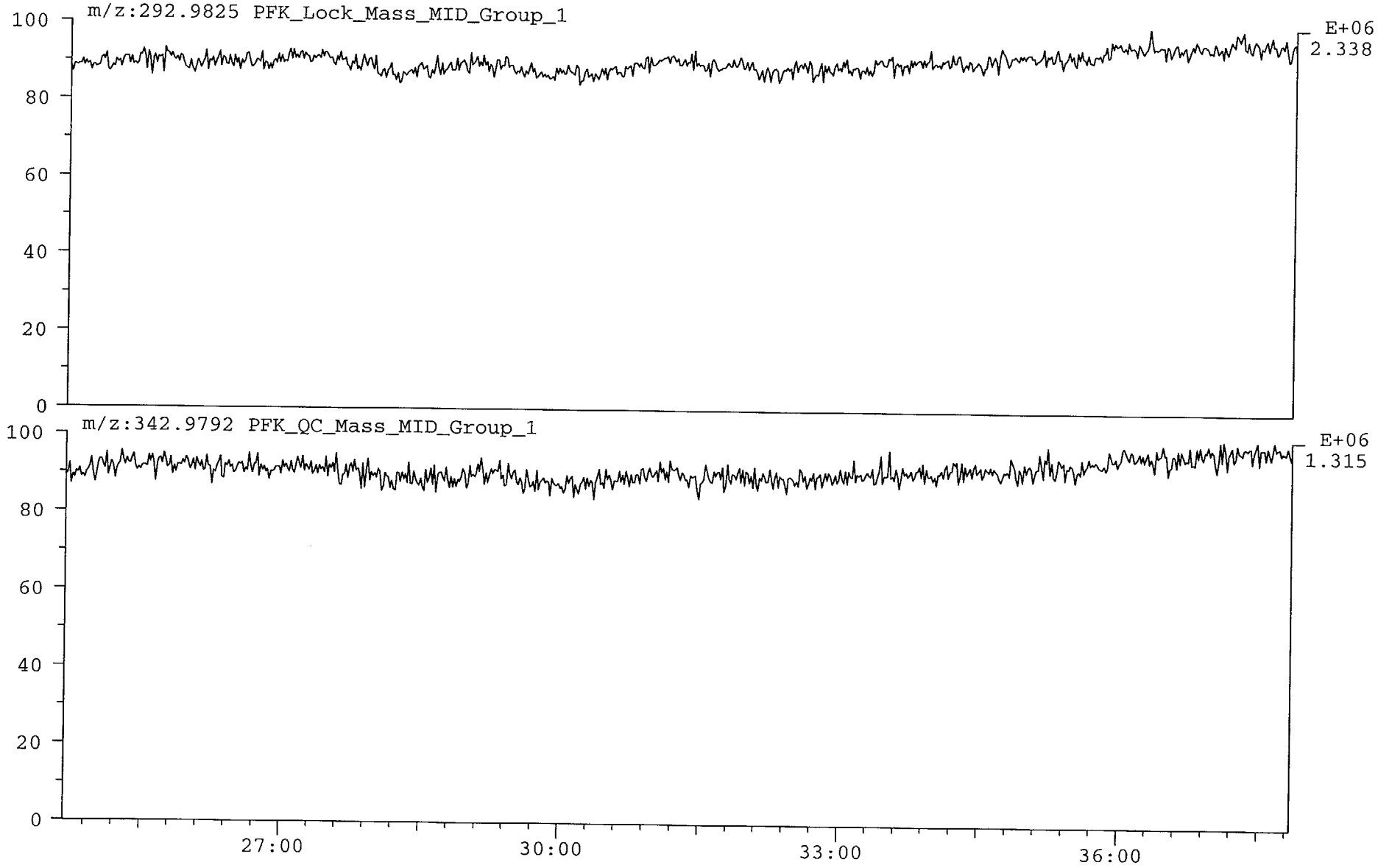
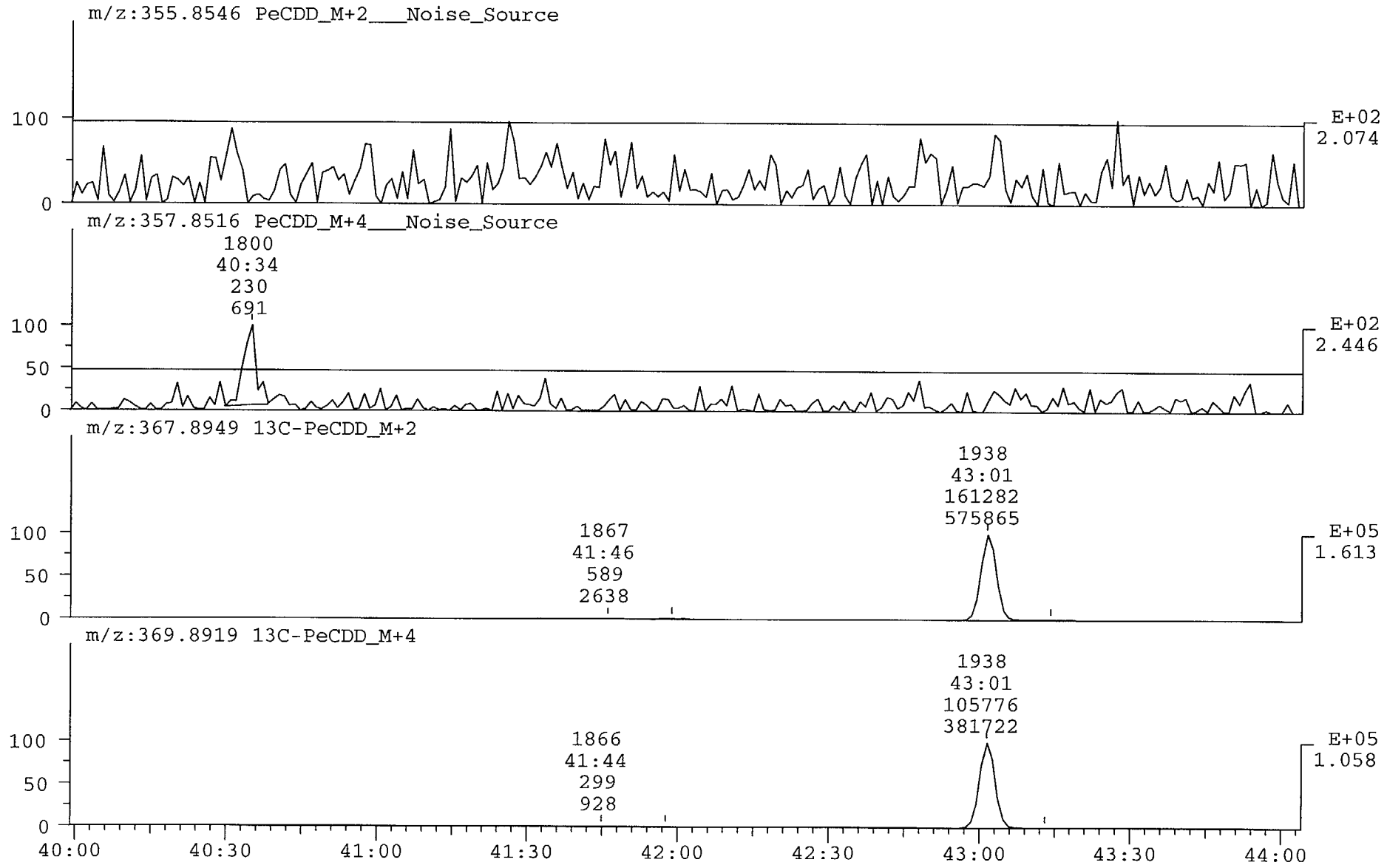


