

Lilo

Instrument Type: GC/MS

Location: Forensic Chemistry Unit-Knoxville

Manufacturer: Agilent Technologies

Model Numbers: GC/MS-8890/5977C

Serial Numbers: GC- US2449MA23, MS- US2451A028

Software: MSD Chemstation- G1701FA F.02.01.16,
MassHunter Workstation-Version 10.2

Firmware: 3.0.0.181

**Manufacturer instructions are located with the
instrument.**



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ABSTRACT & PERFORMANCE CHECK OVERVIEW

Agilent 8890 GC System – Serial # US2449MA23

Agilent 5977C MSD – Serial # US2451A028

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The following documentation performance checks gas chromatograph mass spectrometer instrumentation acquisitioned from Agilent Technologies for analytical utilization in the Forensic Chemistry Unit (FCU) of the Tennessee Bureau of Investigation Crime Laboratory in Knoxville, Tennessee. Method establishment with parametric consideration of the following parameters--system temperature (inlet, GC oven ramping and duration, transfer line, MS source, MS quad), column, pressure (inlet, column), flow rates (column, split/split-less), split ratio, liners and autosampler tower specifications and adjustments--inaugurates performance verification of Agilent 8890 GC System and 5977C MSD utilizing a variety of controlled substance analytical standards. These standards ranged in molecular weight and resulting retention time. Because this system is procedurally like GCMS systems currently in use from Agilent Technologies and validated within the FCU, analysis of analytical standards in the initial method configuration guided subsequent manipulation of parameters to the final establishment of method parameters. Methods were verified as acceptable with performance data of total ion chromatographs, spectral analysis of the mass spectrometer, and chromatographic retention time. Also, during the entire process, inlet maintenance, autotune (atune), and analysis of the calibration standard mix (pethidine, cocaine and hydrocodone) for the GCMS were routinely performed to monitor and assess system functionality. The concluding recommendation from the review of method parameters, functionality, data of specified analytical standards for specified GC and MS methods is for this Agilent 8890 GC System and 5977C MSD, Lilo, to be utilized for the analysis of controlled substances in the Forensic Chemistry Unit.

INSTRUMENT AND COMPONENT SPECIFICATIONS

Agilent 8890 GC System – Serial # US2449MA23

Agilent 5977C MSD – Serial # US2451A028

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GAS CHROMATOGRAPH

Agilent 8890 GC System (G3542A)

Serial # US2449MA23

MASS SPECTROMETER

Agilent 5977C MSD (G7077C)

Serial # US2451A028

AUTOSAMPLER TRAY

Agilent 7693A

Serial # RO24397004

AUTOSAMPLER TOWER

MS: Agilent G4513A

Serial # RO24475011

COLUMN

MS: Agilent J&W DB-1MS

Part #128-0112, 12 meters, 0.200 mm diameter, 0.33 μ film thickness

COMPUTER OPERATING SYSTEM

Device specifications:

Model name	HP Z2 SFF G9 Workstation
Device name	Lilo
Processor	12th Gen Intel(R) Core(TM) i5-12500 3.00 GHz
Installed RAM	16.0 GB (15.7 GB usable)
Device ID	37FF48AD-2D50-4505-B754-FE80E35B8F2E
Product ID	00355-61934-58837-AAOEM
System type	64-bit operating system, x64-based

Windows Specifications:

Edition	Windows 11 Pro
Version	24H2
Installed on	4/8/25
OS build	26100.3775
Experience	Windows Feature Experience Pack 1000.26100.66.0

Productivity tools:

Enhanced ChemStation

MSD ChemStation G1701FA F.02.01.16

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Agilent MassHunter Workstation

GC/MS Data Acquisition

Version 10.2

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PURPOSE OF PERFORMANCE CHECK

Agilent 8890 GC System – Serial # US2449MA23

Agilent 5977C MSD – Serial # US2451A028

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Gas Chromatograph / Mass Spectrometry is critically relied upon within the Forensic Chemistry Unit (FCU) for the analysis of controlled substances. Due to adulterants and multiple controlled substances within samples, chromatographic methodology is a necessity for separation, isolation and identification of these compounds. Historically, Agilent Technologies GCMS systems have been utilized in the FCU for the past twenty-two years with ChemStation software that is familiar across each 6890/5973, 6890N/5973 inert, 6890N/5975, 7890A/5975C 7890B/5977A and 8890B/5977C GC/MS systems. Therefore, the purpose of this study is to establish method parameters for the gas chromatograph/mass spectrometer using an autosampler mode of analysis. The methods will then be tested for function and practicality by injecting a variety of analytical standards to demonstrate detection at varying oven temperature initial set points and duration with ramped and isothermal temperature end points.

TRAINING REQUIREMENTS

Agilent 8890 GC System – Serial # US2449MA23

Agilent 5977C MSD – Serial # US2451A028

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The Agilent 8890 GC System and Agilent 5977C MSD performs in concert with ChemStation and MassHunter engine and data analysis software consistent with that of Agilent's 6890/5973, 6890N/5973, 6890N/5975, 7890A/5975C, 7890B/5977A and 8890/5977C. Each analyst within the Forensic Chemistry Unit has training and familiarity navigating this system; therefore, no special training is necessary for utilizing this system for analytical casework.

PERFORMANCE CHECK PROCEDURE

Agilent 8890 GC System – Serial # US2449MA23

Agilent 5977C MSD – Serial # US2451A028

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Instrument Setup

The initial instrument setup and check-out procedure was performed by Agilent technical representative Bo Keaser. All electrical requirements and performance gases (helium, hydrogen and air) were in place as specified prior to installation.

Maintenance

Throughout the performance check procedure, regular inlet maintenance, autotunes, and analysis of the GCMS Standard Mix will be performed. Note: this will not necessarily be performed on a weekly basis but in conjunction with time devoted to the development, testing and establishment of the methods.

Establishing Method Parameters

Utilizing the MassHunter software, method construction begins with loading the system's default.m method and referencing established TBI FCU GCMS methods to first construct DRUG1. From the DRUG1 method, all parameters of the remaining methods will be constructed, named and saved.

General Screening Methods – The GCMS Standard Mix (pethidine, cocaine and hydrocodone) was analyzed on general screening method DRUG1. The P-MOX standard (phentermine, methamphetamine, xylazine, 4-ANPP, Heroin, para-Fluorofentanyl, and fentanyl) was analyzed on all general screening methods (DRUG1, STERIOD, XLDRUGS). Additional standards spanning the range of screening analysis were analyzed for the DRUG1 method.

Extended Analysis Methods – Standards of substances known to come out later in extended analysis methods were analyzed on the STERIOD and XLDRUGS method. For STERIOD: testosterone propionate and buprenorphine. For XLDRUGS: sildenafil.

Drug Specific Methods – Three methods were created for specific drugs/drug classes. Standards that correlate to these methods were analyzed.

For AMINE: the GCIR Standard Mix containing amphetamine, phentermine, and methamphetamine

For BENZOMS: the diazepam standard and the GCMS Standard Mix containing pethidine, cocaine and hydrocodone

For BUPMS: the buprenorphine standard and the GCMS Standard Mix containing pethidine, cocaine and hydrocodone

For GHB: the GHB standard

For OPIATE: the GCMS Standard Mix containing pethidine, cocaine and hydrocodone

For THCMS: the Δ -8-THC standard and Δ -9-THC standard

Increased Sensitivity Method – A method was created for increased sensitivity as needed for weak or trace amount samples. A diluted version of the GCMS Standard Mix was analyzed on the LOWCON method. The same diluted standard was analyzed on the DRUG1 method for comparison.

Evaluation

Acquired data from the aforementioned methods were considered in the establishment of methods, ensuring detection, chromatographic quality, total ion chromatograph and ion abundance as well as baseline separation of standard mixtures such as the GCMS Standard Mix (pethidine, cocaine, hydrocodone), the GCIR Standard Mix (amphetamine, methamphetamine and phentermine) and the P-MOX standard (phentermine, methamphetamine, xylazine, 4-ANPP, heroin, fentanyl, para-Fluorofentanyl).

ANALYTICAL STANDARD SPECIFICATIONS

Agilent 8890 GC System – Serial # US2449MA23

Agilent 5977C MSD – Serial # US2451A028

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STANDARDS ANALYZED

Buprenorphine

MeOH (Fisher lot 223204 Bottle 3/4 exp. u/c)

(Sigma lot SLBN0684V)

Made by SR 11/14/23 exp. 10/24/25

Δ -8-Tetrahydrocannabinol (Δ -8-THC)

MeOH (from ampule)

(Cayman lot 653352)

Made by CNS/AM 6/14/23

Quick check expiration 7/14/25

Δ -9-Tetrahydrocannabinol (Δ -9-THC)

MeOH (from ampule)

(Cayman lot 0651179, ampule 9/10)

Made by LMM 9/26/23

Quick check expiration 06/21/25

Diazepam

MeOH (Fisher lot 211779 exp. u/c)

(Sigma lot 105F0451)

Made by MJH 4/8/22 expires 1/17/26

GCIR Standard Mix

CHCl₃ (ACROS lot B0542909B Bottle 3/4 exp. u/c)

W/ DI H₂O cap + NH₄OH (BDH lot 2014061276 exp. u/c)

Amphetamine (Sigma lot 79H0603)

Methamphetamine (Sigma lot 50H02161)

Phentermine HCl (Sigma lot 074K1059)

Made by CNS 6/18/24 exp. 6/18/25

GCMS Standard Mix

CHCl₃ (Thermo Scientific lot B0543886A bottle 1/4 exp. u/c)

w/ DI H₂O + base cap NH₄OH (BDH lot 2014061276 Bottle 8/12 exp. u/c)

Pethidine (Penick lot 413NMN-027)

Cocaine (Sigma lot 59H0640)

Hydrocodone (Cayman lot 0616125-6 3/2)

Hydrocodone (Cayman lot 0616125-6 4/2)

Made by CNS/AJM 3/10/25 exp. 3/10/26

GHB

MeOH (Fisher lot 217364 Bottle 4/4 exp. u/c)

(Sigma lot 089H3410)

Made by CNS/AM 6/14/23 exp. 3/20/26

P-MOX Standard

CHCl₃ (ACROS lot B0542909B Bottle 2/4 exp. u/c)

w/ DI H₂O + base cap NH₄OH (BDH/VWR lot 2014042806 exp. u/c)

Phentermine (Sigma lot 074K1059)

Methamphetamine (Sigma lot 071K1580)

Xylazine (Cayman lot 0471462-19)

Heroin (Cayman lot 0559235-10)

Para-Fluorofentanyl (Cayman lot 0699563-6)

Fentanyl (Cayman lot 0654205-33)

4-ANPP (Cayman lot 050831-18)

Made by JS 4/14/25 exp. 4/14/26

Sildenafil

MeOH (Fisher lot 217364 Bottle 4/4 exp. u/c)

(Cayman lot 0464768-1)

Made by CNS/AM 6/14/23 exp. 3/18/26

Testosterone Propionate

MeOH (Fisher lot 223204 Bottle 2/4 exp. u/c)

(Sigma lot 034K0695)

Made by CES 5/24/23 exp. 3/19/26

METHODS AND STANDARDS ANALYZED

Agilent 8890 GC System – Serial # US2449MA23

Agilent 5977C MSD – Serial # US2451A028

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MASS SPEC – AUTO SAMPLE INJECTION

AMINE	GCIR Standard Mix
BENZOMS	DIAZEPAM GCMS Standard mix
BUPMS	BUPRENORPHINE GCMS Standard mix
DRUG1	GCMS Standard Mix P-MOX Standard GCIR Standard Mix GCMS Standard Mix (diluted) BUPRENORPHINE
GHB	GHB
LOWCON	GCMS Standard Mix (diluted)
OPIATE	GCMS Standard Mix
STERIOD	P-MOX Standard BUPRENORPHINE TESTOSTERONE PROPIONATE

THCMS

Δ -8-THC

Δ -9-THC

XLDRUGS

P-MOX Standard

SILDENAFIL

METHOD CONTROL PARAMETERS

Method Information for: D:\MassHunter\GCMS\1\methods\AMINE.M

Method Sections To Run:

() Save Copy of Method With Data
() Instrument Control Pre-Run Cmd/Macro =
() Data Analysis Pre-Run Cmd/Macro =
(X) Data Acquisition
(X) Data Analysis
() Instrument Control Post-Run Cmd/Macro =
() Data Analysis Post-Run Cmd/Macro =

Method Comments:

AMINE for amines

END OF METHOD CONTROL PARAMETERS

D:\MassHunter\GCMS\1\methods\AMINE.M
Fri Apr 25 07:06:44 2025

Control Information

Sample Inlet : GC
Injection Source : GC ALS
Injection Location: Front
Mass Spectrometer : Enabled

No Sample Prep method has been assigned to this method.

GC
GC Summary
Run Time 8.5 min
Post Run Time 0 min

Oven
Temperature
Setpoint On
(Initial) 80 °C
Hold Time 2 min
Post Run 50 °C
Program
#1 Rate 10 °C/min
#1 Value 125 °C
#1 Hold Time 0.5 min
#2 Rate 35 °C/min
#2 Value 160 °C
#2 Hold Time 0.5 min

Equilibration Time 0.5 min
Max Temperature 325 °C
Maximum Temperature Override Disabled
Slow Fan Disabled

ALS
Front Injector
Syringe Size 10 µL
Injection Volume 1 µL
Solvent A Washes (PreInj) 2
Solvent A Washes (PostInj) 2
Solvent A Volume 8 µL
Solvent B Washes (PreInj) 2
Solvent B Washes (PostInj) 2
Solvent B Volume 8 µL
Sample Washes 1
Sample Wash Volume 8 µL
Sample Pumps 2
Dwell Time (PreInj) 0 min
Dwell Time (PostInj) 0 min
Solvent Wash Draw Speed 300 µL/min
Solvent Wash Dispense Speed 3000 µL/min
Sample Wash Draw Speed 300 µL/min
Sample Wash Dispense Speed 3000 µL/min
Injection Dispense Speed 6000 µL/min
Viscosity Delay 0 sec

Sample Depth	Disabled
Injection Type	Standard
L1 Airgap	0.2 µL
Solvent Wash Mode	A, B
Sample Overlap Mode	Sample overlap is not enabled
ALS Errors	Pause for user interaction
Front SS Inlet He Mode	Split
Heater	On 250 °C
Pressure	On 10.325 psi
Total Flow	On 25.676 mL/min
Septum Purge Flow	On 3 mL/min
Pre-Run Flow Test	Off
Gas Saver	Off
Split Ratio	20 :1
Split Flow	21.596 mL/min
Liner	A Liner has not been selected.
Column	
Column #1	
Flow	
Setpoint	On
(Initial)	1.0798 mL/min
Post Run	1.322 mL/min
Column Information	Agilent 19091S-433UI: US4814636H
Description	HP-5MS UI
Temperature Range	-60 °C-325 °C (350 °C)
Dimensions	30 m x 250 µm x 0.25 µm (Uncalibrated)
Heater	Oven
Column lock	Locked
In	Front SS Inlet He
Out	MSD
(Initial)	80 °C
Pressure	10.325 psi
Flow	1.0798 mL/min
Average Velocity	38.413 cm/sec
Holdup Time	1.3016 min
Control Mode	Constant Flow
Column Outlet Pressure	0 psi
Detector Evaluation	
Perform Detector Evaluation Test	Off
MSD Transfer Line	
Temperature	
Setpoint	On
(Initial)	280 °C
Signals	
Signal #1:	
Description	None
Signal #2:	
Description	None
Signal #3:	
Description	None

Signal #4:
Description
None

Signal #5:
Description
None

Signal #6:
Description
None

Signal #7:
Description
None

Signal #8:
Description
None

TUNE PARAMETERS for SN: US2449MA23

Trace Ion Detection is OFF.

34.593 : EMISSION
70.007 : ENERGY
31.911 : REPELLER
90.331 : IONFOCUS
25.226 : ENTRANCE_LENS
885.369 : EMVOLTS
947.4 : Actual EMV
1.00 : GAIN FACTOR
2087.000 : AMUGAIN
139.000 : AMUOFFSET
1.000 : FILAMENT
1.000 : DCPOLARITY
10.822 : ENTLENSOFFSET
0.000 : Ion_Body
0.000 : EXTLENS
-195.000 : MASSGAIN
-20.000 : MASSOFFSET

END OF TUNE PARAMETERS

END OF INSTRUMENT CONTROL PARAMETERS

Single Quadrupole Acquisition Method - MS Parameters Report

Method file	D:\MassHunter\GCMS\1\methods\AMINE.M
Tune file	ATUNE.U
Ion source	EI
Source temperature (°C)	230
Quad temperature (°C)	150
Fixed Electron energy (eV)	70.0
Acquisition Type	Scan
Stop time (min)	10.00
Solvent delay (min)	2.00
Trace Ion Detection	False
Gain Factor	1
EM Saver	False
EM Saver Limit	N/A

Scan Time Segments

Time	Start Mass	End Mass	Threshold	Scan Speed
2.00	40	550	70	1,562 [N=2]

Timed Events

Time	Type of Event	Parameter
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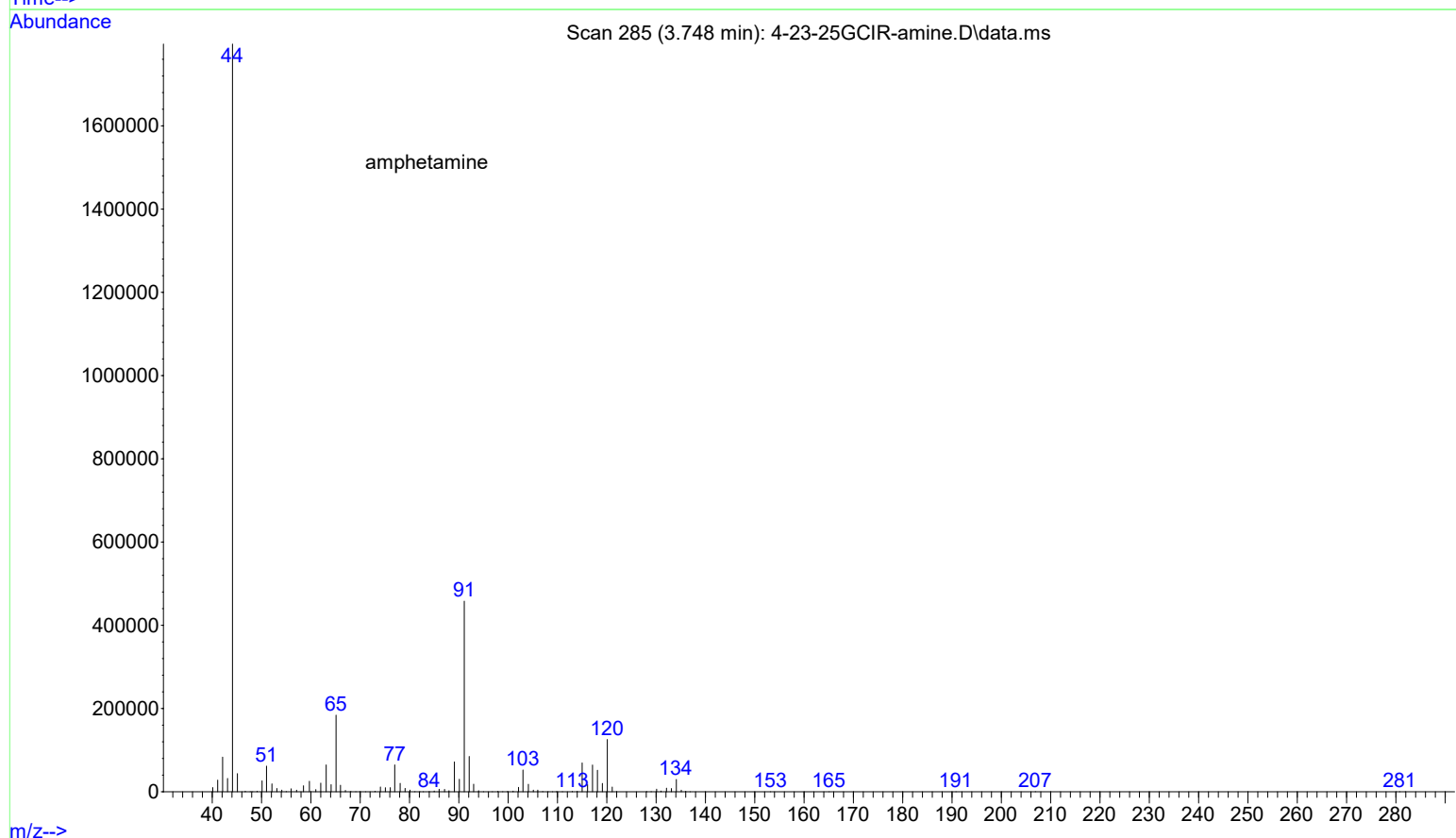
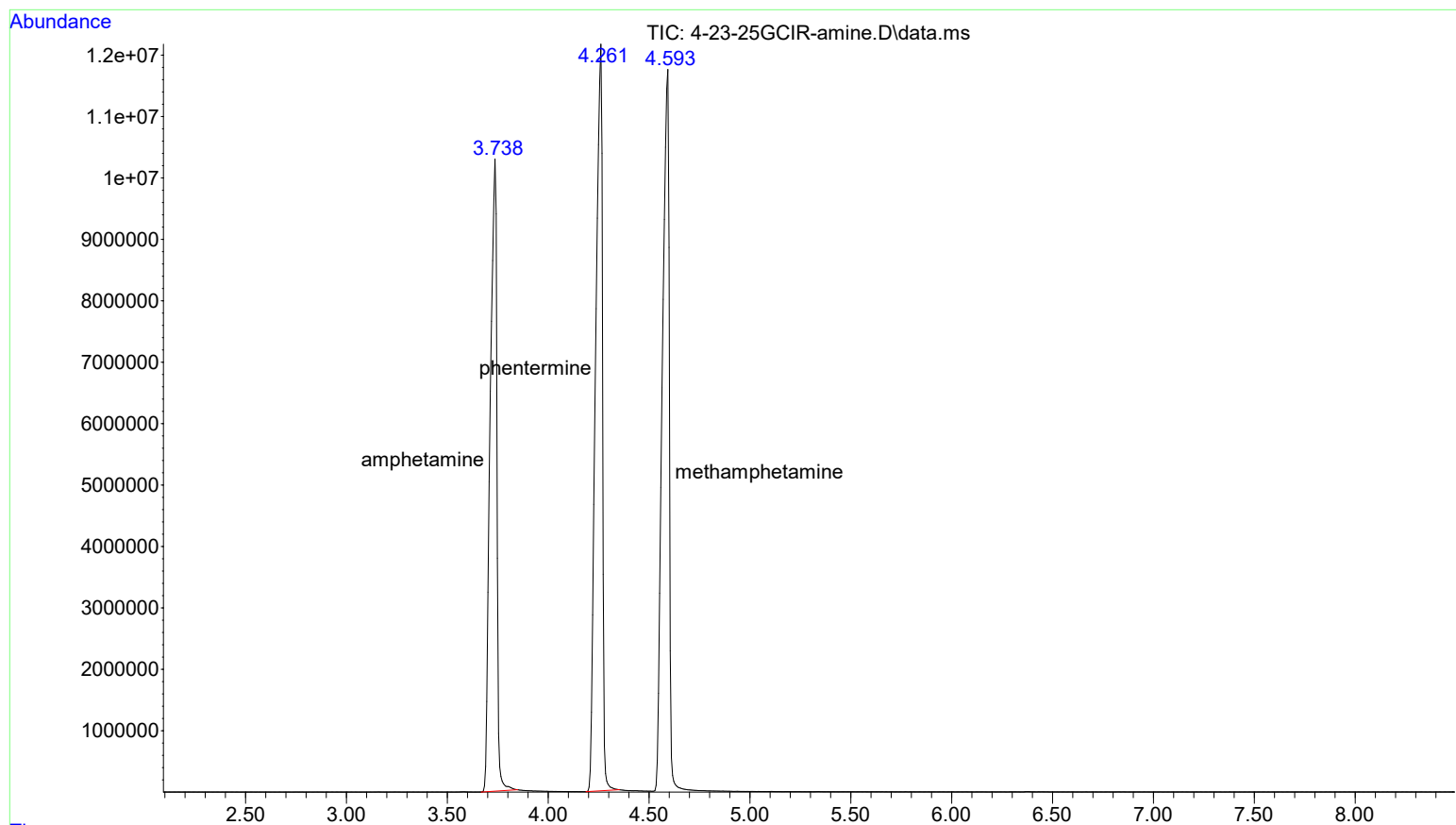
Real-Time Plots

Type of Plot	Label	Low Mass	High Mass
Total Ion	N/A	N/A	N/A
Spectrum	N/A	N/A	N/A
Extracted Ion	Scan 1-1	50	550

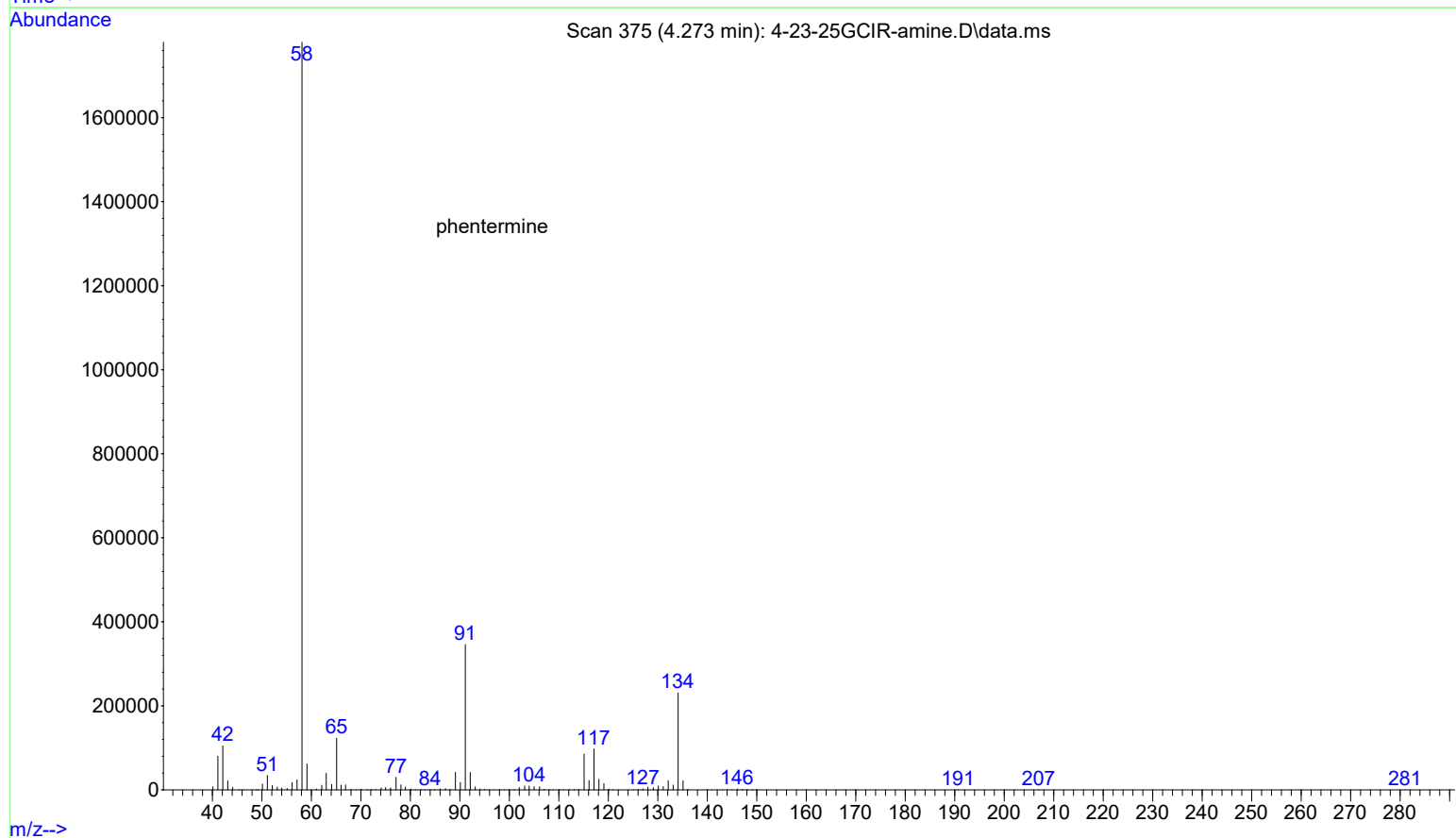
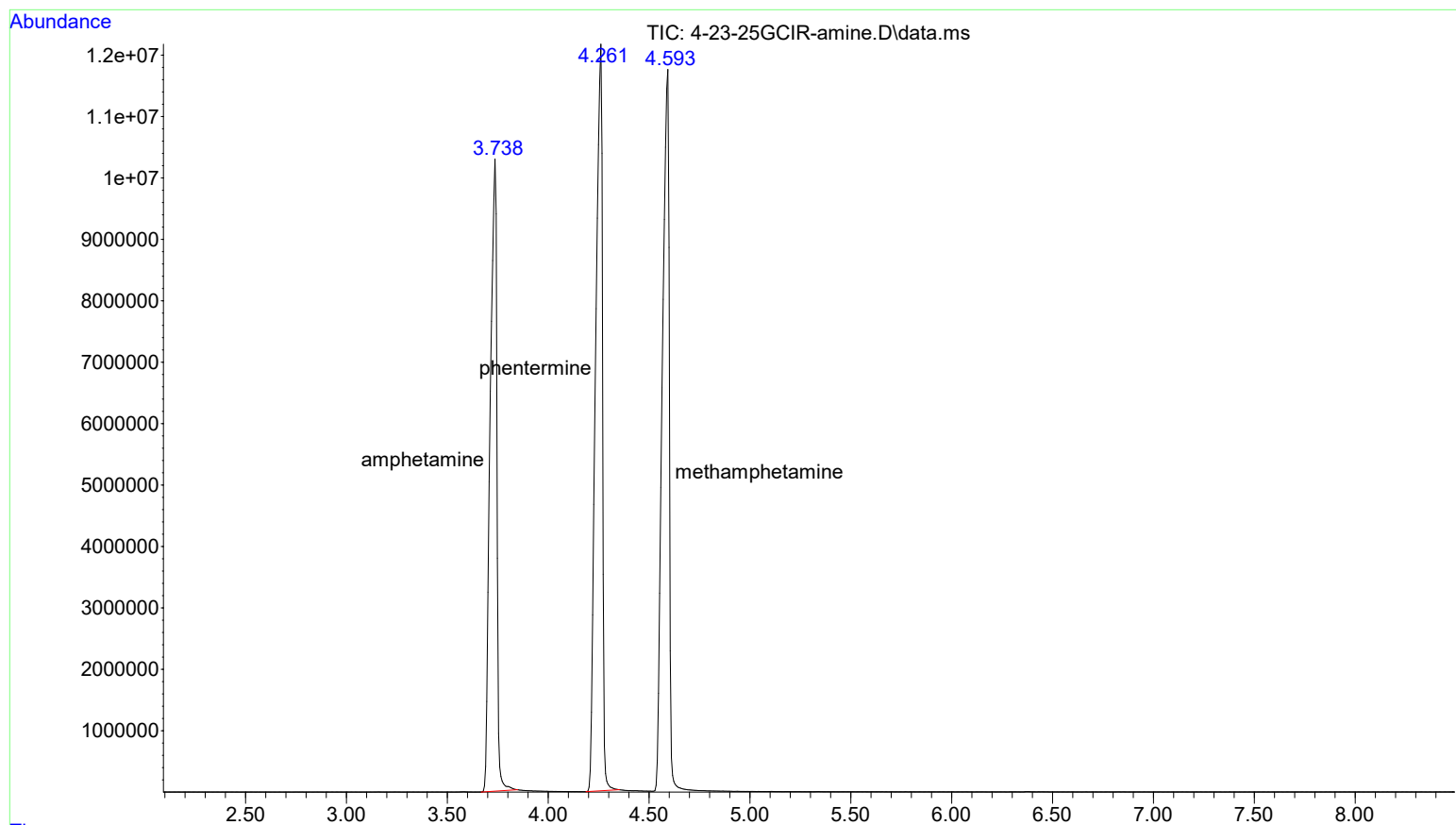
Self-Cleaning Ion Source Parameters

Mode	No Cleaning
------	-------------

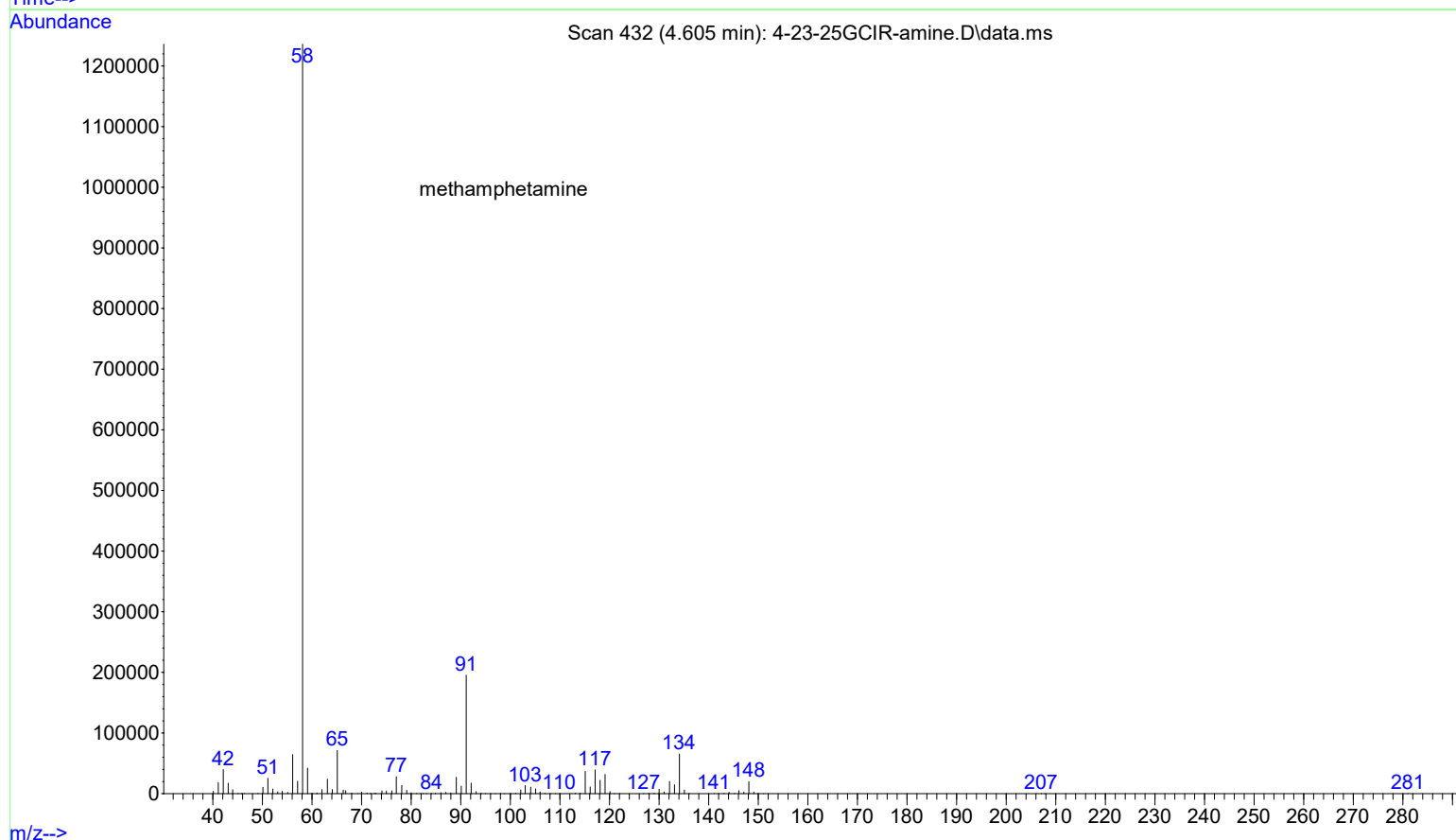
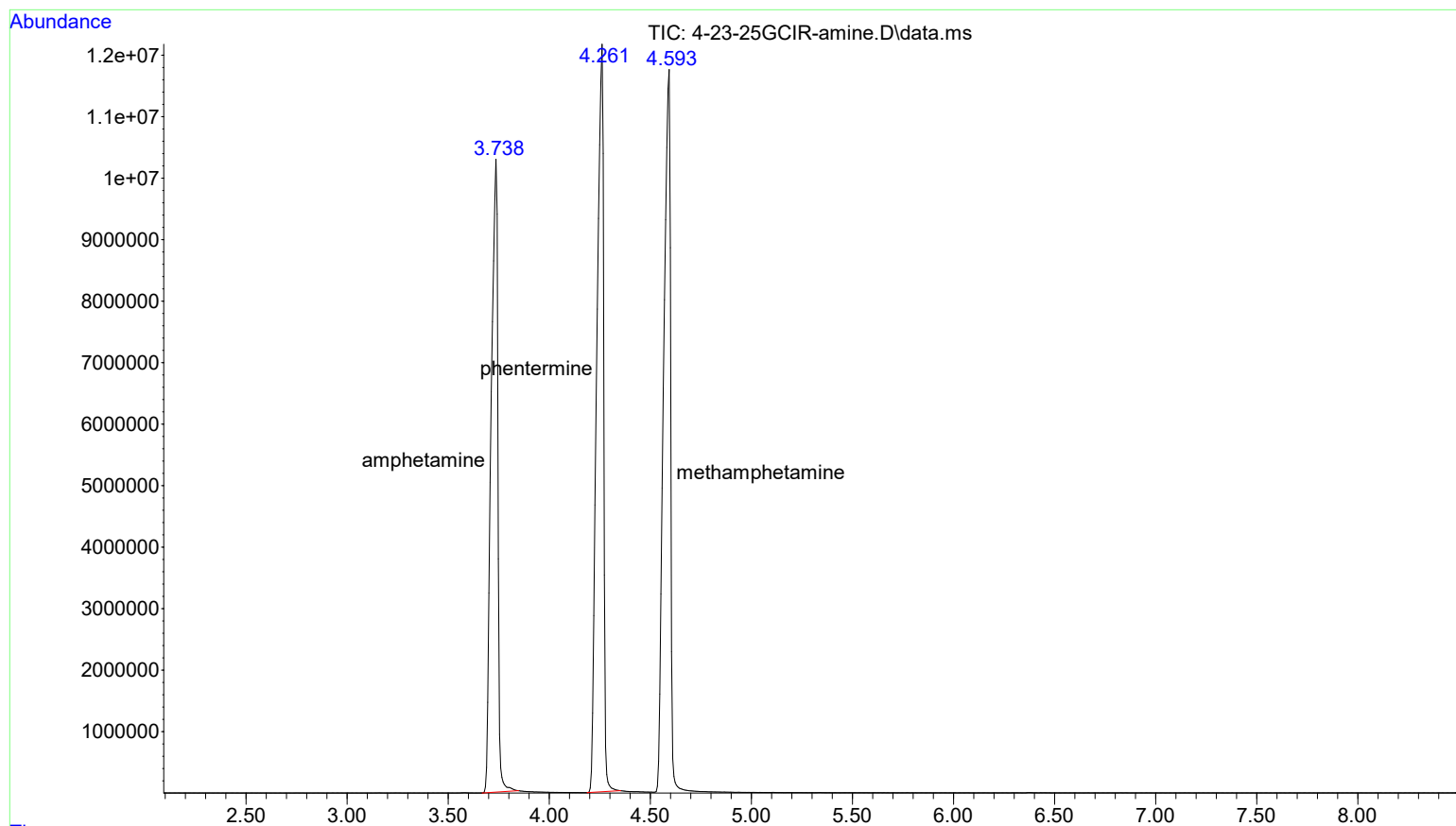
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25GCIR-amine.D
Operator :
Acquired : 23 Apr 2025 13:18 using AcqMethod AMINE.M
Instrument : Lilo
Sample Name: GCIR std mix
Misc Info : CHCl3
Vial Number: 144



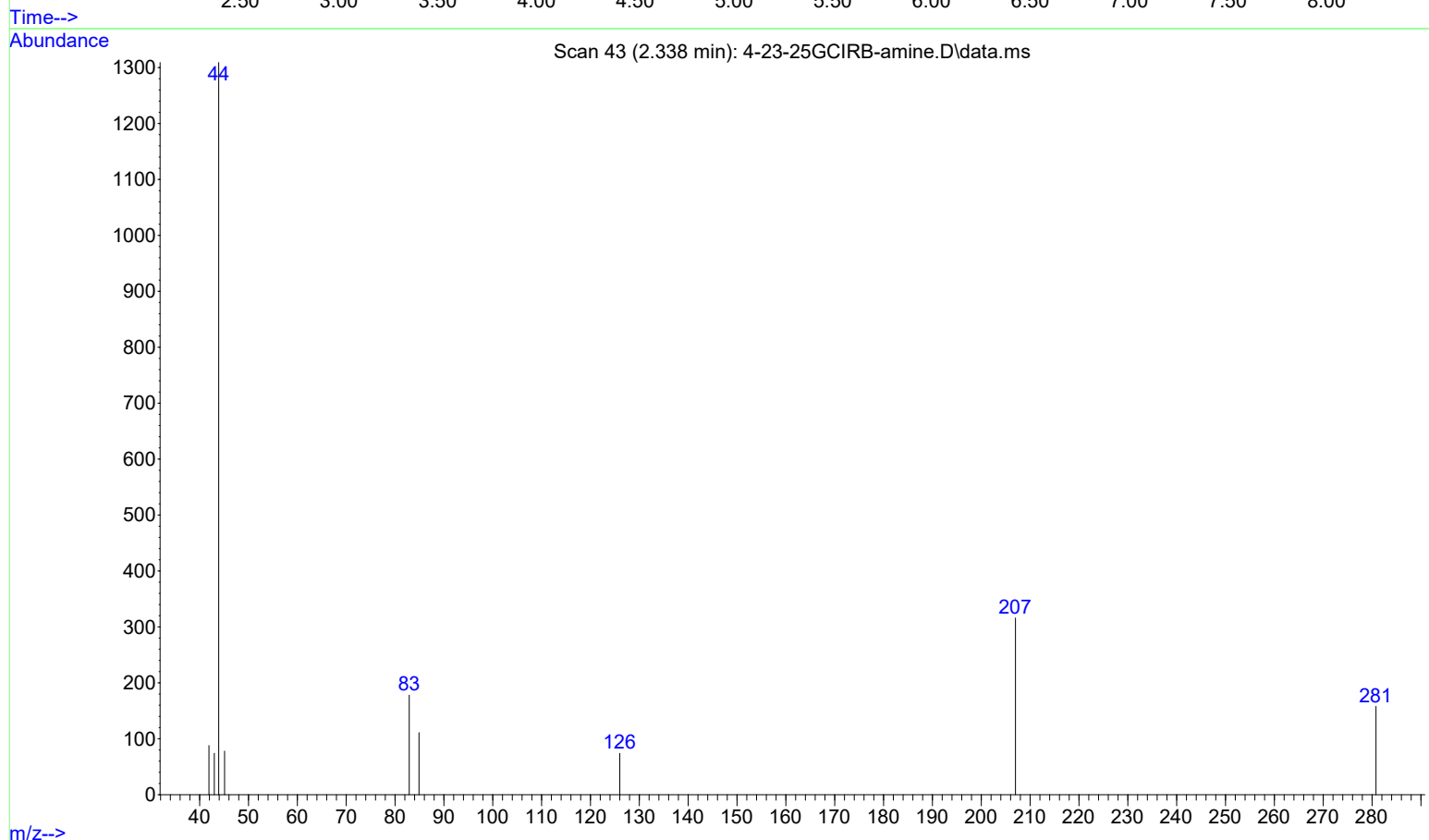
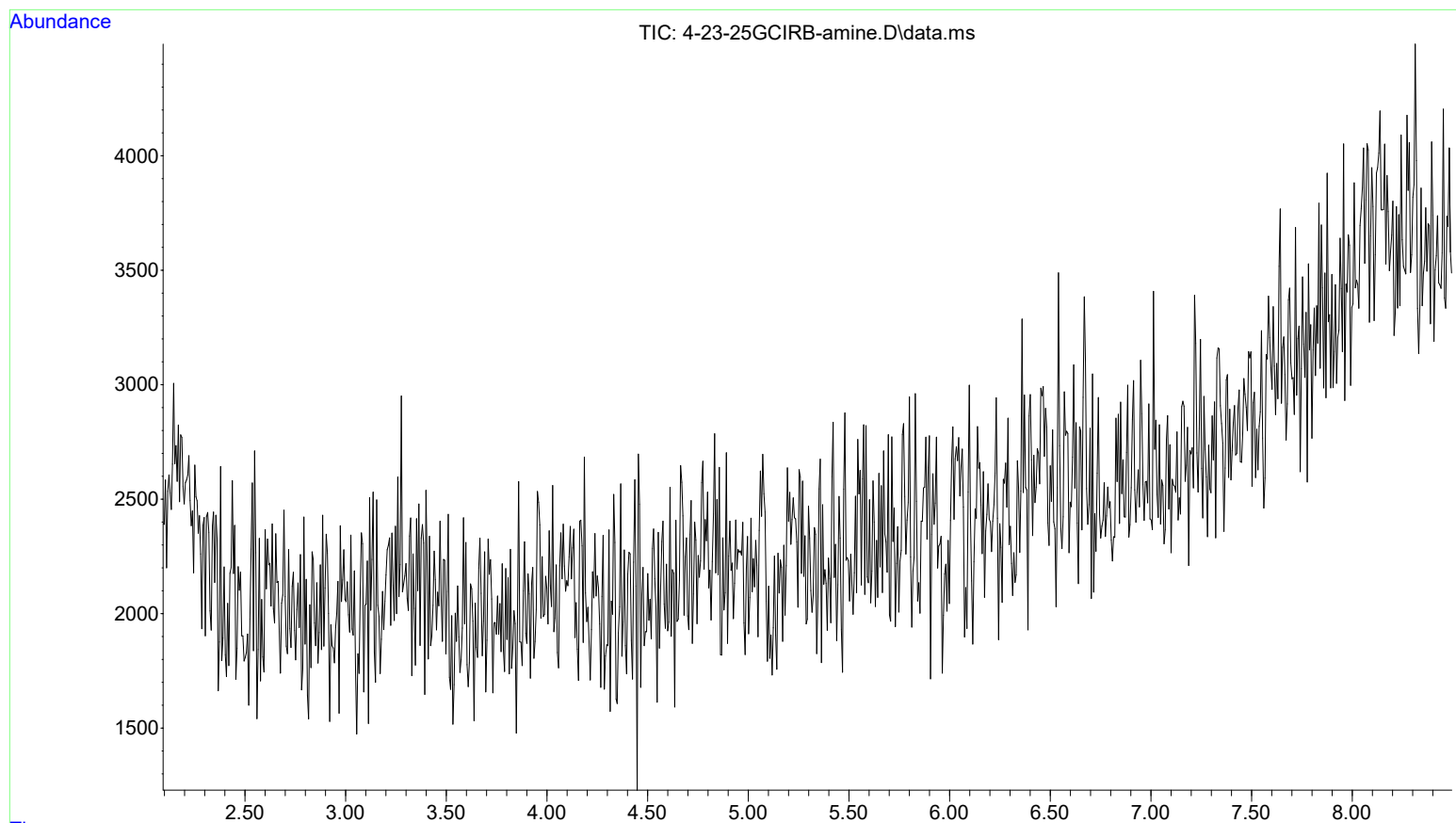
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25GCIR-amine.D
Operator :
Acquired : 23 Apr 2025 13:18 using AcqMethod AMINE.M
Instrument : Lilo
Sample Name: GCIR std mix
Misc Info : CHCl3
Vial Number: 144



File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25GCIR-amine.D
Operator :
Acquired : 23 Apr 2025 13:18 using AcqMethod AMINE.M
Instrument : Lilo
Sample Name: GCIR std mix
Misc Info : CHCl3
Vial Number: 144



File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25GCIRB-amine.D
Operator :
Acquired : 23 Apr 2025 13:07 using AcqMethod AMINE.M
Instrument : Lilo
Sample Name: GCIR std mix blank
Misc Info : CHCl3
Vial Number: 142



METHOD CONTROL PARAMETERS

Method Information for: D:\MassHunter\GCMS\1\methods\BENZOMS.M

Method Sections To Run:

- () Save Copy of Method With Data
- () Instrument Control Pre-Run Cmd/Macro =
- () Data Analysis Pre-Run Cmd/Macro =
- (X) Data Acquisition
- (X) Data Analysis
- () Instrument Control Post-Run Cmd/Macro =
- () Data Analysis Post-Run Cmd/Macro =

Method Comments:

BENZOMS for bezos

END OF METHOD CONTROL PARAMETERS

D:\MassHunter\GCMS\1\methods\BENZOMS.M
Fri Apr 25 07:07:44 2025

Control Information

Sample Inlet : GC
Injection Source : GC ALS
Injection Location: Front
Mass Spectrometer : Enabled

No Sample Prep method has been assigned to this method.

GC
GC Summary
Run Time 7.0333 min
Post Run Time 0 min

Oven
Temperature
Setpoint On
(Initial) 210 °C
Hold Time 0.5 min
Post Run 50 °C
Program
#1 Rate 30 °C/min
#1 Value 280 °C
#1 Hold Time 4.2 min

Equilibration Time 0.5 min
Max Temperature 325 °C
Maximum Temperature Override Disabled
Slow Fan Disabled

ALS
Front Injector
Syringe Size 10 µL
Injection Volume 1 µL
Solvent A Washes (PreInj) 2
Solvent A Washes (PostInj) 2
Solvent A Volume 8 µL
Solvent B Washes (PreInj) 2
Solvent B Washes (PostInj) 2
Solvent B Volume 8 µL
Sample Washes 2
Sample Wash Volume 8 µL
Sample Pumps 2
Dwell Time (PreInj) 0 min
Dwell Time (PostInj) 0 min
Solvent Wash Draw Speed 300 µL/min
Solvent Wash Dispense Speed 3000 µL/min
Sample Wash Draw Speed 300 µL/min
Sample Wash Dispense Speed 3000 µL/min
Injection Dispense Speed 6000 µL/min
Viscosity Delay 0 sec
Sample Depth Disabled
Injection Type Standard
L1 Airgap 0.2 µL

Solvent Wash Mode	A, B
Sample Overlap Mode	Sample overlap is not enabled
ALS Errors	Pause for user interaction
Front SS Inlet He Mode	Split
Heater	On 250 °C
Pressure	On 30.151 psi
Total Flow	On 35.783 mL/min
Septum Purge Flow	On 3 mL/min
Pre-Run Flow Test	Off
Gas Saver	On 20 mL/min after 2 min
Split Ratio	15 :1
Split Flow	30.734 mL/min
Liner	A Liner has not been selected.
Column	
Column #1	
Flow	
Setpoint	On
(Initial)	2.0489 mL/min
Post Run	1.322 mL/min
Column Information	Agilent 19091S-433UI: US4814636H
Description	HP-5MS UI
Temperature Range	-60 °C-325 °C (350 °C)
Dimensions	30 m x 250 µm x 0.25 µm (Uncalibrated)
Heater	Oven
Column lock	Locked
In	Front SS Inlet He
Out	MSD
(Initial)	210 °C
Pressure	30.151 psi
Flow	2.0489 mL/min
Average Velocity	55.634 cm/sec
Holdup Time	0.89872 min
Control Mode	Constant Flow
Column Outlet Pressure	0 psi
Detector Evaluation	
Perform Detector Evaluation Test	Off
MSD Transfer Line	
Temperature	
Setpoint	On
(Initial)	280 °C
Signals	
Signal #1:	
Description	None
Signal #2:	
Description	None
Signal #3:	
Description	None
Signal #4:	
Description	None

Signal #5:
Description
None

Signal #6:
Description
None

Signal #7:
Description
None

Signal #8:
Description
None

TUNE PARAMETERS for SN: US2449MA23

Trace Ion Detection is OFF.

34.593	:	EMISSION	
70.007	:	ENERGY	
31.911	:	REPELLER	
90.331	:	IONFOCUS	
25.226	:	ENTRANCE_LENS	
885.369	:	EMVOLTS	
		947.4	: Actual EMV
		1.00	: GAIN FACTOR
2087.000	:	AMUGAIN	
139.000	:	AMUOFFSET	
1.000	:	FILAMENT	
1.000	:	DCPOLARITY	
10.822	:	ENTLENSOFFSET	
0.000	:	Ion_Body	
0.000	:	EXTLENS	
-195.000	:	MASSGAIN	
-20.000	:	MASSOFFSET	

END OF TUNE PARAMETERS

END OF INSTRUMENT CONTROL PARAMETERS

Single Quadrupole Acquisition Method - MS Parameters Report

Method file	D:\MassHunter\GCMS\1\methods\BENZOMS.M
Tune file	ATUNE.U
Ion source	EI
Source temperature (°C)	230
Quad temperature (°C)	150
Fixed Electron energy (eV)	70.0
Acquisition Type	Scan
Stop time (min)	10.00
Solvent delay (min)	1.00
Trace Ion Detection	False
Gain Factor	1
EM Saver	False
EM Saver Limit	N/A

Scan Time Segments

Time	Start Mass	End Mass	Threshold	Scan Speed
1.00	40	550	70	1,562 [N=2]

Timed Events

Time	Type of Event	Parameter
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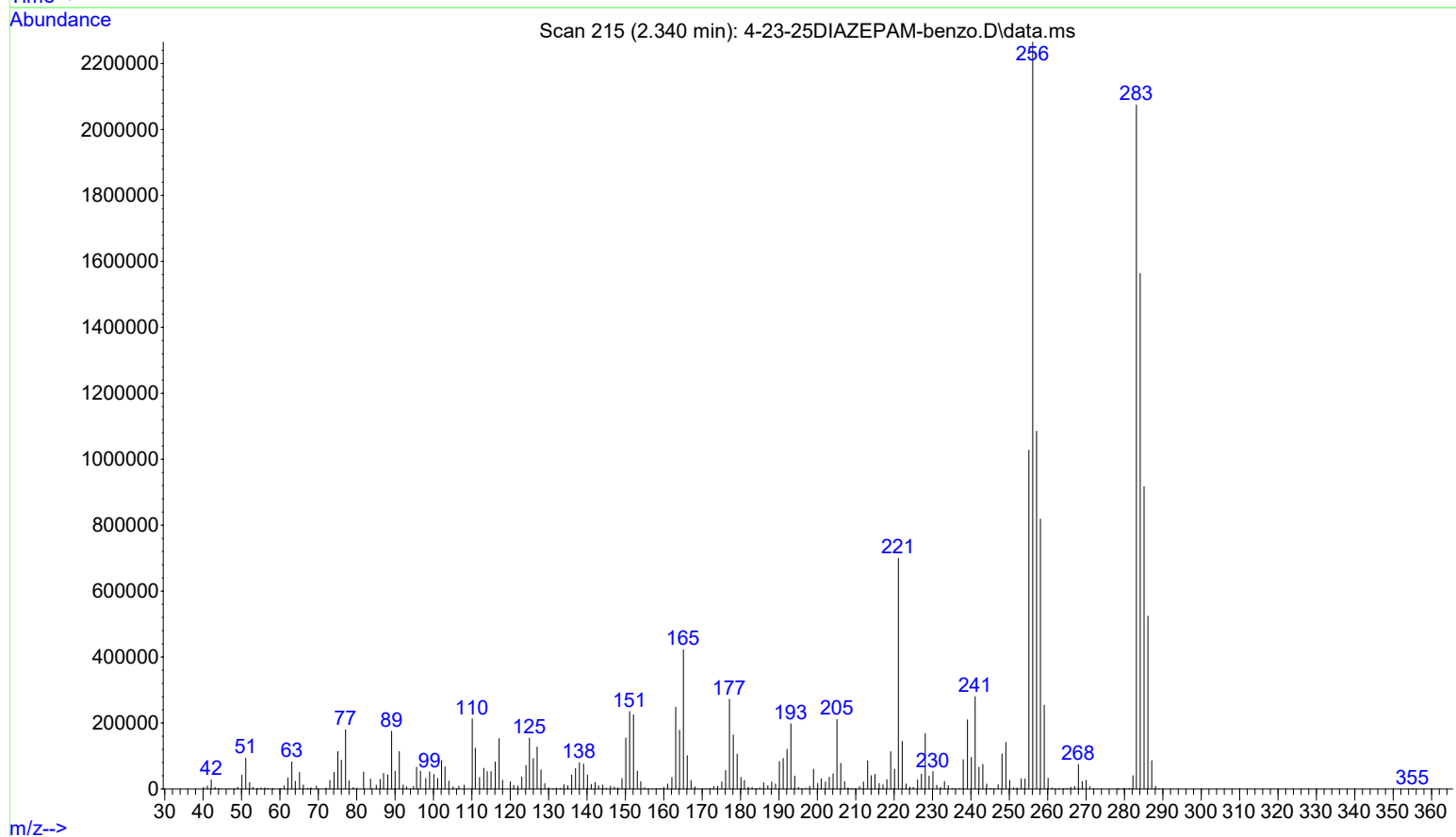
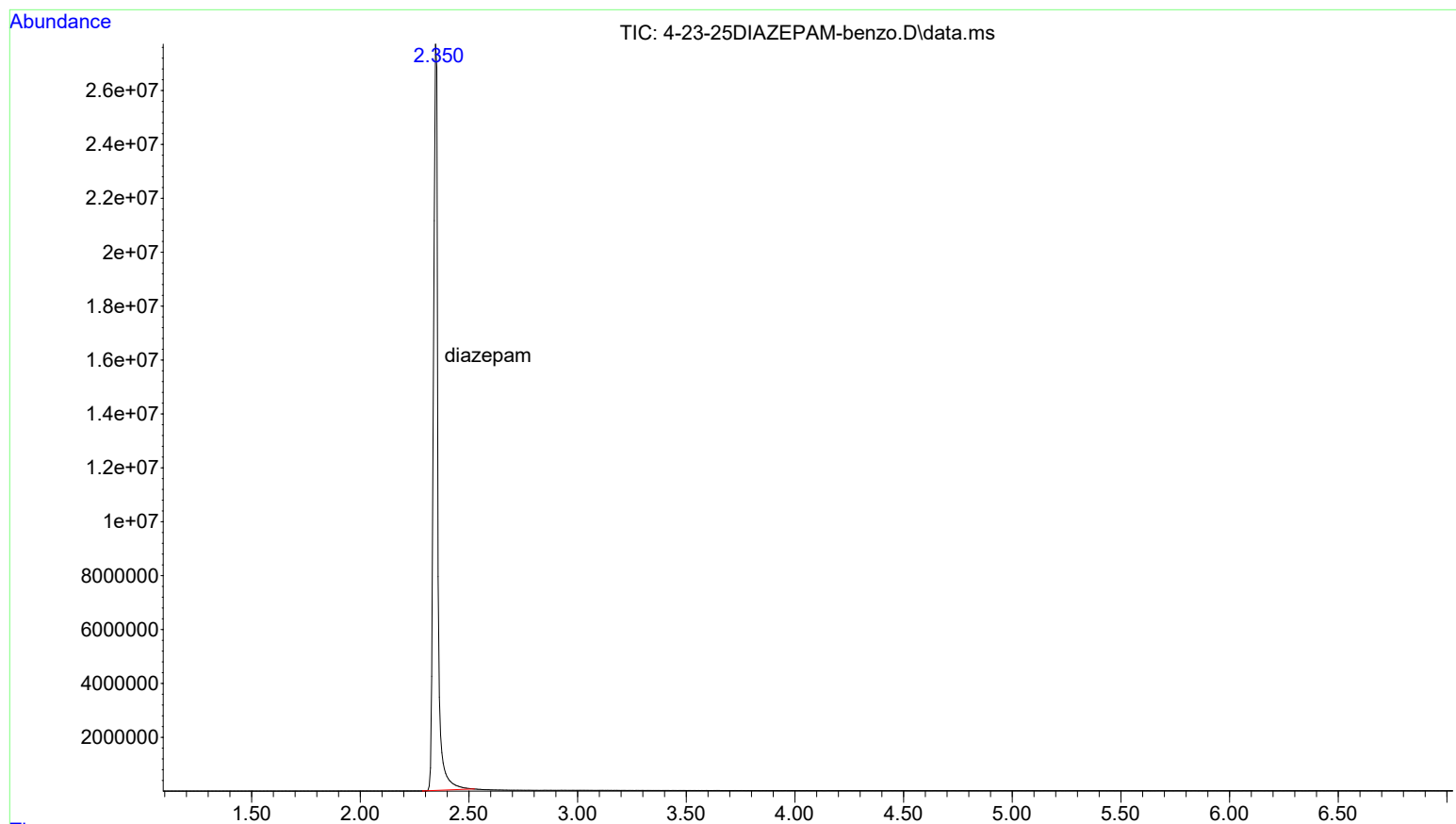
Real-Time Plots

Type of Plot	Label	Low Mass	High Mass
Total Ion	N/A	N/A	N/A
Spectrum	N/A	N/A	N/A
Extracted Ion	Scan 1-1	50	550

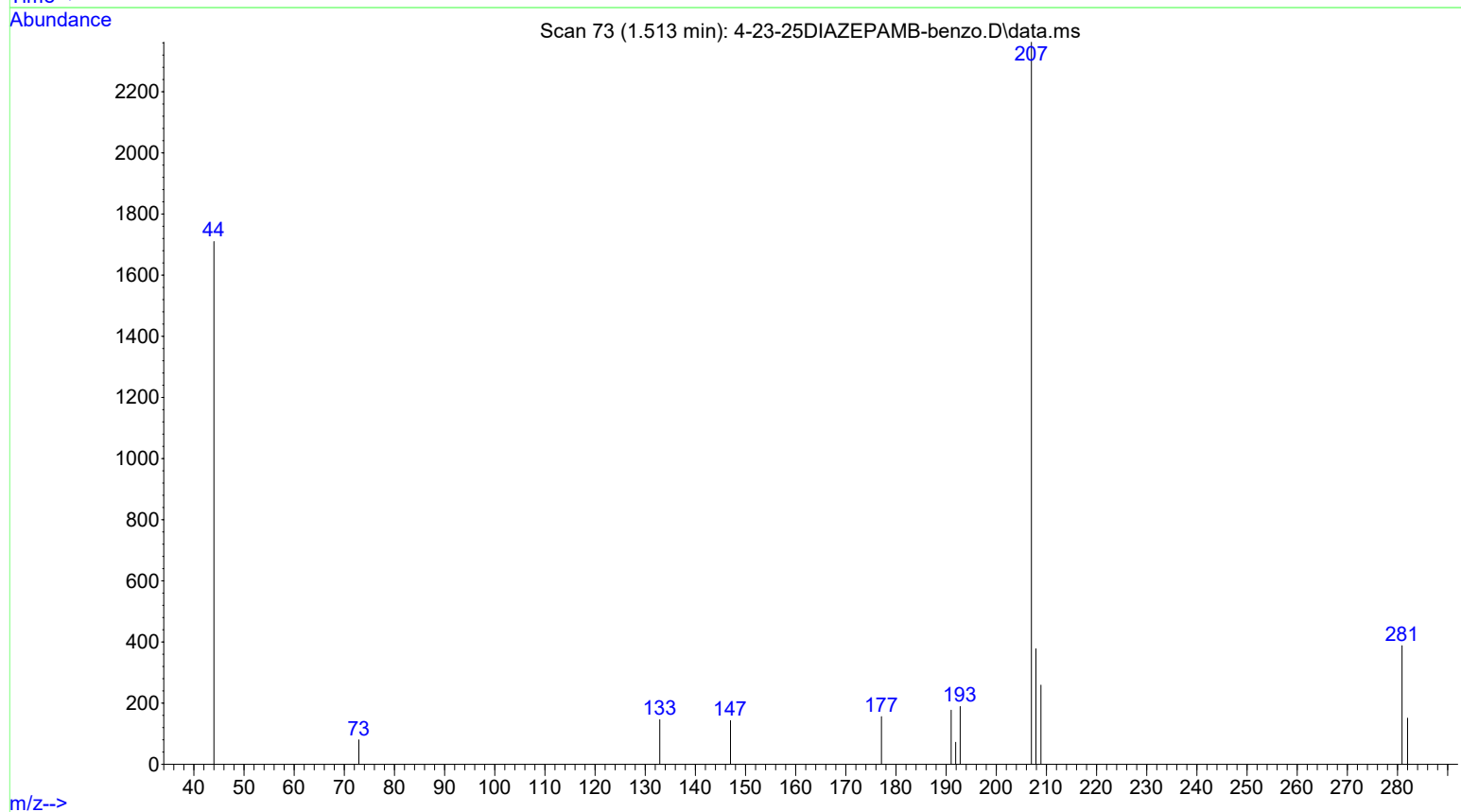
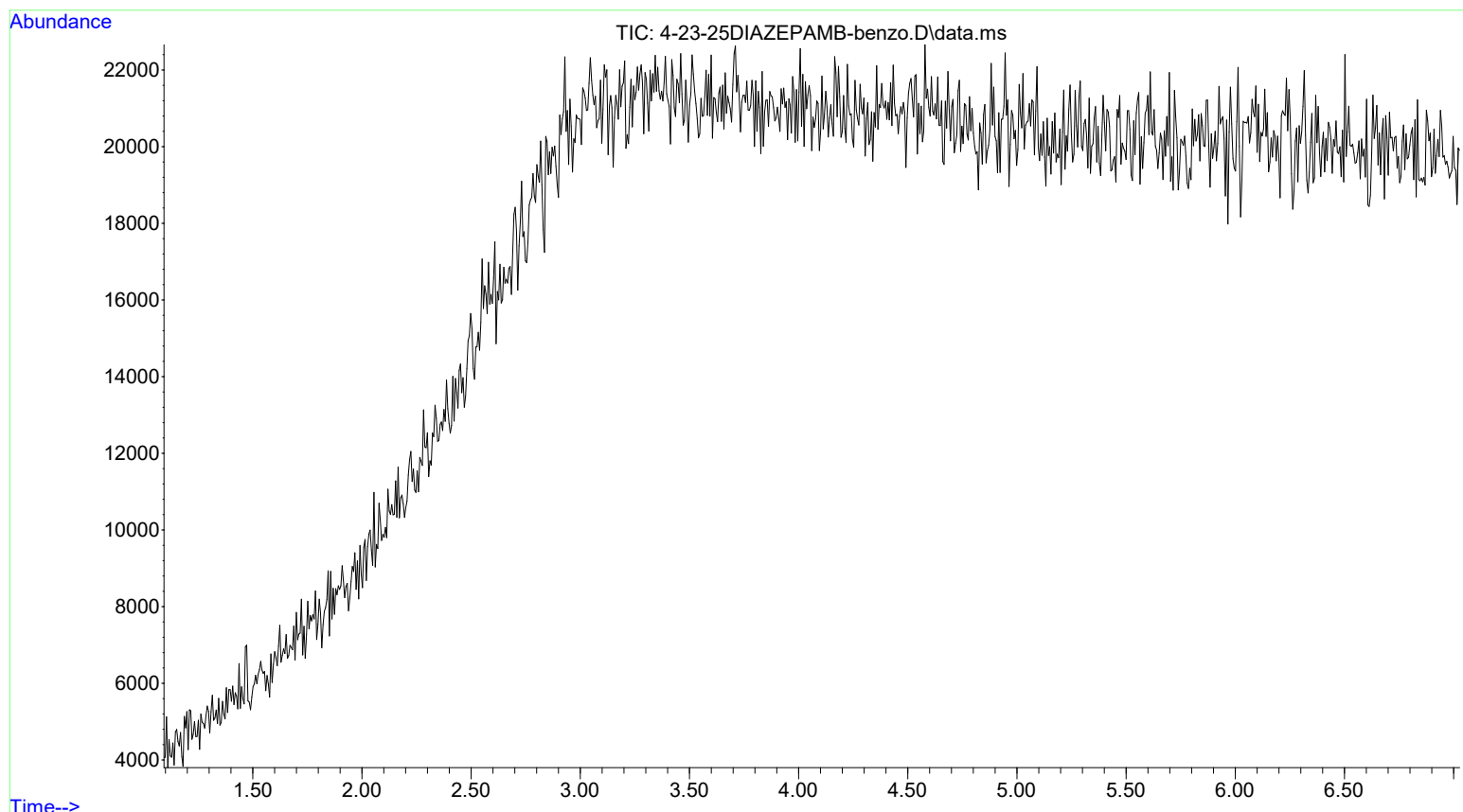
Self-Cleaning Ion Source Parameters