CHRO: bth3ed8b 04-May-06 Elapse: 32:56 1377
Samp: Vial 18 WO=h3ed81aa Meth=X8 Dil=1 Start : 14:02:17 2891
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092B Inlet : GC Vial 18
Peak: 100.00 ppm Label wndw: 921 > 1648 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



```
CHRO:  bth3ed8b                                04-May-06   Elapse:  32:56      1377
Samp:  Vial 18 WO=h3ed81aa Meth=X8 Dil=1                   Start :  14:02:17   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107092 (Air)
Oper:  BFW          Client:  H6D170000-092B                Inlet :  GC     Vial  18
Peak:  100.00  ppm     Label wndw:   1766 > 1997           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



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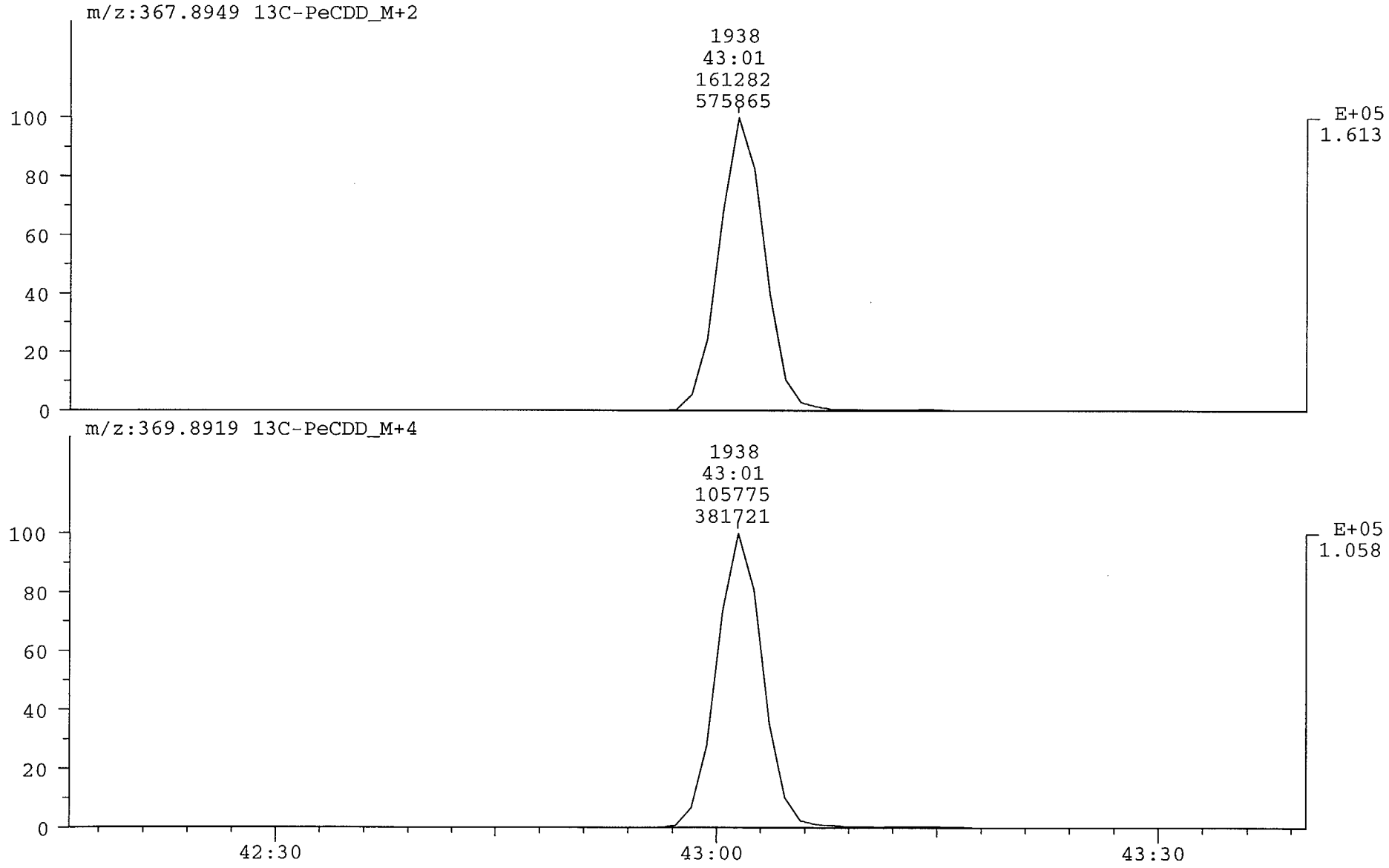
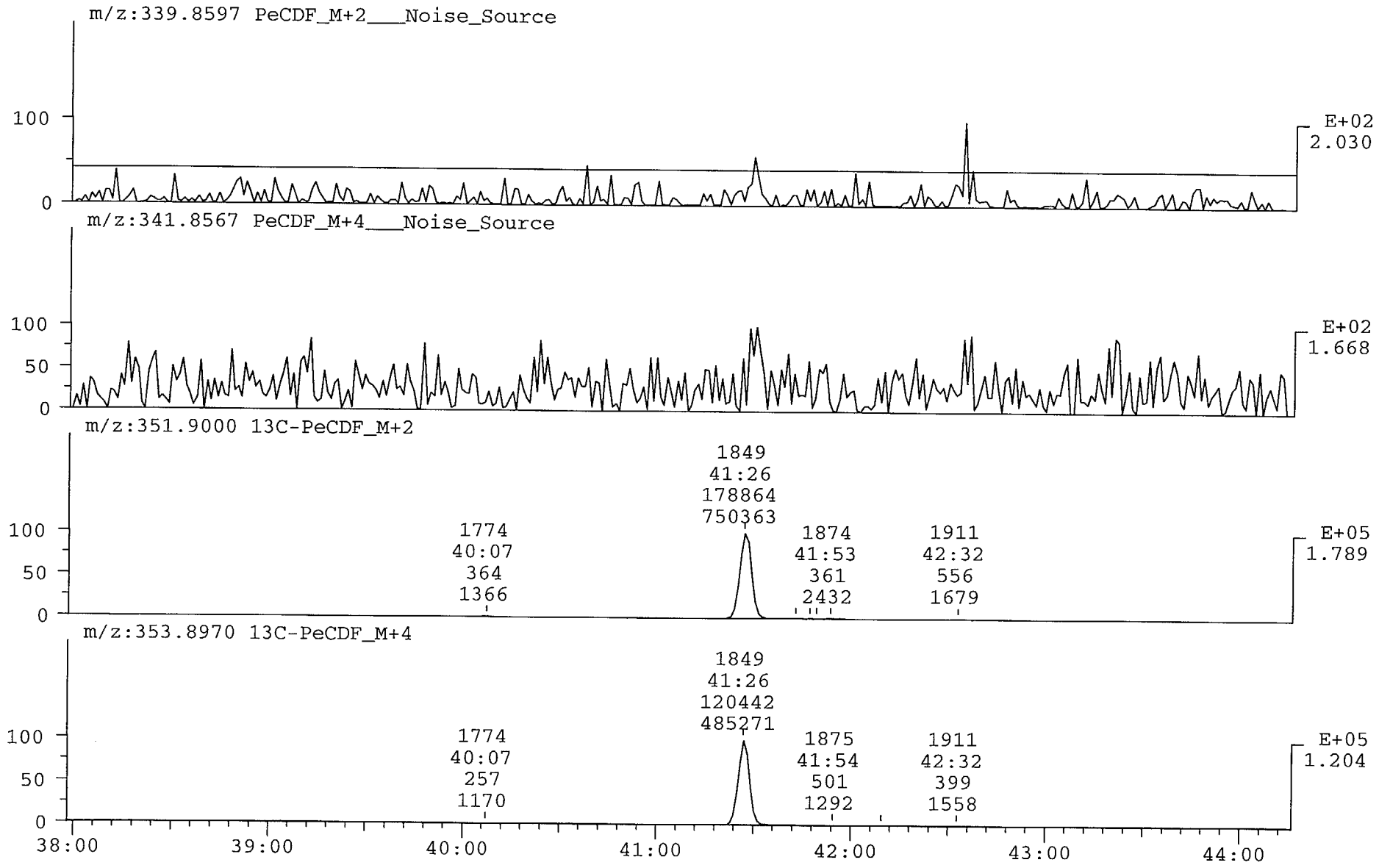
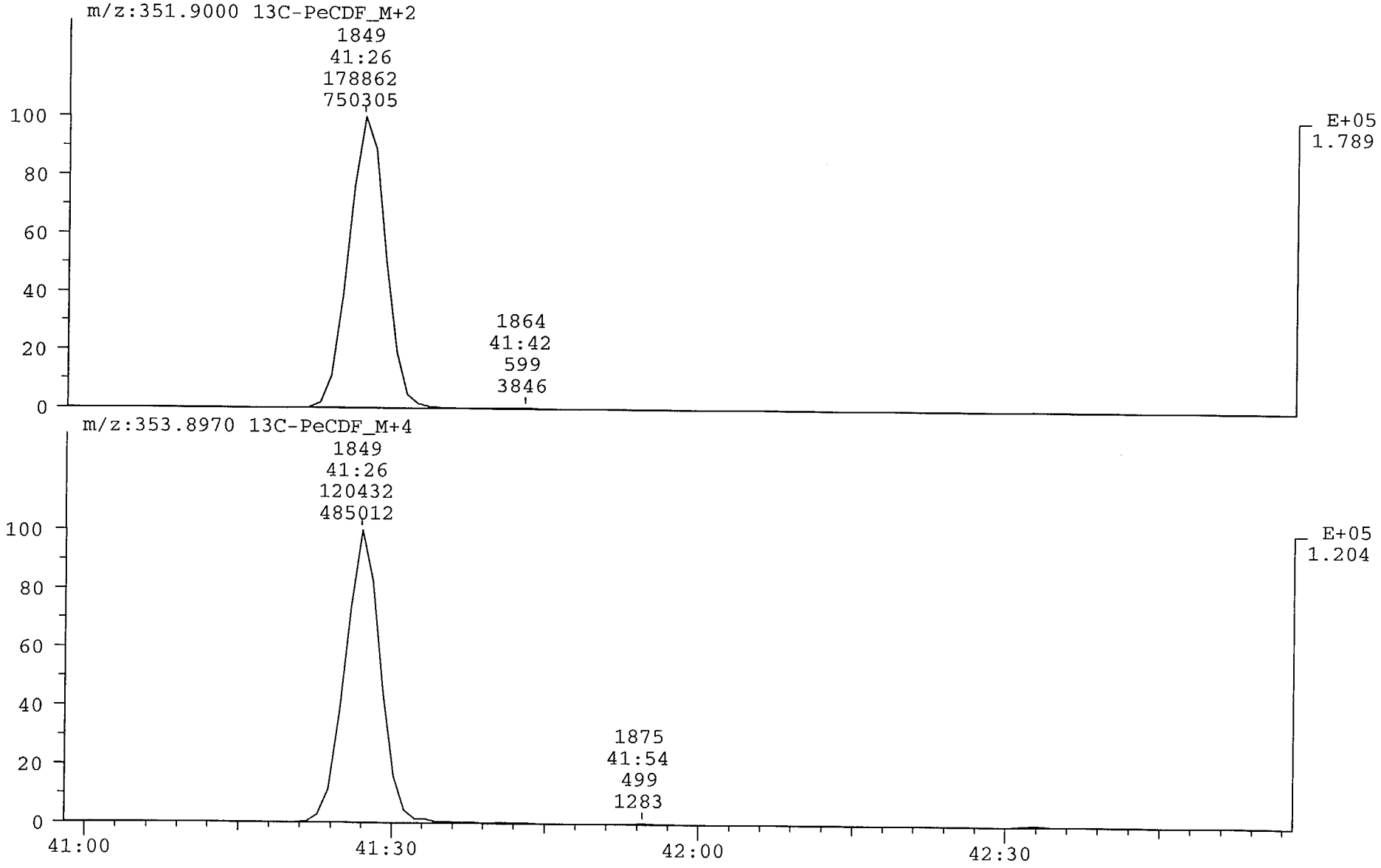
CHRO:  bth3ed8b                              04-May-06   Elapse:  42:55      1932
Samp:  Vial 18 WO=h3ed81aa Meth=X8 Dil=1                 Start :  14:02:17   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW          Client:  H6D170000-092B              Inlet :  GC     Vial  18
Peak:  100.00  ppm     Label wndw:   1895 > 1974         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



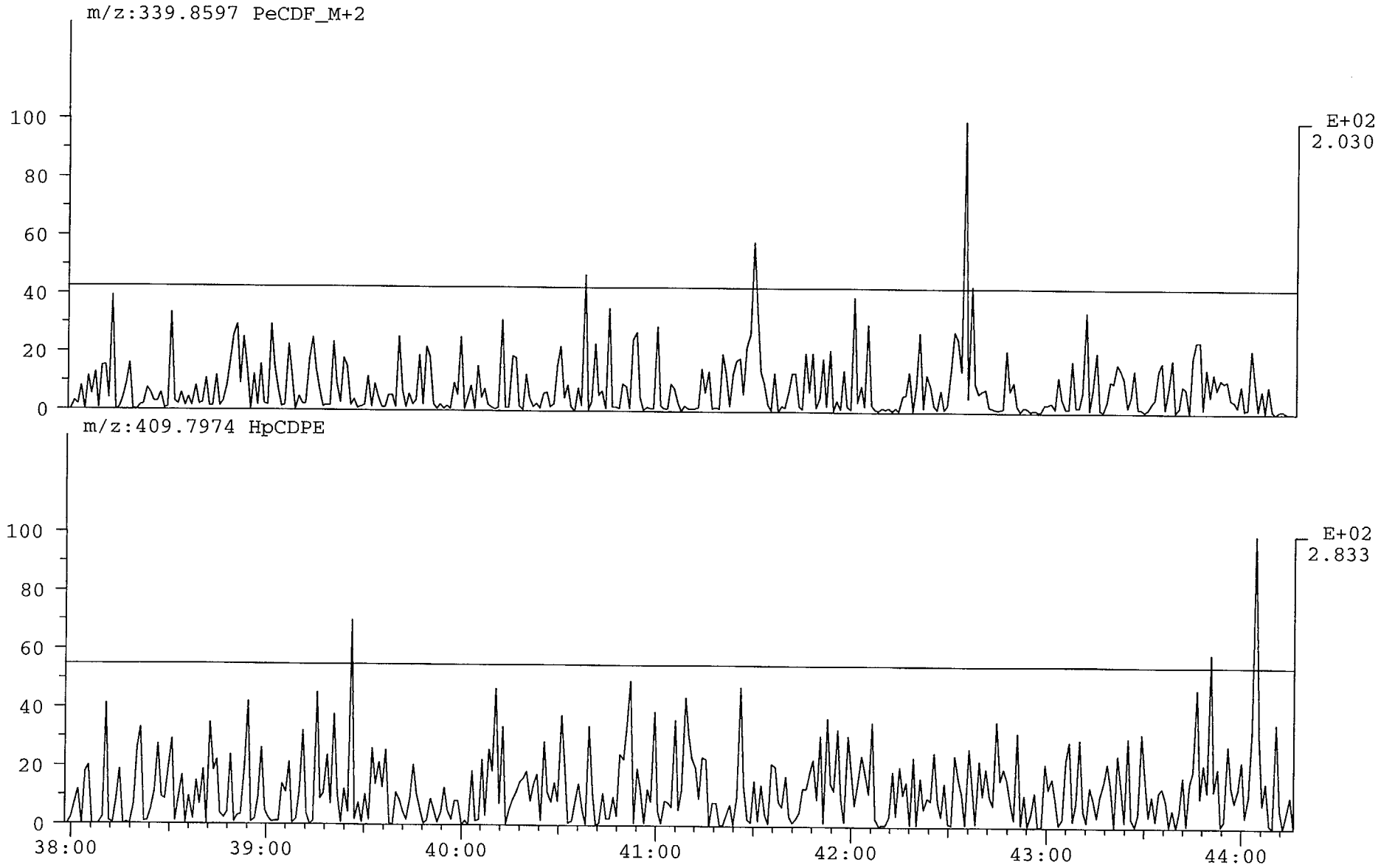
CHRO: bth3ed8b 04-May-06 Elapse: 42:55 1932
Samp: Vial 18 WO=h3ed81aa Meth=X8 Dil=1 Start : 14:02:17 2891
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092B Inlet : GC Vial 18
Peak: 100.00 ppm Label wndw: 1652 > 2008 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth3ed8b 04-May-06 Elapse: 41:57 1878
Samp: Vial 18 WO=h3ed81aa Meth=X8 Dil=1 Start : 14:02:17 2891
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092B Inlet : GC Vial 18
Peak: 100.00 ppm Label wndw: 1822 > 1935 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth3ed8b 04-May-06 Elapse: 41:57 1878
Samp: Vial 18 WO=h3ed81aa Meth=X8 Dil=1 Start : 14:02:17 2891
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092B Inlet : GC Vial 18
Peak: 100.00 ppm Label wndw: 1652 > 2008 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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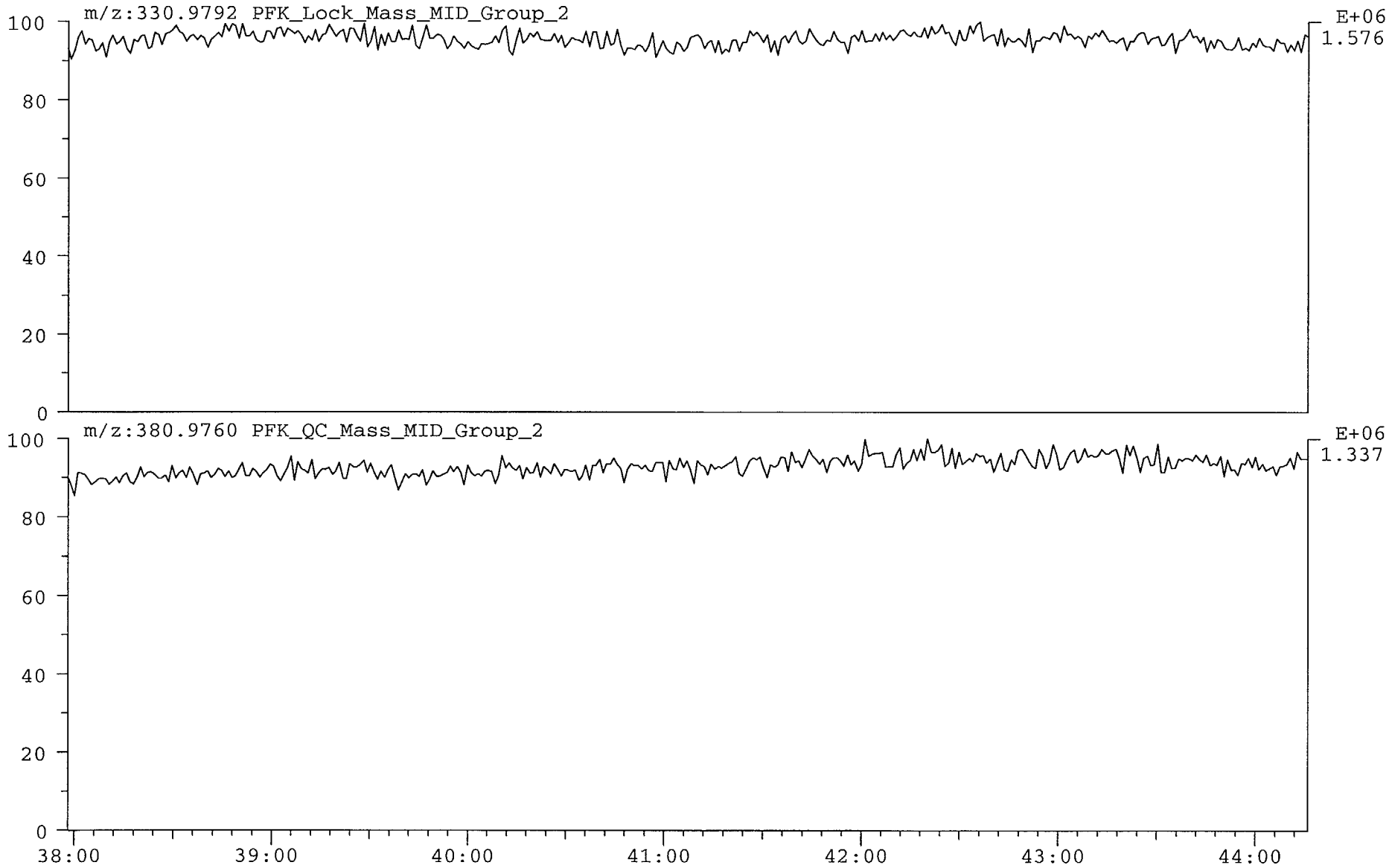
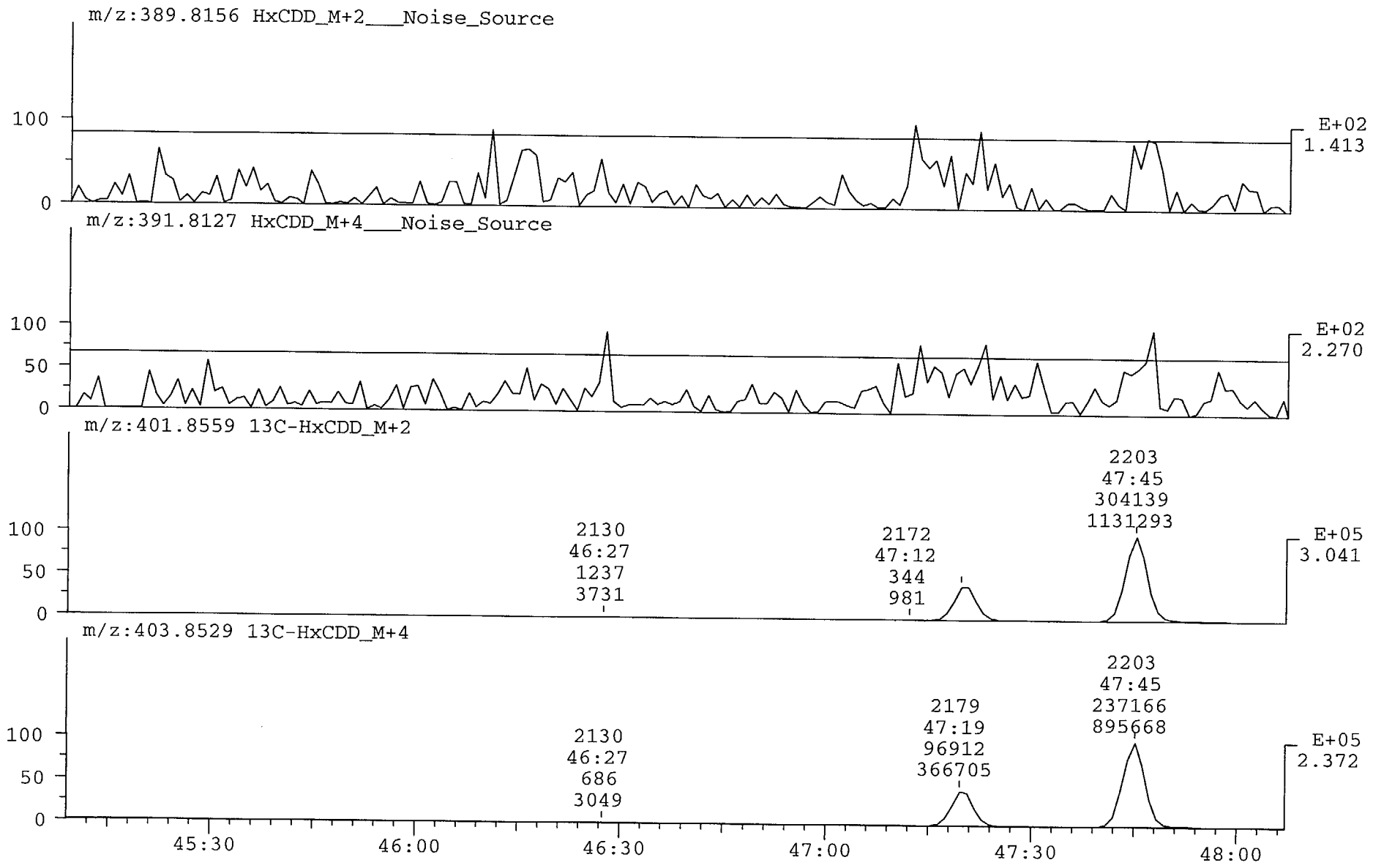
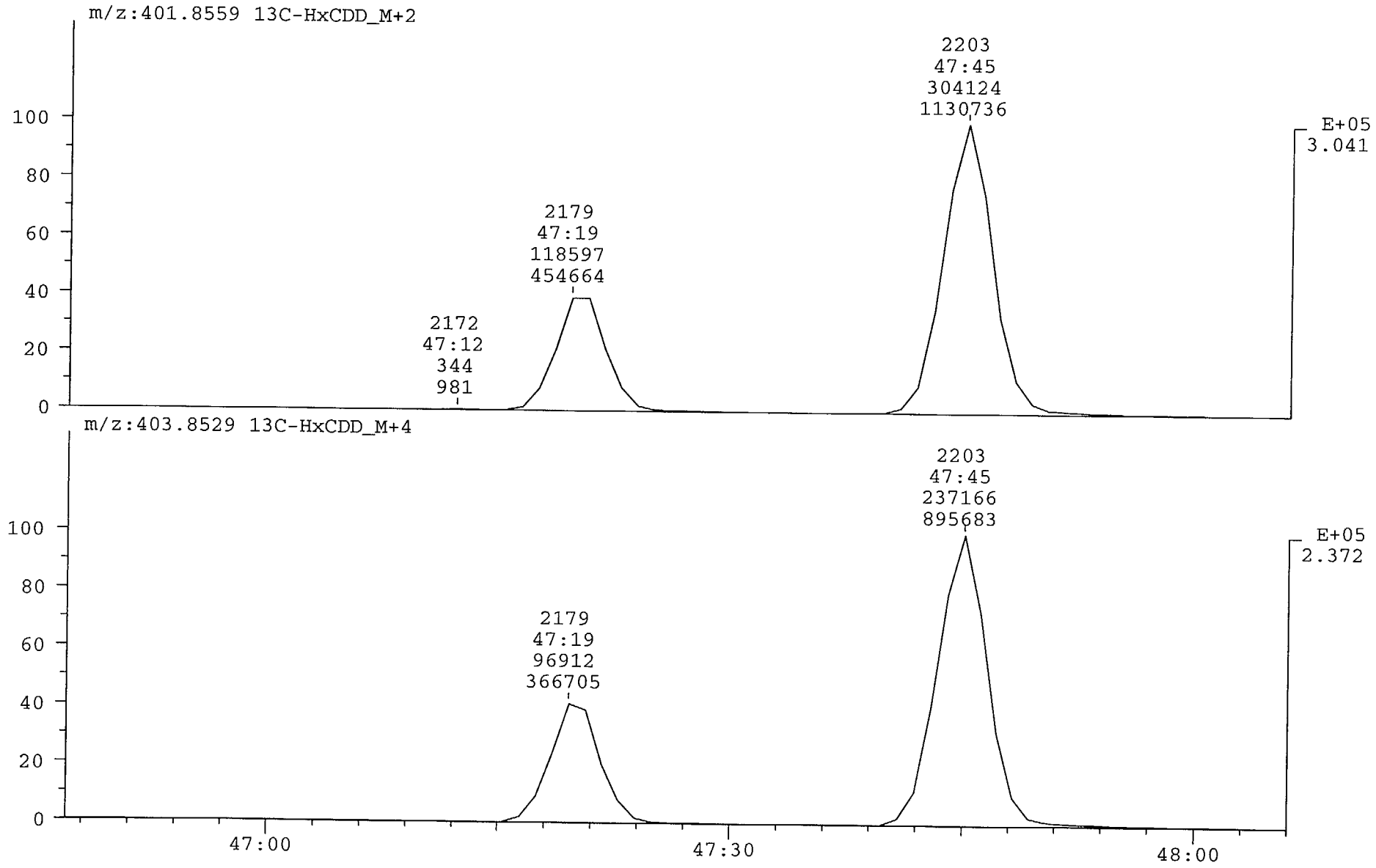
CHRO:  bth3ed8b                              04-May-06   Elapse:  41:57      1878
Samp:  Vial 18 WO=h3ed81aa Meth=X8 Dil=1                 Start :  14:02:17   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW           Client:  H6D170000-092B             Inlet :  GC     Vial  18
Peak:  100.00  ppm     Label wndw:   1652 > 2008         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



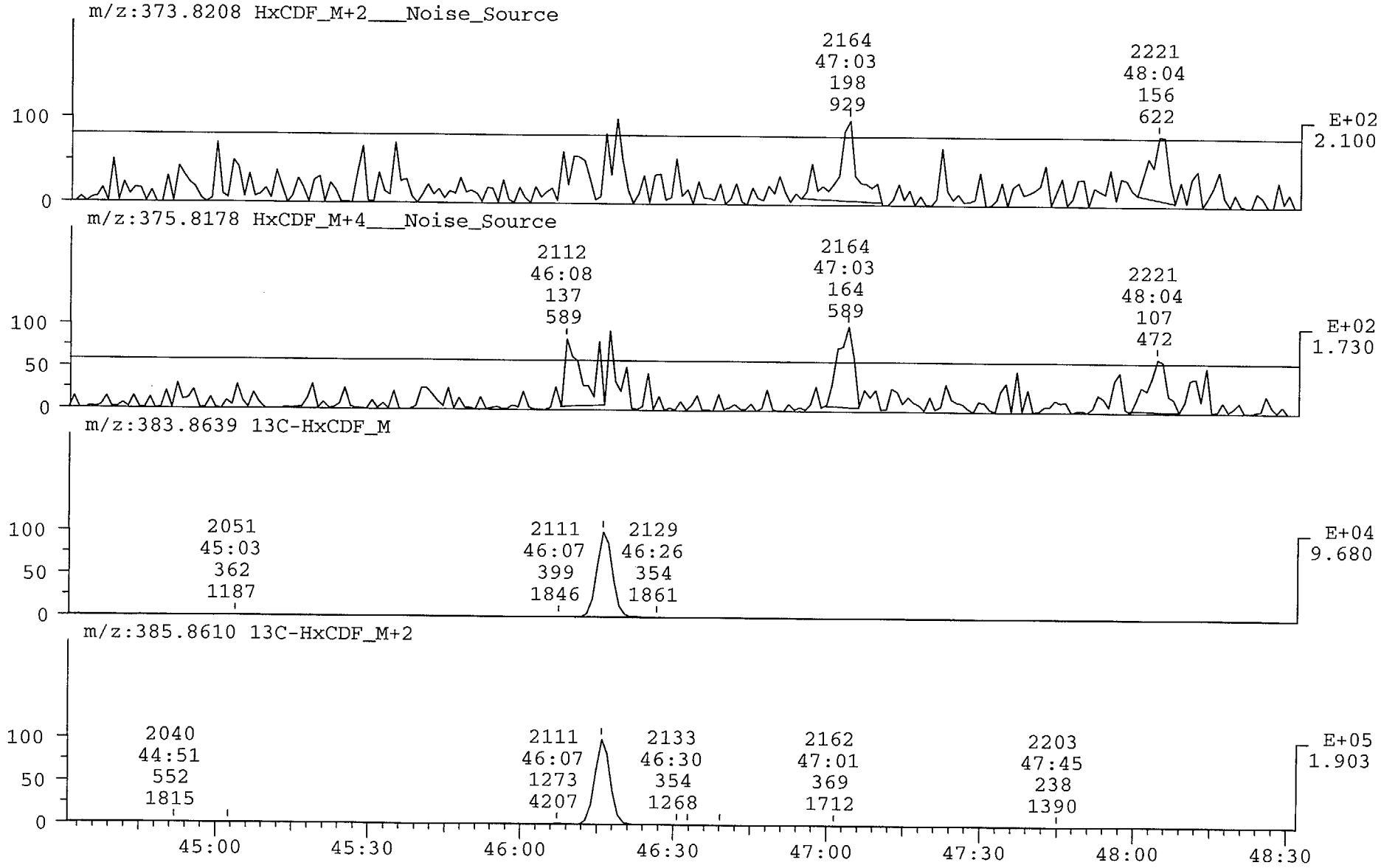
CHRO: bth3ed8b 04-May-06 Elapse: 41:57 1878
Samp: Vial 18 WO=h3ed81aa Meth=X8 Dil=1 Start : 14:02:17 2891
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092B Inlet : GC Vial 18
Peak: 100.00 ppm Label wndw: 2056 > 2224 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth3ed8b 04-May-06 Elapse: 47:25 2185
Samp: Vial 18 WO=h3ed81aa Meth=X8 Dil=1 Start : 14:02:17 2891
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092B Inlet : GC Vial 18
Peak: 100.00 ppm Label wndw: 2148 > 2223 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth3ed8b 04-May-06 Elapse: 47:25 2185
Samp: Vial 18 WO=h3ed81aa Meth=X8 Dil=1 Start : 14:02:17 2891
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092B Inlet : GC Vial 18
Peak: 100.00 ppm Label wndw: 2020 > 2247 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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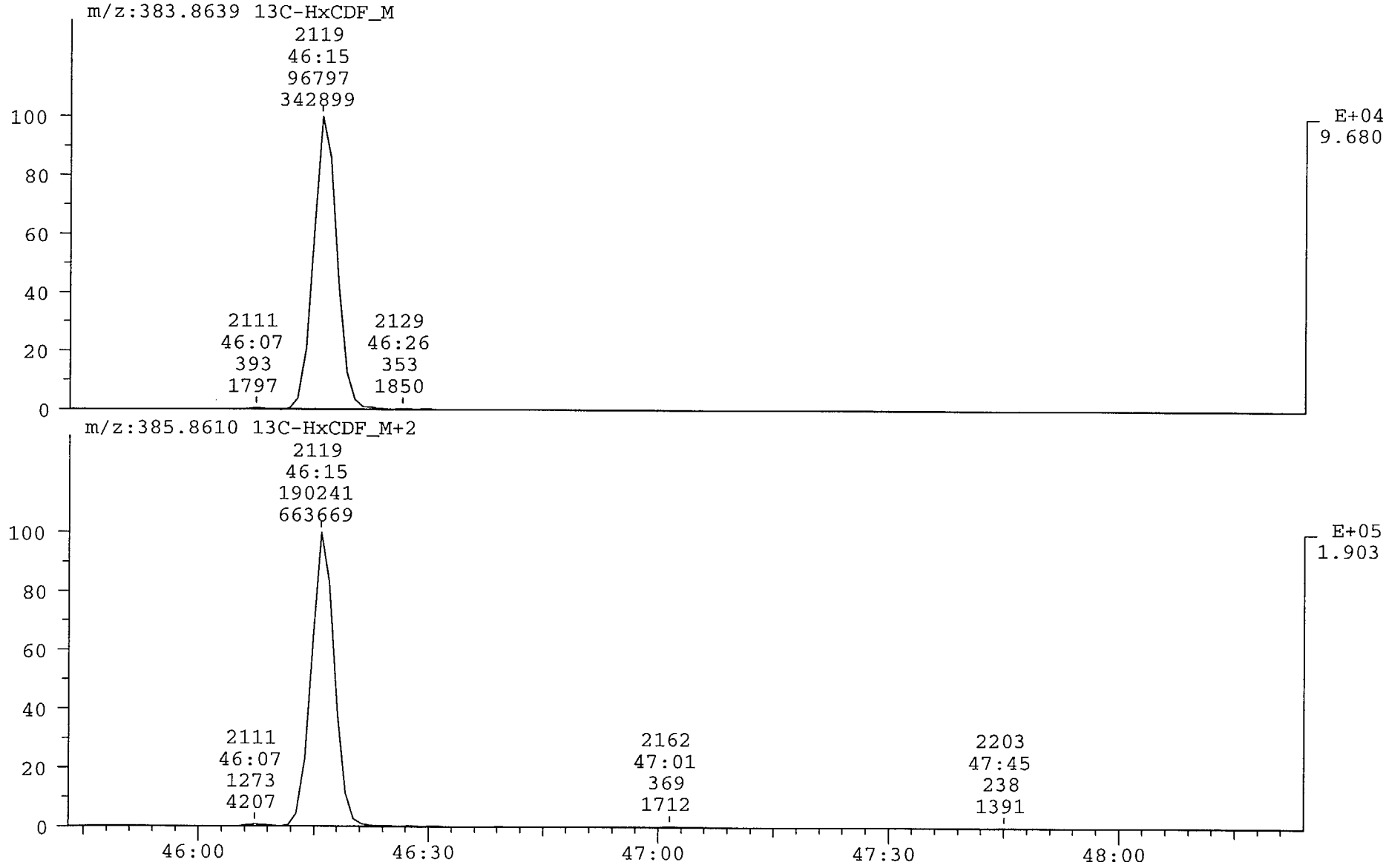
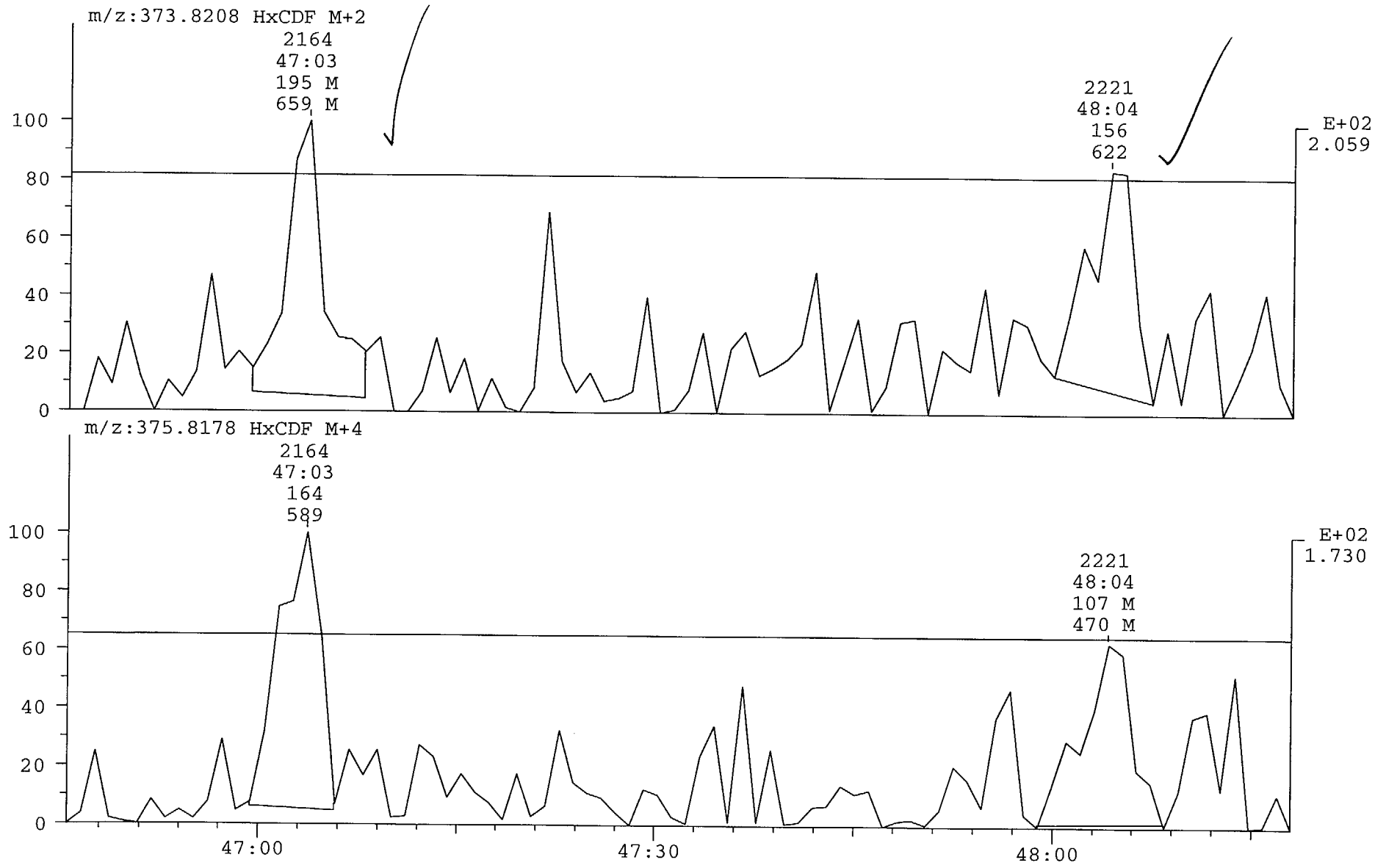
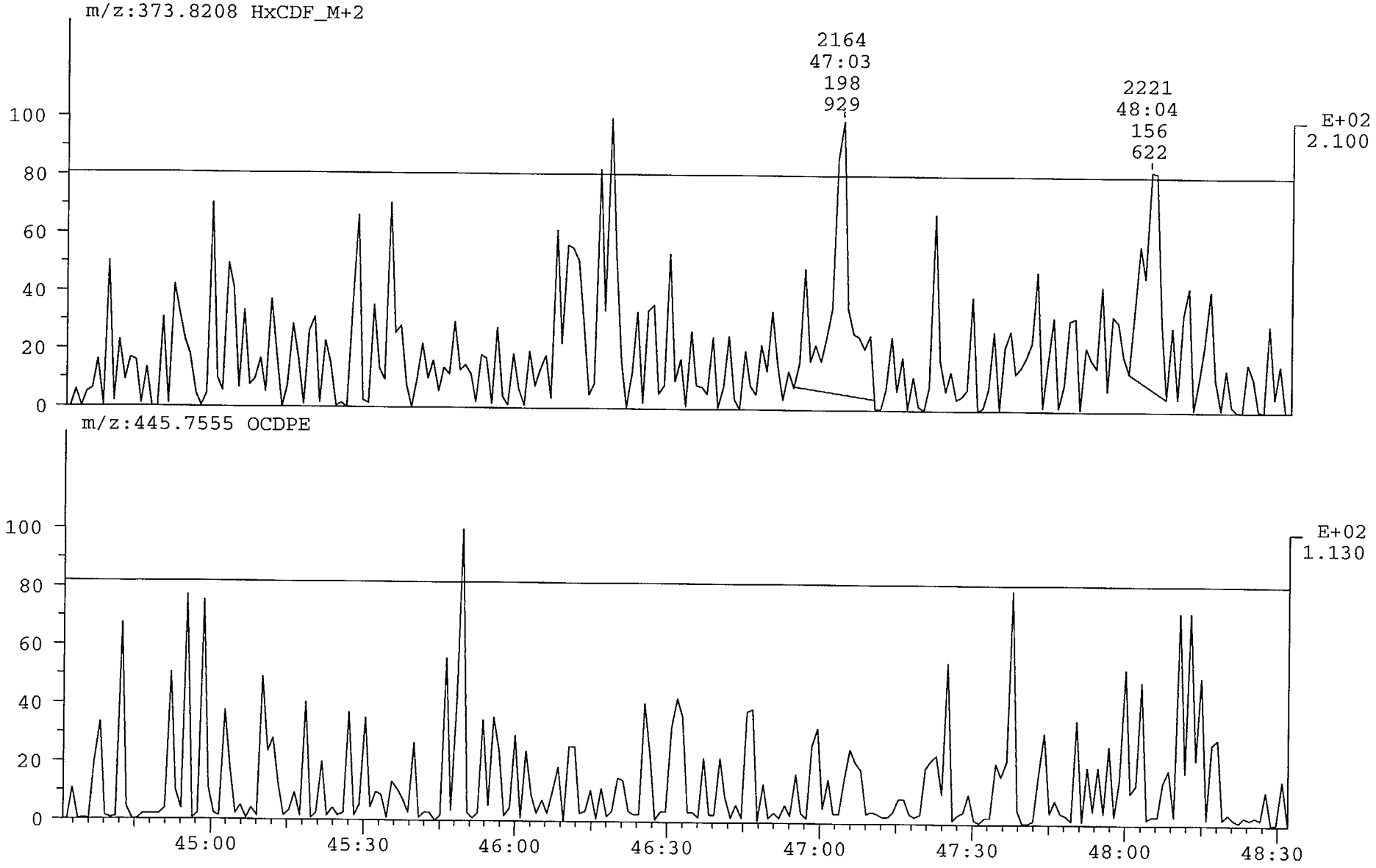
CHRO:  bth3ed8b                                  04-May-06   Elapse:  47:02      2163
Samp:  Vial 18 WO=h3ed81aa Meth=X8 Dil=1                     Start :  14:02:17   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107092 (Air)
Oper:  BFW            Client:  H6D170000-092B                Inlet :  GC     Vial  18
Peak:  100.00  ppm      Label wndw:   2088 > 2240            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



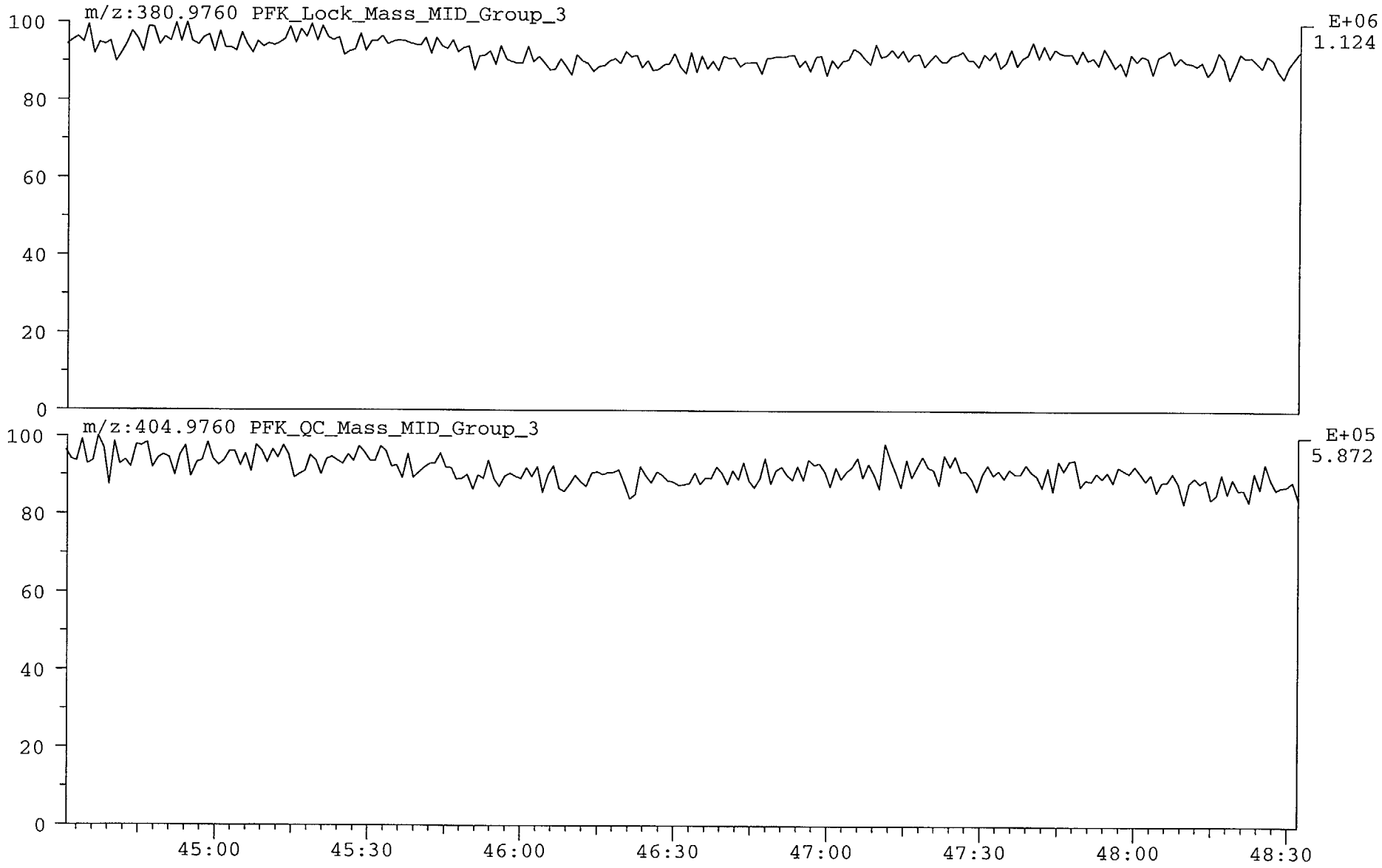
CHRO: bth3ed8b 04-May-06 Elapse: 56:42 2705
Samp: Vial 18 WO=h3ed81aa Meth=X8 Dil=1 Start : 14:02:17 2891
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092B Inlet : GC Vial 18
Peak: 100.00 ppm Label wndw: 2147 > 2234 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth3ed8b 04-May-06 Elapse: 46:11 2115
Samp: Vial 18 WO=h3ed81aa Meth=X8 Dil=1 Start : 14:02:17 2891
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092B Inlet : GC Vial 18
Peak: 100.00 ppm Label wndw: 2020 > 2247 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth3ed8b 04-May-06 Elapse: 46:11 2115
Samp: Vial 18 WO=h3ed81aa Meth=X8 Dil=1 Start : 14:02:17 2891
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092B Inlet : GC Vial 18
Peak: 100.00 ppm Label wndw: 2020 > 2247 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



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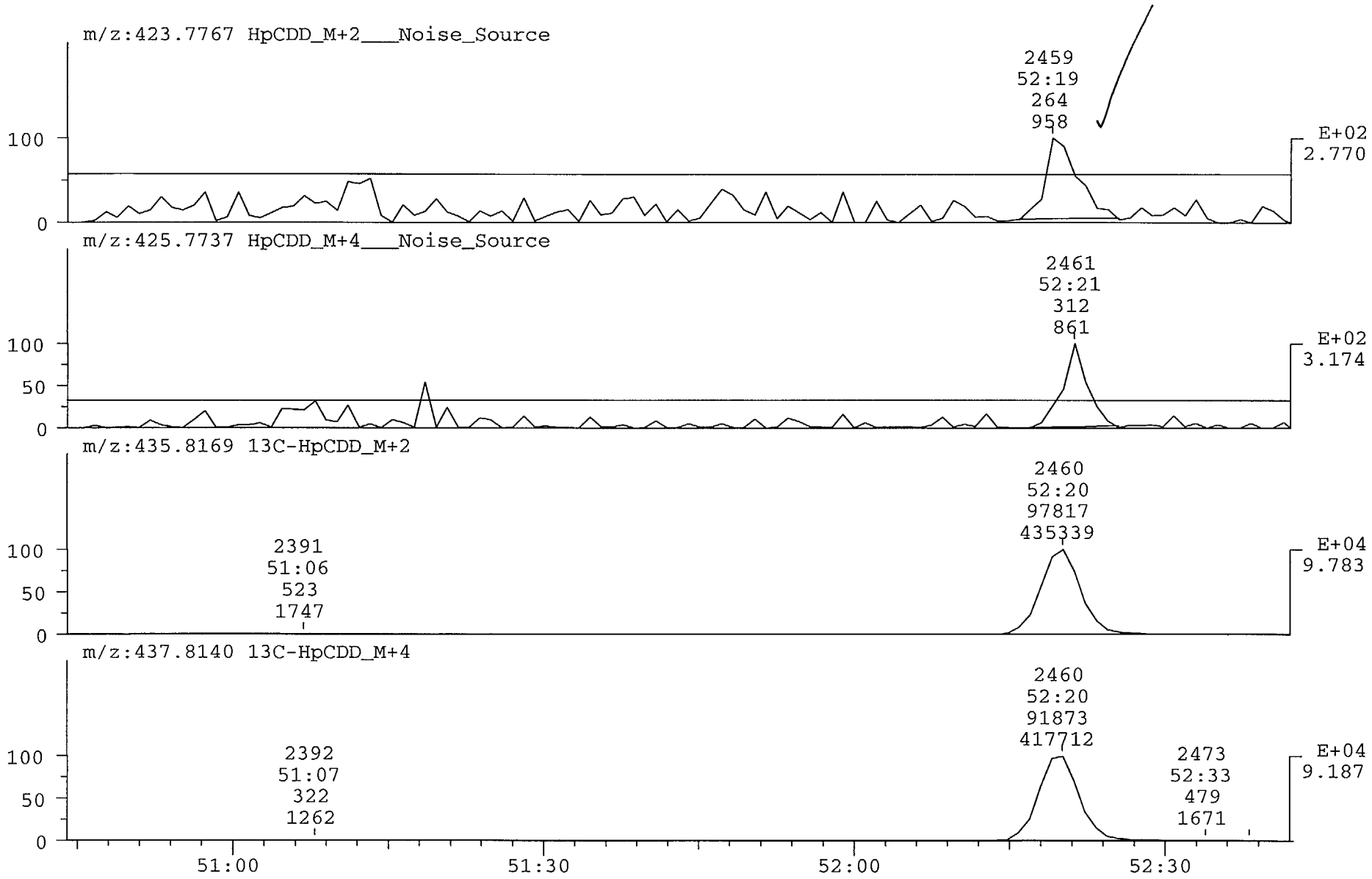
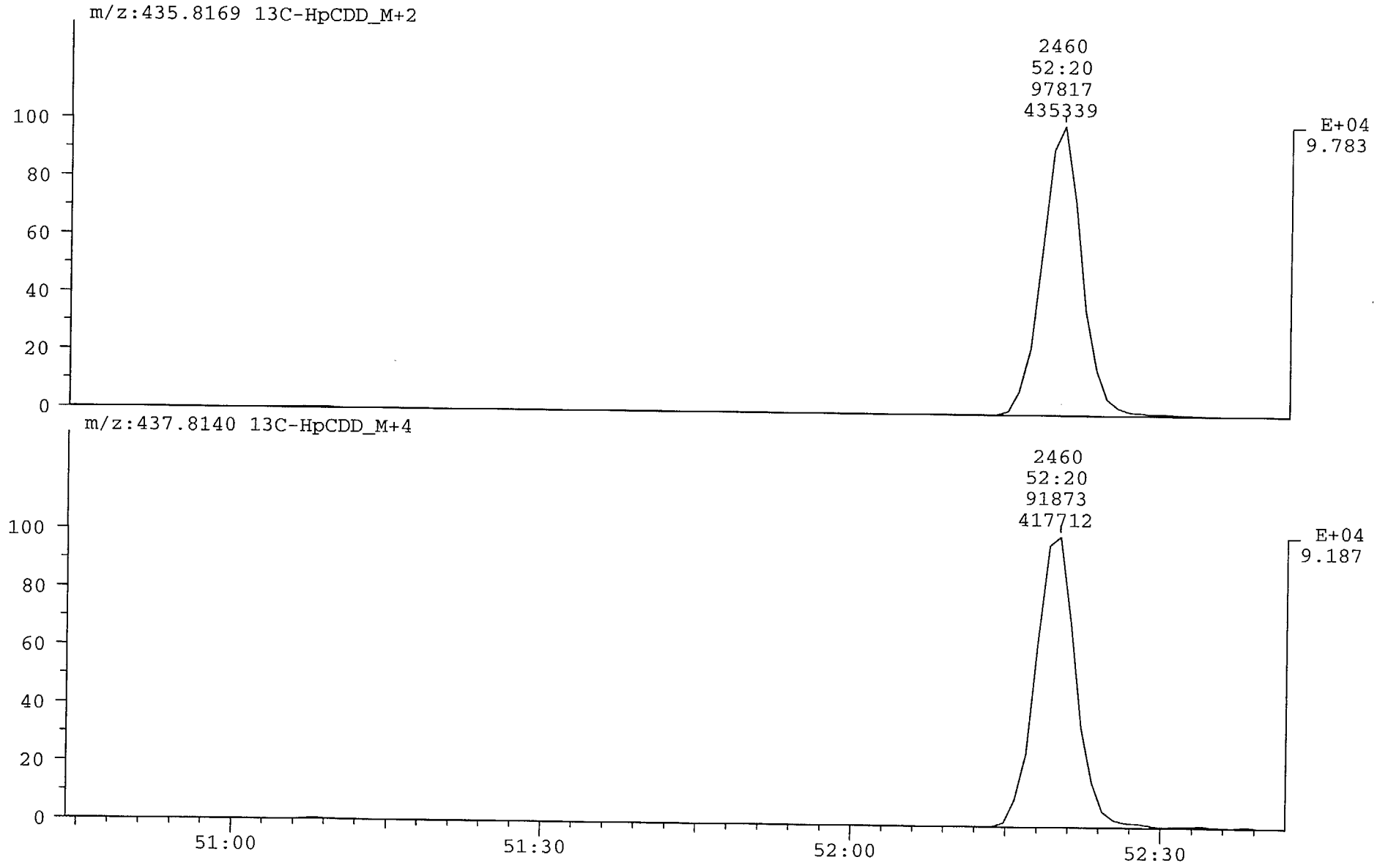
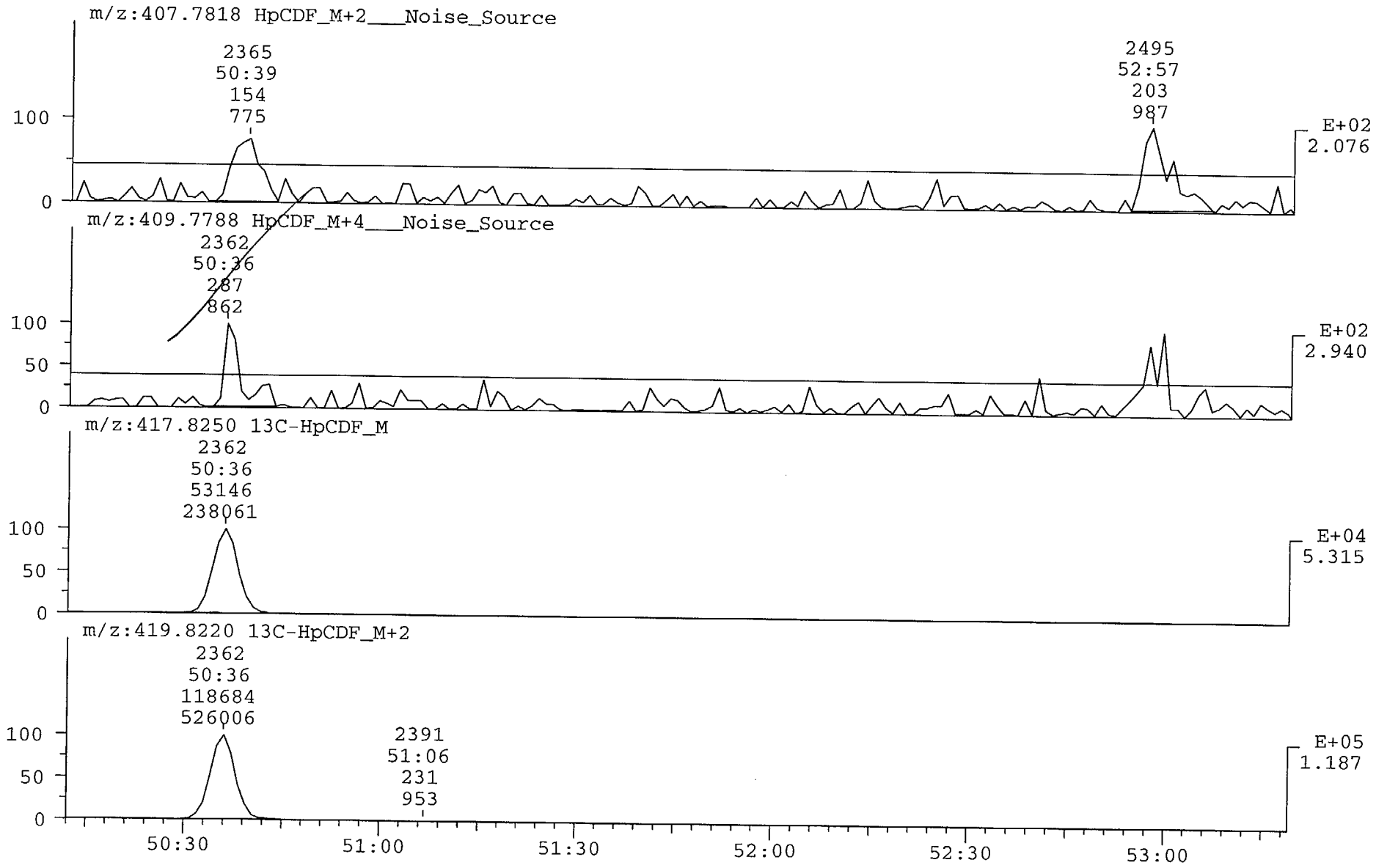
CHRO:  bth3ed8b                              04-May-06   Elapse:  46:11      2115
Samp:  Vial 18 WO=h3ed81aa Meth=X8 Dil=1                 Start :  14:02:17   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW          Client:  H6D170000-092B              Inlet :  GC     Vial  18
Peak:  100.00  ppm     Label wndw:   2370 > 2481         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



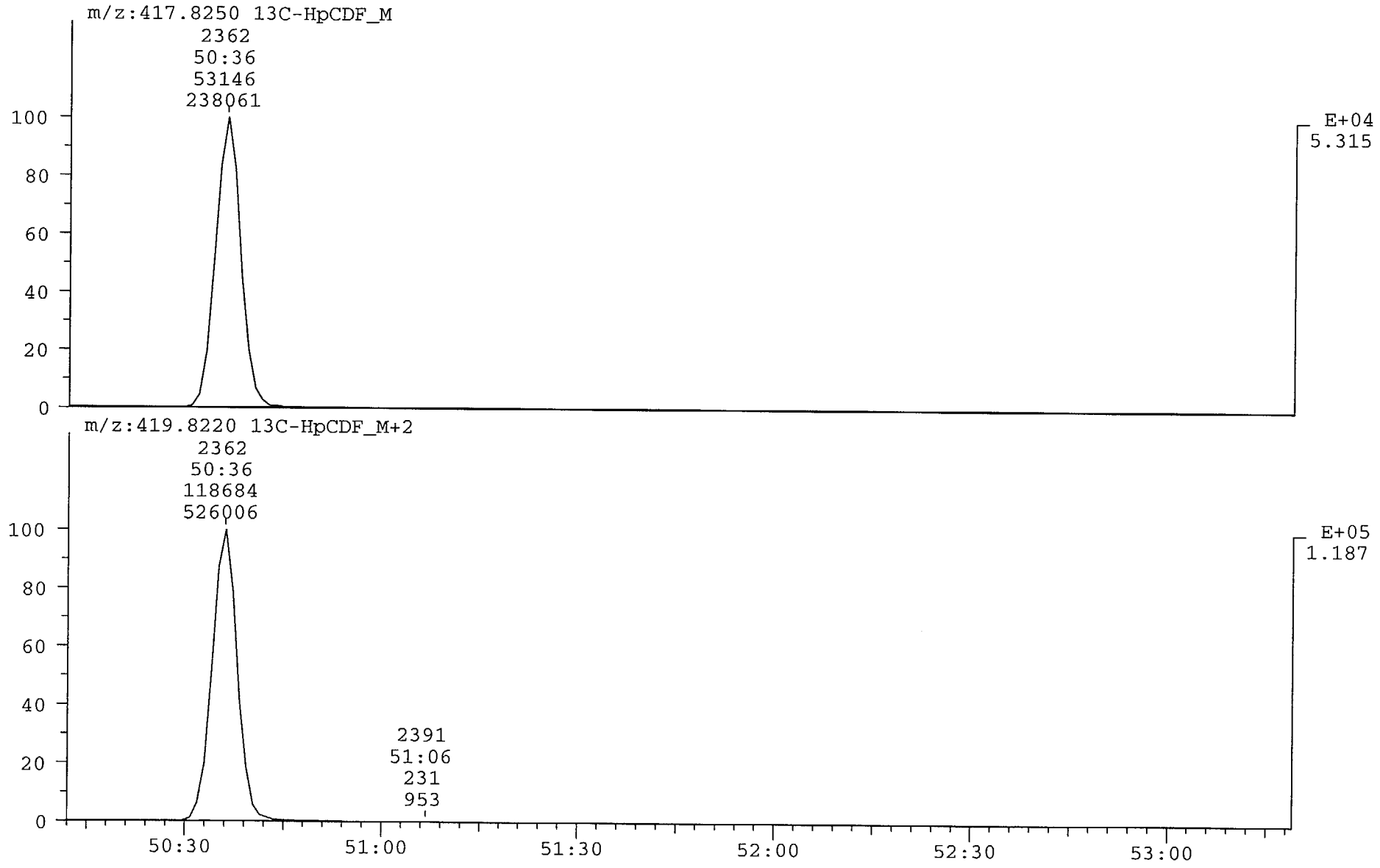
CHRO: bth3ed8b 04-May-06 Elapse: 46:11 2115
Samp: Vial 18 WO=h3ed81aa Meth=X8 Dil=1 Start : 14:02:17 2891
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092B Inlet : GC Vial 18
Peak: 100.00 ppm Label wndw: 2370 > 2481 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



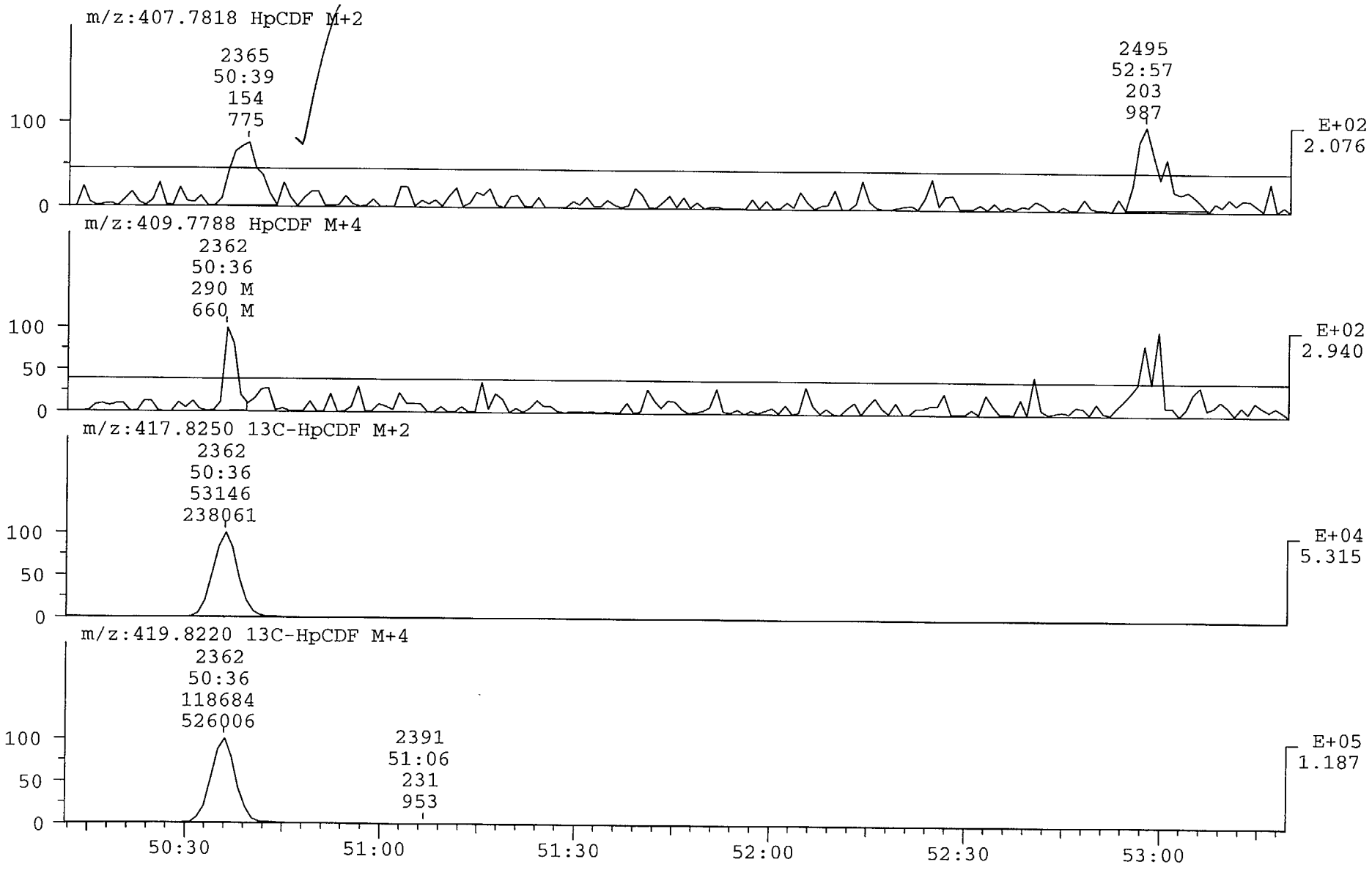
CHRO: bth3ed8b 04-May-06 Elapse: 46:11 2115
Samp: Vial 18 WO=h3ed81aa Meth=X8 Dil=1 Start : 14:02:17 2891
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092B Inlet : GC Vial 18
Peak: 100.00 ppm Label wndw: 2339 > 2516 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



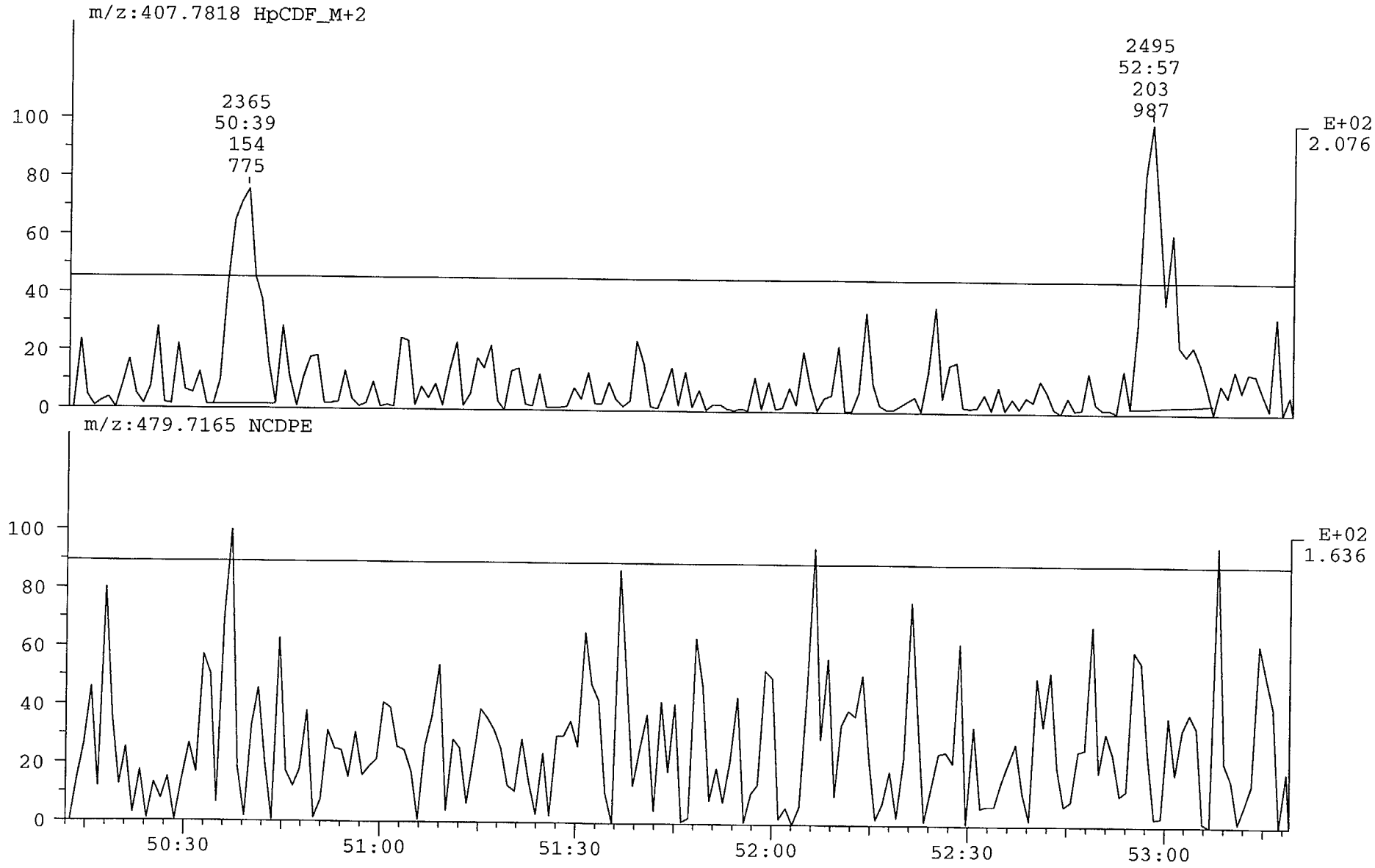
CHRO: bth3ed8b 04-May-06 Elapse: 46:11 2115
Samp: Vial 18 WO=h3ed81aa Meth=X8 Dil=1 Start : 14:02:17 2891
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092B Inlet : GC Vial 18
Peak: 100.00 ppm Label wndw: 2339 > 2516 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



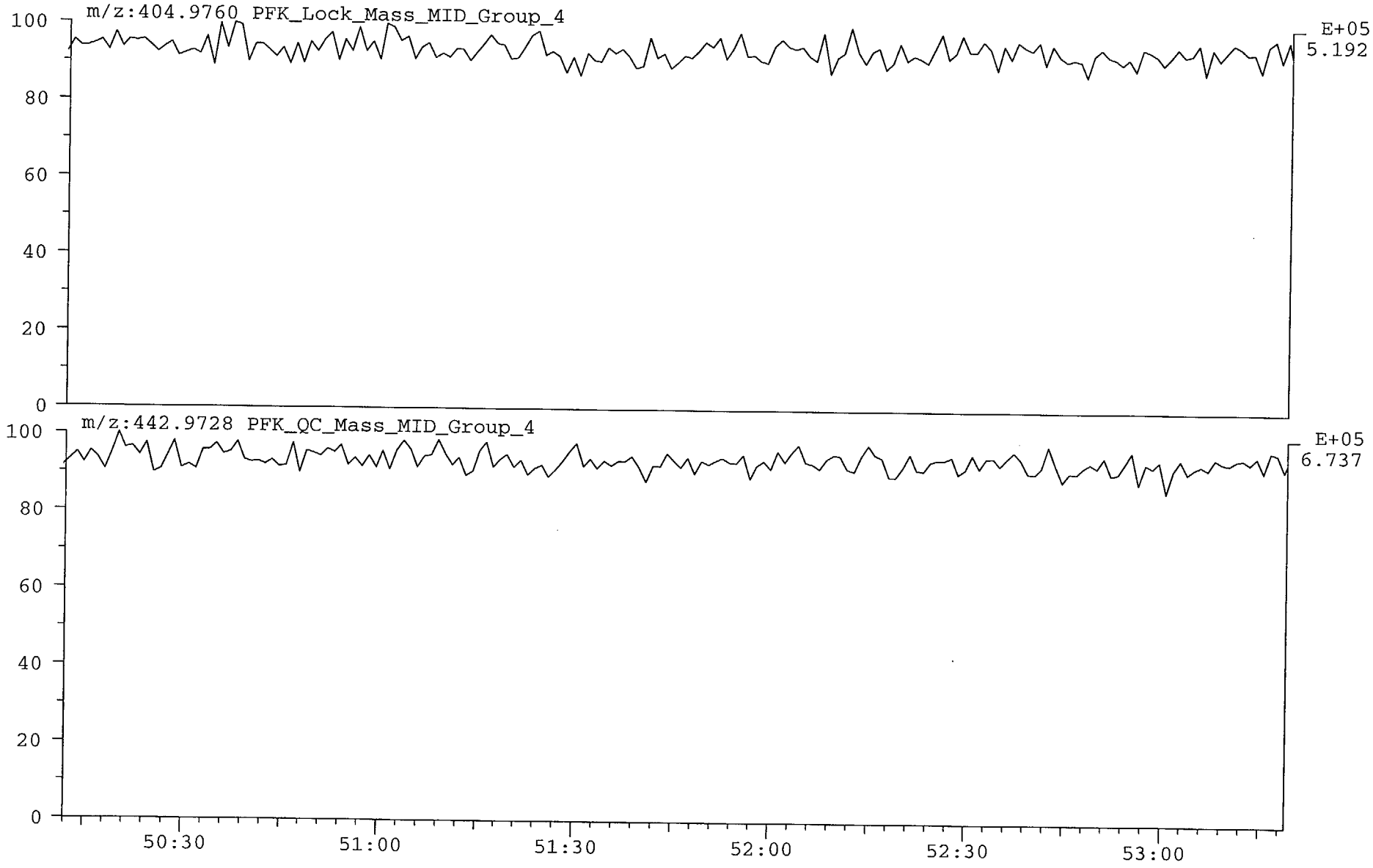
CHRO: bth3ed8b 04-May-06 Elapse: 56:42 2705
Samp: Vial 18 WO=h3ed81aa Meth=X8 Dil=1 Start : 14:02:17 2891
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092B Inlet : GC Vial 18
Peak: 100.00 ppm Label wndw: 2339 > 2516 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



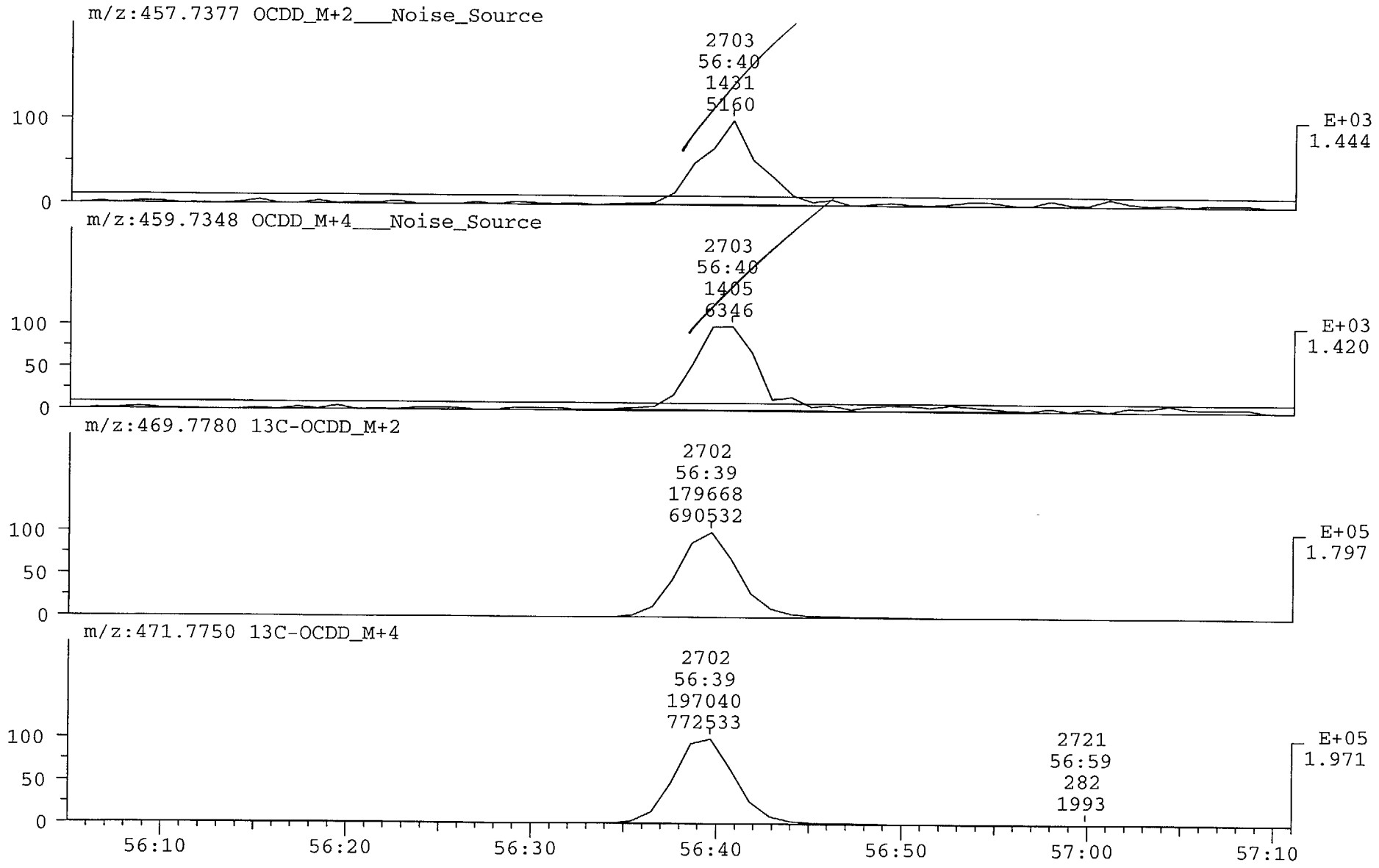
CHRO: bth3ed8b 04-May-06 Elapse: 46:11 2115
Samp: Vial 18 WO=h3ed81aa Meth=X8 Dil=1 Start : 14:02:17 2891
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092B Inlet : GC Vial 18
Peak: 100.00 ppm Label wndw: 2339 > 2516 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



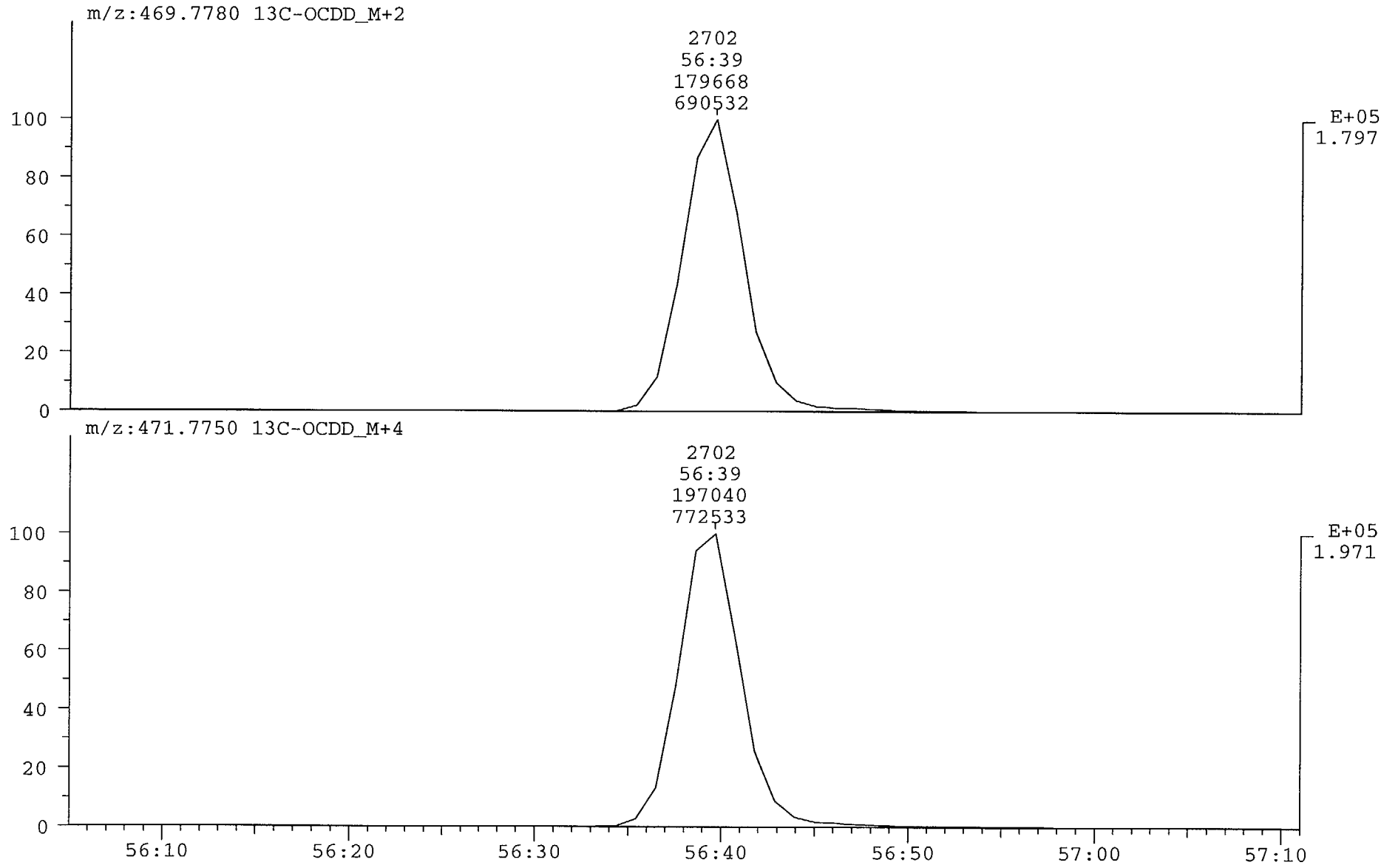
CHRO: bth3ed8b 04-May-06 Elapse: 46:11 2115
Samp: Vial 18 WO=h3ed81aa Meth=X8 Dil=1 Start : 14:02:17 2891
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092B Inlet : GC Vial 18
Peak: 100.00 ppm Label wndw: 2339 > 2516 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



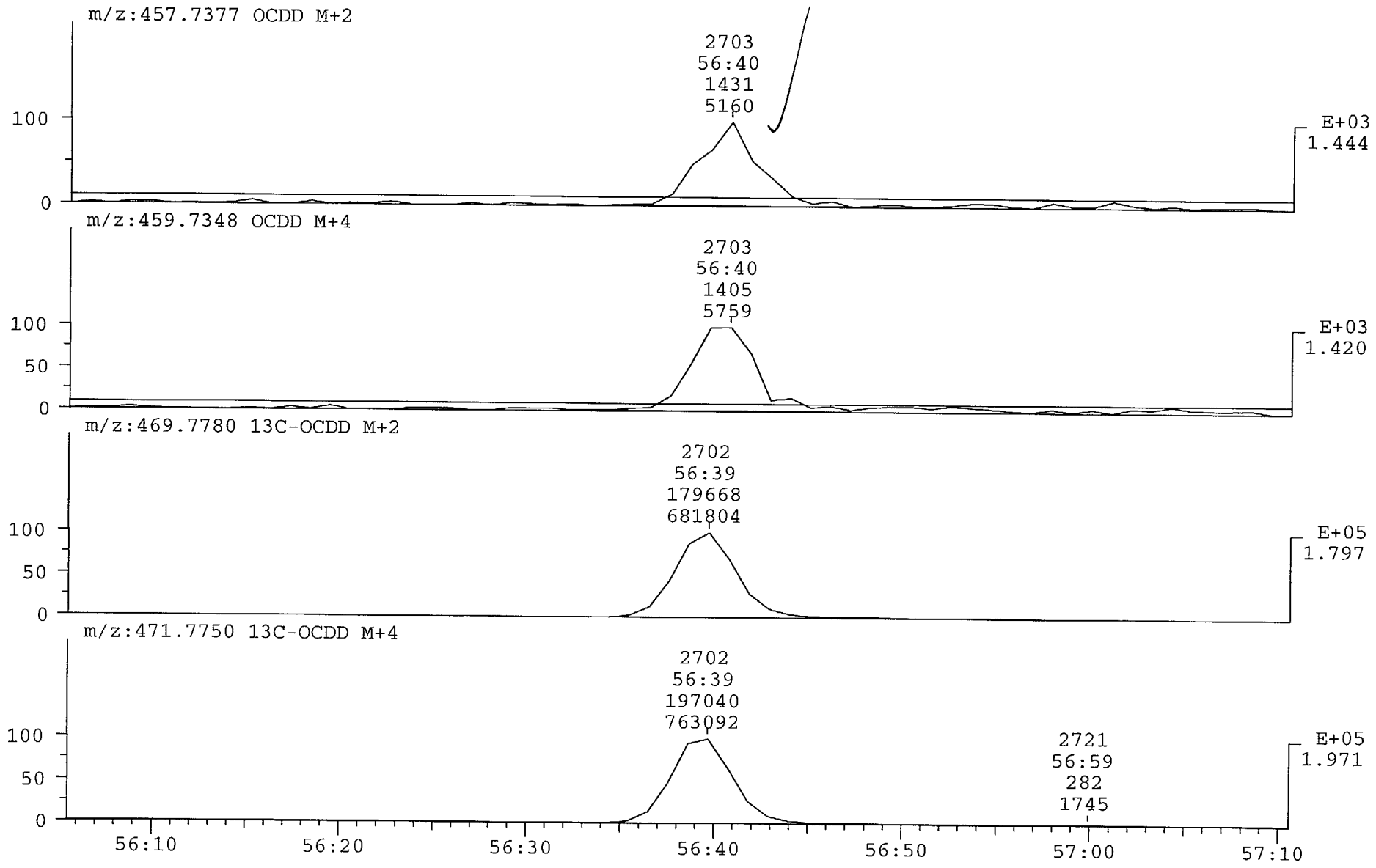
CHRO: bth3ed8b 04-May-06 Elapse: 56:35 2698
Samp: Vial 18 WO=h3ed81aa Meth=X8 Dil=1 Start : 14:02:17 2891
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092B Inlet : GC Vial 18
Peak: 100.00 ppm Label wndw: 2670 > 2731 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



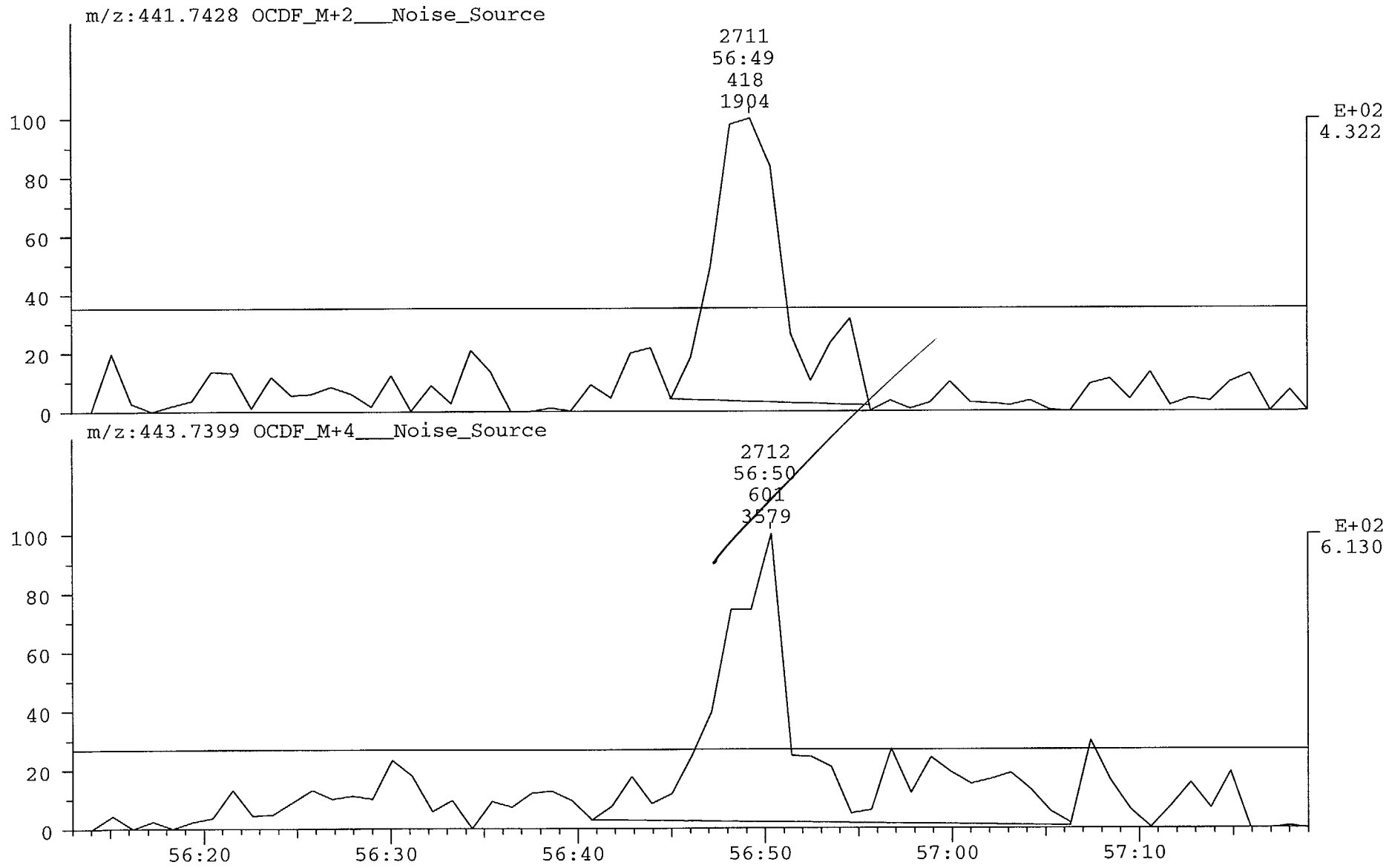
```
CHRO:  bth3ed8b                                04-May-06  Elapse:  56:35      2698
Samp:  Vial 18 WO=h3ed81aa Meth=X8 Dil=1                  Start :  14:02:17   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                          Study :  6107092 (Air)
Oper:  BFW          Client:  H6D170000-092B               Inlet :  GC     Vial  18
Peak:  100.00  ppm     Label wndw:   2670 > 2731          Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3               Label :  -2, 3.0
Disp:  Height  Area
```



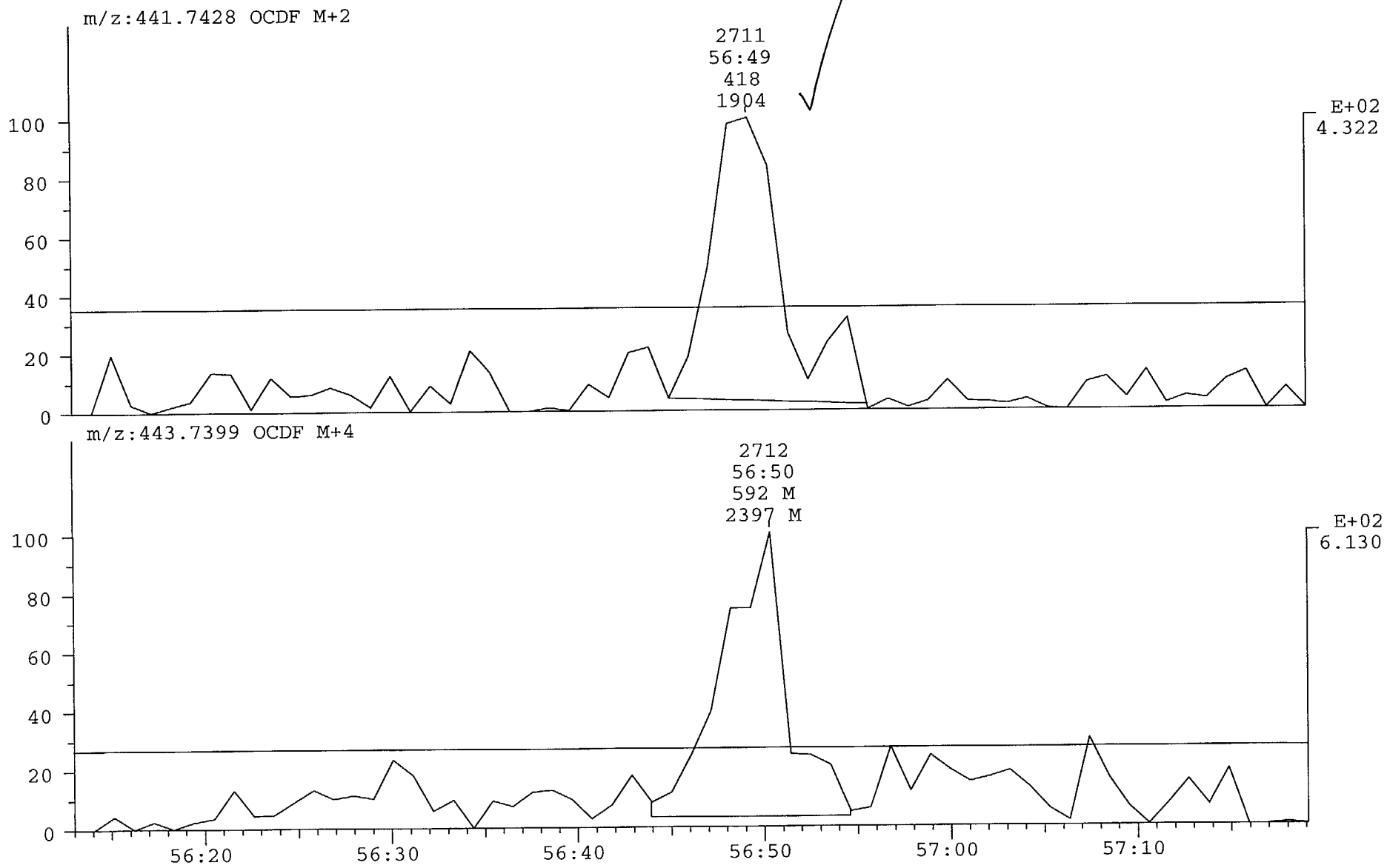
CHRO: bth3ed8b 04-May-06 Elapse: 56:42 2705
Samp: Vial 18 WO=h3ed81aa Meth=X8 Dil=1 Start : 14:02:17 2891
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092B Inlet : GC Vial 18
Peak: 100.00 ppm Label wndw: 2670 > 2731 Masses: 293 > 514
Area: 5, 0.50, 6 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



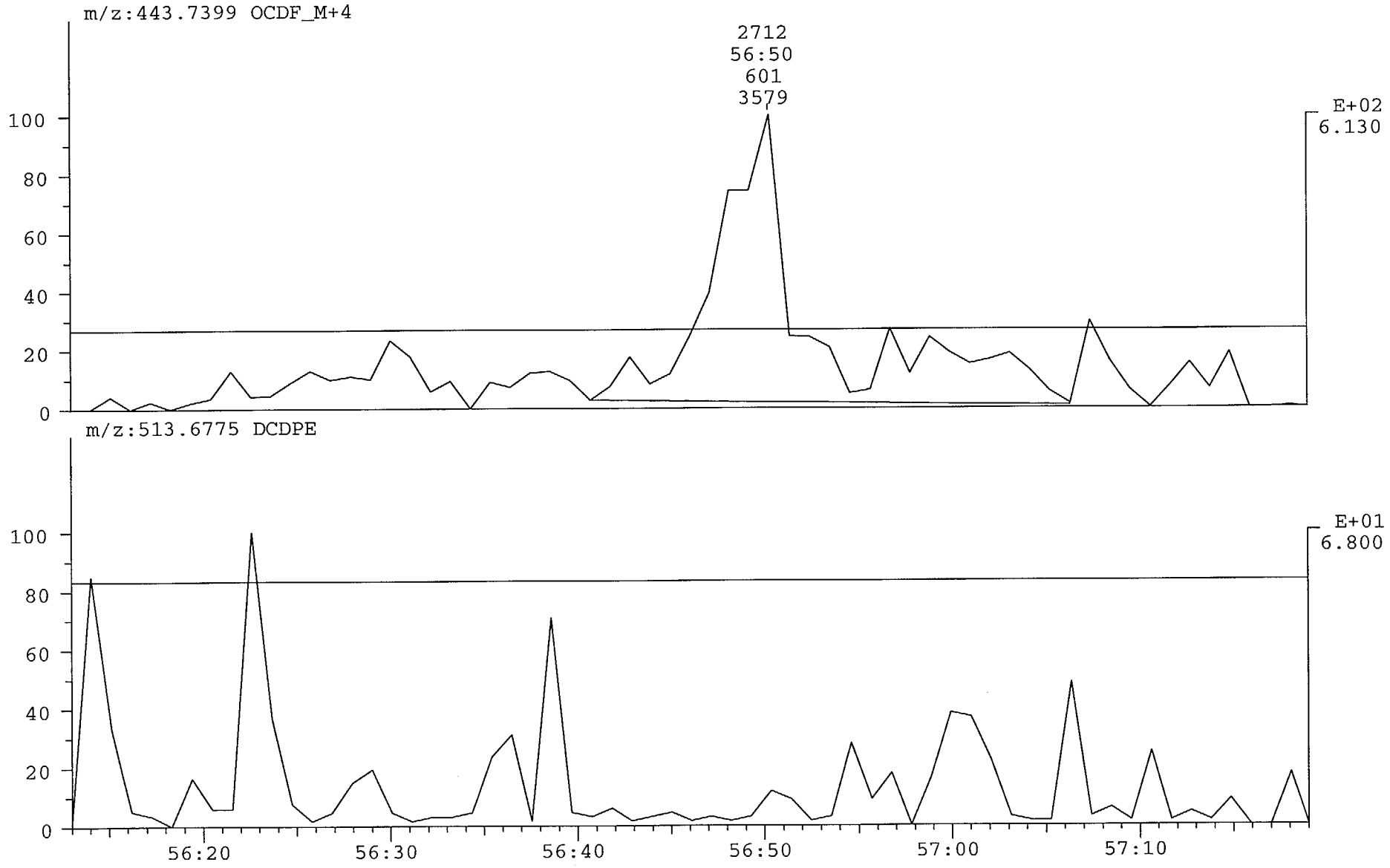
```
CHRO:  bth3ed8b                                04-May-06   Elapse:  56:42      2705
Samp:  Vial 18 WO=h3ed81aa Meth=X8 Dil=1                   Start :  14:02:17   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107092 (Air)
Oper:  BFW            Client:  H6D170000-092B              Inlet :  GC     Vial  18
Peak:  100.00  ppm      Label wndw:   2677 > 2739          Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