Mode	No Cleaning
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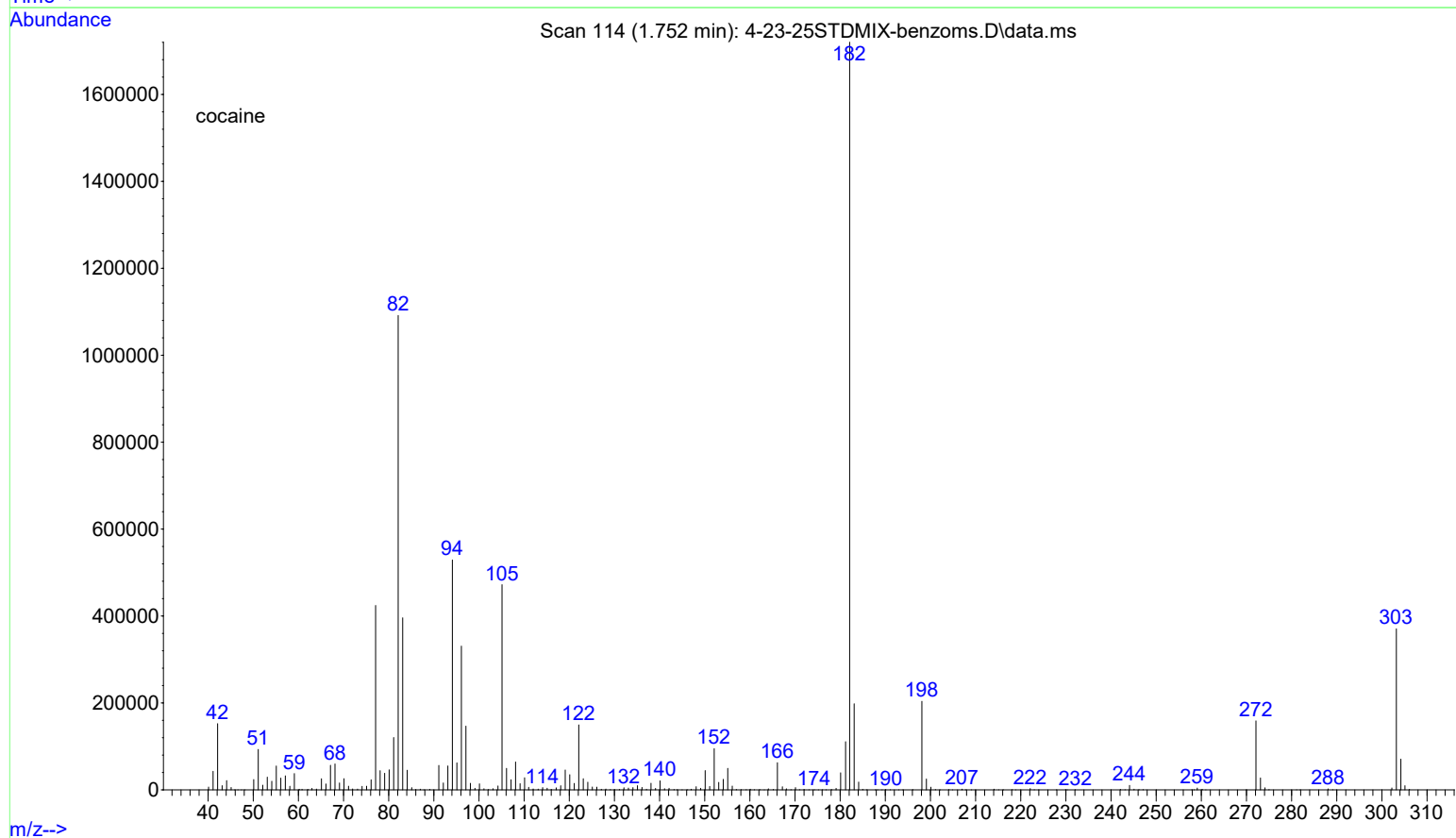
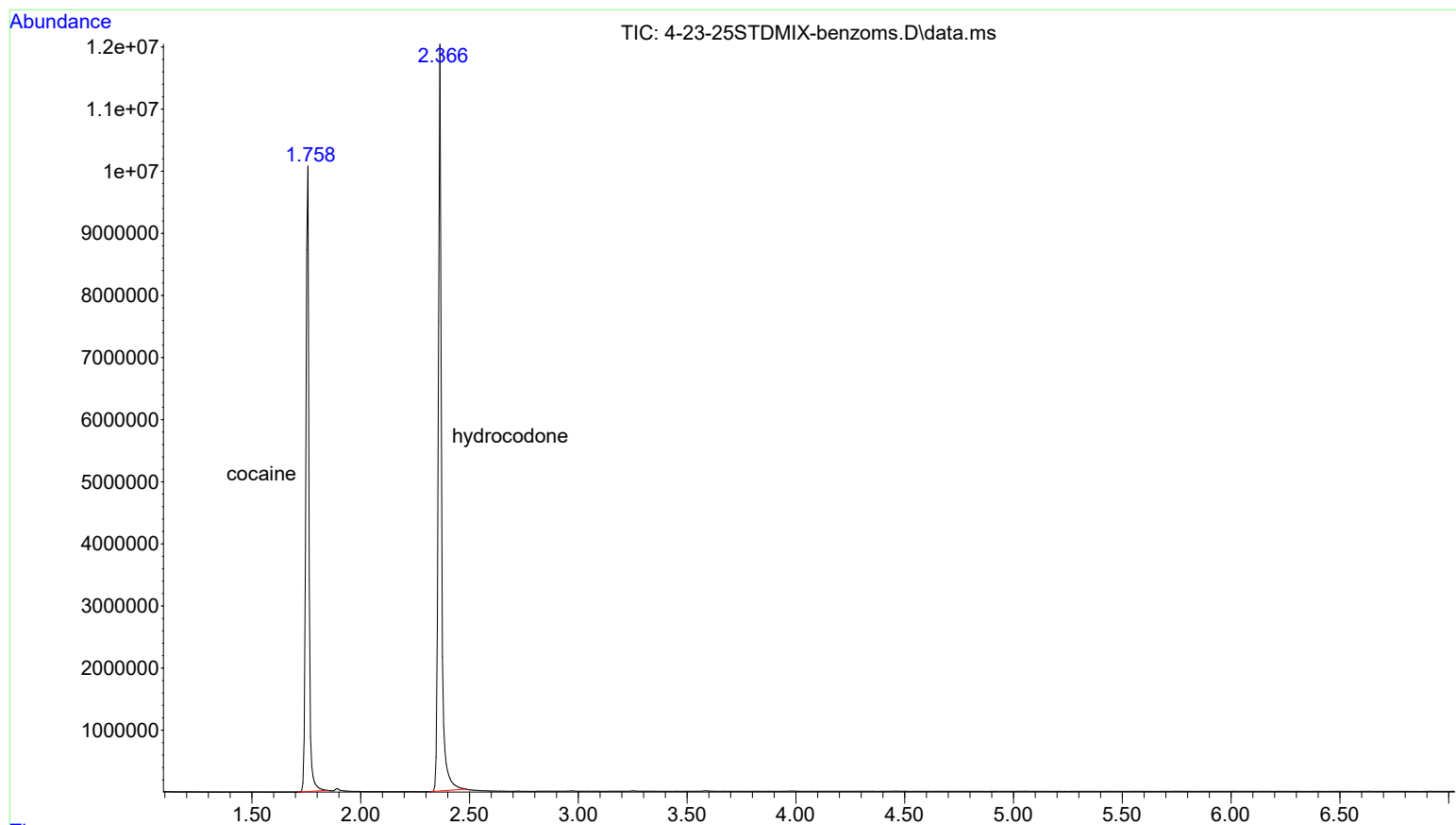
File : H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25DIAZEPAM-benzo.D
Operator :
Acquired : 23 Apr 2025 14:05 using AcqMethod BENZOMS.M
Instrument : Lilo
Sample Name: Diazepam std
Misc Info : MeOH
Vial Number: 145



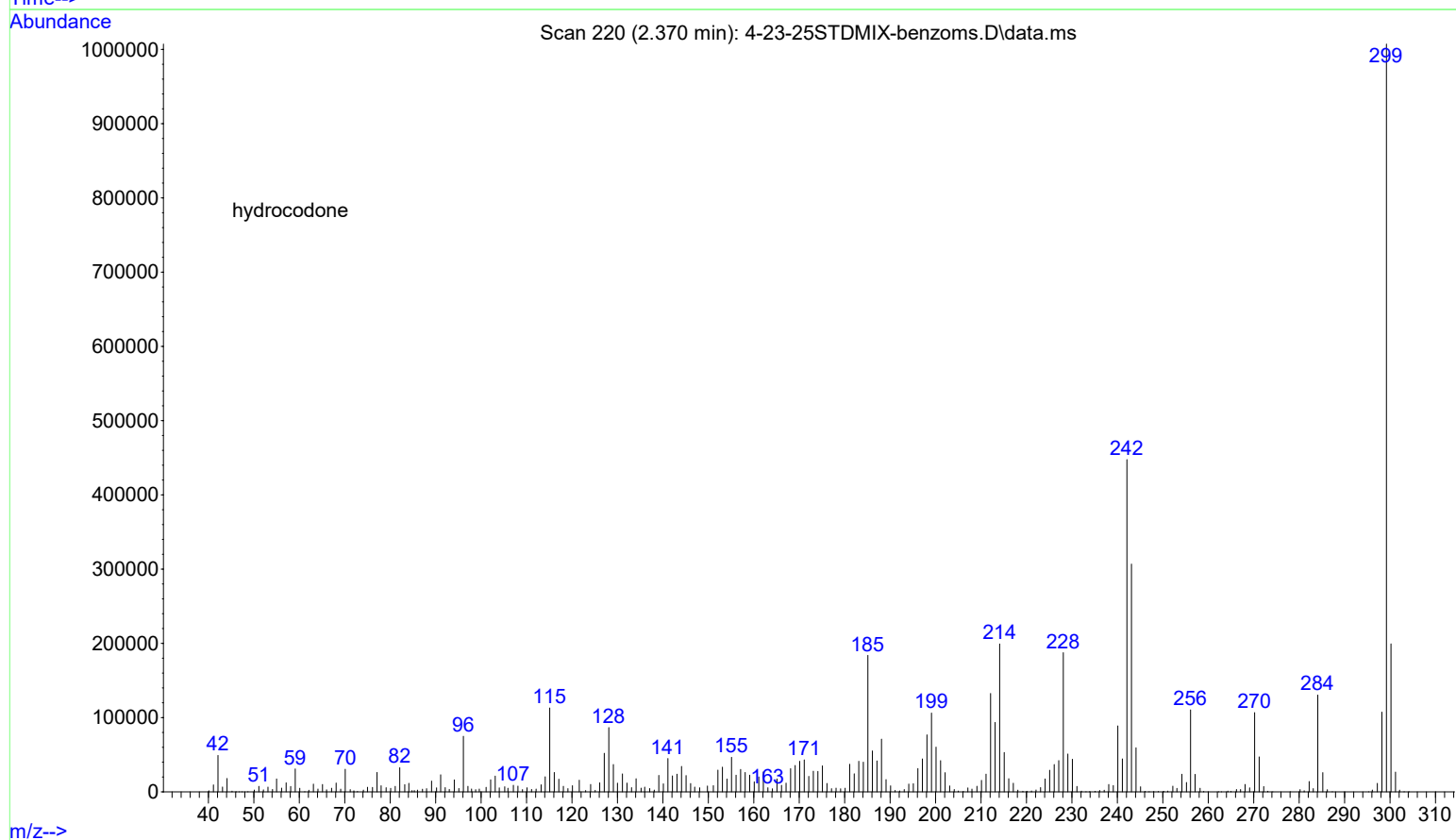
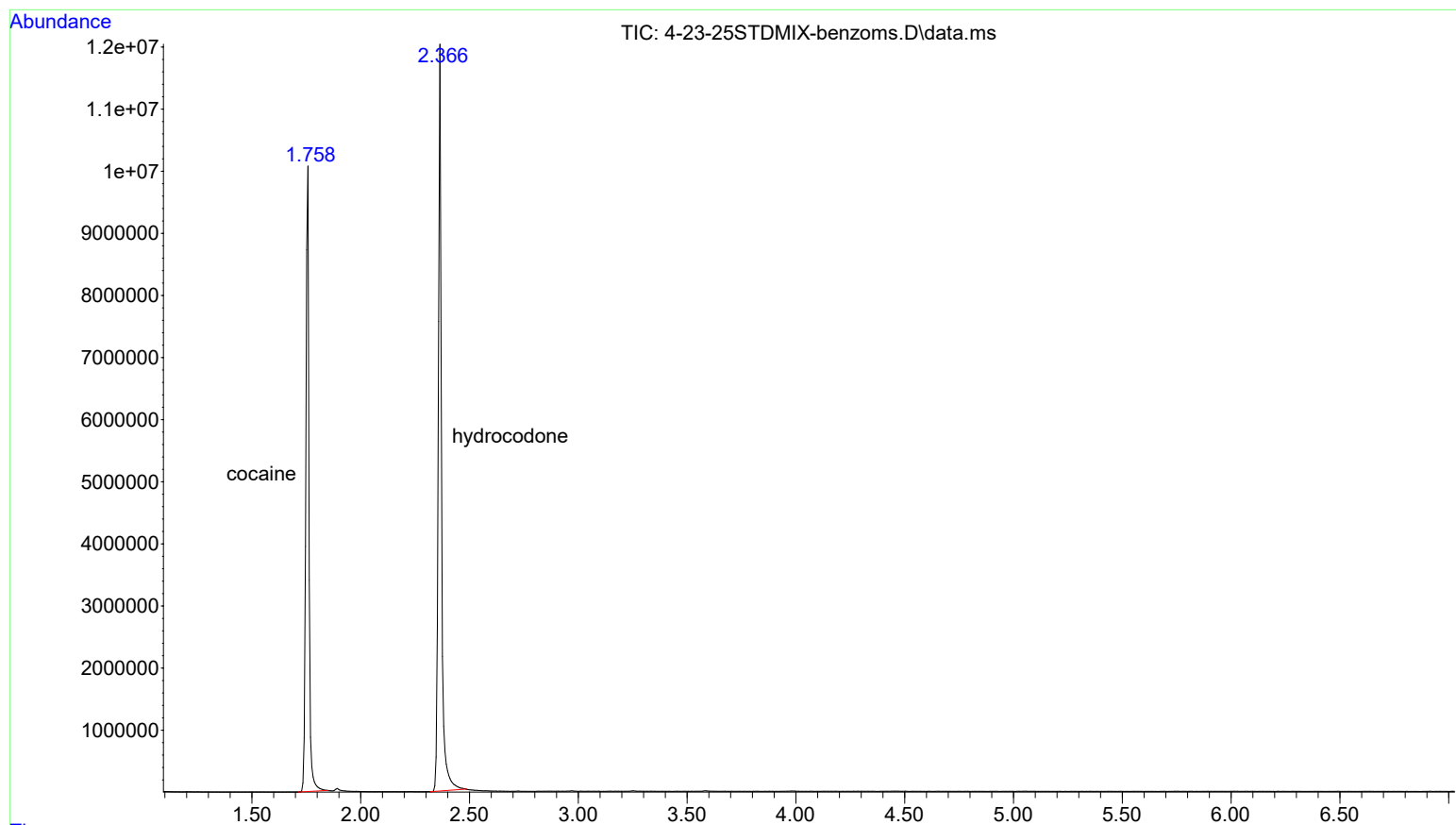
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25DIAZEPAMB-benzo
... .D
Operator :
Acquired : 23 Apr 2025 13:56 using AcqMethod BENZOMS.M
Instrument : Lilo
Sample Name: Diazepam std blank
Misc Info : MeOH
Vial Number: 141



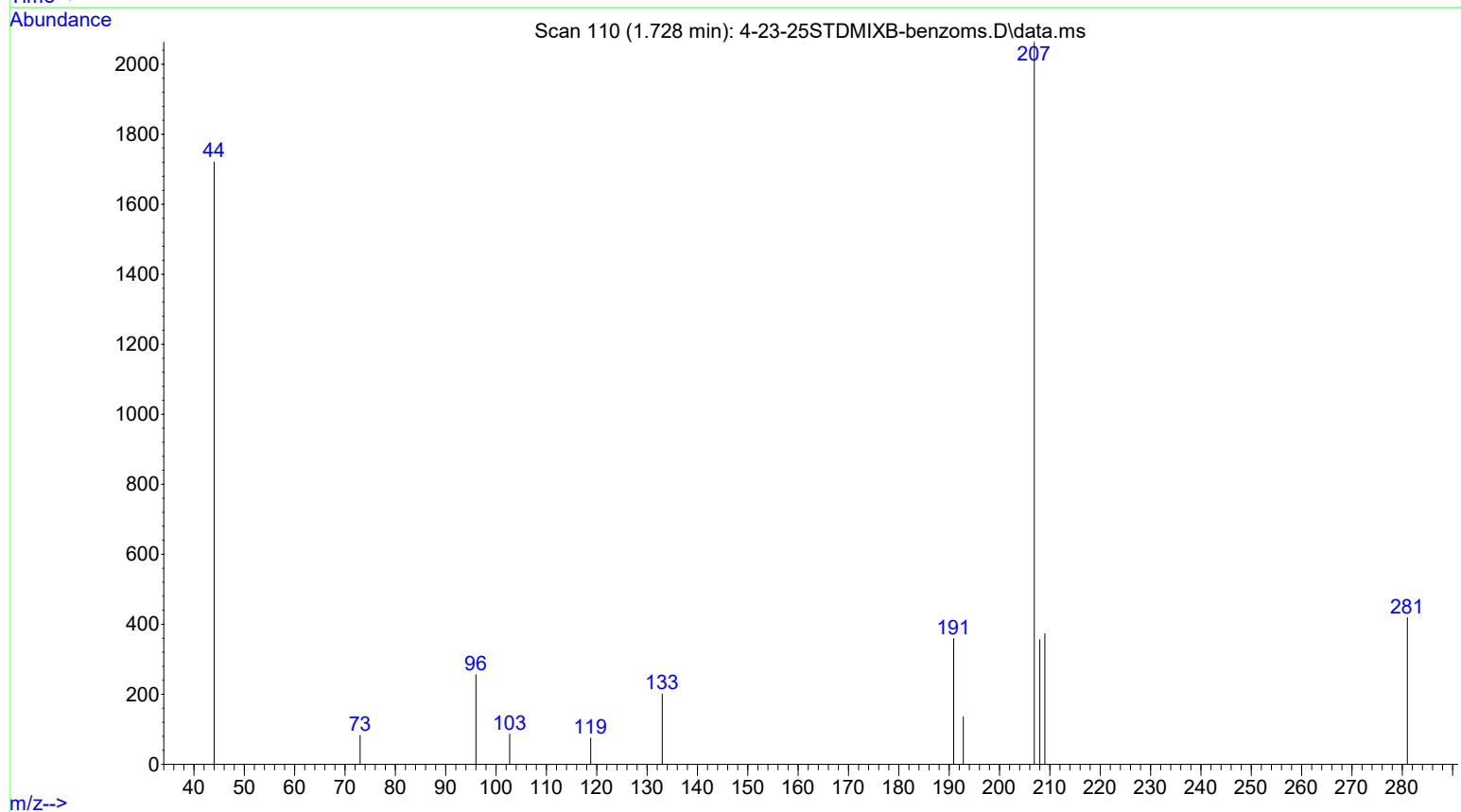
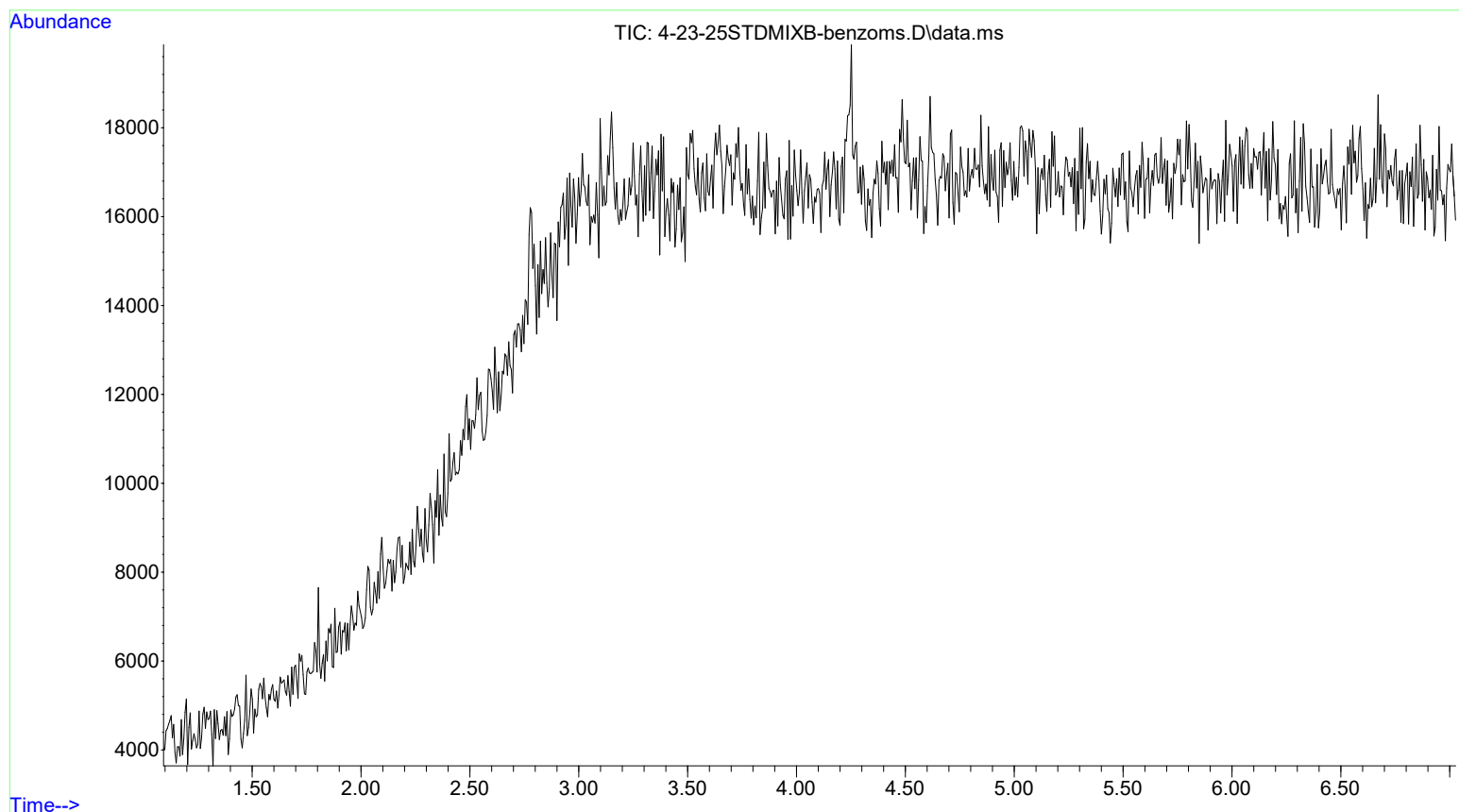
File : H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25STDMIX-benzoms.D
Operator :
Acquired : 23 Apr 2025 14:53 using AcqMethod BENZOMS.M
Instrument : Lilo
Sample Name: GCMS STD MIX
Misc Info : CHCl3
Vial Number: 146



File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25STDMIX-benzoms.D
Operator :
Acquired : 23 Apr 2025 14:53 using AcqMethod BENZOMS.M
Instrument : Lilo
Sample Name: GCMS STD MIX
Misc Info : CHCl3
Vial Number: 146



File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25STD MIXB-benzoms
... .D
Operator :
Acquired : 23 Apr 2025 14:43 using AcqMethod BENZOMS.M
Instrument : Lilo
Sample Name: GCMS STD MIX blank
Misc Info : CHCl3
Vial Number: 142



METHOD CONTROL PARAMETERS

Method Information for: D:\MassHunter\GCMS\1\methods\BUPMS.M

Method Sections To Run:

() Save Copy of Method With Data
() Instrument Control Pre-Run Cmd/Macro =
() Data Analysis Pre-Run Cmd/Macro =
(X) Data Acquisition
(X) Data Analysis
() Instrument Control Post-Run Cmd/Macro =
() Data Analysis Post-Run Cmd/Macro =

Method Comments:

BUPMS for buprenorphine

END OF METHOD CONTROL PARAMETERS

D:\MassHunter\GCMS\1\methods\BUPMS.M
Fri Apr 25 07:08:33 2025

Control Information

Sample Inlet : GC
Injection Source : GC ALS
Injection Location: Front
Mass Spectrometer : Enabled

No Sample Prep method has been assigned to this method.

GC
GC Summary
Run Time 11.5 min
Post Run Time 0 min

Oven
Temperature
Setpoint On
(Initial) 240 °C
Hold Time 0 min
Post Run 50 °C
Program
#1 Rate 40 °C/min
#1 Value 280 °C
#1 Hold Time 10.5 min

Equilibration Time 0.5 min
Max Temperature 325 °C
Maximum Temperature Override Disabled
Slow Fan Disabled

ALS
Front Injector
Syringe Size 10 µL
Injection Volume 1 µL
Solvent A Washes (PreInj) 1
Solvent A Washes (PostInj) 1
Solvent A Volume 8 µL
Solvent B Washes (PreInj) 1
Solvent B Washes (PostInj) 1
Solvent B Volume 8 µL
Sample Washes 1
Sample Wash Volume 8 µL
Sample Pumps 2
Dwell Time (PreInj) 0 min
Dwell Time (PostInj) 0 min
Solvent Wash Draw Speed 300 µL/min
Solvent Wash Dispense Speed 3000 µL/min
Sample Wash Draw Speed 300 µL/min
Sample Wash Dispense Speed 3000 µL/min
Injection Dispense Speed 6000 µL/min
Viscosity Delay 0 sec
Sample Depth Disabled
Injection Type Standard
L1 Airgap 0.2 µL

Solvent Wash Mode	A, B
Sample Overlap Mode	Sample overlap is not enabled
ALS Errors	Pause for user interaction
Front SS Inlet He Mode	Split
Heater	On 250 °C
Pressure	On 21.074 psi
Total Flow	On 27.738 mL/min
Septum Purge Flow	On 3 mL/min
Pre-Run Flow Test	Off
Gas Saver	Off
Split Ratio	20 :1
Split Flow	23.56 mL/min
Liner	A Liner has not been selected.
Column	
Column #1	
Flow	
Setpoint	On
(Initial)	1.178 mL/min
Post Run	1.322 mL/min
Column Information	Agilent 19091S-433UI: US4814636H
Description	HP-5MS UI
Temperature Range	-60 °C-325 °C (350 °C)
Dimensions	30 m x 250 µm x 0.25 µm (Uncalibrated)
Heater	Oven
Column lock	Locked
In	Front SS Inlet He
Out	MSD
(Initial)	240 °C
Pressure	21.074 psi
Flow	1.178 mL/min
Average Velocity	42.593 cm/sec
Holdup Time	1.1739 min
Control Mode	Constant Flow
Column Outlet Pressure	0 psi
Detector Evaluation	
Perform Detector Evaluation Test	Off
MSD Transfer Line	
Temperature	
Setpoint	On
(Initial)	280 °C
Signals	
Signal #1:	
Description	None
Signal #2:	
Description	None
Signal #3:	
Description	None
Signal #4:	
Description	None

Signal #5:
Description
None

Signal #6:
Description
None

Signal #7:
Description
None

Signal #8:
Description
None

TUNE PARAMETERS for SN: US2449MA23

Trace Ion Detection is OFF.

34.593 : EMISSION
70.007 : ENERGY
31.911 : REPELLER
90.331 : IONFOCUS
25.226 : ENTRANCE_LENS
885.369 : EMVOLTS
947.4 : Actual EMV
1.00 : GAIN FACTOR
2087.000 : AMUGAIN
139.000 : AMUOFFSET
1.000 : FILAMENT
1.000 : DCPOLARITY
10.822 : ENTLENSOFFSET
0.000 : Ion_Body
0.000 : EXTLENS
-195.000 : MASSGAIN
-20.000 : MASSOFFSET

END OF TUNE PARAMETERS

END OF INSTRUMENT CONTROL PARAMETERS

Single Quadrupole Acquisition Method - MS Parameters Report

Method file	D:\MassHunter\GCMS\1\methods\BUPMS.M
Tune file	ATUNE.U
Ion source	EI
Source temperature (°C)	230
Quad temperature (°C)	150
Fixed Electron energy (eV)	70.0
Acquisition Type	Scan
Stop time (min)	10.00
Solvent delay (min)	1.00
Trace Ion Detection	False
Gain Factor	1
EM Saver	False
EM Saver Limit	N/A

Scan Time Segments

Time	Start Mass	End Mass	Threshold	Scan Speed
1.00	40	500	150	1,562 [N=2]

Timed Events

Time	Type of Event	Parameter
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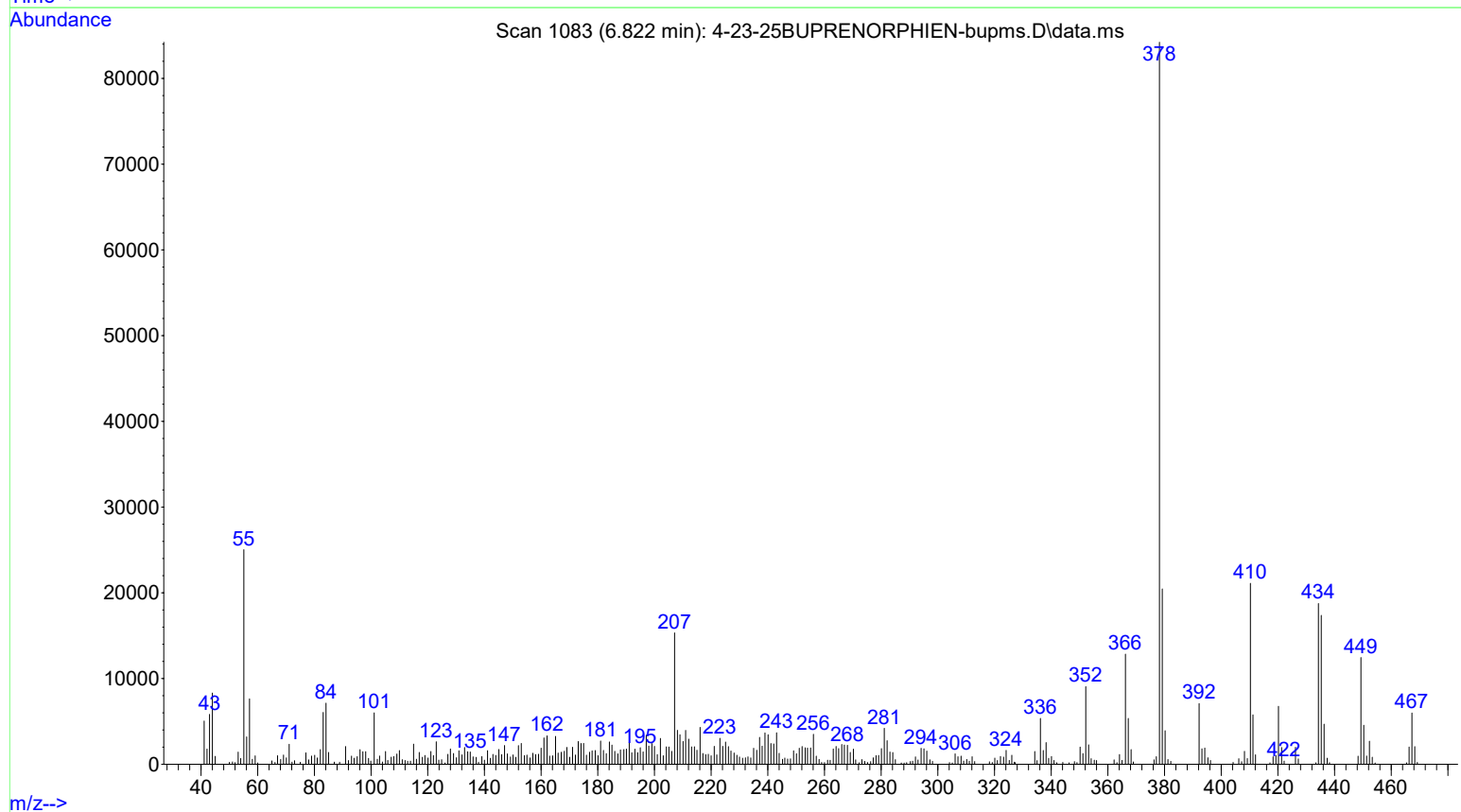
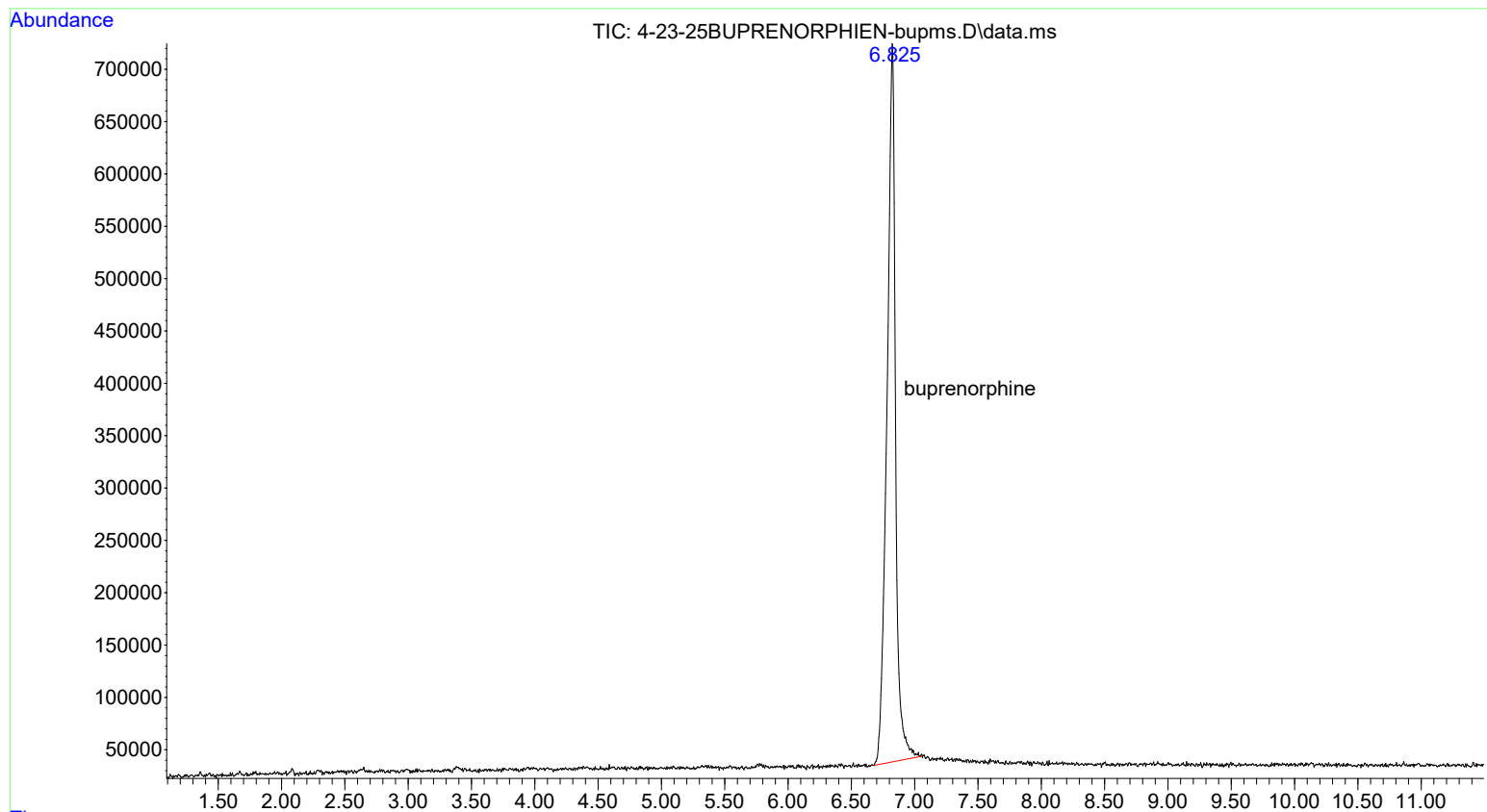
Real-Time Plots

Type of Plot	Label	Low Mass	High Mass
Total Ion	N/A	N/A	N/A
Spectrum	N/A	N/A	N/A
Extracted Ion	Scan 1-1	50	550

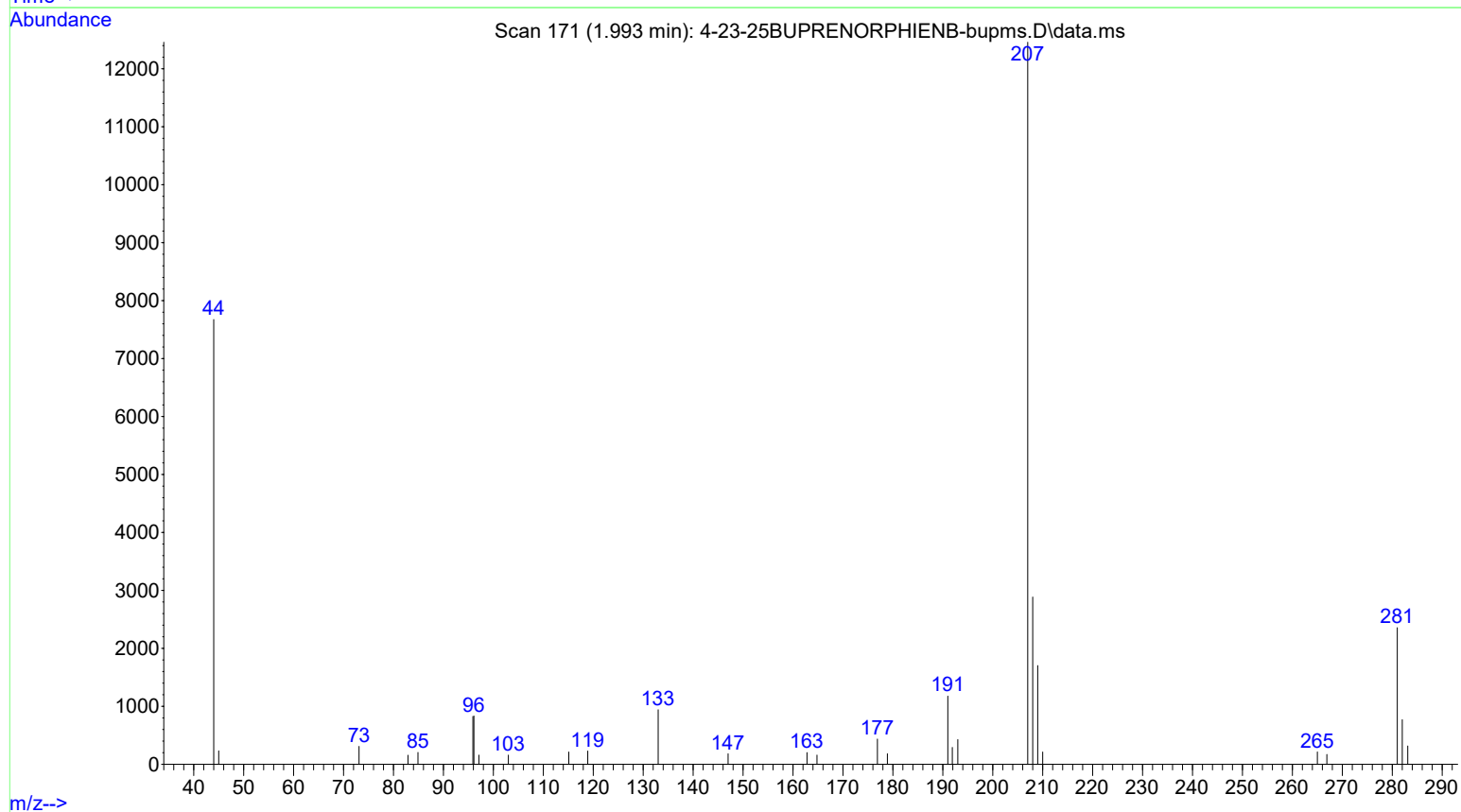
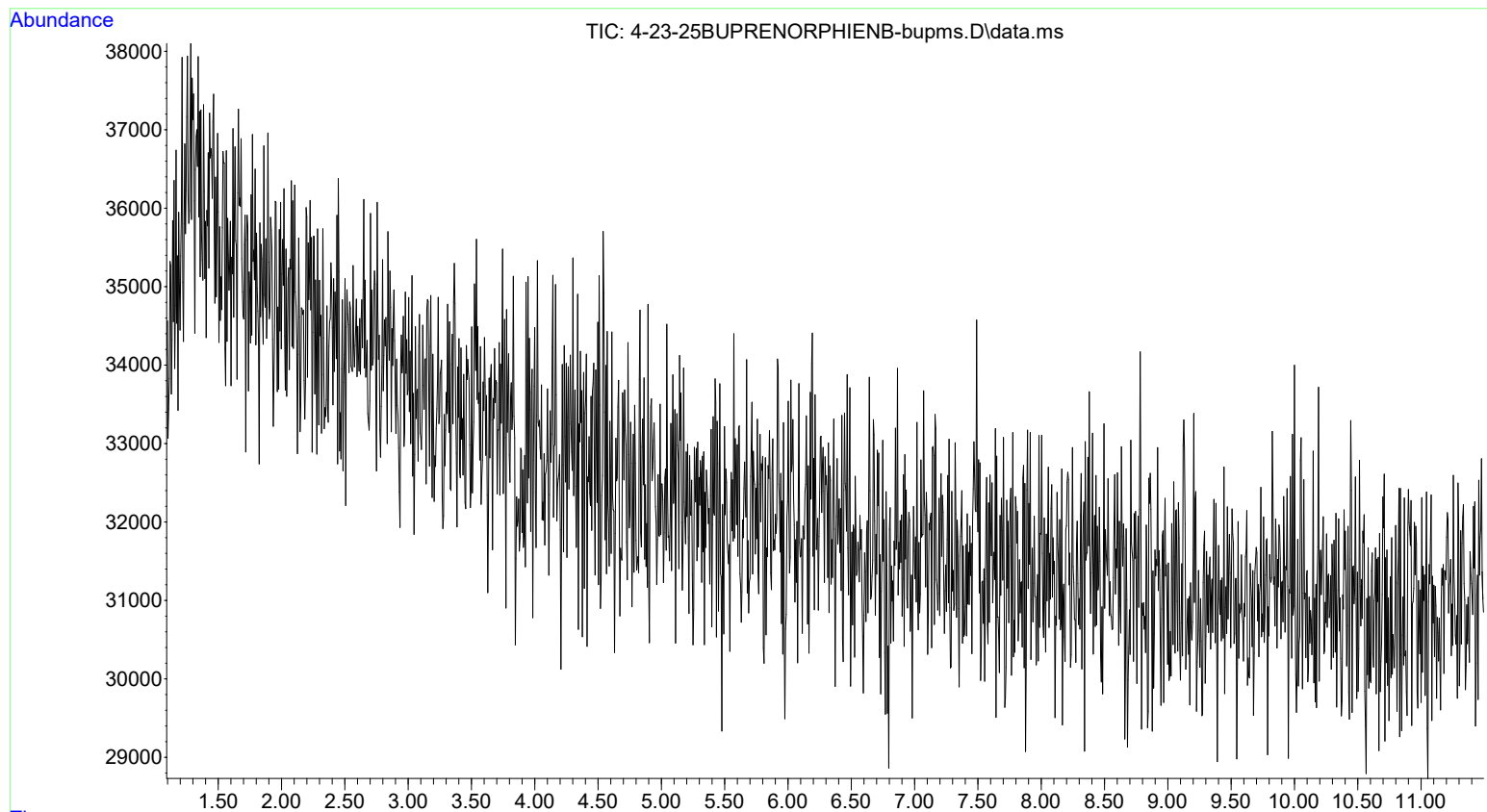
Self-Cleaning Ion Source Parameters

Mode	No Cleaning
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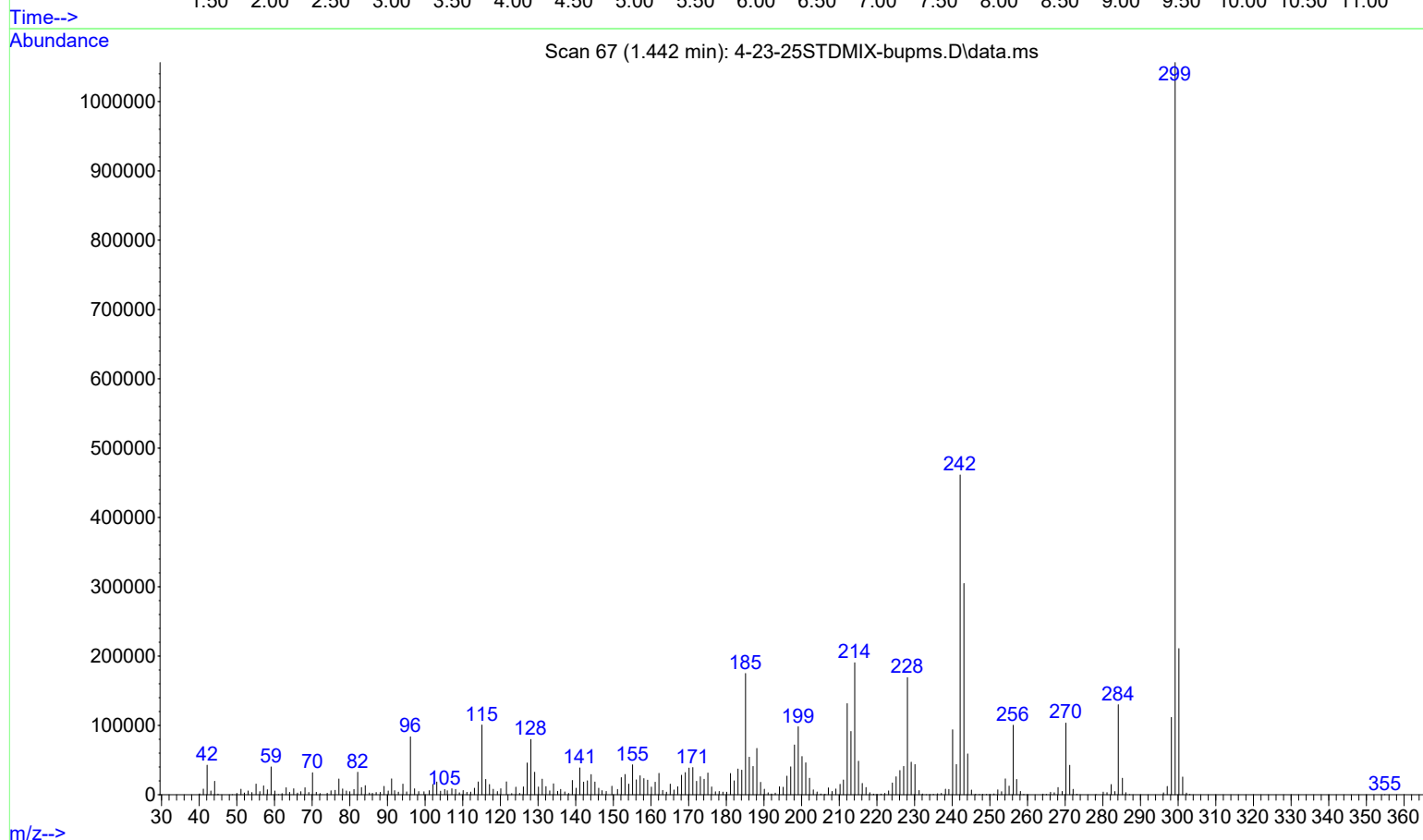
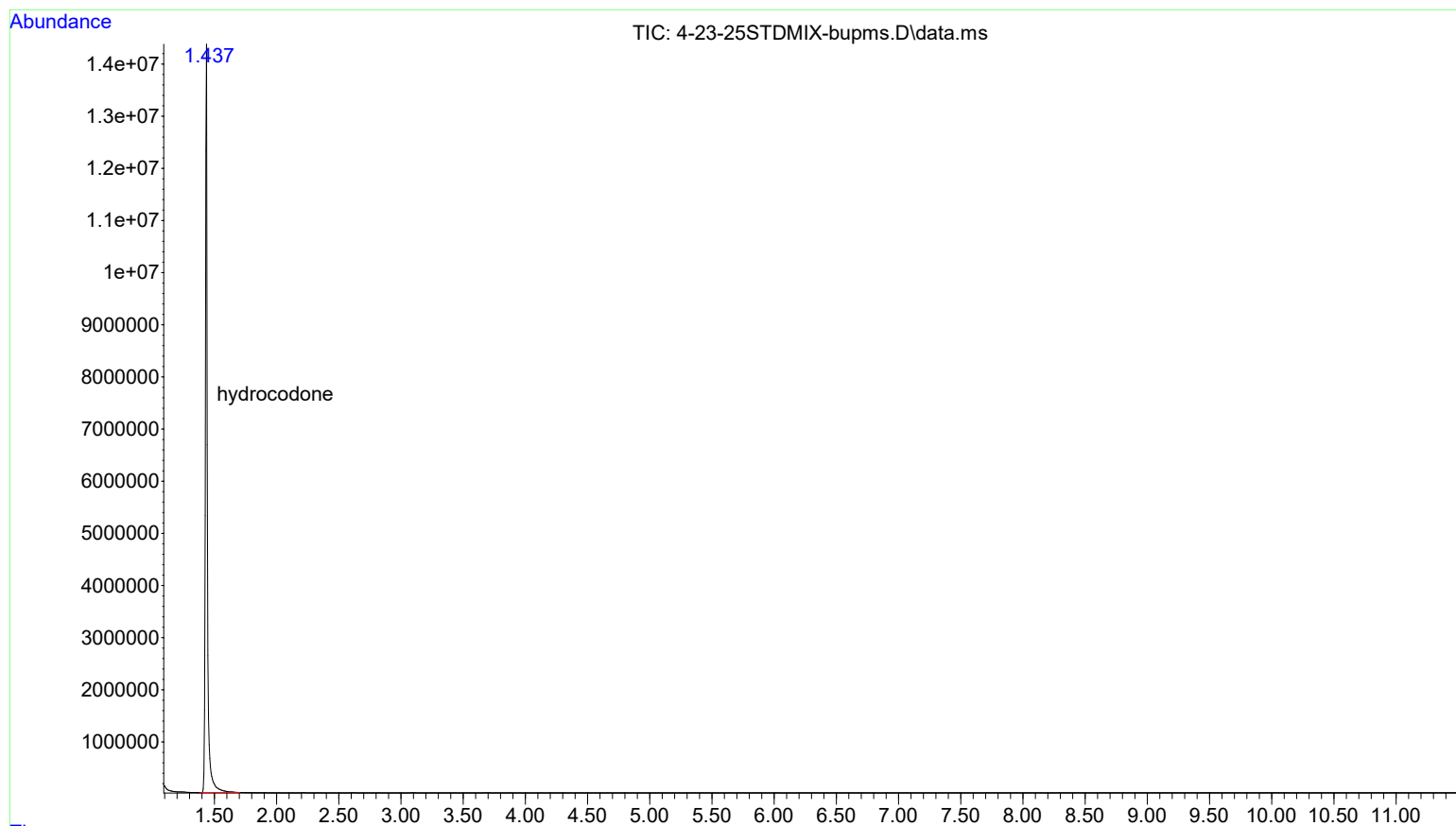
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25BUPRENORPHIEN-b
... upms.D
Operator :
Acquired : 23 Apr 2025 16:49 using AcqMethod BUPMS.M
Instrument : Lilo
Sample Name: Buprenorphine std
Misc Info : MeOH
Vial Number: 147



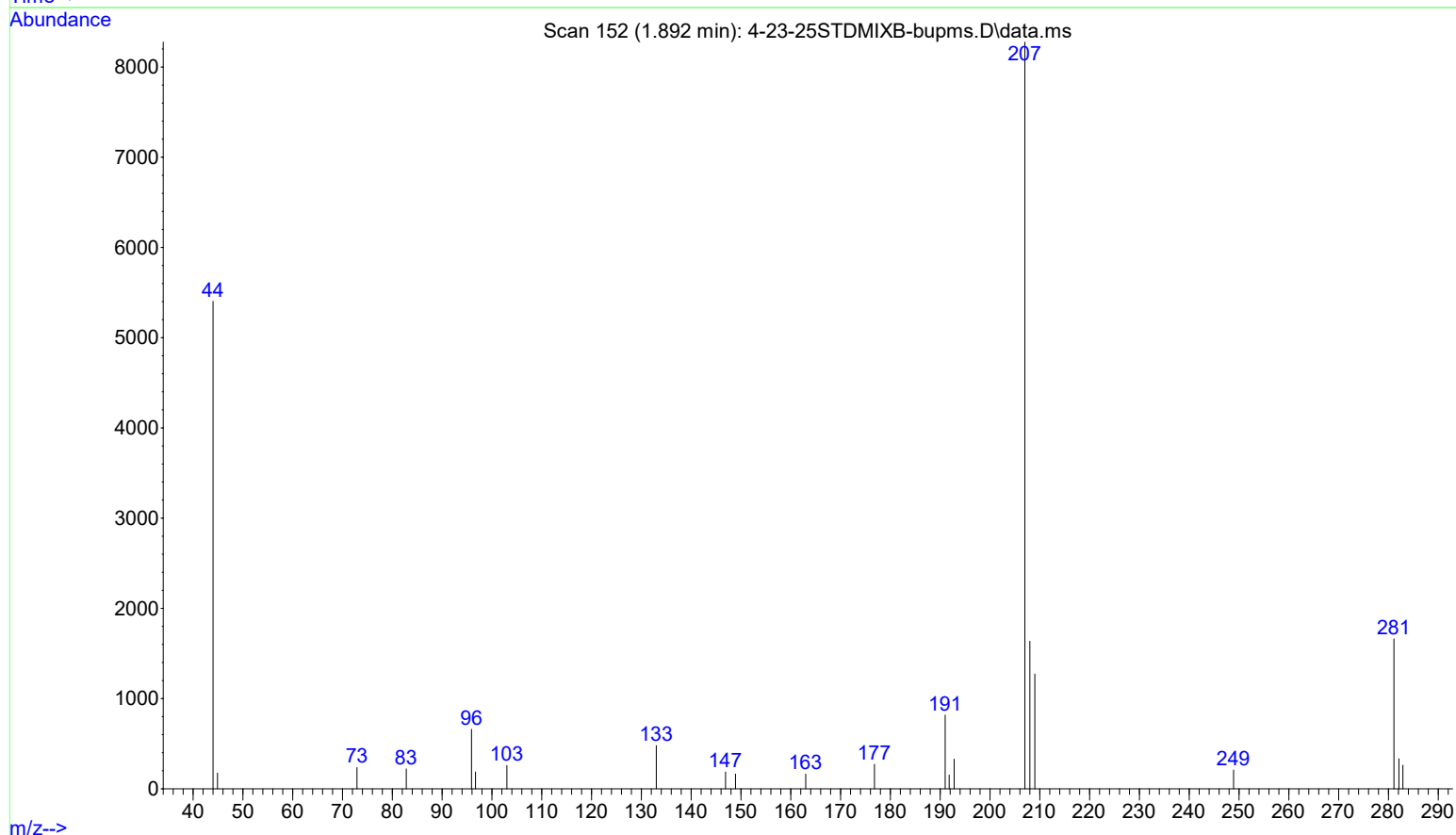
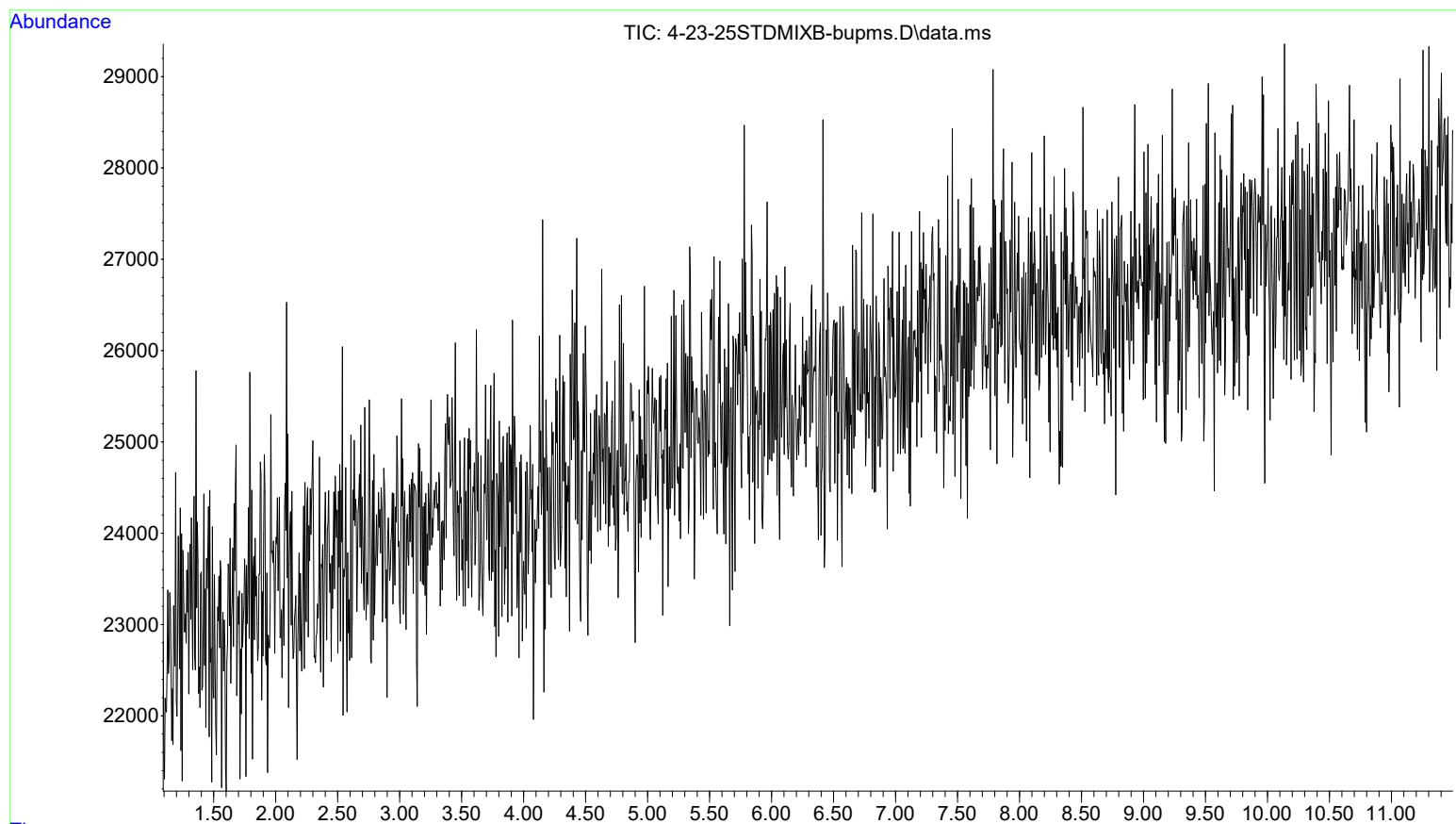
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25BUPRENORPHIENB-
... bupms.D
Operator :
Acquired : 23 Apr 2025 16:35 using AcqMethod BUPMS.M
Instrument : Lilo
Sample Name: Buprenorphine std blank
Misc Info : MeOH
Vial Number: 141



File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25STDMIX-bupms.D
Operator :
Acquired : 23 Apr 2025 15:49 using AcqMethod BUPMS.M
Instrument : Lilo
Sample Name: GCMS STD MIX
Misc Info : CHCl3
Vial Number: 146



File : H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25STD MIXB-bupms.D
Operator :
Acquired : 23 Apr 2025 15:35 using AcqMethod BUPMS.M
Instrument : Lilo
Sample Name: GCMS STD MIX blank
Misc Info : CHCl3
Vial Number: 142



Method Information for: D:\MassHunter\GCMS\1\methods\DRUG1.M

Method Sections To Run:

() Save Copy of Method With Data
() Instrument Control Pre-Run Cmd/Macro =
() Data Analysis Pre-Run Cmd/Macro =
(X) Data Acquisition
(X) Data Analysis
() Instrument Control Post-Run Cmd/Macro =
() Data Analysis Post-Run Cmd/Macro =

Method Comments:

DRUG1 general purpse method

END OF METHOD CONTROL PARAMETERS

D:\MassHunter\GCMS\1\methods\DRUG1.M
Fri Apr 25 07:10:06 2025

Control Information

Sample Inlet : GC
Injection Source : GC ALS
Injection Location: Front
Mass Spectrometer : Enabled

No Sample Prep method has been assigned to this method.

GC
GC Summary
Run Time 14.667 min
Post Run Time 0 min

Oven
Temperature
Setpoint On
(Initial) 80 °C
Hold Time 1.5 min
Post Run 80 °C
Program
#1 Rate 30 °C/min
#1 Value 280 °C
#1 Hold Time 6.5 min

Equilibration Time 0.5 min
Max Temperature 325 °C
Maximum Temperature Override Disabled
Slow Fan Disabled

ALS
Front Injector
Syringe Size 10 µL
Injection Volume 1 µL
Solvent A Washes (PreInj) 1
Solvent A Washes (PostInj) 1
Solvent A Volume 8 µL
Solvent B Washes (PreInj) 1
Solvent B Washes (PostInj) 1
Solvent B Volume 8 µL
Sample Washes 1
Sample Wash Volume 8 µL
Sample Pumps 2
Dwell Time (PreInj) 0 min
Dwell Time (PostInj) 0 min
Solvent Wash Draw Speed 300 µL/min
Solvent Wash Dispense Speed 3000 µL/min
Sample Wash Draw Speed 300 µL/min
Sample Wash Dispense Speed 3000 µL/min
Injection Dispense Speed 6000 µL/min
Viscosity Delay 0 sec
Sample Depth Disabled
Injection Type Standard
L1 Airgap 0.2 µL

Solvent Wash Mode	A, B
Sample Overlap Mode	Sample overlap is not enabled
ALS Errors	Pause for user interaction
Front SS Inlet He Mode	Split
Heater	On 250 °C
Pressure	On 9 psi
Total Flow	On 33.023 mL/min
Septum Purge Flow	On 3 mL/min
Pre-Run Flow Test	Off
Gas Saver	Off
Split Ratio	30 :1
Split Flow	29.054 mL/min
Liner	A Liner has not been selected.
Column	
Column #1	
Flow	
Setpoint	On
(Initial)	0.96848 mL/min
Post Run	1.322 mL/min
Column Information	Agilent 19091S-433UI: US4814636H
Description	HP-5MS UI
Temperature Range	-60 °C-325 °C (350 °C)
Dimensions	30 m x 250 µm x 0.25 µm (Uncalibrated)
Heater	Oven
Column lock	Locked
In	Front SS Inlet He
Out	MSD
(Initial)	80 °C
Pressure	9 psi
Flow	0.96848 mL/min
Average Velocity	36.379 cm/sec
Holdup Time	1.3744 min
Control Mode	Constant Flow
Column Outlet Pressure	0 psi
Detector Evaluation	
Perform Detector Evaluation Test	Off
MSD Transfer Line	
Temperature	
Setpoint	On
(Initial)	280 °C
Signals	
Signal #1:	
Description	None
Signal #2:	
Description	None
Signal #3:	
Description	None
Signal #4:	
Description	None

Signal #5:
Description
None

Signal #6:
Description
None

Signal #7:
Description
None

Signal #8:
Description
None

TUNE PARAMETERS for SN: US2449MA23

Trace Ion Detection is OFF.

34.593	:	EMISSION	
70.007	:	ENERGY	
31.911	:	REPELLER	
90.331	:	IONFOCUS	
25.226	:	ENTRANCE_LENS	
885.369	:	EMVOLTS	
		947.4	: Actual EMV
		1.00	: GAIN FACTOR
2087.000	:	AMUGAIN	
139.000	:	AMUOFFSET	
1.000	:	FILAMENT	
1.000	:	DCPOLARITY	
10.822	:	ENTLENSOFFSET	
0.000	:	Ion_Body	
0.000	:	EXTLENS	
-195.000	:	MASSGAIN	
-20.000	:	MASSOFFSET	

END OF TUNE PARAMETERS

END OF INSTRUMENT CONTROL PARAMETERS

Single Quadrupole Acquisition Method - MS Parameters Report

Method file	D:\MassHunter\GCMS\1\methods\DRUG1.M
Tune file	ATUNE.U
Ion source	EI
Source temperature (°C)	230
Quad temperature (°C)	150
Fixed Electron energy (eV)	70.0
Acquisition Type	Scan
Stop time (min)	10.00
Solvent delay (min)	2.50
Trace Ion Detection	False
Gain Factor	1
EM Saver	False
EM Saver Limit	N/A

Scan Time Segments

Time	Start Mass	End Mass	Threshold	Scan Speed
2.50	40	500	150	1,562 [N=2]

Timed Events

Time	Type of Event	Parameter
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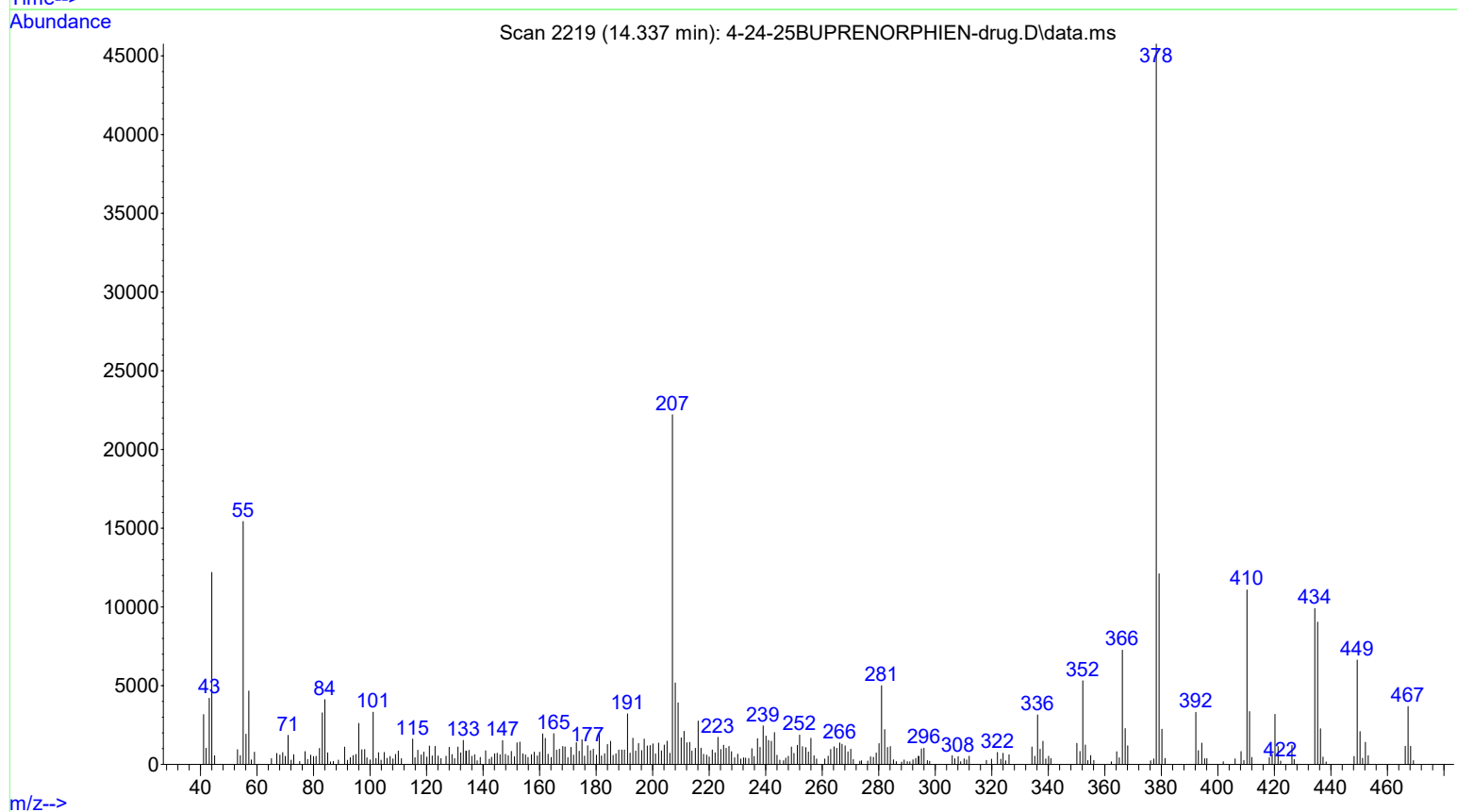
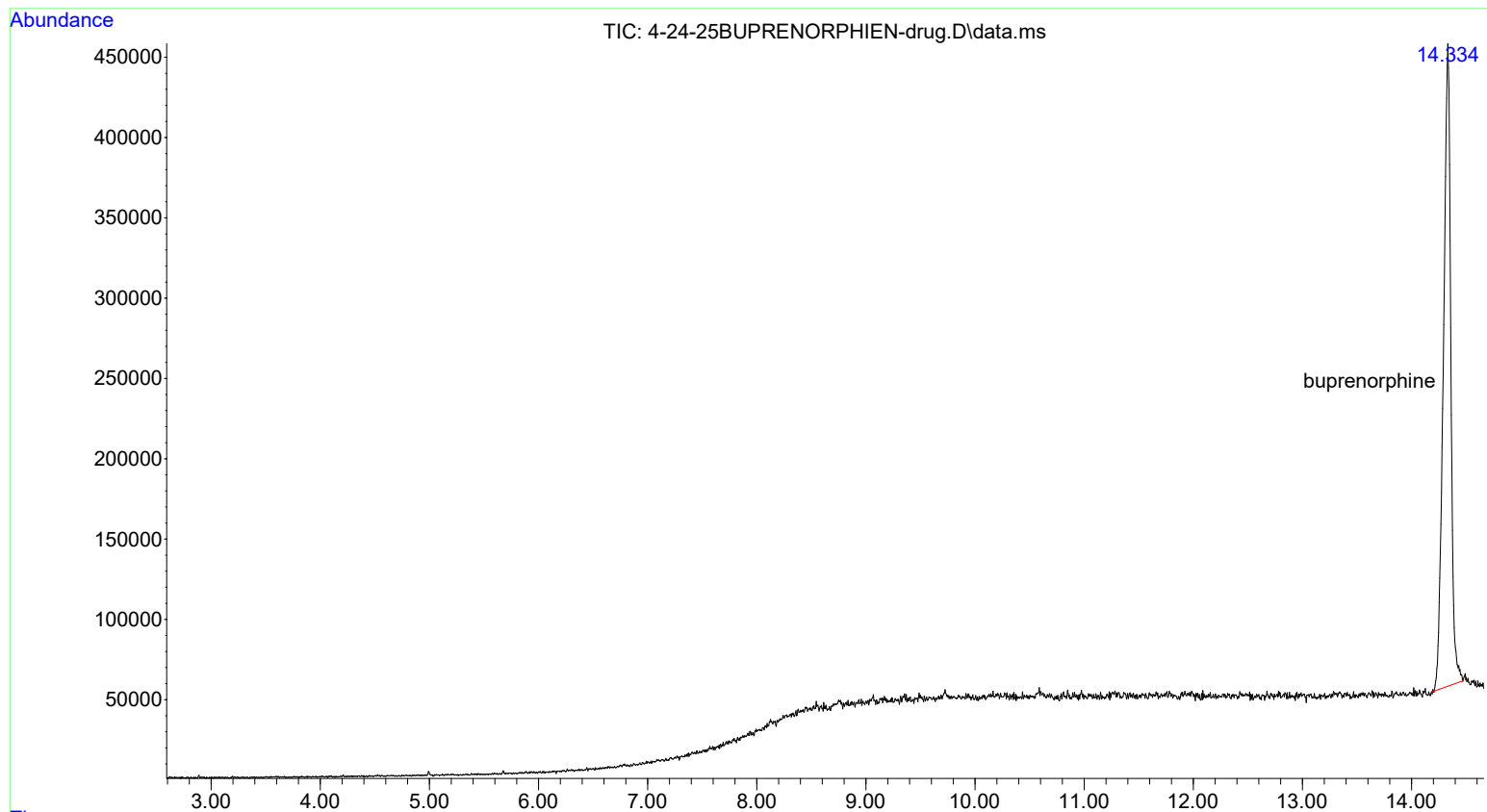
Real-Time Plots

Type of Plot	Label	Low Mass	High Mass
Total Ion	N/A	N/A	N/A
Spectrum	N/A	N/A	N/A
Extracted Ion	Scan 1-1	50	550

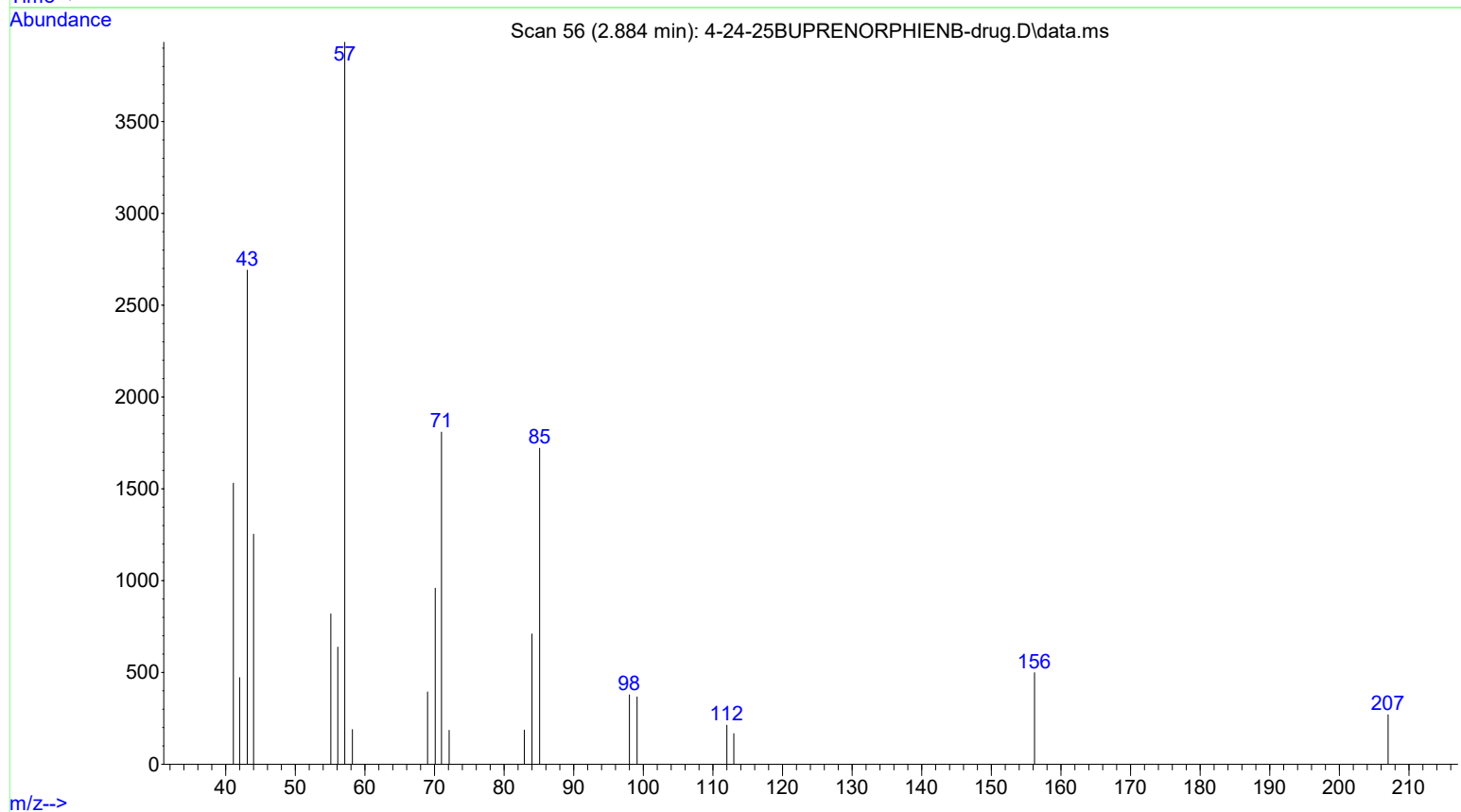
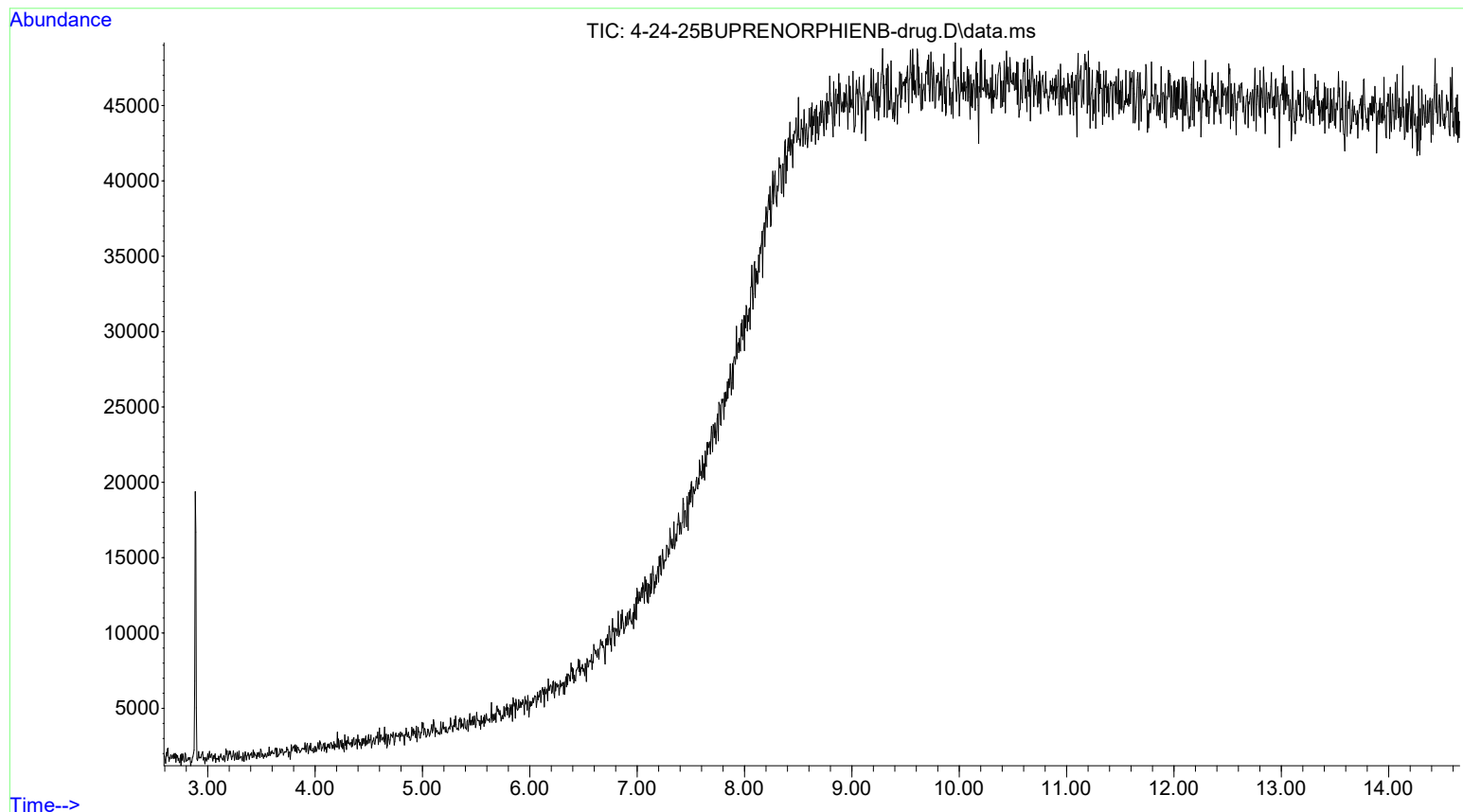
Self-Cleaning Ion Source Parameters

Mode	No Cleaning
------	-------------

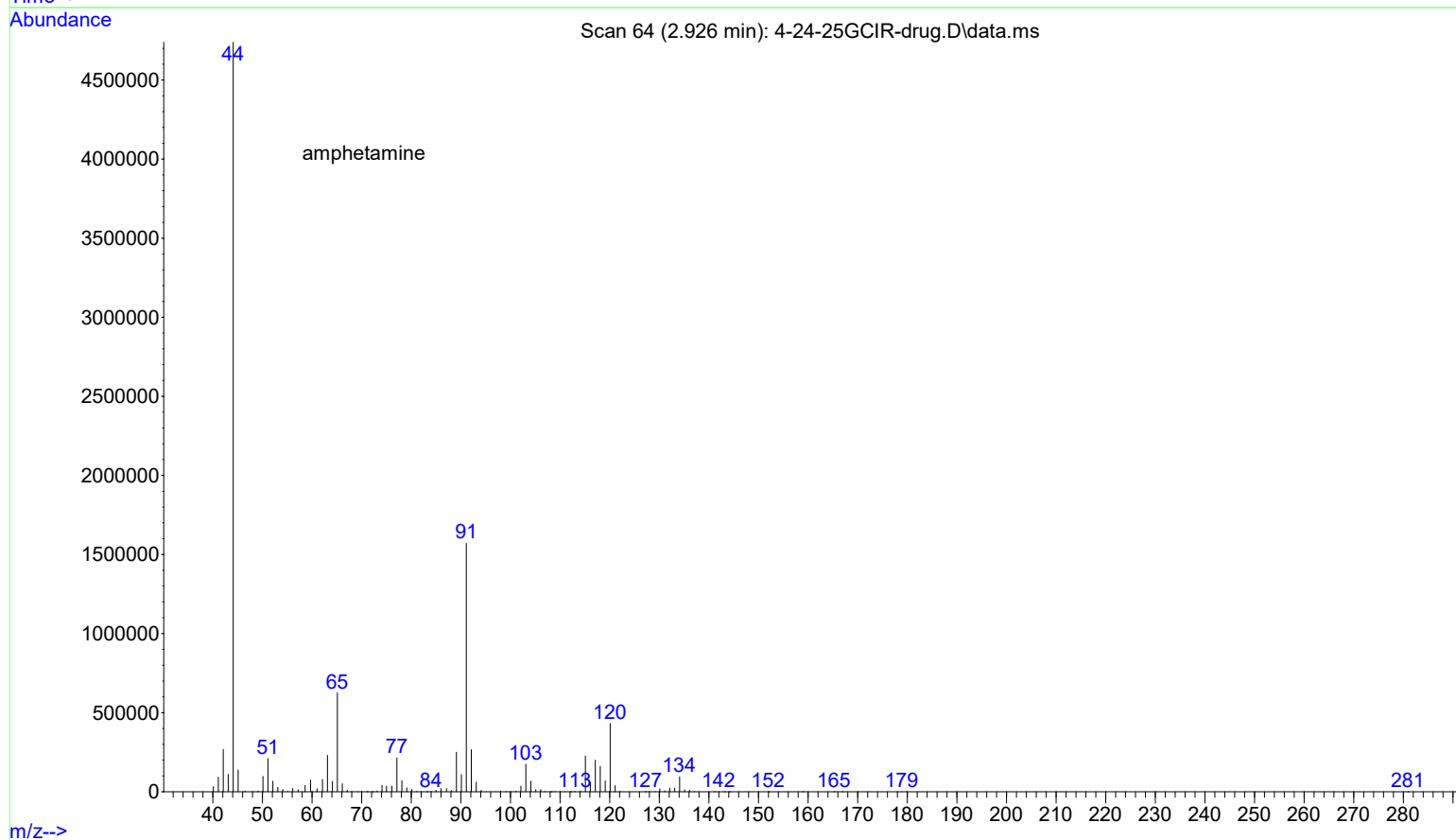
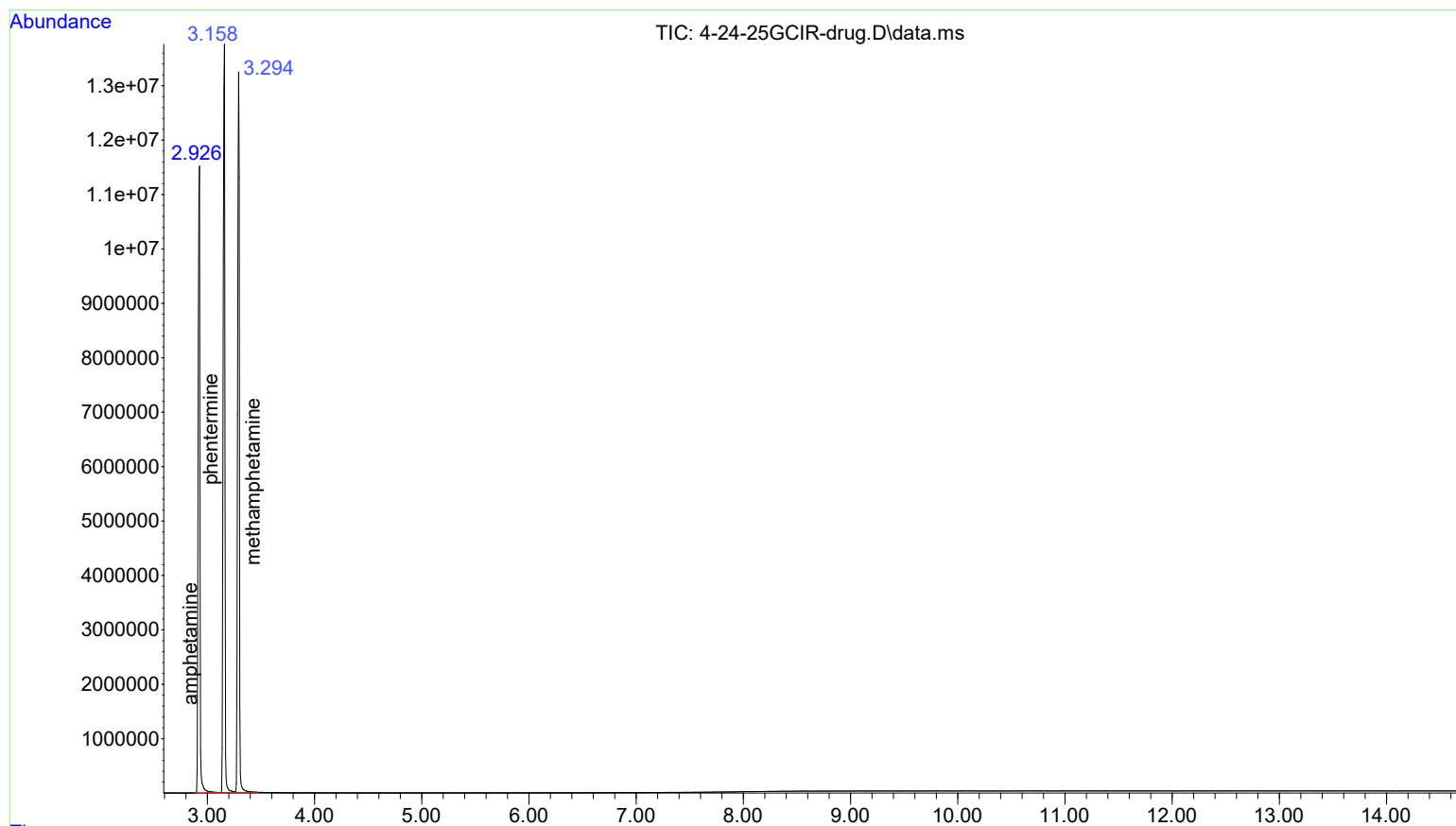
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25BUPRENORPHIEN-d
... rug.D
Operator :
Acquired : 24 Apr 2025 09:01 using AcqMethod DRUG1.M
Instrument : Lilo
Sample Name: Buprenorphine std
Misc Info : MeOH
Vial Number: 147



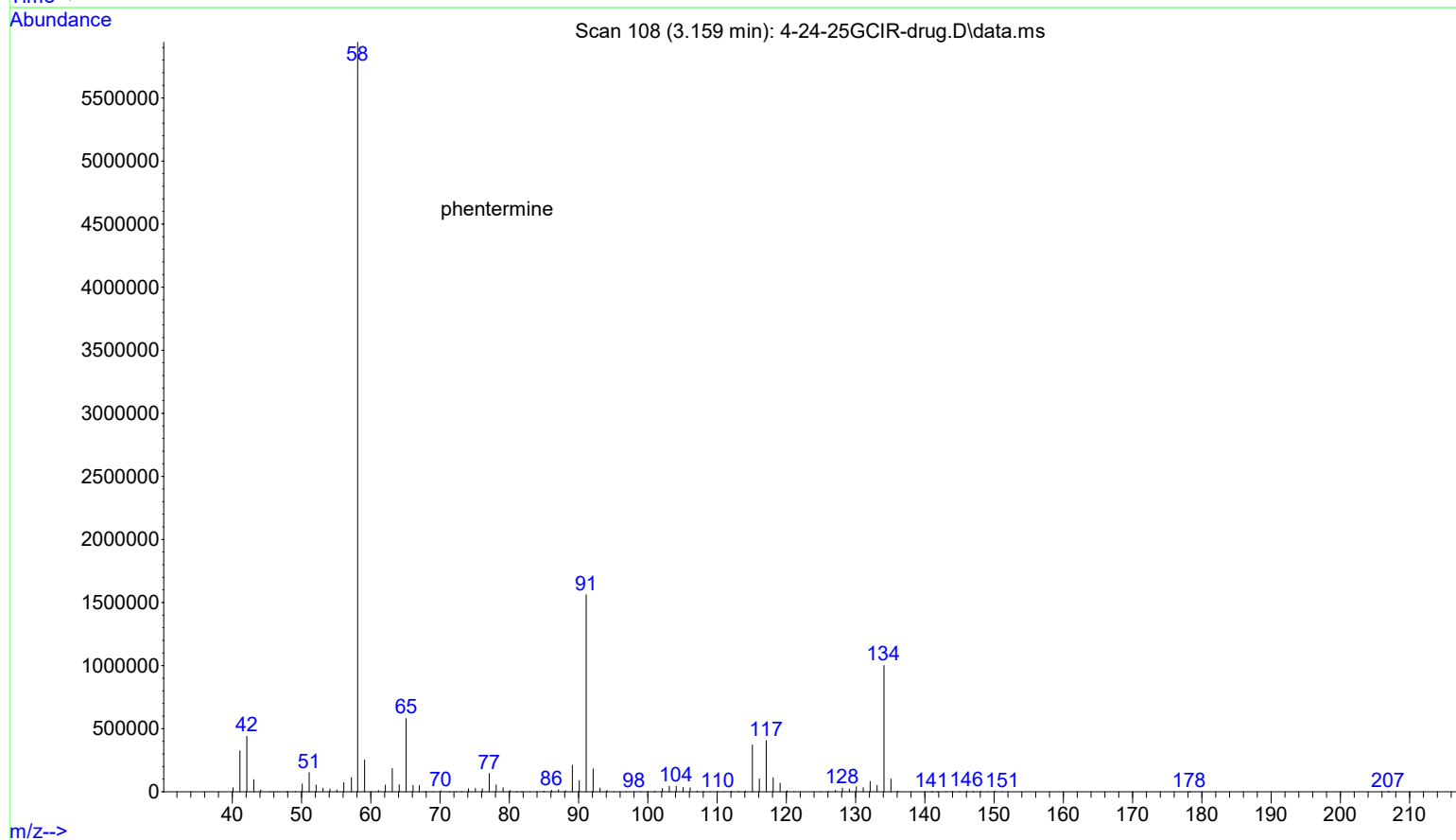
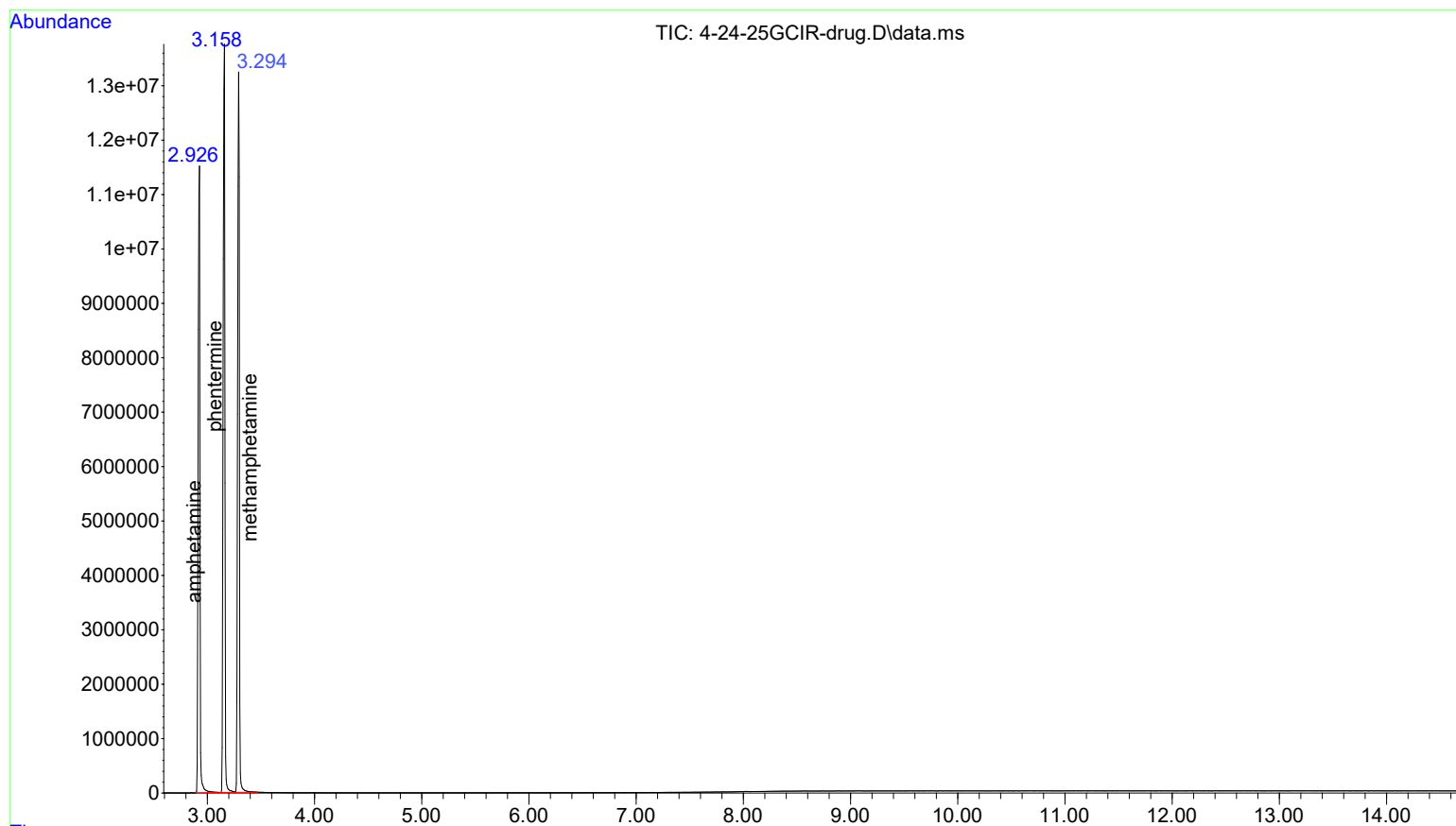
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25BUPRENORPHIENB-
... drug.D
Operator :
Acquired : 24 Apr 2025 08:43 using AcqMethod DRUG1.M
Instrument : Lilo
Sample Name: Buprenorphine std blank
Misc Info : MeOH
Vial Number: 141



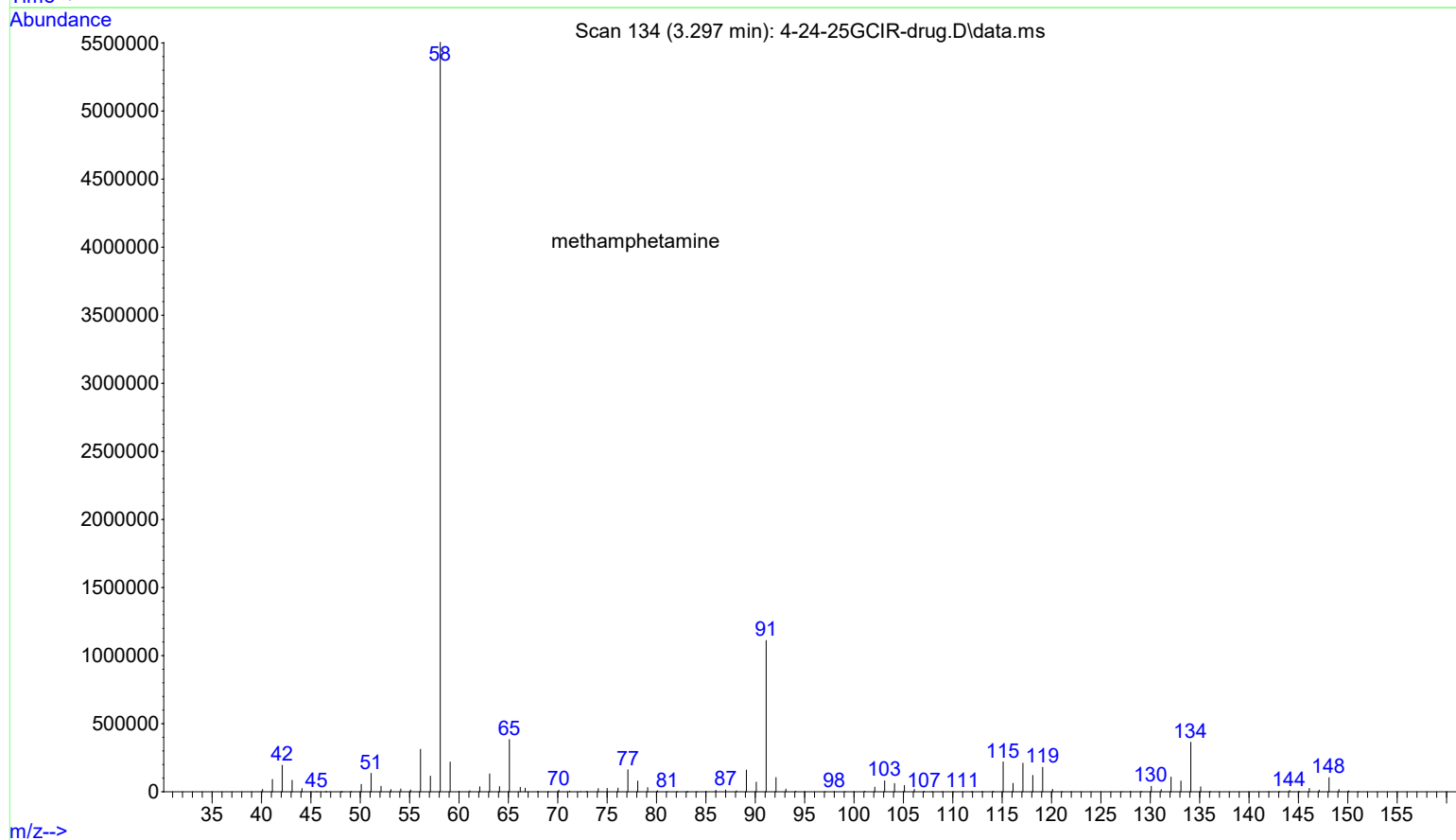
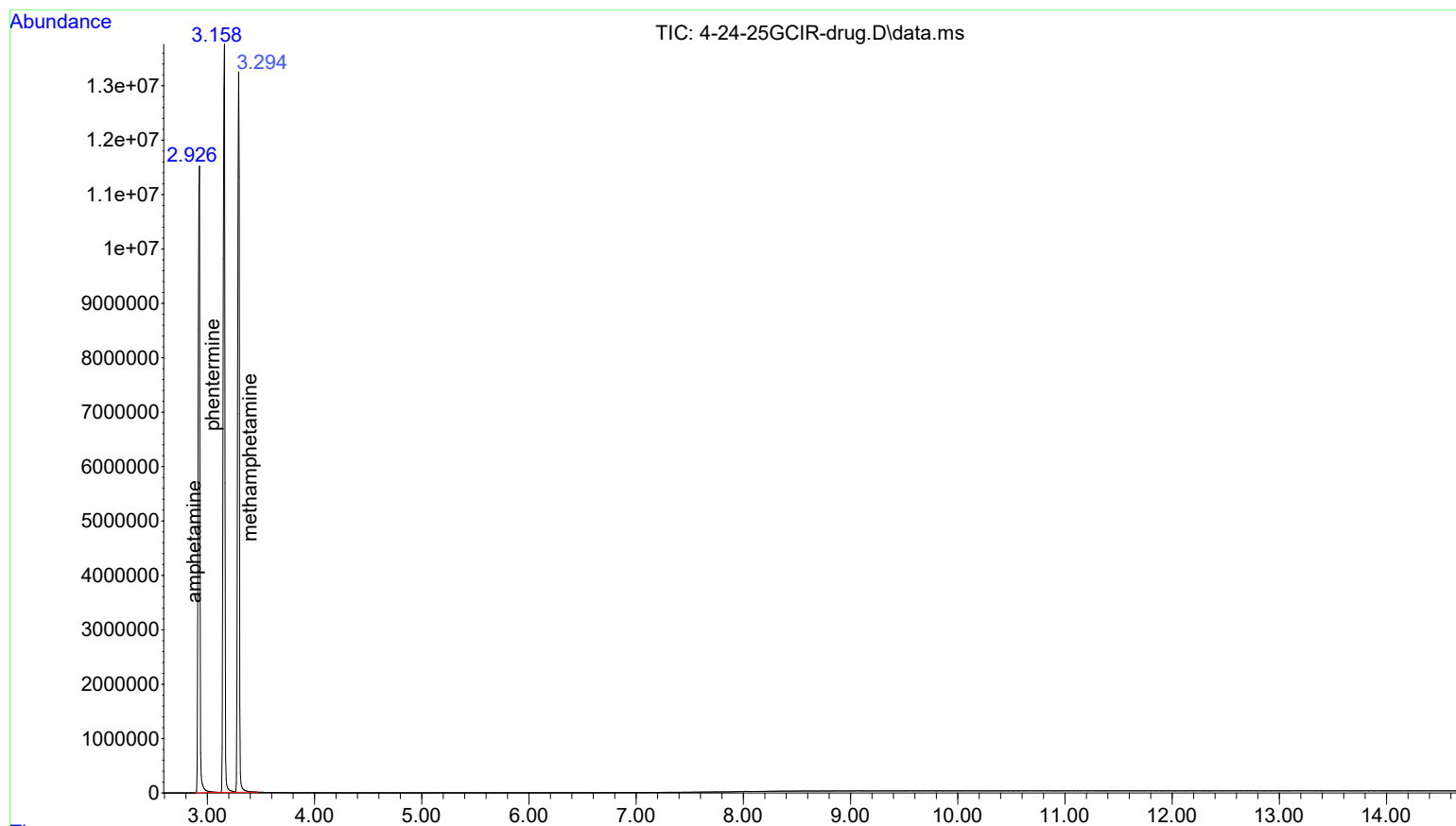
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25GCIR-drug.D
Operator :
Acquired : 24 Apr 2025 10:36 using AcqMethod DRUG1.M
Instrument : Lilo
Sample Name: GCIR std mix
Misc Info : CHCl3
Vial Number: 144



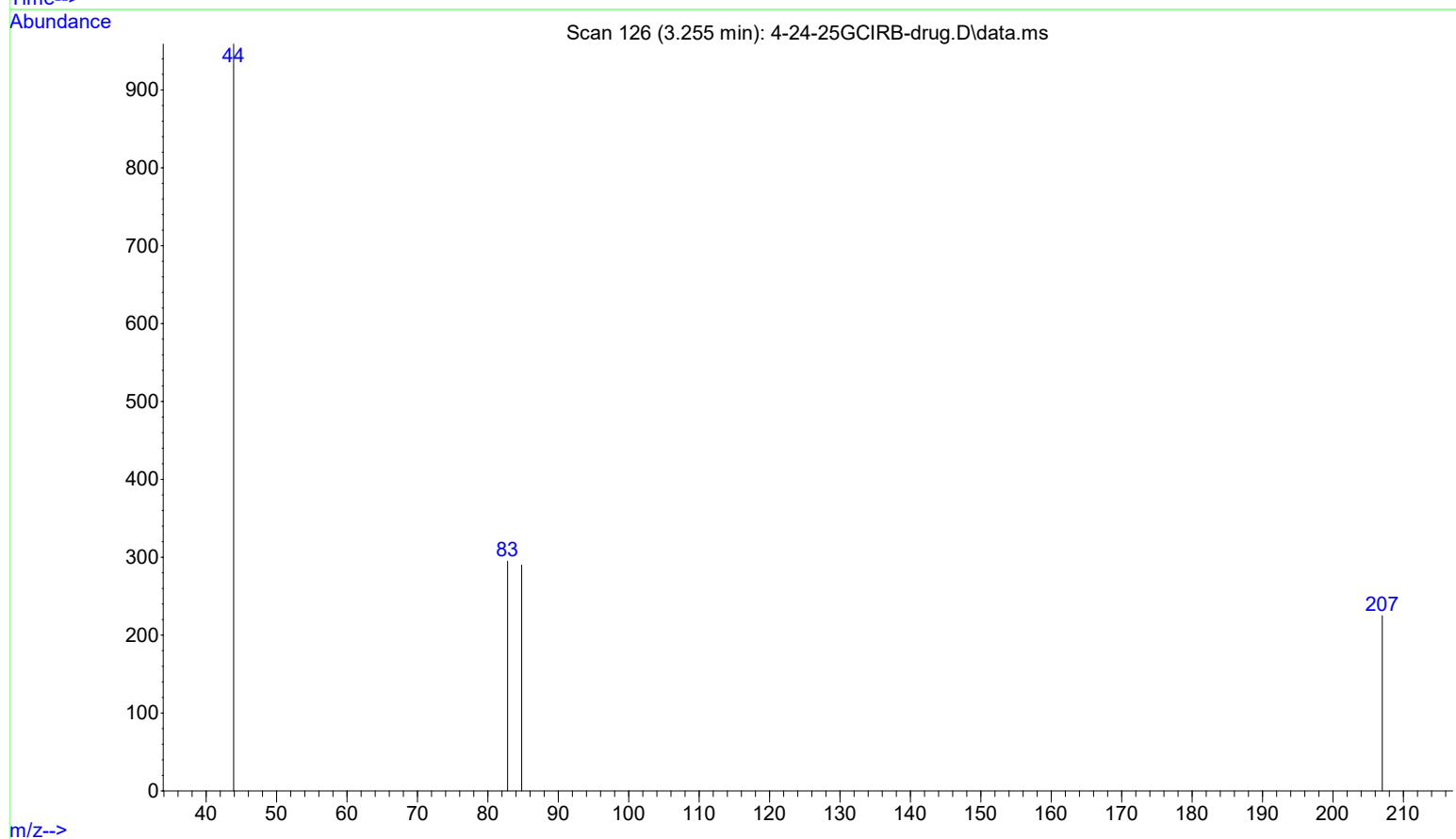
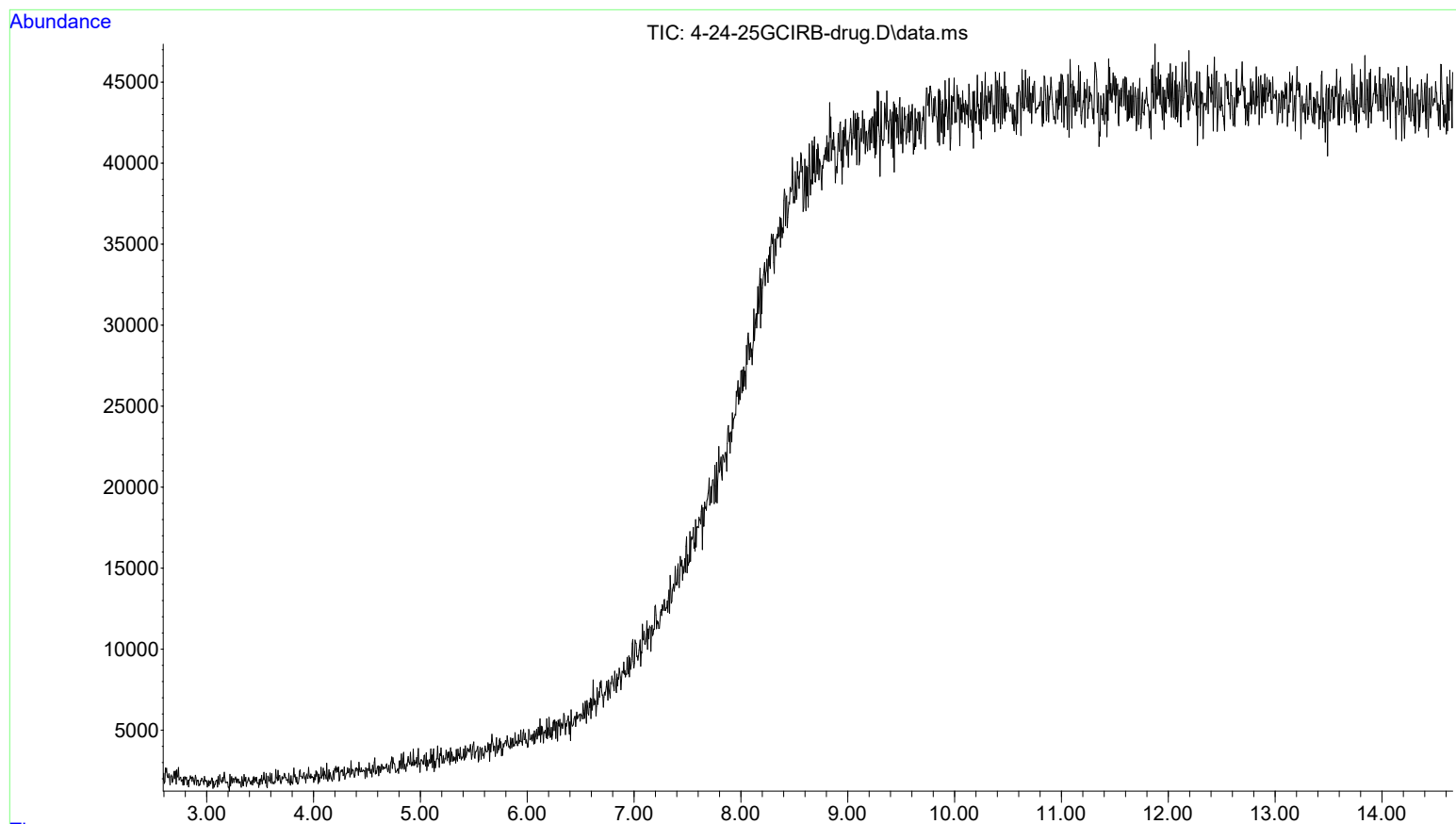
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25GCIR-drug.D
Operator :
Acquired : 24 Apr 2025 10:36 using AcqMethod DRUG1.M
Instrument : Lilo
Sample Name: GCIR std mix
Misc Info : CHCl3
Vial Number: 144



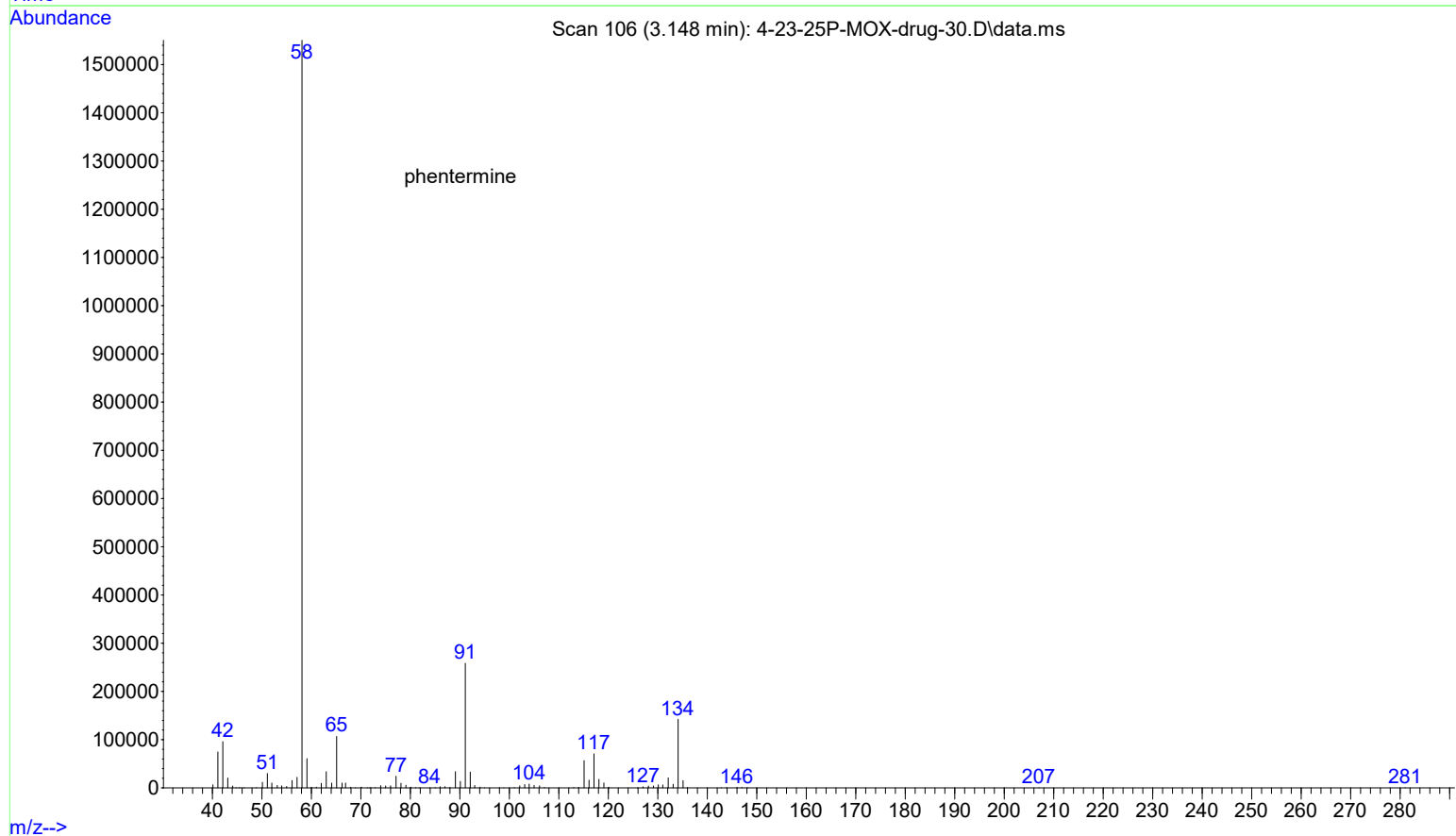
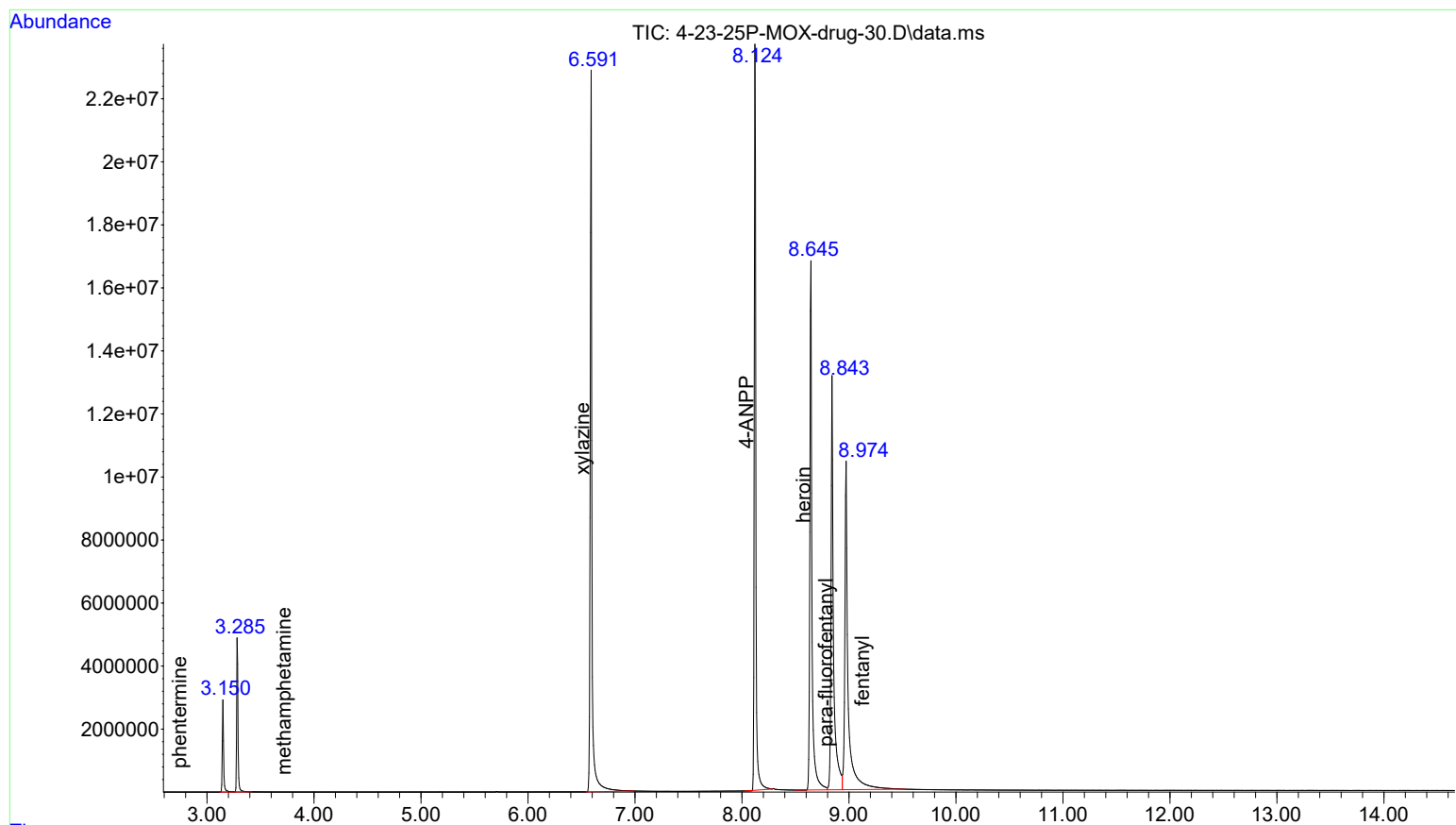
File : H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25GCIR-drug.D
Operator :
Acquired : 24 Apr 2025 10:36 using AcqMethod DRUG1.M
Instrument : Lilo
Sample Name: GCIR std mix
Misc Info : CHCl3
Vial Number: 144



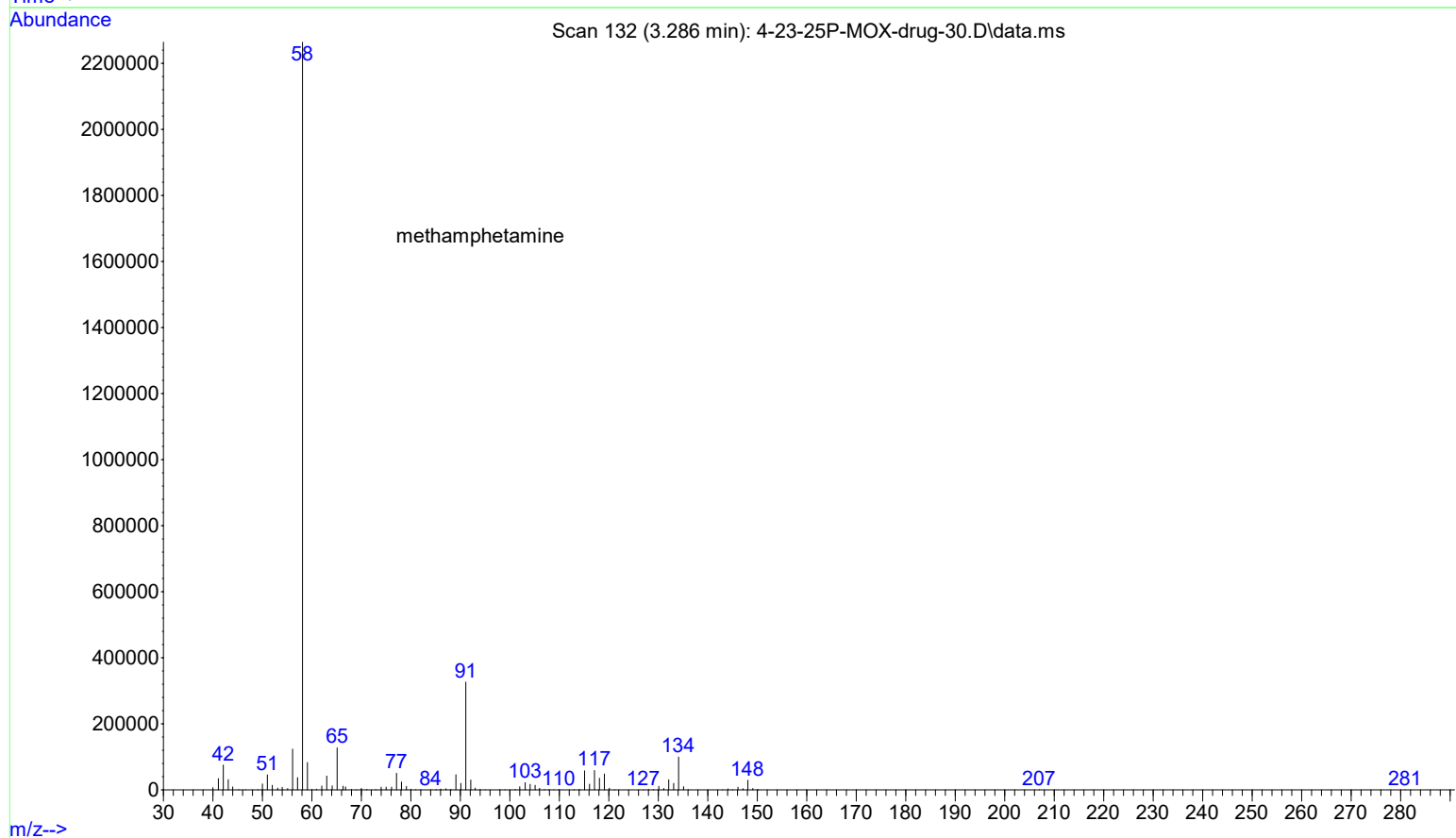
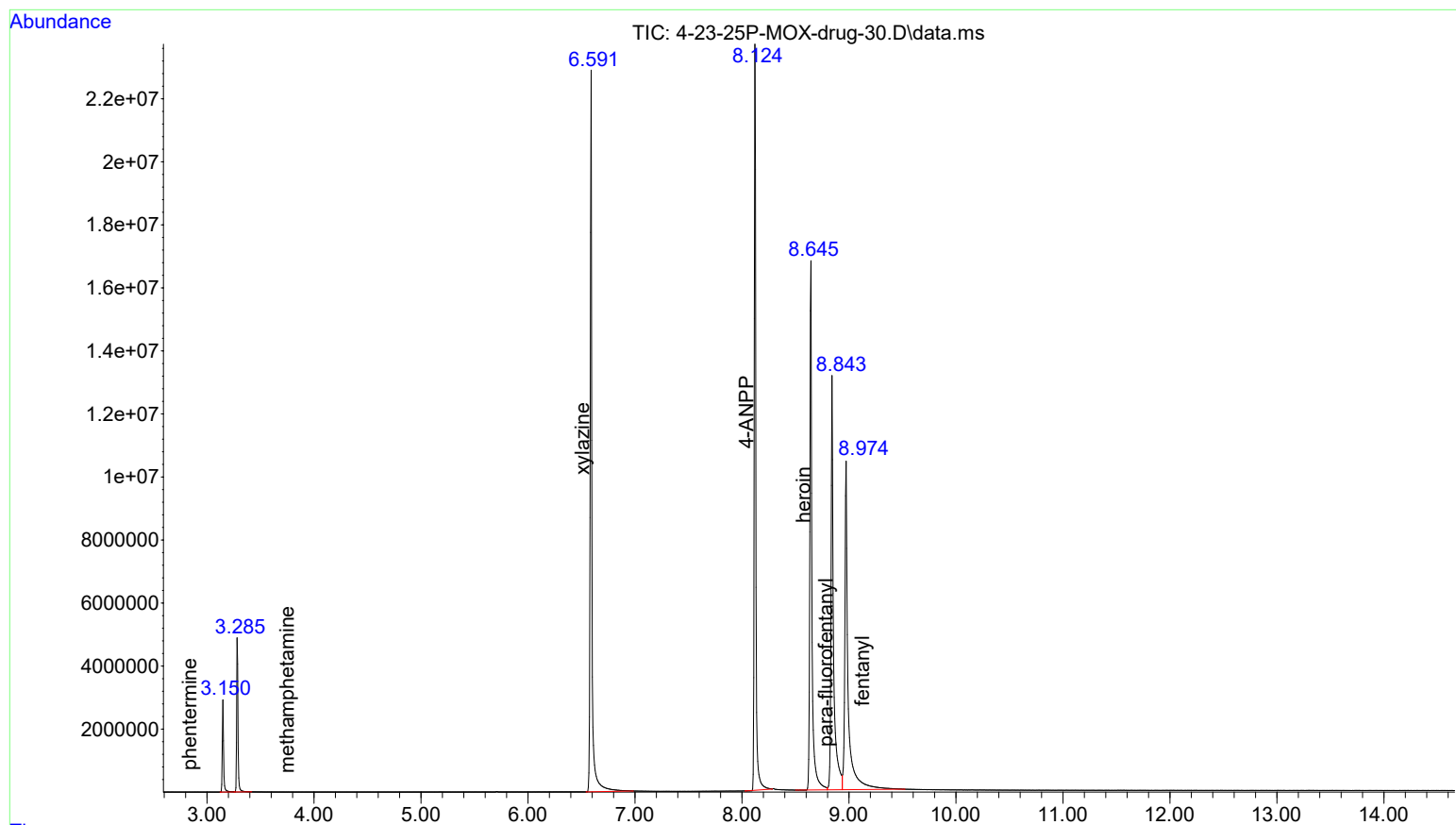
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25GCIRB-drug.D
Operator :
Acquired : 24 Apr 2025 10:18 using AcqMethod DRUG1.M
Instrument : Lilo
Sample Name: GCIR std mix blank
Misc Info : CHCl3
Vial Number: 142