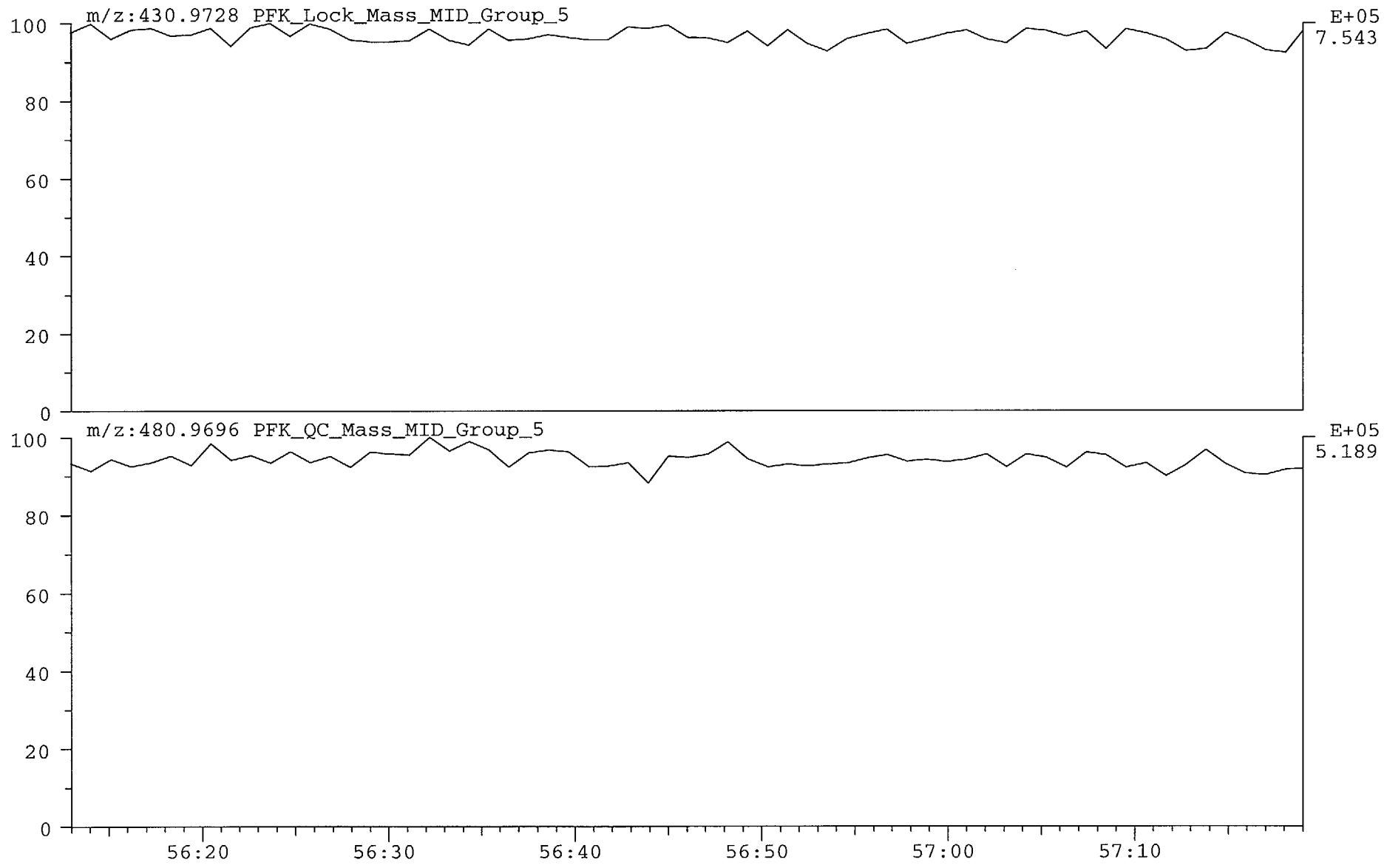
CHRO: bth3ed8b 04-May-06 Elapse: 56:42 2705
Samp: Vial 18 WO=h3ed81aa Meth=X8 Dil=1 Start : 14:02:17 2891
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092B Inlet : GC Vial 18
Peak: 100.00 ppm Label wndw: 2677 > 2739 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3, 0
Disp: Height Area



```
CHRO:  bth3ed8b                                04-May-06   Elapse:  56:42      2705
Samp:  Vial 18 WO=h3ed81aa Meth=X8 Dil=1                   Start :  14:02:17   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                           Study :  6107092 (Air)
Oper:  BFW          Client:  H6D170000-092B                Inlet :  GC     Vial  18
Peak:  100.00  ppm     Label wndw:   2677 > 2739           Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                Label :  -2, 3.0
Disp:  Height  Area
```



```
CHRO:  bth3ed8b                              04-May-06   Elapse:  56:42      2705
Samp:  Vial 18 WO=h3ed81aa Meth=X8 Dil=1                 Start :  14:02:17   2891
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW           Client:  H6D170000-092B             Inlet :  GC     Vial  18
Peak:  100.00  ppm     Label wndw:   2677 > 2739         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: bth3ed8b
Study: 6107092 (Air)
Sample: WO=h3ed81aa Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: BFW
Client: H6D170000-092B
Comments: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Injected volume: 2.0
Sample from Vial 18
Analysis will stop when MID run finishes
Tune file name: tune2
File 2 of list 060504
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	TRUE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	140 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	29:52 min	37:52 min	1.00 sec
# 2	37:52 min	6:32 min	44:25 min	1.00 sec
# 3	44:25 min	5:05 min	49:30 min	1.00 sec
# 4	49:30 min	5:15 min	54:45 min	1.00 sec
# 5	54:45 min	5:15 min	60:00 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

351.9000		1	1	91.48
353.8970		1	1	91.48
355.8546		1	1	91.48
357.8516		1	1	91.48
367.8949		1	1	91.48
369.8919		1	1	91.48
380.9760	c	10	1	8.19
409.7974		1	1	91.48

Window # 3

mass	F	int	gr	time (ms)
373.8208		1	1	91.48
375.8178		1	1	91.48
380.9760	1	10	1	8.19
383.8639		1	1	91.48
385.8610		1	1	91.48
389.8156		1	1	91.48
391.8127		1	1	91.48
401.8559		1	1	91.48
403.8529		1	1	91.48
404.9760	c	10	1	8.19
445.7555		1	1	91.48

Window # 4

mass	F	int	gr	time (ms)
404.9760	1	10	1	8.19
407.7818		1	1	91.48
409.7788		1	1	91.48
417.8250		1	1	91.48
419.8220		1	1	91.48
423.7767		1	1	91.48
425.7737		1	1	91.48
435.8169		1	1	91.48
437.8140		1	1	91.48
442.9728	c	10	1	8.19
479.7165		1	1	91.48

Window # 5

mass	F	int	gr	time (ms)
430.9728	1	10	1	10.92
441.7428		1	1	120.15
443.7399		1	1	120.15
457.7377		1	1	120.15
459.7348		1	1	120.15
469.7780		1	1	120.15
471.7750		1	1	120.15
480.9696	c	10	1	10.92
513.6775		1	1	120.15

Auto Sampler descriptor: pcdd2ul

Injector A

Normal Injection

Slvnt A cln before inj (K):	3	times
Slvnt B cln before inj (L):	0	times
Sample rinse cycles (R):	0	times
Syringe filling volume (F):	1.0	ul
Pullup delay time (D):	4	sec
Sample pullup speed (E):	5.0	ul/sec
Slvnt aftr pre inj cln (U):	0.0	ul
Air after pre inj cln (G):	2.0	ul
Sample volume (V):	2.0	ul
Sample air volume (A):	2.0	ul
Sample pullup count (P):	2	times
Injection speed (S):	10.0	ul/sec
Injection wait time (W):	10	sec
Injection hold time (H):	3	sec
Solvent A clean cycles (C):	15	times
Solvent B clean cycles (B):	20	times
Loop clean w slvnt A (LC):	0	times

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8424.0000
BDEV	8288.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.5861	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9996
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-738.5000	ELEN	61.7750
EMULT	1.8000	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	188.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	546.0000	FVINLET	597.0000
FVSRC	999.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.6667	HVANAL	1581.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4759.4580	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	292.9825
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	227.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10100.2910	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.9500	TCURR	0.8984	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 04-May-06 14:02:17.1

Autosampler has injected sample from vial 18
Analysis stopped at: 04-May-06 15:02:19.3 (run time 60.03 minutes)
Analysis stopped because MID run finished

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...: H6D030236
LCS Lot-Sample# : H6D170000 - 092
Prep Date .....: 04/17/06
Prep Batch # ...: 6107092
Dilution Factor : 1
Analyst ID.....: Bruce F. Wagner
Initial Wgt/Vol: 1 Sample

Work Order # ...: H3ED81AC-LCS
H3ED81AD-LCSD
Analysis Date ..: 05/04/06
Instrument ID..: M2A

Matrix .....: AIR
Method.....: SW846 0023A/8290

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS	RPD	RPD LIMITS
2,3,7,8-TCDD	**200**	**192**	**pg/sampl**	**96**		**(70 - 130)**		
	200	**200**	**pg/sampl**	**100**		**(70 - 130)**	**4.4**	**(0 - 50)**
1,2,3,7,8-PeCDD	**1000**	**957**	**pg/sampl**	**96**		**(70 - 130)**		
	1000	**1000**	**pg/sampl**	**100**		**(70 - 130)**	**4.7**	**(0 - 50)**
1,2,3,4,7,8-HxCDD	**1000**	**982**	**pg/sampl**	**98**		**(70 - 130)**		
	1000	**990**	**pg/sampl**	**99**		**(70 - 130)**	**0.77**	**(0 - 50)**
1,2,3,6,7,8-HxCDD	**1000**	**1010**	**pg/sampl**	**101**		**(70 - 130)**		
	1000	**1000**	**pg/sampl**	**100**		**(70 - 130)**	**0.98**	**(0 - 50)**
1,2,3,7,8,9-HxCDD	**1000**	**1020**	**pg/sampl**	**102**		**(70 - 130)**		
	1000	**1010**	**pg/sampl**	**101**		**(70 - 130)**	**1.4**	**(0 - 50)**
1,2,3,4,6,7,8-HpCDD	**1000**	**945**	**pg/sampl**	**95**	**B**	**(70 - 130)**		
	1000	**939**	**pg/sampl**	**94**	**B**	**(70 - 130)**	**0.70**	**(0 - 50)**
OCDD	**2000**	**1920**	**pg/sampl**	**96**	**B**	**(70 - 130)**		
	2000	**1950**	**pg/sampl**	**98**	**B**	**(70 - 130)**	**1.7**	**(0 - 50)**
2,3,7,8-TCDF	**200**	**180**	**pg/sampl**	**90**		**(70 - 130)**		
	200	**191**	**pg/sampl**	**95**		**(70 - 130)**	**5.9**	**(0 - 50)**
1,2,3,7,8-PeCDF	**1000**	**1040**	**pg/sampl**	**104**		**(70 - 130)**		
	1000	**1030**	**pg/sampl**	**103**		**(70 - 130)**	**0.94**	**(0 - 50)**
2,3,4,7,8-PeCDF	**1000**	**1040**	**pg/sampl**	**104**		**(70 - 130)**		
	1000	**1040**	**pg/sampl**	**104**		**(70 - 130)**	**0.050**	**(0 - 50)**
1,2,3,4,7,8-HxCDF	**1000**	**1040**	**pg/sampl**	**104**		**(70 - 130)**		
	1000	**1050**	**pg/sampl**	**105**		**(70 - 130)**	**0.30**	**(0 - 50)**
1,2,3,6,7,8-HxCDF	**1000**	**1050**	**pg/sampl**	**105**		**(70 - 130)**		
	1000	**1060**	**pg/sampl**	**106**		**(70 - 130)**	**0.090**	**(0 - 50)**
2,3,4,6,7,8-HxCDF	**1000**	**1050**	**pg/sampl**	**105**	**B**	**(70 - 130)**		
	1000	**1110**	**pg/sampl**	**111**	**B**	**(70 - 130)**	**5.9**	**(0 - 50)**
1,2,3,7,8,9-HxCDF	**1000**	**980**	**pg/sampl**	**98**	**B**	**(70 - 130)**		
	1000	**1000**	**pg/sampl**	**100**	**B**	**(70 - 130)**	**2.0**	**(0 - 50)**
1,2,3,4,6,7,8-HpCDF	**1000**	**1060**	**pg/sampl**	**106**	**B**	**(70 - 130)**		
	1000	**1040**	**pg/sampl**	**104**	**B**	**(70 - 130)**	**1.3**	**(0 - 50)**
1,2,3,4,7,8,9-HpCDF	**1000**	**872**	**pg/sampl**	**87**		**(70 - 130)**		
	1000	**905**	**pg/sampl**	**91**		**(70 - 130)**	**3.7**	**(0 - 50)**
OCDF	**2000**	**1680**	**pg/sampl**	**84**	**B**	**(70 - 130)**		
	2000	**1730**	**pg/sampl**	**87**	**B**	**(70 - 130)**	**3.2**	**(0 - 50)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	95	(40 - 135)
	93	(40 - 135)
13C-1,2,3,7,8-PeCDD	101	(40 - 135)
	118	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	92	(40 - 135)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...: H6D030236
LCS Lot-Sample# : H6D170000 - 092

Work Order # ...: H3ED81AC-LCS
H3ED81AD-LCSD

Matrix .....: AIR

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-1,2,3,4,6,7,8-HpCDD	93	(40 - 135)
	101	(40 - 135)
13C-OCDD	103	(40 - 135)
	97	(40 - 135)
13C-2,3,7,8-TCDF	92	(40 - 135)
	92	(40 - 135)
13C-1,2,3,7,8-PeCDF	96	(40 - 135)
	97	(40 - 135)
13C-1,2,3,6,7,8-HxCDF	113	(40 - 135)
	87	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	83	(40 - 135)
	94	(40 - 135)
	92	(40 - 135)

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

STL - Knoxville

IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H3ED81AC	Prep Batch	6107092	Lot No	H6D170000-092
Data File	/20060504s1/bth3ed8c.d	Prep Date	04/17/06	SDG No	
Analysis ID	90539	Prep Exp Date	04/27/06	Date Received	04/17/06
Analysis Date	5/4/2006	Matrix	AIR	Date Sampled	03/28/06
Analysis Time	11:06	Initial Wt/Vol	1	Lims Test Code	XXSIOX801
Anal Exp Date	06/01/06	Extract Vol	20	Method	0023/8290
Instrument	M2A	Dil Factor	1.0	Code	X8
Analyst	BFW				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (pg/sample		DL (pg/samp
2,3,7,8-TCDD	35:17	193422	21267	1.060	200.0	191.754121	95.88	191.754121		2.67
Total TCDD				1.060		191.754121		191.754121		2.67
2,3,7,8-TCDF	33:05	233961	24243	1.064	200.0	179.636543	89.82	179.636543		2.31
Total TCDF				1.064		179.636543		179.636543		2.31
1,2,3,7,8-PeCDD	43:03	781720	207012	0.977	1000	957.240906	95.72	957.240906		1.58
Total PeCDD				0.977		957.240906		957.240906		1.58
1,2,3,7,8-PeCDF	41:29	1069968	250352	0.955	1000	1039.65120	103.97	1039.65120		1.53
2,3,4,7,8-PeCDF	42:34	1140927	295513	1.018	1000	1040.55662	104.06	1040.55662		1.44
Total PeCDF				0.987		2080.20782		2080.20782		1.48
1,2,3,4,7,8-HxCDD	47:14	751129	207659	1.047	1000	982.185950	98.22	982.185950		1.73
1,2,3,6,7,8-HxCDD	47:21	778082	209953	1.055	1000	1010.16345	101.02	1010.16345		1.72
1,2,3,7,8,9-HxCDD	47:47	856987	211915	1.146	1000	1024.21879	102.42	1024.21879		1.59
Total HxCDD				1.083		3016.56819		3016.56819		1.68
1,2,3,4,7,8-HxCDF	46:09	1064687	310122	1.101	1000	1042.86868	104.29	1042.86868		1.31
1,2,3,6,7,8-HxCDF	46:17	1157669	319589	1.184	1000	1054.16929	105.42	1054.16929		1.22
2,3,4,6,7,8-HxCDF	47:03	1025423	278813	1.052	1000	1050.67203	105.07	1050.67203	B	1.37
1,2,3,7,8,9-HxCDF	48:04	892821	219380	0.982	1000	980.433824	98.04	980.433824	B	1.47
Total HxCDF				1.080		4128.14381		4128.14381	B	1.33
1,2,3,4,6,7,8-HpCDD	52:21	752255	164996	1.018	1000	945.345328	94.53	945.345328	B	1.70
Total HpCDD				1.018		945.345328		945.345328	B	1.70
1,2,3,4,6,7,8-HpCDF	50:38	1074419	233400	1.403	1000	1057.85021	105.79	1057.85021	B	1.50
1,2,3,4,7,8,9-HpCDF	52:58	755136	164128	1.197	1000	871.870943	87.19	871.870943		1.76
Total HpCDF				1.300		1929.72115		1929.72115	B	1.62
OCDD	56:40	1287131	327997	0.965	2000	1920.55197	96.03	1920.55197	B	1.76
OCDF	56:50	1286793	323307	1.103	2000	1678.78416	83.94	1678.78416	B	1.80
13C-2,3,7,8-TCDD	35:15	951244	105025	1.068	1000	947.961366	94.80	947.961366		6.31
13C-2,3,7,8-TCDF	33:01	1224347	129349	1.413	1000	921.927204	92.19	921.927204		2.54
13C-1,2,3,7,8-PeCDD	43:02	836118	227433	0.882	1000	1009.03529	100.90	1009.03529		3.33
13C-1,2,3,7,8-PeCDF	41:26	1077339	252794	1.188	1000	965.061172	96.51	965.061172		2.39
13C-1,2,3,6,7,8-HxCDD	47:20	730275	199552	0.943	1000	920.875266	92.09	920.875266		1.52
13C-1,2,3,6,7,8-HxCDF	46:16	927370	255280	1.272	1000	867.180861	86.72	867.180861		1.23
13C-1,2,3,4,6,7,8-HpCDD	52:20	782004	166350	0.918	1000	1012.91445	101.29	1012.91445		1.15
13C-1,2,3,4,6,7,8-HpCDF	50:37	723768	156612	0.916	1000	939.748755	93.97	939.748755		1.54
13C-OCDD	56:40	1389352	342526	0.850	2000	1944.64366	97.23	1944.64366		1.73
37Cl4-2,3,7,8-TCDD				1.046	2000			ND		1.39
13C-2,3,4,7,8-PeCDF				1.010	2000			ND		1.07
13C-1,2,3,4,7,8-HxCDD				0.902	2000			ND		1.69
13C-1,2,3,4,7,8-HxCDF				0.988	2000			ND		1.32
13C-1,2,3,7,8,9-HxCDF				1.113				ND		1.41
13C-1,2,3,4,7,8,9-HpCDF				0.912	2000			ND		2.10
13C-1,2,3,4-TCDD	34:41	1879171	192229	1.000	2000	2000.00000	100.00	2000.00000		6.74
13C-1,2,3,7,8,9-HxCDD	47:46	1681441	425259	1.000	2000	2000.00000	100.00	2000.00000		1.43

VMK 5/5/06
MSD 5/8/06

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H3ED81AC	Prep Batch	6107092	Lot No	H6D170000-092
Data File	/20060504s1/bth3ed8c.d	Prep Date	04/17/06	SDG No	
Analysis ID	90539	Prep Exp Date	04/27/06	Date Received	04/17/06
Analysis Date	05/04/06 11:06	Matrix	AIR	Date Sampled	03/28/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSIOX801
Instrument	M2A	Extract Vol	20 uL	Method	0023/8290
Analyst	BFW	Diluton Factor	1.00	Code	X8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration	Flags
304					303.9016	305.8987	303.9016	305.8987	0.65-0.89		
	Noise	00:00	00:00	0	138	180	55	72	0.76	/	
	2,3,7,8-TCDF	33:05	33:06	-1	103770	130191	10540	13703	0.80	ABB/ABB	D
316					315.9419	317.9389	315.9419	317.9389	0.65-0.89		
	Noise	00:00	00:00	0	173	173	69	69	1.00 *	/	
	13C-2,3,7,8-TCDF	33:01	33:02	-1	540485	683862	57543	71806	0.79	ABV/ABV	
320					319.8965	321.8936	319.8965	321.8936	0.65-0.89		
	Noise	00:00	00:00	0	148	150	59	60	0.98 *	/	
	2,3,7,8-TCDD	35:17	35:18	-1	86102	107320	9561	11706	0.80	ABB/AVB	
328					327.8847		327.8847				
	Noise	00:00	00:00	0	153		61				
332					331.9368	333.9338	331.9368	333.9338	0.65-0.89		
	Noise	00:00	00:00	0	373	275	149	110	1.35 *	/	
	13C-1,2,3,4-TCDD	34:41	34:42	-1	834760	1044411	85882	106347	0.80	AVV/ABV	
	13C-2,3,7,8-TCDD	35:15	35:15	0	418509	532735	44785	60240	0.79	AVV/AVV	
340					339.8597	341.8567	339.8597	341.8567	1.32-1.78		
	Noise	00:00	00:00	0	178	193	71	77	0.92 *	/	
	1,2,3,7,8-PeCDF	41:29	41:27	2	651677	418291	152756	97596	1.56	ABV/ABV	
	2,3,4,7,8-PeCDF	42:34	42:33	1	691657	449270	180493	115020	1.54	ABV/ABV	
352					351.9000	353.8970	351.9000	353.8970	1.32-1.78		
	Noise	00:00	00:00	0	120	153	48	61	0.79 *	/	
	13C-1,2,3,7,8-PeCDF	41:26	41:26	0	656714	420625	154275	98519	1.56	ABV/ABV	
356					355.8546	357.8516	355.8546	357.8516	1.32-1.78		
	Noise	00:00	00:00	0	180	170	72	68	1.06 *	/	
	1,2,3,7,8-PeCDD	43:03	43:01	2	474480	307240	125516	81496	1.54	ABV/ABV	
368					367.8949	369.8919	367.8949	369.8919	1.32-1.78		
	Noise	00:00	00:00	0	163	120	65	48	1.35	/	
	13C-1,2,3,7,8-PeCDD	43:02	43:00	2	503669	332449	138601	88832	1.52	ABV/ABV	
374					373.8208	375.8178	373.8208	375.8178	1.05-1.43		
	Noise	00:00	00:00	0	198	170	79	68	1.16	/	
	1,2,3,4,7,8-HxCDF	46:09	46:09	0	594225	470462	172540	137582	1.26	ABV/ABV	
	1,2,3,6,7,8-HxCDF	46:17	46:18	-1	649092	508577	181023	138566	1.28	AVV/AVV	
	2,3,4,6,7,8-HxCDF	47:03	47:03	0	564322	461101	153005	125808	1.22	AVV/ABV	
	1,2,3,7,8,9-HxCDF	48:04	48:04	0	494707	398114	121690	97690	1.24	ABV/ABB	
384					383.8639	385.8610	383.8639	385.8610	0.43-0.59		
	Noise	00:00	00:00	0	158	175	63	70	0.90 *	/	
	13C-1,2,3,6,7,8-HxCDF	46:16	46:17	-1	317541	609829	87652	167628	0.52	AVV/AVV	
390					389.8156	391.8127	389.8156	391.8127	1.05-1.43		
	Noise	00:00	00:00	0	173	190	69	76	0.91 *	/	
	1,2,3,4,7,8-HxCDD	47:14	47:14	0	425249	325880	116736	90923	1.30	ABV/ABV	
	1,2,3,6,7,8-HxCDD	47:21	47:21	0	431150	346932	117787	92166	1.24	AVV/AVV	
	1,2,3,7,8,9-HxCDD	47:47	47:46	1	474800	382187	118301	93614	1.24	AVV/AVV	
402					401.8559	403.8529	401.8559	403.8529	1.05-1.43		

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H3ED81AC	Prep Batch	6107092	Lot No	H6D170000-092
Data File	/20060504s1/bth3ed8c.d	Prep Date	04/17/06	SDG No	
Analysis ID	90539	Prep Exp Date	04/27/06	Date Received	04/17/06
Analysis Date	05/04/06 11:06	Matrix	AIR	Date Sampled	03/28/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSIOX801
Instrument	M2A	Extract Vol	20 uL	Method	0023/8290
Analyst	BFW	Diluton Factor	1.00	Code	X8

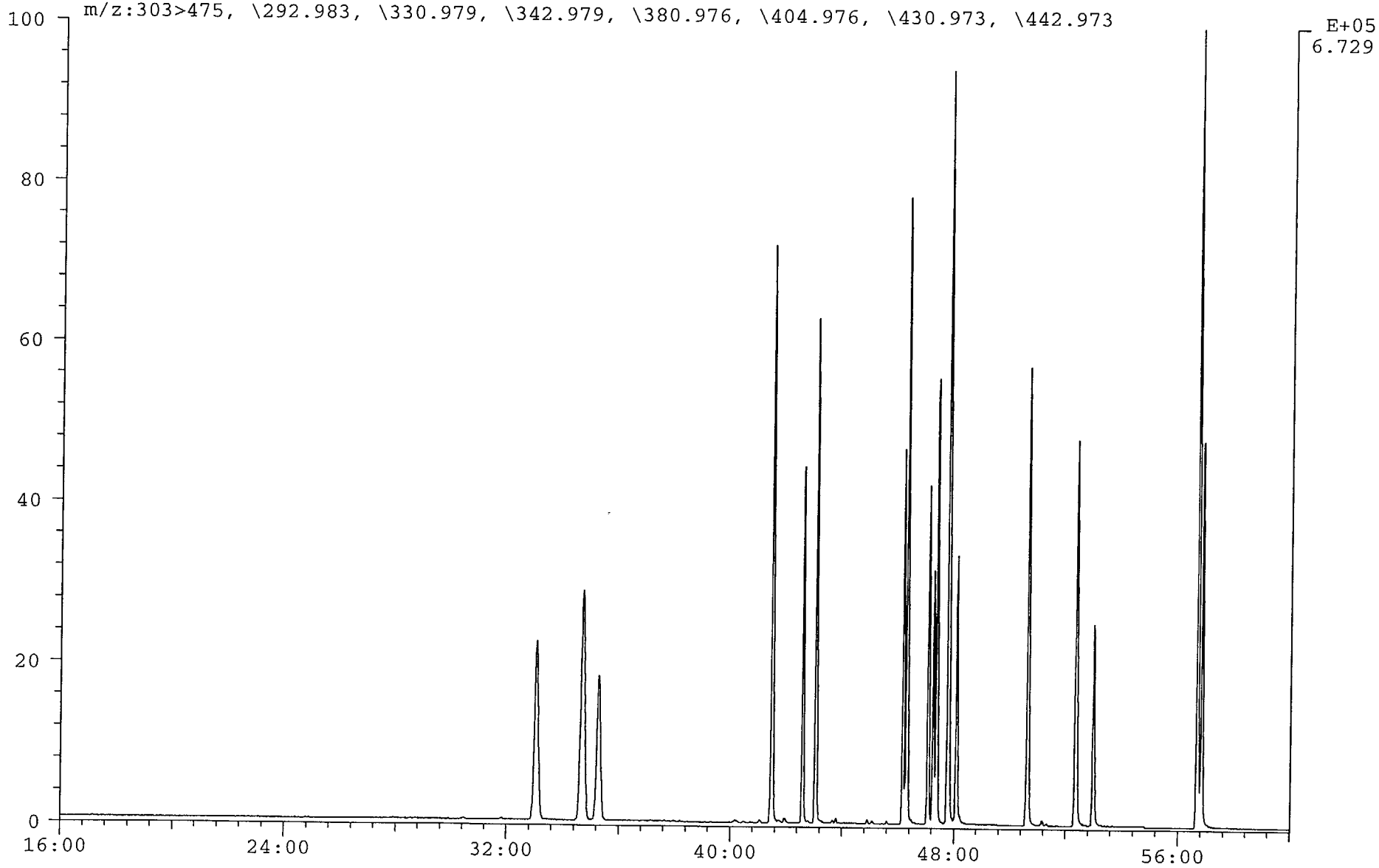
View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration Flags
402					401.8559	403.8529	401.8559	403.8529	1.05-1.43	
	Noise	00:00	00:00	0	145	160	58	64	0.91 *	/
	13C-1,2,3,6,7,8-HxCDD	47:20	47:20	0	404534	325741	111924	87628	1.24	AVV/AVB
	13C-1,2,3,7,8,9-HxCDD	47:46	47:46	0	921430	760011	234205	191054	1.21	ABV/ABV
408					407.7818	409.7788	407.7818	409.7788	0.88-1.20	
	Noise	00:00	00:00	0	160	170	64	68	0.94	/
	1,2,3,4,6,7,8-HpCDF	50:38	50:37	1	547802	526617	120134	113266	1.04	ABV/ABV
	1,2,3,4,7,8,9-HpCDF	52:58	52:58	0	386314	368822	84159	79969	1.05	ABV/ABV
418					417.8250	419.8220	417.8250	419.8220	0.37-0.51	
	Noise	00:00	00:00	0	163	138	65	55	1.18 *	/
	13C-1,2,3,4,6,7,8-HpCDF	50:37	50:37	0	223265	500503	48631	107981	0.45	ABV/ABV
424					423.7767	425.7737	423.7767	425.7737	0.88-1.20	
	Noise	00:00	00:00	0	155	133	62	53	1.17	/
	1,2,3,4,6,7,8-HpCDD	52:21	52:21	0	383587	368668	84544	80452	1.04	ABV/ABV
436					435.8169	437.8140	435.8169	437.8140	0.88-1.20	
	Noise	00:00	00:00	0	138	88	55	35	1.57 *	/
	13C-1,2,3,4,6,7,8-HpCDD	52:20	52:20	0	397503	384501	82610	83740	1.03	ABV/ABV
442					441.7428	443.7399	441.7428	443.7399	0.76-1.02	
	Noise	00:00	00:00	0	168	173	67	69	0.97	/
	OCDF	56:50	56:50	0	613212	673581	154393	168914	0.91	ABV/ABV
458					457.7377	459.7348	457.7377	459.7348	0.76-1.02	
	Noise	00:00	00:00	0	133	158	53	63	0.84	/
	OCDD	56:40	56:42	-2	601013	686118	152234	175763	0.88	ABV/ABV
470					469.7780	471.7750	469.7780	471.7750	0.76-1.02	
	Noise	00:00	00:00	0	148	165	59	66	0.89	/
	13C-OCDD	56:40	56:41	-1	660235	729117	164996	177530	0.91	ABV/ABV

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

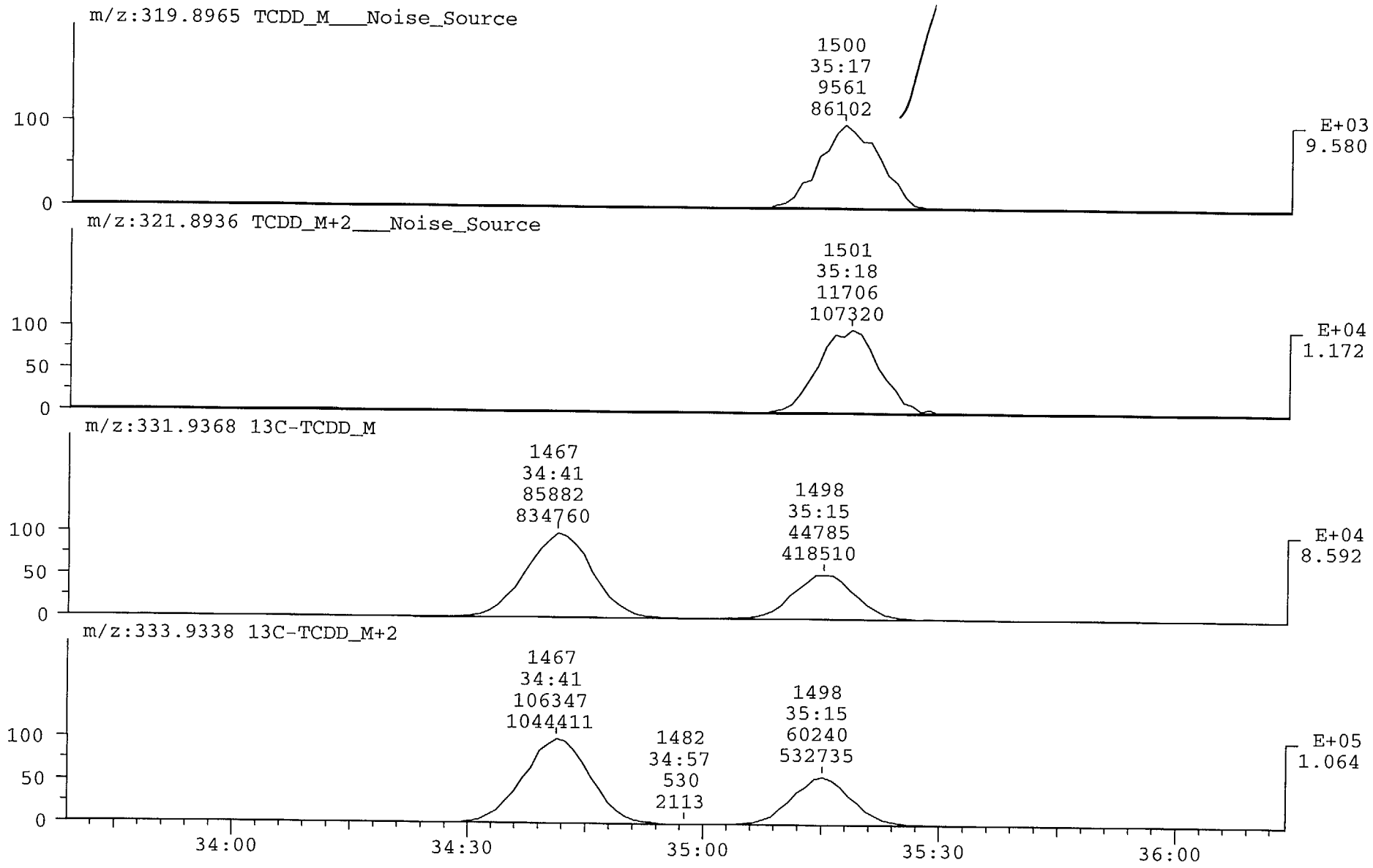
CHRO: bth3ed8c 04-May-06 Elapse: 56:50 2705
Samp: Vial 19 WO=h3ed81ac Meth=X8 Dil=1 Start : 11:06:38 2884
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092C Inlet : GC Vial 19
Peak: 100.00 ppm Label wndw: 440 > 2884 Masses: 293 > 514
Area: 5, 0.50, 0 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area

Int BFW 5/4/06
Calc MK 5/5/06
QCl LW UQD 5/8/06

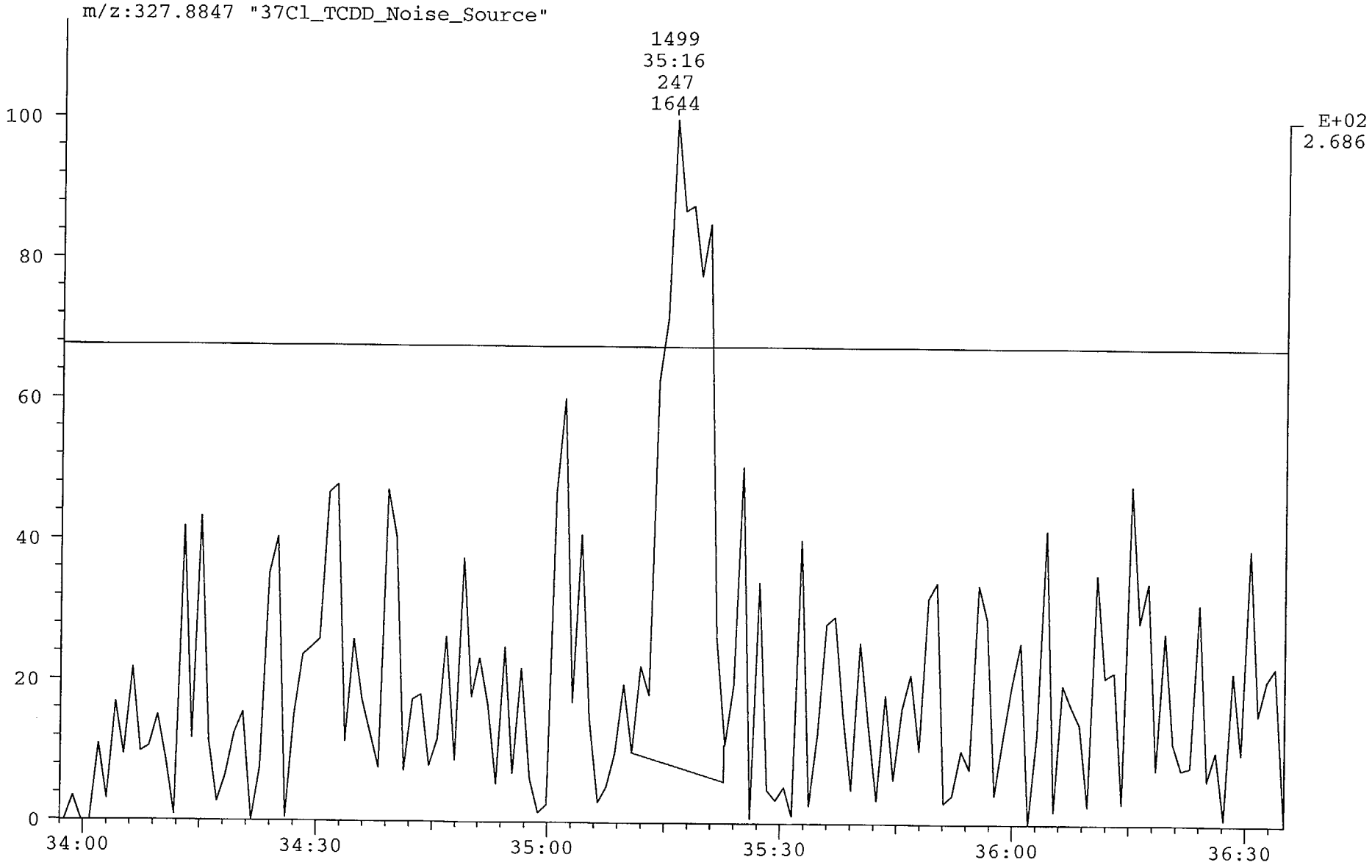


1564

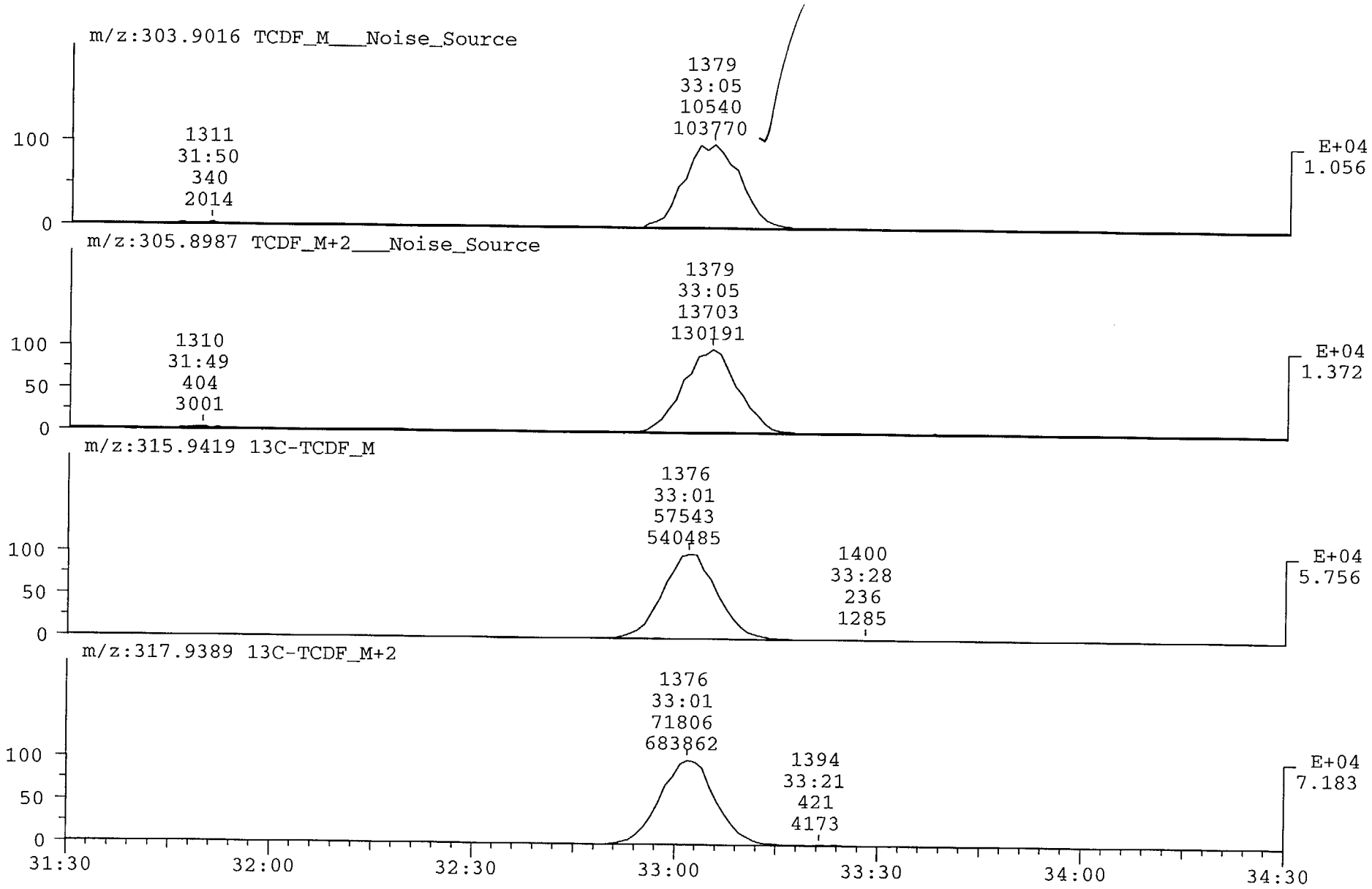
CHRO: bth3ed8c 04-May-06 Elapse: 34:56 1481
Samp: Vial 19 WO=h3ed81ac Meth=X8 Dil=1 Start : 11:06:38 2884
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092C Inlet : GC Vial 19
Peak: 100.00 ppm Label wndw: 1410 > 1552 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



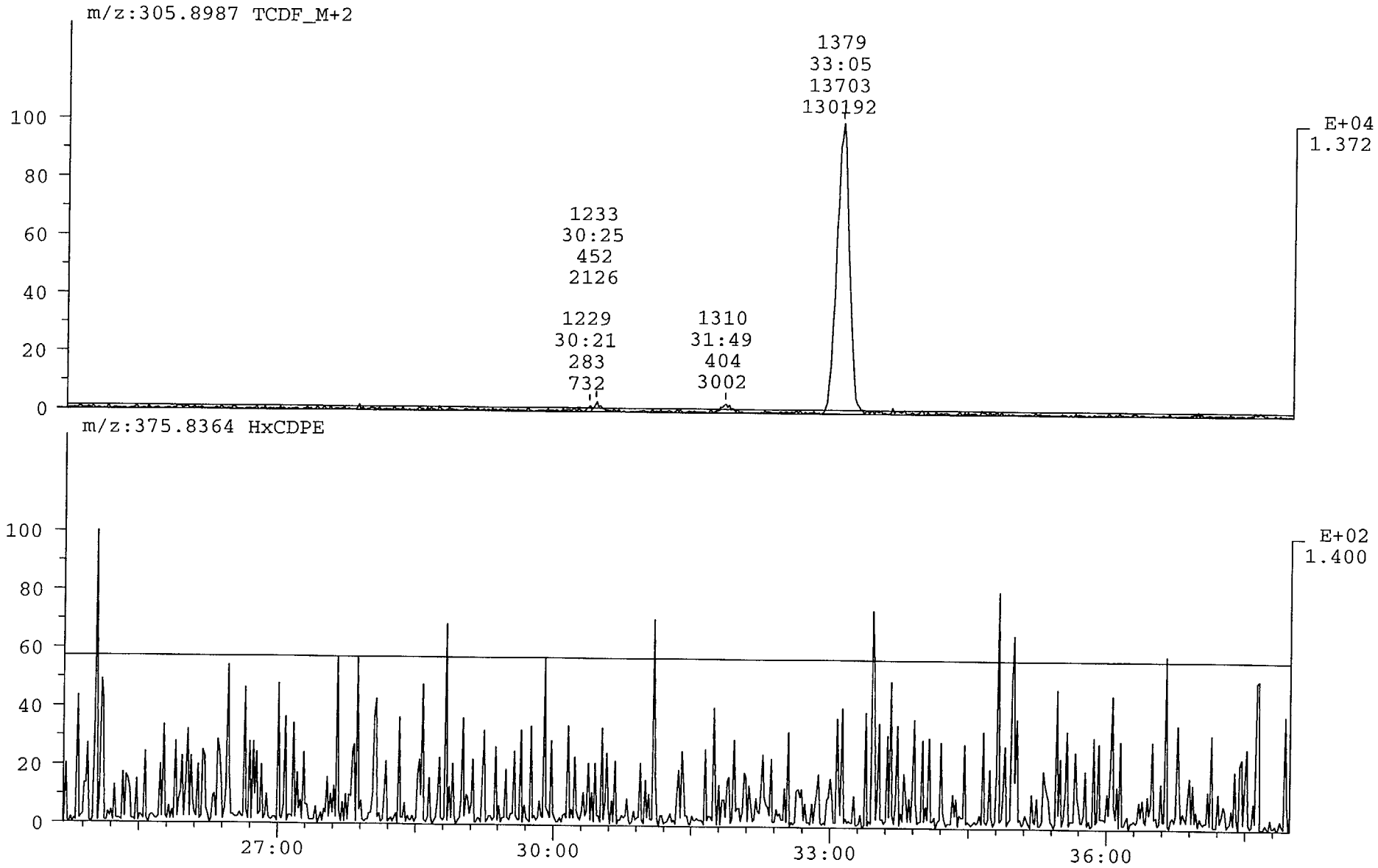
CHRO: bth3ed8c 04-May-06 Elapse: 35:12 1496
Samp: Vial 19 WO=h3ed81ac Meth=X8 Dil=1 Start : 11:06:38 2884
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092C Inlet : GC Vial 19
Peak: 100.00 ppm Label wndw: 1427 > 1571 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



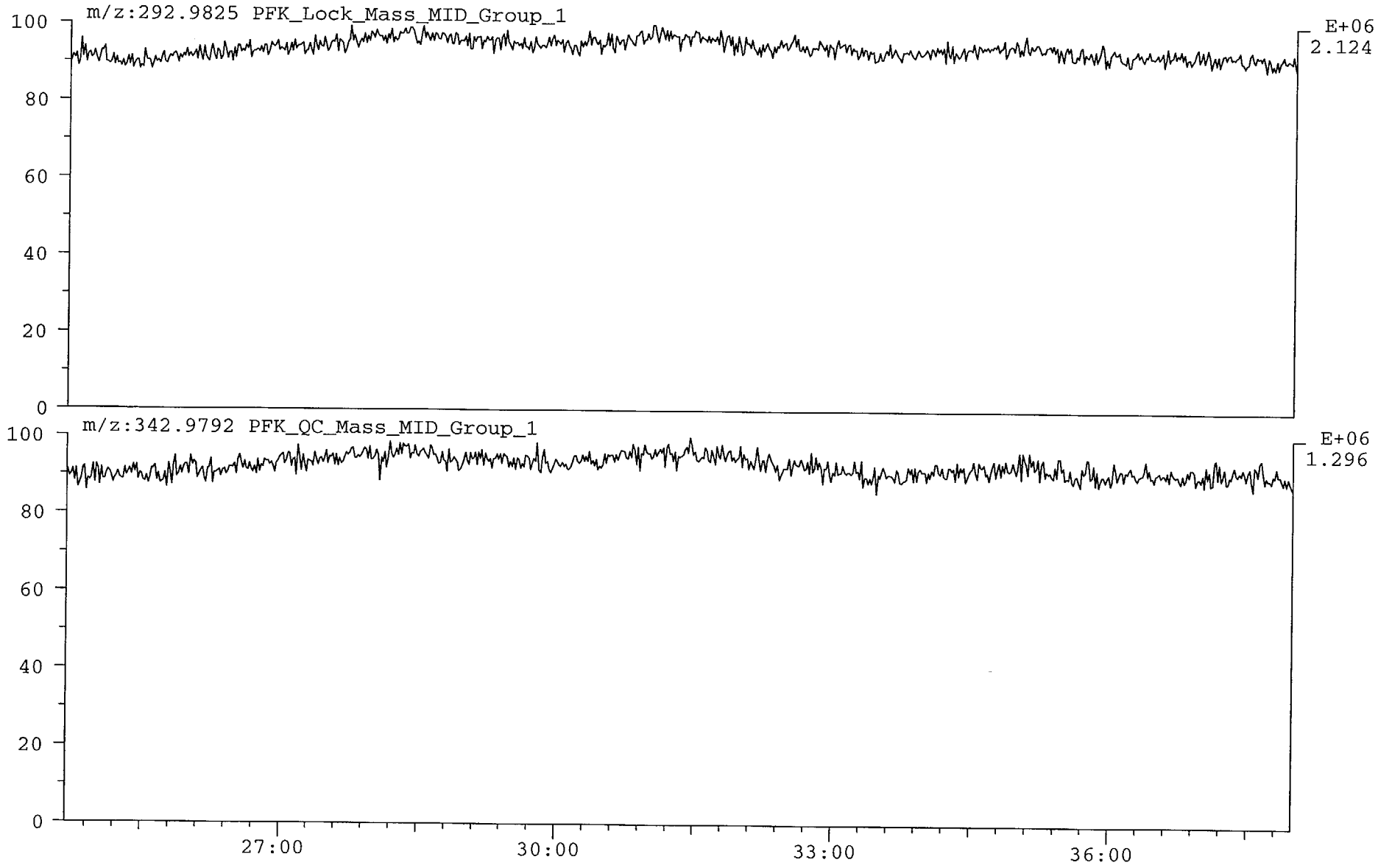
CHRO: bth3ed8c 04-May-06 Elapse: 32:57 1372
Samp: Vial 19 WO=h3ed81ac Meth=X8 Dil=1 Start : 11:06:38 2884
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092C Inlet : GC Vial 19
Peak: 100.00 ppm Label wndw: 1292 > 1457 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



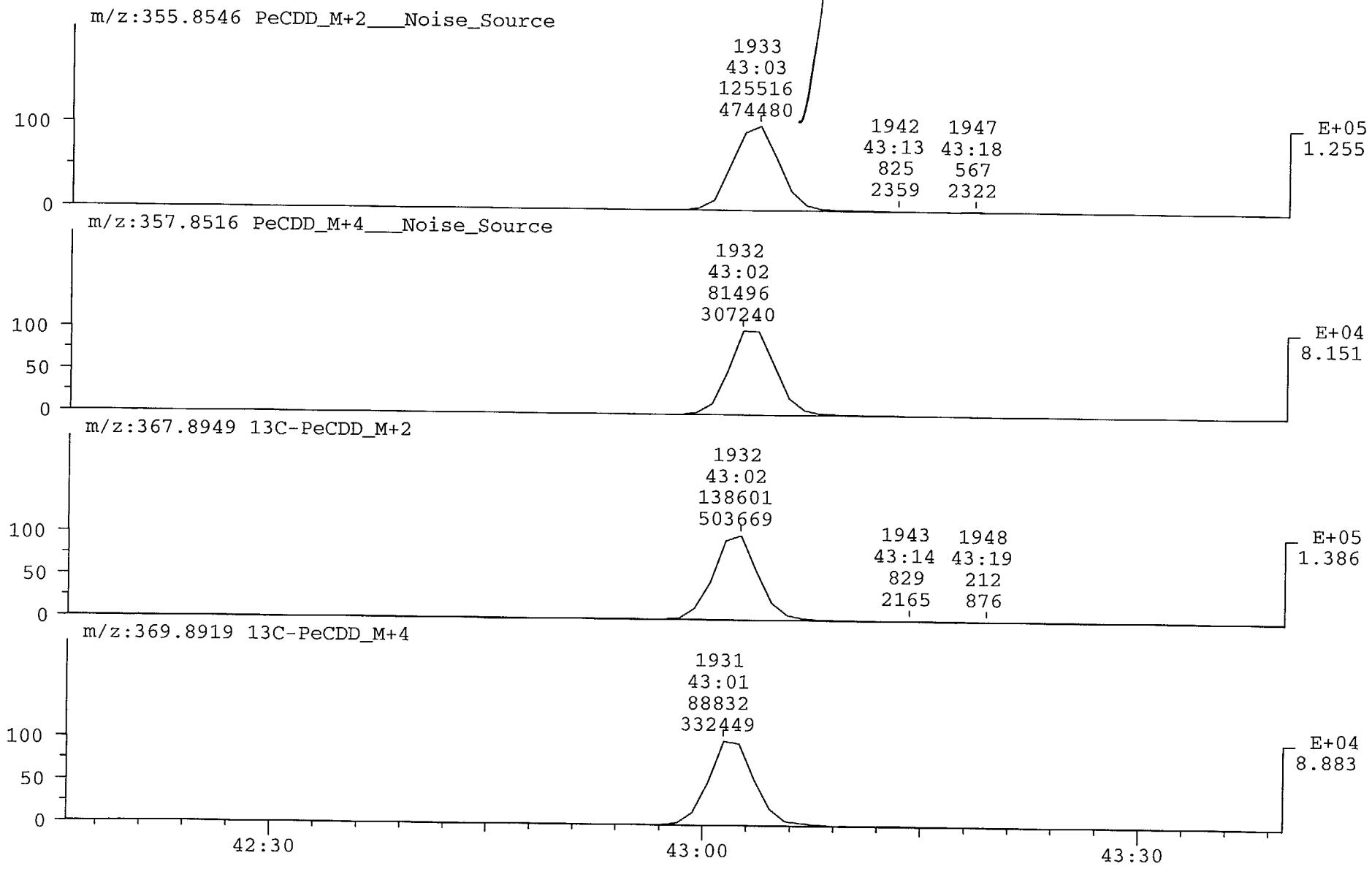
CHRO: bth3ed8c 04-May-06 Elapse: 32:57 1372
Samp: Vial 19 WO=h3ed81ac Meth=X8 Dil=1 Start : 11:06:38 2884
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092C Inlet : GC Vial 19
Peak: 100.00 ppm Label wndw: 918 > 1648 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



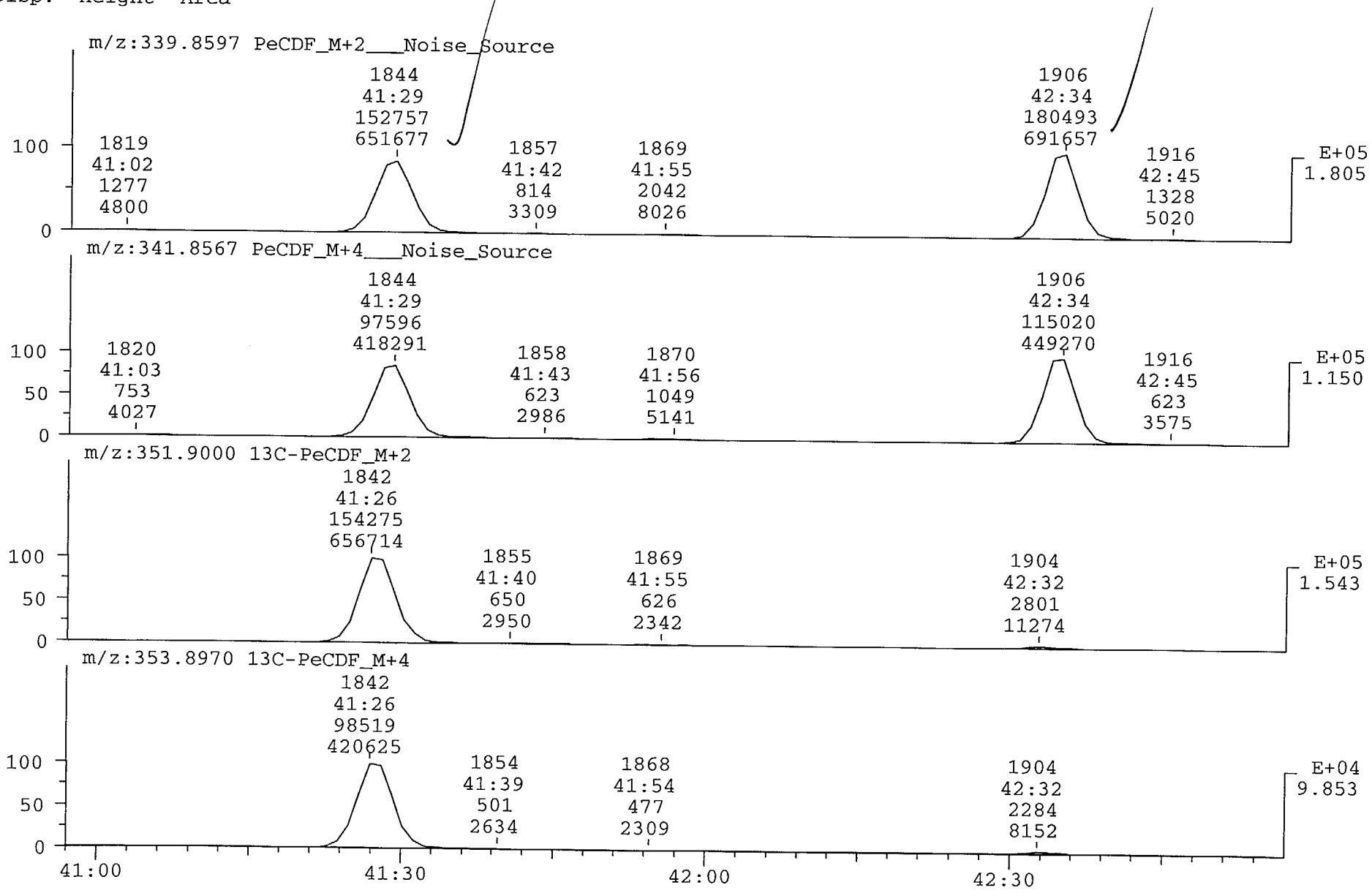
CHRO: bth3ed8c 04-May-06 Elapse: 32:57 1372
Samp: Vial 19 WO=h3ed81ac Meth=X8 Dil=1 Start : 11:06:38 2884
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092C Inlet : GC Vial 19
Peak: 100.00 ppm Label wndw: 918 > 1648 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



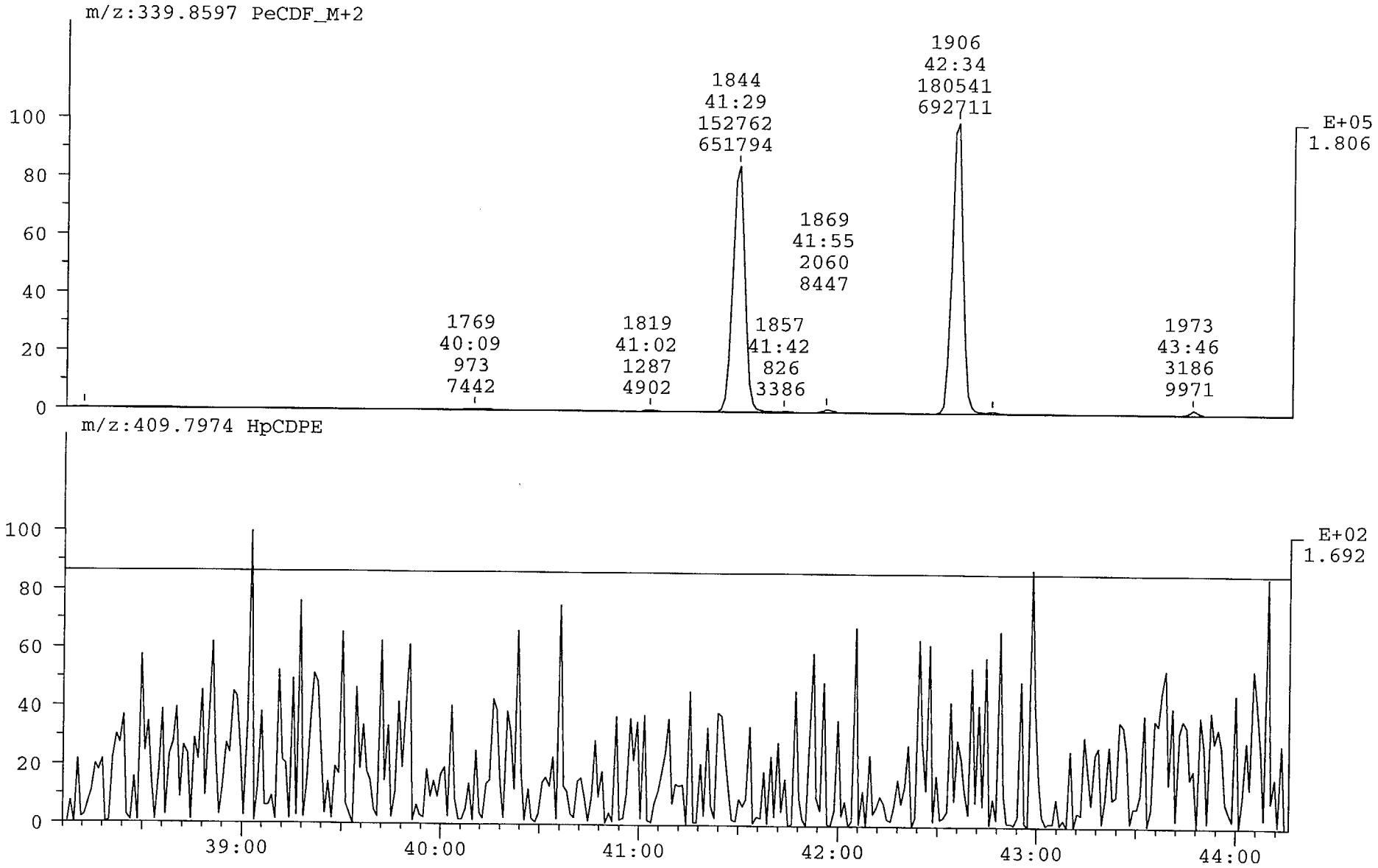
CHRO: bth3ed8c 04-May-06 Elapse: 42:55 1925
Samp: Vial 19 WO=h3ed81ac Meth=X8 Dil=1 Start : 11:06:38 2884
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092C Inlet : GC Vial 19
Peak: 100.00 ppm Label wndw: 1888 > 1967 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



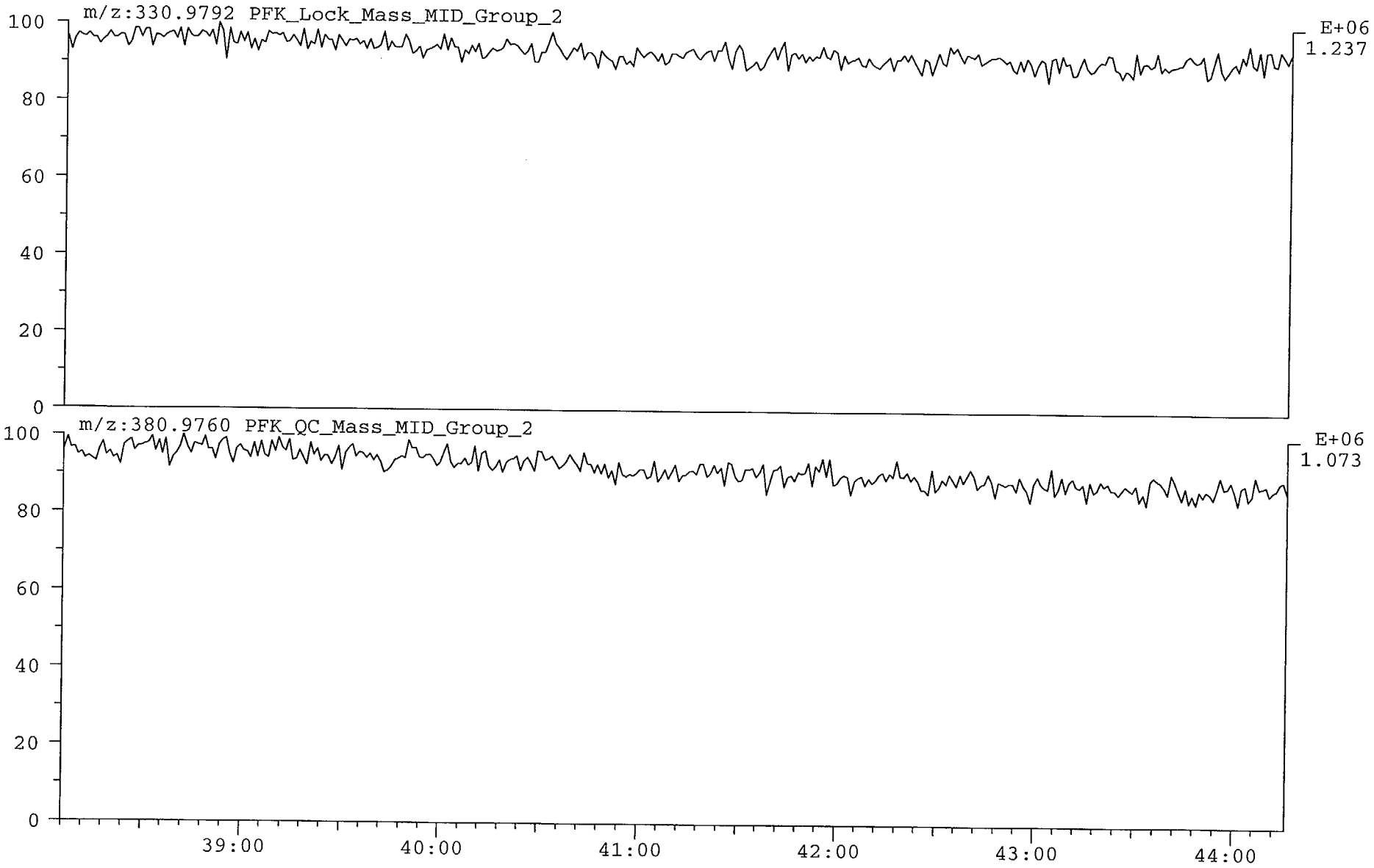
CHRO: bth3ed8c 04-May-06 Elapse: 41:56 1870
Samp: Vial 19 WO=h3ed81ac Meth=X8 Dil=1 Start : 11:06:38 2884
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092C Inlet : GC Vial 19
Peak: 100.00 ppm Label wndw: 1814 > 1927 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



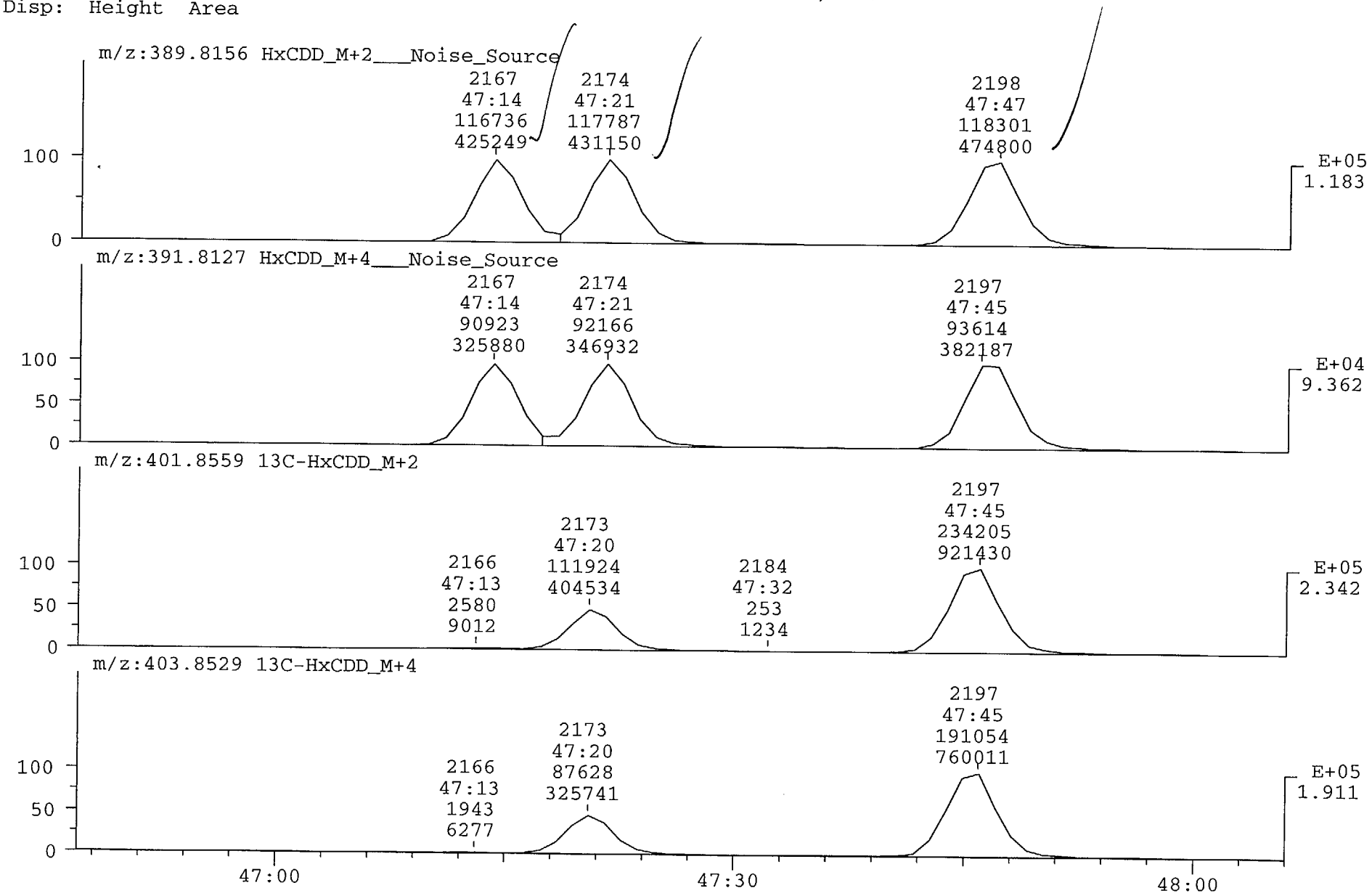
CHRO: bth3ed8c 04-May-06 Elapse: 41:56 1870
Samp: Vial 19 WO=h3ed81ac Meth=X8 Dil=1 Start : 11:06:38 2884
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092C Inlet : GC Vial 19
Peak: 100.00 ppm Label wndw: 1653 > 2001 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



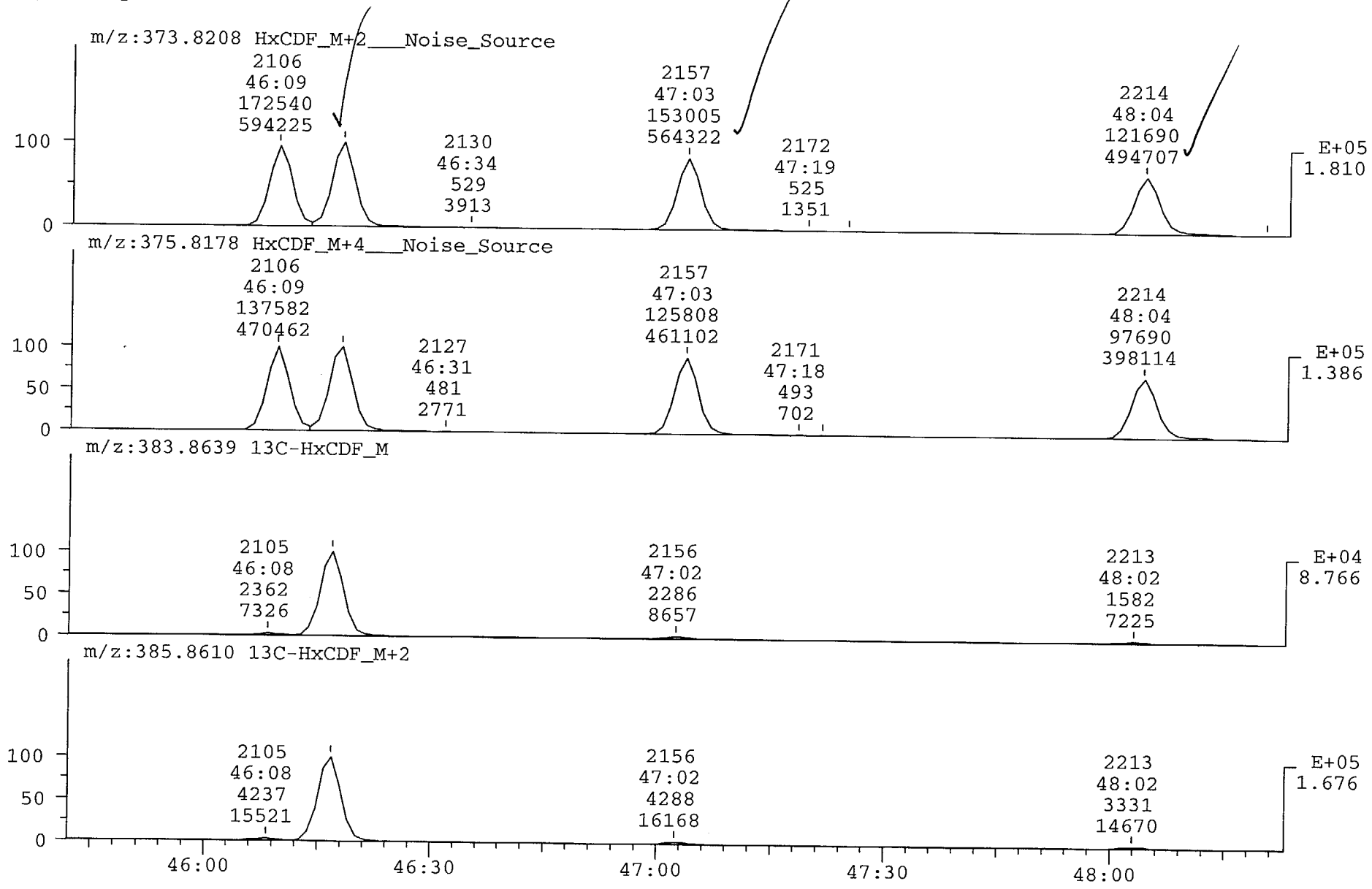
CHRO: bth3ed8c 04-May-06 Elapse: 41:56 1870
Samp: Vial 19 WO=h3ed81ac Meth=X8 Dil=1 Start : 11:06:38 2884
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092C Inlet : GC Vial 19
Peak: 100.00 ppm Label wndw: 1653 > 2001 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



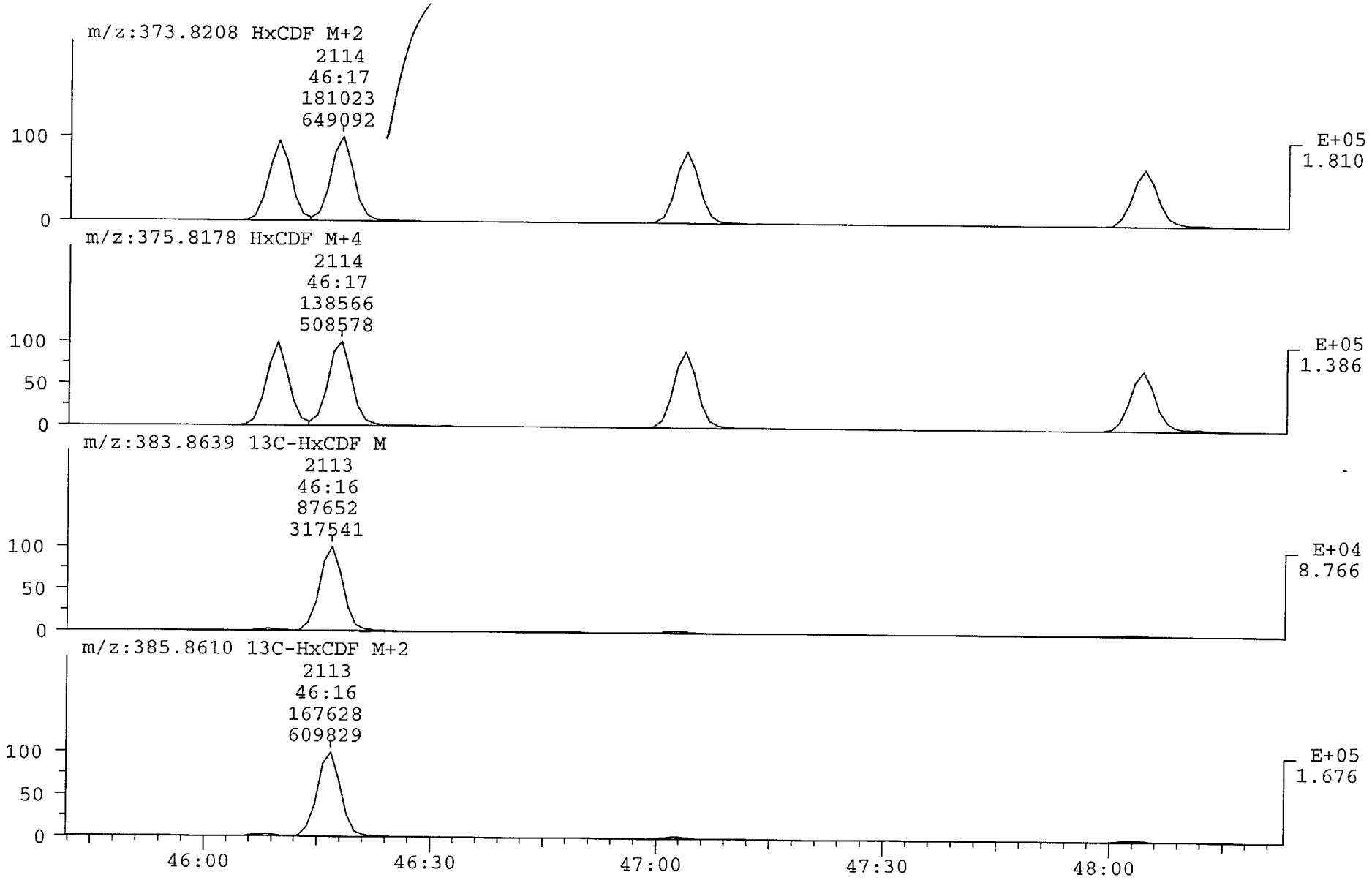
CHRO: bth3ed8c 04-May-06 Elapse: 47:25 2178
Samp: Vial 19 WO=h3ed81ac Meth=X8 Dil=1 Start : 11:06:38 2884
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092C Inlet : GC Vial 19
Peak: 100.00 ppm Label wndw: 2141 > 2216 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



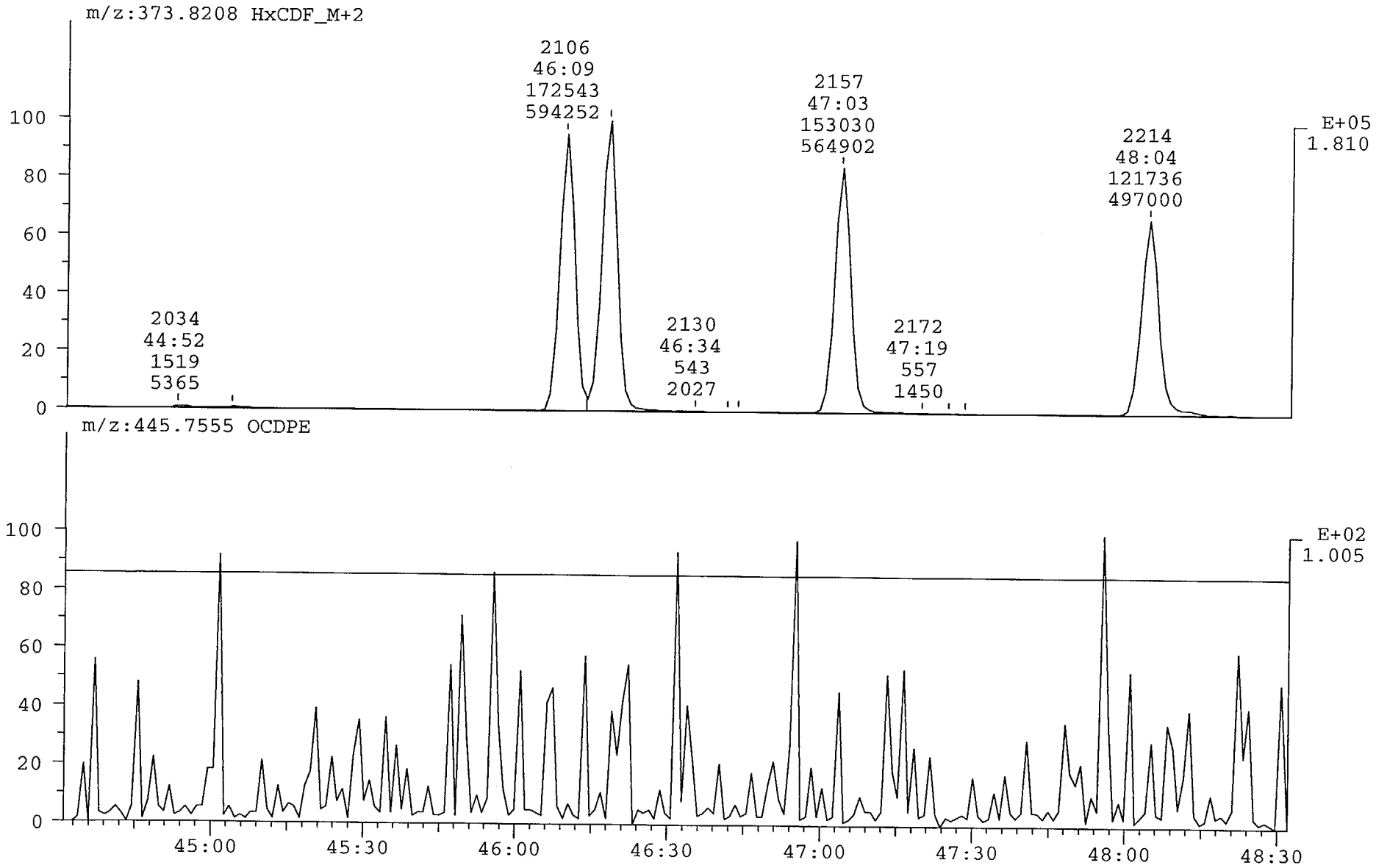
CHRO: bth3ed8c 04-May-06 Elapse: 47:02 2156
Samp: Vial 19 WO=h3ed81ac Meth=X8 Dil=1 Start : 11:06:38 2884
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092C Inlet : GC Vial 19
Peak: 100.00 ppm Label wndw: 2080 > 2232 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



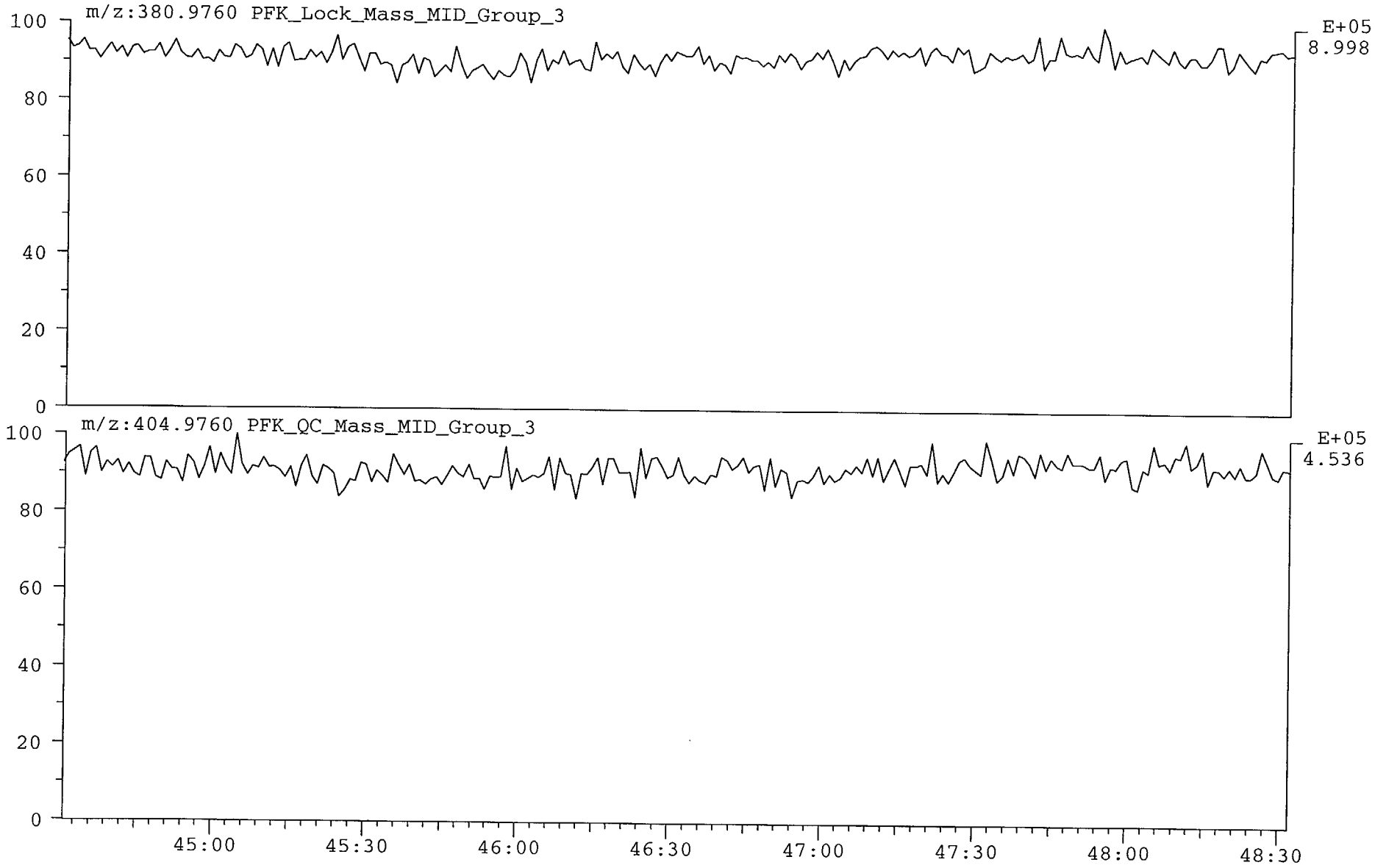
CHRO: bth3ed8c 04-May-06 Elapse: 46:17 2114
Samp: Vial 19 WO=h3ed81ac Meth=X8 Dil=1 Start : 11:06:38 2884
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092C Inlet : GC Vial 19
Peak: 100.00 ppm Label wndw: 2111 > 2117 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth3ed8c 04-May-06 Elapse: 46:11 2108
Samp: Vial 19 WO=h3ed81ac Meth=X8 Dil=1 Start : 11:06:38 2884
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092C Inlet : GC Vial 19
Peak: 100.00 ppm Label wndw: 2013 > 2240 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth3ed8c 04-May-06 Elapse: 46:11 2108
Samp: Vial 19 WO=h3ed81ac Meth=X8 Dil=1 Start : 11:06:38 2884
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092C Inlet : GC Vial 19
Peak: 100.00 ppm Label wndw: 2013 > 2240 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



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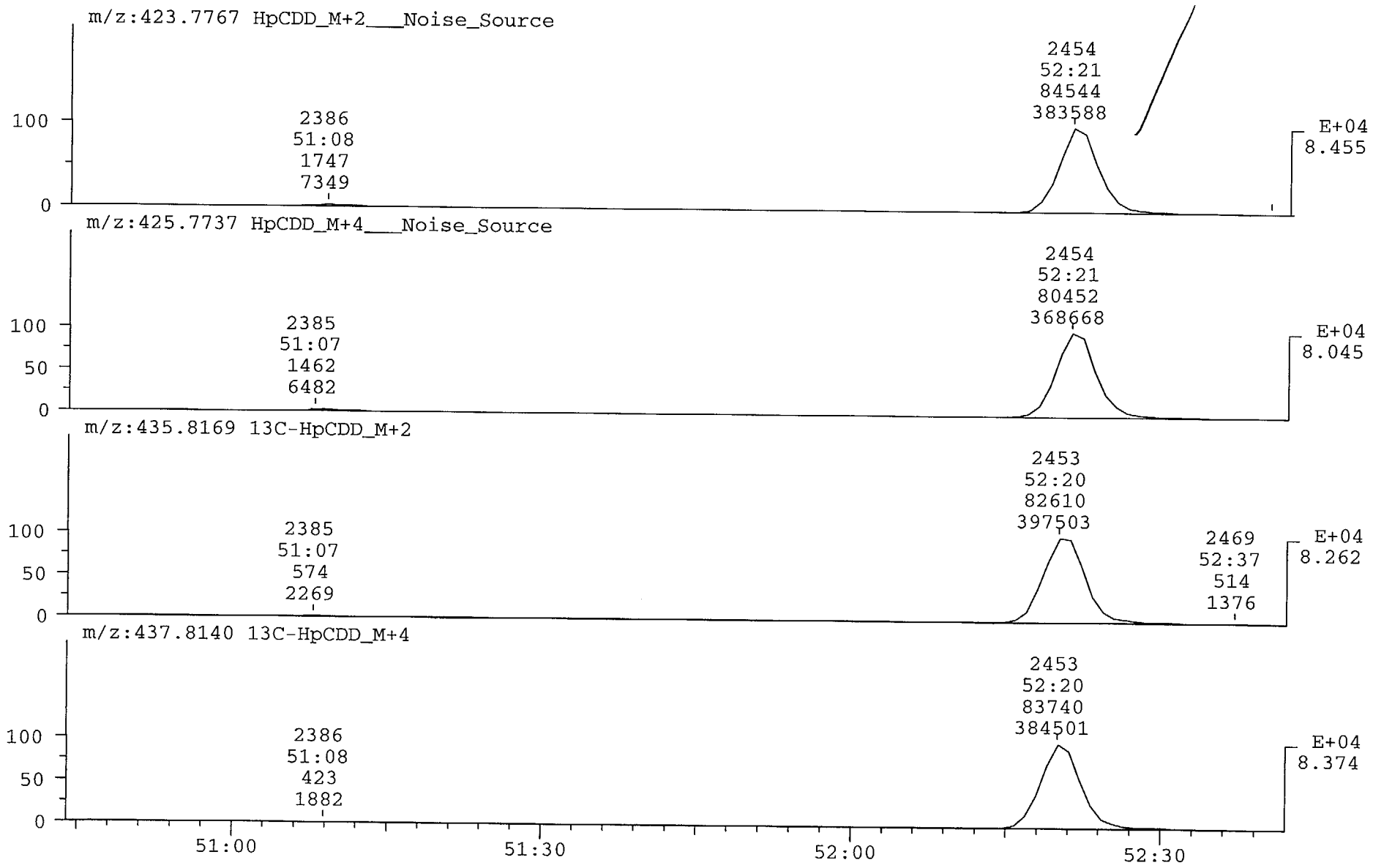
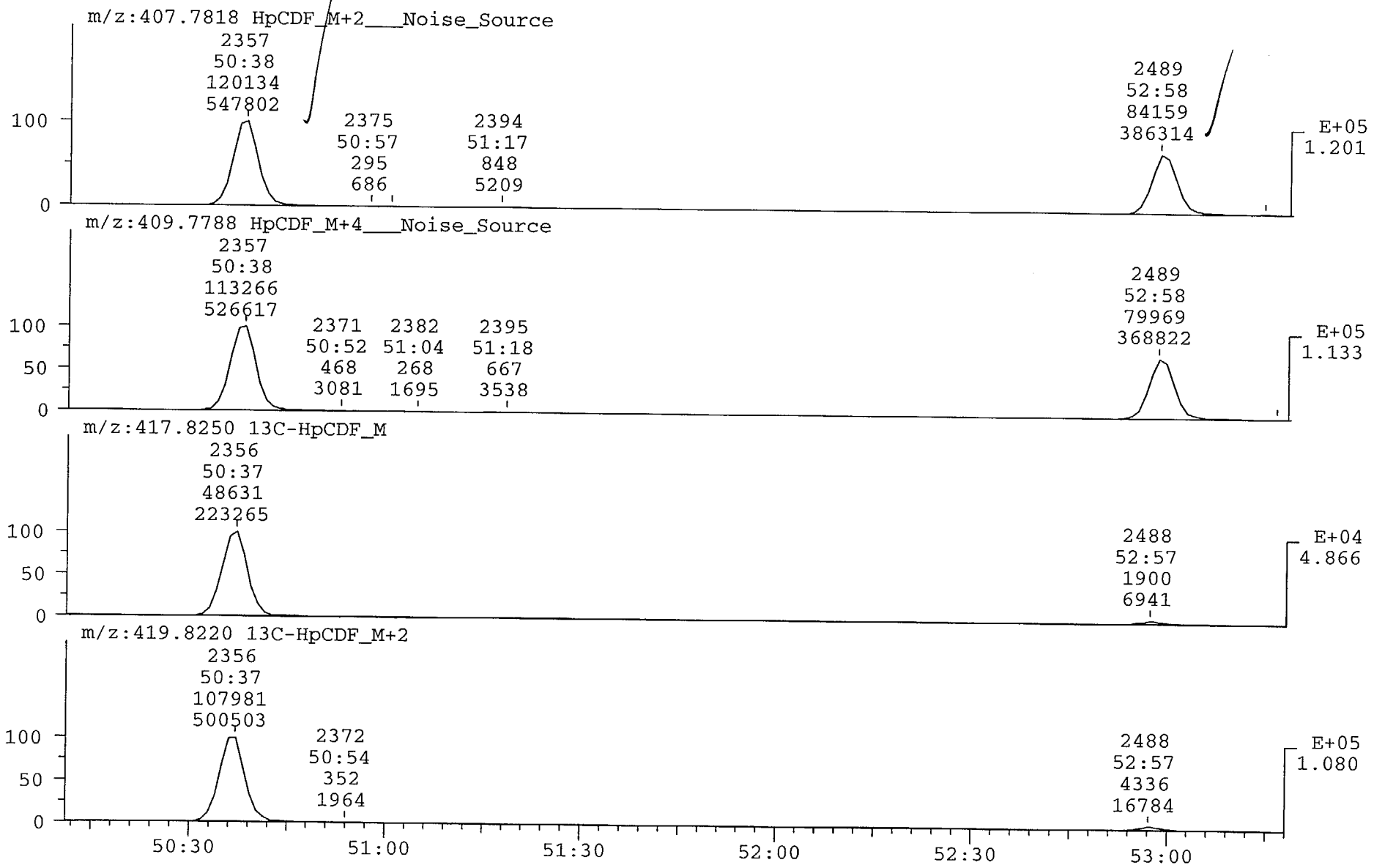
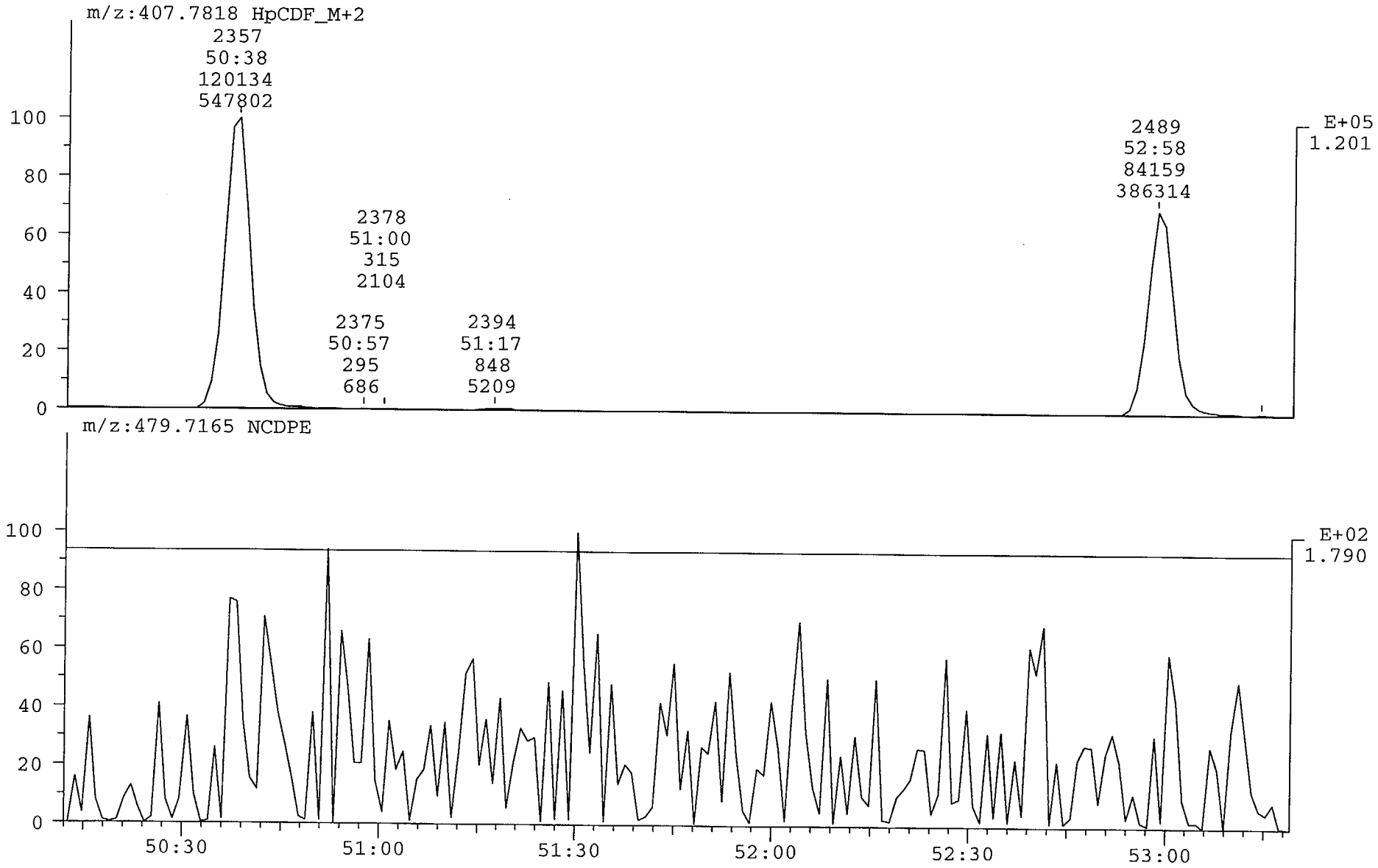
CHRO:  bth3ed8c                                  04-May-06   Elapse:  46:11      2108
Samp:  Vial 19 WO=h3ed81ac Meth=X8 Dil=1                     Start :  11:06:38   2884
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107092 (Air)
Oper:  BFW          Client:  H6D170000-092C                  Inlet :  GC     Vial  19
Peak:  100.00  ppm     Label wndw:   2363 > 2474             Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3                  Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: bth3ed8c 04-May-06 Elapse: 51:43 2419
Samp: Vial 19 WO=h3ed81ac Meth=X8 Dil=1 Start : 11:06:38 2884
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092C Inlet : GC Vial 19
Peak: 100.00 ppm Label wndw: 2332 > 2508 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth3ed8c 04-May-06 Elapse: 51:43 2419
Samp: Vial 19 WO=h3ed81ac Meth=X8 Dil=1 Start : 11:06:38 2884
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092C Inlet : GC Vial 19
Peak: 100.00 ppm Label wndw: 2332 > 2509 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



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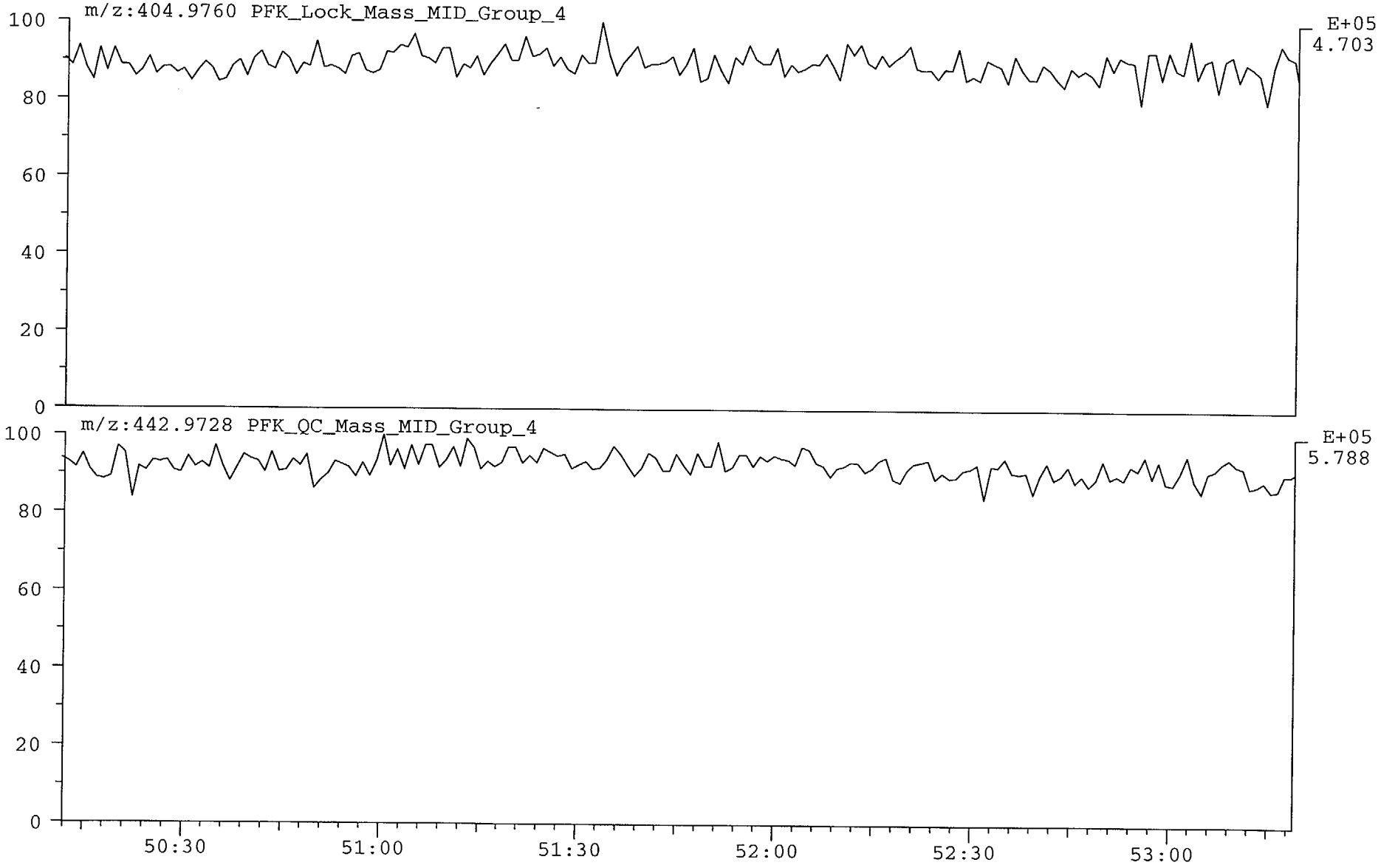
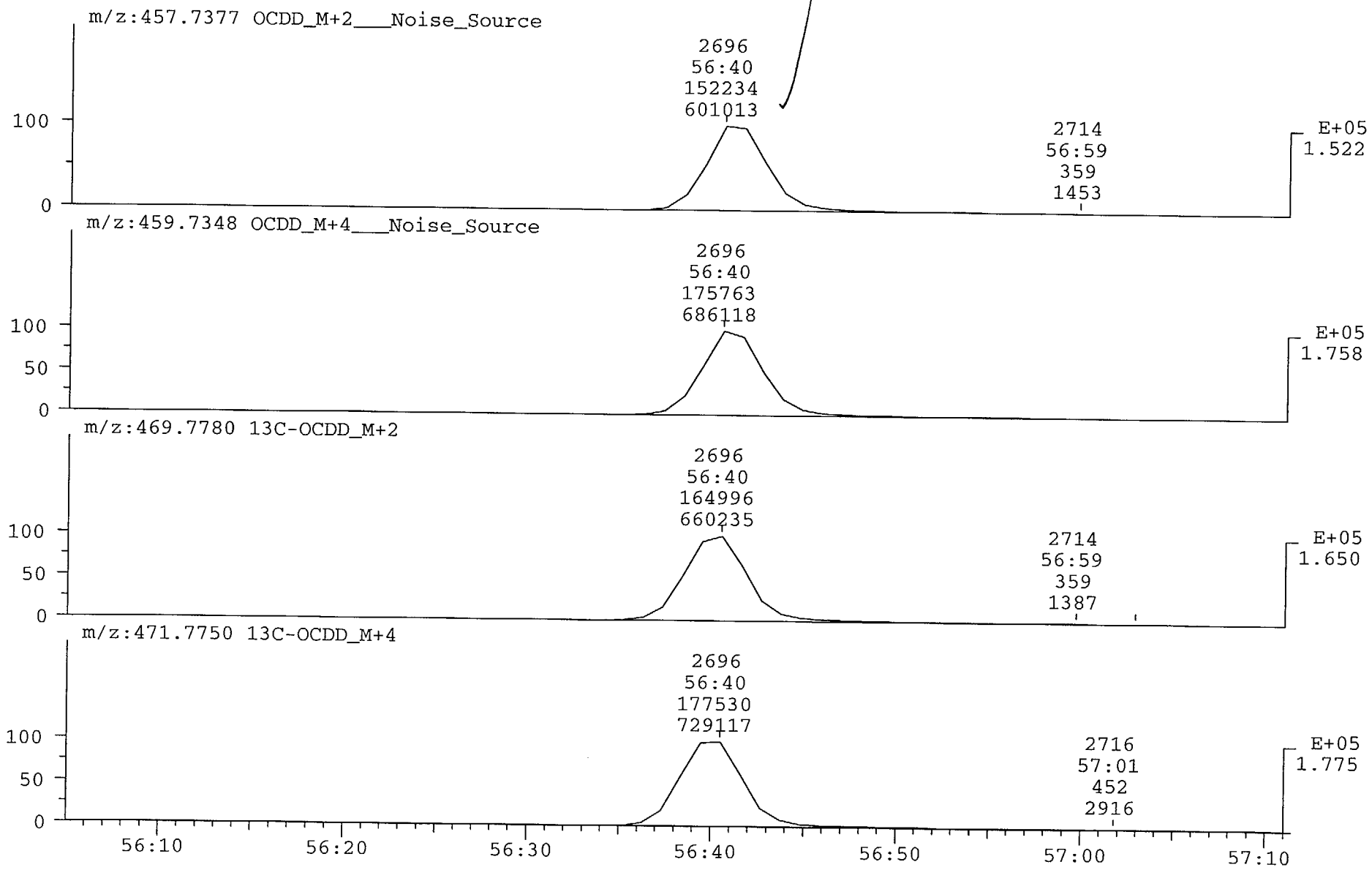
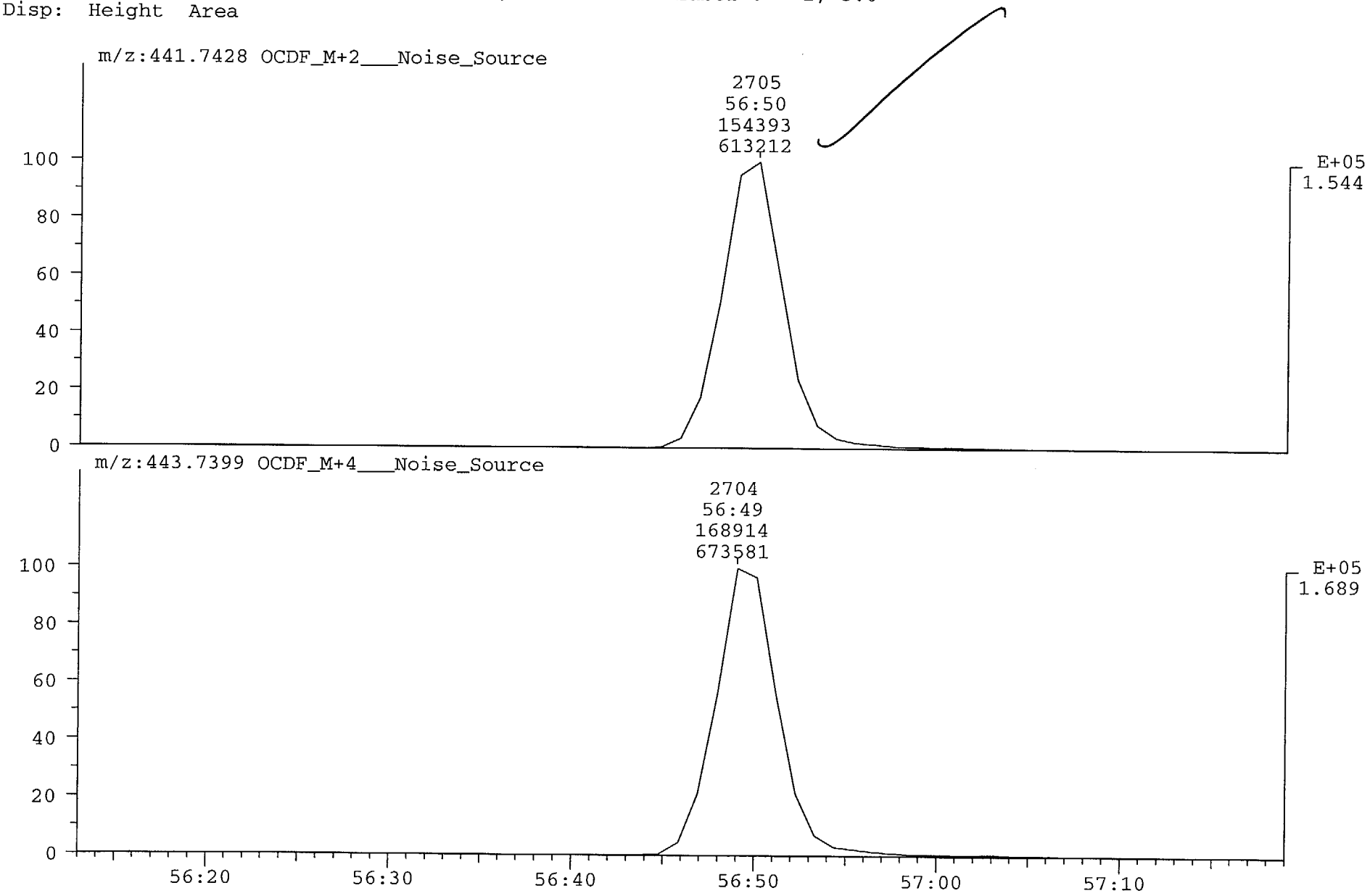
CHRO:  bth3ed8c                                  04-May-06   Elapse:  51:43      2419
Samp:  Vial 19 WO=h3ed81ac Meth=X8 Dil=1                     Start :  11:06:38   2884
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107092 (Air)
Oper:  BFW            Client:  H6D170000-092C                Inlet :  GC     Vial  19
Peak:  100.00  ppm      Label wndw:   2332 > 2509            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  0, 0.0
Disp:  Height  Area
```



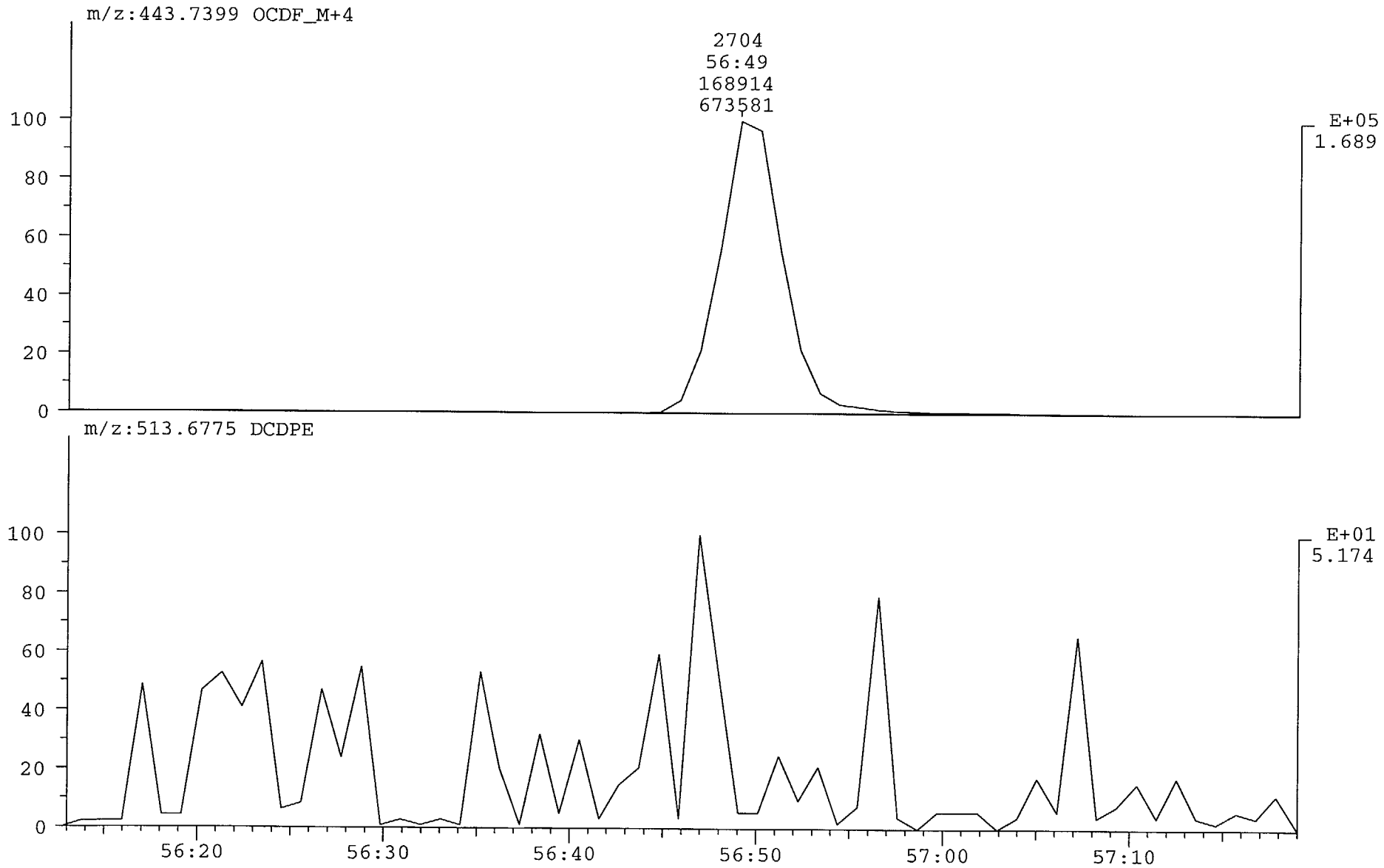
CHRO: bth3ed8c 04-May-06 Elapse: 56:35 2691
Samp: Vial 19 WO=h3ed81ac Meth=X8 Dil=1 Start : 11:06:38 2884
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092C Inlet : GC Vial 19
Peak: 100.00 ppm Label wndw: 2663 > 2725 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