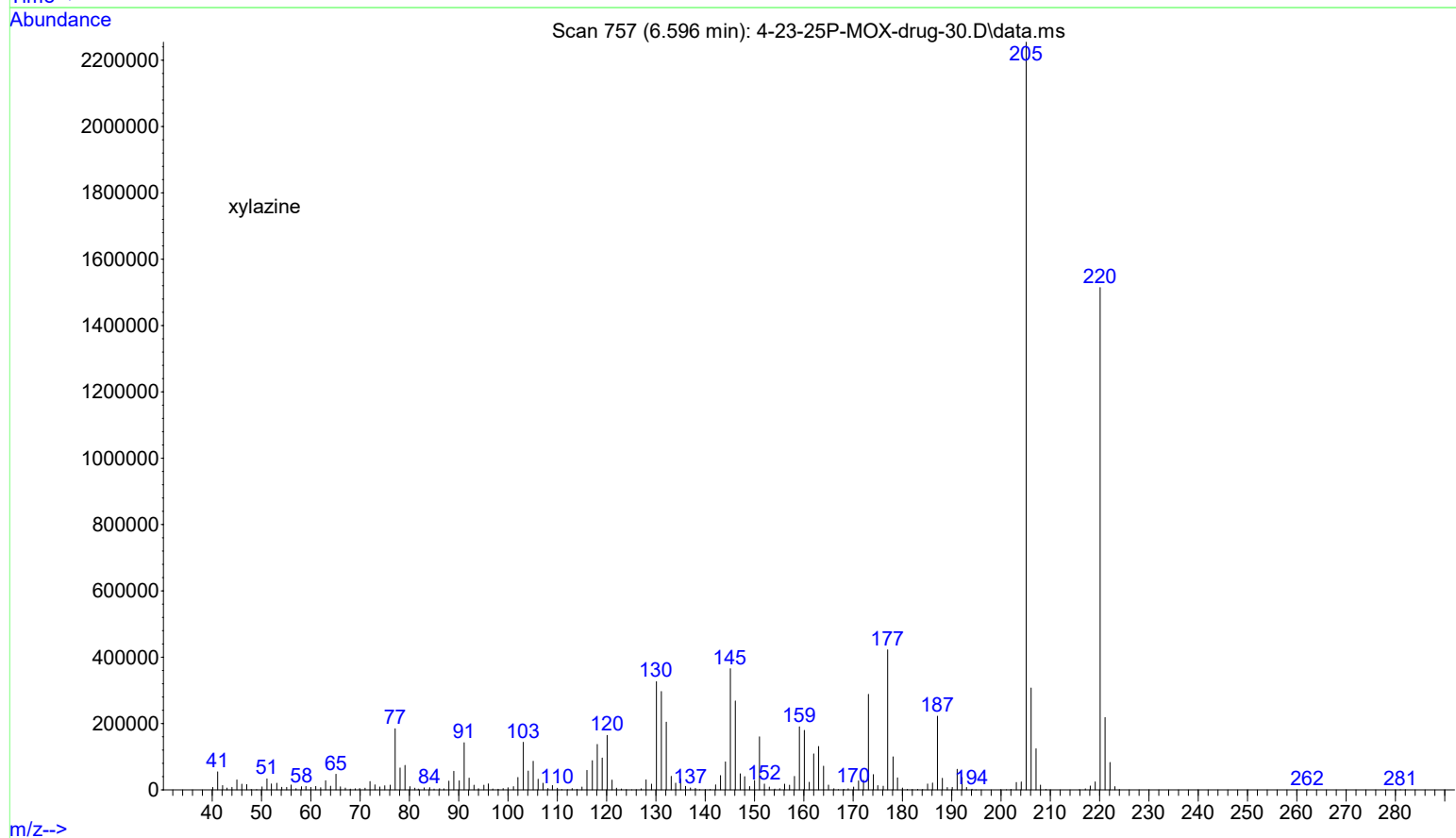
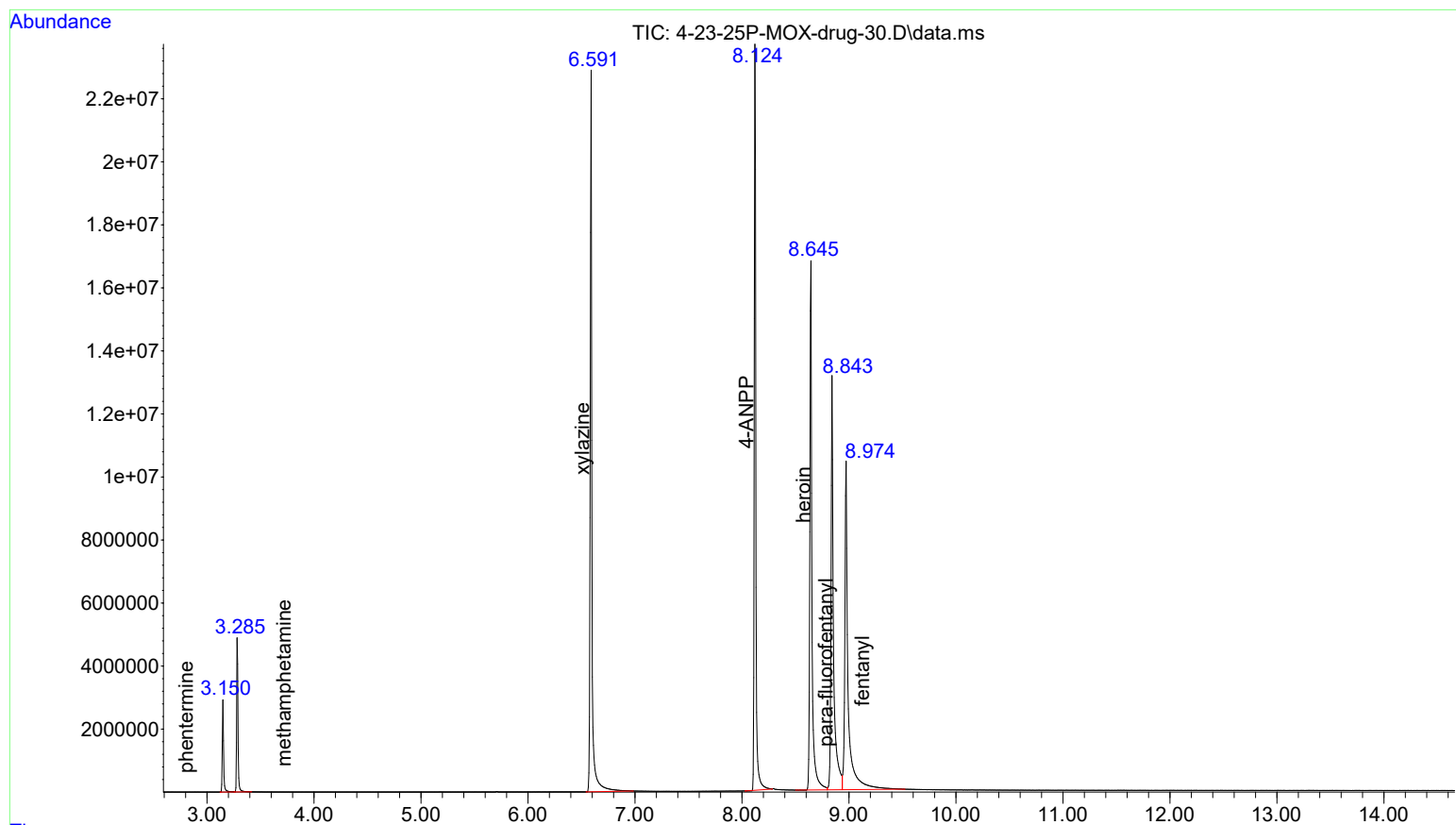
File : H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOX-drug-30.D
Operator :
Acquired : 23 Apr 2025 08:50 using AcqMethod DRUG1.M
Instrument : Lilo
Sample Name: P-MOX std
Misc Info : CHCl3
Vial Number: 143



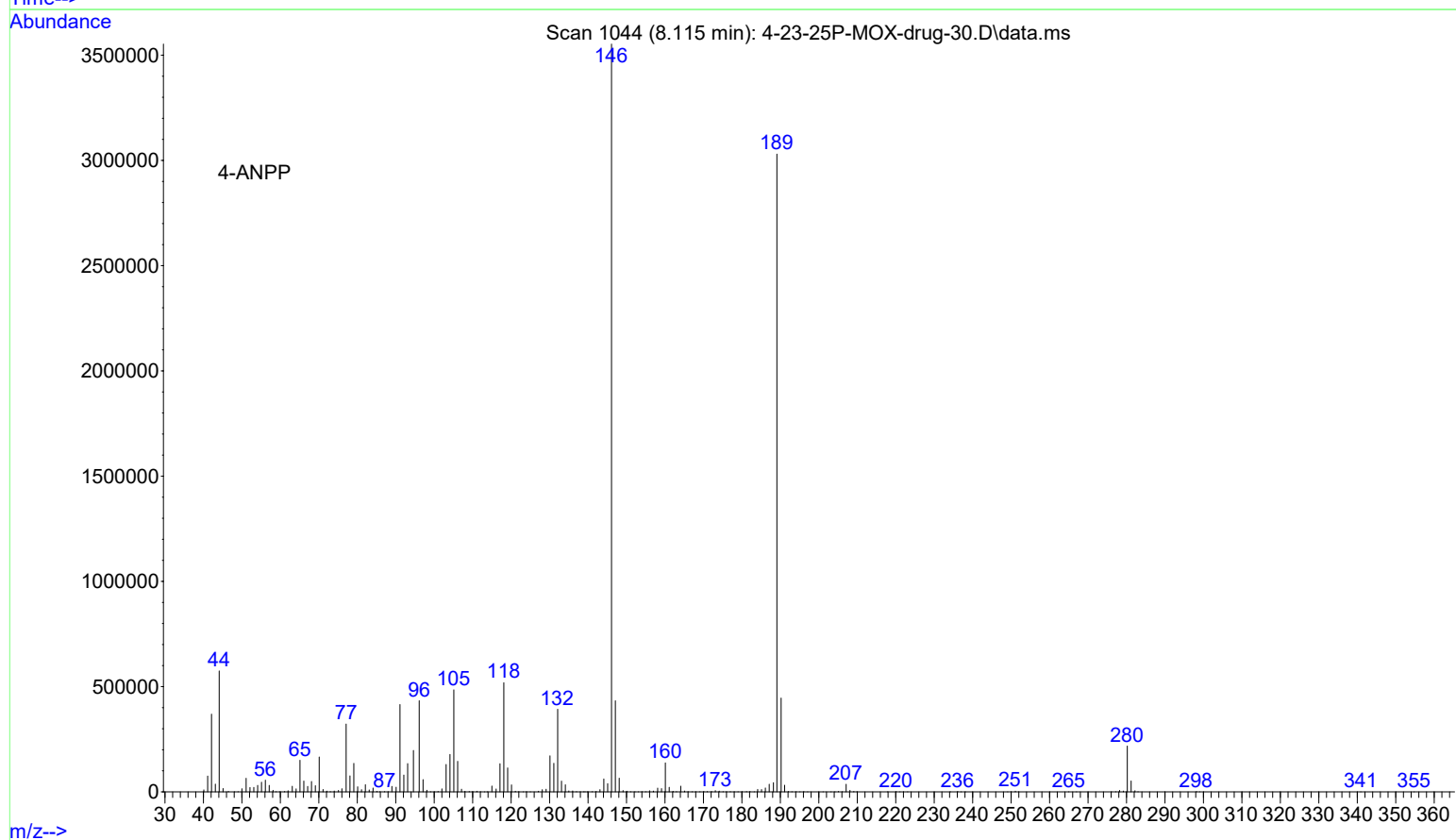
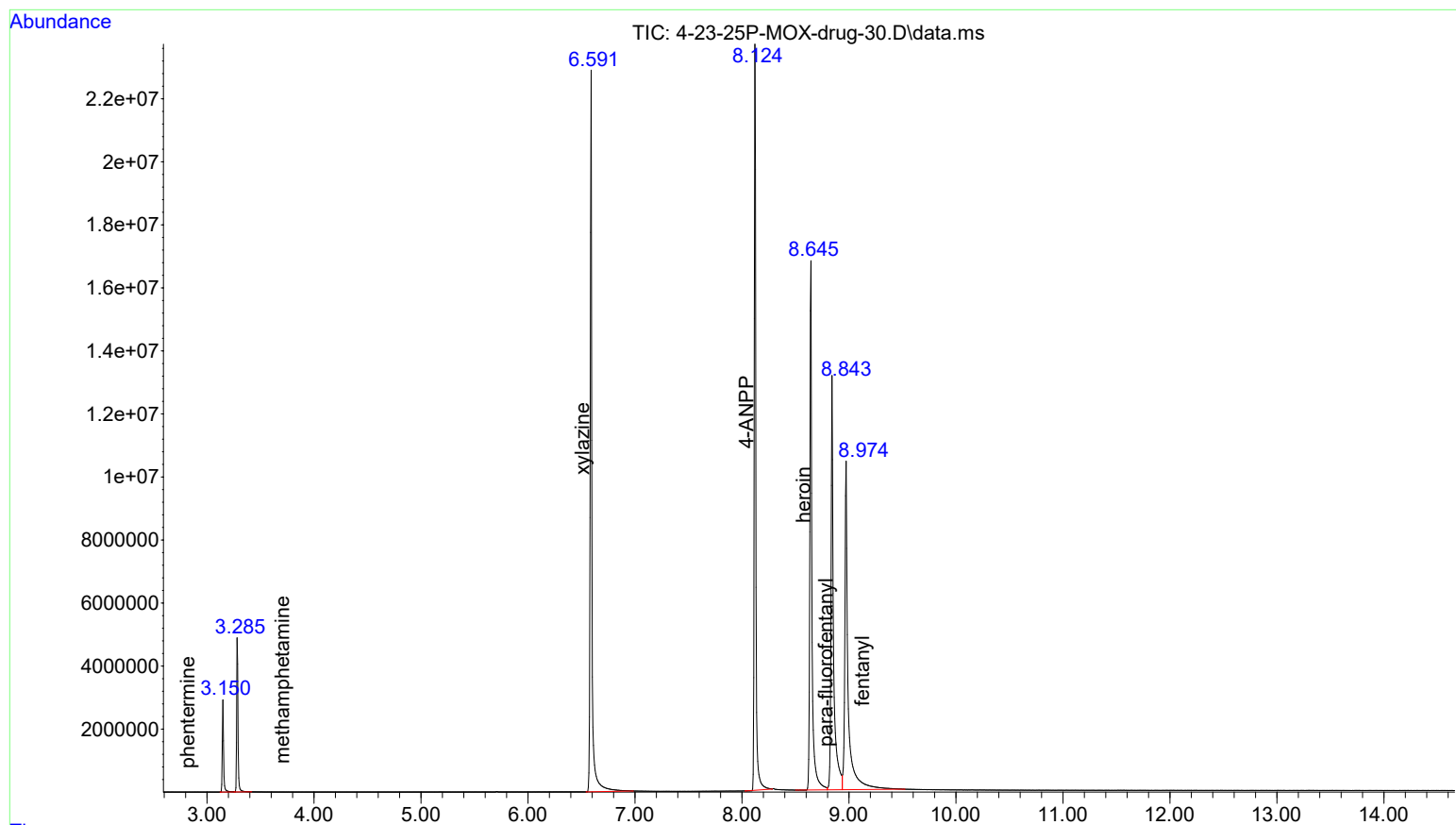
File : H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOX-drug-30.D
Operator :
Acquired : 23 Apr 2025 08:50 using AcqMethod DRUG1.M
Instrument : Lilo
Sample Name: P-MOX std
Misc Info : CHCl3
Vial Number: 143



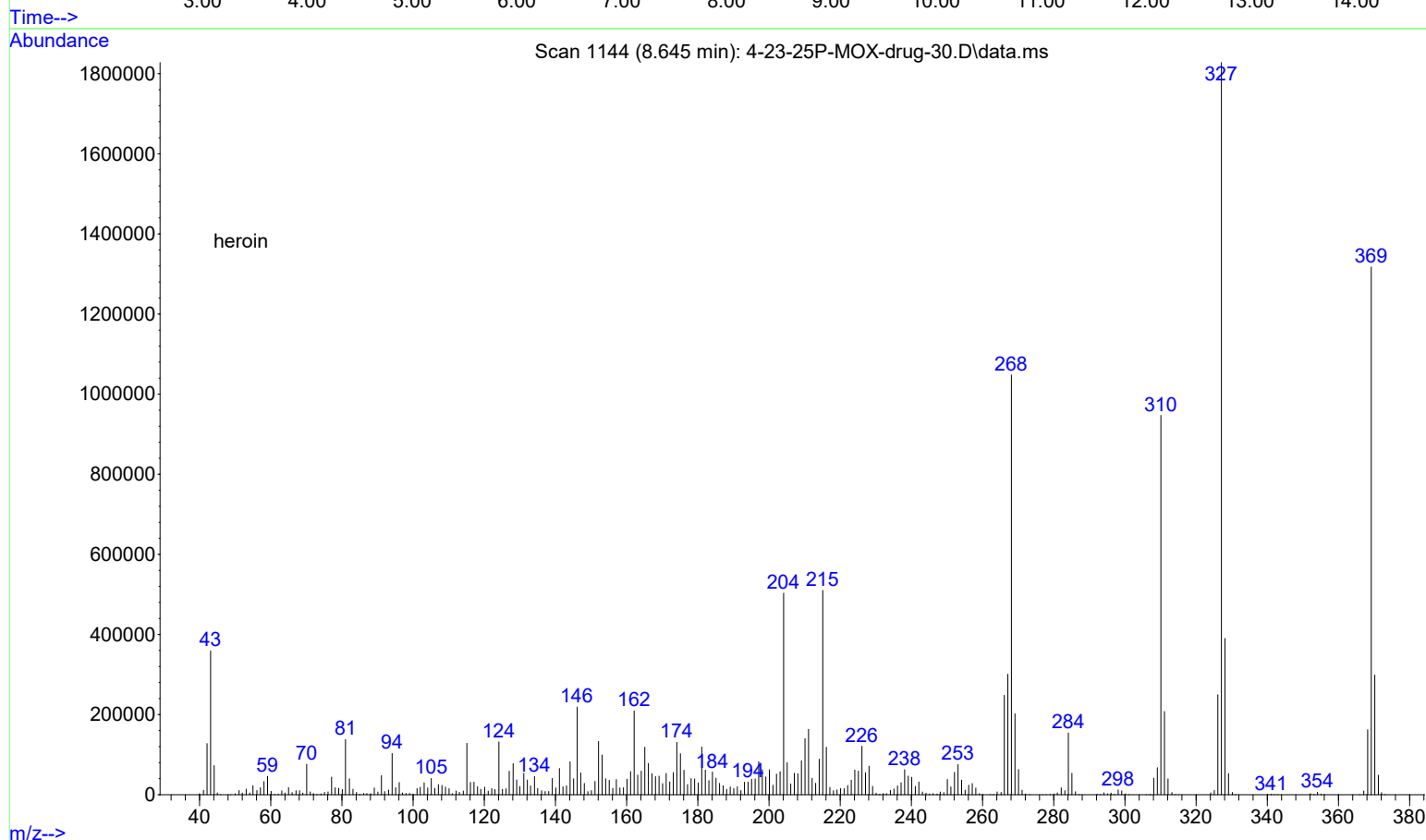
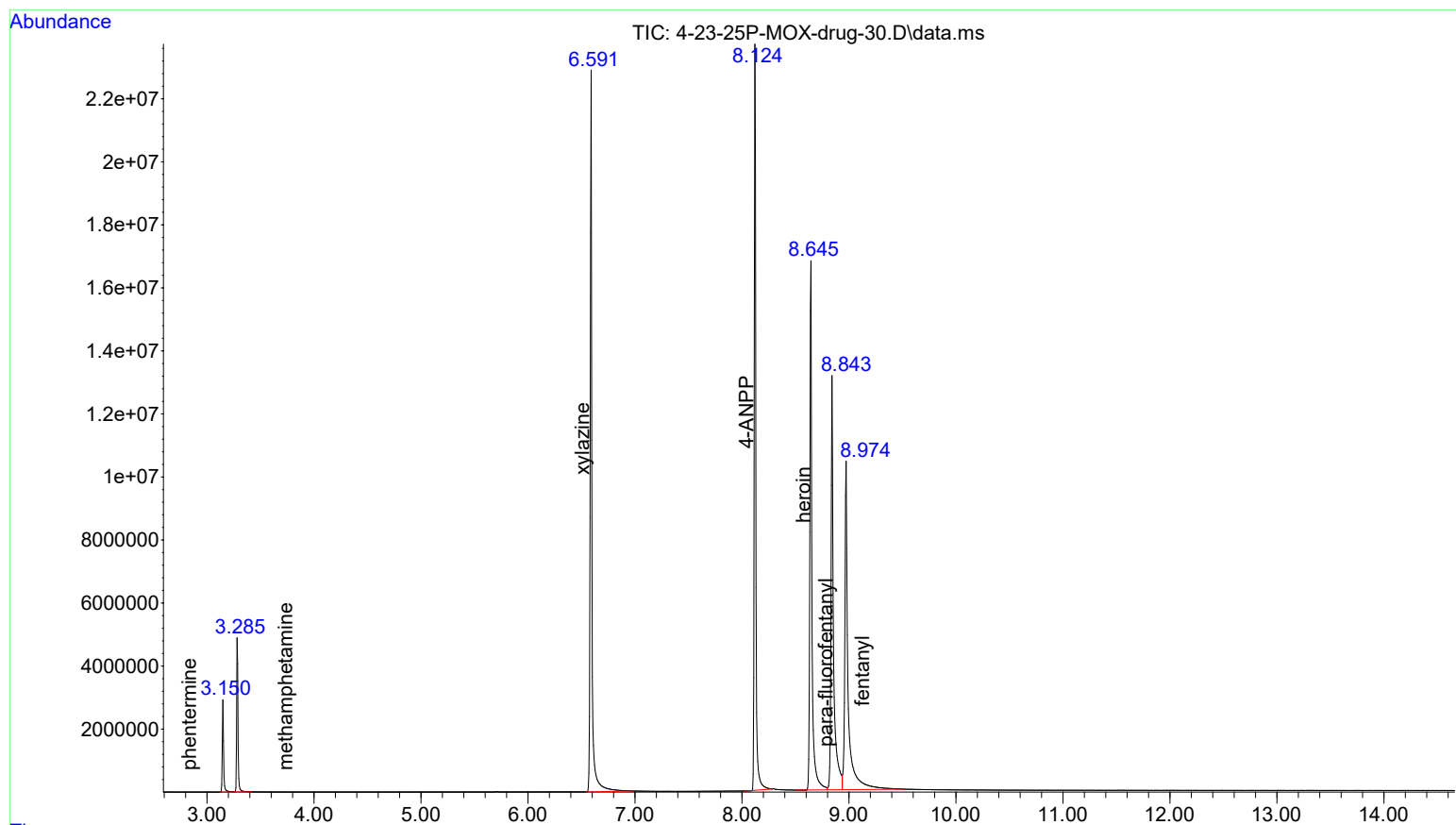
File : H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOX-drug-30.D
Operator :
Acquired : 23 Apr 2025 08:50 using AcqMethod DRUG1.M
Instrument : Lilo
Sample Name: P-MOX std
Misc Info : CHCl3
Vial Number: 143



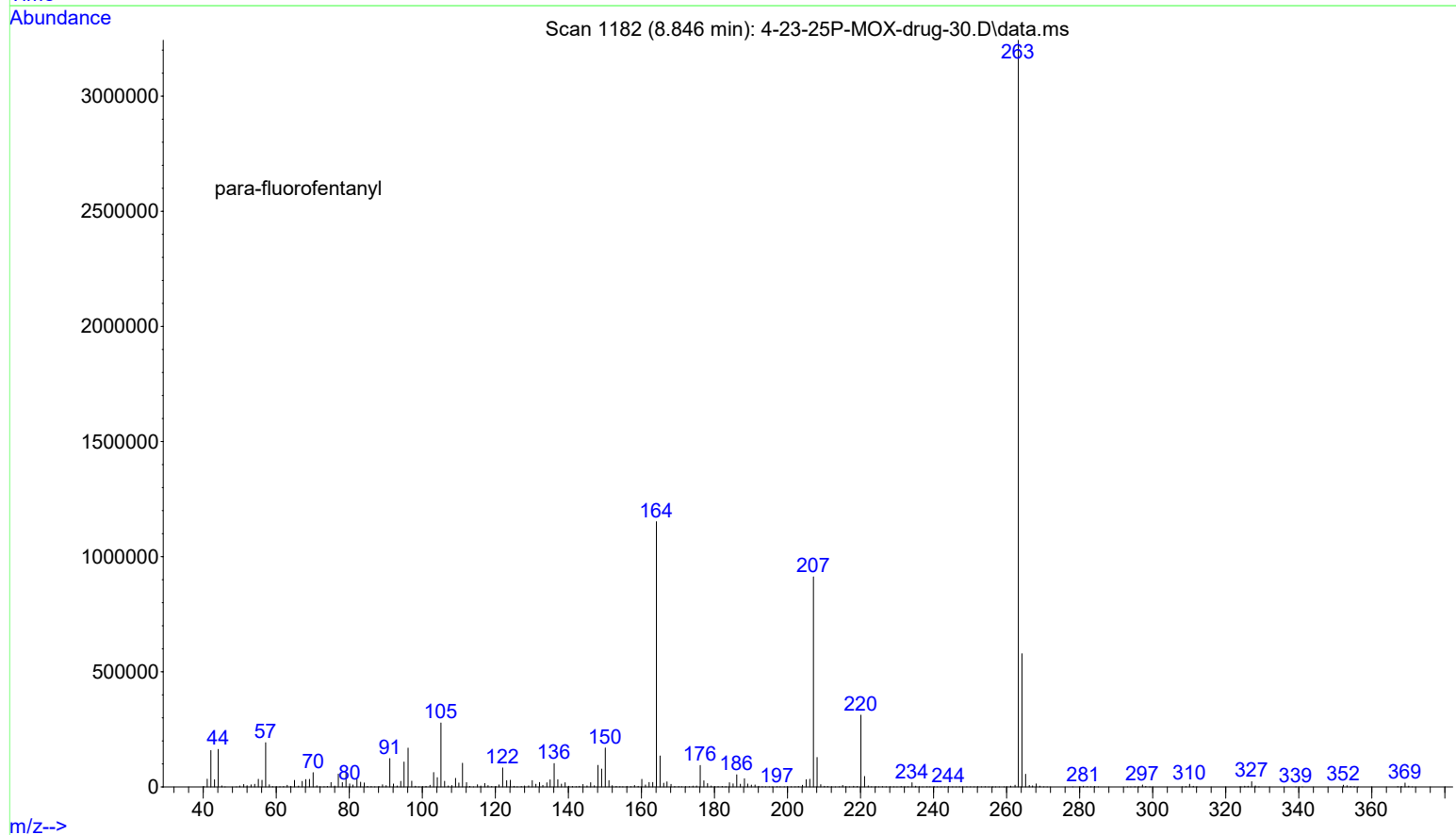
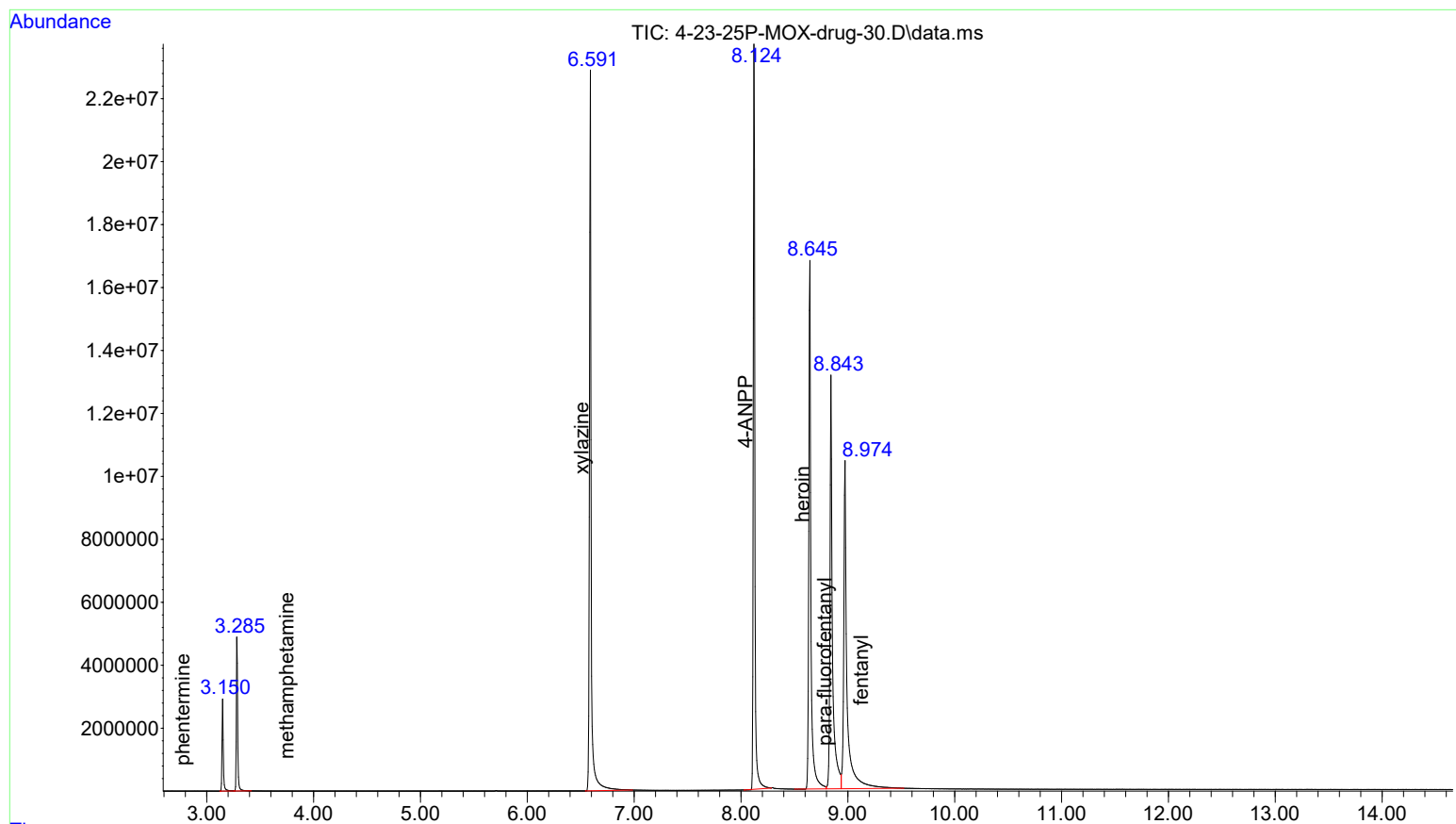
File : H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOX-drug-30.D
Operator :
Acquired : 23 Apr 2025 08:50 using AcqMethod DRUG1.M
Instrument : Lilo
Sample Name: P-MOX std
Misc Info : CHCl3
Vial Number: 143



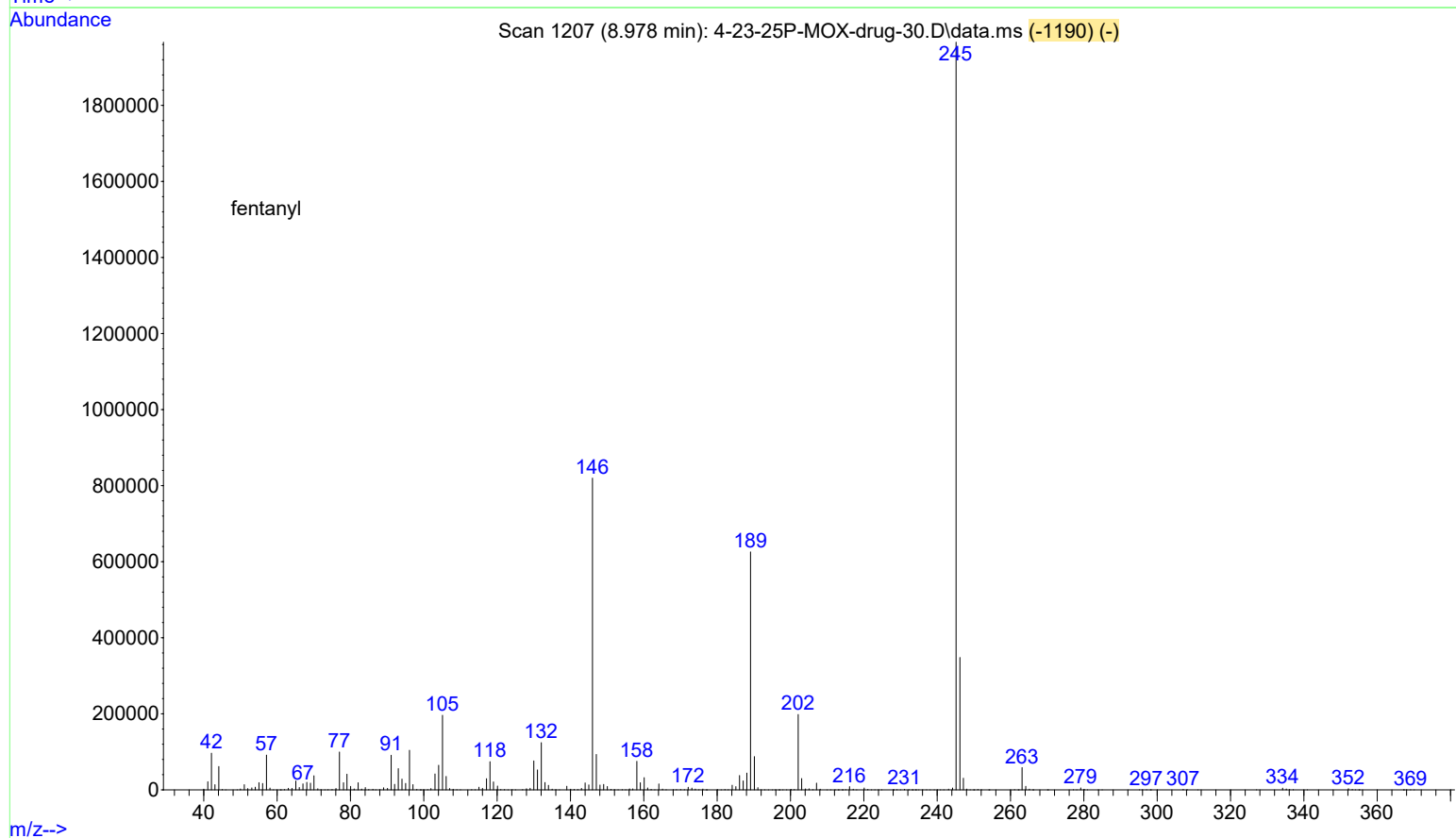
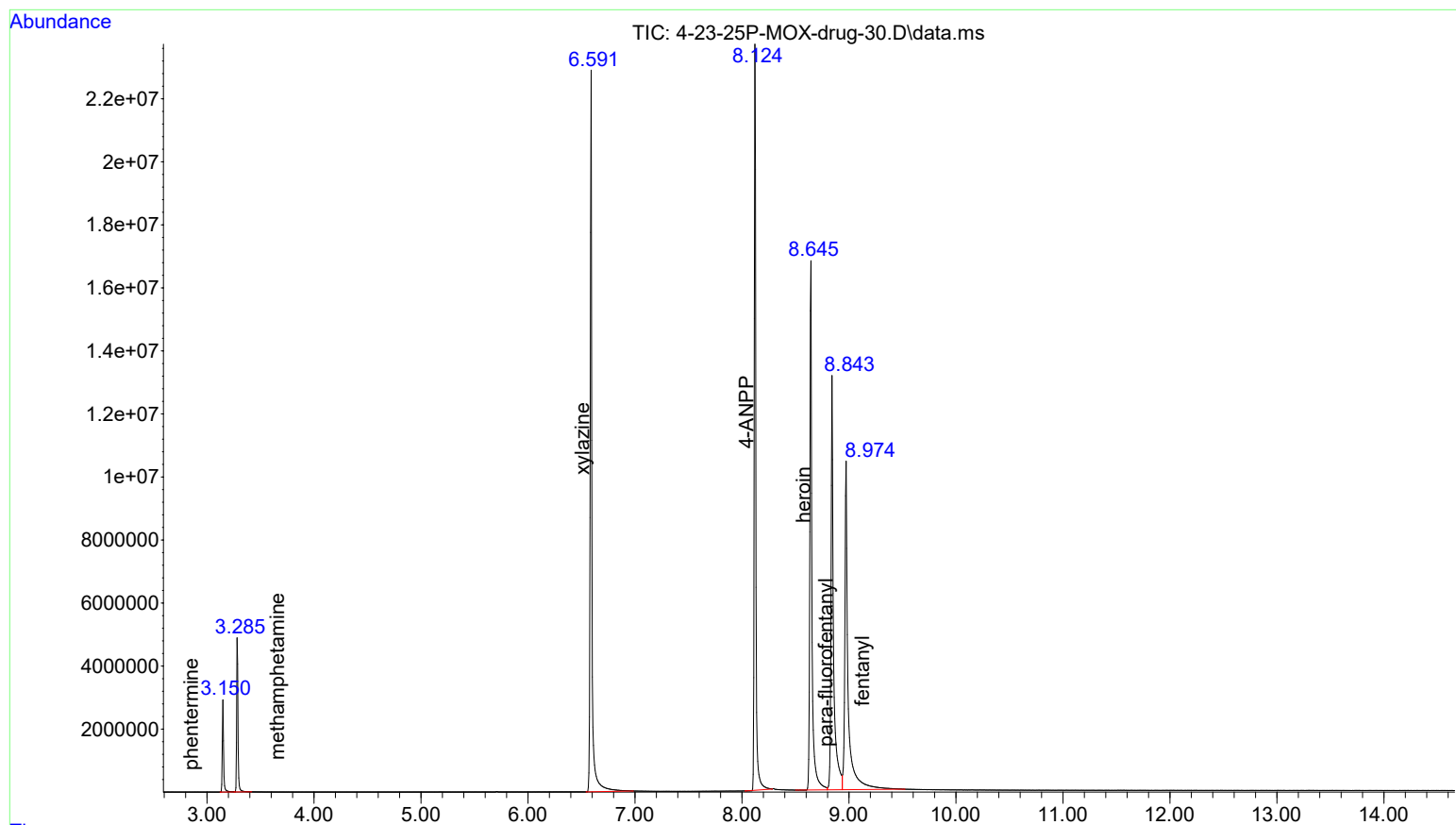
File : H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOX-drug-30.D
Operator :
Acquired : 23 Apr 2025 08:50 using AcqMethod DRUG1.M
Instrument : Lilo
Sample Name: P-MOX std
Misc Info : CHCl3
Vial Number: 143



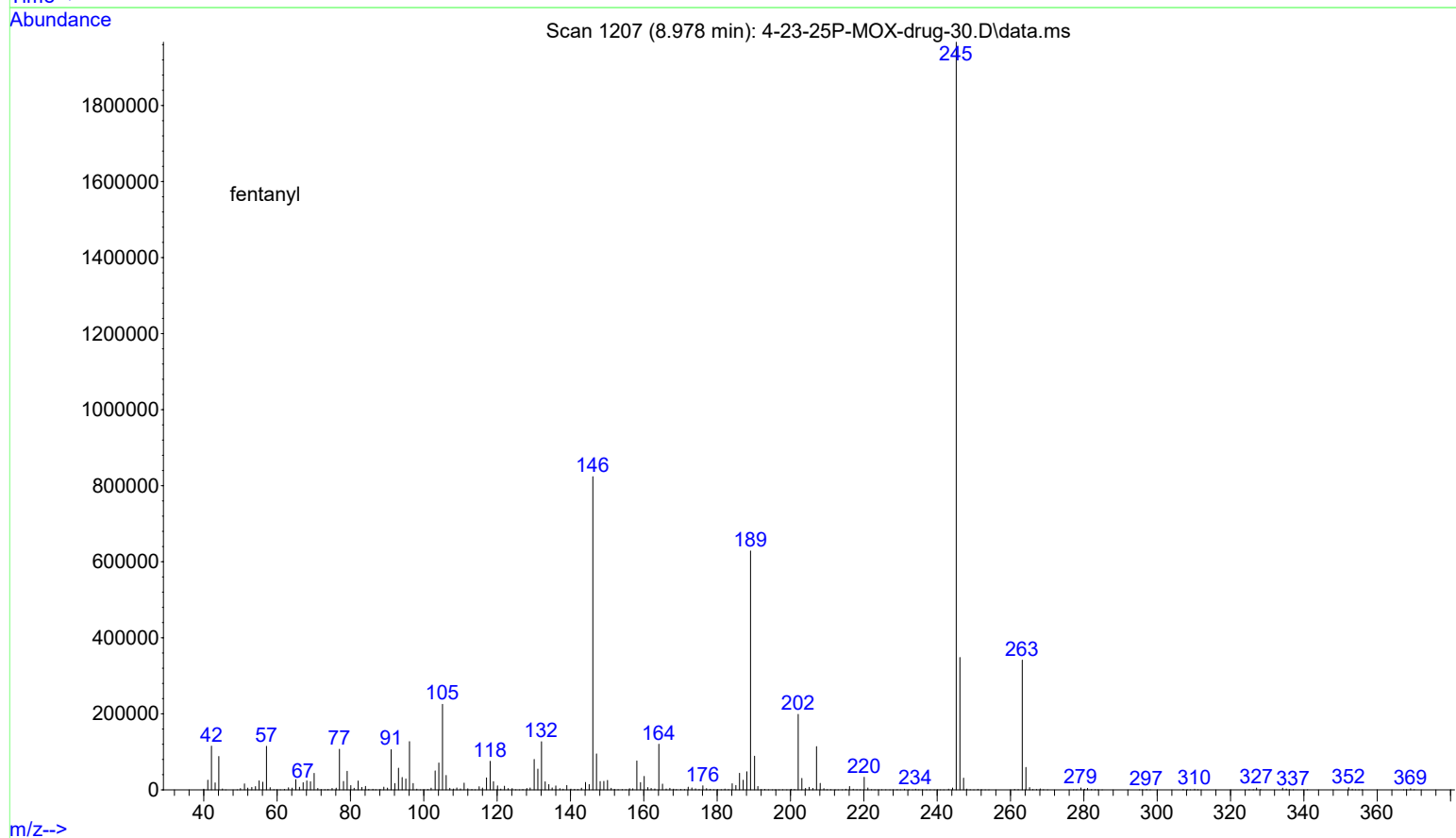
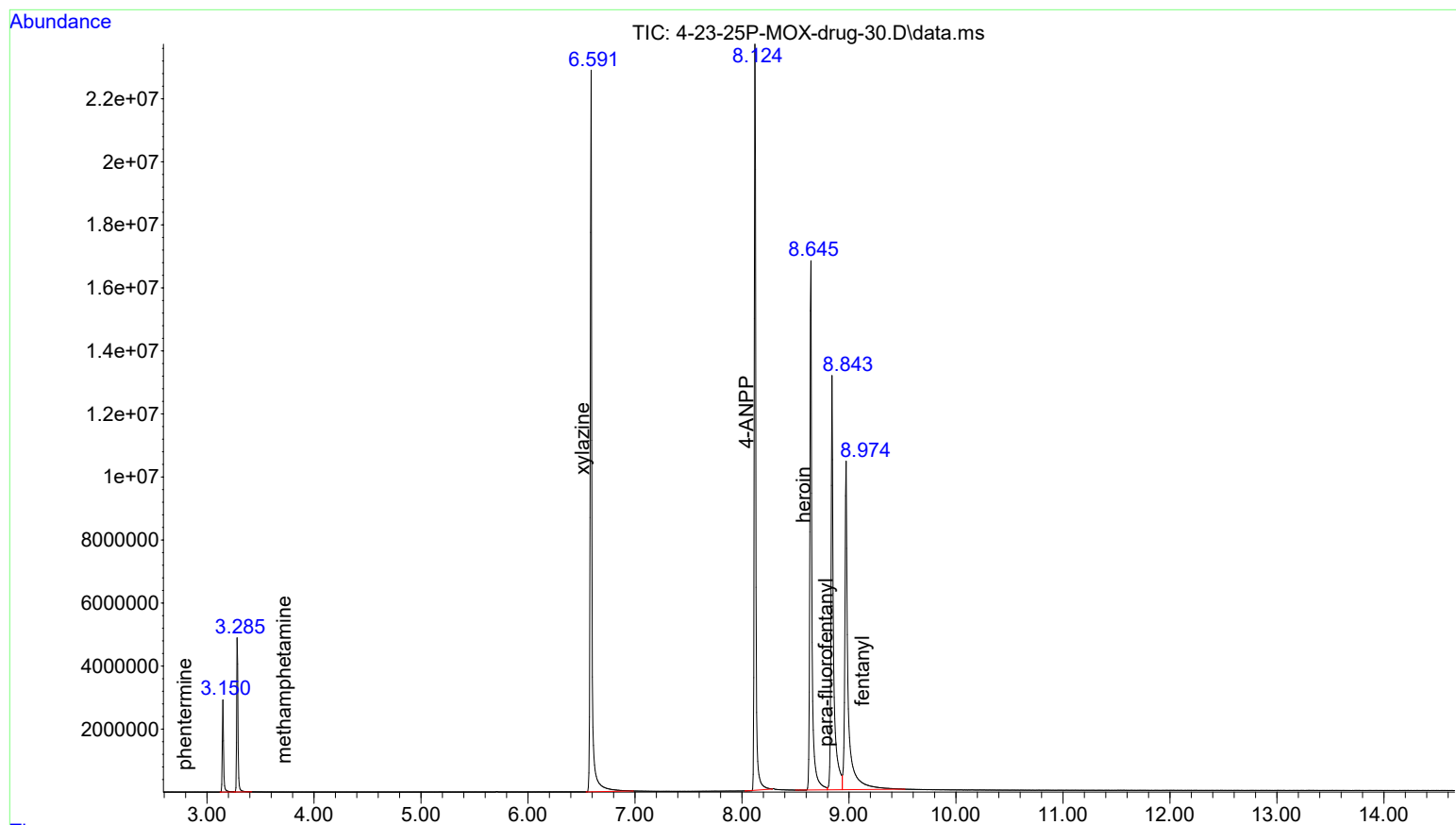
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOX-drug-30.D
Operator :
Acquired : 23 Apr 2025 08:50 using AcqMethod DRUG1.M
Instrument : Lilo
Sample Name: P-MOX std
Misc Info : CHCl3
Vial Number: 143



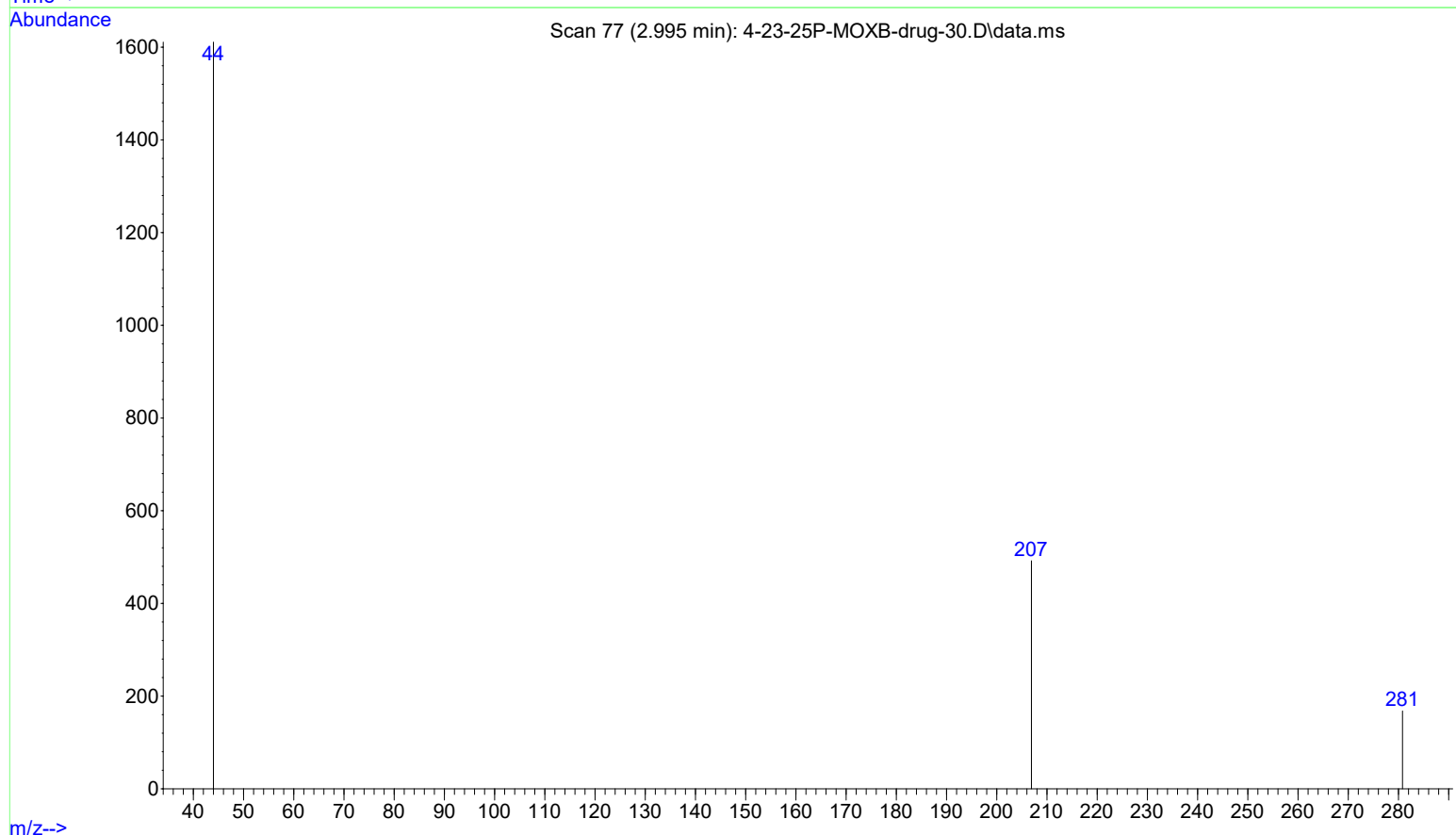
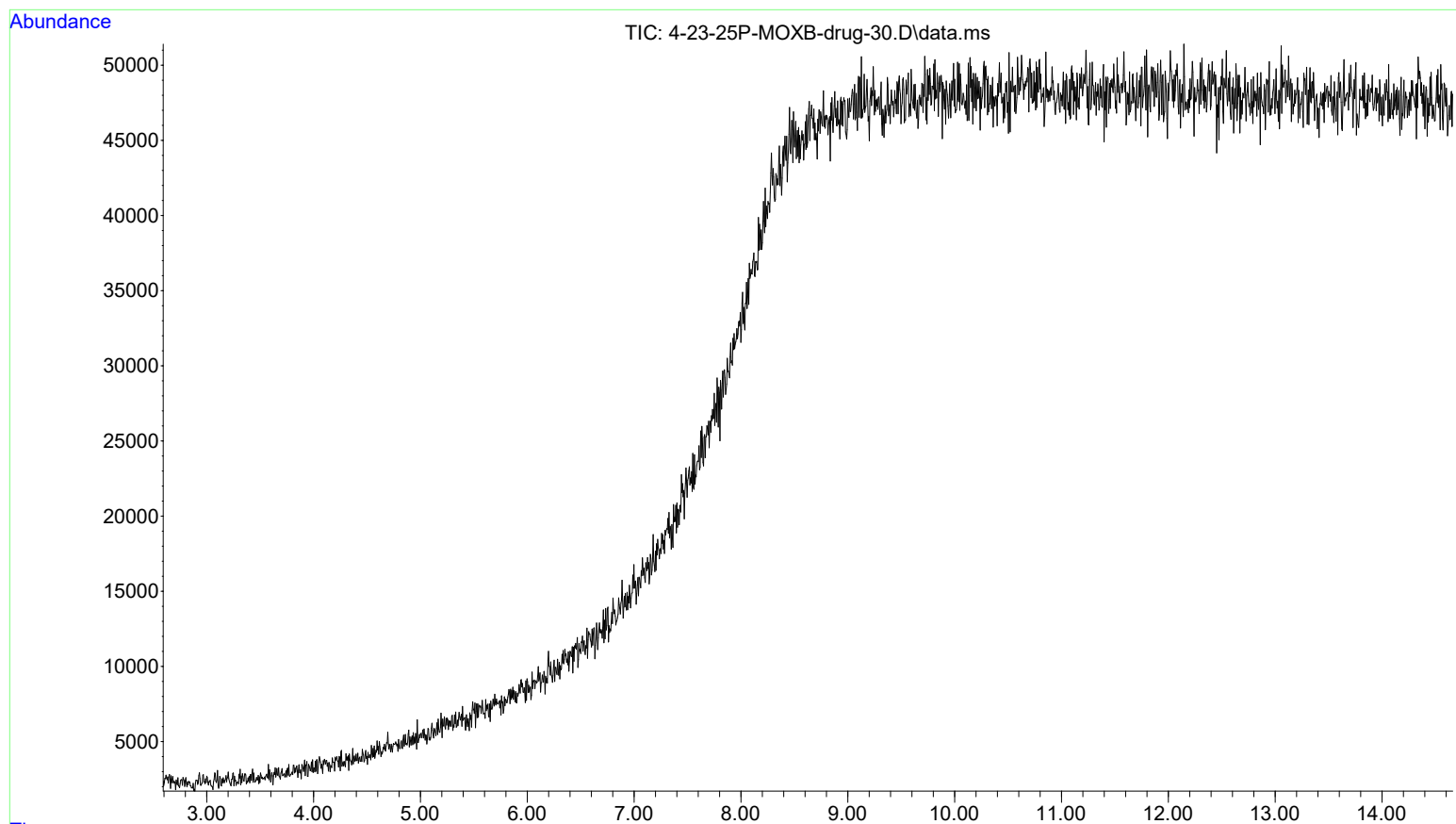
File : H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOX-drug-30.D
Operator :
Acquired : 23 Apr 2025 08:50 using AcqMethod DRUG1.M
Instrument : Lilo
Sample Name: P-MOX std
Misc Info : CHCl3
Vial Number: 143



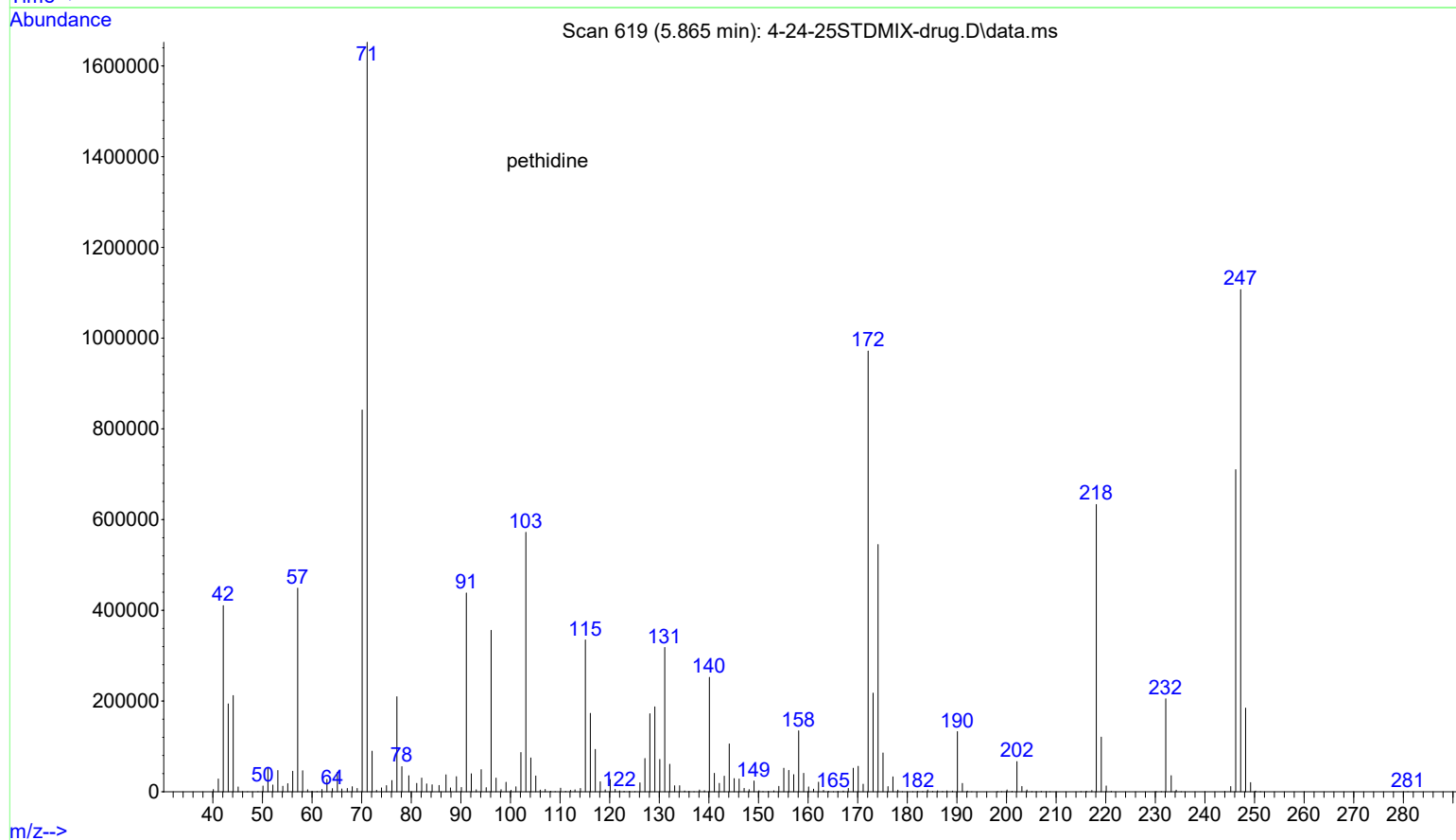
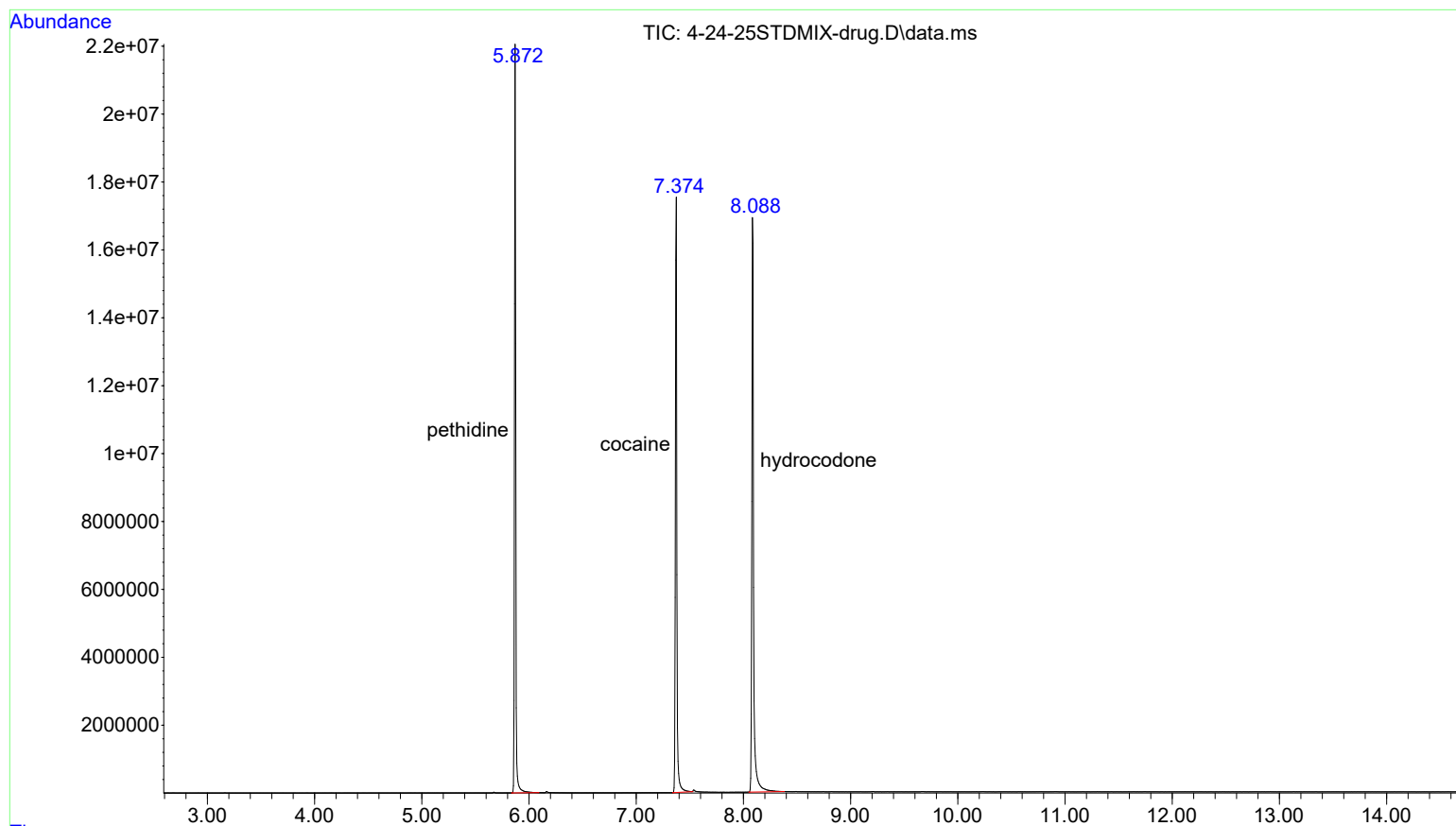
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOX-drug-30.D
Operator :
Acquired : 23 Apr 2025 08:50 using AcqMethod DRUG1.M
Instrument : Lilo
Sample Name: P-MOX std
Misc Info : CHCl3
Vial Number: 143



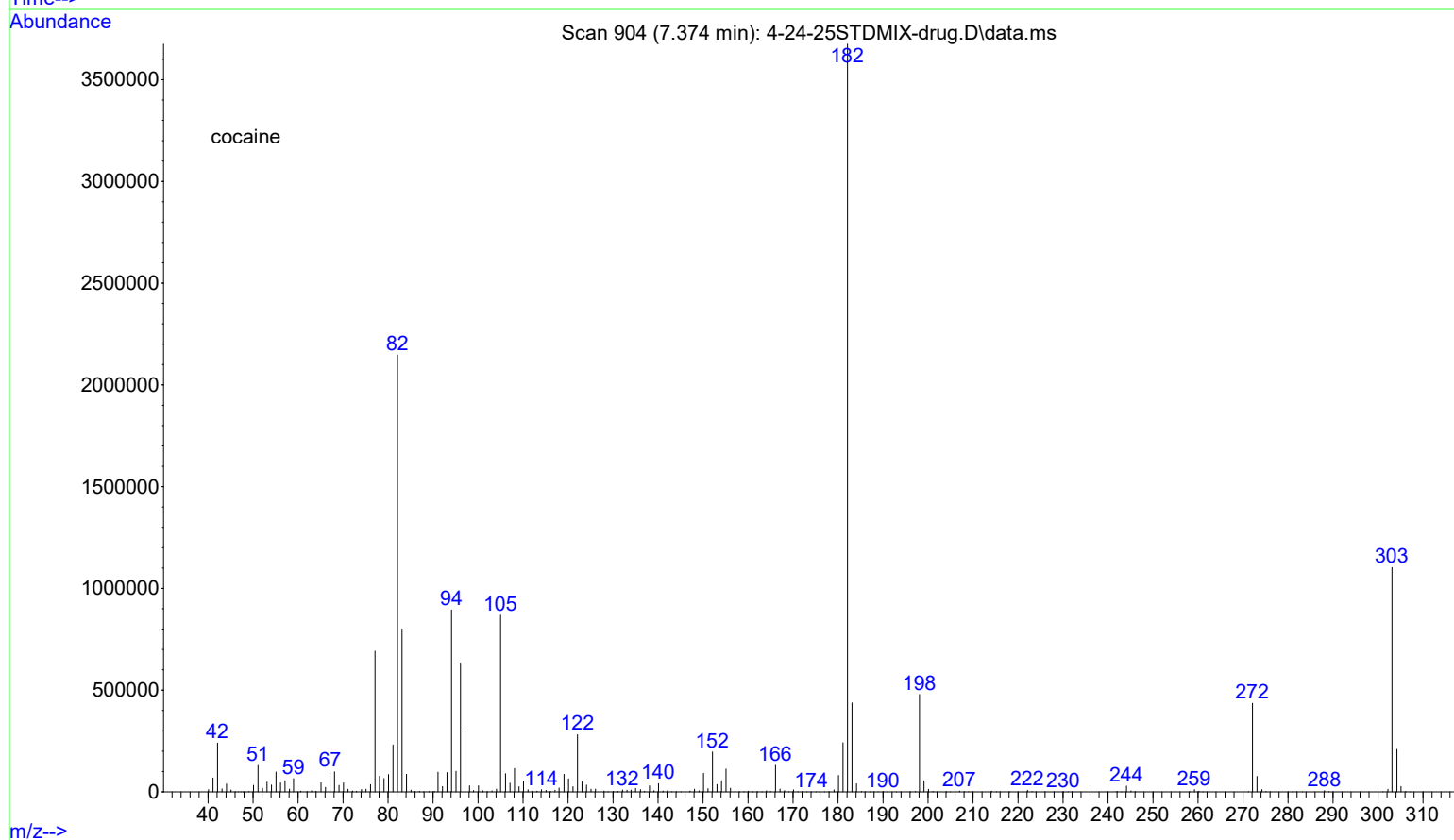
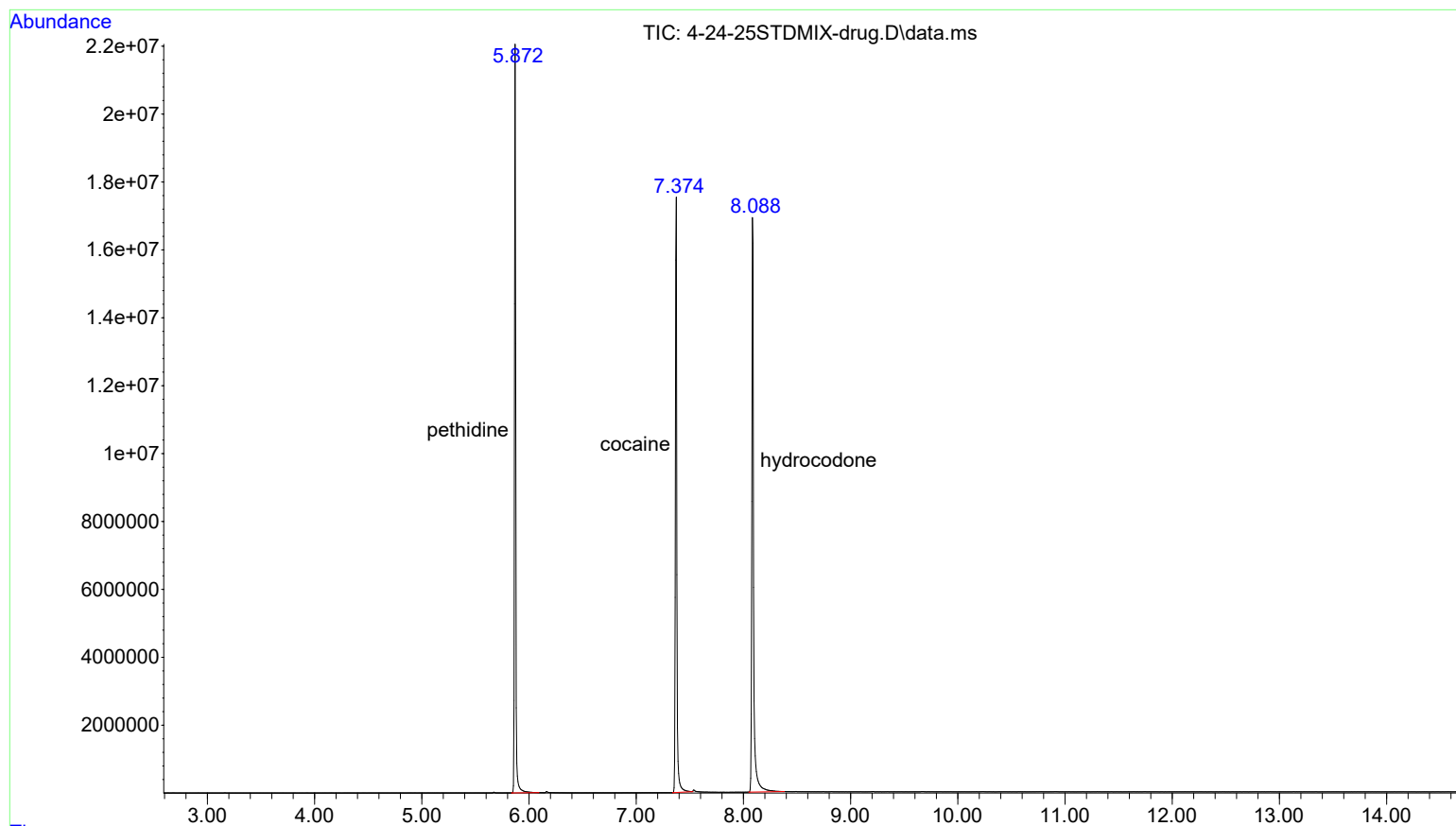
File : H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOXB-drug-30.D
Operator :
Acquired : 23 Apr 2025 08:33 using AcqMethod DRUG1.M
Instrument : Lilo
Sample Name: P-MOX std blank
Misc Info : CHCl3
Vial Number: 142



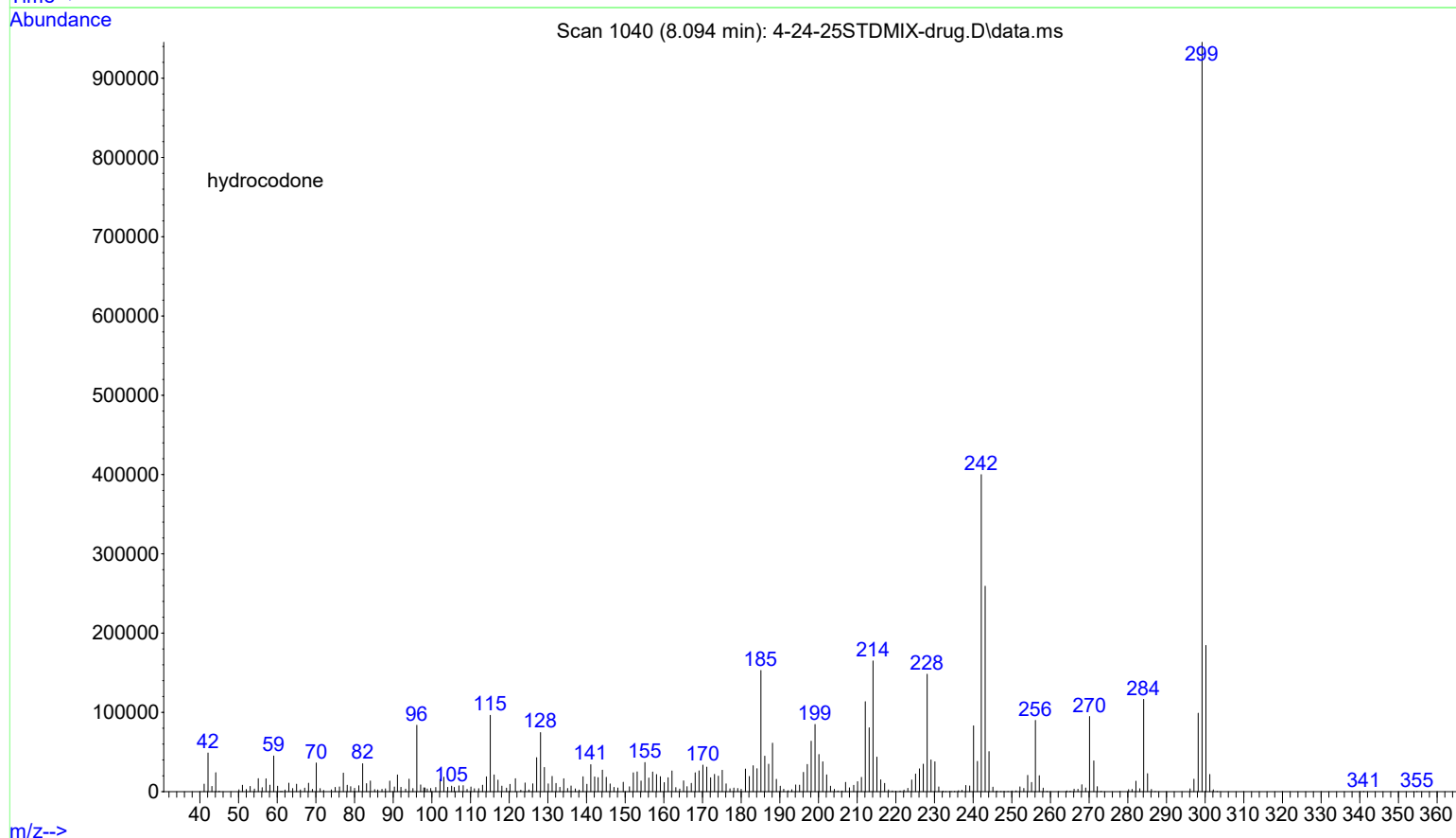
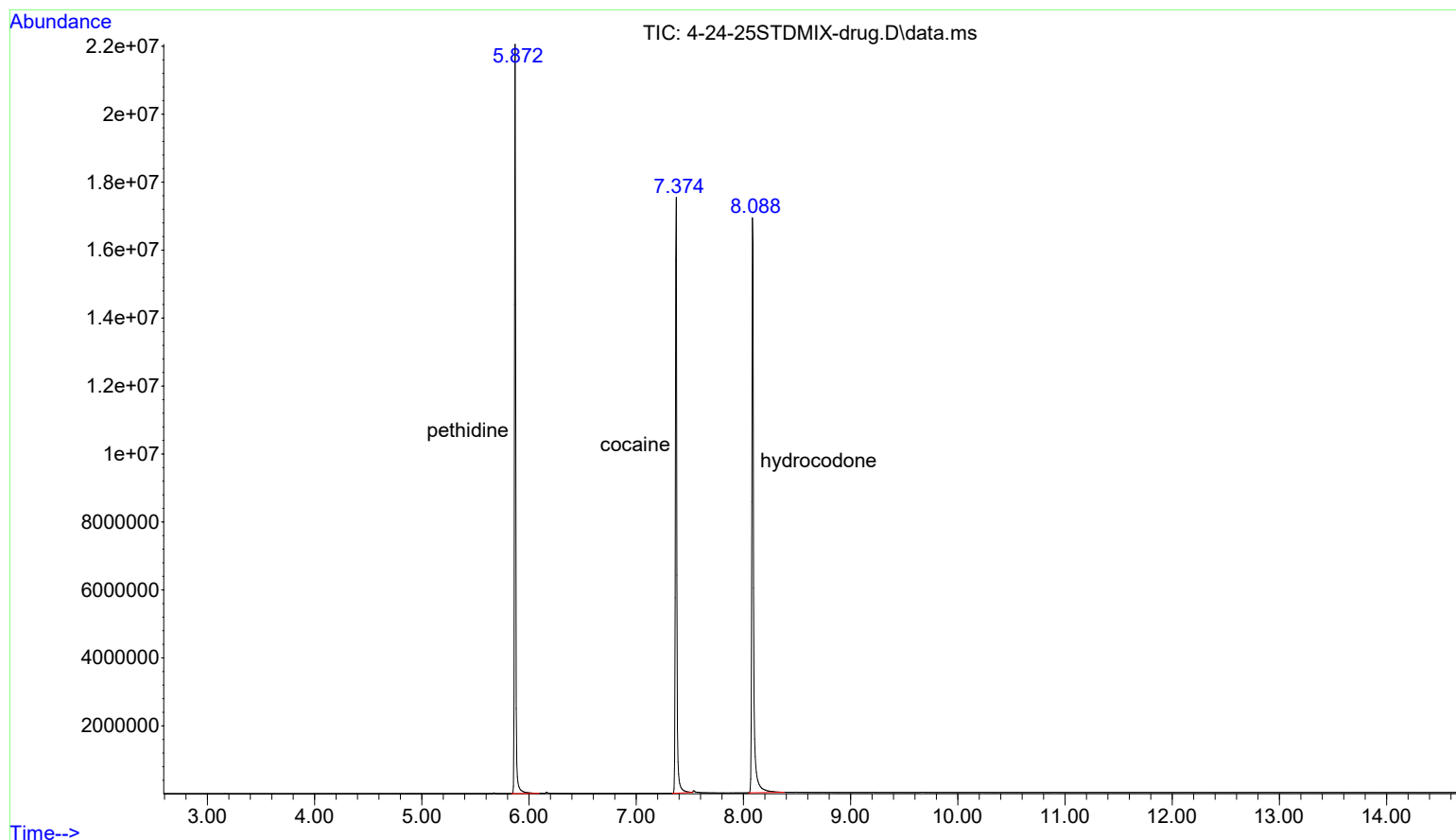
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25STD MIX-drug.D
Operator :
Acquired : 24 Apr 2025 11:40 using AcqMethod DRUG1.M
Instrument : Lilo
Sample Name: GCMS STD MIX
Misc Info : CHCl3
Vial Number: 146



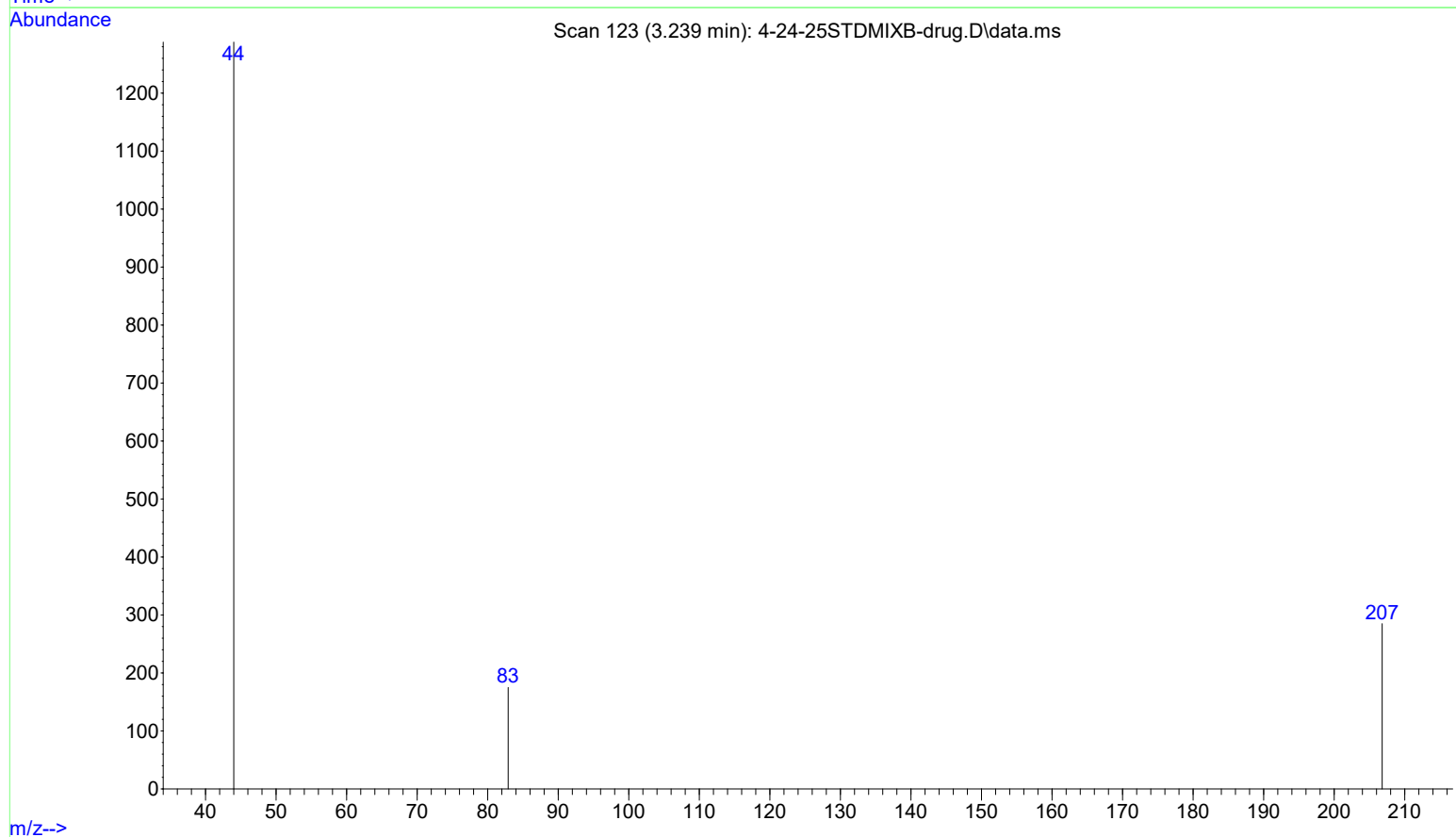
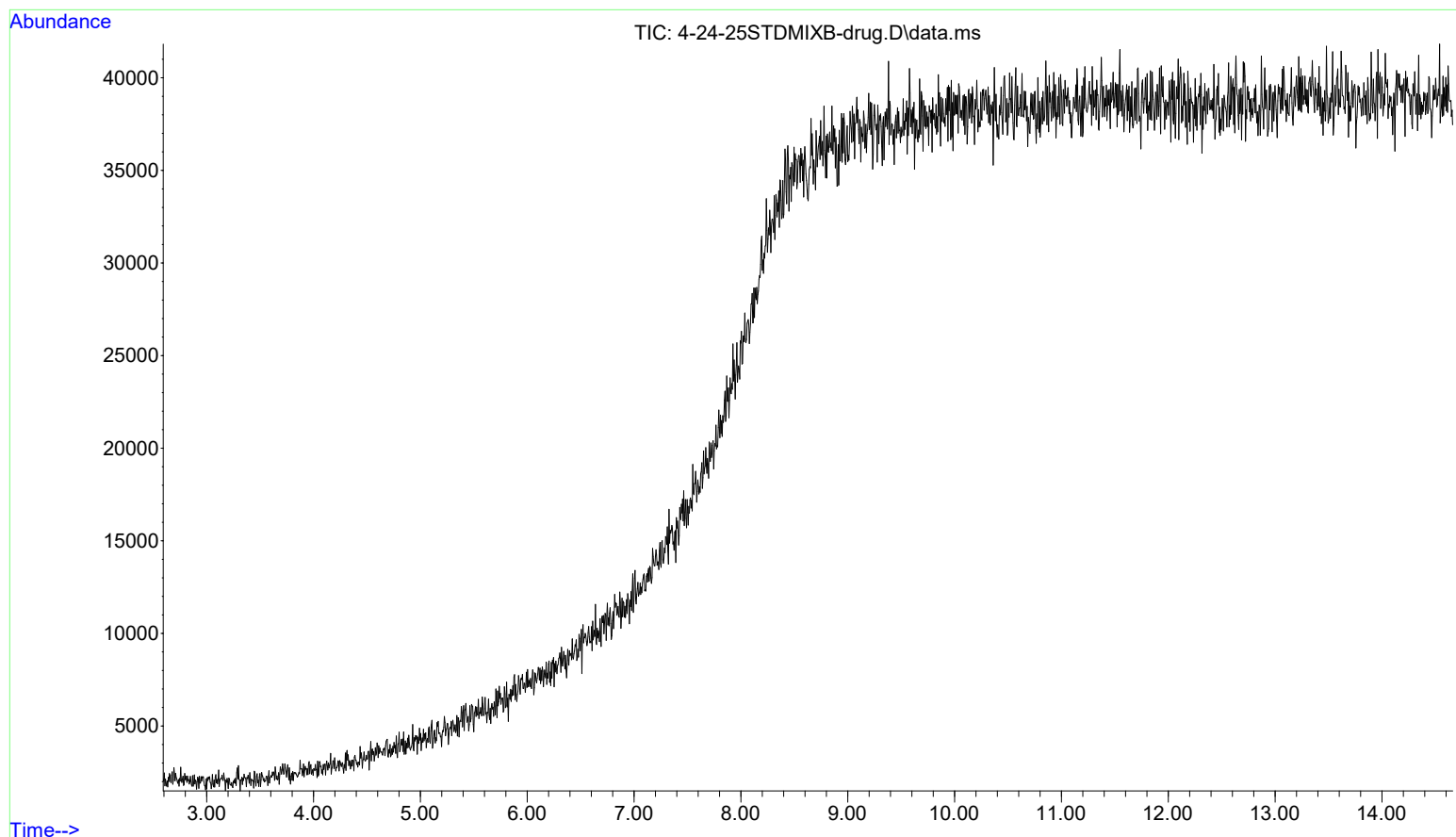
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25STD MIX-drug.D
Operator :
Acquired : 24 Apr 2025 11:40 using AcqMethod DRUG1.M
Instrument : Lilo
Sample Name: GCMS STD MIX
Misc Info : CHCl3
Vial Number: 146



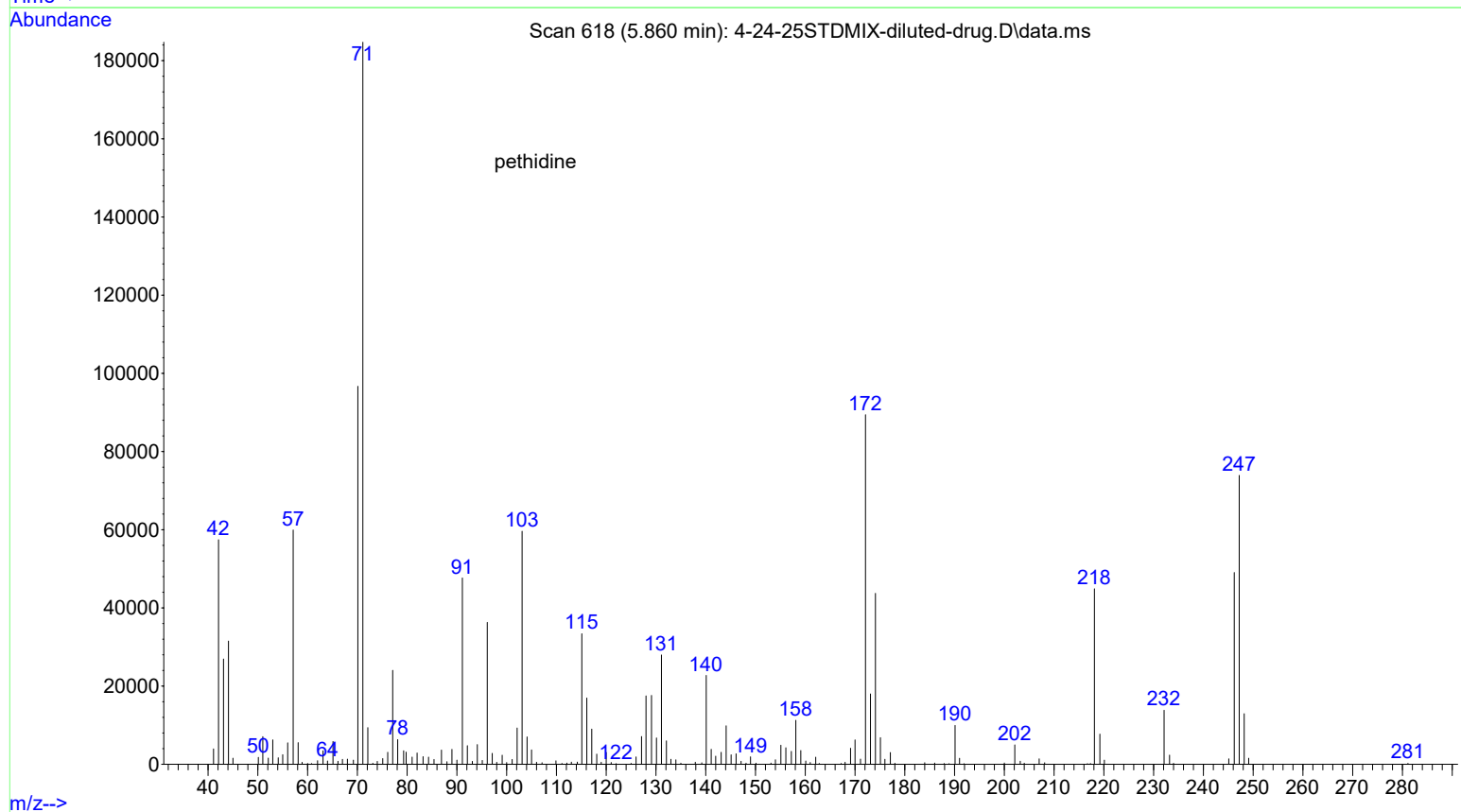
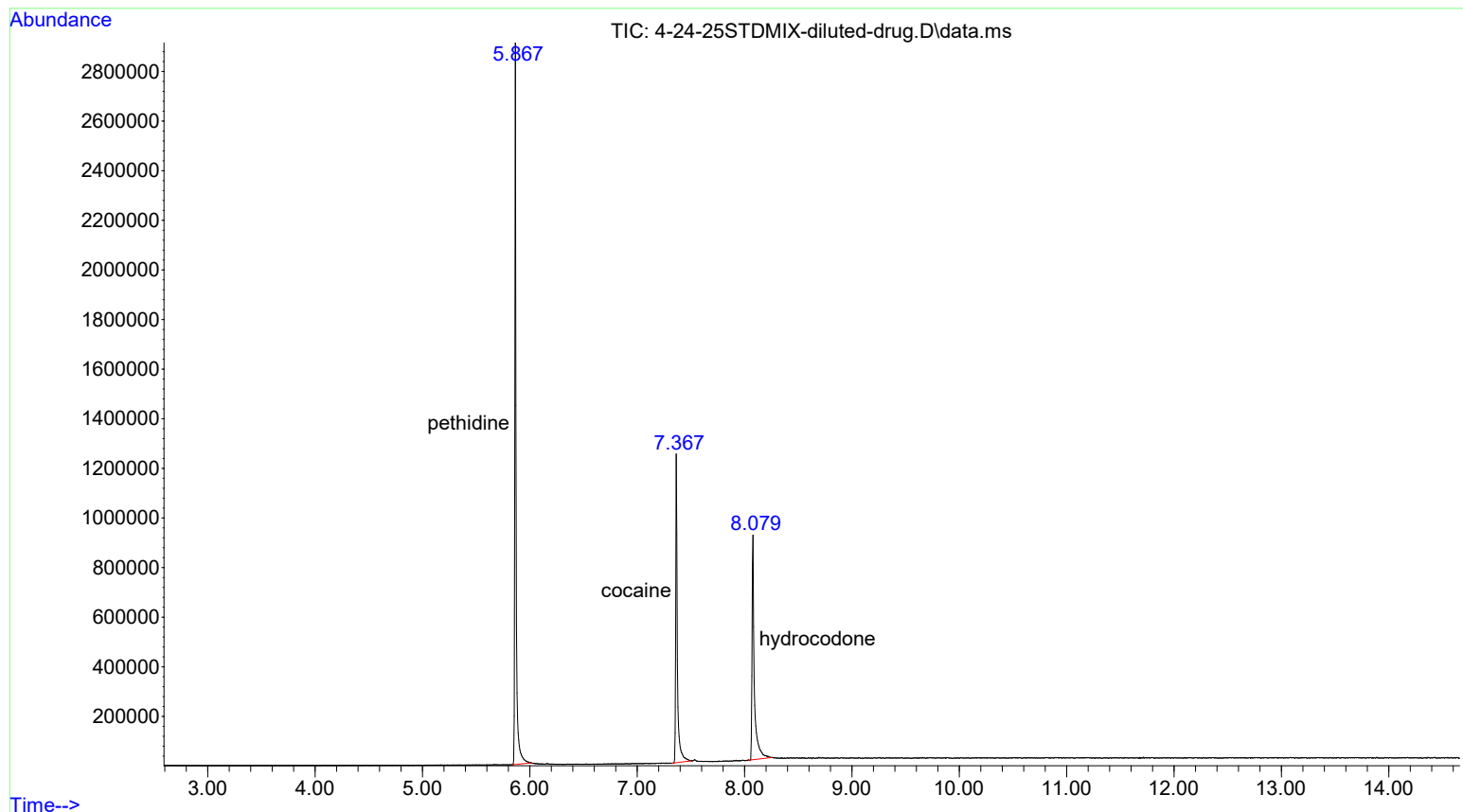
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25STD MIX-drug.D
Operator :
Acquired : 24 Apr 2025 11:40 using AcqMethod DRUG1.M
Instrument : Lilo
Sample Name: GCMS STD MIX
Misc Info : CHCl3
Vial Number: 146



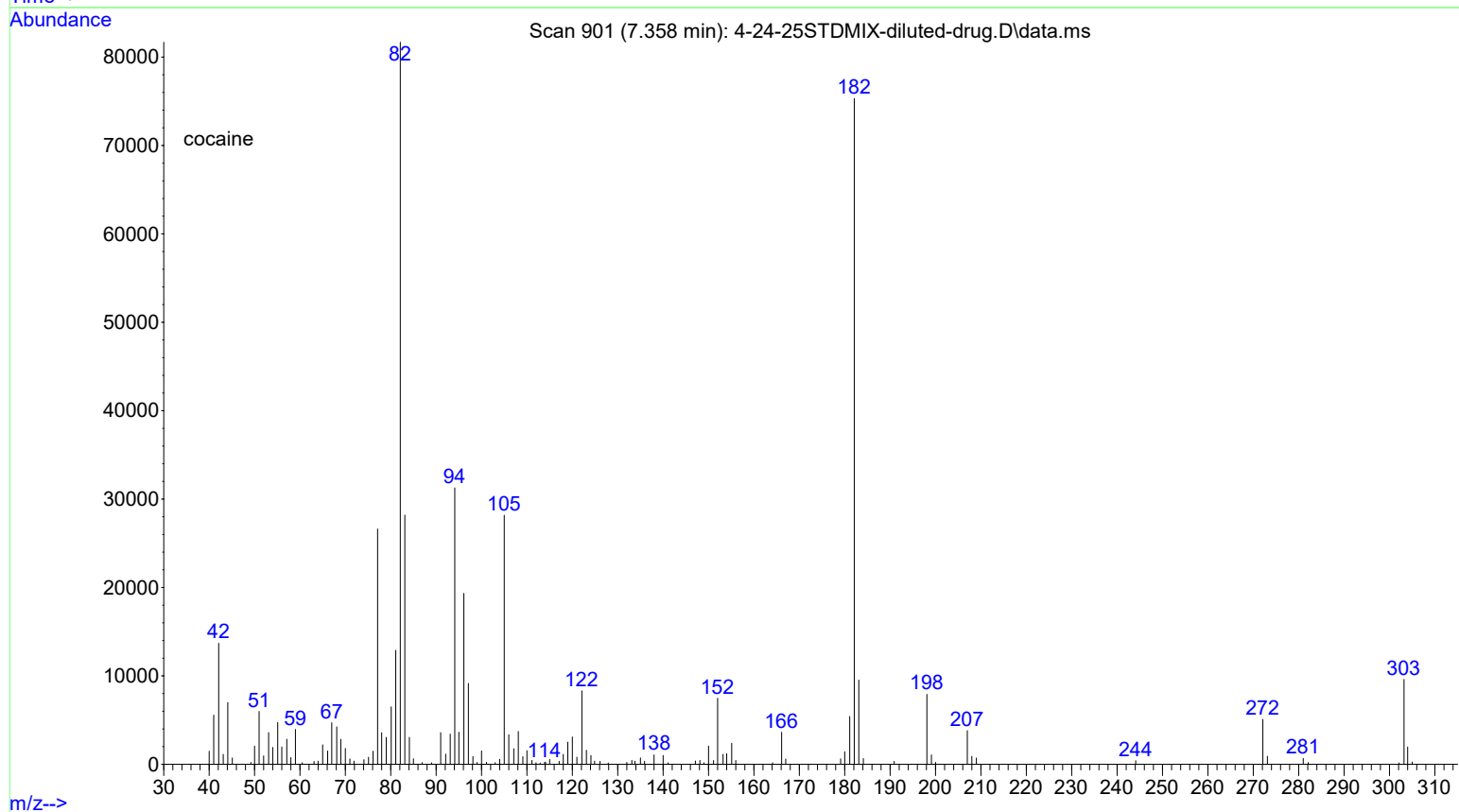
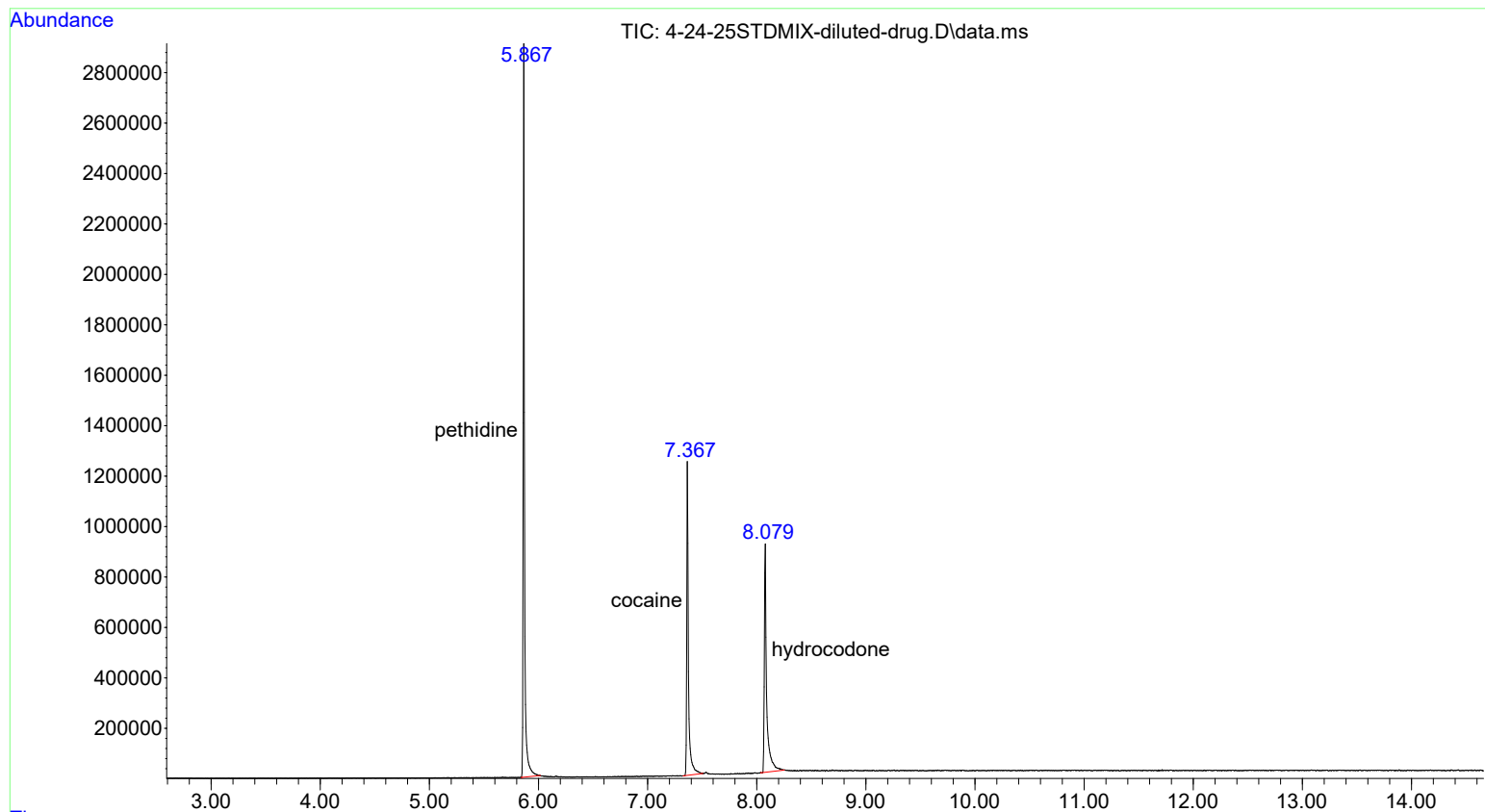
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25STD MIXB-drug.D
Operator :
Acquired : 24 Apr 2025 11:22 using AcqMethod DRUG1.M
Instrument : Lilo
Sample Name: GCMS STD MIX blank
Misc Info : CHCl3
Vial Number: 142



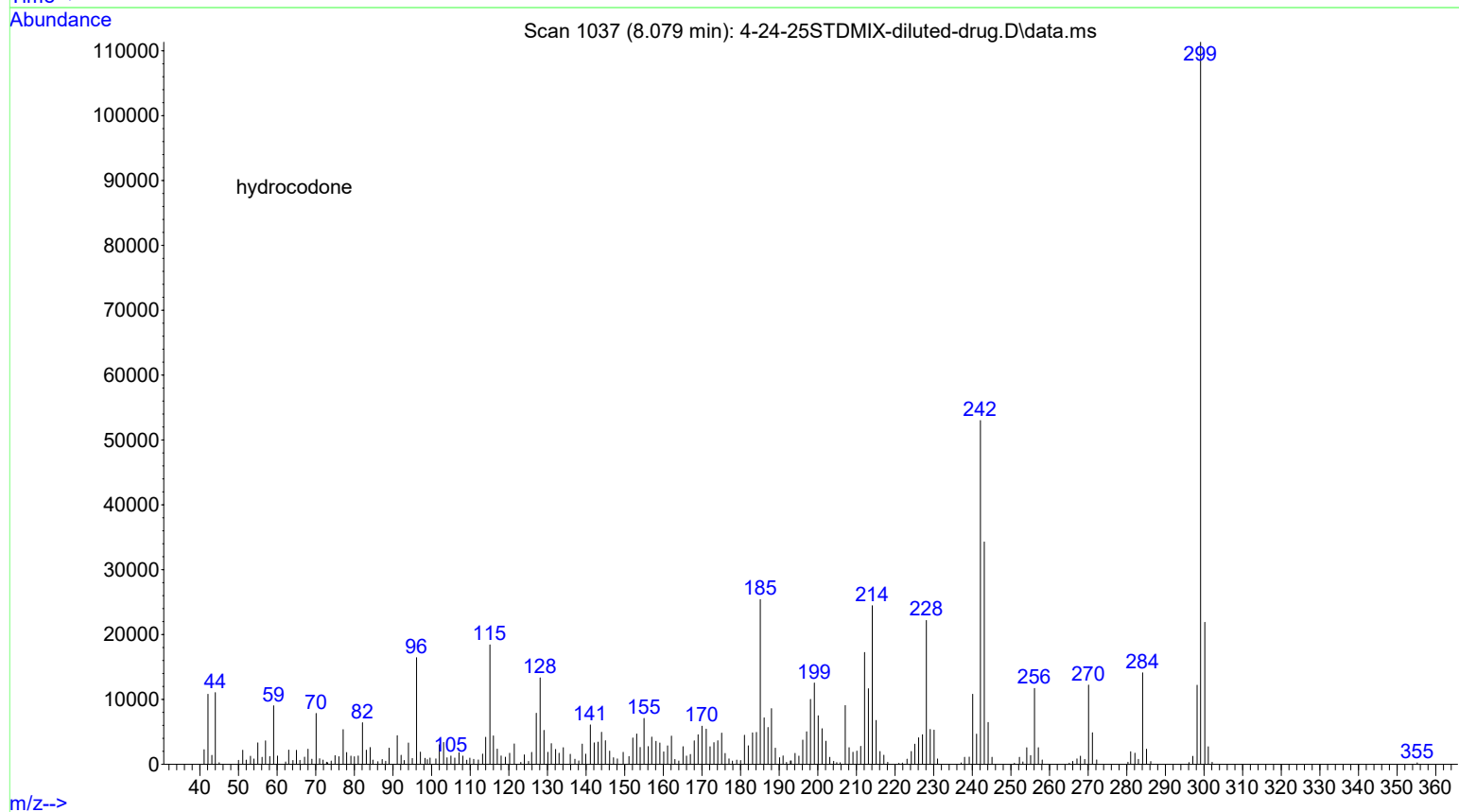
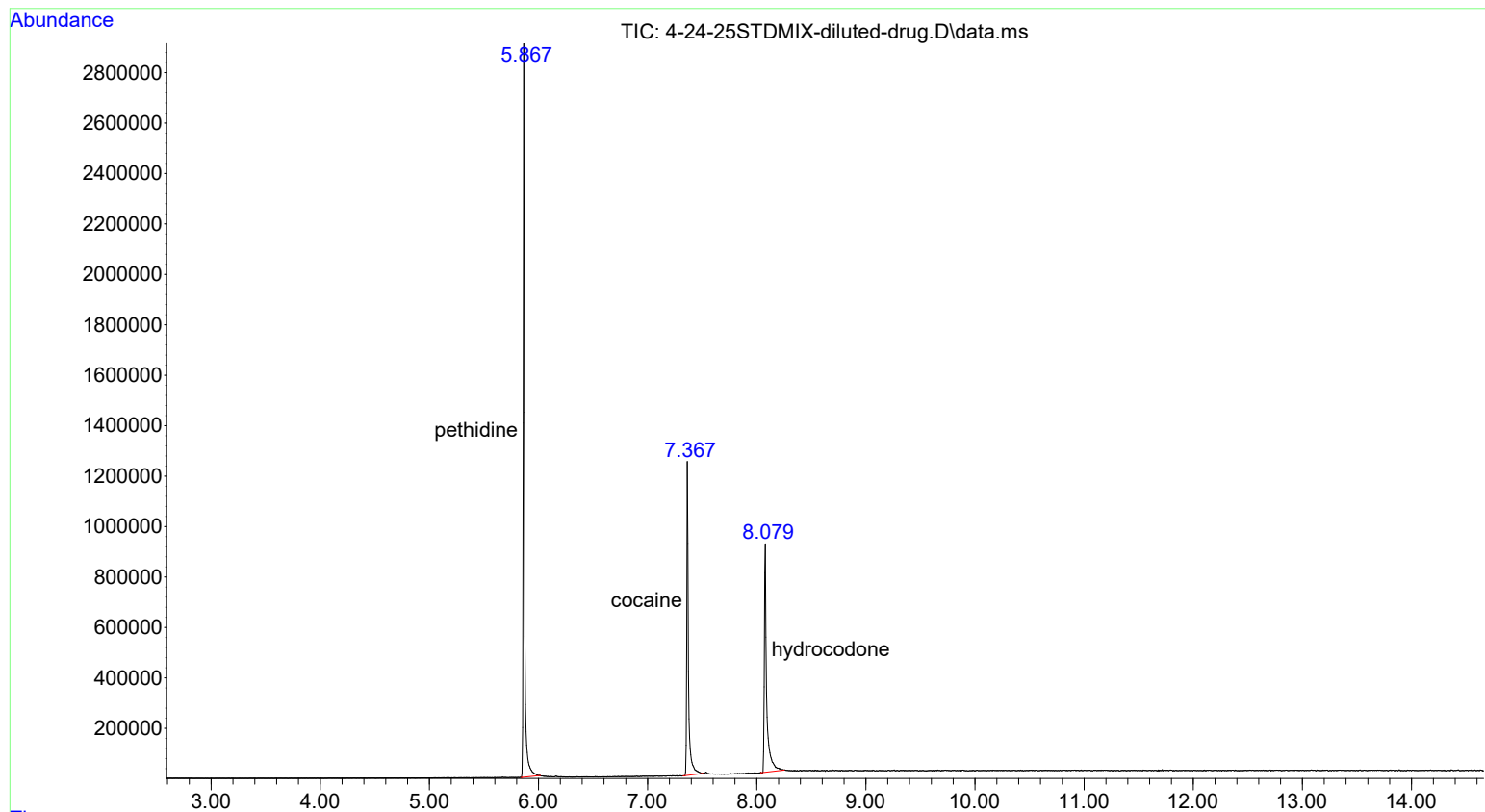
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25STD MIX-diluted-
... drug.D
Operator :
Acquired : 24 Apr 2025 12:51 using AcqMethod DRUG1.M
Instrument : Lilo
Sample Name: GCMS STD MIX diluted
Misc Info : CHCl3
Vial Number: 145



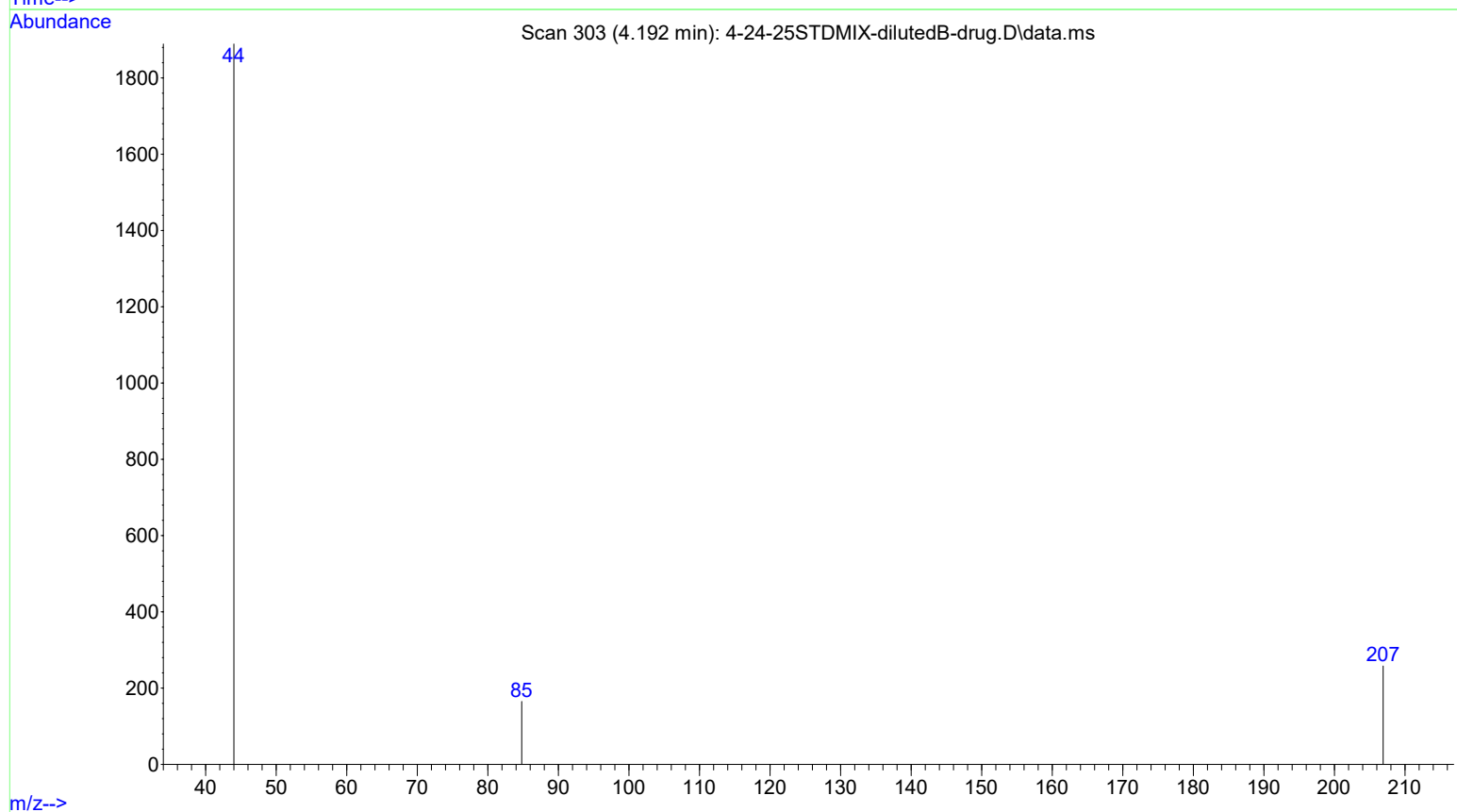
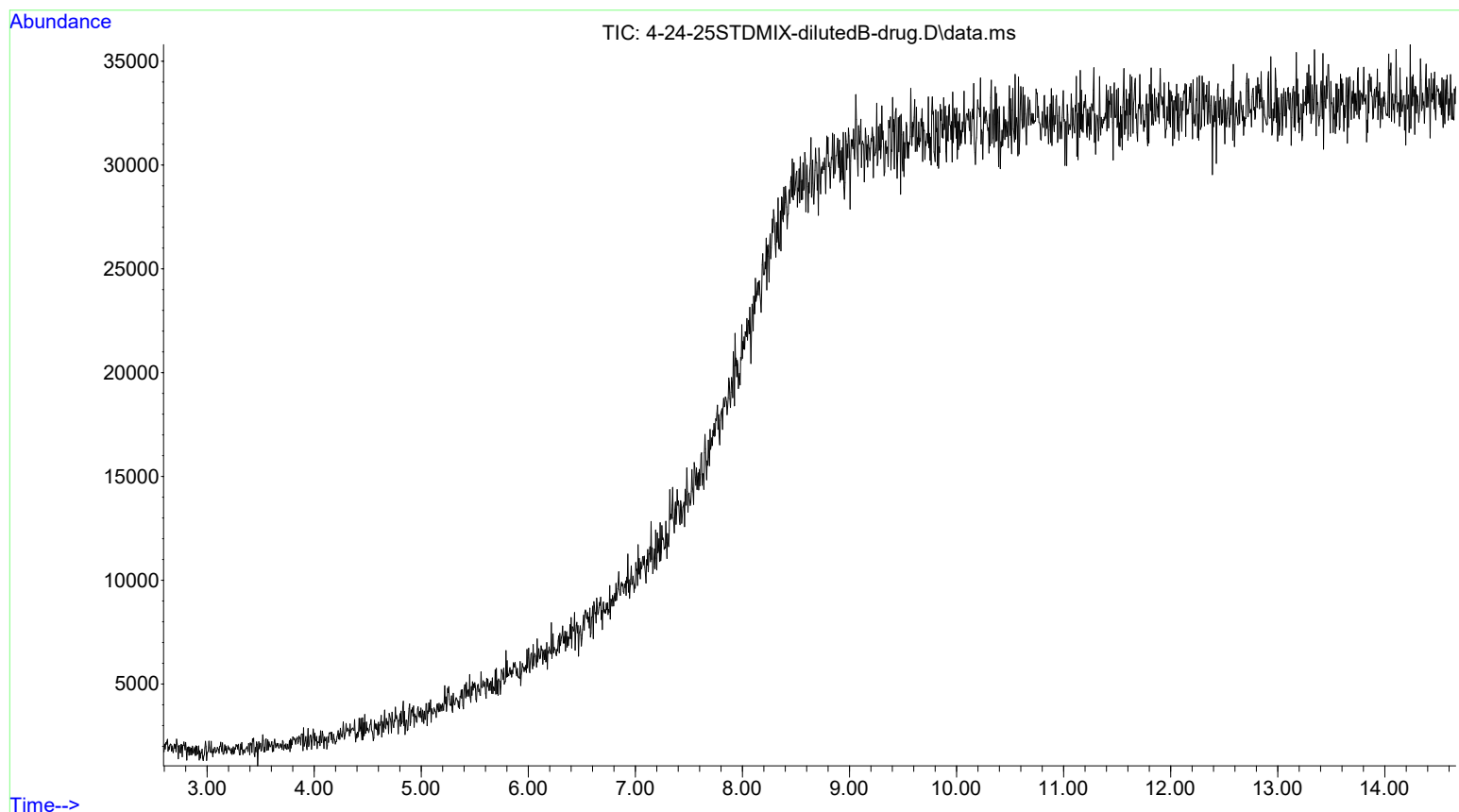
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25STDMIX-diluted-
... drug.D
Operator :
Acquired : 24 Apr 2025 12:51 using AcqMethod DRUG1.M
Instrument : Lilo
Sample Name: GCMS STD MIX diluted
Misc Info : CHCl3
Vial Number: 145



File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25STD MIX-diluted-
... drug.D
Operator :
Acquired : 24 Apr 2025 12:51 using AcqMethod DRUG1.M
Instrument : Lilo
Sample Name: GCMS STD MIX diluted
Misc Info : CHCl3
Vial Number: 145



File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25STDMIX-dilutedB
... -drug.D
Operator :
Acquired : 24 Apr 2025 12:33 using AcqMethod DRUG1.M
Instrument : Lilo
Sample Name: GCMS STD MIX blank diluted
Misc Info : CHCl3
Vial Number: 142



METHOD CONTROL PARAMETERS

Method Information for: D:\MassHunter\GCMS\1\methods\GHB.M

Method Sections To Run:

- () Save Copy of Method With Data
- () Instrument Control Pre-Run Cmd/Macro =
- () Data Analysis Pre-Run Cmd/Macro =
- (X) Data Acquisition
- (X) Data Analysis
- () Instrument Control Post-Run Cmd/Macro =
- () Data Analysis Post-Run Cmd/Macro =

Method Comments:

GHB for GHB

END OF METHOD CONTROL PARAMETERS

D:\MassHunter\GCMS\1\methods\GHB.M
Fri Apr 25 08:53:30 2025

Control Information

Sample Inlet : GC
Injection Source : GC ALS
Injection Location: Front
Mass Spectrometer : Enabled

No Sample Prep method has been assigned to this method.

GC
GC Summary
Run Time 14.667 min
Post Run Time 0 min

Oven
Temperature
Setpoint On
(Initial) 80 °C
Hold Time 1 min
Post Run 50 °C
Program
#1 Rate 30 °C/min
#1 Value 280 °C
#1 Hold Time 7 min

Equilibration Time 0.5 min
Max Temperature 325 °C
Maximum Temperature Override Disabled
Slow Fan Disabled

ALS
Front Injector
Syringe Size 10 µL
Injection Volume 1 µL
Solvent A Washes (PreInj) 1
Solvent A Washes (PostInj) 1
Solvent A Volume 8 µL
Solvent B Washes (PreInj) 1
Solvent B Washes (PostInj) 1
Solvent B Volume 8 µL
Sample Washes 1
Sample Wash Volume 8 µL
Sample Pumps 2
Dwell Time (PreInj) 0 min
Dwell Time (PostInj) 0 min
Solvent Wash Draw Speed 300 µL/min
Solvent Wash Dispense Speed 3000 µL/min
Sample Wash Draw Speed 300 µL/min
Sample Wash Dispense Speed 3000 µL/min
Injection Dispense Speed 6000 µL/min
Viscosity Delay 0 sec
Sample Depth Disabled
Injection Type Standard
L1 Airgap 0.2 µL

Solvent Wash Mode	A, B
Sample Overlap Mode	Sample overlap is not enabled
ALS Errors	Pause for user interaction
Front SS Inlet He Mode	Split
Heater	On 250 °C
Pressure	On 11.438 psi
Total Flow	On 27.738 mL/min
Septum Purge Flow	On 3 mL/min
Pre-Run Flow Test	Off
Gas Saver	Off
Split Ratio	20 :1
Split Flow	23.56 mL/min
Liner	A Liner has not been selected.
Column	
Column #1	
Flow	
Setpoint	On
(Initial)	1.178 mL/min
Post Run	1.322 mL/min
Column Information	Agilent 19091S-433UI: US4814636H
Description	HP-5MS UI
Temperature Range	-60 °C-325 °C (350 °C)
Dimensions	30 m x 250 µm x 0.25 µm (Uncalibrated)
Heater	Oven
Column lock	Locked
In	Front SS Inlet He
Out	MSD
(Initial)	80 °C
Pressure	11.438 psi
Flow	1.178 mL/min
Average Velocity	40.121 cm/sec
Holdup Time	1.2462 min
Control Mode	Constant Flow
Column Outlet Pressure	0 psi
Detector Evaluation	
Perform Detector Evaluation Test	Off
MSD Transfer Line	
Temperature	
Setpoint	On
(Initial)	280 °C
Signals	
Signal #1:	
Description	None
Signal #2:	
Description	None
Signal #3:	
Description	None
Signal #4:	
Description	None

Signal #5:
Description
None

Signal #6:
Description
None

Signal #7:
Description
None

Signal #8:
Description
None

TUNE PARAMETERS for SN: US2449MA23

Trace Ion Detection is OFF.

34.593 : EMISSION
70.007 : ENERGY
31.911 : REPELLER
90.331 : IONFOCUS
25.226 : ENTRANCE_LENS
885.369 : EMVOLTS

947.4 : Actual EMV
1.00 : GAIN FACTOR

2087.000 : AMUGAIN
139.000 : AMUOFFSET
1.000 : FILAMENT
1.000 : DCPOLARITY
10.822 : ENTLENSOFFSET
0.000 : Ion_Body
0.000 : EXTLENS
-195.000 : MASSGAIN
-20.000 : MASSOFFSET

END OF TUNE PARAMETERS

END OF INSTRUMENT CONTROL PARAMETERS

Single Quadrupole Acquisition Method - MS Parameters Report

Method file	D:\MassHunter\GCMS\1\methods\GHB.M
Tune file	ATUNE.U
Ion source	EI
Source temperature (°C)	230
Quad temperature (°C)	150
Fixed Electron energy (eV)	70.0
Acquisition Type	Scan
Stop time (min)	10.00
Solvent delay (min)	0.00
Trace Ion Detection	False
Gain Factor	1
EM Saver	False
EM Saver Limit	N/A

Scan Time Segments

Time	Start Mass	End Mass	Threshold	Scan Speed
0.00	40	500	150	1,562 [N=2]

Timed Events

Time	Type of Event	Parameter
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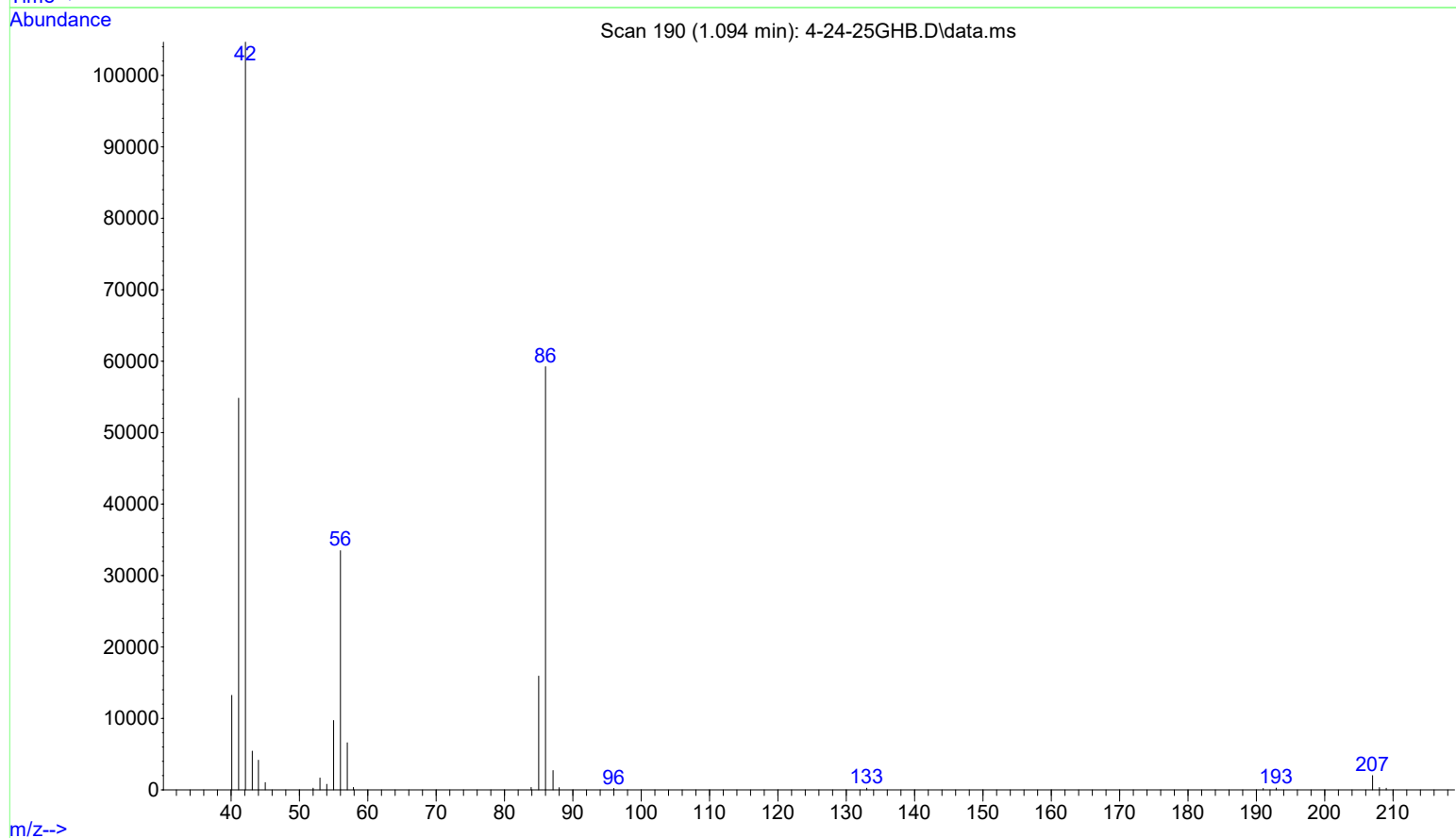
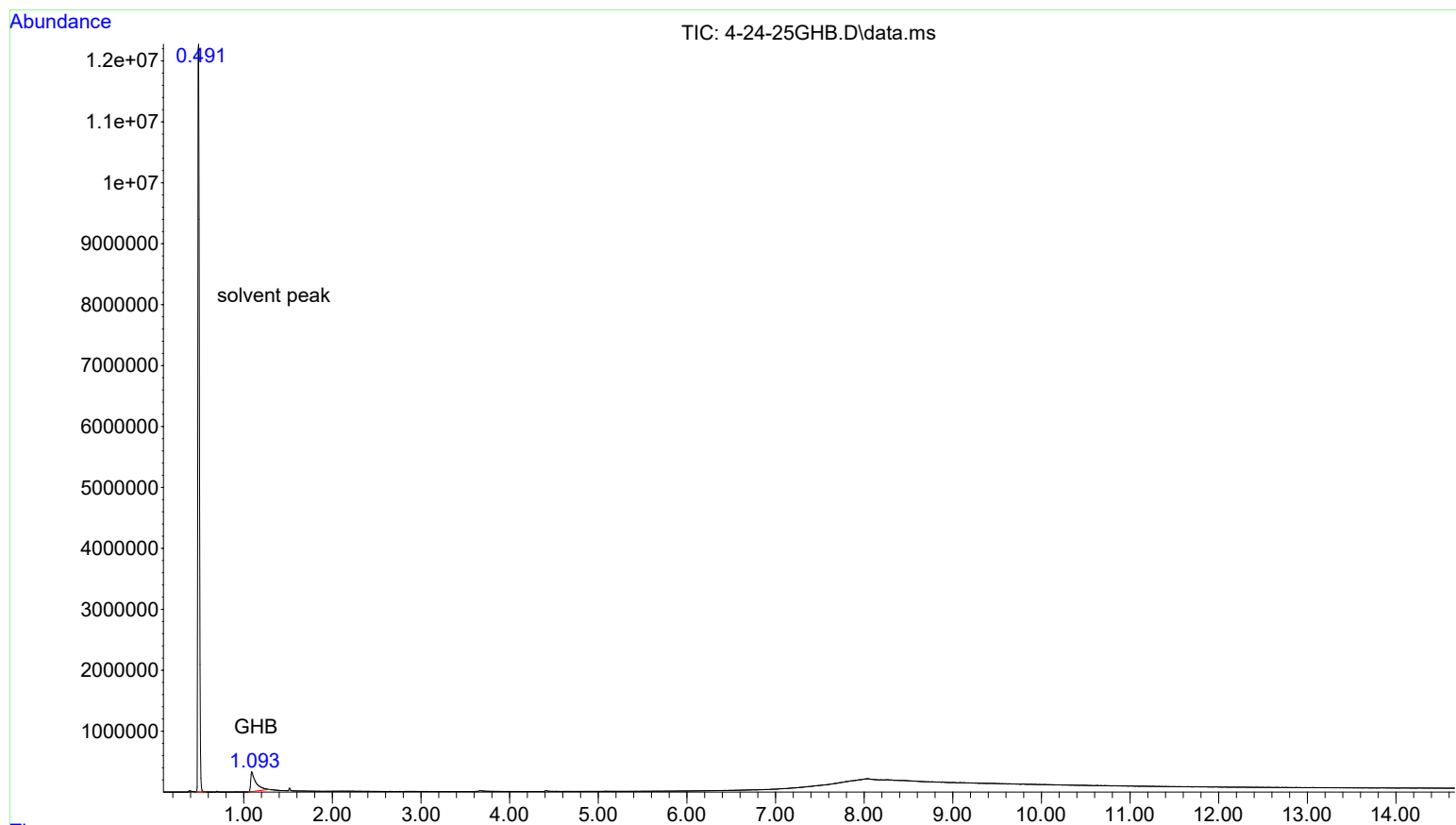
Real-Time Plots

Type of Plot	Label	Low Mass	High Mass
Total Ion	N/A	N/A	N/A
Spectrum	N/A	N/A	N/A
Extracted Ion	Scan 1-1	50	550

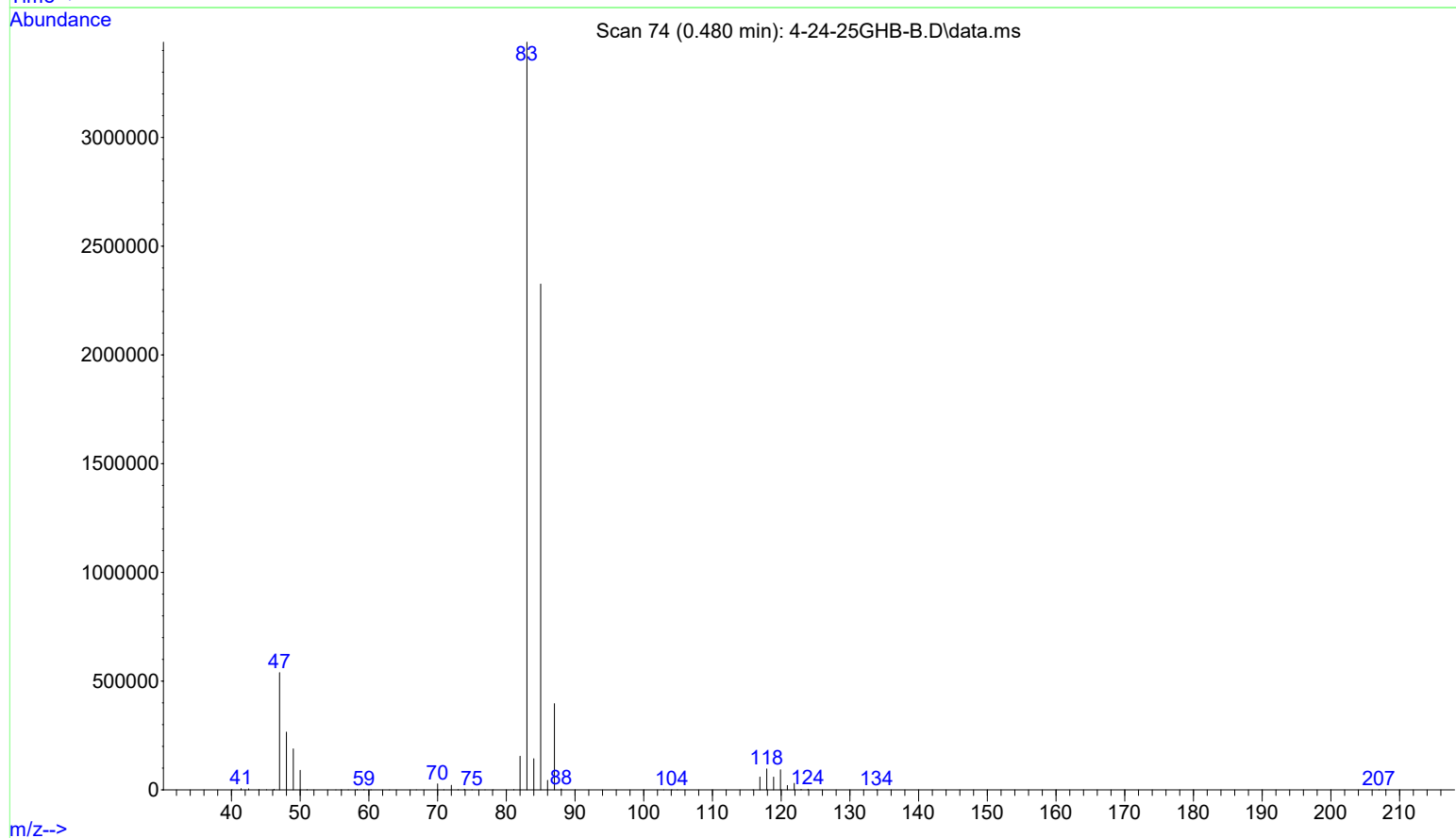
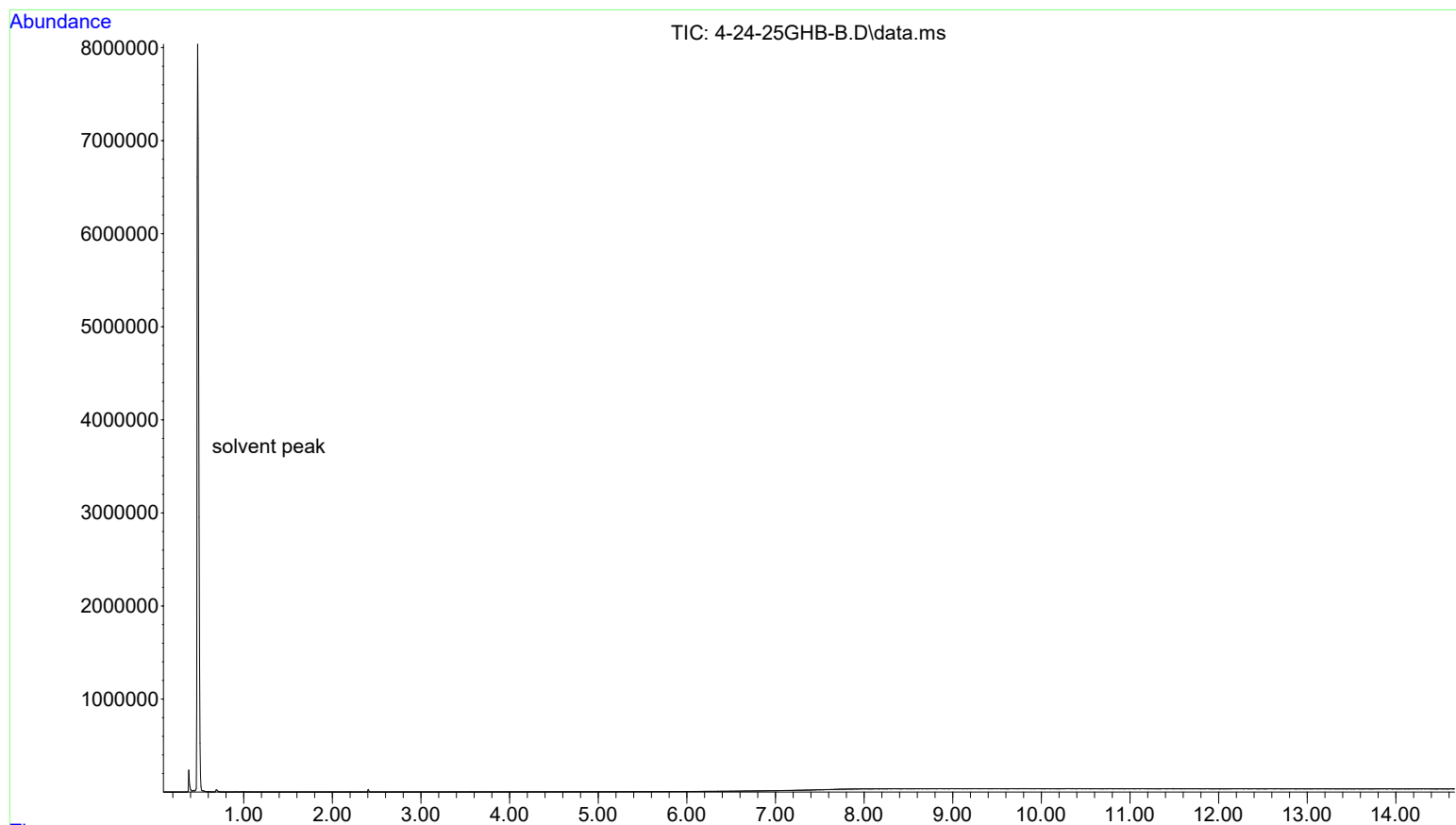
Self-Cleaning Ion Source Parameters

Mode	No Cleaning
------	-------------

File : H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25GHB.D
Operator :
Acquired : 24 Apr 2025 20:46 using AcqMethod GHB.M
Instrument : Lilo
Sample Name: GHB std
Misc Info : MeOH
Vial Number: 150



File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25GHB-B.D
Operator :
Acquired : 24 Apr 2025 20:28 using AcqMethod GHB.M
Instrument : Lilo
Sample Name: GHB std blank
Misc Info : MeOH
Vial Number: 141



METHOD CONTROL PARAMETERS

Method Information for: D:\MassHunter\GCMS\1\methods\LOWCON.M

Method Sections To Run:

() Save Copy of Method With Data
() Instrument Control Pre-Run Cmd/Macro =
() Data Analysis Pre-Run Cmd/Macro =
(X) Data Acquisition
(X) Data Analysis
() Instrument Control Post-Run Cmd/Macro =
() Data Analysis Post-Run Cmd/Macro =

Method Comments:

LOWCON for low concentration

END OF METHOD CONTROL PARAMETERS

D:\MassHunter\GCMS\1\methods\LOWCON.M
Fri Apr 25 08:54:38 2025

Control Information

Sample Inlet : GC
Injection Source : GC ALS
Injection Location: Front
Mass Spectrometer : Enabled

No Sample Prep method has been assigned to this method.