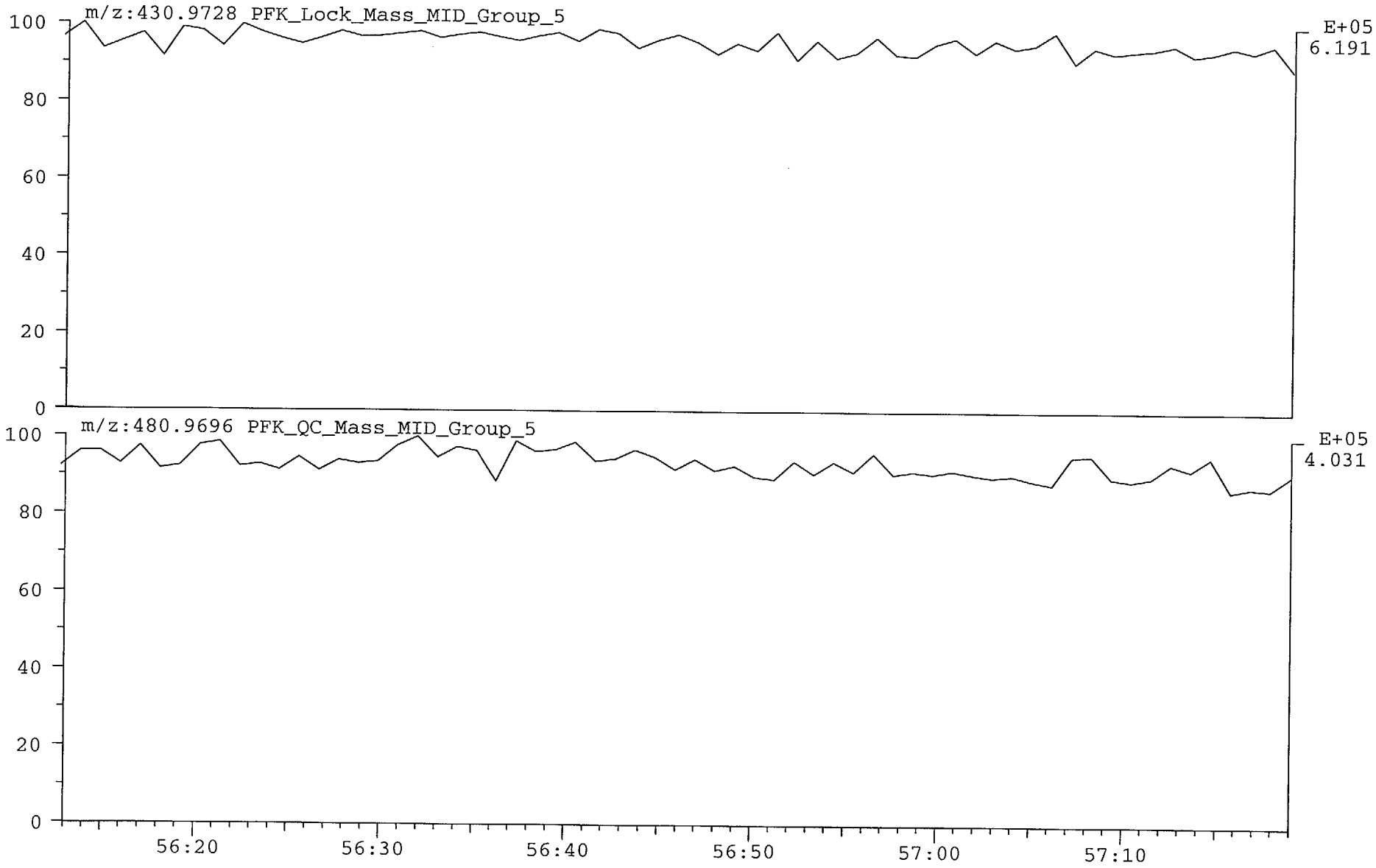
CHRO: bth3ed8c 04-May-06 Elapse: 56:42 2698
Samp: Vial 19 WO=h3ed81ac Meth=X8 Dil=1 Start : 11:06:38 2884
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092C Inlet : GC Vial 19
Peak: 100.00 ppm Label wndw: 2670 > 2732 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth3ed8c 04-May-06 Elapse: 56:42 2698
Samp: Vial 19 WO=h3ed81ac Meth=X8 Dil=1 Start : 11:06:38 2884
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092C Inlet : GC Vial 19
Peak: 100.00 ppm Label wndw: 2670 > 2732 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth3ed8c 04-May-06 Elapse: 56:42 2698
Samp: Vial 19 WO=h3ed81ac Meth=X8 Dil=1 Start : 11:06:38 2884
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092C Inlet : GC Vial 19
Peak: 100.00 ppm Label wndw: 2670 > 2732 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: bth3ed8c
Study: 6107092 (Air)
Sample: WO=h3ed81ac Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: BFW
Client: H6D170000-092C
Comments: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Injected volume: 2.0
Sample from Vial 19
Analysis will stop when MID run finishes
Tune file name: tune2
File 2 of list 060504
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	TRUE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	140 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	30:00 min	38:00 min	1.00 sec
# 2	38:00 min	6:25 min	44:25 min	1.00 sec
# 3	44:25 min	5:05 min	49:30 min	1.00 sec
# 4	49:30 min	5:15 min	54:45 min	1.00 sec
# 5	54:45 min	5:15 min	60:00 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

351.9000		1	1	91.48
353.8970		1	1	91.48
355.8546		1	1	91.48
357.8516		1	1	91.48
367.8949		1	1	91.48
369.8919		1	1	91.48
380.9760	c	10	1	8.19
409.7974		1	1	91.48

Window # 3

mass	F	int	gr	time (ms)
373.8208		1	1	91.48
375.8178		1	1	91.48
380.9760	l	10	1	8.19
383.8639		1	1	91.48
385.8610		1	1	91.48
389.8156		1	1	91.48
391.8127		1	1	91.48
401.8559		1	1	91.48
403.8529		1	1	91.48
404.9760	c	10	1	8.19
445.7555		1	1	91.48

Window # 4

mass	F	int	gr	time (ms)
404.9760	l	10	1	8.19
407.7818		1	1	91.48
409.7788		1	1	91.48
417.8250		1	1	91.48
419.8220		1	1	91.48
423.7767		1	1	91.48
425.7737		1	1	91.48
435.8169		1	1	91.48
437.8140		1	1	91.48
442.9728	c	10	1	8.19
479.7165		1	1	91.48

Window # 5

mass	F	int	gr	time (ms)
430.9728	l	10	1	10.92
441.7428		1	1	120.15
443.7399		1	1	120.15
457.7377		1	1	120.15
459.7348		1	1	120.15
469.7780		1	1	120.15
471.7750		1	1	120.15
480.9696	c	10	1	10.92
513.6775		1	1	120.15

Auto Sampler descriptor: pcdd2ul

Injector A

Normal Injection

Slvnt A cln before inj	(K):	3	times
Slvnt B cln before inj	(L):	0	times
Sample rinse cycles	(R):	0	times
Syringe filling volume	(F):	1.0	ul
Pullup delay time	(D):	4	sec
Sample pullup speed	(E):	5.0	ul/sec
Slvnt aftr pre inj cln	(U):	0.0	ul
Air after pre inj cln	(G):	2.0	ul
Sample volume	(V):	2.0	ul
Sample air volume	(A):	2.0	ul
Sample pullup count	(P):	2	times
Injection speed	(S):	10.0	ul/sec
Injection wait time	(W):	10	sec
Injection hold time	(H):	3	sec
Solvent A clean cycles	(C):	15	times
Solvent B clean cycles	(B):	20	times
Loop clean w slvnt A	(LC):	0	times

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8399.0000
BDEV	8287.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.7814	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9996
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-738.5000	ELEN	61.7750
EMULT	1.8000	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	188.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	543.0000	FVINLET	593.0000
FVSRC	993.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.5882	HVANAL	1576.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4759.4580	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	430.9728
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	2895.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10100.2910	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.7200	TCURR	0.8984	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 04-May-06 11:06:38.9

Autosampler has injected sample from vial 19
Analysis stopped at: 04-May-06 12:06:41.1 (run time 60.03 minutes)
Analysis stopped because MID run finished

STL - Knoxville

IsoCalc Preliminary Sample Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H3ED81AD	Prep Batch	6107092	Lot No	H6D170000-092
Data File	/20060504s1/bth3ed81.d	Prep Date	04/17/06	SDG No	
Analysis ID	90540	Prep Exp Date	04/27/06	Date Received	04/17/06
Analysis Date	5/4/2006	Matrix	AIR	Date Sampled	03/28/06
Analysis Time	12:10	Initial Wt/Vol	1	Lims Test Code	XXSIOX801
Anal Exp Date	06/01/06	Extract Vol	20	Method	0023/8290
Instrument	M2A	Dil Factor	1.0	Code	X8
Analyst	BFW				

Analyte	RT	Area	Height	RF	Std Amt	Amount	Rec	Conc (pg/sample		DL (pg/samp
2,3,7,8-TCDD	35:17	296677	32699	1.060	200.0	200.458194	100.23	200.458194		1.91
Total TCDD				1.060		200.458194		200.458194		1.91
2,3,7,8-TCDF	33:04	385630	41102	1.064	200.0	190.547501	95.27	190.547501		1.54
Total TCDF				1.064		190.547501		190.547501		1.54
1,2,3,7,8-PeCDD	43:02	1426384	407774	0.977	1000	1003.37446	100.34	1003.37446		0.824
Total PeCDD				0.977		1003.37446		1003.37446		0.824
1,2,3,7,8-PeCDF	41:28	1855659	444970	0.955	1000	1029.90995	102.99	1029.90995		0.936
2,3,4,7,8-PeCDF	42:34	1998455	542085	1.018	1000	1041.08562	104.11	1041.08562		0.879
Total PeCDF				0.987		2070.99557		2070.99557		0.907
1,2,3,4,7,8-HxCDD	47:13	1360815	362945	1.047	1000	989.823751	98.98	989.823751		0.912
1,2,3,6,7,8-HxCDD	47:20	1385101	374244	1.055	1000	1000.29321	100.03	1000.29321		0.905
1,2,3,7,8,9-HxCDD	47:46	1518824	389102	1.146	1000	1009.73068	100.97	1009.73068		0.833
Total HxCDD				1.083		2999.84764		2999.84764		0.882
1,2,3,4,7,8-HxCDF	46:08	1809534	521561	1.101	1000	1046.02175	104.60	1046.02175		0.848
1,2,3,6,7,8-HxCDF	46:17	1963558	555094	1.184	1000	1055.20292	105.52	1055.20292		0.789
2,3,4,6,7,8-HxCDF	47:02	1842724	503598	1.052	1000	1114.27068	111.43	1114.27068	B	0.887
1,2,3,7,8,9-HxCDF	48:03	1543088	384851	0.982	1000	1000.02504	100.00	1000.02504	B	0.951
Total HxCDF				1.080		4215.52038		4215.52038	B	0.865
1,2,3,4,6,7,8-HpCDD	52:21	1352046	295005	1.018	1000	938.702411	93.87	938.702411	B	1.09
Total HpCDD				1.018		938.702411		938.702411	B	1.09
1,2,3,4,6,7,8-HpCDF	50:37	1851778	412102	1.403	1000	1043.68082	104.37	1043.68082	B	1.000
1,2,3,4,7,8,9-HpCDF	52:58	1369412	300573	1.197	1000	905.085160	90.51	905.085160		1.17
Total HpCDF				1.300		1948.76598		1948.76598	B	1.08
OCDD	56:41	2202834	563646	0.965	2000	1953.78171	97.69	1953.78171	B	1.01
OCDF	56:49	2236133	549507	1.103	2000	1734.10249	86.71	1734.10249	B	1.08
13C-2,3,7,8-TCDD	35:15	1395696	159188	1.068	1000	931.227238	93.12	931.227238		4.66
13C-2,3,7,8-TCDF	33:01	1902494	201716	1.413	1000	959.138963	95.91	959.138963		2.05
13C-1,2,3,7,8-PeCDD	43:01	1455496	409873	0.882	1000	1176.02331	117.60	1176.02331		3.25
13C-1,2,3,7,8-PeCDF	41:27	1886115	447185	1.188	1000	1131.19313	113.12	1131.19313		2.00
13C-1,2,3,6,7,8-HxCDD	47:19	1312825	342995	0.943	1000	930.008960	93.00	930.008960		1.22
13C-1,2,3,6,7,8-HxCDF	46:16	1571400	447101	1.272	1000	825.485236	82.55	825.485236		0.758
13C-1,2,3,4,6,7,8-HpCDD	52:20	1415461	305134	0.918	1000	1029.97722	103.00	1029.97722		1.01
13C-1,2,3,4,6,7,8-HpCDF	50:36	1264361	278050	0.916	1000	922.251547	92.23	922.251547		0.944
13C-OCDD	56:39	2337337	607001	0.850	2000	1837.87087	91.89	1837.87087		1.02
37Cl4-2,3,7,8-TCDD				1.046	2000			ND		0.976
13C-2,3,4,7,8-PeCDF				1.010	2000			ND		0.747
13C-1,2,3,4,7,8-HxCDD				0.902	2000			ND		1.41
13C-1,2,3,4,7,8-HxCDF				0.988	2000			ND		0.826
13C-1,2,3,7,8,9-HxCDF				1.113				ND		0.866
13C-1,2,3,4,7,8,9-HpCDF				0.912	2000			ND		1.29
13C-1,2,3,4-TCDD	34:41	2806727	284541	1.000	2000	2000.00000	100.00	2000.00000		4.97
13C-1,2,3,7,8,9-HxCDD	47:45	2993062	757332	1.000	2000	2000.00000	100.00	2000.00000		1.15

VMK 5/5/06
MSD 5/8/06

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H3ED81AD	Prep Batch	6107092	Lot No	H6D170000-092
Data File	/20060504s1/bth3ed81.d	Prep Date	04/17/06	SDG No	
Analysis ID	90540	Prep Exp Date	04/27/06	Date Received	04/17/06
Analysis Date	05/04/06 12:10	Matrix	AIR	Date Sampled	03/28/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSIOX801
Instrument	M2A	Extract Vol	20 uL	Method	0023/8290
Analyst	BFW	Diluton Factor	1.00	Code	X8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration Flags
304					303.9016	305.8987	303.9016	305.8987	0.65-0.89	
	Noise	00:00	00:00	0	143	188	57	75	0.76	/
	2,3,7,8-TCDF	33:04	33:05	-1	168556	217074	17254	23848	0.78	ABV/ABV
316					315.9419	317.9389	315.9419	317.9389	0.65-0.89	
	Noise	00:00	00:00	0	198	215	79	86	0.92 *	/
	13C-2,3,7,8-TCDF	33:01	33:01	0	841887	1060607	90145	111571	0.79	ABV/ABV
320					319.8965	321.8936	319.8965	321.8936	0.65-0.89	
	Noise	00:00	00:00	0	185	138	74	55	1.35 *	/
	2,3,7,8-TCDD	35:17	35:18	-1	129176	167501	14424	18275	0.77	ABV/ABV
328					327.8847		327.8847			
	Noise	00:00	00:00	0	163		65			
332					331.9368	333.9338	331.9368	333.9338	0.65-0.89	
	Noise	00:00	00:00	0	373	335	149	134	1.11 *	/
	13C-1,2,3,4-TCDD	34:41	34:42	-1	1250319	1556408	126956	157585	0.80	ABV/AVV
	13C-2,3,7,8-TCDD	35:15	35:15	0	625336	770360	70034	89154	0.81	AVV/AVV
340					339.8597	341.8567	339.8597	341.8567	1.32-1.78	
	Noise	00:00	00:00	0	223	178	89	71	1.25 *	/
	1,2,3,7,8-PeCDF	41:28	41:27	1	1126780	728879	270677	174293	1.55	ABV/ABV
	2,3,4,7,8-PeCDF	42:34	42:33	1	1205173	793282	331588	210497	1.52	ABV/ABV
352					351.9000	353.8970	351.9000	353.8970	1.32-1.78	
	Noise	00:00	00:00	0	188	150	75	60	1.25 *	/
	13C-1,2,3,7,8-PeCDF	41:27	41:26	1	1154663	731452	276498	170687	1.58	ABV/ABV
356					355.8546	357.8516	355.8546	357.8516	1.32-1.78	
	Noise	00:00	00:00	0	195	135	78	54	1.44	/
	1,2,3,7,8-PeCDD	43:02	43:01	1	869402	556982	249526	158248	1.56	ABV/ABV
368					367.8949	369.8919	367.8949	369.8919	1.32-1.78	
	Noise	00:00	00:00	0	205	203	82	81	1.01 *	/
	13C-1,2,3,7,8-PeCDD	43:01	43:00	1	882418	573078	248160	161713	1.54	ABV/ABV
374					373.8208	375.8178	373.8208	375.8178	1.05-1.43	
	Noise	00:00	00:00	0	208	210	83	84	0.99 *	/
	1,2,3,4,7,8-HxCDF	46:08	46:08	0	1006443	803091	287182	234379	1.25	ABV/ABV
	1,2,3,6,7,8-HxCDF	46:17	46:17	0	1091802	871756	309951	245143	1.25	AVV/AVV
	2,3,4,6,7,8-HxCDF	47:02	47:02	0	1026122	816602	279401	224197	1.26	AVV/AVV
	1,2,3,7,8,9-HxCDF	48:03	48:03	0	855979	687109	213959	170892	1.25	ABV/ABV
384					383.8639	385.8610	383.8639	385.8610	0.43-0.59	
	Noise	00:00	00:00	0	168	198	67	79	0.85 *	/
	13C-1,2,3,6,7,8-HxCDF	46:16	46:16	0	541426	1029974	153663	293438	0.53	AVV/AVV
390					389.8156	391.8127	389.8156	391.8127	1.05-1.43	
	Noise	00:00	00:00	0	173	155	69	62	1.11	/
	1,2,3,4,7,8-HxCDD	47:13	47:13	0	752924	607891	199784	163161	1.24	ABV/ABV
	1,2,3,6,7,8-HxCDD	47:20	47:20	0	764763	620338	205738	168506	1.23	AVV/AVV
	1,2,3,7,8,9-HxCDD	47:46	47:45	1	837552	681272	218192	170910	1.23	AVV/AVB
402					401.8559	403.8529	401.8559	403.8529	1.05-1.43	

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

STL - Knoxville

IsoCalc Preliminary Peak Report

PCDD/PCDF by EPA Method 0023/8290

IsoCalc

Workorder	H3ED81AD	Prep Batch	6107092	Lot No	H6D170000-092
Data File	/20060504s1/bth3ed81.d	Prep Date	04/17/06	SDG No	
Analysis ID	90540	Prep Exp Date	04/27/06	Date Received	04/17/06
Analysis Date	05/04/06 12:10	Matrix	AIR	Date Sampled	03/28/06
Anal Exp Date	06/01/06	Initial Wt/Vol	1 Sample	Lims Test Code	XXSIOX801
Instrument	M2A	Extract Vol	20 uL	Method	0023/8290
Analyst	BFW	Diluton Factor	1.00	Code	X8

View Small Peaks? False View deleted peaks? False

Mass	Peak Name	RT	Pred RT	Δ	Area 1	Area 2	Height1	Height2	Ratio	Integration Flags
402					401.8559	403.8529	401.8559	403.8529	1.05-1.43	
	Noise	00:00	00:00	0	178	258	71	103	0.69 *	/
	13C-1,2,3,6,7,8-HxCDD	47:19	47:19	0	728196	584629	186792	156203	1.25	ABB/AVV
	13C-1,2,3,7,8,9-HxCDD	47:45	47:45	0	1657986	1335076	419912	337420	1.24	ABV/ABV
408					407.7818	409.7788	407.7818	409.7788	0.88-1.20	
	Noise	00:00	00:00	0	188	203	75	81	0.93	/
	1,2,3,4,6,7,8-HpCDF	50:37	50:36	1	943465	908313	212459	199643	1.04	ABV/ABV
	1,2,3,4,7,8,9-HpCDF	52:58	52:58	0	698967	670445	152654	147919	1.04	ABV/ABV
418					417.8250	419.8220	417.8250	419.8220	0.37-0.51	
	Noise	00:00	00:00	0	173	155	69	62	1.11 *	/
	13C-1,2,3,4,6,7,8-HpCDF	50:36	50:36	0	397920	866441	86845	191205	0.46	ABV/ABV
424					423.7767	425.7737	423.7767	425.7737	0.88-1.20	
	Noise	00:00	00:00	0	185	153	74	61	1.21 *	/
	1,2,3,4,6,7,8-HpCDD	52:21	52:21	0	689759	662287	150857	144148	1.04	ABV/ABV
436					435.8169	437.8140	435.8169	437.8140	0.88-1.20	
	Noise	00:00	00:00	0	210	143	84	57	1.47 *	/
	13C-1,2,3,4,6,7,8-HpCDD	52:20	52:20	0	720722	694739	154700	150434	1.04	ABV/ABV
442					441.7428	443.7399	441.7428	443.7399	0.76-1.02	
	Noise	00:00	00:00	0	160	203	64	81	0.79	/
	OCDF	56:49	56:49	0	1063582	1172551	261339	288168	0.91	ABV/ABV
458					457.7377	459.7348	457.7377	459.7348	0.76-1.02	
	Noise	00:00	00:00	0	115	180	46	72	0.64 *	/
	OCDD	56:41	56:41	0	1036802	1166032	264425	299221	0.89	ABV/ABV
470					469.7780	471.7750	469.7780	471.7750	0.76-1.02	
	Noise	00:00	00:00	0	138	190	55	76	0.72 *	/
	13C-OCDD	56:39	56:40	-1	1099199	1238138	290195	316806	0.89	ABV/ABV

Notes:
R = ratio is outside limits M = data changed manually N = Peak not reported S = peak less than 2.5x S/N
T = peaks outside comax limit D = peak outside RT window W = peak outside first/last X = peak has dup match

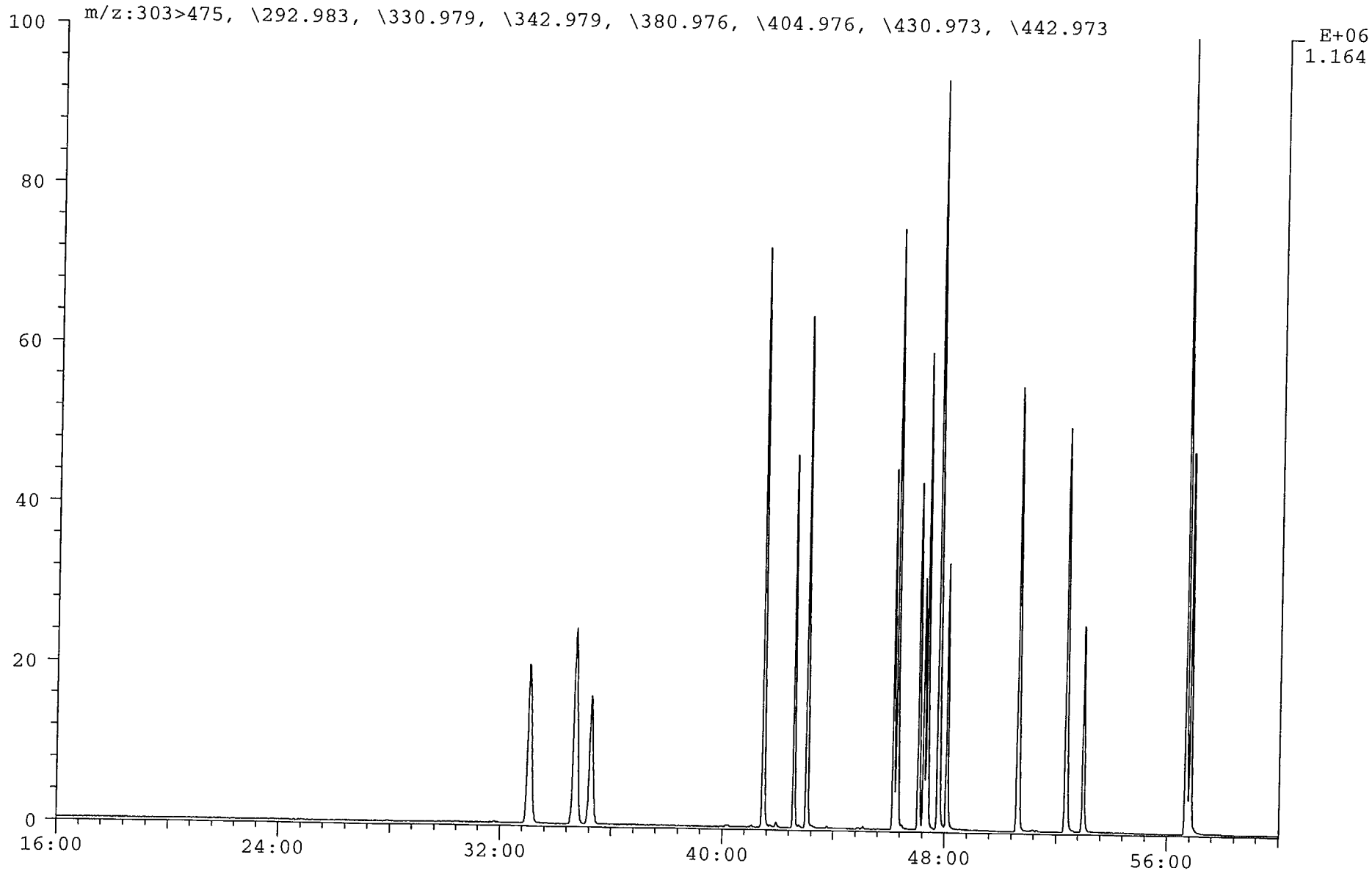
CHRO: bth3ed81
Samp: Vial 20 WO=h3ed81ad Meth=X8 Dil=1
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM
Oper: BFW Client: H6D170000-092L
Peak: 100.00 ppm Label wndw: 441 > 2888
Area: 5, 0.50, 0 Baseline : 100, 3
Disp: Height Area

04-May-06

Elapse: 46:13 2114
Start : 12:10:27 2888

Study : 6107092 (Air)
Inlet : GC Vial 20
Masses: 293 > 514
Label : 0, 0.0

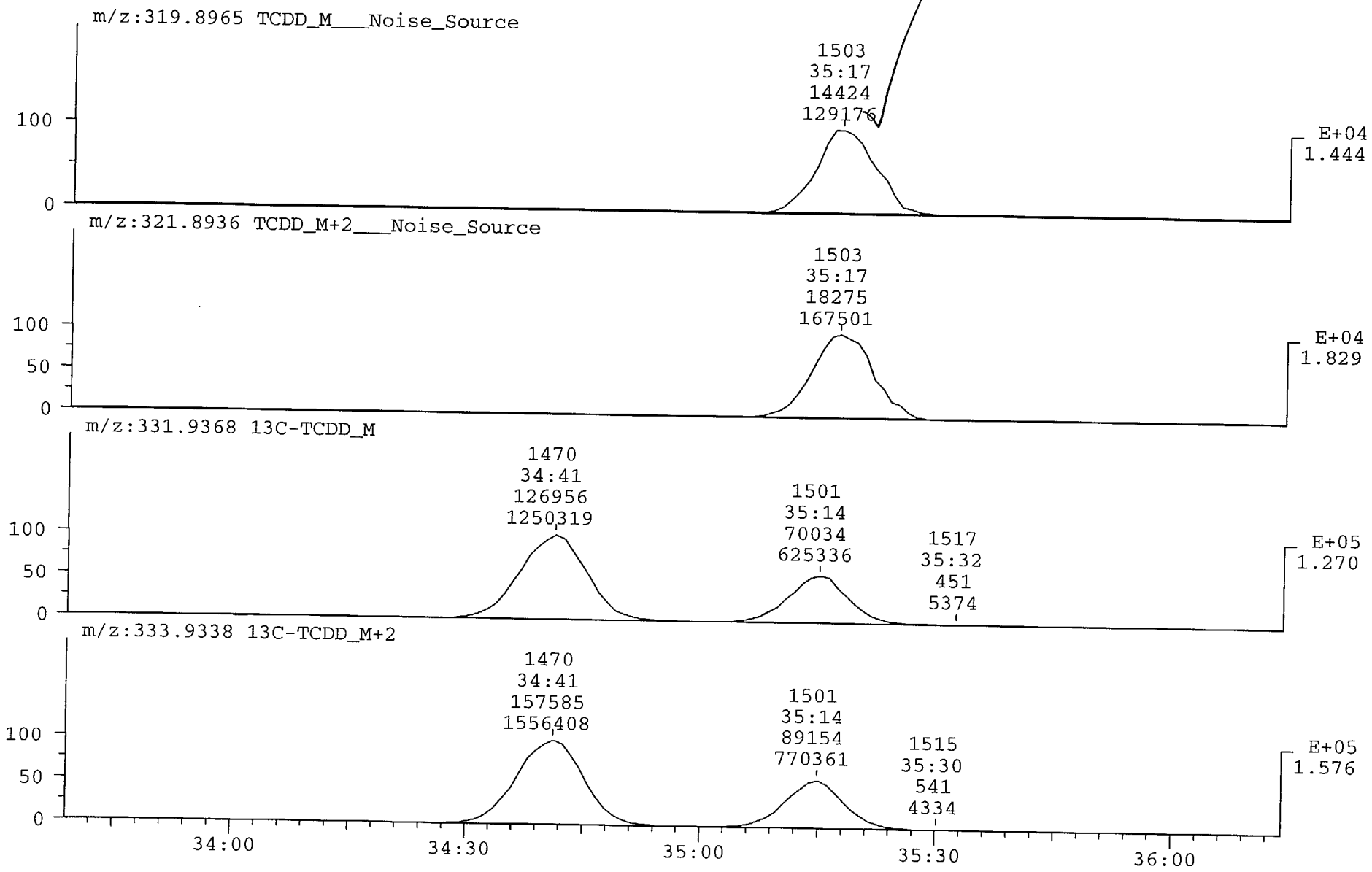
Int BFW 5/4/06
Calc VMK 5/5/06
QCl Rev MSD 5/8/06



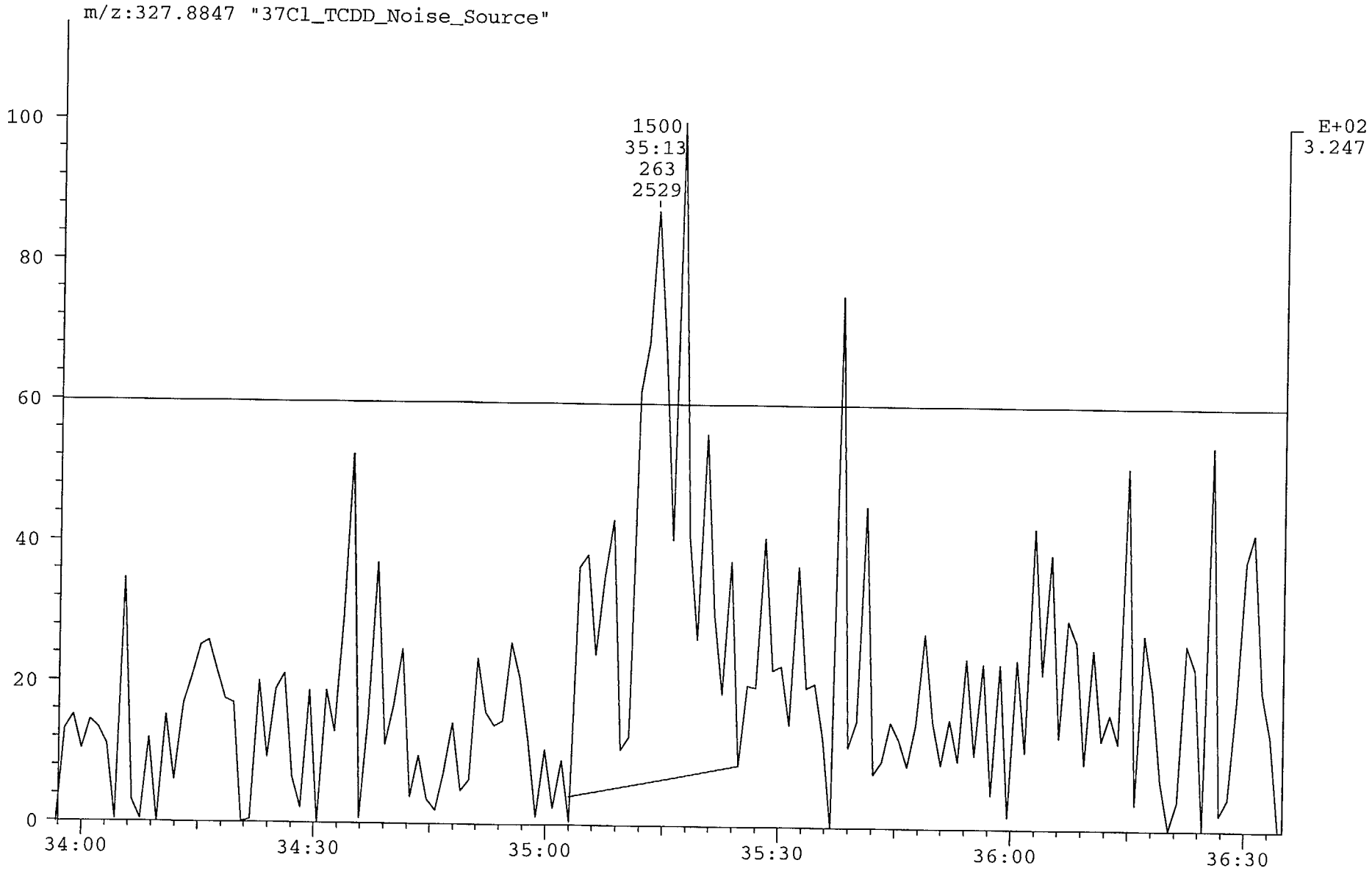
CHRO: bth3ed81
Samp: Vial 20 WO=h3ed81ad Meth=X8 Dil=1
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM
Oper: BFW Client: H6D170000-092L
Peak: 100.00 ppm Label wndw: 1413 > 1555
Area: 5, 0.50, 15 Baseline : 100, 3
Disp: Height Area

04-May-06

Elapse: 34:56 1484
Start : 12:10:27 2888
Study : 6107092 (Air)
Inlet : GC Vial 20
Masses: 293 > 514
Label : -2, 3.0



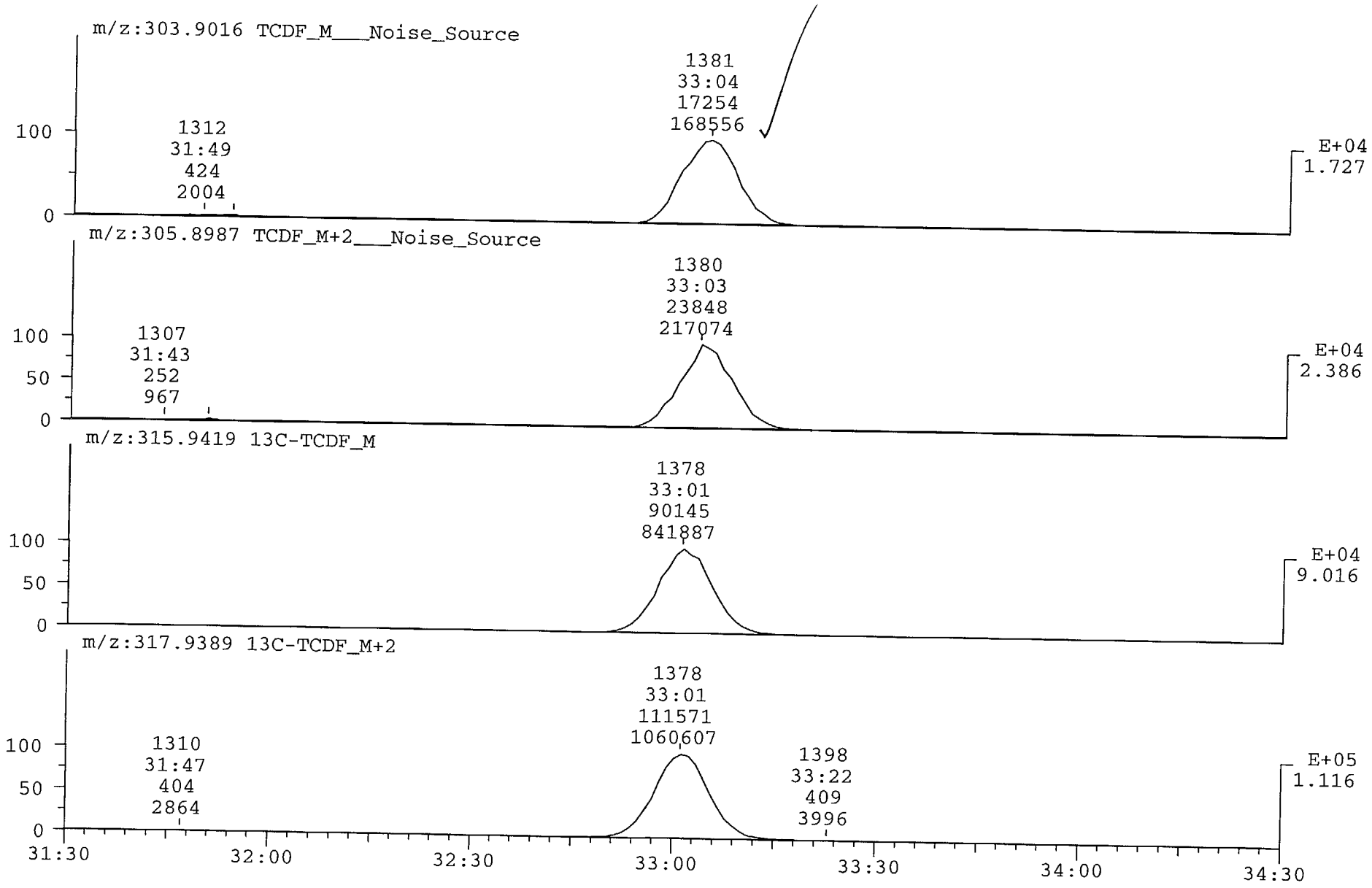
CHRO: bth3ed81 04-May-06 Elapse: 35:12 1499
Samp: Vial 20 WO=h3ed81ad Meth=X8 Dil=1 Start : 12:10:27 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092L Inlet : GC Vial 20
Peak: 100.00 ppm Label wndw: 1429 > 1575 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



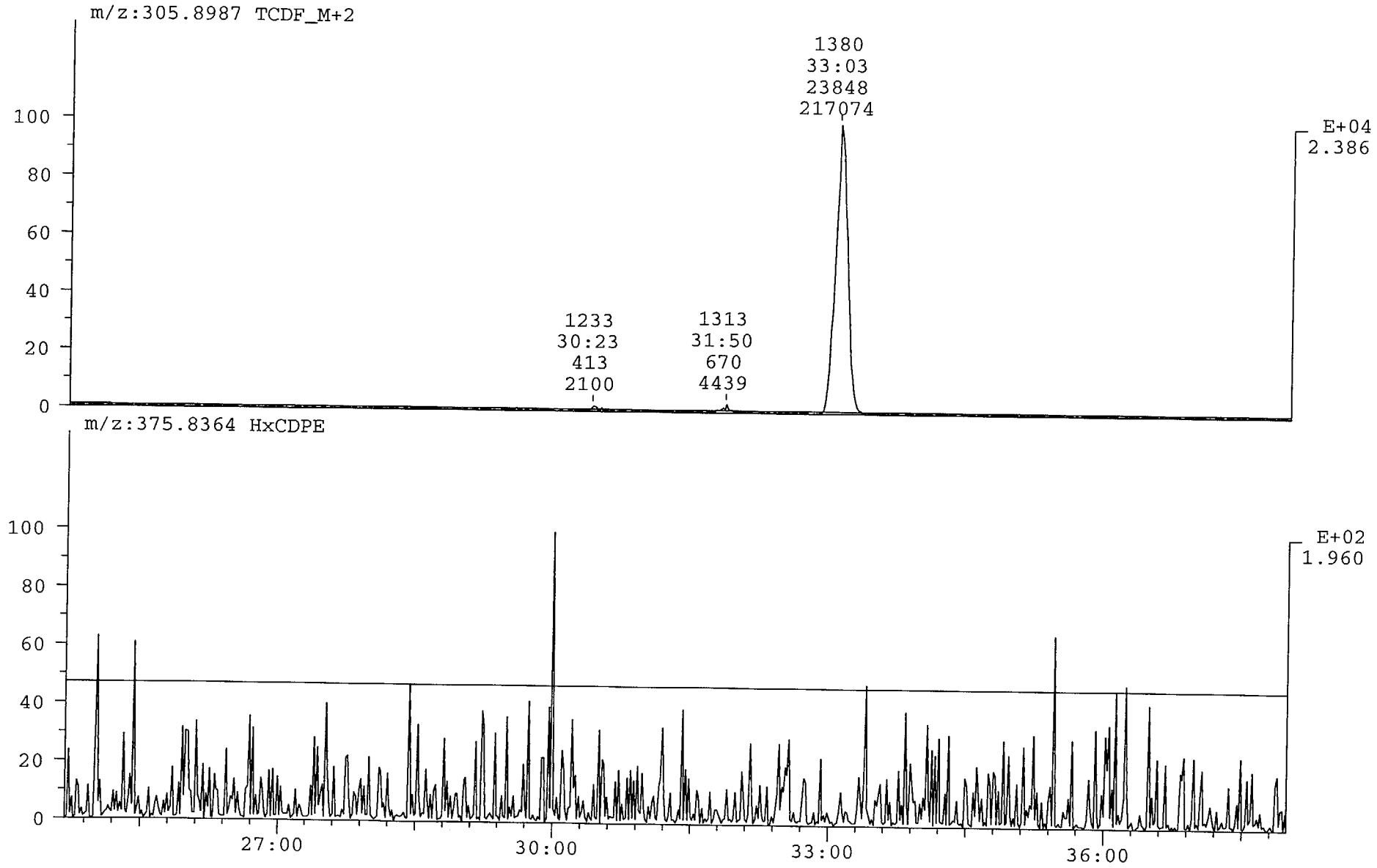
CHRO: bth3ed81
Samp: Vial 20 WO=h3ed81ad Meth=X8 Dil=1
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM
Oper: BFW Client: H6D170000-092L
Peak: 100.00 ppm Label wndw: 1294 > 1460
Area: 5, 0.50, 15 Baseline : 100, 3
Disp: Height Area

04-May-06

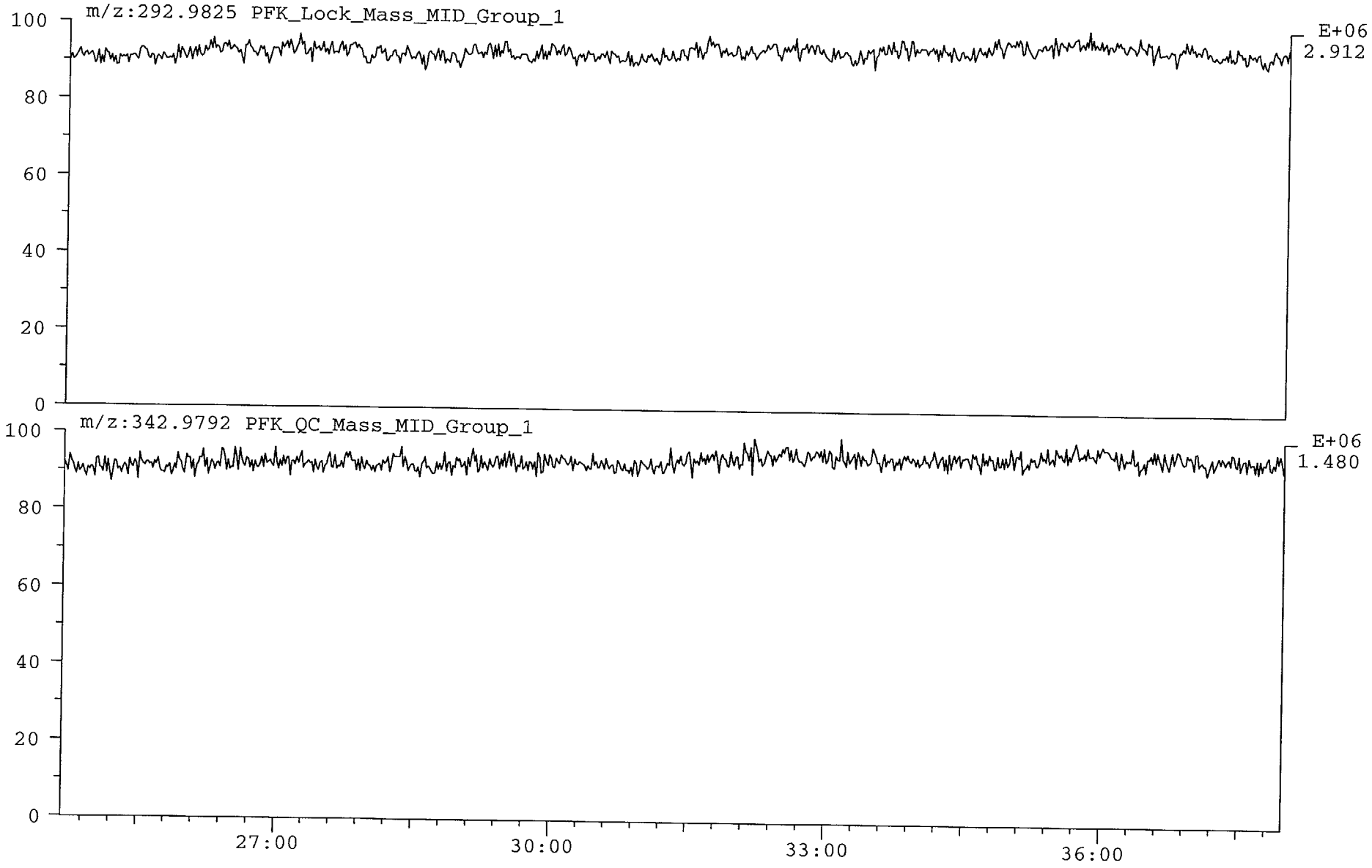
Elapse: 32:56 1374
Start : 12:10:27 2888
Study : 6107092 (Air)
Inlet : GC Vial 20
Masses: 293 > 514
Label : -2, 3.0



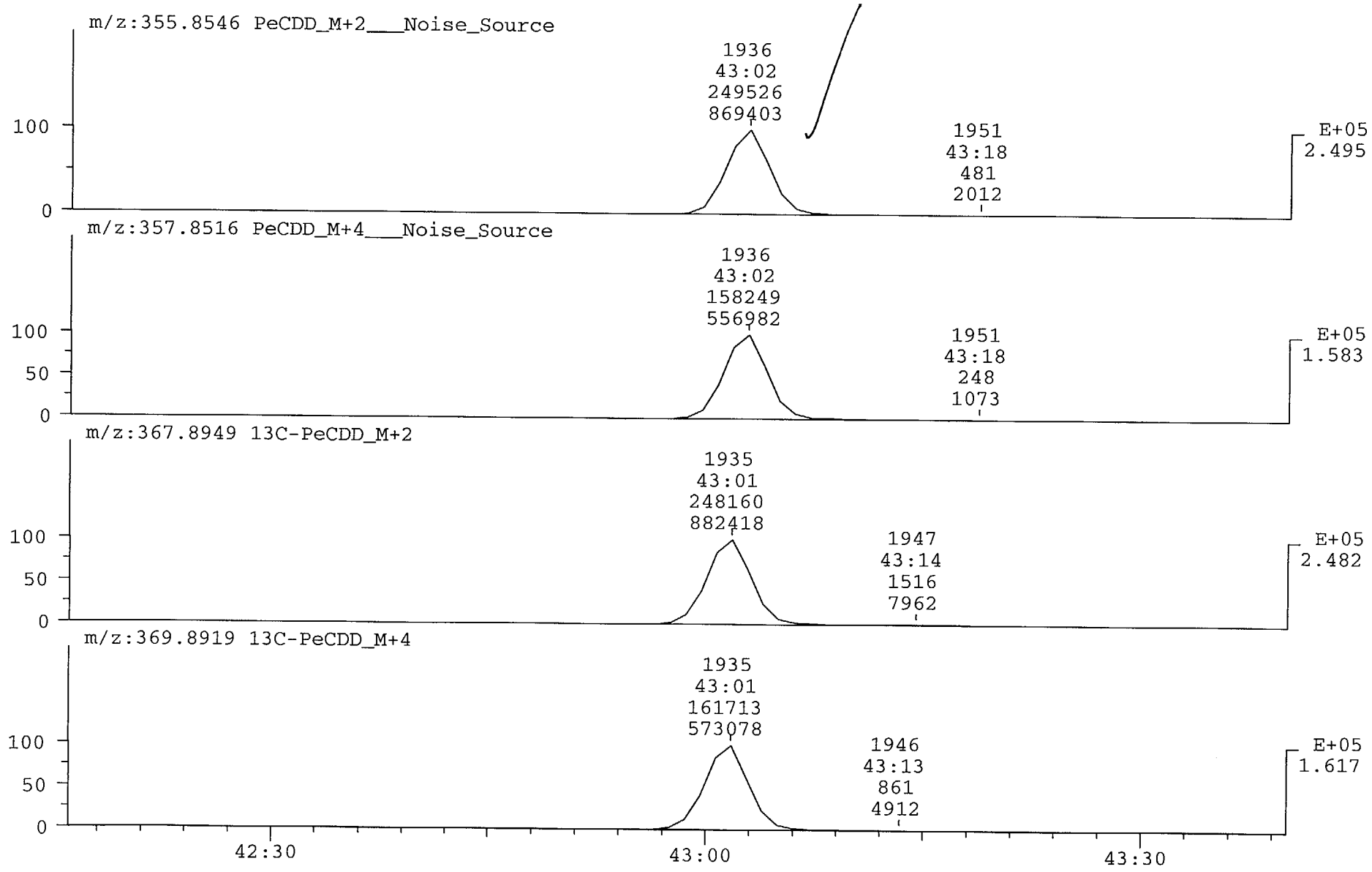
CHRO: bth3ed81 04-May-06 Elapse: 32:56 1374
Samp: Vial 20 WO=h3ed81ad Meth=X8 Dil=1 Start : 12:10:27 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092L Inlet : GC Vial 20
Peak: 100.00 ppm Label wndw: 919 > 1652 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



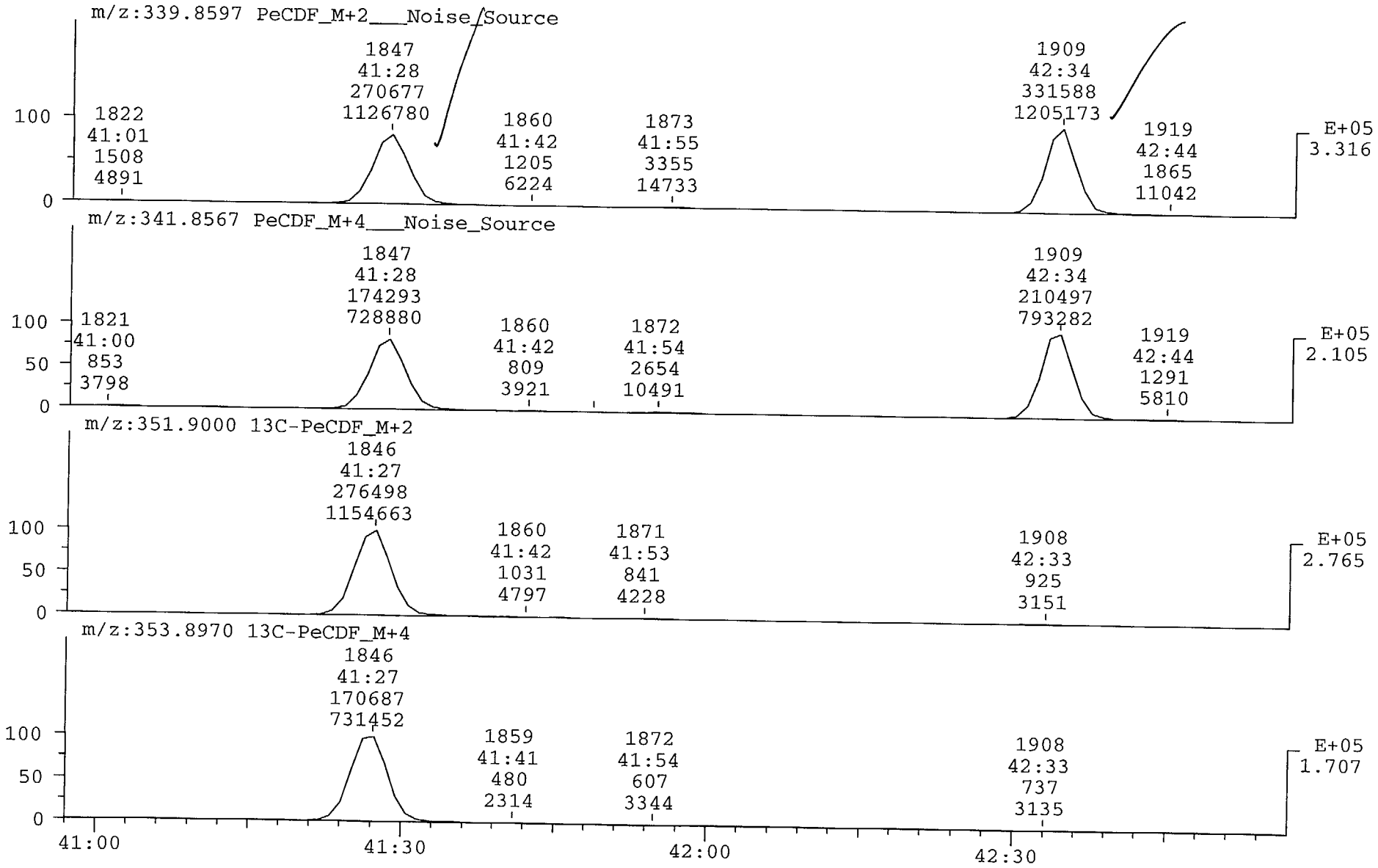
CHRO: bth3ed81 04-May-06 Elapse: 32:56 1374
Samp: Vial 20 WO=h3ed81ad Meth=X8 Dil=1 Start : 12:10:27 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092L Inlet : GC Vial 20
Peak: 100.00 ppm Label wndw: 919 > 1652 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



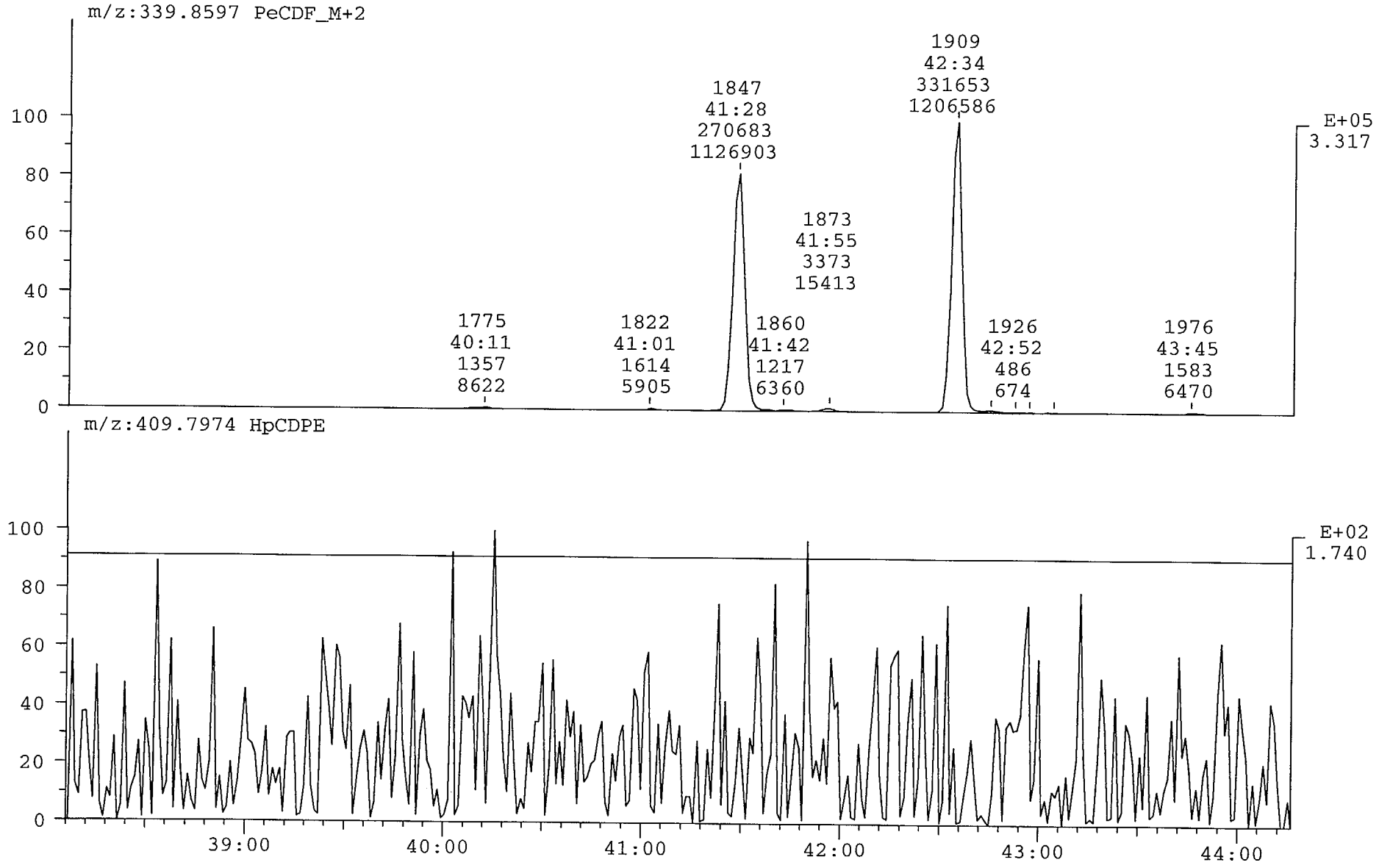
CHRO: bth3ed81 04-May-06 Elapse: 42:55 1929
Samp: Vial 20 WO=h3ed81ad Meth=X8 Dil=1 Start : 12:10:27 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092L Inlet : GC Vial 20
Peak: 100.00 ppm Label wndw: 1892 > 1971 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



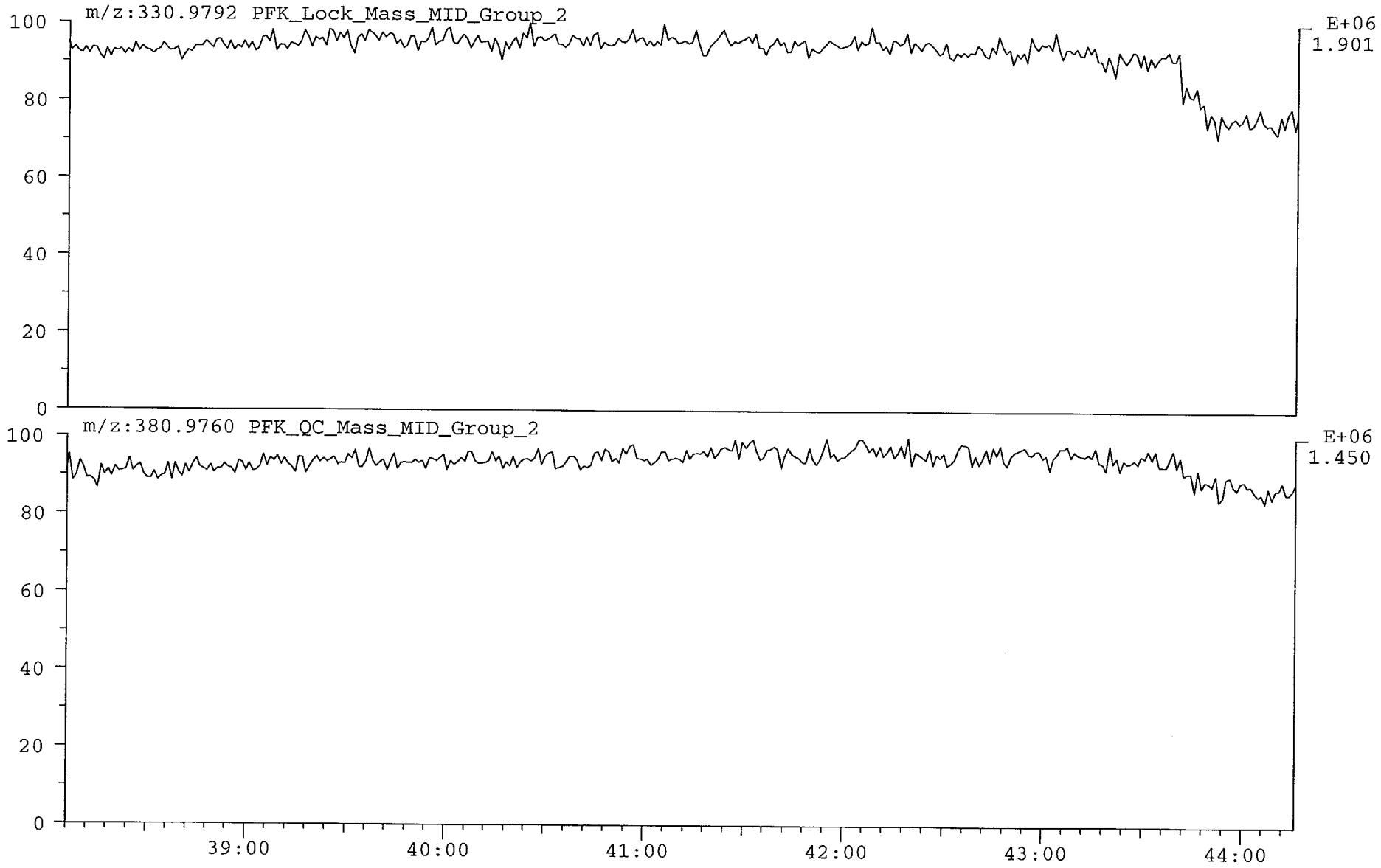
CHRO: bth3ed81 04-May-06 Elapse: 41:56 1874
Samp: Vial 20 WO=h3ed81ad Meth=X8 Dil=1 Start : 12:10:27 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092L Inlet : GC Vial 20
Peak: 100.00 ppm Label wndw: 1818 > 1931 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



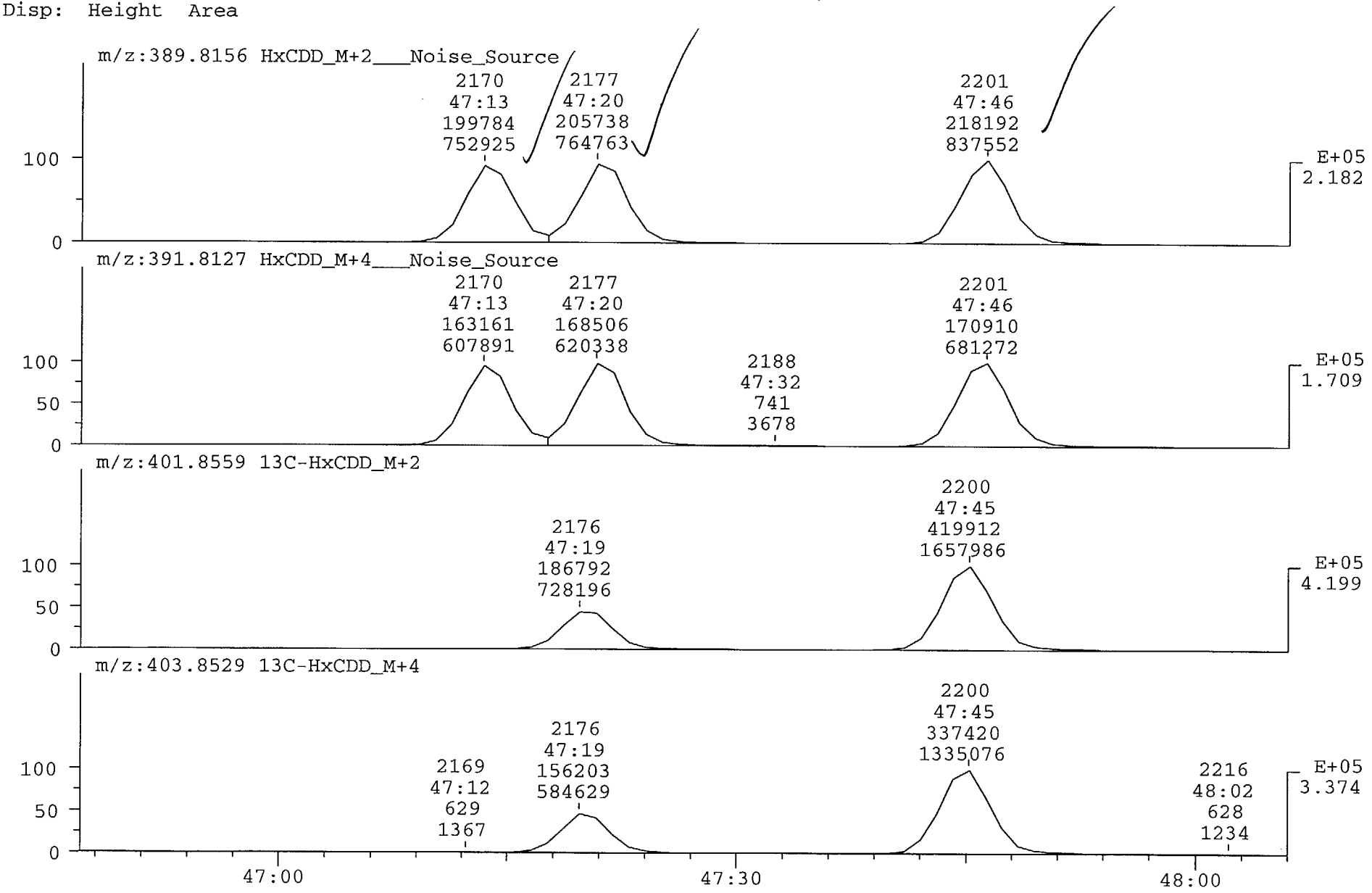
CHRO: bth3ed81 04-May-06 Elapse: 41:56 1874
Samp: Vial 20 WO=h3ed81ad Meth=X8 Dil=1 Start : 12:10:27 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092L Inlet : GC Vial 20
Peak: 100.00 ppm Label wndw: 1656 > 2005 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



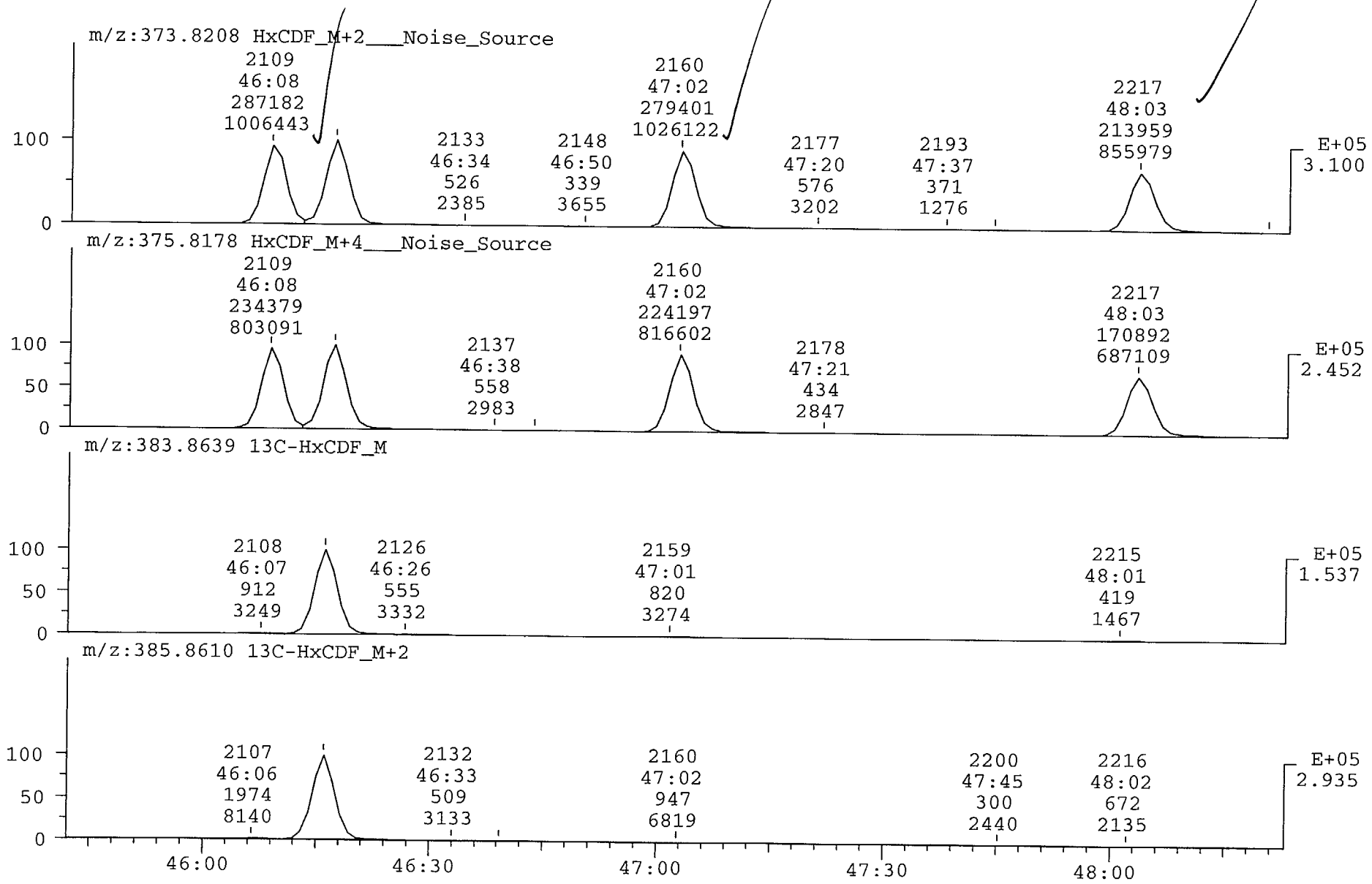
CHRO: bth3ed81 04-May-06 Elapse: 41:56 1874
Samp: Vial 20 WO=h3ed81ad Meth=X8 Dil=1 Start : 12:10:27 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092L Inlet : GC Vial 20
Peak: 100.00 ppm Label wndw: 1656 > 2005 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