GC
GC Summary
Run Time 14.667 min
Post Run Time 0 min

Oven
Temperature
Setpoint On
(Initial) 80 °C
Hold Time 2 min
Post Run 50 °C
Program
#1 Rate 30 °C/min
#1 Value 280 °C
#1 Hold Time 6 min

Equilibration Time 0.5 min
Max Temperature 325 °C
Maximum Temperature Override Disabled
Slow Fan Disabled

ALS
Front Injector
Syringe Size 10 µL
Injection Volume 1 µL
Solvent A Washes (PreInj) 1
Solvent A Washes (PostInj) 1
Solvent A Volume 8 µL
Solvent B Washes (PreInj) 1
Solvent B Washes (PostInj) 1
Solvent B Volume 8 µL
Sample Washes 1
Sample Wash Volume 8 µL
Sample Pumps 1
Dwell Time (PreInj) 0 min
Dwell Time (PostInj) 0 min
Solvent Wash Draw Speed 300 µL/min
Solvent Wash Dispense Speed 3000 µL/min
Sample Wash Draw Speed 300 µL/min
Sample Wash Dispense Speed 3000 µL/min
Injection Dispense Speed 6000 µL/min
Viscosity Delay 0 sec
Sample Depth Disabled
Injection Type Standard
L1 Airgap 0.2 µL

Solvent Wash Mode	A, B
Sample Overlap Mode	Sample overlap is not enabled
ALS Errors	Pause for user interaction
Front SS Inlet He Mode	Split
Heater	On 250 °C
Pressure	On 12 psi
Total Flow	On 5.5044 mL/min
Septum Purge Flow	On 3 mL/min
Pre-Run Flow Test	Off
Gas Saver	Off
Split Ratio	1 :1
Split Flow	1.2522 mL/min
Liner	A Liner has not been selected.
Column	
Column #1	
Flow	
Setpoint	On
(Initial)	1.2522 mL/min
Post Run	1.322 mL/min
Column Information	Agilent 19091S-433UI: US4814636H
Description	HP-5MS UI
Temperature Range	-60 °C-325 °C (350 °C)
Dimensions	30 m x 250 µm x 0.25 µm (Uncalibrated)
Heater	Oven
Column lock	Locked
In	Front SS Inlet He
Out	MSD
(Initial)	80 °C
Pressure	12.248 psi
Flow	1.2522 mL/min
Average Velocity	41.365 cm/sec
Holdup Time	1.2087 min
Control Mode	Constant Flow
Column Outlet Pressure	0 psi
Detector Evaluation	
Perform Detector Evaluation Test	Off
MSD Transfer Line	
Temperature	
Setpoint	On
(Initial)	280 °C
Signals	
Signal #1:	
Description	None
Signal #2:	
Description	None
Signal #3:	
Description	None
Signal #4:	
Description	None

Signal #5:
Description
None

Signal #6:
Description
None

Signal #7:
Description
None

Signal #8:
Description
None

TUNE PARAMETERS for SN: US2449MA23

Trace Ion Detection is OFF.

34.593 : EMISSION
70.007 : ENERGY
31.911 : REPELLER
90.331 : IONFOCUS
25.226 : ENTRANCE_LENS
885.369 : EMVOLTS
947.4 : Actual EMV
1.00 : GAIN FACTOR
2087.000 : AMUGAIN
139.000 : AMUOFFSET
1.000 : FILAMENT
1.000 : DCPOLARITY
10.822 : ENTLENSOFFSET
0.000 : Ion_Body
0.000 : EXTLENS
-195.000 : MASSGAIN
-20.000 : MASSOFFSET

END OF TUNE PARAMETERS

END OF INSTRUMENT CONTROL PARAMETERS

Single Quadrupole Acquisition Method - MS Parameters Report

Method file	D:\MassHunter\GCMS\1\methods\LOWCON.M
Tune file	ATUNE.U
Ion source	EI
Source temperature (°C)	230
Quad temperature (°C)	150
Fixed Electron energy (eV)	70.0
Acquisition Type	Scan
Stop time (min)	10.00
Solvent delay (min)	2.50
Trace Ion Detection	False
Gain Factor	1
EM Saver	False
EM Saver Limit	N/A

Scan Time Segments

Time	Start Mass	End Mass	Threshold	Scan Speed
2.50	40	500	150	1,562 [N=2]

Timed Events

Time	Type of Event	Parameter
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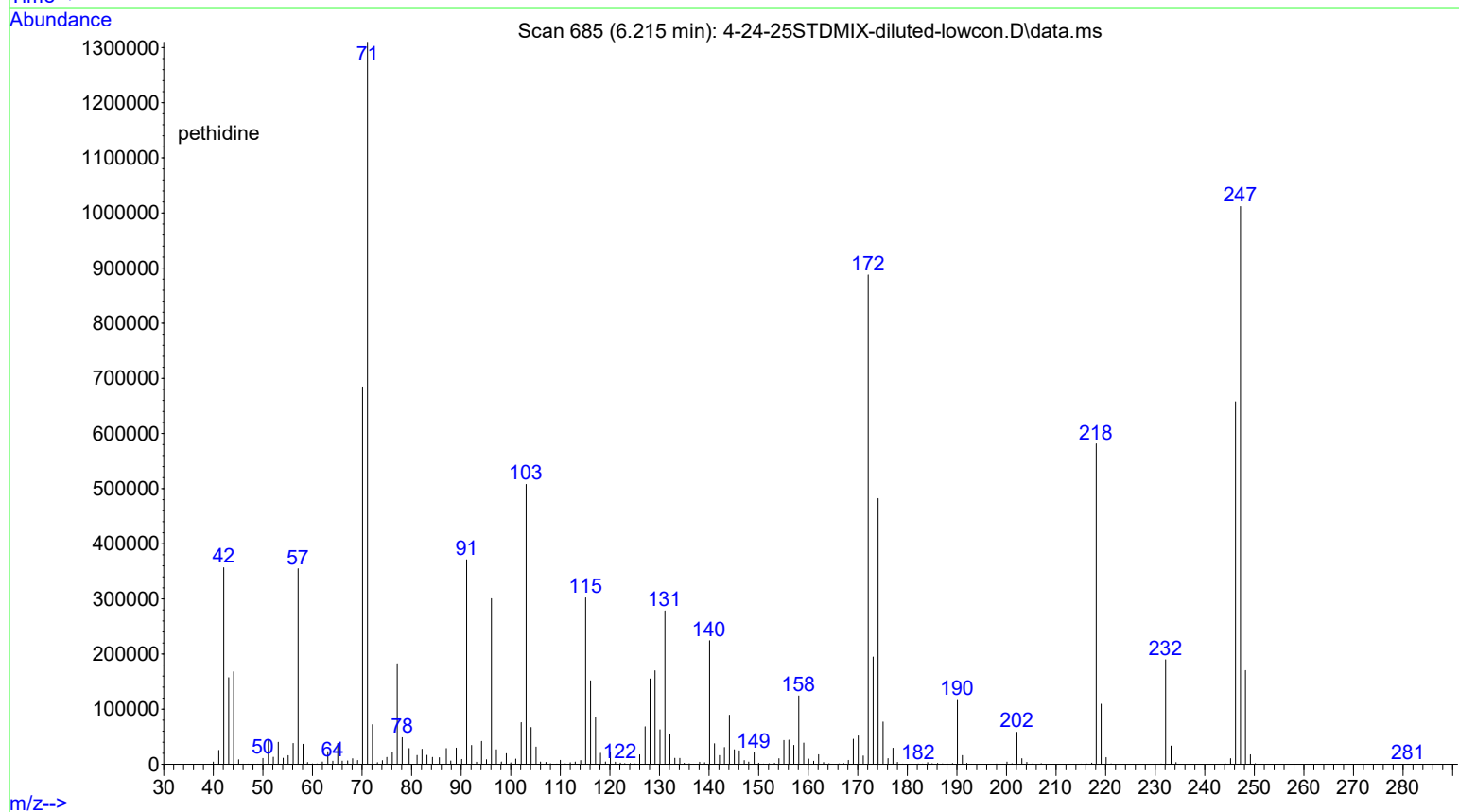
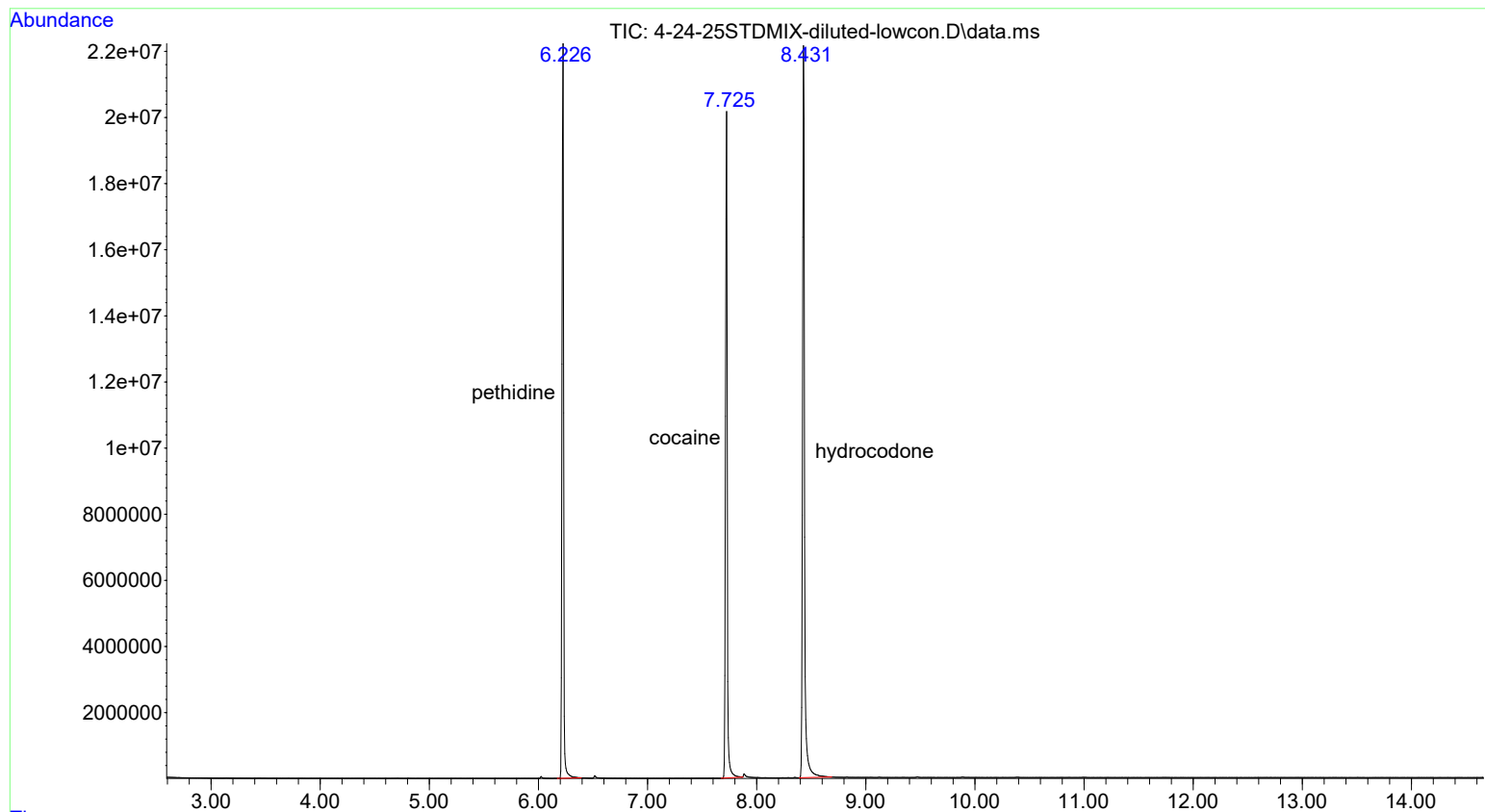
Real-Time Plots

Type of Plot	Label	Low Mass	High Mass
Total Ion	N/A	N/A	N/A
Spectrum	N/A	N/A	N/A
Extracted Ion	Scan 1-1	50	550

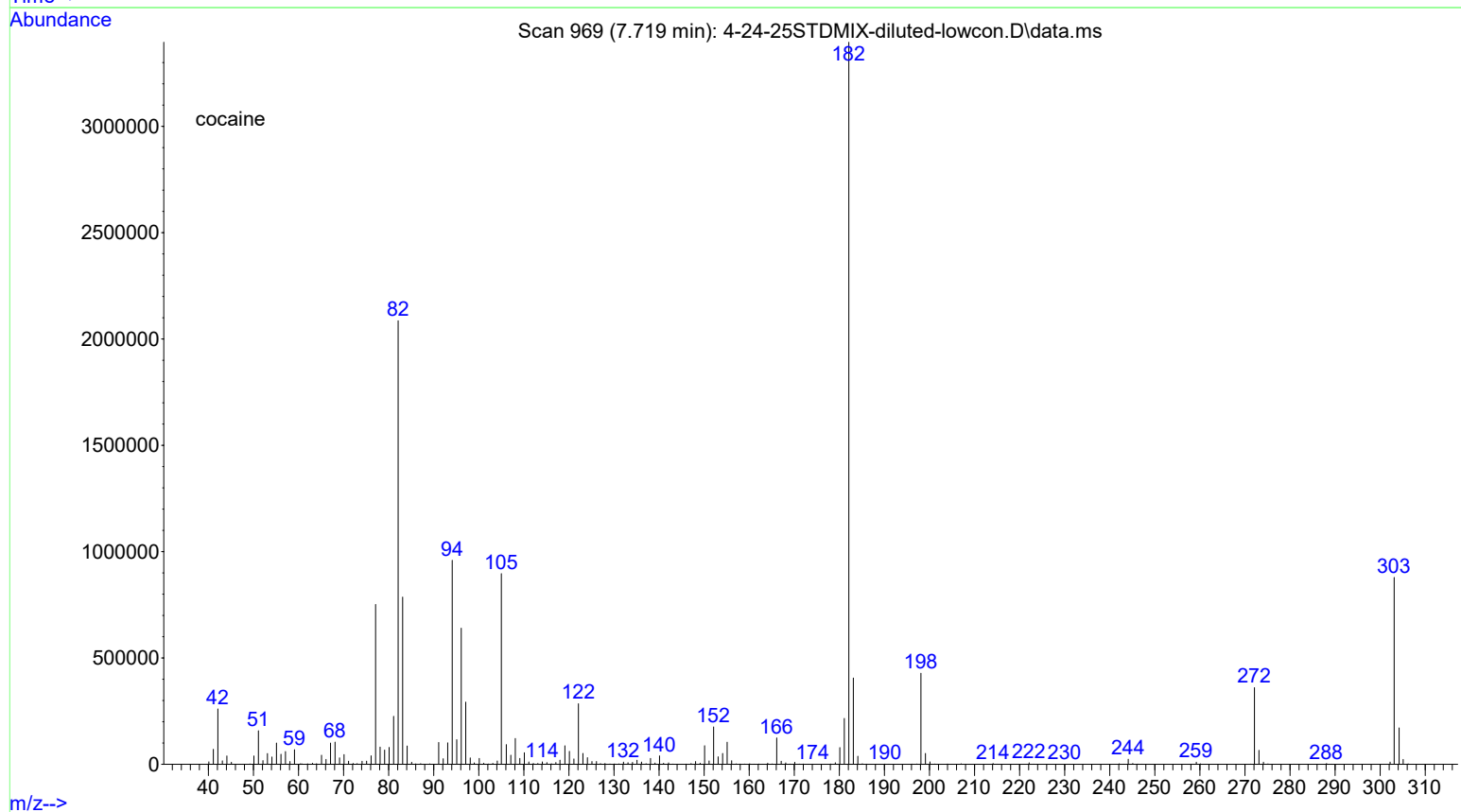
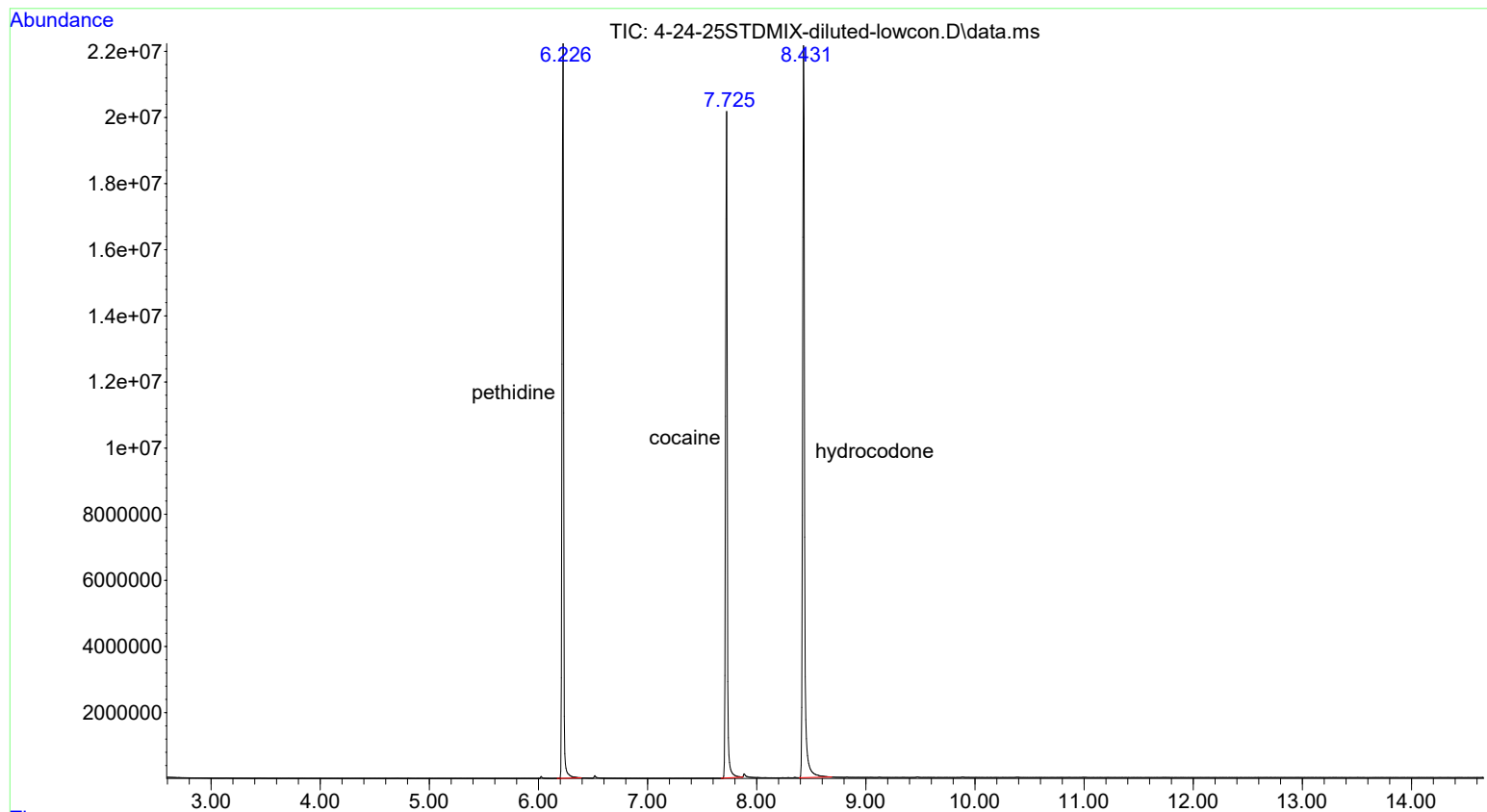
Self-Cleaning Ion Source Parameters

Mode	No Cleaning
------	-------------

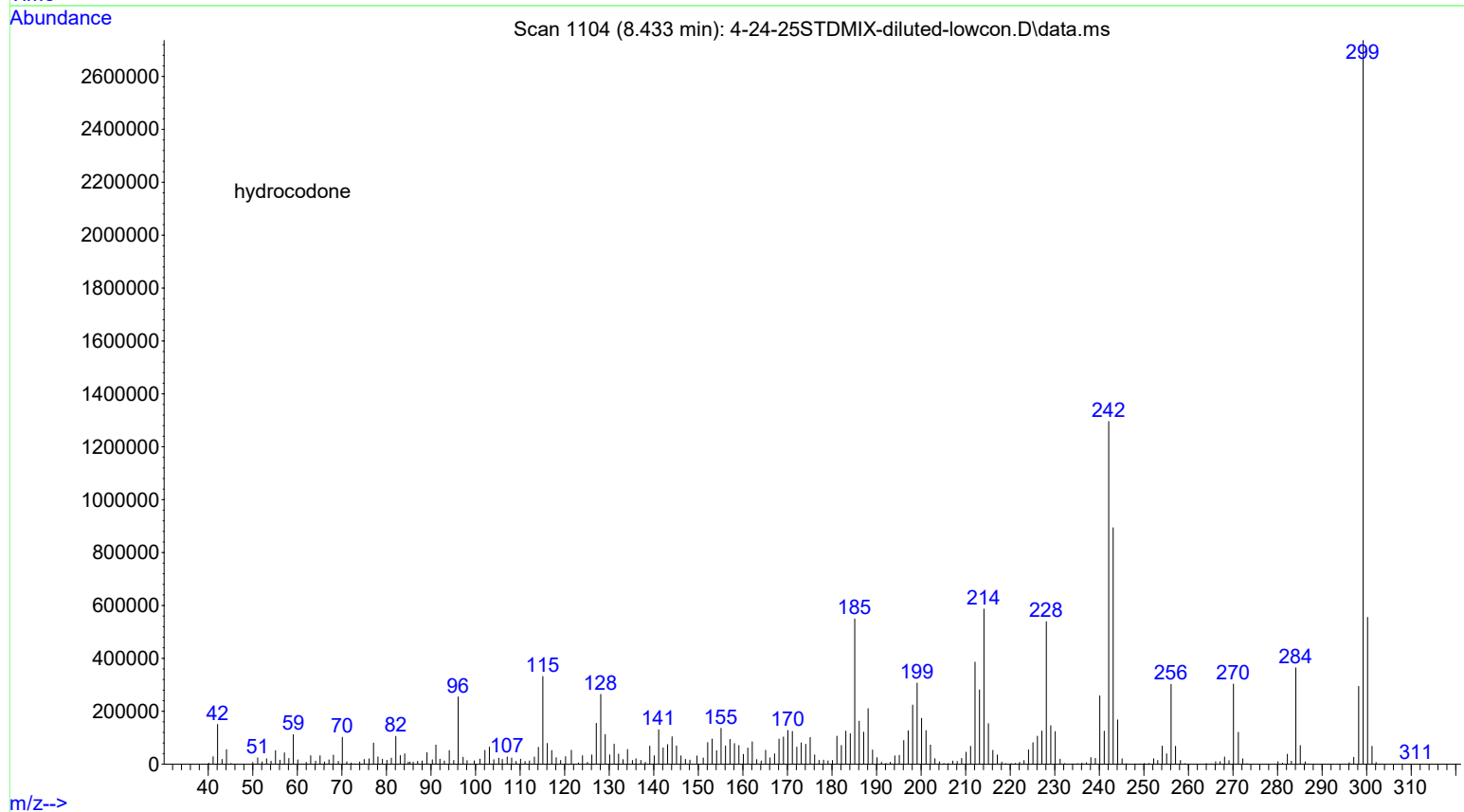
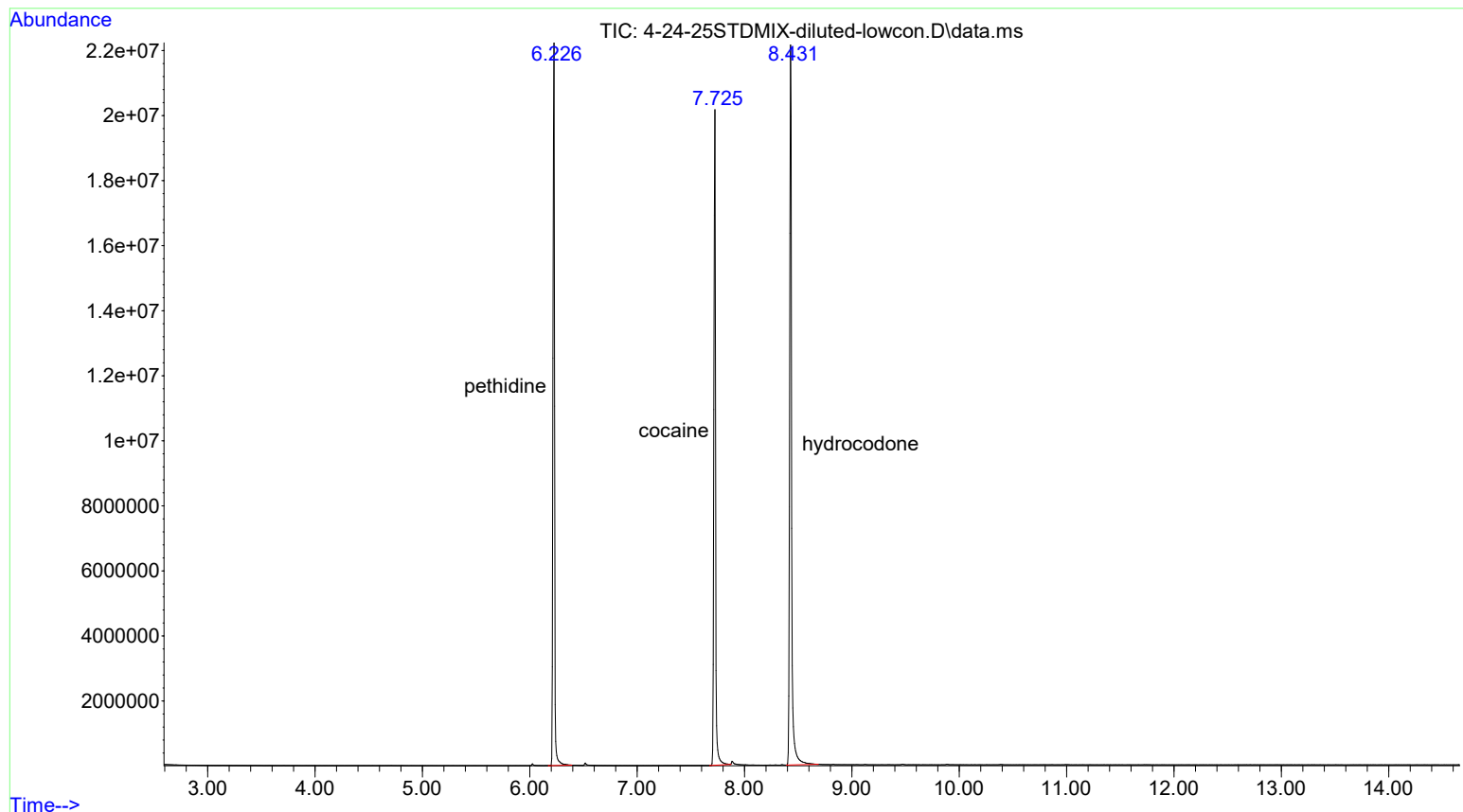
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25STDMIX-diluted-
... lowcon.D
Operator :
Acquired : 24 Apr 2025 14:02 using AcqMethod LOWCON.M
Instrument : Lilo
Sample Name: GCMS STD MIX diluted
Misc Info : CHCl3
Vial Number: 145



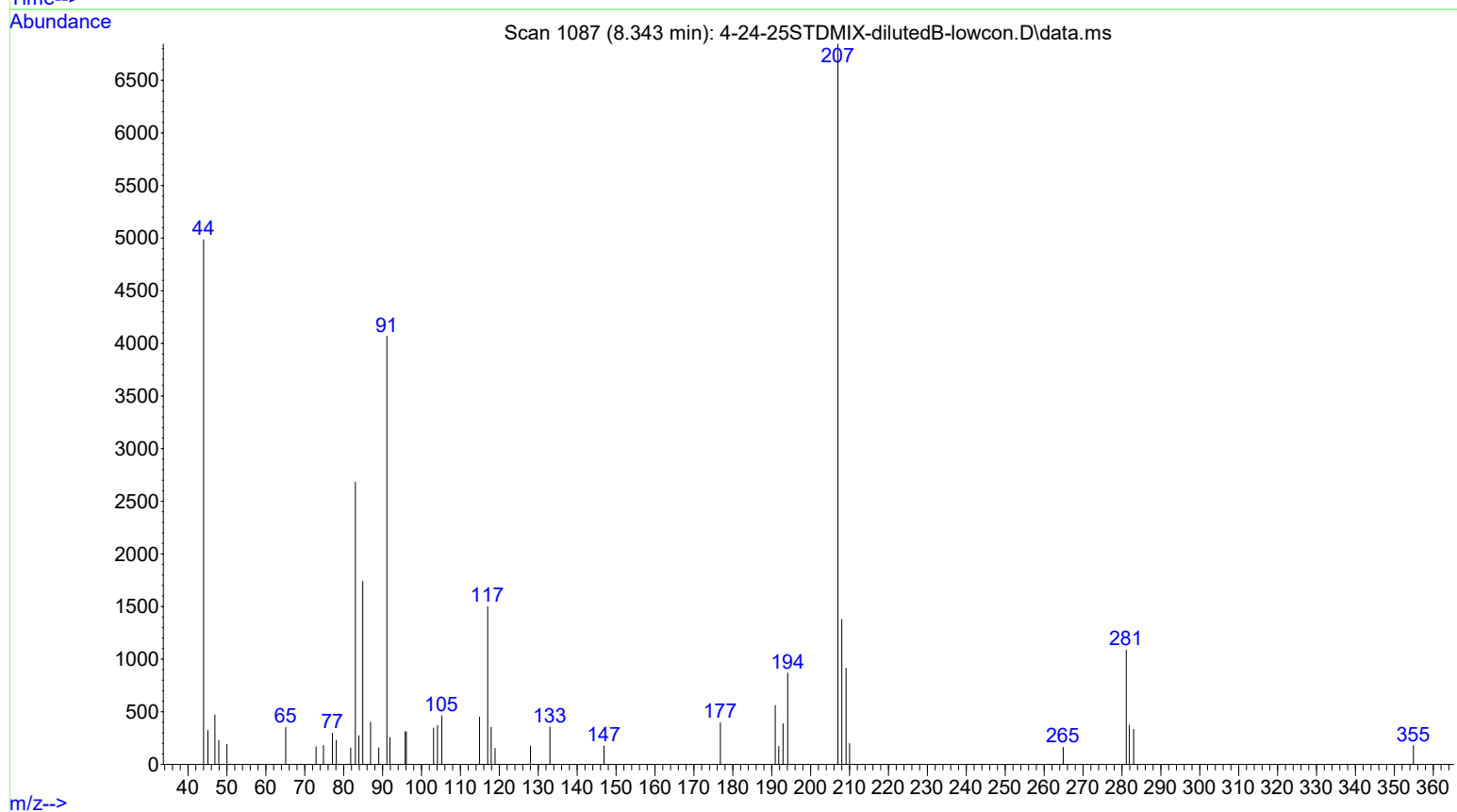
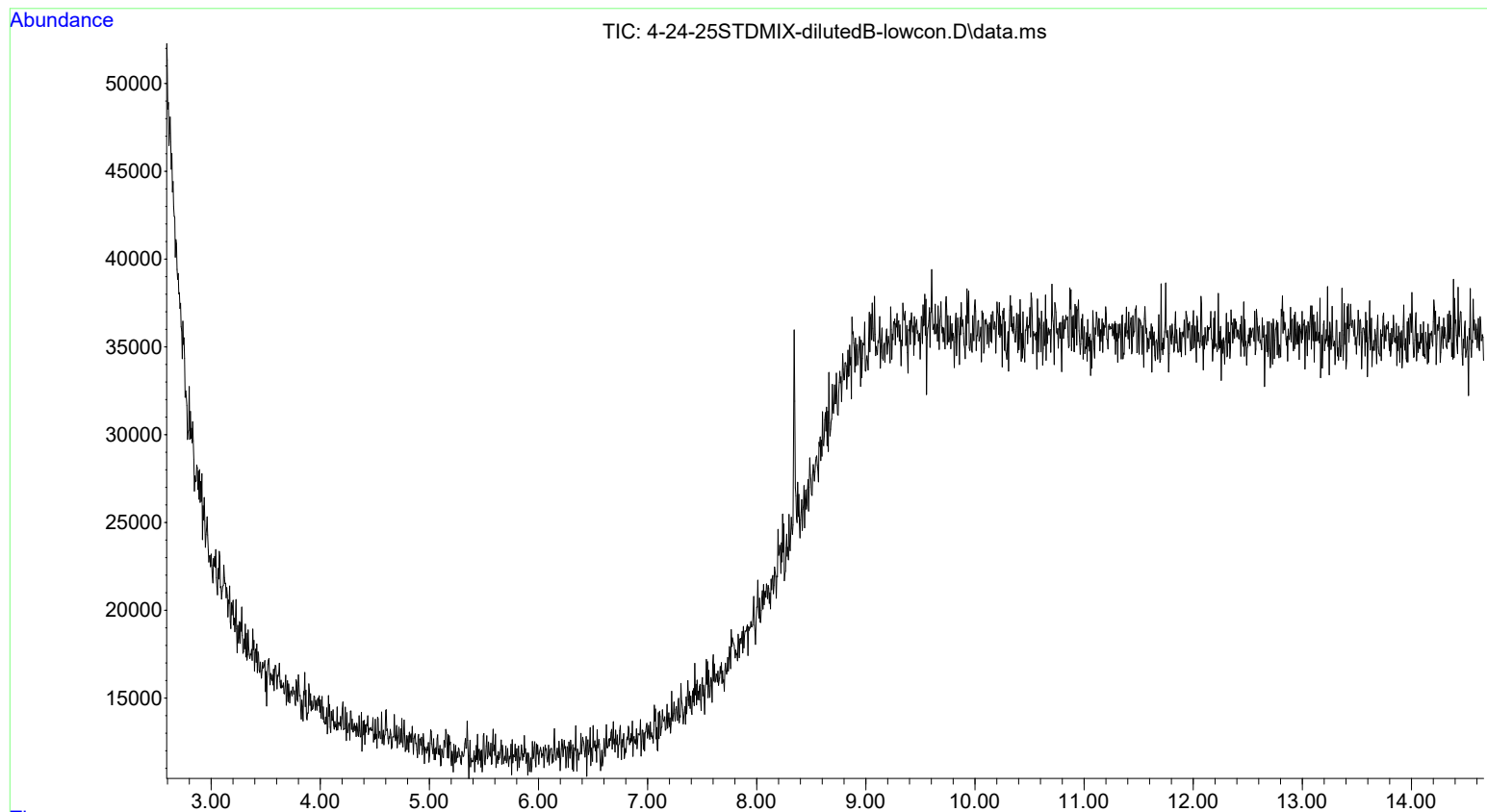
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25STDMIX-diluted-
... lowcon.D
Operator :
Acquired : 24 Apr 2025 14:02 using AcqMethod LOWCON.M
Instrument : Lilo
Sample Name: GCMS STD MIX diluted
Misc Info : CHCl3
Vial Number: 145



File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25STDMIX-diluted-
... lowcon.D
Operator :
Acquired : 24 Apr 2025 14:02 using AcqMethod LOWCON.M
Instrument : Lilo
Sample Name: GCMS STD MIX diluted
Misc Info : CHCl3
Vial Number: 145



File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25STDMIX-dilutedB
... -lowcon.D
Operator :
Acquired : 24 Apr 2025 13:44 using AcqMethod LOWCON.M
Instrument : Lilo
Sample Name: GCMS STD MIX blank diluted
Misc Info : CHCl3
Vial Number: 142



Method Information for: D:\MassHunter\GCMS\1\methods\OPIATE.M

Method Sections To Run:

() Save Copy of Method With Data
() Instrument Control Pre-Run Cmd/Macro =
() Data Analysis Pre-Run Cmd/Macro =
(X) Data Acquisition
(X) Data Analysis
() Instrument Control Post-Run Cmd/Macro =
() Data Analysis Post-Run Cmd/Macro =

Method Comments:

Opiate for opioids

END OF METHOD CONTROL PARAMETERS

D:\MassHunter\GCMS\1\methods\OPIATE.M
Fri Apr 25 09:05:03 2025

Control Information

Sample Inlet : GC
Injection Source : GC ALS
Injection Location: Front
Mass Spectrometer : Enabled

No Sample Prep method has been assigned to this method.

GC
GC Summary
Run Time 6.6667 min
Post Run Time 0 min

Oven
Temperature
Setpoint On
(Initial) 200 °C
Hold Time 1 min
Post Run 50 °C
Program
#1 Rate 30 °C/min
#1 Value 280 °C
#1 Hold Time 3 min

Equilibration Time 0.5 min
Max Temperature 325 °C
Maximum Temperature Override Disabled
Slow Fan Disabled

ALS
Front Injector
Syringe Size 10 µL
Injection Volume 1 µL
Solvent A Washes (PreInj) 1
Solvent A Washes (PostInj) 1
Solvent A Volume 8 µL
Solvent B Washes (PreInj) 1
Solvent B Washes (PostInj) 1
Solvent B Volume 8 µL
Sample Washes 1
Sample Wash Volume 8 µL
Sample Pumps 2
Dwell Time (PreInj) 0 min
Dwell Time (PostInj) 0 min
Solvent Wash Draw Speed 300 µL/min
Solvent Wash Dispense Speed 3000 µL/min
Sample Wash Draw Speed 300 µL/min
Sample Wash Dispense Speed 3000 µL/min
Injection Dispense Speed 6000 µL/min
Viscosity Delay 0 sec
Sample Depth Disabled
Injection Type Standard
L1 Airgap 0.2 µL

Solvent Wash Mode	A, B
Sample Overlap Mode	Sample overlap is not enabled
ALS Errors	Pause for user interaction
Front SS Inlet He Mode	Split
Heater	On 250 °C
Pressure	On 19.436 psi
Total Flow	On 28.814 mL/min
Septum Purge Flow	On 3 mL/min
Pre-Run Flow Test	Off
Gas Saver	Off
Split Ratio	20 :1
Split Flow	24.585 mL/min
Liner	A Liner has not been selected.
Column	
Column #1	
Flow	
Setpoint	On
(Initial)	1.2292 mL/min
Post Run	1.322 mL/min
Column Information	Agilent 19091S-433UI: US4814636H
Description	HP-5MS UI
Temperature Range	-60 °C-325 °C (350 °C)
Dimensions	30 m x 250 µm x 0.25 µm (Uncalibrated)
Heater	Oven
Column lock	Locked
In	Front SS Inlet He
Out	MSD
(Initial)	200 °C
Pressure	19.436 psi
Flow	1.2292 mL/min
Average Velocity	42.948 cm/sec
Holdup Time	1.1642 min
Control Mode	Constant Flow
Column Outlet Pressure	0 psi
Detector Evaluation	
Perform Detector Evaluation Test	Off
MSD Transfer Line	
Temperature	
Setpoint	On
(Initial)	250 °C
Signals	
Signal #1:	
Description	None
Signal #2:	
Description	None
Signal #3:	
Description	None
Signal #4:	
Description	None

Signal #5:
Description
None

Signal #6:
Description
None

Signal #7:
Description
None

Signal #8:
Description
None

TUNE PARAMETERS for SN: US2449MA23

Trace Ion Detection is OFF.

34.593	:	EMISSION	
70.007	:	ENERGY	
31.911	:	REPELLER	
90.331	:	IONFOCUS	
25.226	:	ENTRANCE_LENS	
885.369	:	EMVOLTS	
		947.4	: Actual EMV
		1.00	: GAIN FACTOR
2087.000	:	AMUGAIN	
139.000	:	AMUOFFSET	
1.000	:	FILAMENT	
1.000	:	DCPOLARITY	
10.822	:	ENTLENSOFFSET	
0.000	:	Ion_Body	
0.000	:	EXTLENS	
-195.000	:	MASSGAIN	
-20.000	:	MASSOFFSET	

END OF TUNE PARAMETERS

END OF INSTRUMENT CONTROL PARAMETERS

Single Quadrupole Acquisition Method - MS Parameters Report

Method file	D:\MassHunter\GCMS\1\methods\OPIATE.M
Tune file	ATUNE.U
Ion source	EI
Source temperature (°C)	230
Quad temperature (°C)	150
Fixed Electron energy (eV)	70.0
Acquisition Type	Scan
Stop time (min)	10.00
Solvent delay (min)	2.00
Trace Ion Detection	False
Gain Factor	1
EM Saver	False
EM Saver Limit	N/A

Scan Time Segments

Time	Start Mass	End Mass	Threshold	Scan Speed
2.00	40	500	150	1,562 [N=2]

Timed Events

Time	Type of Event	Parameter
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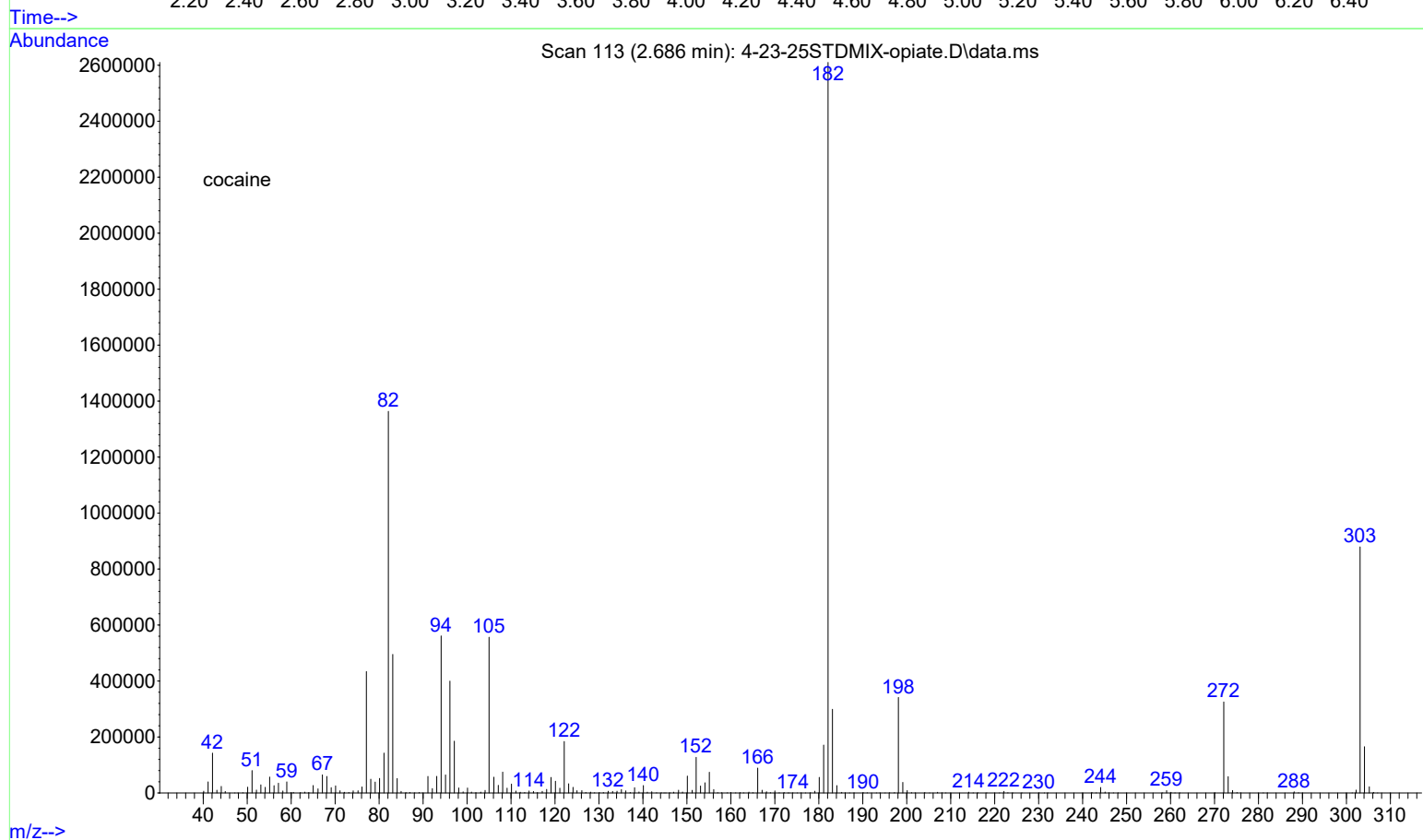
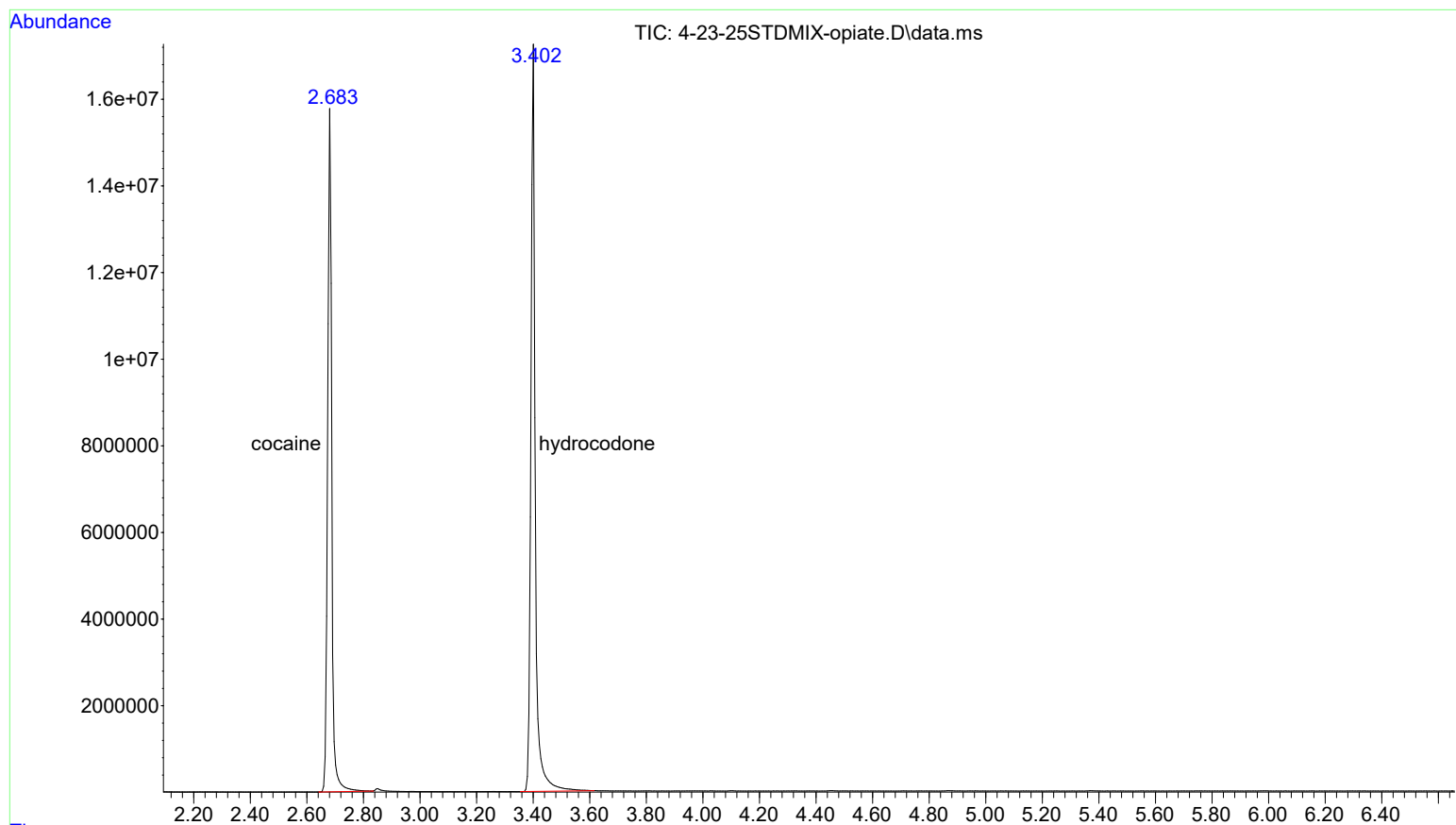
Real-Time Plots

Type of Plot	Label	Low Mass	High Mass
Total Ion	N/A	N/A	N/A
Spectrum	N/A	N/A	N/A
Extracted Ion	Scan 1-1	50	550

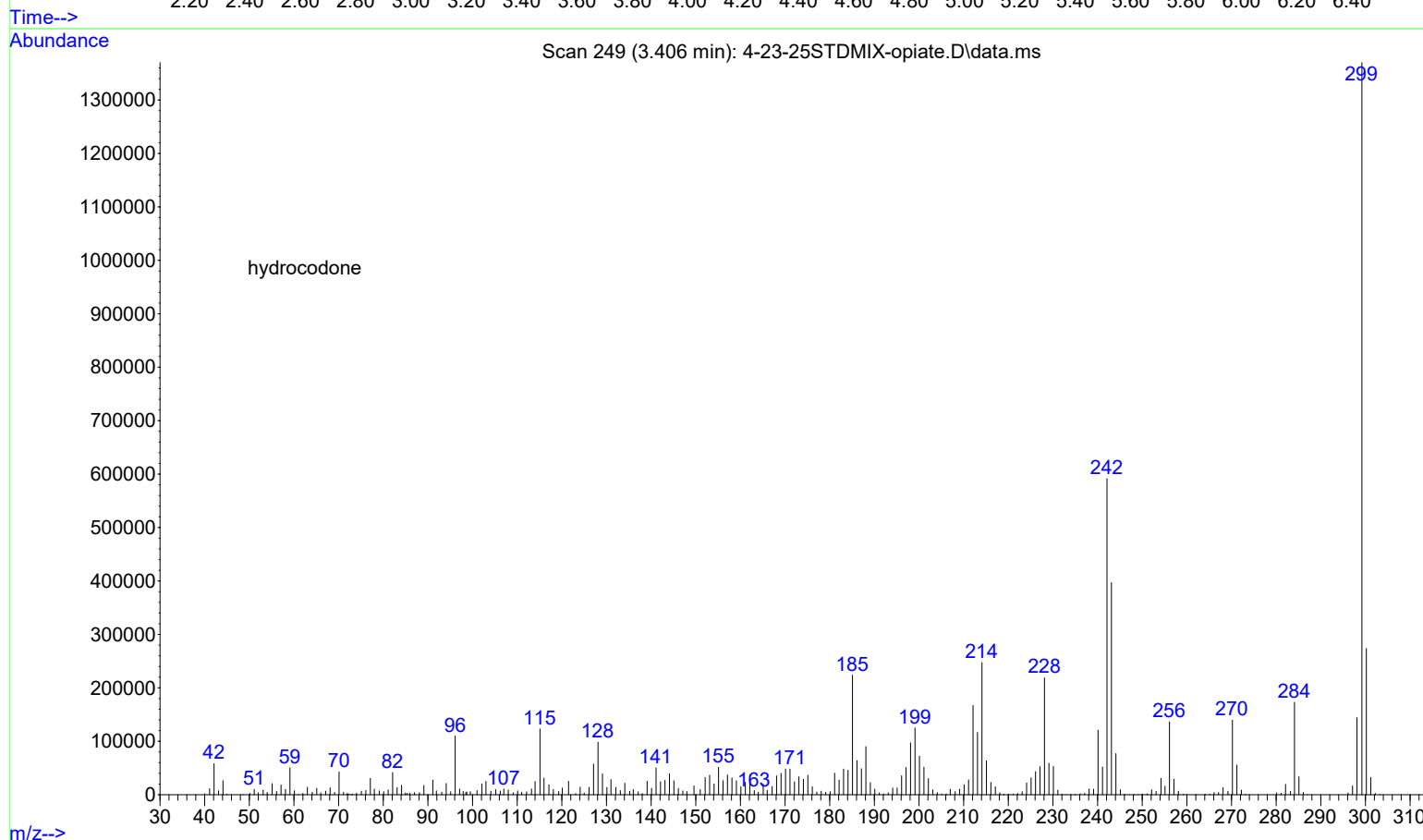
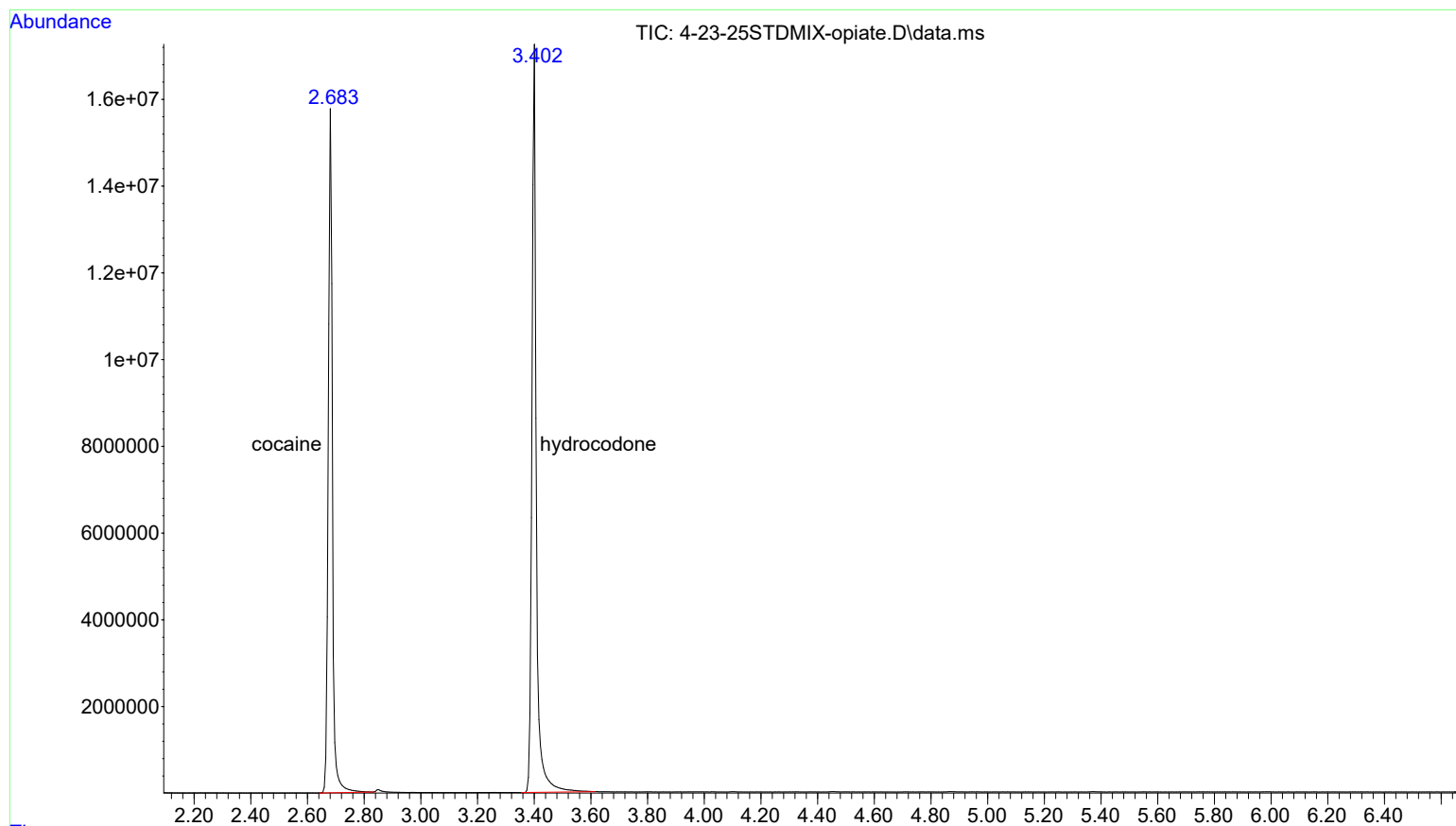
Self-Cleaning Ion Source Parameters

Mode	No Cleaning
------	-------------

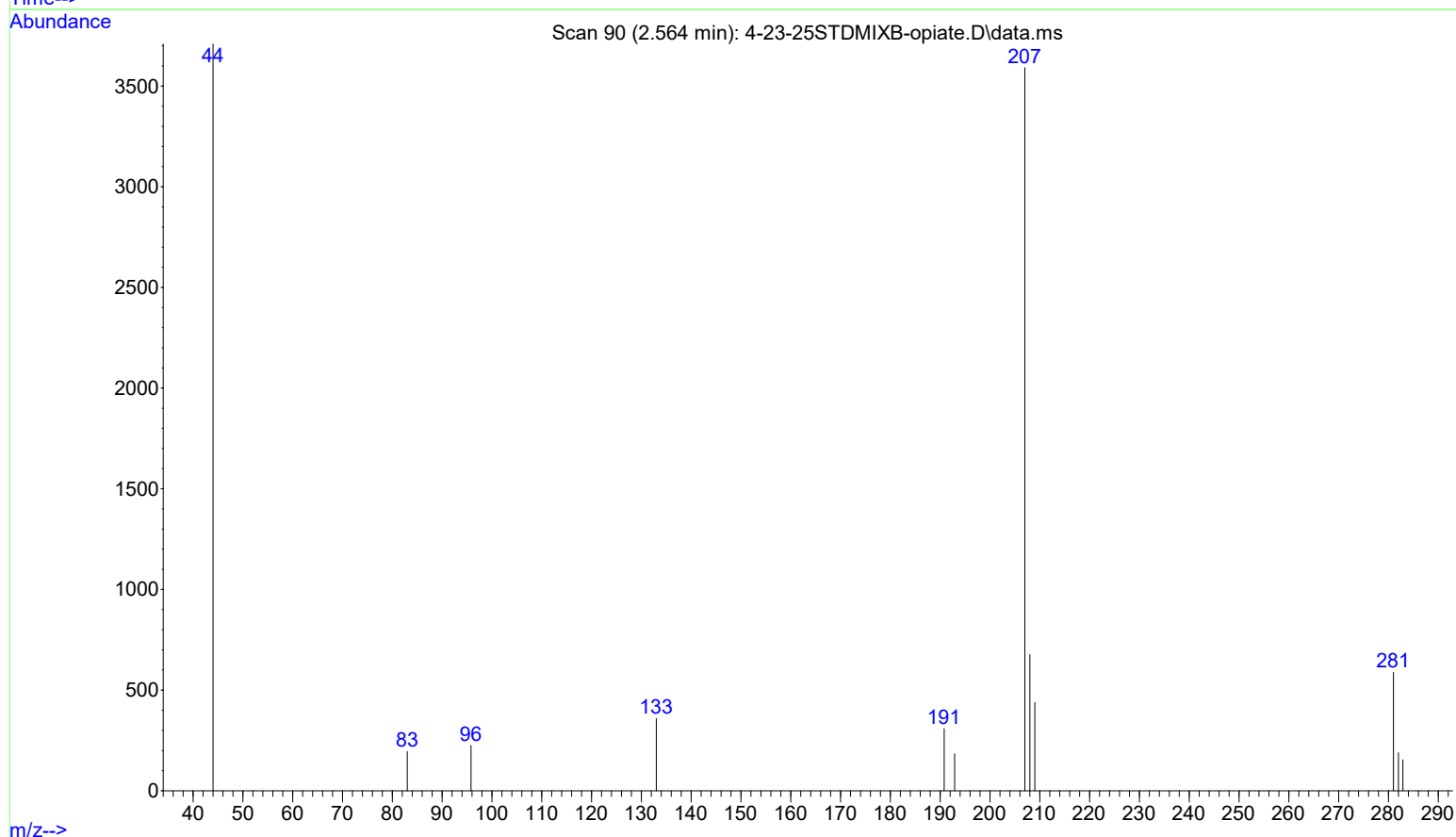
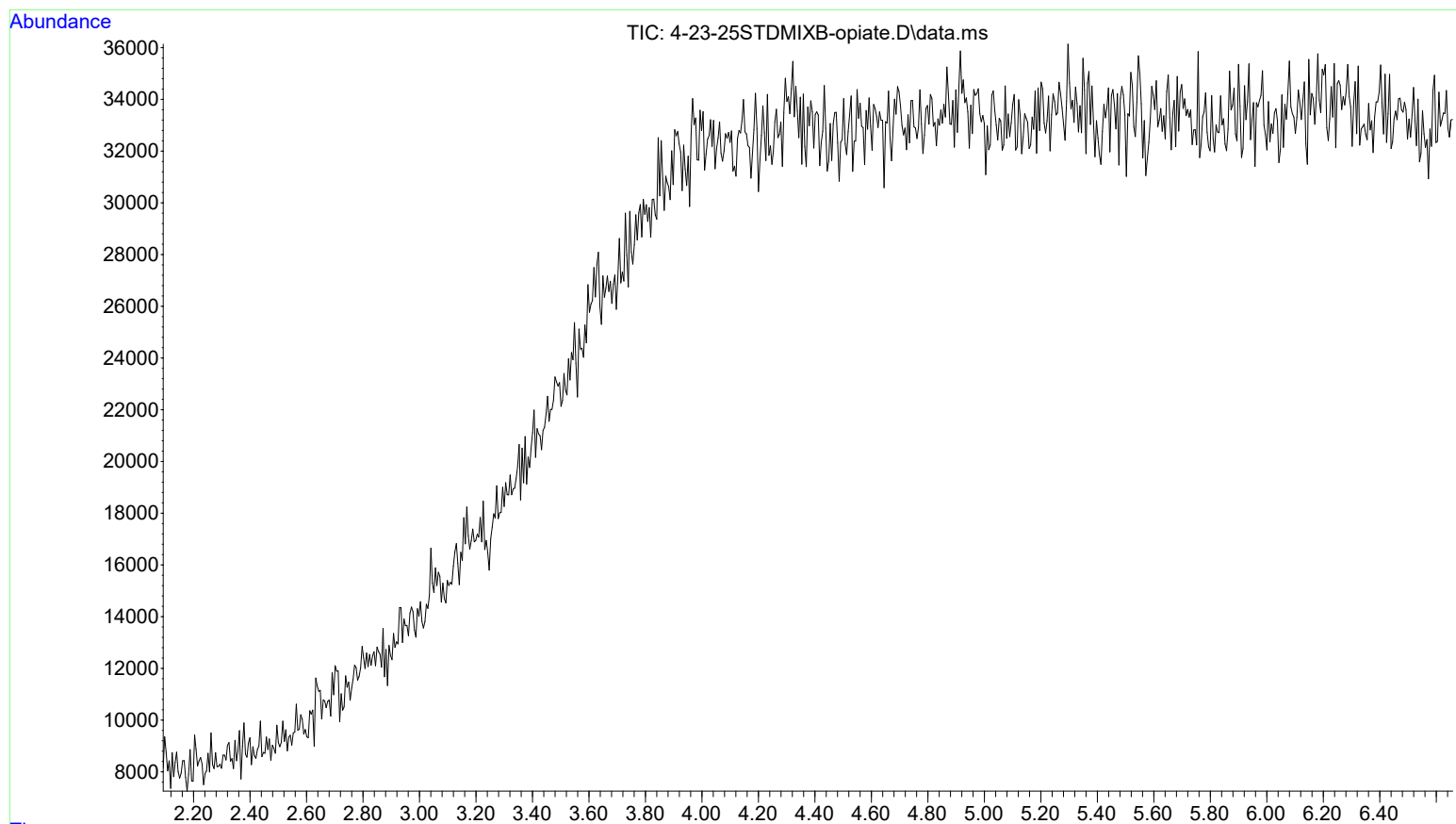
File : H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25STDMIX-opiate.D
Operator :
Acquired : 23 Apr 2025 17:43 using AcqMethod OPIATE.M
Instrument : Lilo
Sample Name: GCMS STD MIX
Misc Info : CHCl3
Vial Number: 146



File : H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25STDMIX-opiate.D
Operator :
Acquired : 23 Apr 2025 17:43 using AcqMethod OPIATE.M
Instrument : Lilo
Sample Name: GCMS STD MIX
Misc Info : CHCl3
Vial Number: 146



File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25STD MIXB-opiate.D
Operator :
Acquired : 23 Apr 2025 17:34 using AcqMethod OPIATE.M
Instrument : Lilo
Sample Name: GCMS STD MIX blank
Misc Info : CHCl3
Vial Number: 142



METHOD CONTROL PARAMETERS

Method Information for: D:\MassHunter\GCMS\1\methods\STEROID.M

Method Sections To Run:

- () Save Copy of Method With Data
- () Instrument Control Pre-Run Cmd/Macro =
- () Data Analysis Pre-Run Cmd/Macro =
- (X) Data Acquisition
- (X) Data Analysis
- () Instrument Control Post-Run Cmd/Macro =
- () Data Analysis Post-Run Cmd/Macro =

Method Comments:

STEROID for longer drugs

END OF METHOD CONTROL PARAMETERS

D:\MassHunter\GCMS\1\methods\STEROID.M
Fri Apr 25 09:06:33 2025

Control Information

Sample Inlet : GC
Injection Source : GC ALS
Injection Location: Front
Mass Spectrometer : Enabled

No Sample Prep method has been assigned to this method.