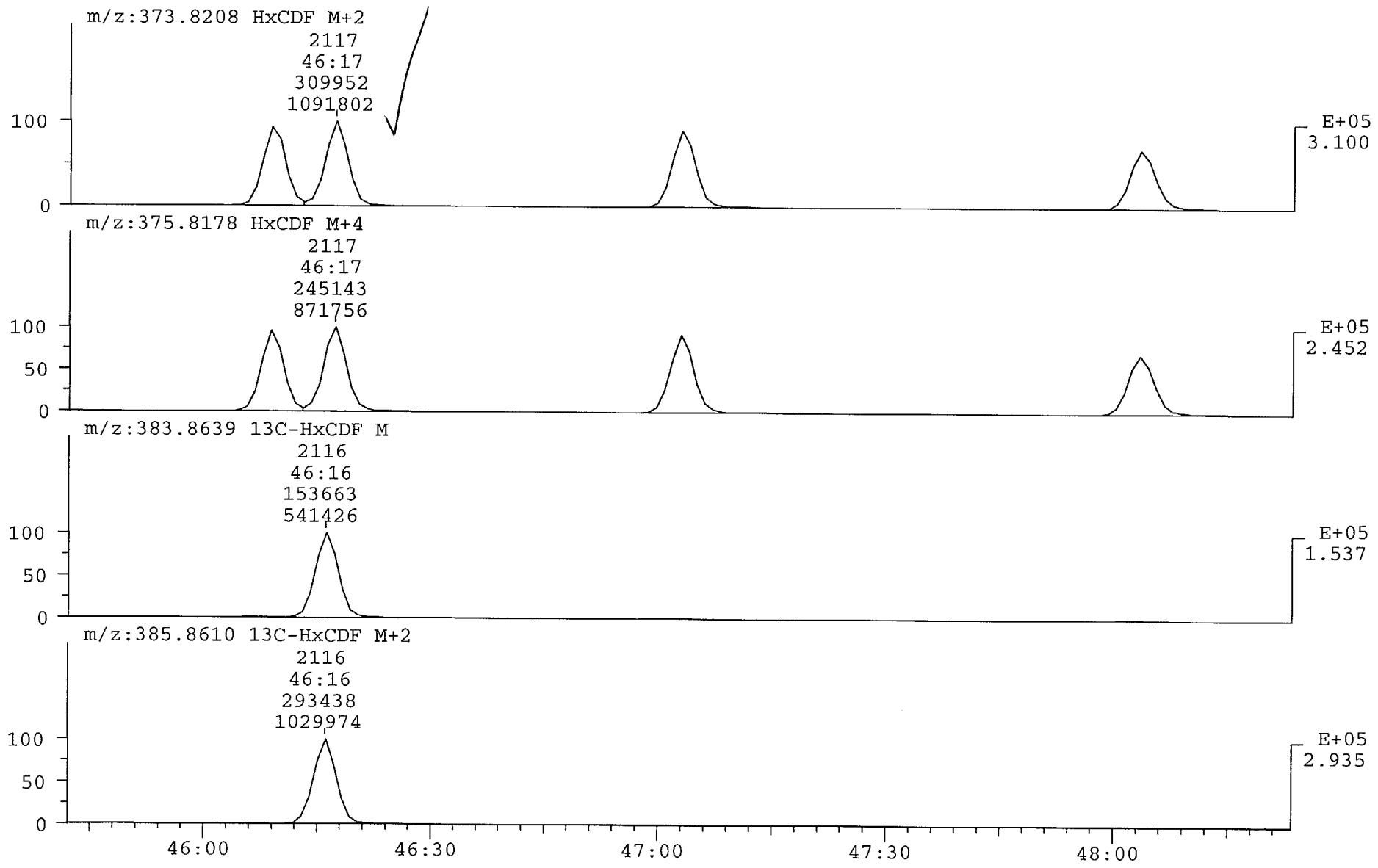
CHRO: bth3ed81 04-May-06 Elapse: 47:26 2182
Samp: Vial 20 WO=h3ed81ad Meth=X8 Dil=1 Start : 12:10:27 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092L Inlet : GC Vial 20
Peak: 100.00 ppm Label wndw: 2145 > 2220 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



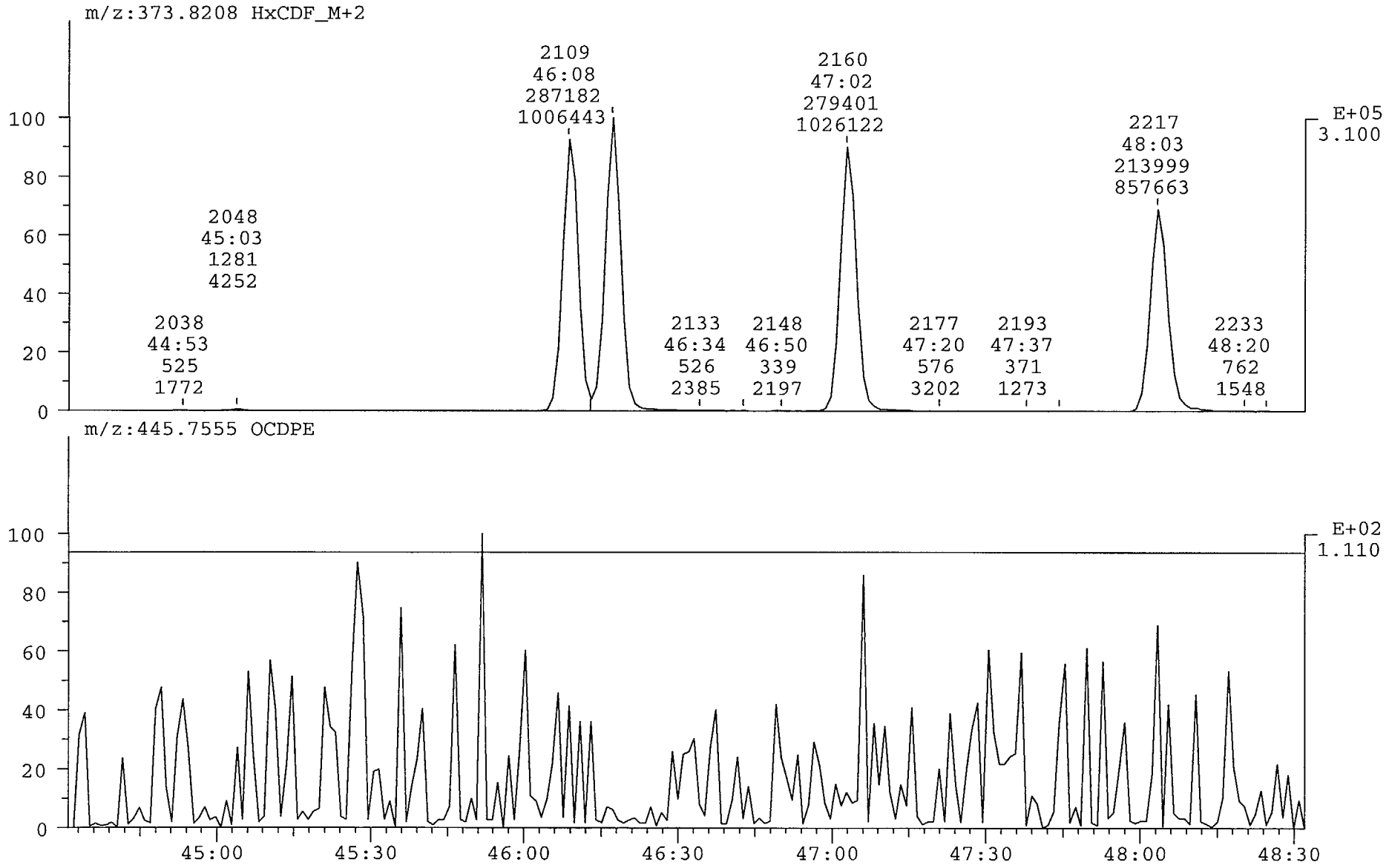
CHRO: bth3ed81 04-May-06 Elapse: 47:01 2159
Samp: Vial 20 WO=h3ed81ad Meth=X8 Dil=1 Start : 12:10:27 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092L Inlet : GC Vial 20
Peak: 100.00 ppm Label wndw: 2084 > 2236 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



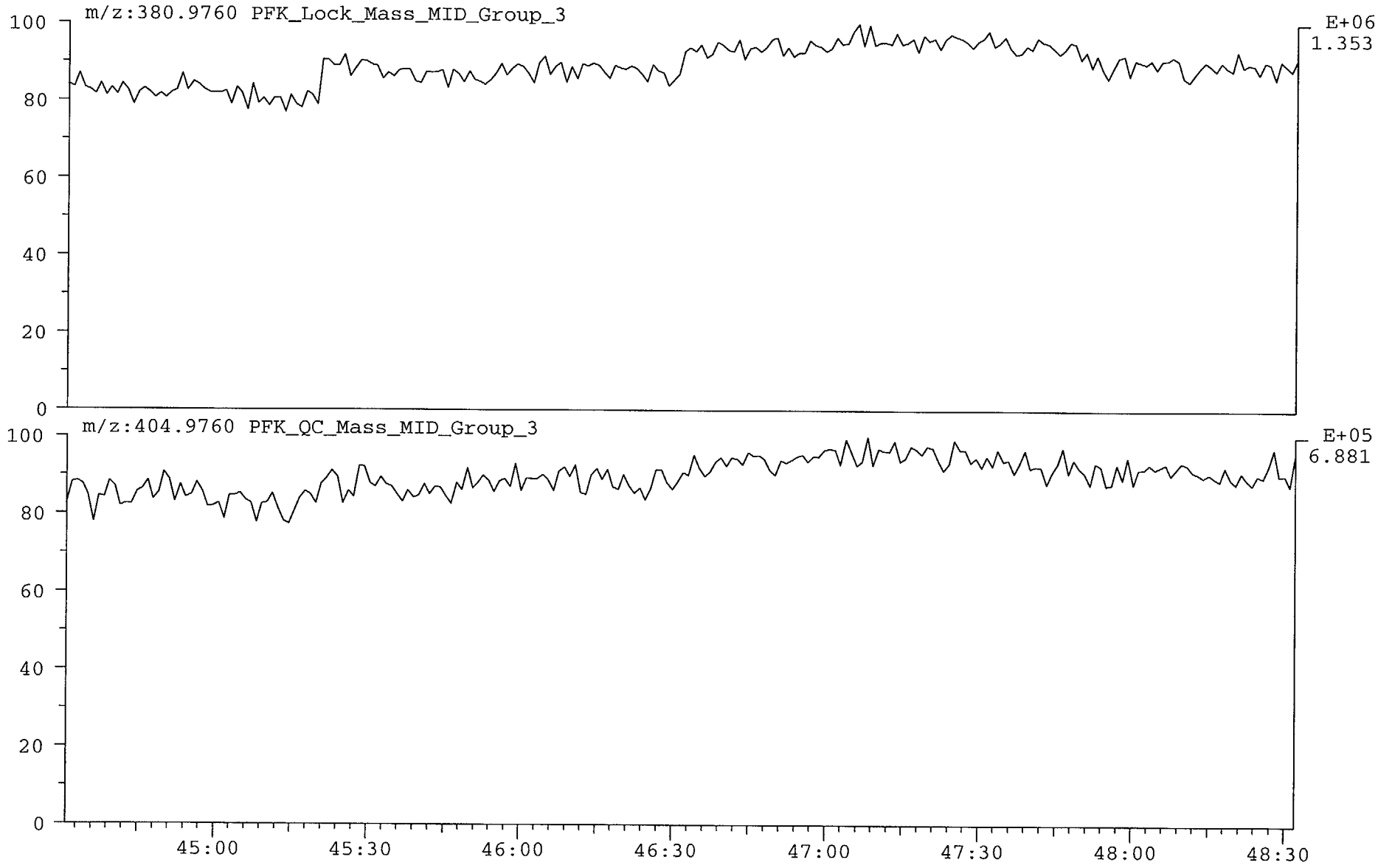
CHRO: bth3ed81 04-May-06 Elapse: 46:16 2116
Samp: Vial 20 WO=h3ed81ad Meth=X8 Dil=1 Start : 12:10:27 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092L Inlet : GC Vial 20
Peak: 100.00 ppm Label wndw: 2113 > 2119 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



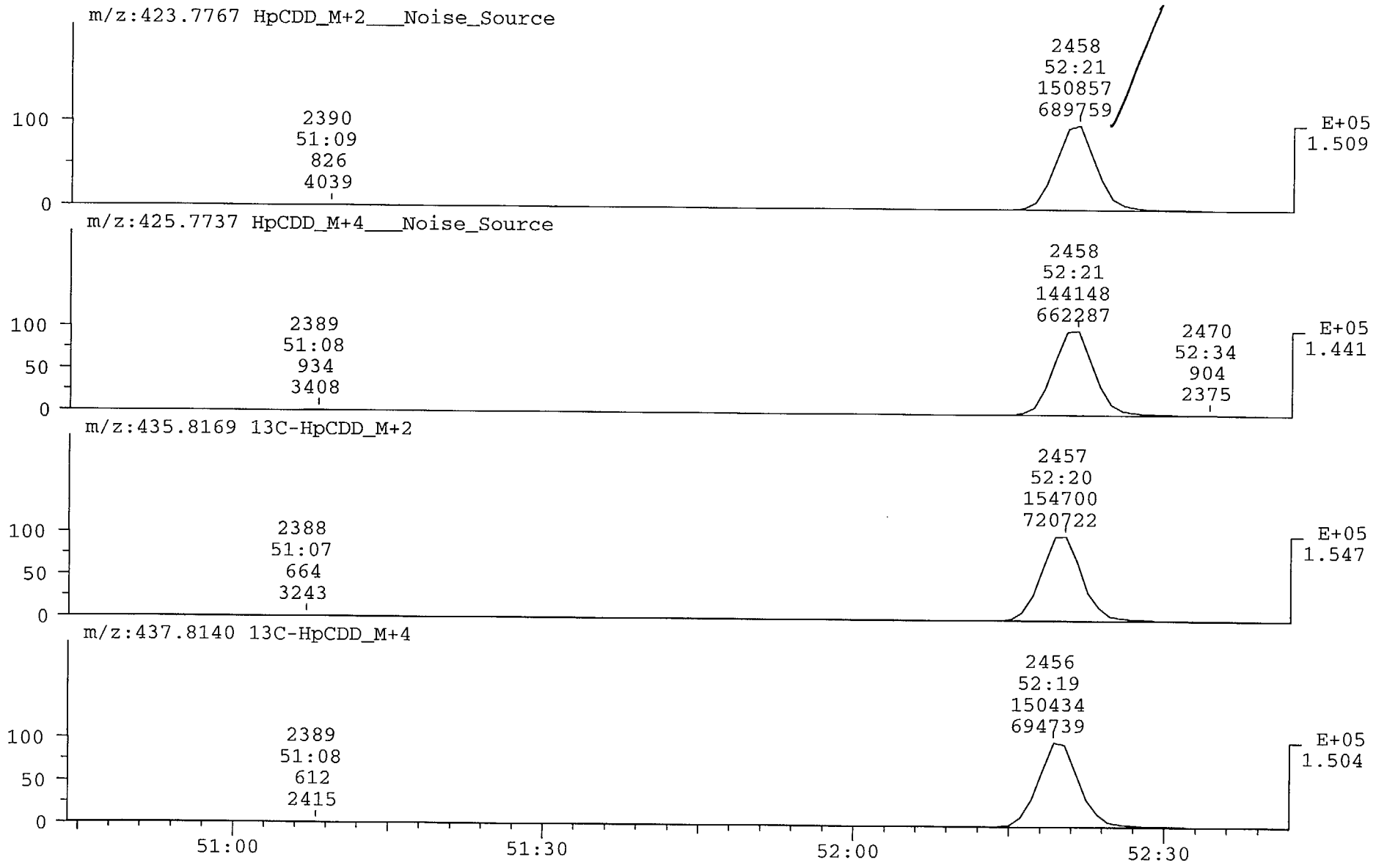
```
CHRO:  bth3ed81                              04-May-06   Elapse:  46:10      2111
Samp:  Vial 20 WO=h3ed81ad Meth=X8 Dil=1                 Start :  12:10:27   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW          Client:  H6D170000-092L              Inlet :  GC     Vial  20
Peak:  100.00  ppm     Label wndw:   2017 > 2244         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



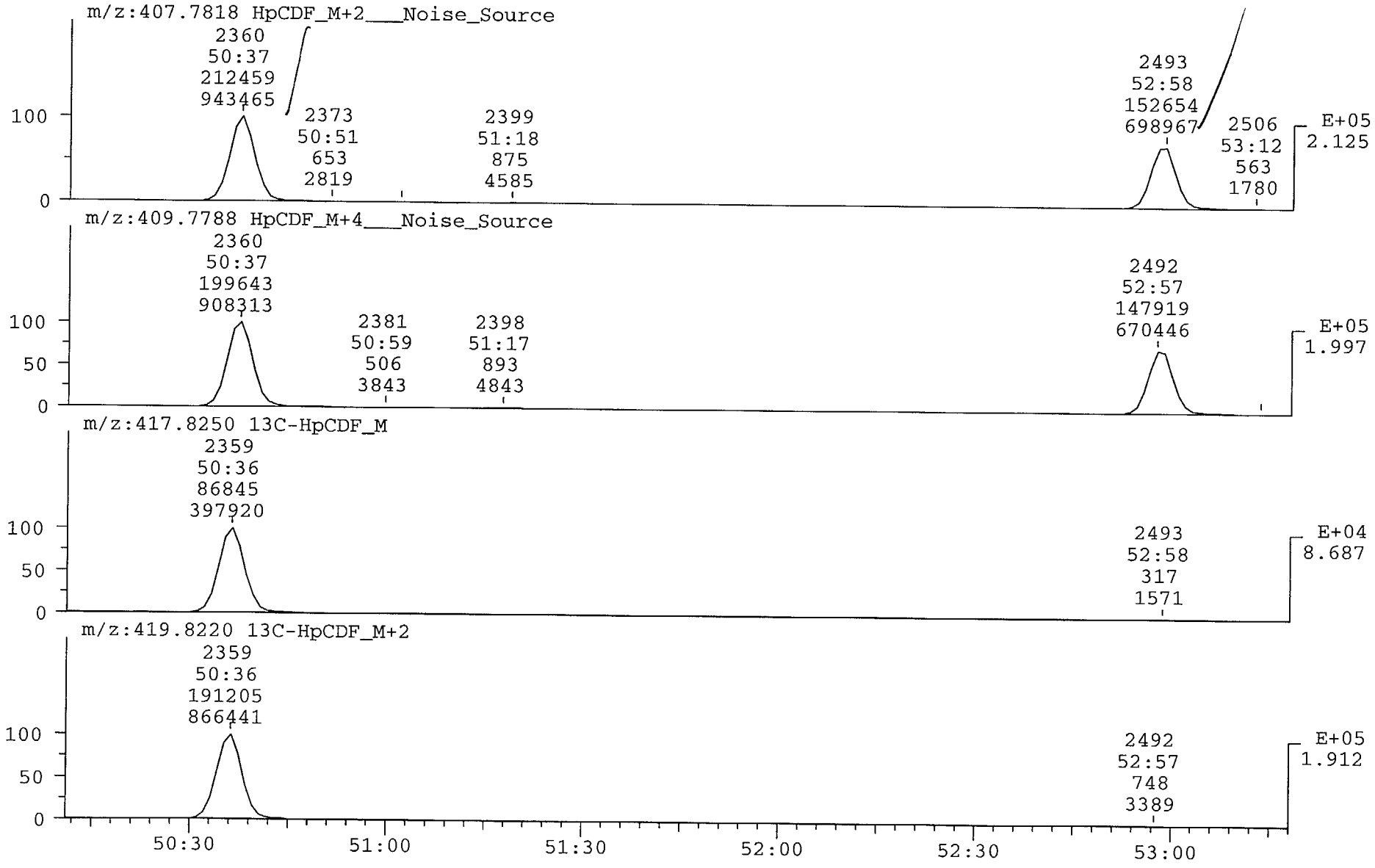
CHRO: bth3ed81 04-May-06 Elapse: 46:10 2111
Samp: Vial 20 WO=h3ed81ad Meth=X8 Dil=1 Start : 12:10:27 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092L Inlet : GC Vial 20
Peak: 100.00 ppm Label wndw: 2017 > 2244 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



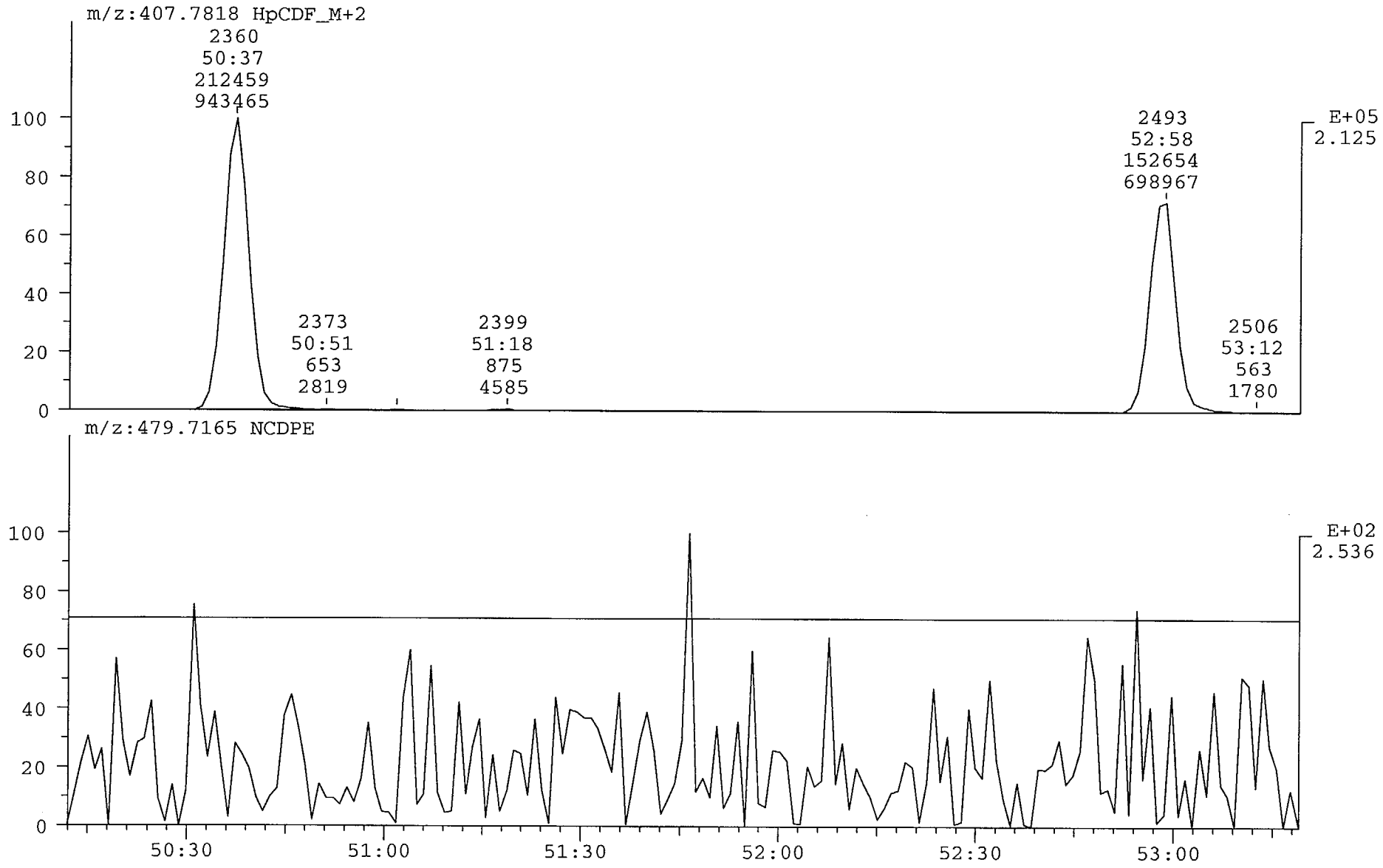
CHRO: bth3ed81 04-May-06 Elapse: 46:10 2111
Samp: Vial 20 WO=h3ed81ad Meth=X8 Dil=1 Start : 12:10:27 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092L Inlet : GC Vial 20
Peak: 100.00 ppm Label wndw: 2366 > 2477 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



CHRO: bth3ed81 04-May-06 Elapse: 51:44 2423
Samp: Vial 20 WO=h3ed81ad Meth=X8 Dil=1 Start : 12:10:27 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092L Inlet : GC Vial 20
Peak: 100.00 ppm Label wndw: 2335 > 2511 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  bth3ed81                                  04-May-06   Elapse:  51:44      2423
Samp:  Vial 20 WO=h3ed81ad Meth=X8 Dil=1                     Start :  12:10:27   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                             Study :  6107092 (Air)
Oper:  BFW            Client:  H6D170000-092L                Inlet :  GC     Vial  20
Peak:  100.00  ppm      Label wndw:   2336 > 2512            Masses:  293 > 514
Area:  5, 0.50, 15      Baseline  :   100, 3                 Label :  -2, 3.0
Disp:  Height  Area
```



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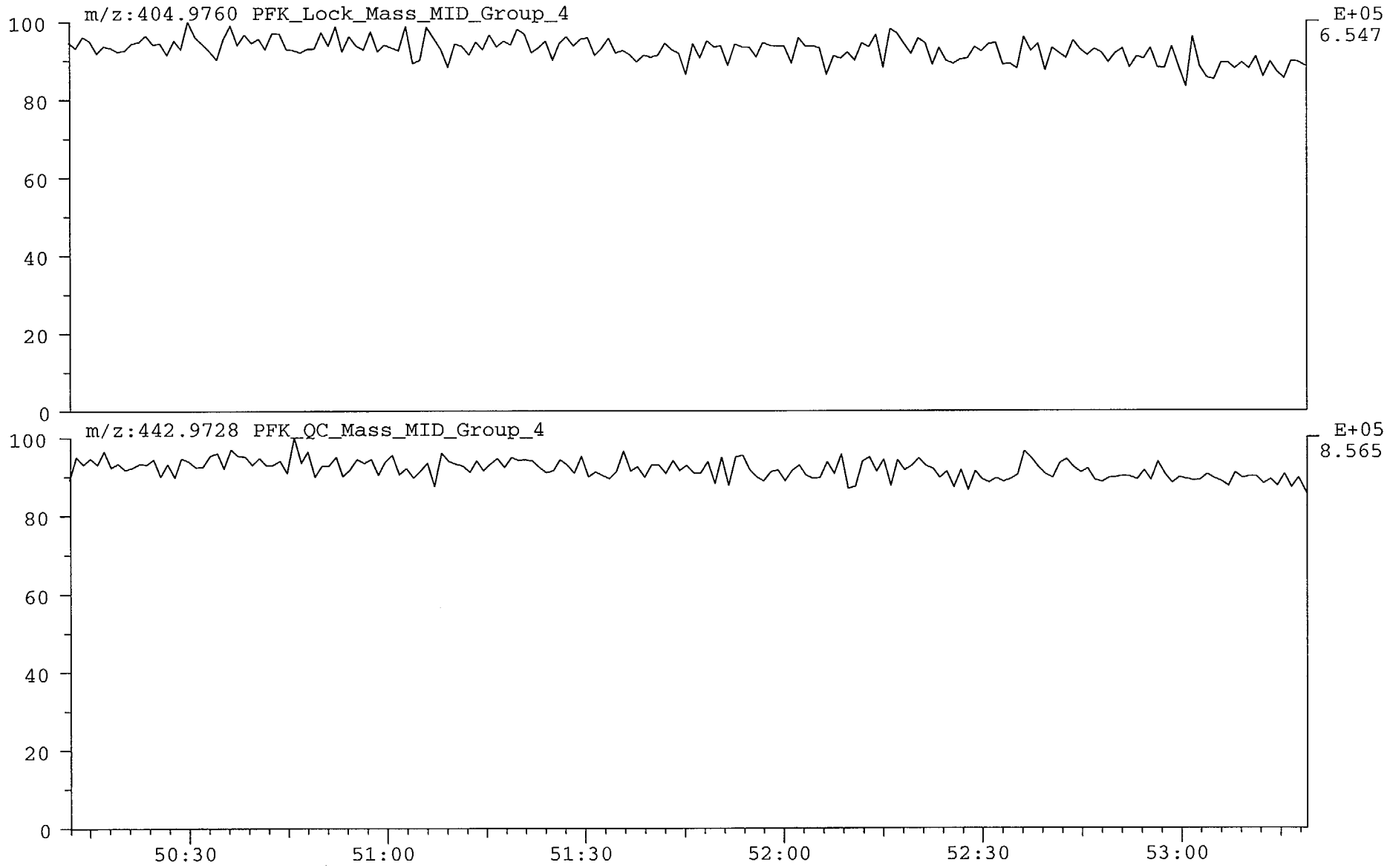
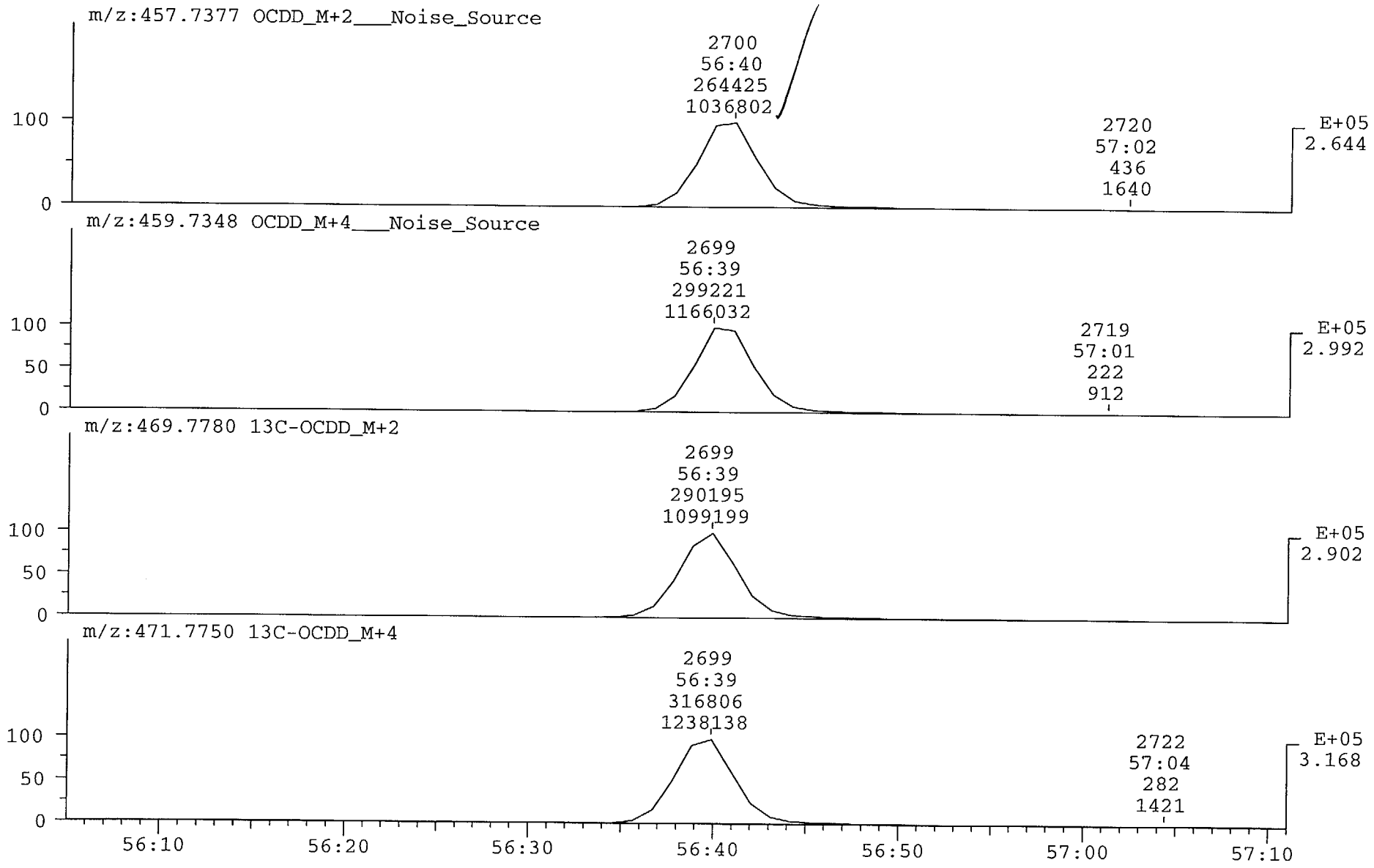
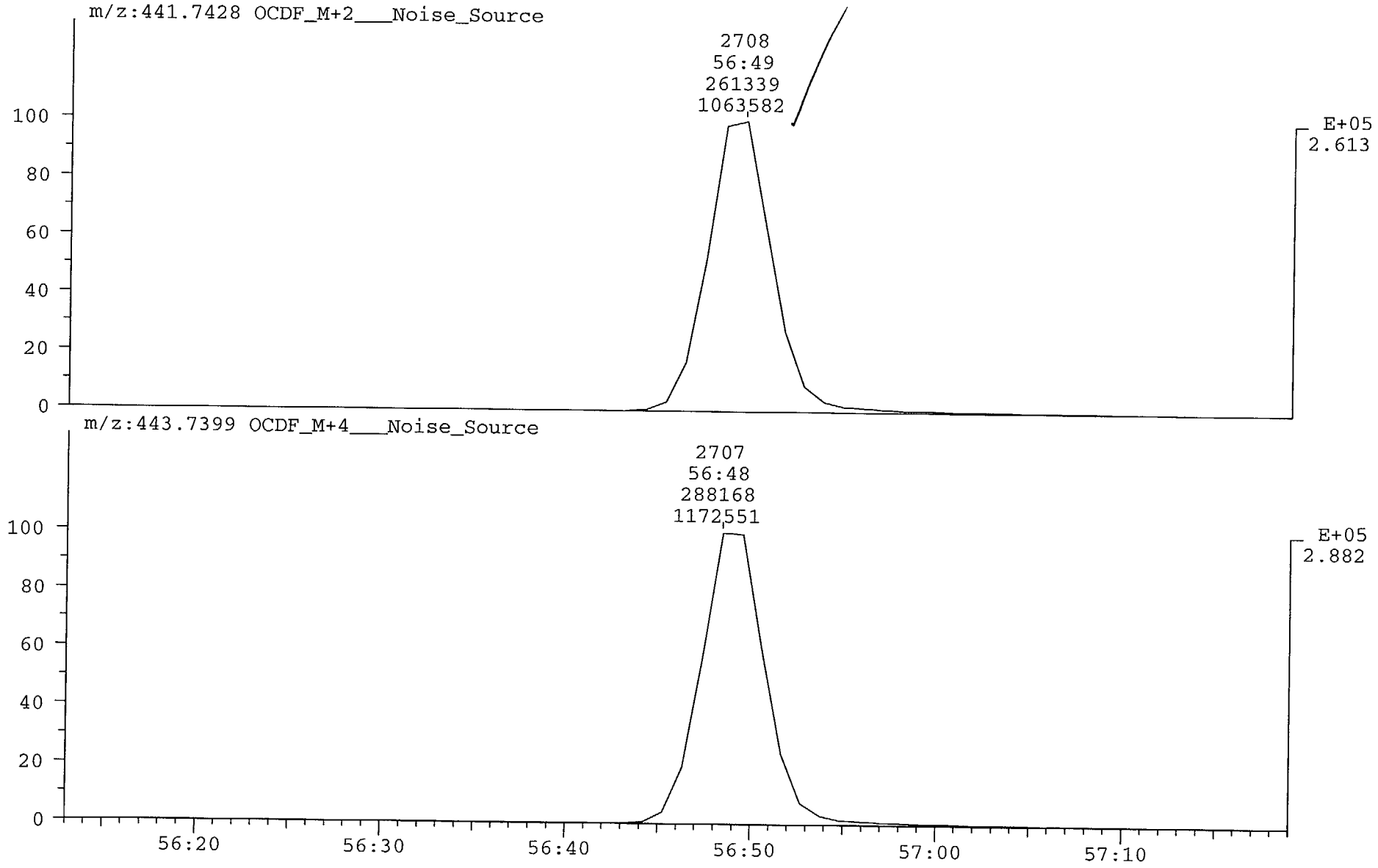
CHRO:  bth3ed81                              04-May-06   Elapse:  51:44      2423
Samp:  Vial 20 WO=h3ed81ad Meth=X8 Dil=1                 Start :  12:10:27   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW          Client:  H6D170000-092L              Inlet :  GC     Vial  20
Peak:  100.00  ppm     Label wndw:   2336 > 2512         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  0, 0.0
Disp:  Height  Area
```



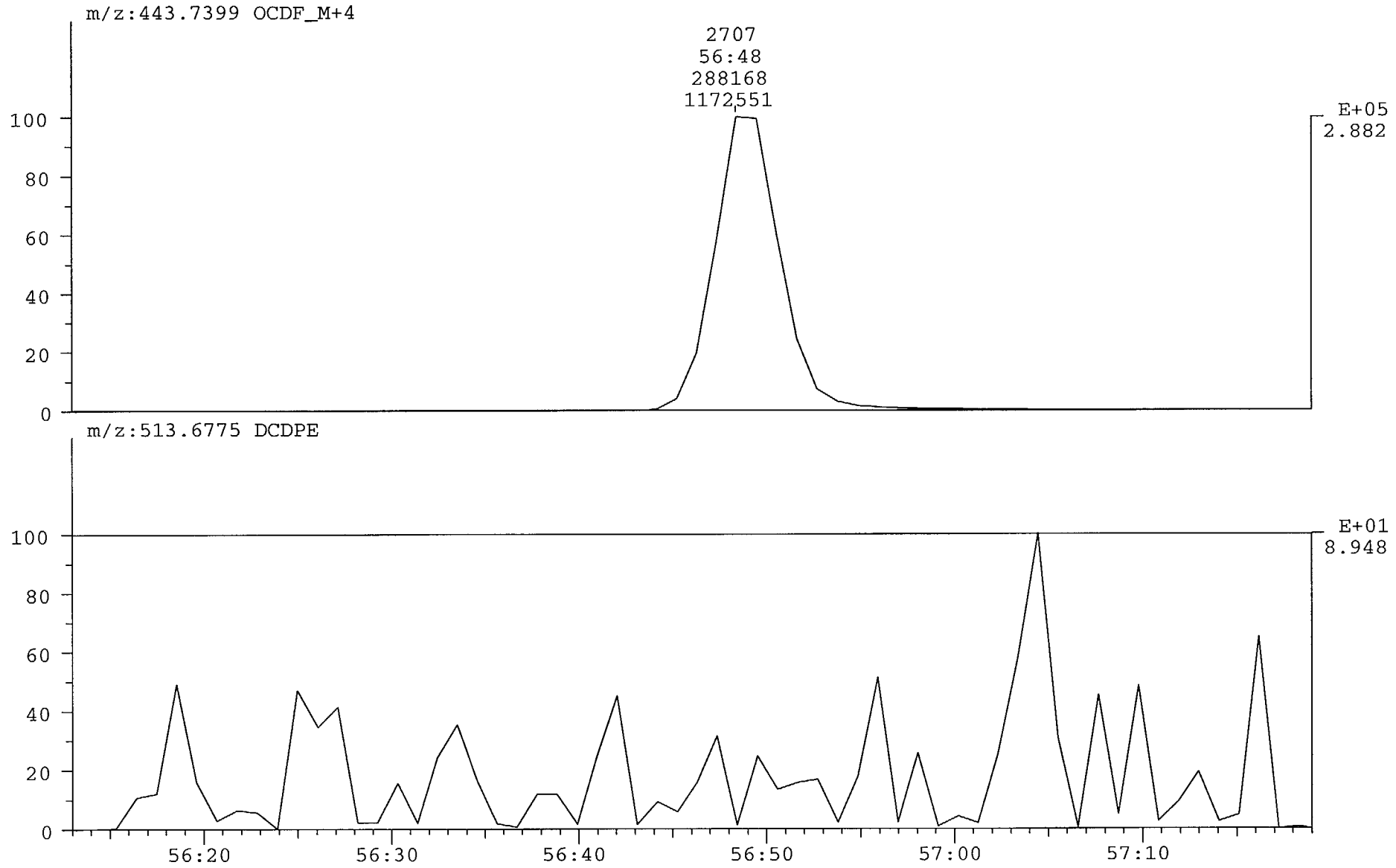
CHRO: bth3ed81 04-May-06 Elapse: 56:34 2694
Samp: Vial 20 WO=h3ed81ad Meth=X8 Dil=1 Start : 12:10:27 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092L Inlet : GC Vial 20
Peak: 100.00 ppm Label wndw: 2666 > 2728 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



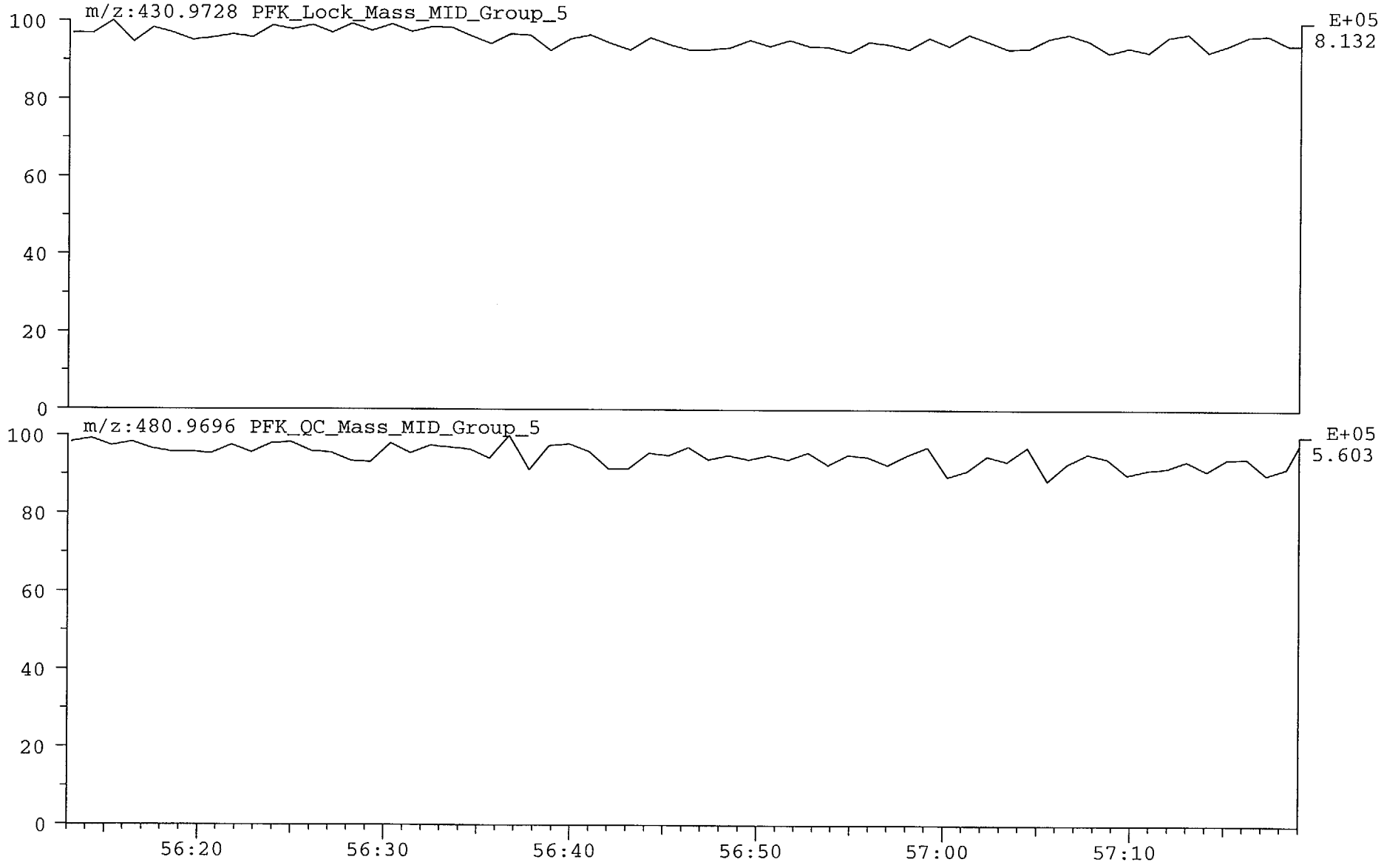
CHRO: bth3ed81 04-May-06 Elapse: 56:43 2702
Samp: Vial 20 WO=h3ed81ad Meth=X8 Dil=1 Start : 12:10:27 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092L Inlet : GC Vial 20
Peak: 100.00 ppm Label wndw: 2674 > 2736 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : -2, 3.0
Disp: Height Area



```
CHRO:  bth3ed81                              04-May-06   Elapse:  56:43      2702
Samp:  Vial 20 WO=h3ed81ad Meth=X8 Dil=1                 Start :  12:10:27   2888
Comm:  Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode:  EI +VE +LMR  ESCAN LR NRM                         Study :  6107092 (Air)
Oper:  BFW          Client:  H6D170000-092L              Inlet :  GC     Vial  20
Peak:  100.00  ppm     Label wndw:   2674 > 2736         Masses:  293 > 514
Area:  5, 0.50, 15     Baseline  :   100, 3              Label :  -2, 3.0
Disp:  Height  Area
```



CHRO: bth3ed81 04-May-06 Elapse: 56:43 2702
Samp: Vial 20 WO=h3ed81ad Meth=X8 Dil=1 Start : 12:10:27 2888
Comm: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Mode: EI +VE +LMR ESCAN LR NRM Study : 6107092 (Air)
Oper: BFW Client: H6D170000-092L Inlet : GC Vial 20
Peak: 100.00 ppm Label wndw: 2674 > 2736 Masses: 293 > 514
Area: 5, 0.50, 15 Baseline : 100, 3 Label : 0, 0.0
Disp: Height Area



Instrument internet name - mat95s
Instrument model - MAT 95
Instrument serial number - 000000
Workstation internet name - icis2ms
ICIS Version 8.2.1

ICL Version: 10.500
File name: bth3ed81
Study: 6107092 (Air)
Sample: WO=h3ed81ad Meth=X8 Dil=1
Amount: 0.0
Volume: 0.0
Operator: BFW
Client: H6D170000-092L
Comments: Inst=m2a/718320 Batch=20060504s1 Ccal=B060504S1
Injected volume: 2.0
Sample from Vial 20
Analysis will stop when MID run finishes
Tune file name: tune2
File 3 of list 060504
ICL procedure: sleep6x
MID procedure: epa1613

MID Remarks: Tetra-Octa PCDD/F EPA Method 8290/1613B

Mid Set Up Parameter:

Measure/lock ratio	1
Damping Relay	TRUE
Width first lock	0.55 amu
Electric jump time	10 ms
Magnetic jump time	60 ms
Offset	140 cts
Electric range	300 %
Sweep peak width	3.00
MID mode	Lock mode
Acq mode	Cent mode

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	8:00 min	30:00 min	38:00 min	1.00 sec
# 2	38:00 min	6:25 min	44:25 min	1.00 sec
# 3	44:25 min	5:05 min	49:30 min	1.00 sec
# 4	49:30 min	5:15 min	54:45 min	1.00 sec
# 5	54:45 min	5:15 min	60:00 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
292.9825	1	10	1	8.19
303.9016		1	1	81.92
305.8987		1	1	81.92
315.9419		1	1	81.92
317.9389		1	1	81.92
319.8965		1	1	81.92
321.8936		1	1	81.92
327.8847		1	1	81.92
331.9368		1	1	81.92
333.9338		1	1	81.92
342.9792	c	10	1	8.19
375.8364		1	1	81.92

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	8.19
339.8597		1	1	91.48
341.8567		1	1	91.48

351.9000		1	1	91.48
353.8970		1	1	91.48
355.8546		1	1	91.48
357.8516		1	1	91.48
367.8949		1	1	91.48
369.8919		1	1	91.48
380.9760	c	10	1	8.19
409.7974		1	1	91.48

Window # 3

mass	F	int	gr	time (ms)
373.8208		1	1	91.48
375.8178		1	1	91.48
380.9760	1	10	1	8.19
383.8639		1	1	91.48
385.8610		1	1	91.48
389.8156		1	1	91.48
391.8127		1	1	91.48
401.8559		1	1	91.48
403.8529		1	1	91.48
404.9760	c	10	1	8.19
445.7555		1	1	91.48

Window # 4

mass	F	int	gr	time (ms)
404.9760	1	10	1	8.19
407.7818		1	1	91.48
409.7788		1	1	91.48
417.8250		1	1	91.48
419.8220		1	1	91.48
423.7767		1	1	91.48
425.7737		1	1	91.48
435.8169		1	1	91.48
437.8140		1	1	91.48
442.9728	c	10	1	8.19
479.7165		1	1	91.48

Window # 5

mass	F	int	gr	time (ms)
430.9728	1	10	1	10.92
441.7428		1	1	120.15
443.7399		1	1	120.15
457.7377		1	1	120.15
459.7348		1	1	120.15
469.7780		1	1	120.15
471.7750		1	1	120.15
480.9696	c	10	1	10.92
513.6775		1	1	120.15

Auto Sampler descriptor: pcdd2ul

Injector A

Normal Injection

Slvnt A cln before inj	(K):	3	times
Slvnt B cln before inj	(L):	0	times
Sample rinse cycles	(R):	0	times
Syringe filling volume	(F):	1.0	ul
Pullup delay time	(D):	4	sec
Sample pullup speed	(E):	5.0	ul/sec
Slvnt aftr pre inj cln	(U):	0.0	ul
Air after pre inj cln	(G):	2.0	ul
Sample volume	(V):	2.0	ul
Sample air volume	(A):	2.0	ul
Sample pullup count	(P):	2	times
Injection speed	(S):	10.0	ul/sec
Injection wait time	(W):	10	sec
Injection hold time	(H):	3	sec
Solvent A clean cycles	(C):	15	times
Solvent B clean cycles	(B):	20	times
Loop clean w slvnt A	(LC):	0	times

Loop clean w slvnt B (LB): 0 times
Standard sample volume(X): 0.0 ul
Standard air volume (Y): 0.0 ul
2nd Injection volume (I): 0.0 ul
Air volume of 2nd inj (J): 0.0 ul
Time btwn 2 injections(T): 0 sec

GC descriptor : epa1613

Injector:	270 deg		300 deg max
Transfer Line:	290 deg		300 deg max
Column:	140 deg at	0.0 minutes	330 deg max
	140 deg at	3.0 minutes	
	210 deg at	6.5 minutes	
	210 deg at	34.5 minutes	
	280 deg at	44.5 minutes	
	280 deg at	51.0 minutes	
	325 deg at	60.0 minutes	

Inlet :
Pressure 18.0 psi
Splitless mode
Purge time 1.5 min
Purge flow 40.0 mL/min

Gas saver is on
Saver time 3.0 min
Saver flow 15.0 mL/min

Stabilize time 0.5 minutes

ICL Parameters

BCORRL	0.0250	BCORRS	0.0130	BCURR	8416.0000
BDEV	8283.0000	BFM	2.0000	BLM	1163.5343
BMASS	304.9824	BQUAD	3.3000	CAPIL	0.0000
CAPTEMP	359.9988	CAPTSET	200.0000	CCURR	3.4118
CORONA	100.0000	CYCLE	0.0000	DELAY	0.0000
DITEMP	0.7814	DITSET	0.0000	DRAW	-16.5750
DRAWC	1.0000	DRAWS	-0.0050	ECORR	0.9996
ECURR	1.0000	EDAC	7969177.0000	EDACG	1.0001
EDACR	20.0000	EDACZ	-738.5000	ELEN	61.7750
EMULT	1.8000	ENS	126.0000	ENW	600.0000
ERATIO	1.0000	ESA	763.8000	ESICUR	10.0011
ESIPAR	0.0000	EXS	188.0000	EXW	600.0000
FDMA	18000000.0000	FLENS	1.0000	FM	20.0000
FMII	50.0000	FQUAD	-0.6000	FREQ	300.4808
FSLOPE	36000000.0000	FVANAL	547.0000	FVINLET	593.0000
FVSRC	997.0000	FWIN	0.7000	GCTC	140.0000
GCTI	270.0000	GCTL	290.0000	HACCU	208.0000
HCURR	1.6863	HVANAL	1579.0000	HVSRC	0.0000
ICAL0	0.0011	ICAL1	0.4030	ICAL2	0.5865
IONEN	4759.4580	IST	269.8026	ISTC	0.0000
ISTCKP	5.0000	ISTCTD	1.0000	ISTCTN	2.0000
ISTCTS	60.0000	ISTCTV	3.0000	ISTS	270.0000
LENS	2333.0000	LENSS	71.0000	LKM	430.9728
LM	800.0000	LMASS	304.9824	LMII	500.0000
MASS	304.9824	MDAC	3236920.5955	MDACR	20.0000
MRANGE	1163.5343	MSFM	2.0000	MSLM	3790.0000
NPEAK	1.0000	NSAM	100.0000	NSCAN	2890.0000
NSMAX	8.0000	NSMIN	2.0000	OCT	-2.0000
PSAM	10.0000	PUSHER	-4.9750	RDRAW	0.0000
RDRAWC	0.0000	RECURR	0.0000	RELEN	0.0000
RES	10100.2910	RFAMP	799.9987	RFCUR	100.0110
RPUSHER	0.0000	RWIN	2.0000	SACCU	3.0000
SCIDLE	1.0000	SHIELD	2629.0000	SHIELDS	0.0000
SHIGH	180.0000	SKIM	7.0000	SLOW	60.0000

SPRAY	8.0000	SS	3.0000	SW	0.0500
TANAL	360.7000	TCURR	0.8984	TD	1.0000
THRESH	5.0000	TIS	0.2000	TREF	150.2000
TS	1.6021	TSAM	200.0000	TSET	0.0000
TUBEL	0.0000	UOFS	5.0000	URATIO	2.1350
USERVAR	0.0000	VAPTEMP	599.9997	VAPTSET	400.0000
VMASS	304.9824	XLENS	2007.0000	XLENSS	15.4000
YLENS	2673.0000	YLENSS	-76.0000		

Scantype is electric
Sourcemode is EI POS

Analysis started at: 04-May-06 12:10:27.7

Autosampler has injected sample from vial 20
Analysis stopped at: 04-May-06 13:10:30.3 (run time 60.03 minutes)
Analysis stopped because MID run finished

Miscellaneous Data

STL Knoxville Dioxin GC/MS Data Review / Narrative Checklist

LOT # H6D070236 1622

KNOX-ID-0004-R6 Method: ☒ 0023A/8290 ☐ EPA 23

Batch Number:	6107079

Review Items A. Initial Calibration	N/A	Yes	No	Why is data reportable?	2nd Level
1. Was the correct ICAL used for quantitation? (Check 1-2 compounds for batch by manually calculating concentration using the ICAL avg. RF.)		✓			✓
B. Continuing Calibration					
1. Has a Continuing Calibration Checklist been completed for each analytical batch?		✓			✓
C. Client Sample AND QC Sample Results					
1. Were all special project requirements met?		✓			✓
2. Were the header information, prep factors, and dilution factors verified?		✓			✓
3. Was date/time of analysis verified between analysis header and logbook as correct?		✓			✓
4. Sample analyses done within preparation and analytical holding time (HT)? *If no, list samples:* _____		✓		☐ HT expired upon receipt. ☐* Client requested analysis after HT expired. ☐ Re-extraction done after HT expired. ☐ See Comment no. _____.	✓
5. Are internal standards within QC limits specified in Table 15? *If no, list samples and reason (e.g.,* **sur1***):* Sample / Reason / Sample / Reason		✓		☐* **[sup]** Ion suppression due to matrix. ☐* **[low]** Low recovery. S/N >10 and EDL<ML. ☐ **[sam]** Not enough sample to re-extract. ☐ **[dil]** Dilution showed acceptable %R. ☐ **[mtx]** Obvious matrix interference. Further cleanup not possible. ☐* **[unk]** At client's request, data was flagged as estimated and released without further investigation. ☐ **[com]** See Comment no. _____.	✓
6. Were the following qualitative criteria met for all reported PCDD/Fs: • All 2378 isomers within the RRT limits specified in Table 3 and both ions maximized within ±2 seconds. • All non-2378 isomers within established RT windows and both ions maximized within ±2 seconds. • The ion abundance ratios for all labeled and unlabeled analytes within the control limits specified in Table 22. • All peaks ≥2.5 S/N. • No corresponding peak at PCDPE mass.		✓			✓
7. Were peaks ≥2.5 S/N, which did not meet the above criteria, properly calculated and reported as EMPCs?		✓			✓
8. Were all positive 2378-TCDF hits confirmed by analysis on DB-225? (above J3)	✓				✓
9. Are positive results within calibration range? *If no, list samples:* _____		✓		☐ OCDD/F or non-2378 exceeded calibration range ☐ Sample extracted at lowest possible volume	✓
11. If manual integrations were performed, are they clearly identified, initialed and dated?		✓			✓
12. Final report acceptable? (Results correct, DLs calculated correctly, units correct, IS %R correct, appropriate flags used, dilution factor correct, and extraction/ analysis dates correct.)		✓			✓
13. Was a narrative prepared and all deviations noted?					✓

* Such action must be taken in consultation with client.

D. Preparation/Matrix QC	N/A	Yes	No	Why is data reportable?	2nd Level
1. LCS(OPR) done per prep batch and all analytes within the limits specified in QuantIMS reference data? *If no, list LCS(OPR) ID:* _____		✓		☐* Reanalysis not possible-insufficient sample. ☐ LCS %R high and affected analyte(s) were <ML in associated samples. ☐ See Comment no. _____.	✓
2. Method blank done per prep batch and method blank or instrument blank analyzed with each sequence?		✓			✓
3. Method blank internal standard recoveries within QC limits? *If no, list blank ID:* _____		✓		☐* Internal standards are high and blank demonstrates that analysis is free of contaminants. ☐* Sample internal standards OK and there is no analytes >ML in samples associated with blank.	✓
4. Are all analytes present in the method blank ≤ ML? *If no, list blank ID:* _____		✓		☐ Sample results are > 20x higher than blank. ☐* There is no analyte > RL in the samples associated with method blank. ☐* Reanalysis not possible-insufficient sample	✓
4. MS/MSD done per batch and are all recoveries and RPDs within laboratory generated QC limits? *If no, list MS/MSD ID:* _____	✓			☐ LCS showed acceptable results indicating sample matrix effects. ☐ LCS showed acceptable results. High native analyte concentration relative to spike level. ☐ LCS showed acceptable results. RPD out due to lack of sample homogeneity. ☐ See Comment no. _____.	✓
E. Other					
1. Are all nonconformances documented appropriately and copy included with deliverable?	✓				✓

Analyst: BKW	Date: 5/5/04	Analyst: PMCP	Date: 5-6-06
Comments: No Issues.		Comments:	

* Such action must be taken in consultation with client.

STL Knoxville Specialty Organics Prep Batch Review/Checklist Batch # 6107079 1624

☒ KNOX-ID-0004, rev. 6 (PCDD/F extraction) ☒ KNOX-ID-0012, rev. 1 (Air Train extraction) ☐ KNOX-ID-0013, rev. 4 (PCB extraction) ☐ KNOX-ID-0016, rev. 3 (LR-SIM PAH extraction) ☒ KNOX-ID-0017, rev. 1 (filters & XAD)

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd Level
1. Does the batch contain no more than 20 field samples? (Excluding MB, LCS, LCSD, MS, & MSD)		✓			✓
2. Were the samples extracted by the proper method?		✓			✓
3. Were the samples extracted within the required holding times?		✓			✓
4. For waters by 1613B, if visible solids were present, were solids determined to be ≤ 1%?	✓				✓
5. Were all project specific requirements met as noted on the Lot Checklists and Sample Worksheets?		✓			✓
6. Were all required QC samples prepared & extracted with the batch at method required frequency?		✓			✓
7. Were MS Run# properly assigned and samples entered on QC tracking Sheet?	✓				✓
8. Were samples requested properly and request form completed, signed, and dated?		✓			✓
9. Were the correct weights and volumes entered in Quantims for all samples?		✓			✓
10. Were the internal standards properly spiked and the spikes verified? Were the spike solution ID and spike volumes entered correctly and verified?		✓			✓
11. Were alternate standards properly spiked and the spikes verified? Were the spike solution ID and spike volumes entered correctly and verified?	✓				✓
12. Were all cleanup steps properly documented by initials and date?		✓			✓
13. Was the final volume checked and verified against the supplemental benchsheet and Quantims?		✓			✓
14. Are the final extracts free of water, precipitates, multiple phases, and color?		✓			✓
15. Were all appropriate notes and observations recorded on the prep benchsheet and in Quantims?		✓			✓
16. Were all Quantims batch information completed including; • Batch reviewed • Correct volumes entered • Correct completion date entered • Samples released		✓			✓
17. Does the prep batch paperwork package contain all required documentation which has been properly and completely filled out, including; • Prep Benchsheet • Supplemental Benchsheet • Standard concentration forms or copies of logbook pages, for all IS, RS, SS, CS, Native and Alternate standards. • Lot Checklists for all lots in the batch • Sample worksheets for all samples in the batch in proper order as recorded on tracking sheet		✓			✓
18. Are all nonconformances documented appropriately and copy included with deliverable?	✓				✓

Analyst: CK	Date: 4/21/06	2nd Level Reviewer :	Date: SDO 4/21/06
Comments:		Comments:	

RQC058

Severn Trent Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 4/21/06
Time: 11:52:09

LEV 1	LEV 2		LEV 1	LEV 2	
Y	Y	Blank	Y	Y	Weights/Volumes
Y	Y	Check	Y	Y	Spike & Surrogate Worksheet
_	_	MS/MSD	_	Y	Vial contains correct volume
			Y	Y	Labels, greenbars, worksheets computer batch: correct & all match
			_	_	Anomalies to Extraction Method

Y Expanded Deliverable
Y COC Completed
Y Bench Sheet Copied
Y Package Submitted to AnalyticalGroup
Y Bench Sheet Copied per COC

Extractionist: 400856 Alan Sudderth
004403 Cornelia Apahidean

Concentrationist: 004403 Cornelia Apahidean
400856 Alan Sudderth

QC BATCH: 6107079

PREP DATE: 4/17/06 10:00
COMP DATE: 4/21/06 14:00

Reviewer/Date: OXENDINS / 4/21/06

PCDDs/PCDFs (Method 0023A/8290)
SOXHLET (NOMINAL), Airtrains: Filter/Rinse

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	INIT	PH"S ADJI	ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
4/27/06	4/24/06	H6D030236-001 H2H1D-1-AA	D	IN	X8	AIR	1 20.00uL	NA	NA	NA	TOLUENE	350.0	HEXANE	10.0	3262:22 1.0ML M23 13C
COMMENTS:		4 R1													
4/28/06	4/24/06	H6D030236-003 H2H1G-1-AA	D	IN	X8	AIR	1 20.00uL	NA	NA	NA	TOLUENE	350.0	HEXANE	10.0	3262:22 1.0ML M23 13C
COMMENTS:		5 R2													
4/29/06	4/24/06	H6D030236-005 H2H1K-1-AA	D	IN	X8	AIR	1 20.00uL	NA	NA	NA	TOLUENE	350.0	HEXANE	10.0	3262:22 1.0ML M23 13C
COMMENTS:		6 R3													
4/29/06	4/24/06	H6D030236-007 H2H1N-1-AA	D	IN	X8	AIR	1 20.00uL	NA	NA	NA	TOLUENE	350.0	HEXANE	10.0	3262:22 1.0ML M23 13C
COMMENTS:		7 BT													
4/27/06	4/24/06	H6D030236-011 H2H1X-1-AA	D	IN	X8	AIR	1 20.00uL	NA	NA	NA	TOLUENE	350.0	HEXANE	10.0	3262:22 1.0ML M23 13C
COMMENTS:		8 Med ✓													
4/27/06	0/00/00	H6D170000-079 H3EDD-1-AAB		IN	X8	AIR	1 20.00uL	NA	NA	NA	TOLUENE	350.0	HEXANE	10.0	3262:22 1.0ML M23 13C
COMMENTS:		9													
4/27/06	0/00/00	H6D170000-079 H3EDD-1-ACC		IN	X8	AIR	1 20.00uL	NA	NA	NA	TOLUENE	350.0	HEXANE	10.0	3262:33 1.0ML NATIVE 3262:22 1.0ML M23 13C
COMMENTS:		10													

RQC058

Severn Trent Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 4/21/06
Time: 11:52:09

****
* *
* QC BATCH: 6107079 *
* *
****

PREP DATE: 4/17/06 10:00
COMP DATE: 4/21/06 14:00

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	INIT	PH"S ADJI	ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
4/27/06	0/00/00	H6D170000-079 H3EDD-1-ADL	R	IN	X8	AIR	1 20.00uL	NA	NA	NA	TOLUENE	350.0	HEXANE	10.0	3262:33 1.0ML NATIVE 3262:22 1.0ML M23 13C

COMMENTS:

R = RUSH C = CLP
E = EPA 600 D = EXP.DEL)
M = CLIENT REQ MS/MSD

NUMBER OF WORK ORDERS IN BATCH: 8

1626

STL Knoxville

Specialty Organics Group - Sample Tracking Sheet - GC/MS Analysis Group

QC Batch No 6107079

Relinquished to GC/MS By: S. Oxendine Date: 4/21/06

Received in GC/MS By: K. Wagner Date: 4/21/06

Work Order Number		Column: DB-5 or RTX-5				Column: DB-5 or RTX-5				Column: DB-225 or RTX-225			
		Date	Instrument	Analyst	Code	Date	Instrument	Analyst	Code	Date	Instrument	Analyst	Code
H2H1D1AA		5-4-06	MATGS	BFW	OK						J-level		
H2H1G1AA		↓	↓	↓	OK						—		
H2H1K1AA		↓	↓	↓	OK						—		
H2H1N1AA		5/4/06	↓	PMP	OK						—		
H2H1X1AA		↓	↓	↓	OK						—		
H3EDD1AA	B	↓	↓	↓	OK						—		
H3EDD1AC	C	↓	↓	↓	OK						—		
H3EDD1AD	L	↓	↓	↓	OK						—		

Comments: H241K1AA - vial went dry added 20ul nonane. PMP 5-3-06

ID0035R2 08/27/02

STL Knoxville

Specialty Organics Group - Sample Tracking Sheet - GC/MS Analysis Group

QC Batch #: 6107079

Lot Numbers in this Batch:

H6D030236
H6D170000

STL Knoxville

Specialty Organics Group - Sample Tracking Sheet - Organic Preparation Group

QC Batch No: 6107079

Internal Std. Spiked By: ALS **Verified By:** CS **Date:** 4/17/06

Native LCS/D Spiked By: ALS **Verified By:** CS **Date:** 4/17/06

Native MS/D Spiked By: NA **Verified By:** NA **Date:** NA

Work Order Number		Filtered Y/N?	Vol of Sampling Surrogate (uL) 3123:100	Soxhlet Started (Date/Time)	Soxhlet Finished (Date/Time	Blow Down (Initial/Date)	Recovery Standard (Book:Page)	Recovery Std Vol (uL)	Vol Delivered (uL)	Comments
H2H1D1AA			100	4/17/06 17:30	4/18/06 9:30	CS ALS 4/21/06	3262:34	20	20	
H2H1G1AA										
H2H1K1AA										
H2H1N1AA										
H2H1X1AA										
H3EDD1AA	B									
H3EDD1AC	C									
H3EDD1AD	L									

Comments:

Volume of Alt Standard: NA

Split Ratios: Post I.S. 1

Post F.C. NA

Post C.S. ↓

Post R.S. ↓

Blk Matrix: G.F. filter W.B. Temp 42.3°C

ID003-4R2 08/27/02

1629

STL Knoxville

Specialty Organics Group - Sample Tracking Sheet - Organic Preparation Group

QC Batch No: **6107079** **Cleanup Std. Spiked By:** _____ **Verified By:** _____ Date: _____

Work Order Number		Cleanup Spike (Book:Page)	Cleanup Spike Volume (uL)	SilicaGel Alumina Col (Initial/Date)	Acid/Base Wash (Initial/Date)	Carbon Column (Initial/Date)	Florisil Column (Initial/Date)	Mercury Cleanup (Initial/Date)	TBA Cleanup (Initial/Date)	Other Cleanup (Initial/Date)	Comments
H2H1D1AA				SDO 4/20/06							
H2H1G1AA											
H2H1K1AA											
H2H1N1AA											
H2H1X1AA											
H3EDD1AA	B										
H3EDD1AC	C										
H3EDD1AD	L										

Comments: _____

1630

ID0053R1 4/04/07

STL Knoxville
Method 23
HRMS Dioxin/Furan Spike Solution Concentrations

Internal Standards	Spike Solution ID: (Book: pg. No.) Concentration	
^{13}C-2,3,7,8-TCDD	3262:22	1.0ng/ml
^{13}C-1,2,3,7,8,-PECDD		
^{13}C-1,2,3,6,7,8-HxCDD		
^{13}C-1,2,3,4,6,7,8,-HpCDD		
^{13}C-OCDD		2.0ng/ml
^{13}C-2,3,7,8-TCDF		1.0ng/ml
^{13}C-1,2,3,7,8-PeCDF		
^{13}C-1,2,3,6,7,8-HxCDF		
^{13}C-1,2,3,4,6,7,8-HpCDF		

Field Surrogates	Spike Solution ID: (Book: pg. No.) Concentration	
^{13}C-1,2,3,4,7,8,-HxCDD	3123:100	20ng/ml
^{13}C-2,3,4,7,8-PeCDF		
^{13}C-1,2,3,4,7,8-HxCDF		
^{13}C-1,2,3,4,7,8,9-HpCDF		
^{37}Cl-2,3,7,8-TCDD		

Native Standards	Spike Solution ID: (Book: pg. No.) Concentration	
2,3,7,8-TCDD	3262:33	0.20ng/ml
2,3,7,8-TCDF		
1,2,3,7,8-PeCDD		1.0ng/ml
1,2,3,7,8-PeCDF		
2,3,4,7,8-PeCDF		
1,2,3,4,7,8-HxCDD		
1,2,3,6,7,8-HxCDD		
1,2,3,7,8,9-HxCDD		
1,2,3,4,7,8-HxCDF		
1,2,3,6,7,8-HxCDF		
1,2,3,7,8,9-HxCDF		
2,3,4,6,7,8-HxCDF		
1,2,3,4,6,7,8-HpCDD		
1,2,3,4,6,7,8-HpCDF		
1,2,3,4,7,8,9-HpCDF		
OCDD		2.0ng/ml
OCDF		

Recovery Standards	Spike Solution ID: (Book: pg. No.) Concentration	
^{13}C-1,2,3,4-TCDD	3262:34	0.10ng/ul
^{13}C-1,2,3,7,8,9-HxCDD		

STL Knoxville Dioxin GC/MS Data Review / Narrative Checklist

LOT # H6D030236 1632

KNOX-ID-0004-R6 Method: ☒ 0023A/8290 ☐ EPA 23

Batch Number:	6107092

Review Items A. Initial Calibration	N/A	Yes	No	Why is data reportable?	2nd Level
1. Was the correct ICAL used for quantitation? (Check 1-2 compounds for batch by manually calculating concentration using the ICAL avg. RF.)		✓			✓
B. Continuing Calibration					
1. Has a Continuing Calibration Checklist been completed for each analytical batch?		✓			✓
C. Client Sample AND QC Sample Results					
1. Were all special project requirements met?		✓			✓
2. Were the header information, prep factors, and dilution factors verified?		✓			✓
3. Was date/time of analysis verified between analysis header and logbook as correct?		✓			✓
4. Sample analyses done within preparation and analytical holding time (HT)? *If no, list samples:* _____		✓		☐ HT expired upon receipt. ☐* Client requested analysis after HT expired. ☐ Re-extraction done after HT expired. ☐ See Comment no. _____.	✓
5. Are internal standards within QC limits specified in Table 15? *If no, list samples and reason (e.g.,* **sur1***):* Sample / Reason / Sample / Reason		✓		☐* **[sup]** Ion suppression due to matrix. ☐* **[low]** Low recovery. S/N >10 and EDL<ML. ☐ **[sam]** Not enough sample to re-extract. ☐ **[dil]** Dilution showed acceptable %R. ☐ **[mtx]** Obvious matrix interference. Further cleanup not possible. ☐* **[unk]** At client's request, data was flagged as estimated and released without further investigation. ☐ **[com]** See Comment no. _____.	✓
6. Were the following qualitative criteria met for all reported PCDD/Fs: • All 2378 isomers within the RRT limits specified in Table 3 and both ions maximized within ±2 seconds. • All non-2378 isomers within established RT windows and both ions maximized within ±2 seconds. • The ion abundance ratios for all labeled and unlabeled analytes within the control limits specified in Table 22. • All peaks ≥2.5 S/N. • No corresponding peak at PCDPE mass.		✓			✓
7. Were peaks ≥2.5 S/N, which did not meet the above criteria, properly calculated and reported as EMPCs?		✓			✓
8. Were all positive 2378-TCDF hits confirmed by analysis on DB-225?		✓			✓
9. Are positive results within calibration range? *If no, list samples:* _____		✓		☐ OCDD/F or non-2378 exceeded calibration range ☐ Sample extracted at lowest possible volume	✓
11. If manual integrations were performed, are they clearly identified, initialed and dated?		✓			✓
12. Final report acceptable? (Results correct, DLs calculated correctly, units correct, IS %R correct, appropriate flags used, dilution factor correct, and extraction/ analysis dates correct.)		✓			✓
13. Was a narrative prepared and all deviations noted?		✓			✓

* Such action must be taken in consultation with client.

D. Preparation/Matrix QC	N/A	Yes	No	Why is data reportable?	2nd Level
1. LCS(OPR) done per prep batch and all analytes within the limits specified in QuantIMS reference data? *If no, list LCS(OPR) ID:* _____		✓		☐* Reanalysis not possible-insufficient sample. ☐ LCS %R high and affected analyte(s) were <ML in associated samples. ☐ See Comment no. _____.	✓
2. Method blank done per prep batch and method blank or instrument blank analyzed with each sequence?		✓			✓
3. Method blank internal standard recoveries within QC limits? *If no, list blank ID:* _____		✓		☐* Internal standards are high and blank demonstrates that analysis is free of contaminants. ☐* Sample internal standards OK and there is no analytes >ML in samples associated with blank.	✓
4. Are all analytes present in the method blank ≤ ML? *If no, list blank ID:* _____		✓		☐ Sample results are > 20x higher than blank. ☐* There is no analyte > RL in the samples associated with method blank. ☐* Reanalysis not possible-insufficient sample	✓
4. MS/MSD done per batch and are all recoveries and RPDs within laboratory generated QC limits? *If no, list MS/MSD ID:* _____	✓			☐ LCS showed acceptable results indicating sample matrix effects. ☐ LCS showed acceptable results. High native analyte concentration relative to spike level. ☐ LCS showed acceptable results. RPD out due to lack of sample homogeneity. ☐ See Comment no. _____.	✓
E. Other					
1. Are all nonconformances documented appropriately and copy included with deliverable?	✓				✓

Analyst: [signature]	Date: 5/8/06	Analyst: VMK	Date: 5/8/06
Comments:		Comments:	

* Such action must be taken in consultation with client.

STL Knoxville Specialty Organics Prep Batch Review/Checklist Batch # 6107092 1634

☒ KNOX-ID-0004, rev. 6 (PCDD/F extraction) ☒ KNOX-ID-0012, rev. 1 (Air Train extraction) ☐ KNOX-ID-0013, rev. 4 (PCB extraction) ☐ KNOX-ID-0016, rev. 3 (LR-SIM PAH extraction) ☒ KNOX-ID-0017, rev. 1 (filters & XAD)

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd Level
1. Does the batch contain no more than 20 field samples? (Excluding MB, LCS, LCSD, MS, & MSD)		✓			✓
2. Were the samples extracted by the proper method?		✓			✓
3. Were the samples extracted within the required holding times?		✓			✓
4. For waters by 1613B, if visible solids were present, were solids determined to be ≤ 1%?	✓				✓
5. Were all project specific requirements met as noted on the Lot Checklists and Sample Worksheets?		✓			✓
6. Were all required QC samples prepared & extracted with the batch at method required frequency?		✓			✓
7. Were MS Run# properly assigned and samples entered on QC tracking Sheet?	✓				✓
8. Were samples requested properly and request form completed, signed, and dated?		✓			✓
9. Were the correct weights and volumes entered in Quantims for all samples?		✓			✓
10. Were the internal standards properly spiked and the spikes verified? Were the spike solution ID and spike volumes entered correctly and verified?		✓			✓
11. Were alternate standards properly spiked and the spikes verified? Were the spike solution ID and spike volumes entered correctly and verified?	✓				✓
12. Were all cleanup steps properly documented by initials and date?		✓			✓
13. Was the final volume checked and verified against the supplemental benchsheet and Quantims?		✓			✓
14. Are the final extracts free of water, precipitates, multiple phases, and color?		✓			✓
15. Were all appropriate notes and observations recorded on the prep benchsheet and in Quantims?		✓			✓
16. Were all Quantims batch information completed including; • Batch reviewed • Correct volumes entered • Correct completion date entered • Samples released		✓			✓
17. Does the prep batch paperwork package contain all required documentation which has been properly and completely filled out, including; • Prep Benchsheet • Supplemental Benchsheet • Standard concentration forms or copies of logbook pages, for all IS, RS, SS, CS, Native and Alternate standards. • Lot Checklists for all lots in the batch • Sample worksheets for all samples in the batch in proper order as recorded on tracking sheet		✓			✓
18. Are all nonconformances documented appropriately and copy included with deliverable?	✓				✓

Analyst: CA	Date: 4-21-06	2nd Level Reviewer :	Date: AW 4/23/06
Comments:		Comments:	

RQC058

Severn Trent Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 4/21/06
Time: 19:09:18

LEV 1	LEV 2		LEV 1	LEV 2	
Y	Y	Blank	Y	Y	Weights/Volumes
Y	Y	Check	Y	Y	Spike & Surrogate Worksheet
_	_	MS/MSD	Y	Y	Vial contains correct volume
			Y	Y	Labels, greenbars, worksheets
					computer batch: correct & all match
			_	_	Anomalies to Extraction Method

Y Expanded Deliverable
Y COC Completed
Y Bench Sheet Copied
Y Package Submitted to AnalyticalGroup
Y Bench Sheet Copied per COC

Extractionist: 004403 Cornelia Apahidean
400856 Alan Sudderth
01345I Susan D. Oxendine
Concentrationist: 007259 Syed I. Ahmed

QC BATCH: 6107092

PREP DATE: 4/17/06 10:00
COMP DATE: 4/21/06 21:00

Reviewer/Date: AHMEDS / 4/21/06

PCDDs/PCDFs (Method 0023A/8290)
SOXHLET (NOMINAL), Airtrains: XAD/Rinse

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	INIT	PH"S ADJI	ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
4/27/06	4/24/06	H6D030236-002 **H2H1F-1-AA**	D	IO	X8	AIR	1 20.00uL	NA	NA	NA	TOLUENE	350.0	HEXANE	10.0	3262:22 1.0ML M23 13C
COMMENTS: 12															
4/28/06	4/24/06	H6D030236-004 **H2H1J-1-AA**	D	IO	X8	AIR	1 20.00uL	NA	NA	NA	TOLUENE	350.0	HEXANE	10.0	3262:22 1.0ML M23 13C
COMMENTS: 13															
4/29/06	4/24/06	H6D030236-006 **H2H1L-1-AA**	D	IO	X8	AIR	1 20.00uL	NA	NA	NA	TOLUENE	350.0	HEXANE	10.0	3262:22 1.0ML M23 13C
COMMENTS: 14															
4/29/06	4/24/06	H6D030236-008 **H2H1P-1-AA**	D	IO	X8	AIR	1 20.00uL	NA	NA	NA	TOLUENE	350.0	HEXANE	10.0	3262:22 1.0ML M23 13C
COMMENTS: BT Blank 15															
4/29/06	4/24/06	H6D030236-009 **H2H1Q-1-AA**	D	IO	X8	AIR	1 20.00uL	NA	NA	NA	TOLUENE	350.0	HEXANE	10.0	3262:22 1.0ML M23 13C
COMMENTS: Tr Blank 16															
4/27/06	4/24/06	H6D030236-010 **H2H1W-1-AA**	D	IO	X8	AIR	1 20.00uL	NA	NA	NA	TOLUENE	350.0	HEXANE	10.0	3262:22 1.0ML M23 13C
COMMENTS: Blank 17															
4/27/06	0/00/00	H6D170000-092 **H3ED8-1-AAB**		IO	X8	AIR	1 20.00uL	NA	NA	NA	TOLUENE	350.0	HEXANE	10.0	3262:22 1.0ML M23 13C
COMMENTS: 18															

RQC058

Severn Trent Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 4/21/06
Time: 19:09:18

QC BATCH: 6107092

PREP DATE: 4/17/06 10:00
COMP DATE: 4/21/06 21:00

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	INIT	PH"S ADJI	ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
4/27/06	0/00/00	H6D170000-092 **H3ED8-1-ACC** 19		IO	X8	AIR	1 20.00uL	NA	NA	NA	TOLUENE	350.0	HEXANE	10.0	3262:33 1.0ML NATIVE 3262:22 1.0ML M23 13C
COMMENTS:															
4/27/06	0/00/00	H6D170000-092 **H3ED8-1-ADL** 20	R	IO	X8	AIR	1 20.00uL	NA	NA	NA	TOLUENE	350.0	HEXANE	10.0	3262:33 1.0ML NATIVE 3262:22 1.0ML M23 13C
COMMENTS:															

R = RUSH C = CLP
E = EPA 600 D = EXP.DEL)
M = CLIENT REQ MS/MSD

NUMBER OF WORK ORDERS IN BATCH: 9

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STL Knoxville

Specialty Organics Group - Sample Tracking Sheet - Organic Preparation Group

QC Batch No: 6107092

Internal Std. Spiked By: ALS **Verified By:** CT **Date:** 4/17/06

Native LCS/D Spiked By: ALS **Verified By:** CT **Date:** 4/17/06

Native MS/D Spiked By: NA **Verified By:** NA **Date:** NA

Work Order Number		Filtered Y/N?	Vol of Sampling Surrogate (uL) 3123:100	Soxhlet Started (Date/Time)	Soxhlet Finished (Date/Time	Blow Down (Initial/Date)	Recovery Standard (Book:Page)	Recovery Std Vol (uL)	Vol Delivered (uL)	Comments
H2H1F1AA			100	4/17/06 17:00	4/18/06 9:00	SA 4-21-06	3262:34	20	20	
H2H1J1AA										
H2H1L1AA										
H2H1P1AA										
H2H1Q1AA										
H2H1W1AA										
H3ED81AA	B									
H3ED81AC	C									
H3ED81AD	L									

Comments:

Volume of Alt Standard: NA

Split Ratios: Post I.S. /

Post F.C. NA

Post C.S.

Post R.S.

Blk Matrix: XAD W.B. Temp 67 °C

ID0034R2 08/27/02

STL Knoxville

Specialty Organics Group - Sample Tracking Sheet - Organic Preparation Group

QC Batch No: 6107092 **Cleanup Std. Spiked By:** _____ **Verified By:** _____ Date: _____

Work Order Number		Cleanup Spike (Book:Page)	Cleanup Spike Volume (uL)	SilicaGel Alumina Col (Initial/Date)	Acid/Base Wash (Initial/Date)	Carbon Column (Initial/Date)	Florisil Column (Initial/Date)	Mercury Cleanup (Initial/Date)	TBA Cleanup (Initial/Date)	Other Cleanup (Initial/Date)	Comments
H2H1F1AA				SD 04/20/06		CA 4/21/06					
H2H1J1AA											
H2H1L1AA											
H2H1P1AA											
H2H1Q1AA											
H2H1W1AA											
H3ED81AA	B										
H3ED81AC	C										
H3ED81AD	L										

Comments: _____

1638

ID0033R1 4/04/07

STL Knoxville

Specialty Organics Group - Sample Tracking Sheet - GC/MS Analysis Group

QC Batch No 6107092 Relinquished to GC/MS By: SD Date: 4-21-06

Received in GC/MS By: [illegible] Date: 4/21/06

Work Order Number		Column: DB-5 or RTX-5				Column: DB-5 or RTX-5				Column: DB-225 or RTX-225				
		Date	Instrument	Analyst	Code	Date	Instrument	Analyst	Code	Date	Instrument	Analyst	Code	
H2H1F1AA		5/5/06	MAT455	PMP	OK					5-8-06	MAT905	VMK	OK	IAC 5
H2H1J1AA					OK						MAT905		OK	IAC 6
H2H1L1AA					OK						MAT905		OK	IAC 7
H2H1P1AA blank				PMP	OK						—			
H2H1Q1AA blank					OK						—			
H2H1W1AA blank		5/4/06	MAT455	BKW	OK						—			
H3ED81AA	B				OK						—			
H3ED81AC	C				OK						—			
H3ED81AD	L				OK						—			

Comments:

ID0035R2 08/27/02

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STL Knoxville

Specialty Organics Group - Sample Tracking Sheet - GC/MS Analysis Group

QC Batch #: 6107092

Lot Numbers in this Batch:

H6D030236
H6D170000

STL Knoxville
Method 23
HRMS Dioxin/Furan Spike Solution Concentrations

Internal Standards	Spike Solution ID: (Book: pg. No.) Concentration
^{13}C-2,3,7,8-TCDD	3262:22 1.0ng/ml
^{13}C-1,2,3,7,8,-PECDD	
^{13}C-1,2,3,6,7,8-HxCDD	
^{13}C-1,2,3,4,6,7,8,-HpCDD	
^{13}C-OCDD	2.0ng/ml
^{13}C-2,3,7,8-TCDF	1.0ng/ml
^{13}C-1,2,3,7,8-PeCDF	
^{13}C-1,2,3,6,7,8-HxCDF	
^{13}C-1,2,3,4,6,7,8-HpCDF	

Field Surrogates	Spike Solution ID: (Book: pg. No.) Concentration
^{13}C-1,2,3,4,7,8,-HxCDD	~~3265~~ 4/11/00 3123:100 20ng/ml
^{13}C-2,3,4,7,8-PeCDF	
^{13}C-1,2,3,4,7,8-HxCDF	
^{13}C-1,2,3,4,7,8,9-HpCDF	
^{37}Cl-2,3,7,8-TCDD	

Native Standards	Spike Solution ID: (Book: pg. No.) Concentration
2,3,7,8-TCDD	3262:33 0.20ng/ml
2,3,7,8-TCDF	
1,2,3,7,8-PeCDD	1.0ng/ml
1,2,3,7,8-PeCDF	
2,3,4,7,8-PeCDF	
1,2,3,4,7,8-HxCDD	
1,2,3,6,7,8-HxCDD	
1,2,3,7,8,9-HxCDD	
1,2,3,4,7,8-HxCDF	
1,2,3,6,7,8-HxCDF	
1,2,3,7,8,9-HxCDF	
2,3,4,6,7,8-HxCDF	
1,2,3,4,6,7,8-HpCDD	
1,2,3,4,6,7,8-HpCDF	
1,2,3,4,7,8,9-HpCDF	
OCDD	2.0ng/ml
OCDF	

Recovery Standards	Spike Solution ID: (Book: pg. No.) Concentration
^{13}C-1,2,3,4-TCDD	3262:34 0.10ng/ul
^{13}C-1,2,3,7,8,9-HxCDD	

XAD Source Sampling Media Request Form

SEVERN TRENT STL

STL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
865-291-3000

Form Number: 031706-4

-scan completed document and save on the public drive under Media/PDFs; filename should be the form number. **Send a copy to PM.**

Date of Request: March 17, 2006
Company: ACS
Client Project: Westates Carbon - Project # 142541
Client PO#:

Rush Order? No
Quantims Quote: TBD
Media Needed By: 3/22/2006
Project Manager: Kevin Woodcock

Quantity	Media Type	Spiked for Method	Media Check ID
6	Spiked XAD	Dioxin, Supelco Lot 2010	A-5379
6	Unspiked XAD - TCO/GRAV	↓	A-5380
6	Particulate Filter	8.26 cm for Dioxins/Furans	A-5381
6	Particulate Filter	8.26 cm for TCO/GRAV	A-5382

ACS-Westates A 5379 Spiked XAD

ACS-Westates A 5380 TCO/GRAV XAD

ACS-Westates A 5381 Dioxin Filter

ACS-Westates A 5382 TCO/GRAV Filter

Comments:
Please deliver to Patti Carswell by Wednesday, March 22, 2006.

Method	Color Code	Amt. Spiked	Conc. And Units	Spike Sol'n ID	Exp. Date	Spiked By/ Date	Verified By
8270C							
Dioxin	Green	100ml	20ng/ml	3123:100	10-31-10	[illegible] 3-20-06	ACS
1668 mod.							
CARB 429							
8081A							
TCO/Grav	Red	NA	NA	NA	NA	NA	NA

Shipping *(include blank COCs and Custody Seals with this shipment. Send temperature blanks where applicable)*

Attn: Patti Carswell
Company: STL Knoxville - ACS
Address 1:
Address 2:
City, State, Zip:
Phone:
Fax:
FedEx Email:

Completed/Shipped by: David [illegible]
Date Shipped: 3-21-06
Shipping Courier:
Tracking Number

Lot Number:
Invoice #:

1642

Sample Receipt Documentation

Request for Analysis/Chain-of-Custody – RFA/COC #018 [MM-5 Train D]
Focus/US Filter Westates Carbon
Comprehensive Performance Test at Parker, Arizona

STL Knoxville Lot Number: HVD030236
STL Knoxville Project Number: 142541

NOTE: After Log-In, please give the original completed RFA/COC to Patti Carswell.

Project Identification:	**Westates Carbon CPT**
STL Knoxville Project Number:	142541
STL Contact:	Ms. Patti Carswell (865) 291-3010
STL - ACS Project Manager:	Dr. William C. Anderson (865) 291-3080

Laboratory Deliverable Turnaround Requirements:	
Analytical Due Date: (Review-Released Data)	21 Days from Lab Receipt
Data Package Due Date:	21 Days from Lab Receipt
Laboratory Destination:	STL Knoxville 5815 Middlebrook Pike Knoxville, Tennessee 37921 (865) 291-3000
Courier:	Federal Express

Analytical Testing QC Requirements:
The Legend for Project-Specific Quality Control Testing is designated in the "QC" column as follows:
"MS" = Matrix Spike, "MSD" = Matrix Spike Duplicate,
"DUP" = Duplicate, and "PDS" = Post Digestion Spike

Project Deliverables:
Report analytical results on R-02 Reports and in data packages.
Include "Field Number", "Sample Type", and "Run Number" on all R-02 Reports.

Holding Time Requirements:	
Dioxins & Furans	30 Days to Extraction. 45 Days from Extraction to Analysis.

Field Sample No./ Sample Coding ID	**Sample Collection Date**	**Project QC Require-ments**	**Sample Bottle/ Container**	**Sample Type/Analysis**	**Analytical Specifications**
G-2937-R1-M23A Front Half Composite Train D *Combine with Sample No. G-2938*	3-28-06		Petri Dish	**Particulate Filter Run #1** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion Solvent Probe Rinses sample. Perform Soxhlet extraction on the sample and analyze the extract for all 2,3,7,8 dioxin/furan isomers and totals by chlorinated class (tetra-octas) by Method 8290/Method 0023A.
G-2938 *Combine with Sample No.: G-2937*	3-28-06		250 mL Amber Boston Round	**Front Half of the Filter Holder and Probe Solvent Rinses, Run #1** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion Particulate Filter and proceed with the Method 0023A preparation procedure.
G-2939-R1-M23A Back Half Composite Train D *Combine with Sample No.: G-2940*	3-28-06		XAD-2 Resin Tube	**XAD-2 Resin Tube Run #1** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion Back Half of the Filter Holder and Coil Condenser Solvent Rinses. Perform Soxhlet extraction on the sample and analyze the extract for all 2,3,7,8 dioxin/furan isomers and totals by chlorinated class (tetra-octas) by Method 8290/Method 0023A.
G-2940 *Combine with Sample No.: G-2939*	3-28-06		250 mL Amber Boston Round	**Back Half of the Filter Holder and Coil Condenser Solvent Rinses, Run #1** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion XAD-2 Resin Tube, and proceed with the Method 0023A and PCB congener/coplanar preparation procedures.

Request for Analysis/Chain-of-Custody – RFA/COC #018 [MM-5 Train D]
Focus/US Filter Westates Carbon
Comprehensive Performance Test at Parker, Arizona

Field Sample No./ Sample Coding ID	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
G-3049-R2-M23A Front Half Composite Train D *Combine with Sample No. G-3050*	3-29-06		Petri Dish	**Particulate Filter Run #2** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion Solvent Probe Rinses sample. Perform Soxhlet extraction on the sample and analyze the extract for all 2,3,7,8 dioxin/furan isomers and totals by chlorinated class (tetra-octas) by Method 8290/Method 0023A.
G-3050 *Combine with Sample No.: G-3049*	3-29-06		250 mL Amber Boston Round	**Front Half of the Filter Holder and Probe Solvent Rinses, Run #2** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion Particulate Filter and proceed with the Method 0023A preparation procedure.
G-3051-R2-M23A Back Half Composite Train D *Combine with Sample No.: G-3052*	3-29-06		XAD-2 Resin Tube	**XAD-2 Resin Tube Run #2** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion Back Half of the Filter Holder and Coil Condenser Solvent Rinses. Perform Soxhlet extraction on the sample and analyze the extract for all 2,3,7,8 dioxin/furan isomers and totals by chlorinated class (tetra-octas) by Method 8290/Method 0023A.
G-3052 *Combine with Sample No.: G-3051*	3-29-06		250 mL Amber Boston Round	**Back Half of the Filter Holder and Coil Condenser Solvent Rinses, Run #2** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion XAD-2 Resin Tube, and proceed with the Method 0023A and PCB congener/coplanar preparation procedures.
G-3128-R3-M23A Front Half Composite Train D *Combine with Sample No. G-3129*	3-30-06		Petri Dish	**Particulate Filter Run #3** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion Solvent Probe Rinses sample. Perform Soxhlet extraction on the sample and analyze the extract for all 2,3,7,8 dioxin/furan isomers and totals by chlorinated class (tetra-octas) by Method 8290/Method 0023A.
G-3129 *Combine with Sample No.: G-3128*	3-30-06		250 mL Amber Boston Round	**Front Half of the Filter Holder and Probe Solvent Rinses, Run #3** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion Particulate Filter and proceed with the Method 0023A preparation procedure.
G-3130-R3-M23A Back Half Composite Train D *Combine with Sample No.: G-3131*	3-30-06		XAD-2 Resin Tube	**XAD-2 Resin Tube Run #3** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion Back Half of the Filter Holder and Coil Condenser Solvent Rinses. Perform Soxhlet extraction on the sample and analyze the extract for all 2,3,7,8 dioxin/furan isomers and totals by chlorinated class (tetra-octas) by Method 8290/Method 0023A.

Request for Analysis/Chain-of-Custody – RFA/COC #018 [MM-5 Train D]
Focus/US Filter Westates Carbon
Comprehensive Performance Test at Parker, Arizona

Field Sample No./ Sample Coding ID	Sample Collection Date	Project QC Requirements	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
G-3131 *Combine with Sample No.: G-3130*	3-30-06		250 mL Amber Boston Round	**Back Half of the Filter Holder and Coil Condenser Solvent Rinses, Run #3** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion XAD-2 Resin Tube, and proceed with the Method 0023A and PCB congener/coplanar preparation procedures.
G-3132-R3-M23A Front Half Composite Blank Train D *Combine with Sample No. G-3133*	3-30-06	**Blank Train**	Petri Dish	**Particulate Filter Run #3** Method 0023A Blank Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion Solvent Probe Rinses sample. Perform Soxhlet extraction on the sample and analyze the extract for all 2,3,7,8 dioxin/furan isomers and totals by chlorinated class (tetra-octas) by Method 8290/Method 0023A.
G-3133 *Combine with Sample No.: G-3132*	3-30-06	**Blank Train**	250 mL Amber Boston Round	**Front Half of the Filter Holder and Probe Solvent Rinses, Run #3** Method 0023A Blank Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion Particulate Filter and proceed with the Method 0023A preparation procedure.
G-3134-R3-M23A Back Half Composite Blank Train D *Combine with Sample No.: G-3135*	3-30-06	**Blank Train**	XAD-2 Resin Tube	**XAD-2 Resin Tube Run #3** Method 0023A Blank Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion Back Half of the Filter Holder and Coil Condenser Solvent Rinses. Perform Soxhlet extraction on the sample and analyze the extract for all 2,3,7,8 dioxin/furan isomers and totals by chlorinated class (tetra-octas) by Method 8290/Method 0023A.
G-3135 *Combine with Sample No.: G-3134*	3-30-06	**Blank Train**	250 mL Amber Boston Round XAD-2 Resin Tube	**Back Half of the Filter Holder and Coil Condenser Solvent Rinses, Run #3** Method 0023A Blank Train D Dioxin/Furan (PCDD/PCDF) Analysis	Combine this sample with the companion XAD-2 Resin Tube, and proceed with the Method 0023A and PCB congener/coplanar preparation procedures.
G-3136-R3-M23A ~~$MeCl_2$~~ RB/TB XAD-2 Resin Tube	3-30-06	**Reagent Blank**	~~Methylene~~ Chloride Reagent/Trip Blank	**Methylene Chloride Reagent/Trip Blank Run #3** Method 0023A Train D Dioxin/Furan (PCDD/PCDF) Analysis	Perform Soxhlet extraction on the sample and analyze the extract for all 2,3,7,8 dioxin/furan isomers and totals by chlorinated class (tetra-octas) by Method 8290/Method 0023A.

Request for Analysis/Chain-of-Custody – RFA/COC #018 [MM-5 Train D]
Focus/US Filter Westates Carbon
Comprehensive Performance Test at Parker, Arizona

Sample Receipt Log and Condition of the Samples Upon Receipt: H6D030236

Please fill in the following information:	Comments (Please write "NONE" if no comment applicable)
(1) Record the identities of any samples that were listed on the RFA but were not found in the sample shipment.	N/A
(2) Record the sample shipping cooler temperature of all coolers transporting samples listed on this RFA:	5.0°C
(3) Record any apparent sample loss/breakage.	N/A
(4) Record any unidentified samples transported with this shipment of samples:	N/A
(5) Indicate if all samples were received according to the project's required specifications (i.e. no nonconformances):	N/A

Custody Transfer:

Hand delivered

	Name	Company	Date/Time
Relinquished By:			
Accepted By:	[signature]	STL Knoxville	4/2/06 1625
Relinquished By:			
Accepted By:			
Relinquished By:			
Accepted By:			
Relinquished By:			
Accepted By:			

STL KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Client: Focus **Project:** WestAtes Carbon **Lot Number:** H6D030236

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	ME 4/3/06 ✗	✓		☐ 1a Do not match COC ☐ 1b Incomplete information ☐ 1c Marking smeared ☐ 1d Label torn ☐ 1e No label ☐ 1f COC not received ☐ 1g Other:	14A COC Not relinquished not signed, Dated or time. 19 - 63136-R3-M23A - on COC states Methylene Chloride Reagent/TRIP Blank Actual sample is XAD trap same sample ID
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C; NC, 1668, 1613B: 0-4°C; VOST: 10°C; MA: 2-6 °C)	✓			☐ 2a Temp Blank = ____ ☐ 2b Cooler Temp = ____	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ 3a Sample preservative =	
4. Were custody seals present/intact on cooler and/or containers?		✓		☑ 4a Not present ☐ 4b Not intact ☐ 4c Other: Hand delivered	
5. Were all of the samples listed on the COC received?	✓			☐ 5a Samples received-not on COC ☐ 5b Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ 6a Leaking ☐ 6b Broken	
7. Were VOA samples received without headspace?			✓	☐ 7a Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ 8a Improper container	
9. Did you check for residual chlorine, if necessary?			✓	☐ 9a Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ 10a Holding time expired	
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For SOG water samples (1613B, 1668A, 8290, LR PAHs), do samples have visible solids present?			✓	If yes & appears to be >1%, was SOG notified? ____	
13. Are the shipping containers intact?	✓			☐ 13a Leaking ☐ 13b Other:	
14. Was COC relinquished? (Signed/Dated/Timed)		✓		☑ 14a Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ 15a Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ 15a Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ 15a Incomplete information	
18. Is the client and project name/# identified?	✓			☐ 15a Incomplete information	
19. Was the sampler identified on the COC?			✓		

Quote #: 64351 PM Instructions: ____

Sample Receiving Associate: [signature] Date: 4/3/06

QA026R18.doc, 1/30/06

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