GC
GC Summary
Run Time 25.033 min
Post Run Time 0 min

Oven
Temperature
Setpoint On
(Initial) 70 °C
Hold Time 0.5 min
Post Run 50 °C
Program
#1 Rate 15 °C/min
#1 Value 150 °C
#1 Hold Time 1 min
#2 Rate 25 °C/min
#2 Value 280 °C
#2 Hold Time 13 min

Equilibration Time 0.5 min
Max Temperature 350 °C
Maximum Temperature Override Disabled
Slow Fan Disabled

ALS
Front Injector
Syringe Size 10 µL
Injection Volume 1 µL
Solvent A Washes (PreInj) 2
Solvent A Washes (PostInj) 2
Solvent A Volume 8 µL
Solvent B Washes (PreInj) 2
Solvent B Washes (PostInj) 2
Solvent B Volume 8 µL
Sample Washes 2
Sample Wash Volume 8 µL
Sample Pumps 2
Dwell Time (PreInj) 0 min
Dwell Time (PostInj) 0 min
Solvent Wash Draw Speed 300 µL/min
Solvent Wash Dispense Speed 3000 µL/min
Sample Wash Draw Speed 300 µL/min
Sample Wash Dispense Speed 3000 µL/min
Injection Dispense Speed 6000 µL/min
Viscosity Delay 0 sec

Sample Depth	Disabled
Injection Type	Standard
L1 Airgap	0.2 µL
Solvent Wash Mode	A, B
Sample Overlap Mode	Sample overlap is not enabled
ALS Errors	Pause for user interaction
Front SS Inlet He Mode	Split
Heater	On 250 °C
Pressure	On 8.592 psi
Total Flow	On 28.523 mL/min
Septum Purge Flow	On 3 mL/min
Pre-Run Flow Test	Off
Gas Saver	Off
Split Ratio	25 :1
Split Flow	24.542 mL/min
Liner	A Liner has not been selected.
Column	
Column #1	
Flow	
Setpoint	On
(Initial)	0.98167 mL/min
Post Run	1.322 mL/min
Column Information	Agilent 19091S-433UI: US4814636H
Description	HP-5MS UI
Temperature Range	-60 °C-325 °C (350 °C)
Dimensions	30 m x 250 µm x 0.25 µm (Uncalibrated)
Heater	Oven
Column lock	Locked
In	Front SS Inlet He
Out	MSD
(Initial)	70 °C
Pressure	8.592 psi
Flow	0.98167 mL/min
Average Velocity	36.458 cm/sec
Holdup Time	1.3715 min
Control Mode	Constant Flow
Column Outlet Pressure	0 psi
Detector Evaluation	
Perform Detector Evaluation Test	Off
MSD Transfer Line	
Temperature	
Setpoint	On
(Initial)	280 °C
Signals	
Signal #1:	
Description	None
Signal #2:	
Description	None
Signal #3:	
Description	None

Signal #4:
Description
None

Signal #5:
Description
None

Signal #6:
Description
None

Signal #7:
Description
None

Signal #8:
Description
None

TUNE PARAMETERS for SN: US2449MA23

Trace Ion Detection is OFF.

34.593	:	EMISSION	
70.007	:	ENERGY	
31.911	:	REPELLER	
90.331	:	IONFOCUS	
25.226	:	ENTRANCE_LENS	
885.369	:	EMVOLTS	
		947.4	: Actual EMV
		1.00	: GAIN FACTOR
2087.000	:	AMUGAIN	
139.000	:	AMUOFFSET	
1.000	:	FILAMENT	
1.000	:	DCPOLARITY	
10.822	:	ENTLENSOFFSET	
0.000	:	Ion_Body	
0.000	:	EXTLENS	
-195.000	:	MASSGAIN	
-20.000	:	MASSOFFSET	

END OF TUNE PARAMETERS

END OF INSTRUMENT CONTROL PARAMETERS

Single Quadrupole Acquisition Method - MS Parameters Report

Method file	D:\MassHunter\GCMS\1\methods\STEROID.M
Tune file	ATUNE.U
Ion source	EI
Source temperature (°C)	230
Quad temperature (°C)	150
Fixed Electron energy (eV)	70.0
Acquisition Type	Scan
Stop time (min)	10.00
Solvent delay (min)	2.50
Trace Ion Detection	False
Gain Factor	1
EM Saver	False
EM Saver Limit	N/A

Scan Time Segments

Time	Start Mass	End Mass	Threshold	Scan Speed
2.50	40	550	150	1,562 [N=2]

Timed Events

Time	Type of Event	Parameter
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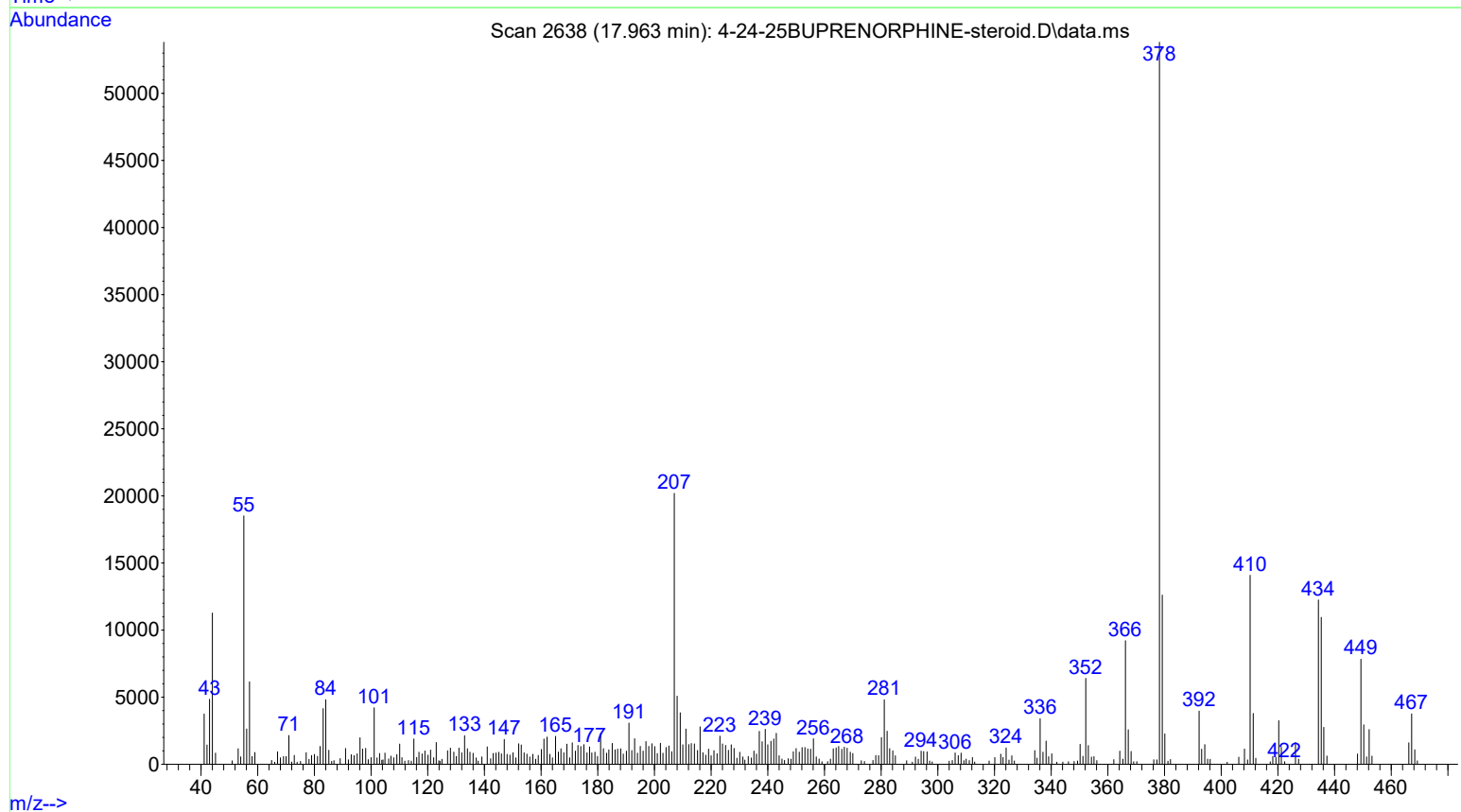
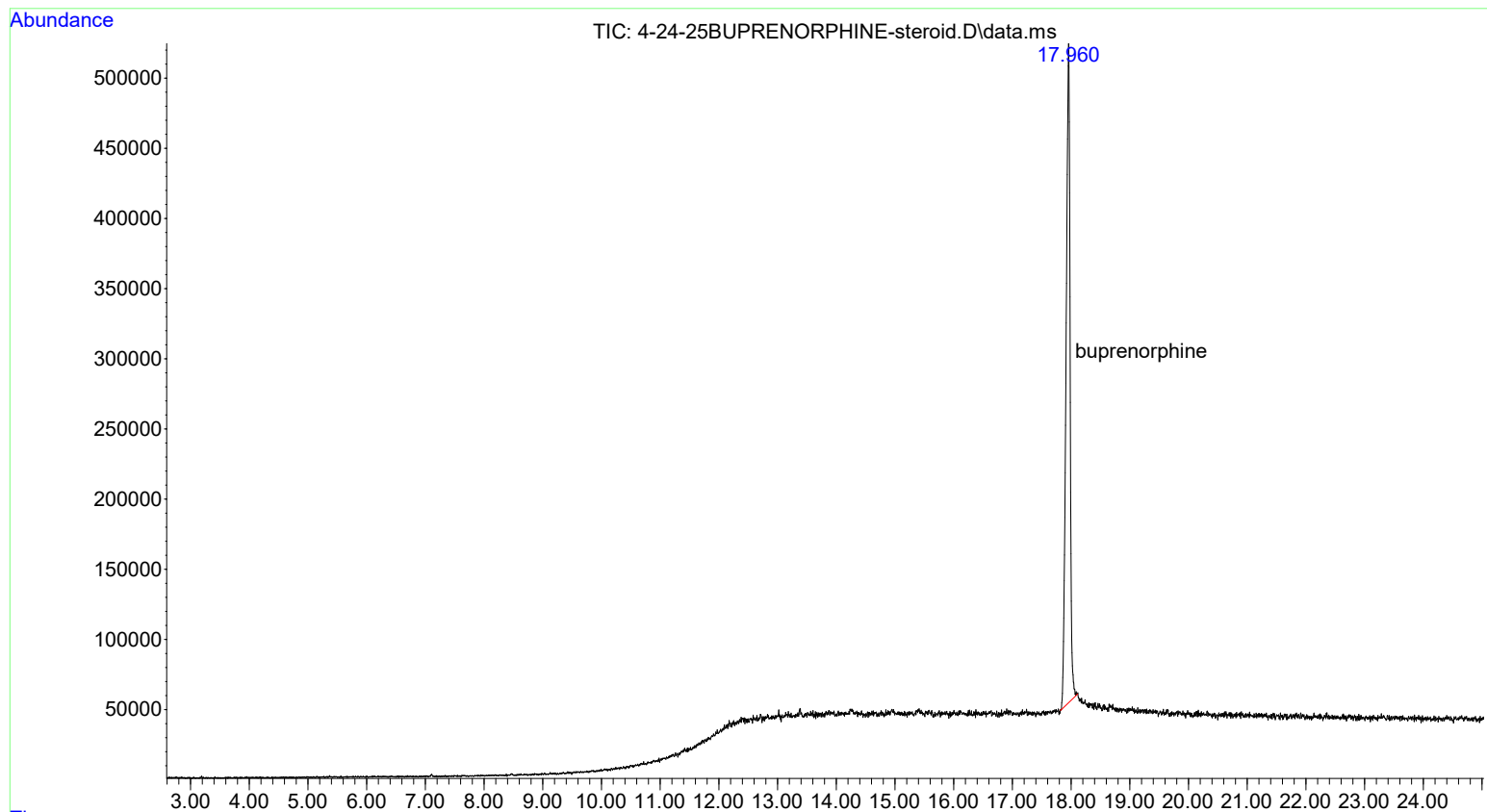
Real-Time Plots

Type of Plot	Label	Low Mass	High Mass
Total Ion	N/A	N/A	N/A
Spectrum	N/A	N/A	N/A
Extracted Ion	Scan 1-1	50	550

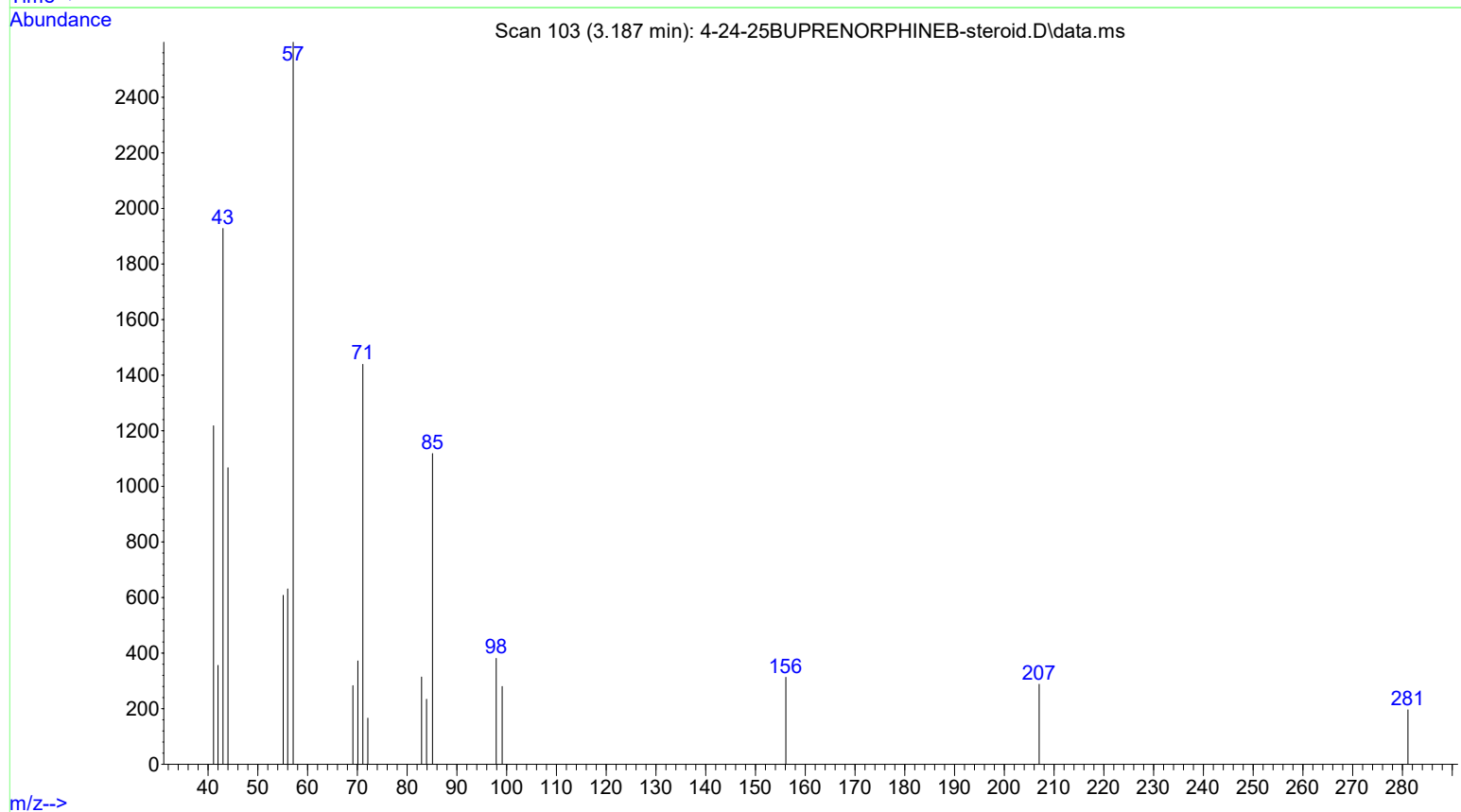
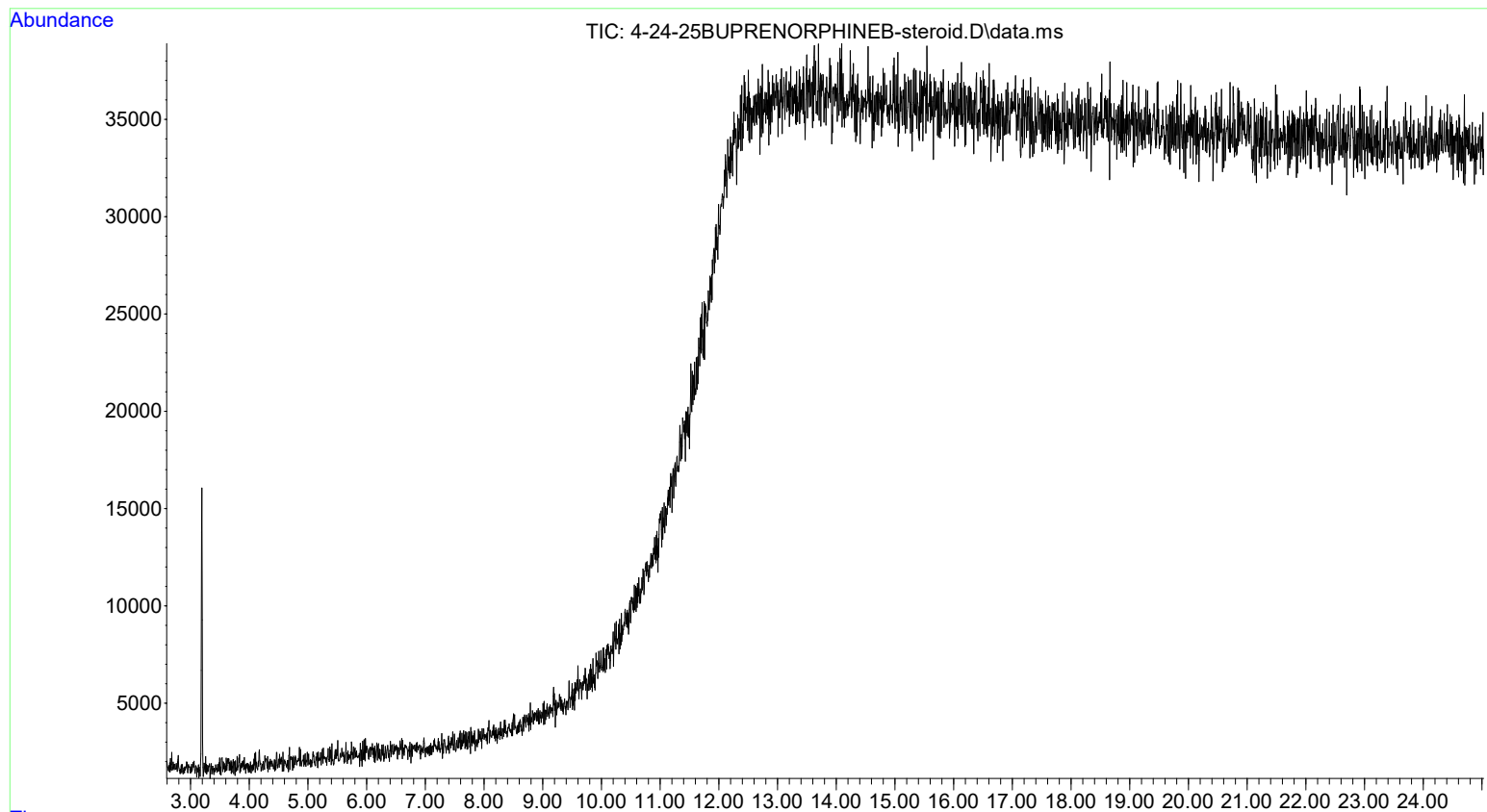
Self-Cleaning Ion Source Parameters

Mode	No Cleaning
------	-------------

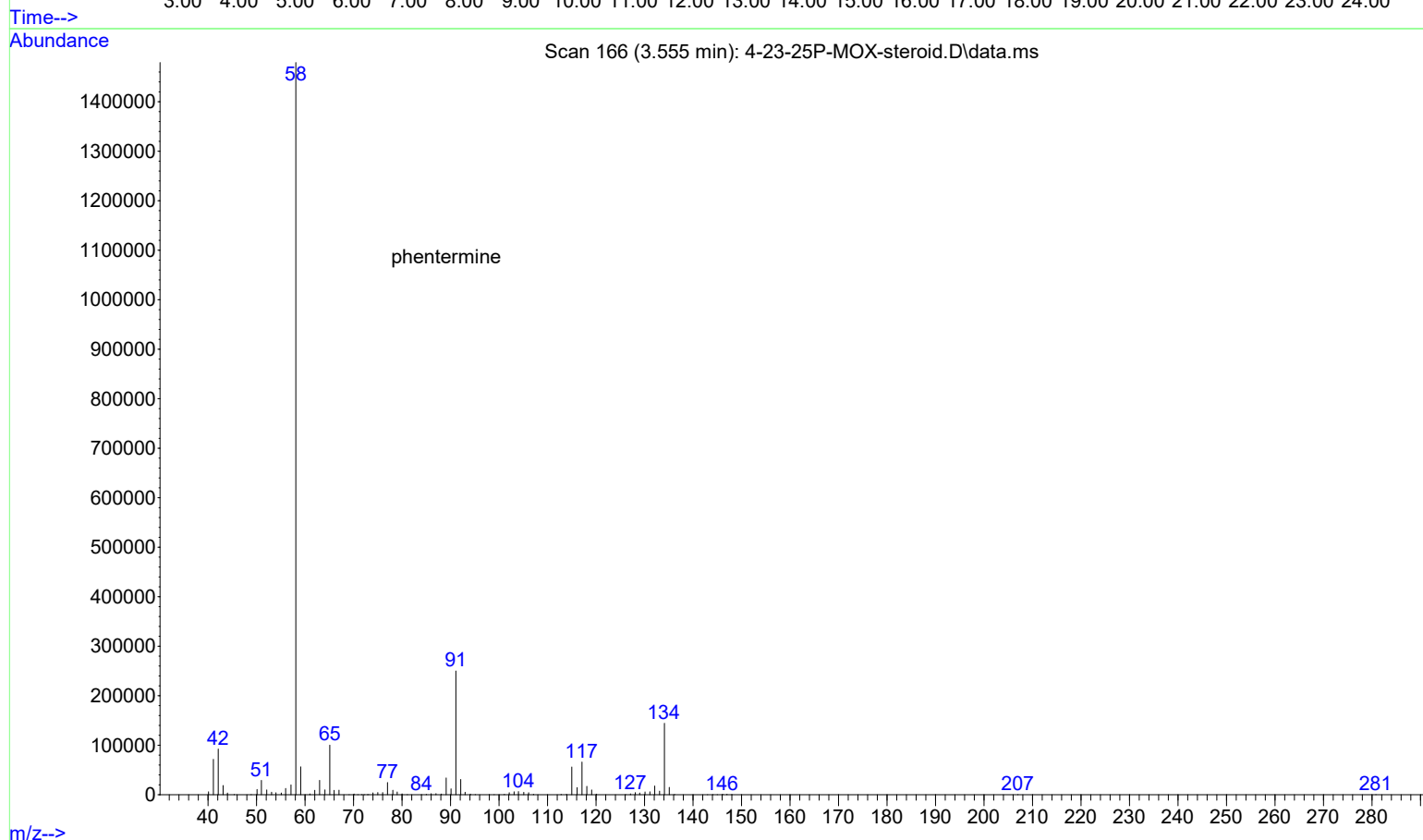
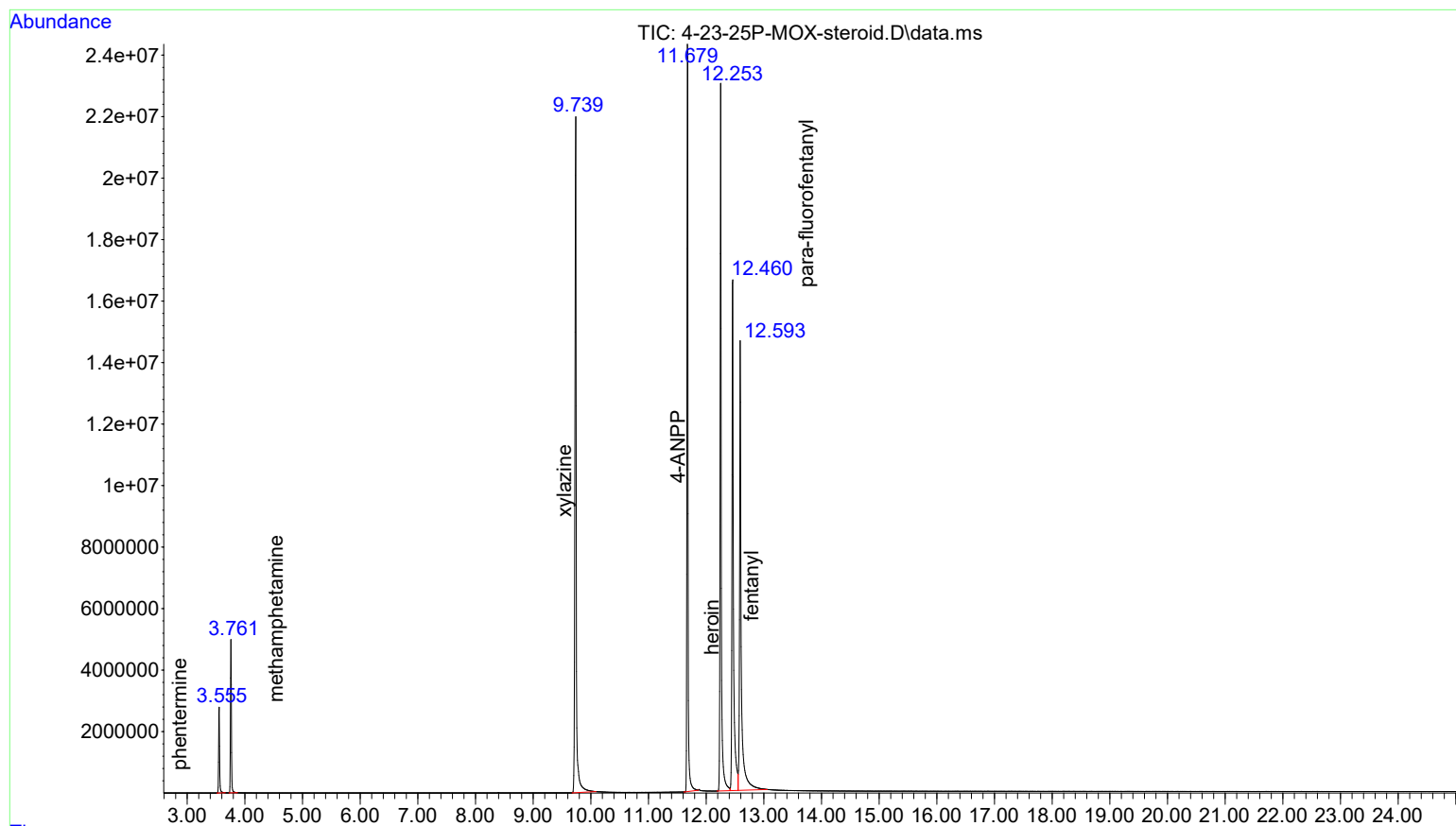
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25BUPRENORPHINE-s
...teroid.D
Operator :
Acquired : 24 Apr 2025 15:35 using AcqMethod STEROID.M
Instrument : Lilo
Sample Name: Buprenorphine std
Misc Info : MeOH
Vial Number: 147



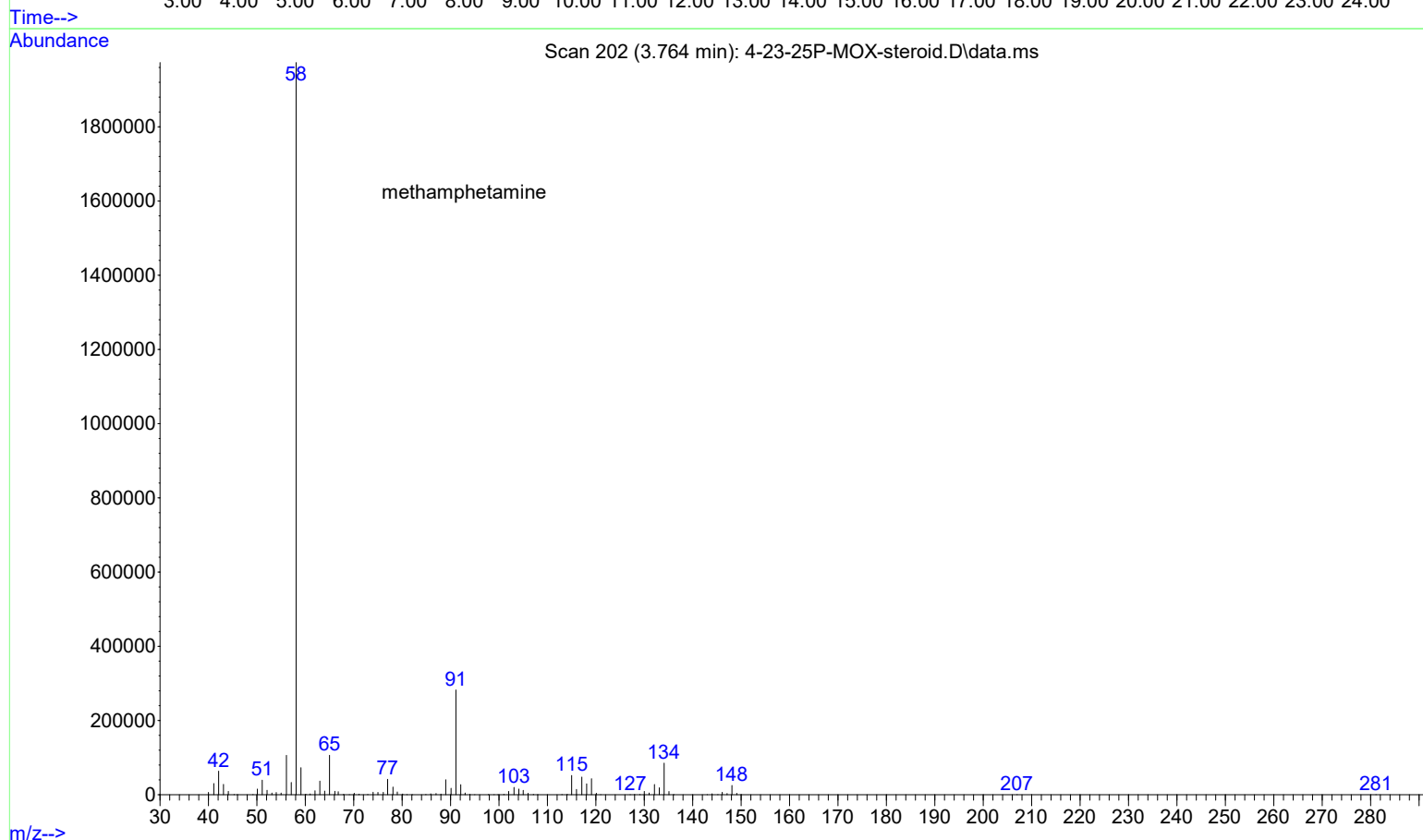
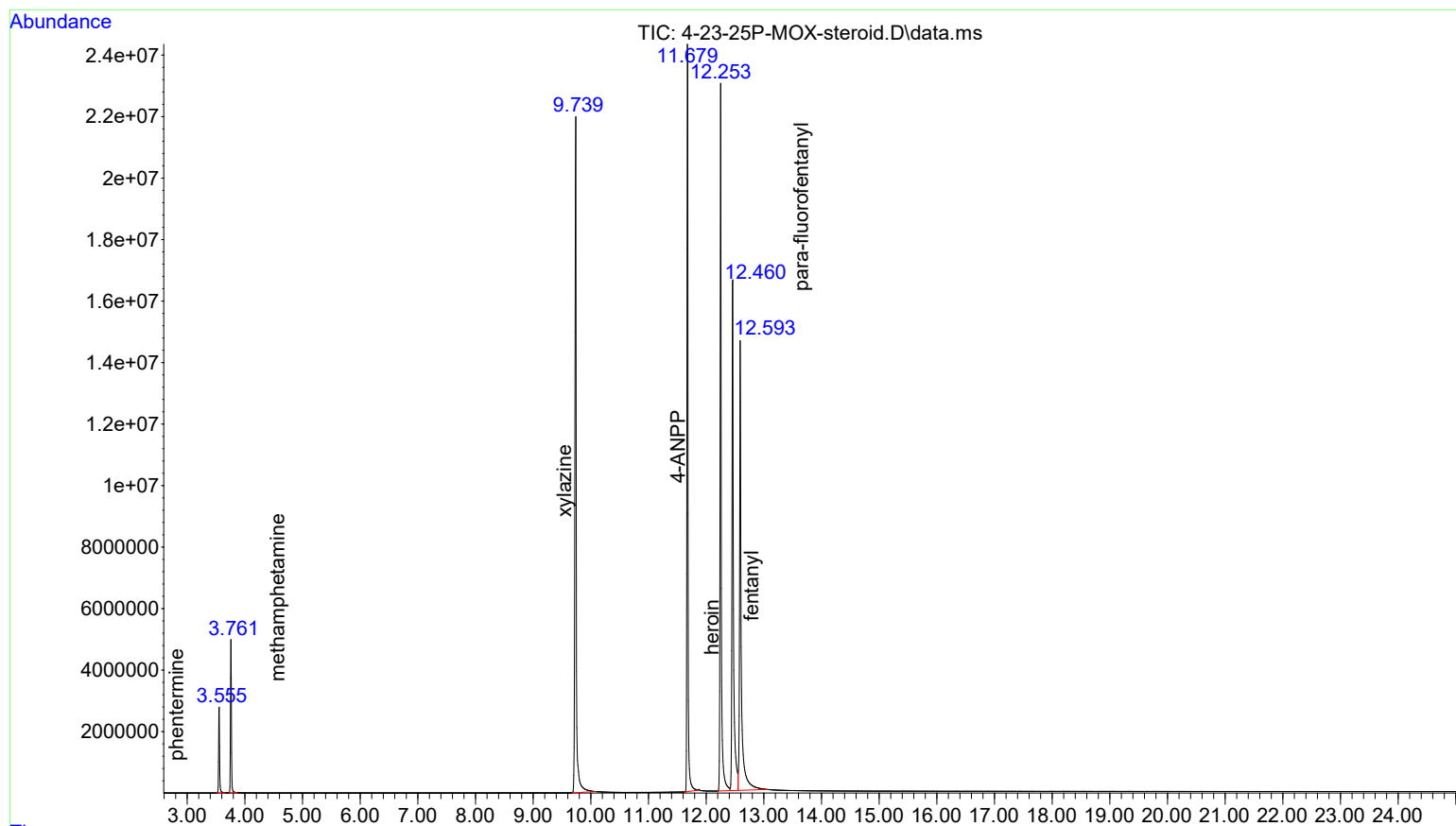
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25BUPRENORPHINEB-steroid.D
... steroid.D
Operator :
Acquired : 24 Apr 2025 15:06 using AcqMethod STEROID.M
Instrument : Lilo
Sample Name: Buprenorphine std blank
Misc Info : MeOH
Vial Number: 141



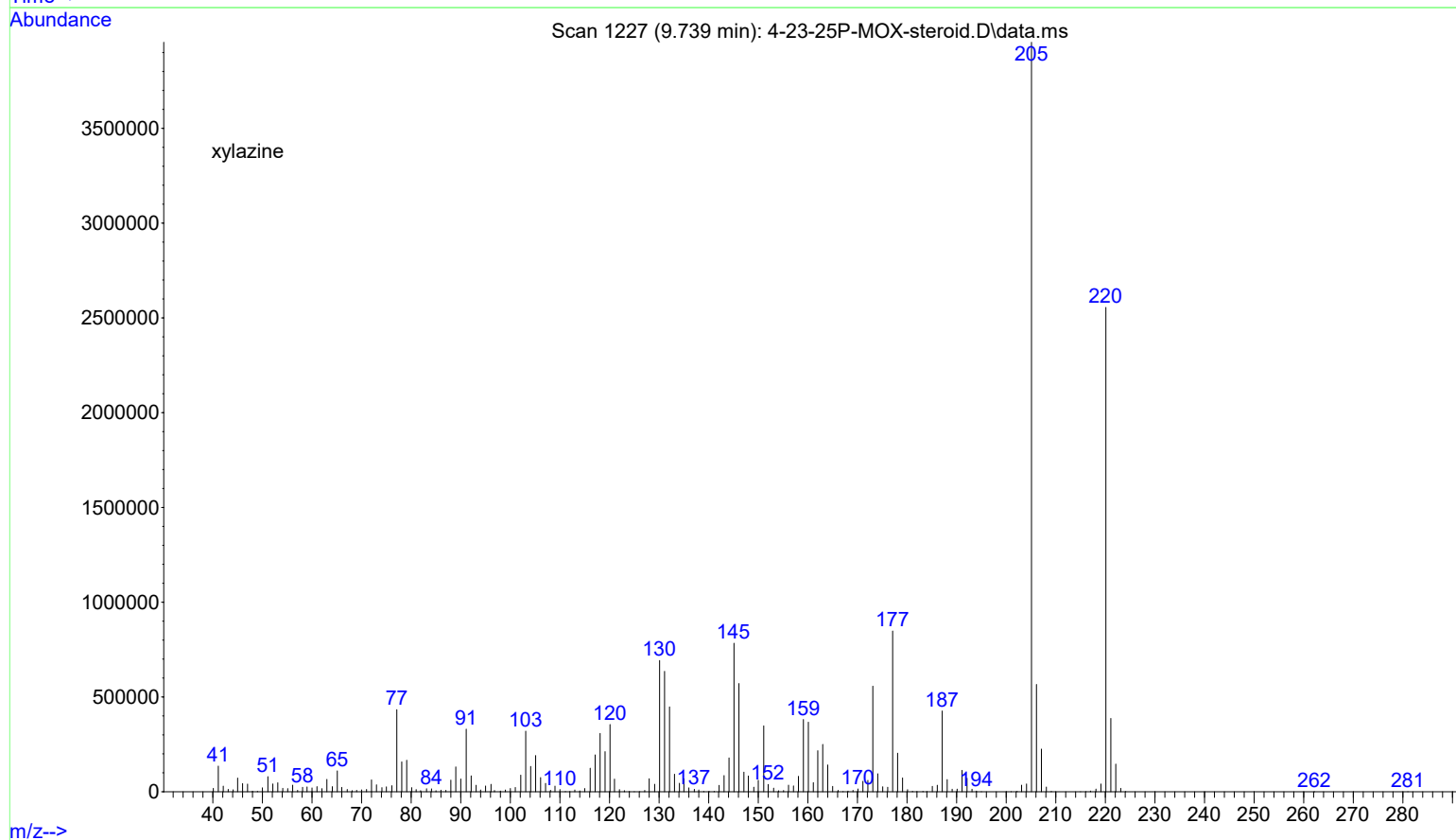
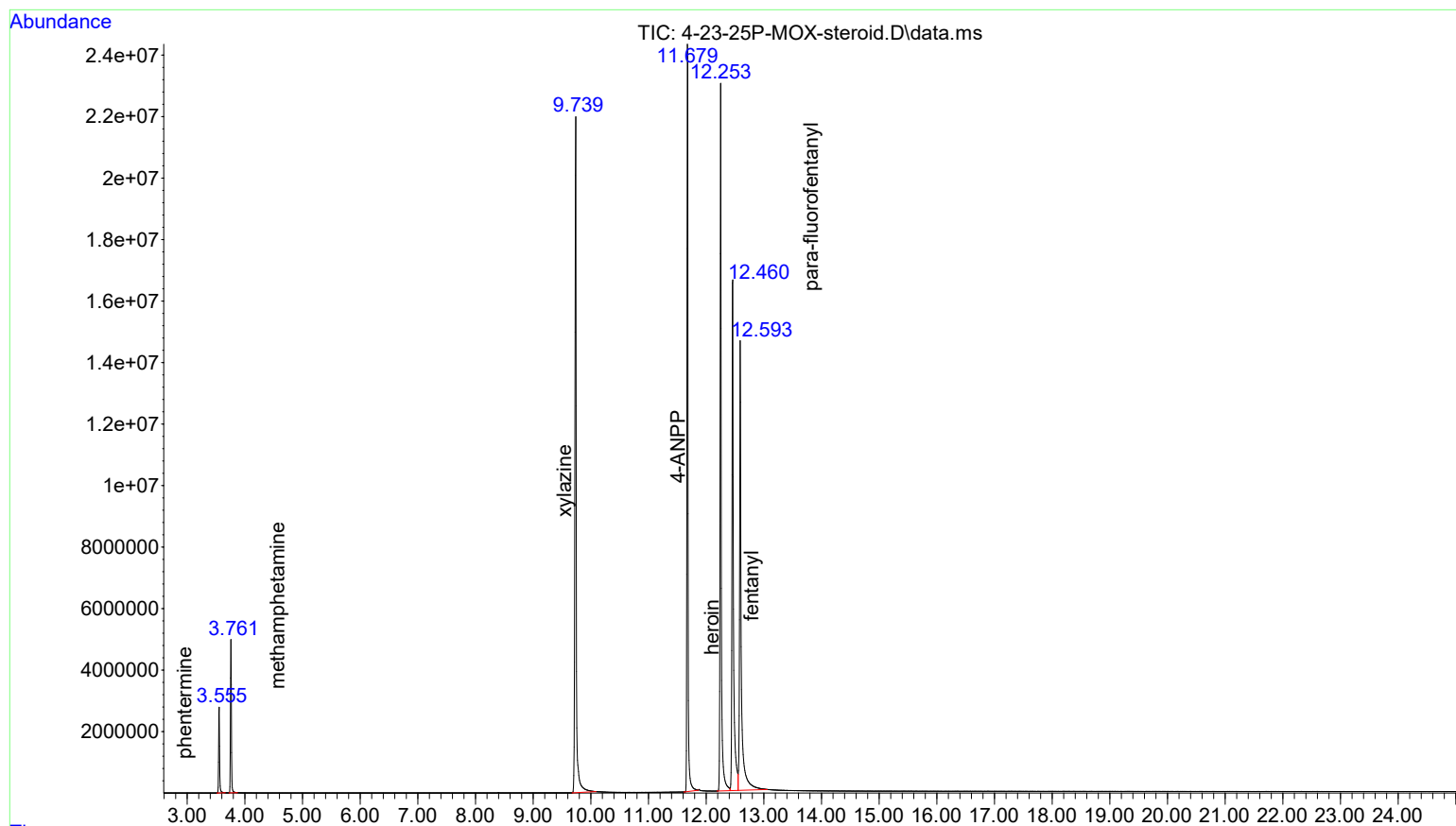
File : H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOX-steroid.D
Operator :
Acquired : 23 Apr 2025 10:18 using AcqMethod STEROID.M
Instrument : Lilo
Sample Name: P-MOX std
Misc Info : CHCl3
Vial Number: 143



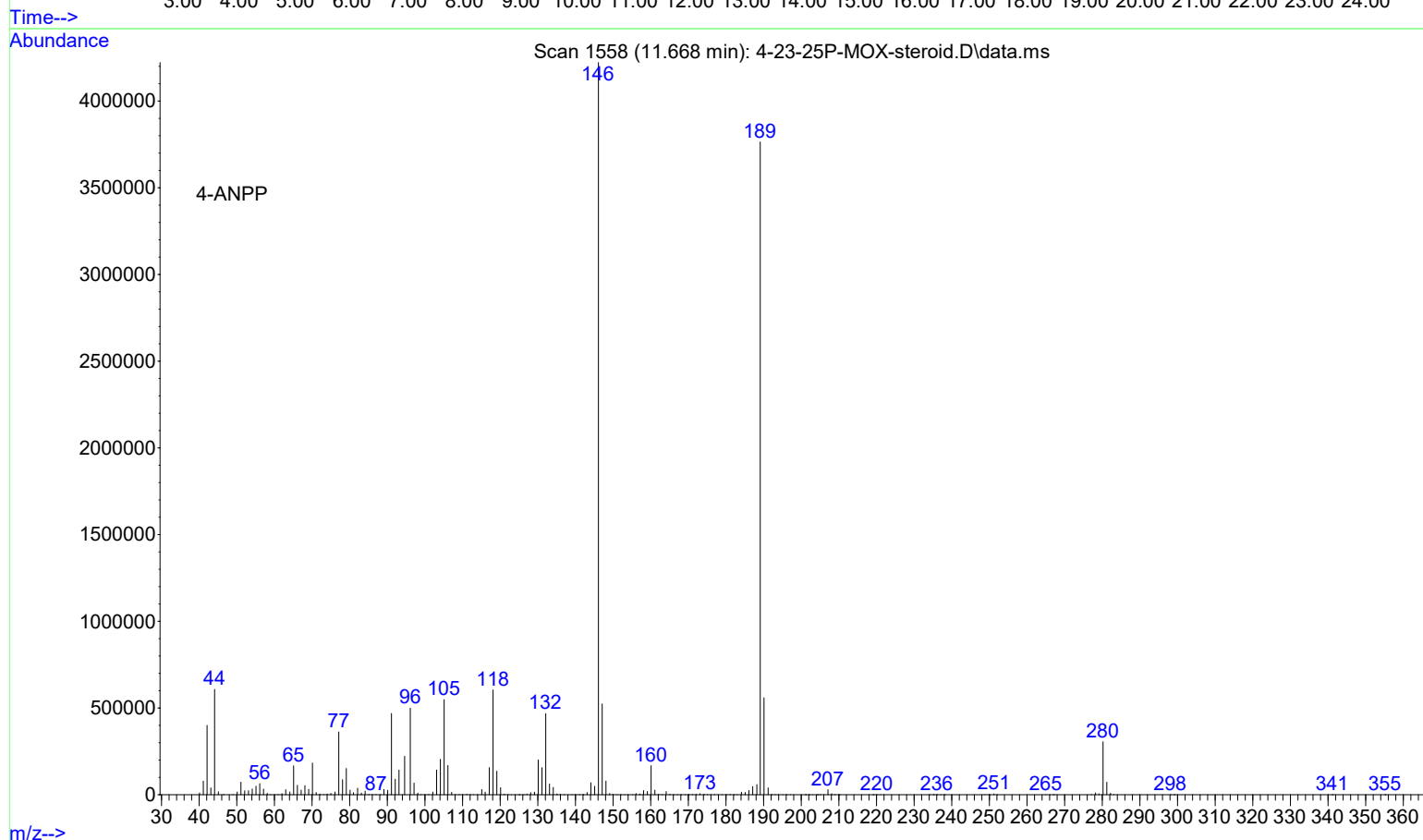
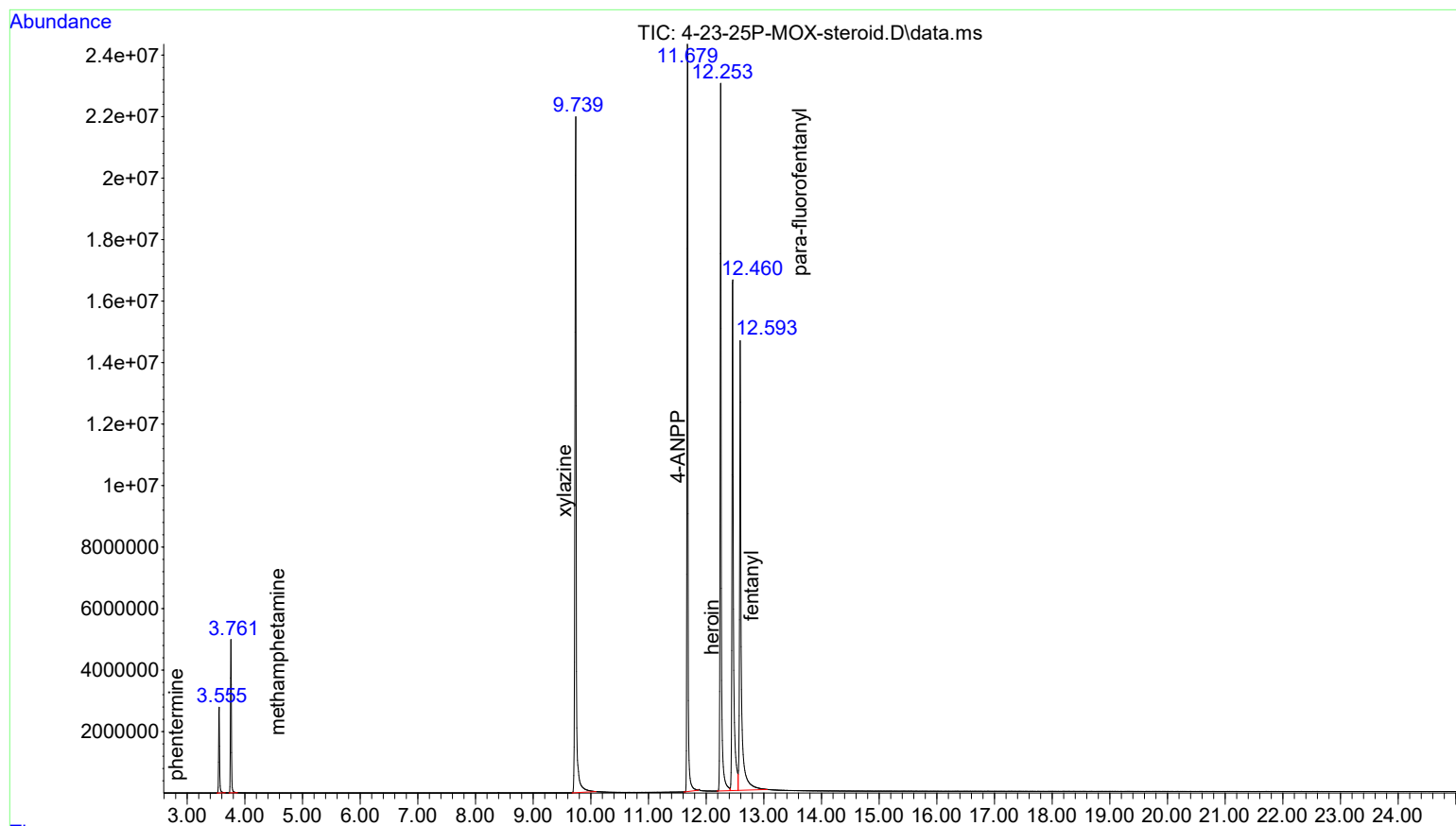
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOX-steroid.D
Operator :
Acquired : 23 Apr 2025 10:18 using AcqMethod STEROID.M
Instrument : Lilo
Sample Name: P-MOX std
Misc Info : CHCl3
Vial Number: 143



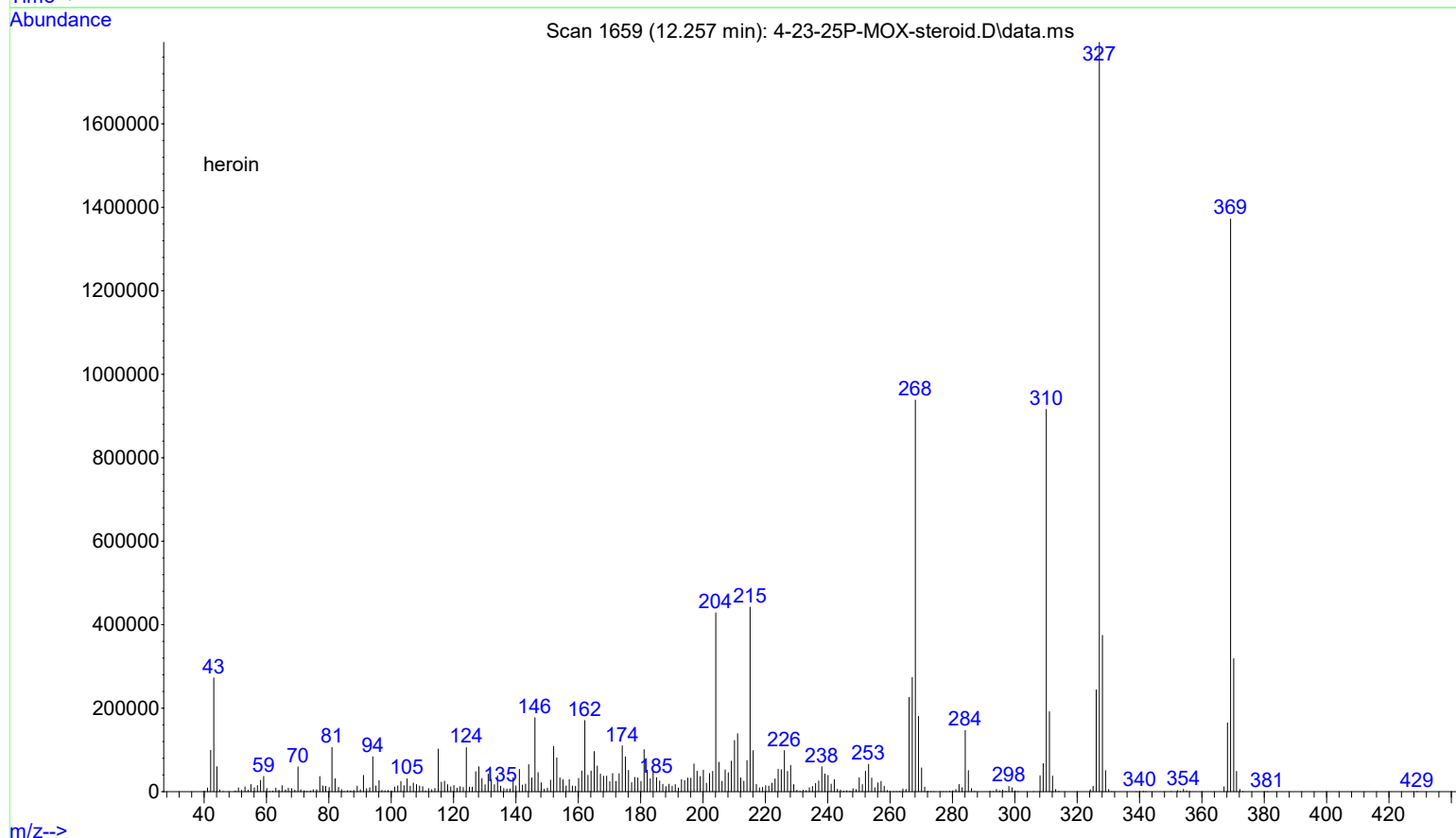
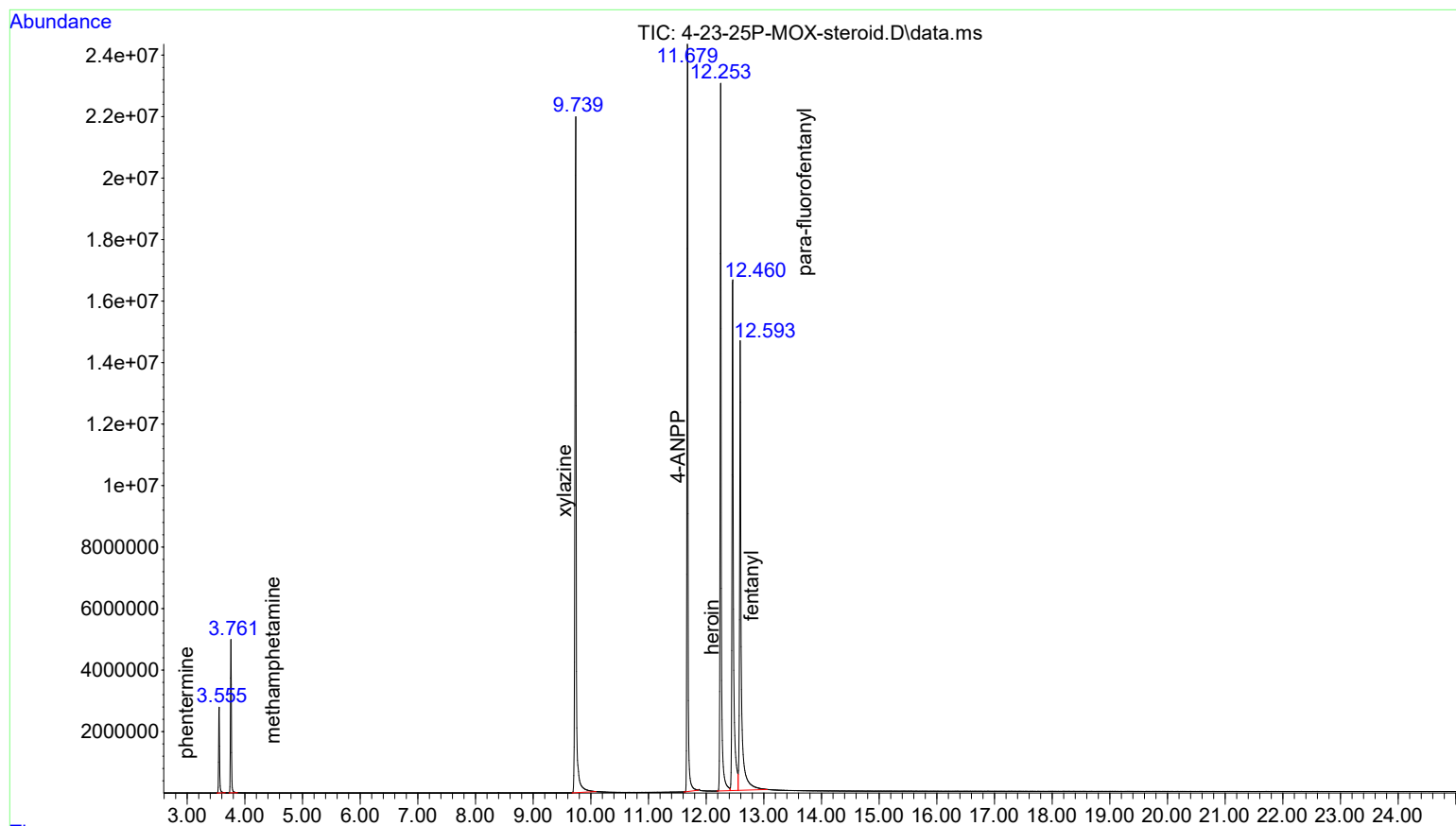
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOX-steroid.D
Operator :
Acquired : 23 Apr 2025 10:18 using AcqMethod STEROID.M
Instrument : Lilo
Sample Name: P-MOX std
Misc Info : CHCl3
Vial Number: 143



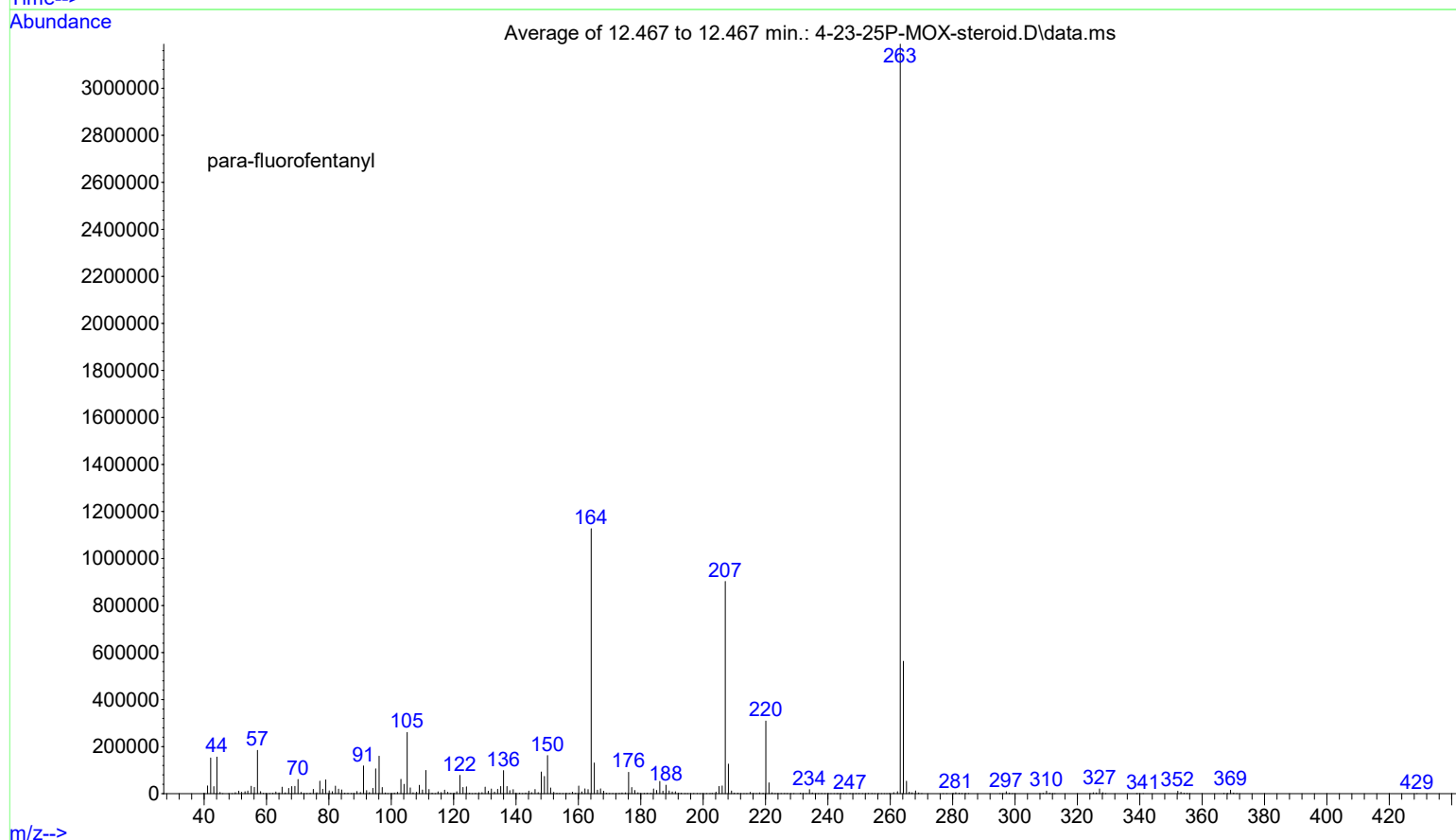
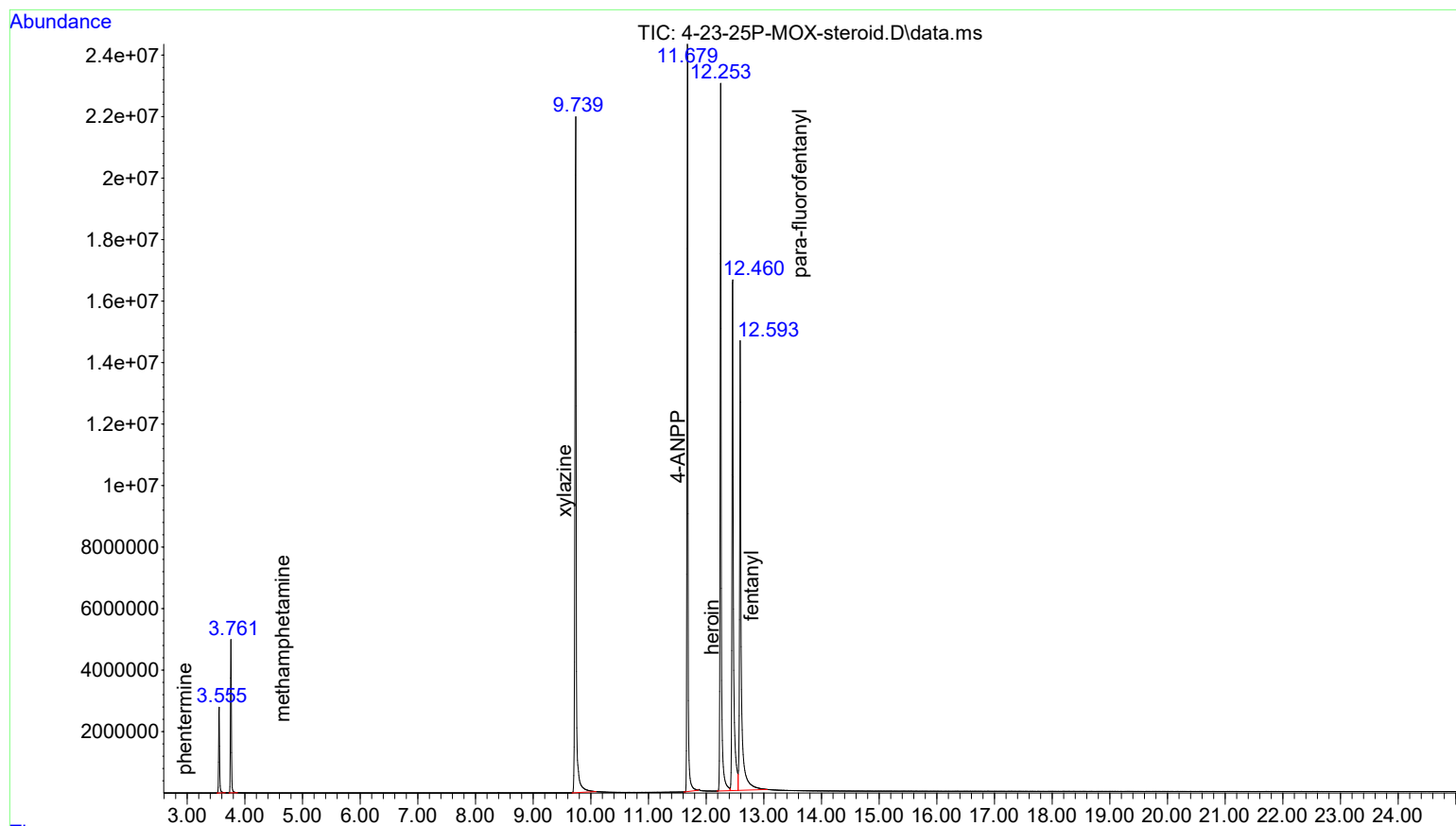
File : H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOX-steroid.D
Operator :
Acquired : 23 Apr 2025 10:18 using AcqMethod STEROID.M
Instrument : Lilo
Sample Name: P-MOX std
Misc Info : CHCl3
Vial Number: 143



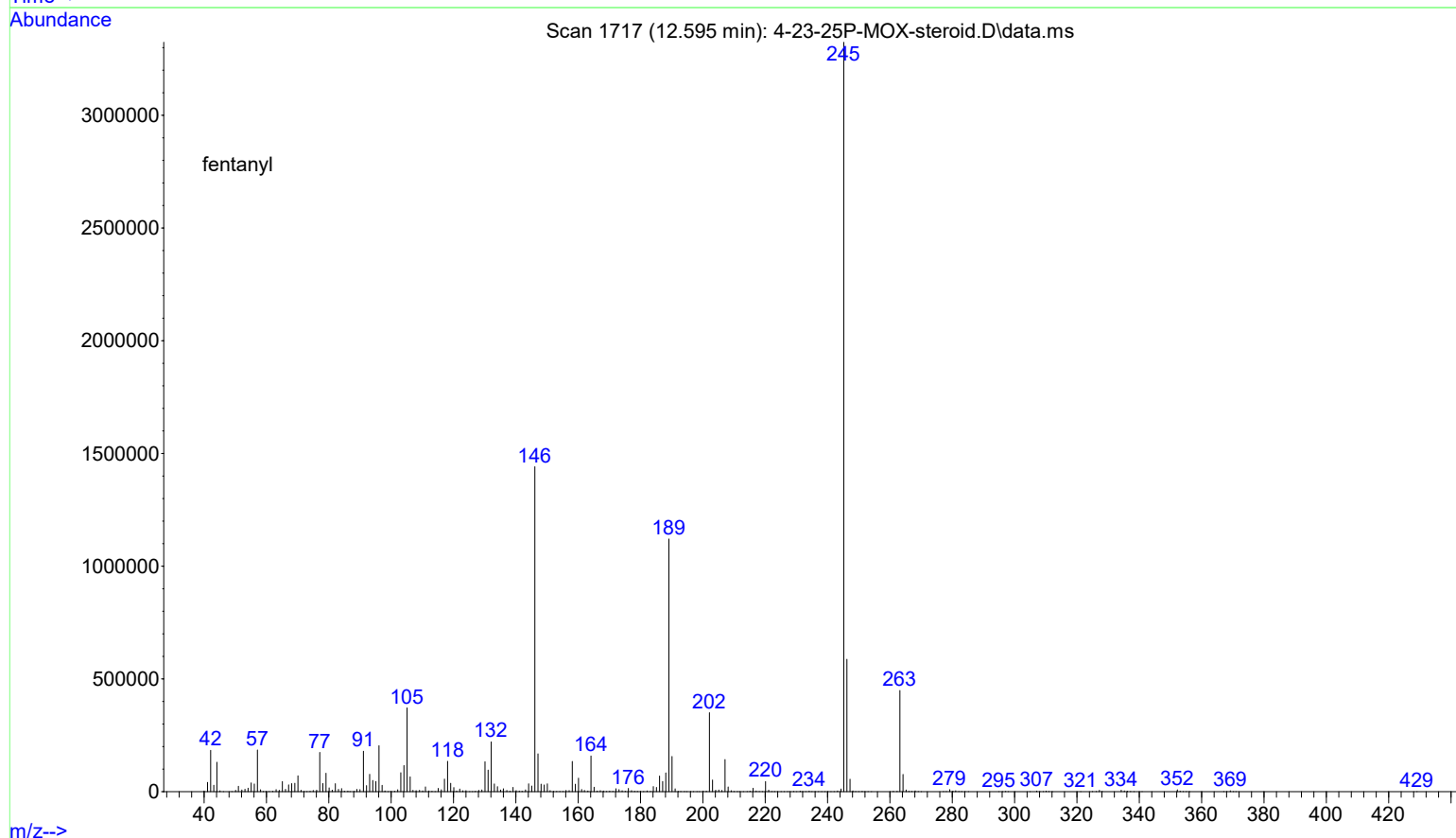
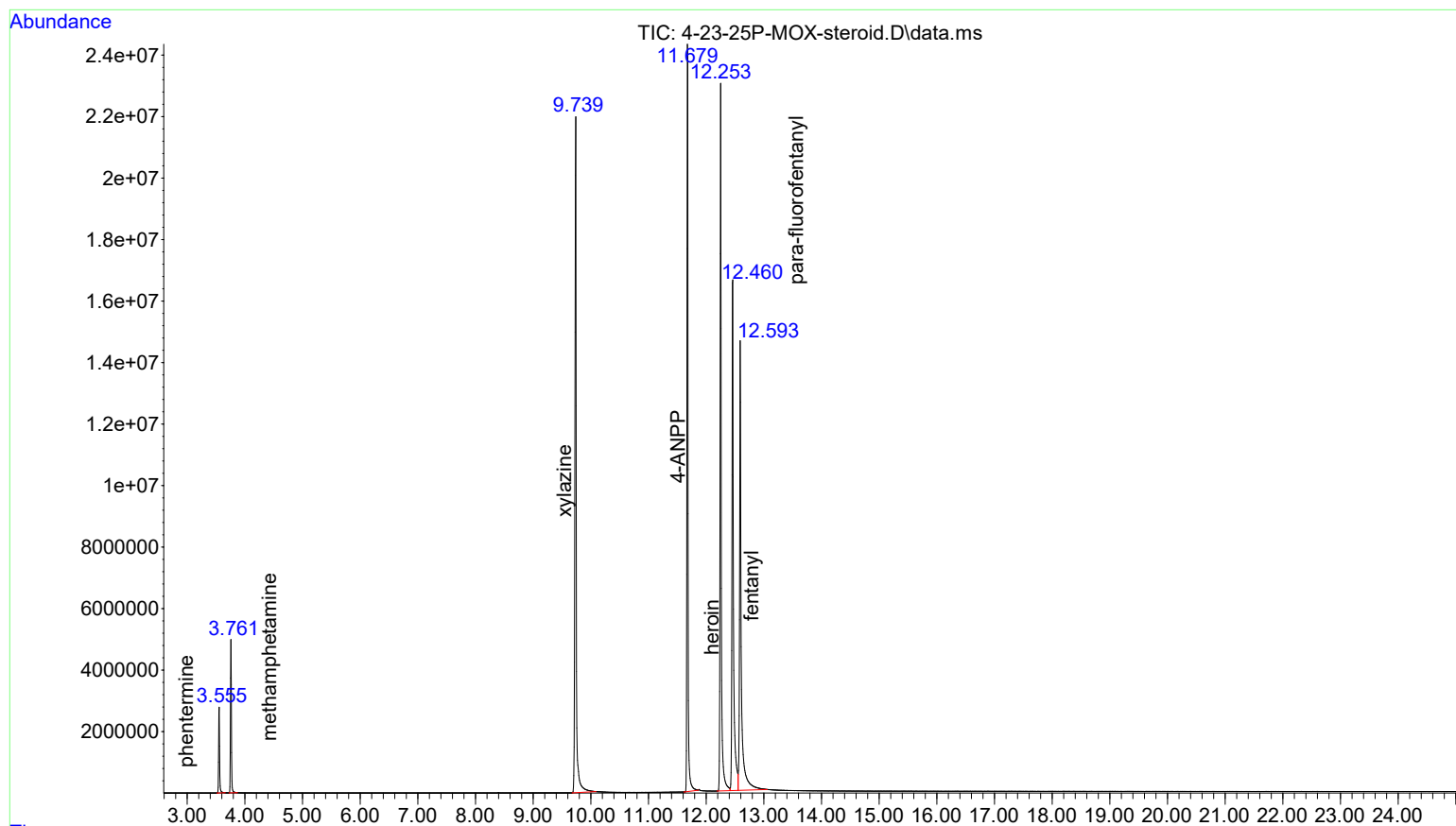
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOX-steroid.D
Operator :
Acquired : 23 Apr 2025 10:18 using AcqMethod STEROID.M
Instrument : Lilo
Sample Name: P-MOX std
Misc Info : CHCl3
Vial Number: 143



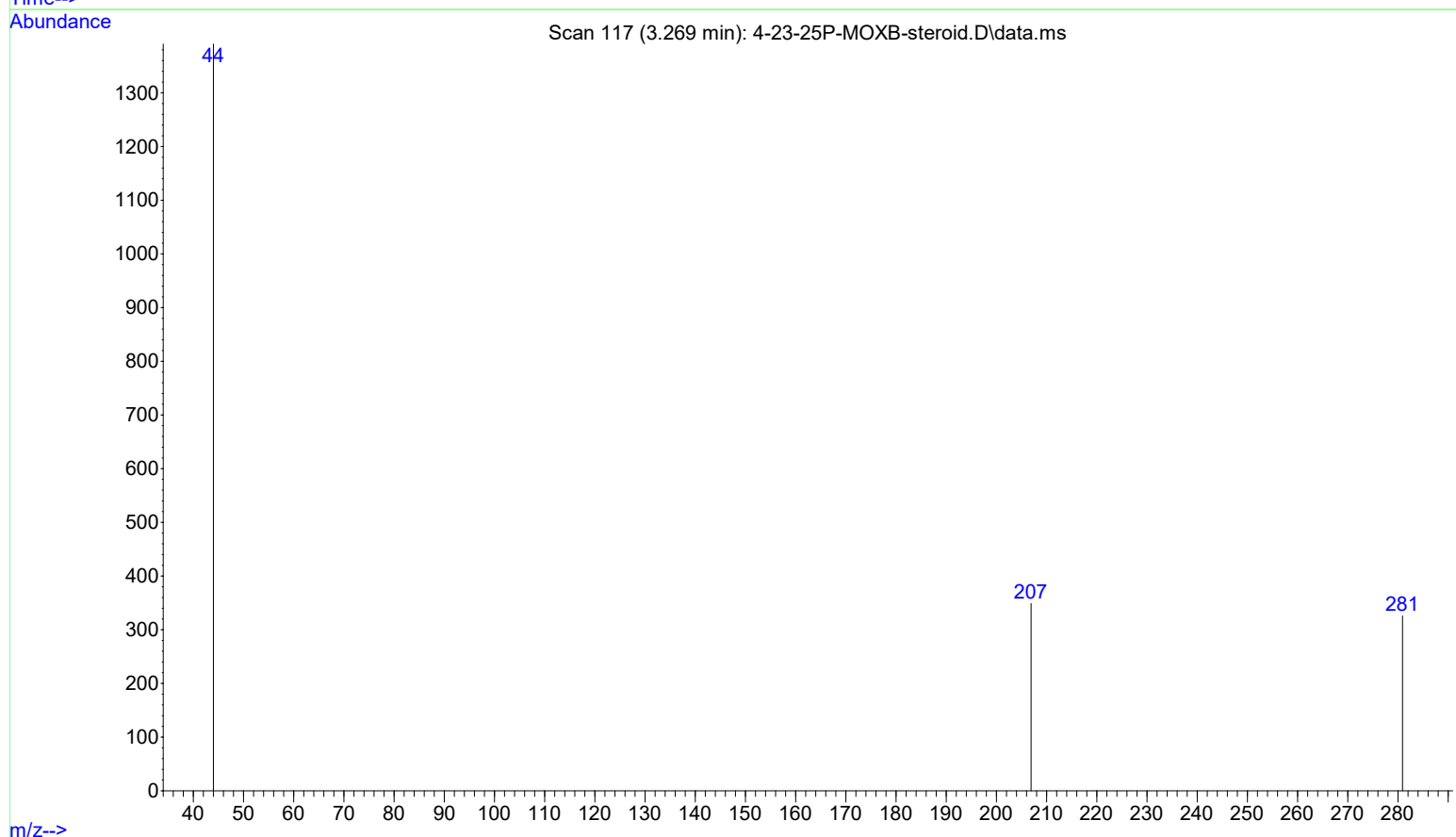
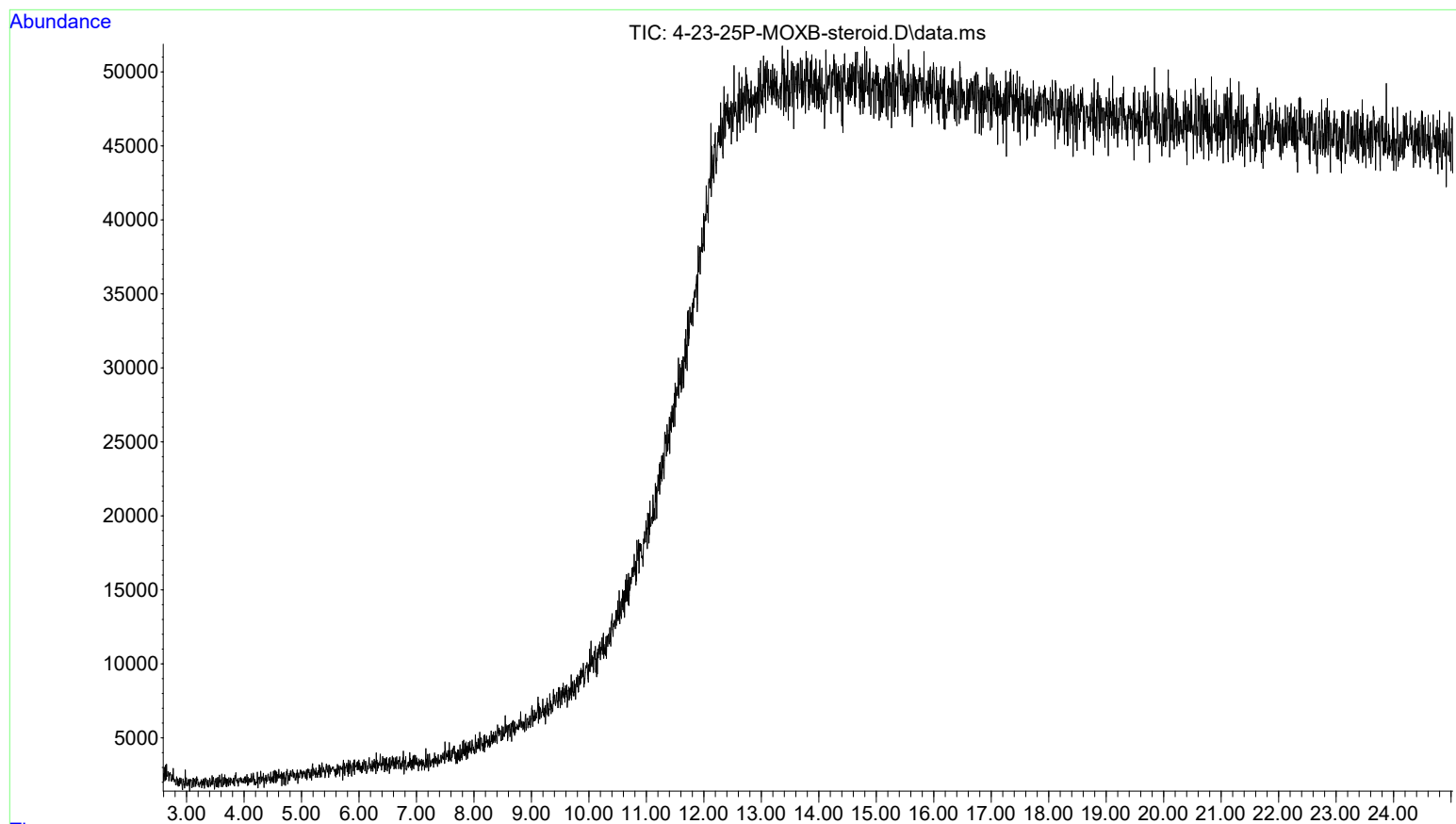
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOX-steroid.D
Operator :
Acquired : 23 Apr 2025 10:18 using AcqMethod STEROID.M
Instrument : Lilo
Sample Name: P-MOX std
Misc Info : CHCl3
Vial Number: 143



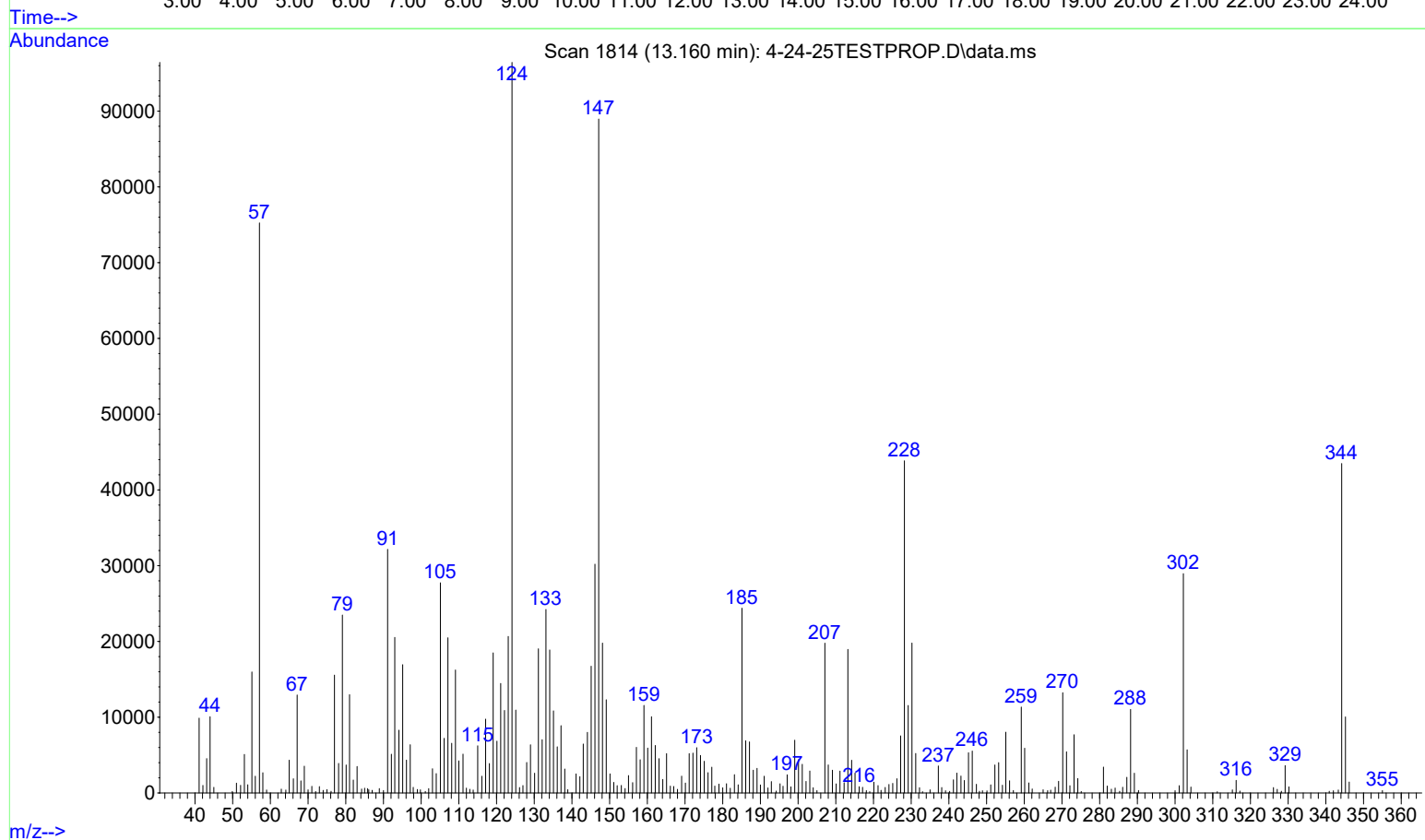
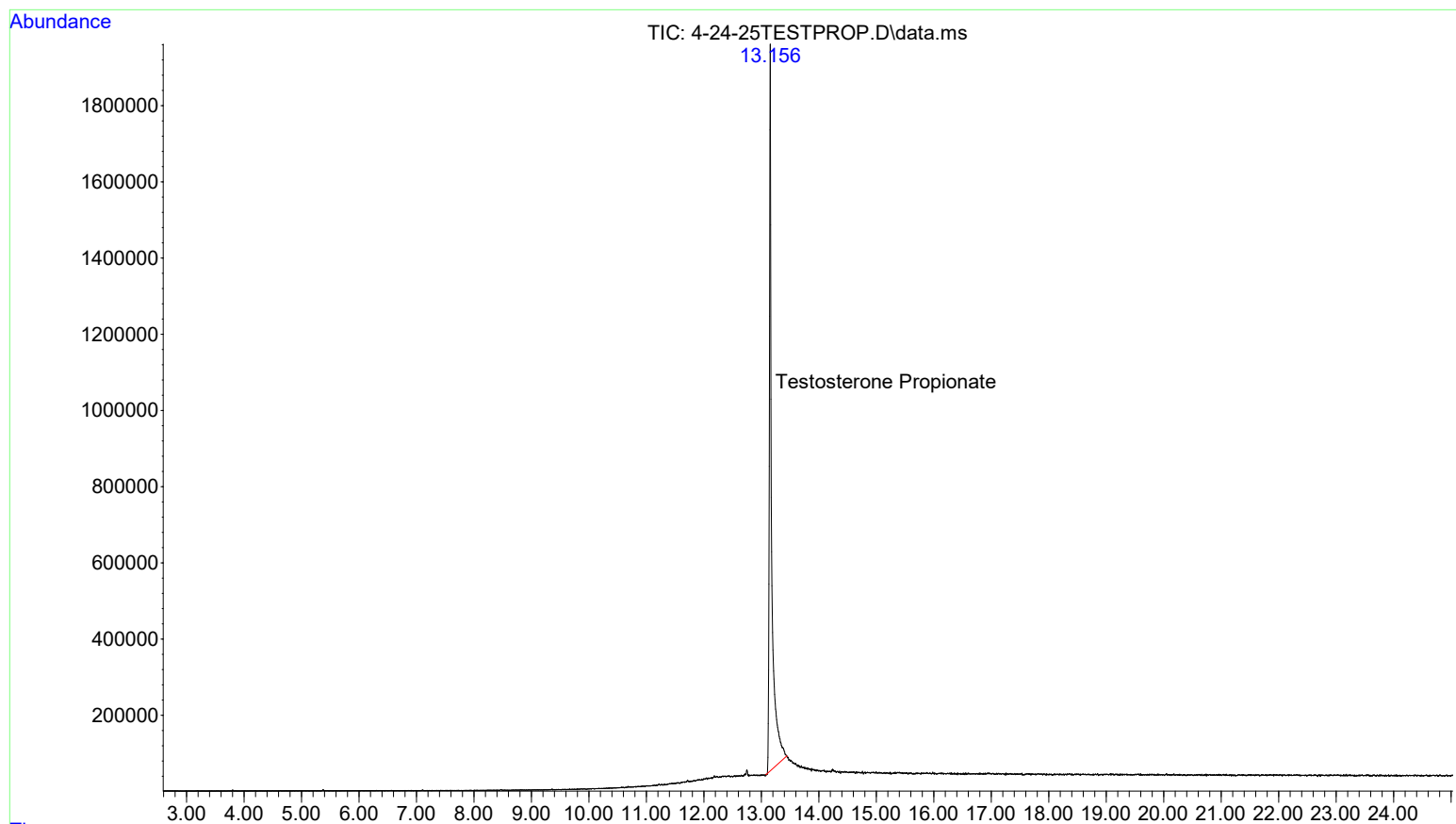
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOX-steroid.D
Operator :
Acquired : 23 Apr 2025 10:18 using AcqMethod STEROID.M
Instrument : Lilo
Sample Name: P-MOX std
Misc Info : CHCl3
Vial Number: 143



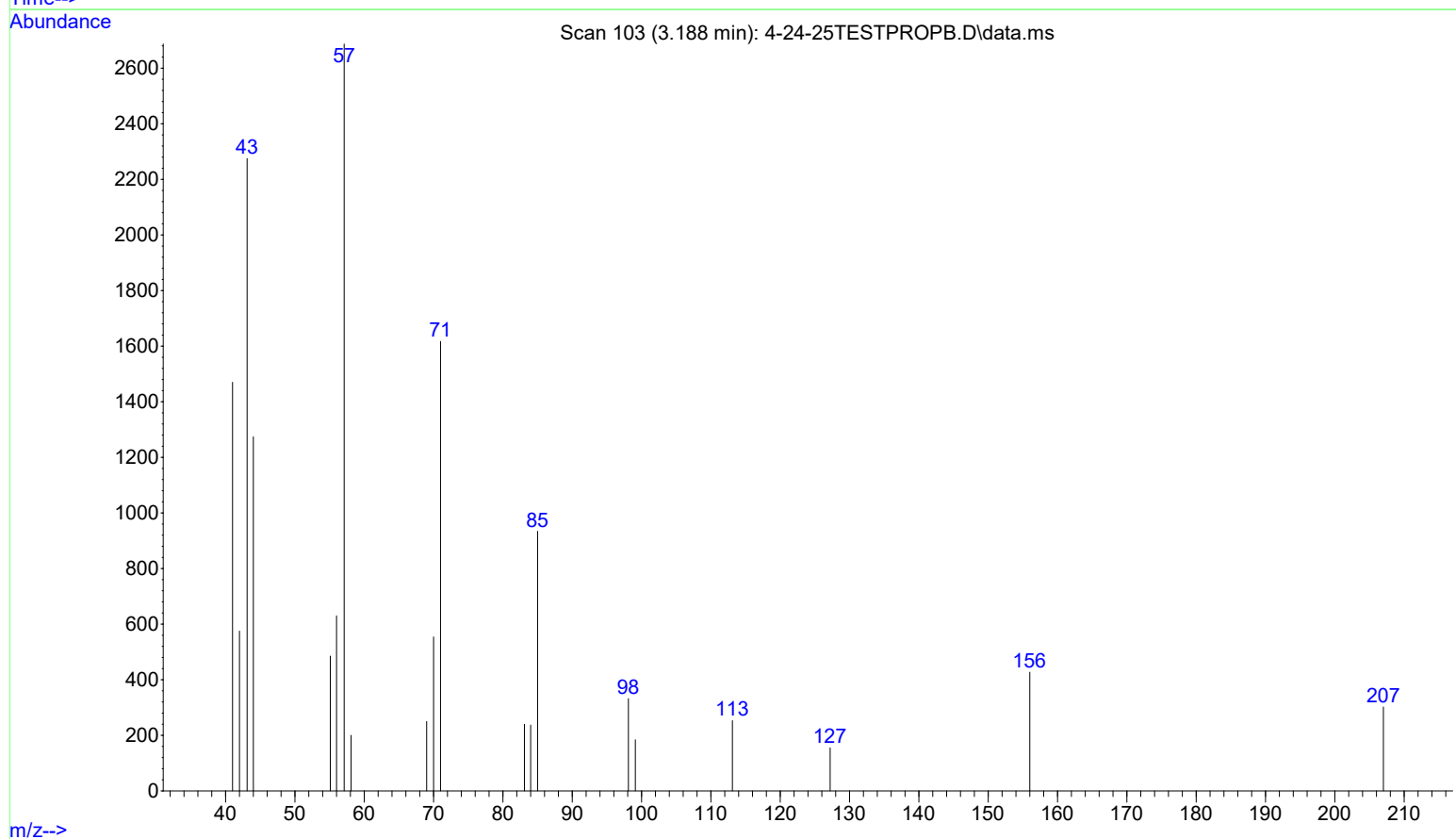
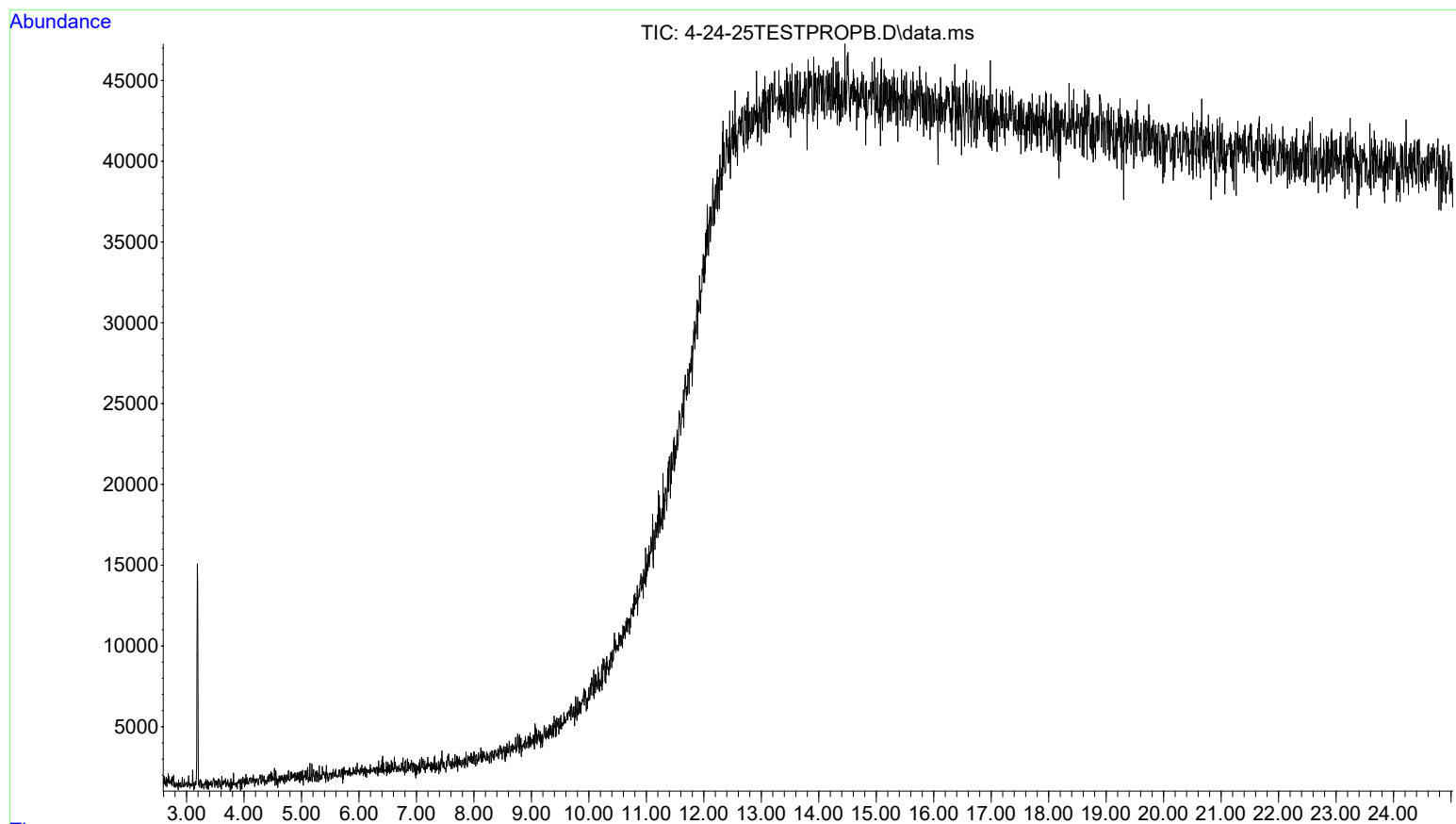
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOXB-steroid.D
Operator :
Acquired : 23 Apr 2025 09:49 using AcqMethod STEROID.M
Instrument : Lilo
Sample Name: P-MOX std blank
Misc Info : CHCl3
Vial Number: 142



File : H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25TESTPROP.D
Operator :
Acquired : 24 Apr 2025 17:19 using AcqMethod STERIOD.M
Instrument : Lilo
Sample Name: Testosterone Propionate std
Misc Info : MeOH
Vial Number: 148



File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25TESTPROPB.D
Operator :
Acquired : 24 Apr 2025 16:50 using AcqMethod STERIOD.M
Instrument : Lilo
Sample Name: Testosterone Propionate std blank
Misc Info : MeOH
Vial Number: 141



METHOD CONTROL PARAMETERS

Method Information for: D:\MassHunter\GCMS\1\methods\THCMS.M

Method Sections To Run:

() Save Copy of Method With Data
() Instrument Control Pre-Run Cmd/Macro =
() Data Analysis Pre-Run Cmd/Macro =
(X) Data Acquisition
(X) Data Analysis
() Instrument Control Post-Run Cmd/Macro =
() Data Analysis Post-Run Cmd/Macro =

Method Comments:

THCMS for cannabioids

END OF METHOD CONTROL PARAMETERS

D:\MassHunter\GCMS\1\methods\THCMS.M
Fri Apr 25 09:07:50 2025

Control Information

Sample Inlet : GC
Injection Source : GC ALS
Injection Location: Front
Mass Spectrometer : Enabled

No Sample Prep method has been assigned to this method.

GC
GC Summary
Run Time 8 min
Post Run Time 0 min

Oven
Temperature
Setpoint On
(Initial) 200 °C
Hold Time 2 min
Post Run 50 °C
Program
#1 Rate 10 °C/min
#1 Value 240 °C
#1 Hold Time 2 min

Equilibration Time 0.5 min
Max Temperature 325 °C
Maximum Temperature Override Disabled
Slow Fan Disabled

ALS
Front Injector
Syringe Size 10 µL
Injection Volume 1 µL
Solvent A Washes (PreInj) 1
Solvent A Washes (PostInj) 1
Solvent A Volume 8 µL
Solvent B Washes (PreInj) 1
Solvent B Washes (PostInj) 1
Solvent B Volume 8 µL
Sample Washes 1
Sample Wash Volume 8 µL
Sample Pumps 2
Dwell Time (PreInj) 0 min
Dwell Time (PostInj) 0 min
Solvent Wash Draw Speed 300 µL/min
Solvent Wash Dispense Speed 3000 µL/min
Sample Wash Draw Speed 300 µL/min
Sample Wash Dispense Speed 3000 µL/min
Injection Dispense Speed 6000 µL/min
Viscosity Delay 0 sec
Sample Depth Disabled
Injection Type Standard
L1 Airgap 0.2 µL

Solvent Wash Mode	A, B
Sample Overlap Mode	Sample overlap is not enabled
ALS Errors	Pause for user interaction
Front SS Inlet He Mode	Split
Heater	On 250 °C
Pressure	On 15.6 psi
Total Flow	On 33.023 mL/min
Septum Purge Flow	On 3 mL/min
Pre-Run Flow Test	Off
Gas Saver	Off
Split Ratio	30 :1
Split Flow	29.054 mL/min
Liner	A Liner has not been selected.
Column	
Column #1	
Flow	
Setpoint	On
(Initial)	0.96848 mL/min
Post Run	1.322 mL/min
Column Information	Agilent 19091S-433UI: US4814636H
Description	HP-5MS UI
Temperature Range	-60 °C-325 °C (350 °C)
Dimensions	30 m x 250 µm x 0.25 µm (Uncalibrated)
Heater	Oven
Column lock	Locked
In	Front SS Inlet He
Out	MSD
(Initial)	200 °C
Pressure	15.6 psi
Flow	0.96848 mL/min
Average Velocity	38.122 cm/sec
Holdup Time	1.3116 min
Control Mode	Constant Flow
Column Outlet Pressure	0 psi
Detector Evaluation	
Perform Detector Evaluation Test	Off
MSD Transfer Line	
Temperature	
Setpoint	On
(Initial)	280 °C
Signals	
Signal #1:	
Description	None
Signal #2:	
Description	None
Signal #3:	
Description	None
Signal #4:	
Description	None

Signal #5:
Description
None

Signal #6:
Description
None

Signal #7:
Description
None

Signal #8:
Description
None

TUNE PARAMETERS for SN: US2449MA23

Trace Ion Detection is OFF.

34.593 : EMISSION
70.007 : ENERGY
31.911 : REPELLER
90.331 : IONFOCUS
25.226 : ENTRANCE_LENS
885.369 : EMVOLTS
947.4 : Actual EMV
1.00 : GAIN FACTOR
2087.000 : AMUGAIN
139.000 : AMUOFFSET
1.000 : FILAMENT
1.000 : DCPOLARITY
10.822 : ENTLENSOFFSET
0.000 : Ion_Body
0.000 : EXTLENS
-195.000 : MASSGAIN
-20.000 : MASSOFFSET

END OF TUNE PARAMETERS

END OF INSTRUMENT CONTROL PARAMETERS

Single Quadrupole Acquisition Method - MS Parameters Report

Method file	D:\MassHunter\GCMS\1\methods\THCMS.M
Tune file	ATUNE.U
Ion source	EI
Source temperature (°C)	230
Quad temperature (°C)	150
Fixed Electron energy (eV)	70.0
Acquisition Type	Scan
Stop time (min)	10.00
Solvent delay (min)	1.00
Trace Ion Detection	False
Gain Factor	1
EM Saver	False
EM Saver Limit	N/A

Scan Time Segments

Time	Start Mass	End Mass	Threshold	Scan Speed
1.00	40	550	150	1,562 [N=2]

Timed Events

Time	Type of Event	Parameter
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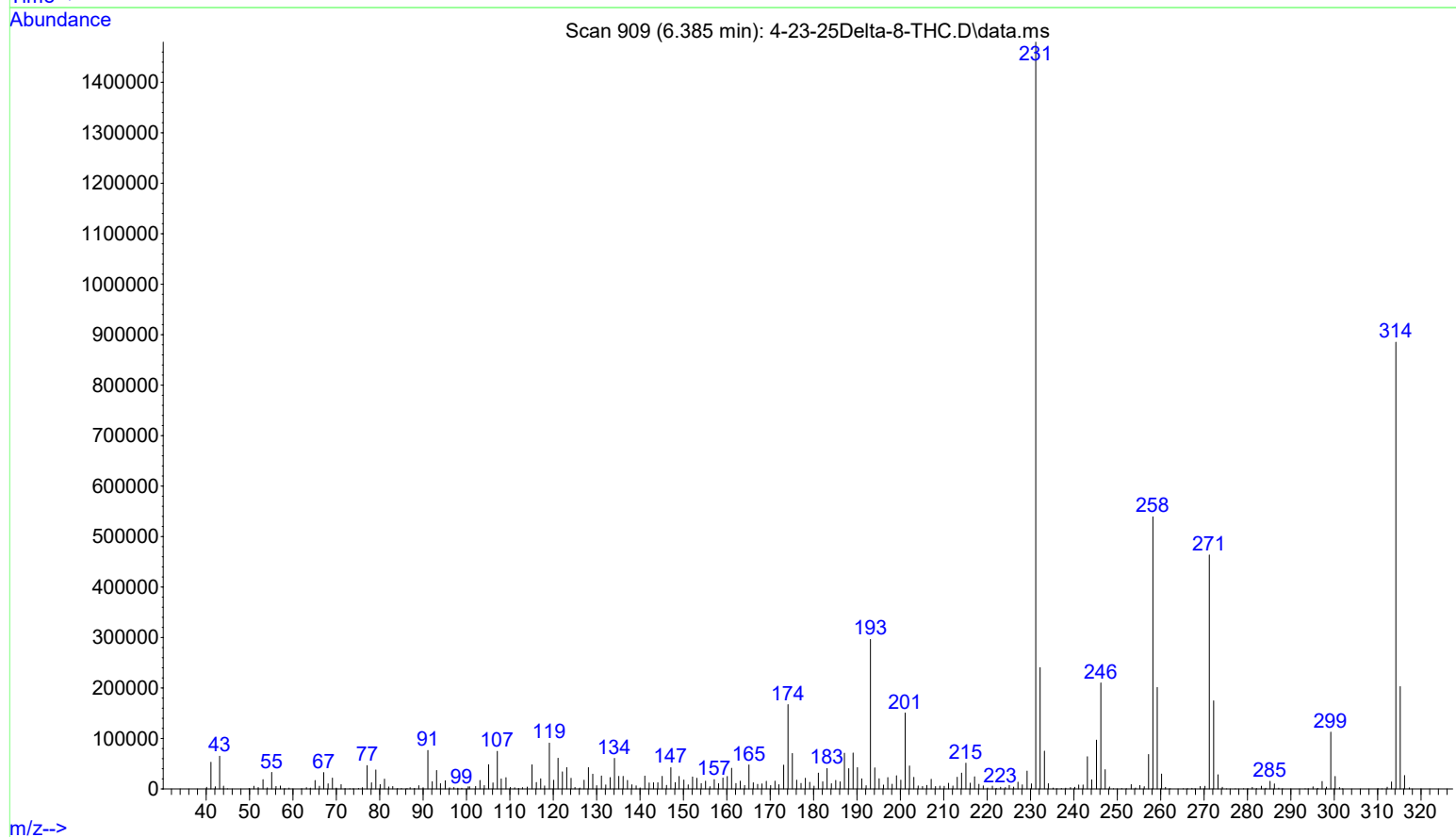
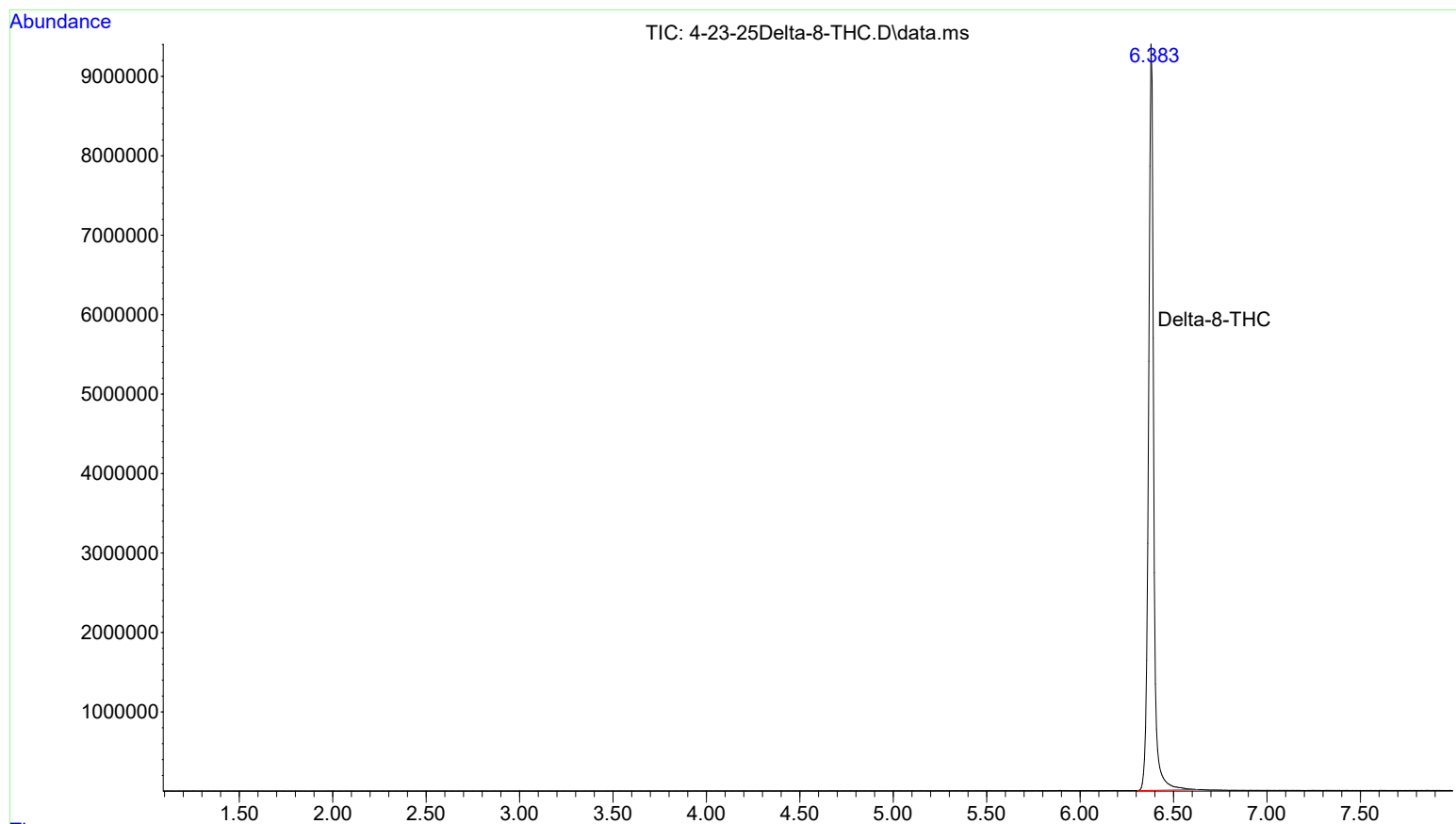
Real-Time Plots

Type of Plot	Label	Low Mass	High Mass
Total Ion	N/A	N/A	N/A
Spectrum	N/A	N/A	N/A
Extracted Ion	Scan 1-1	50	550

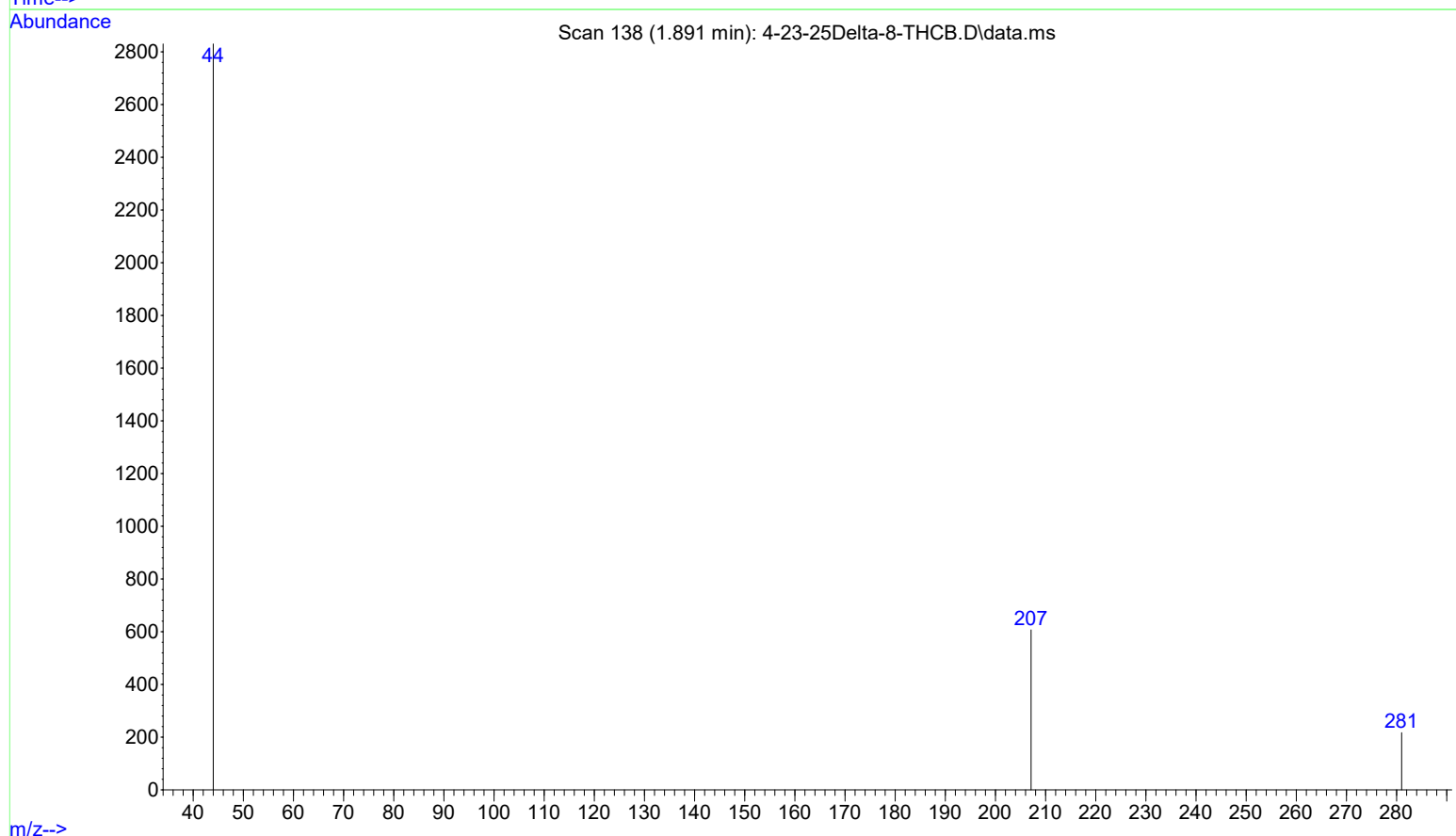
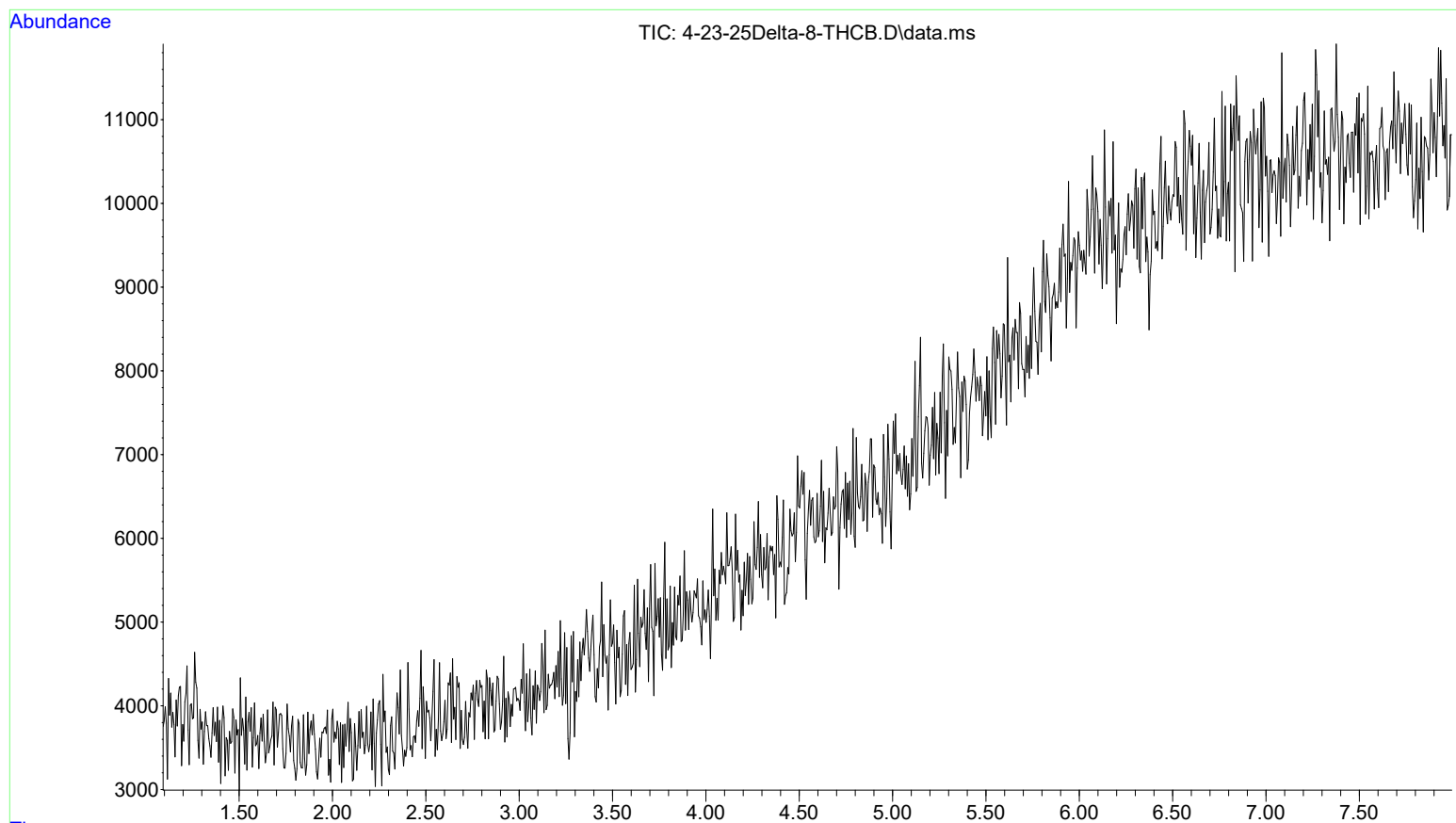
Self-Cleaning Ion Source Parameters

Mode	No Cleaning
------	-------------

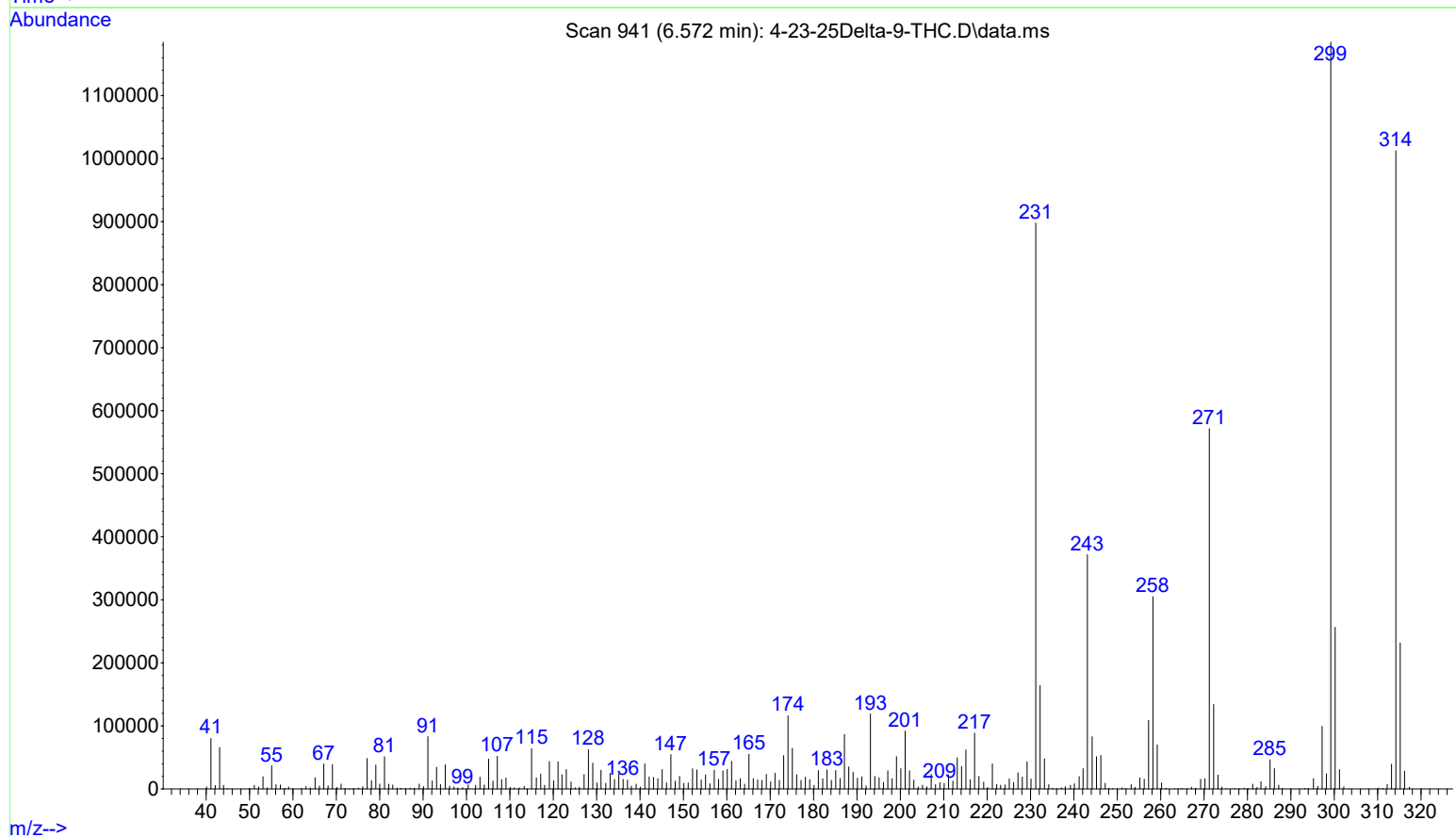
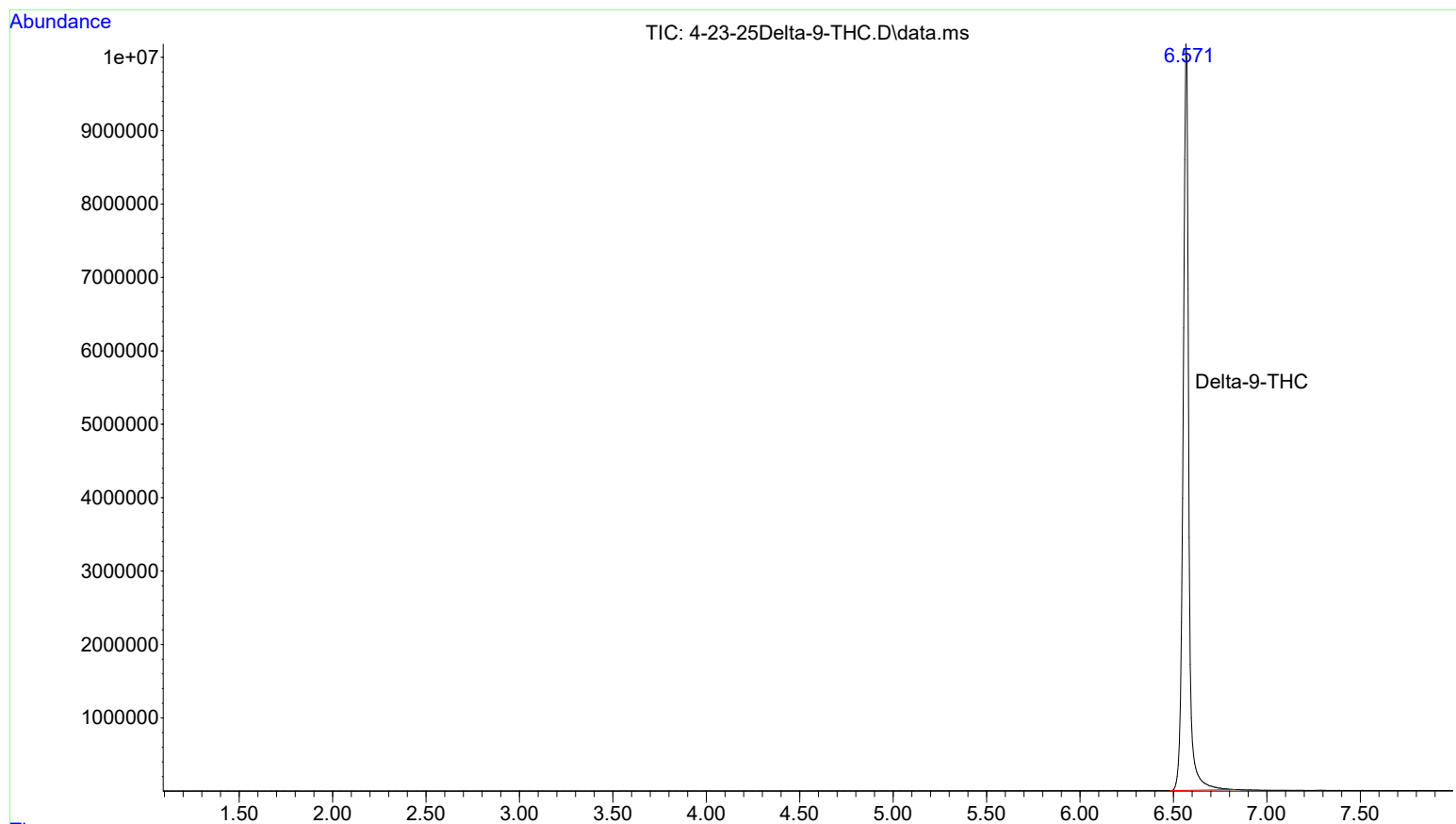
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25Delta-8-THC.D
Operator :
Acquired : 23 Apr 2025 18:32 using AcqMethod THCMS.M
Instrument : Lilo
Sample Name: Delta-8-THC std
Misc Info : MeOH
Vial Number: 148



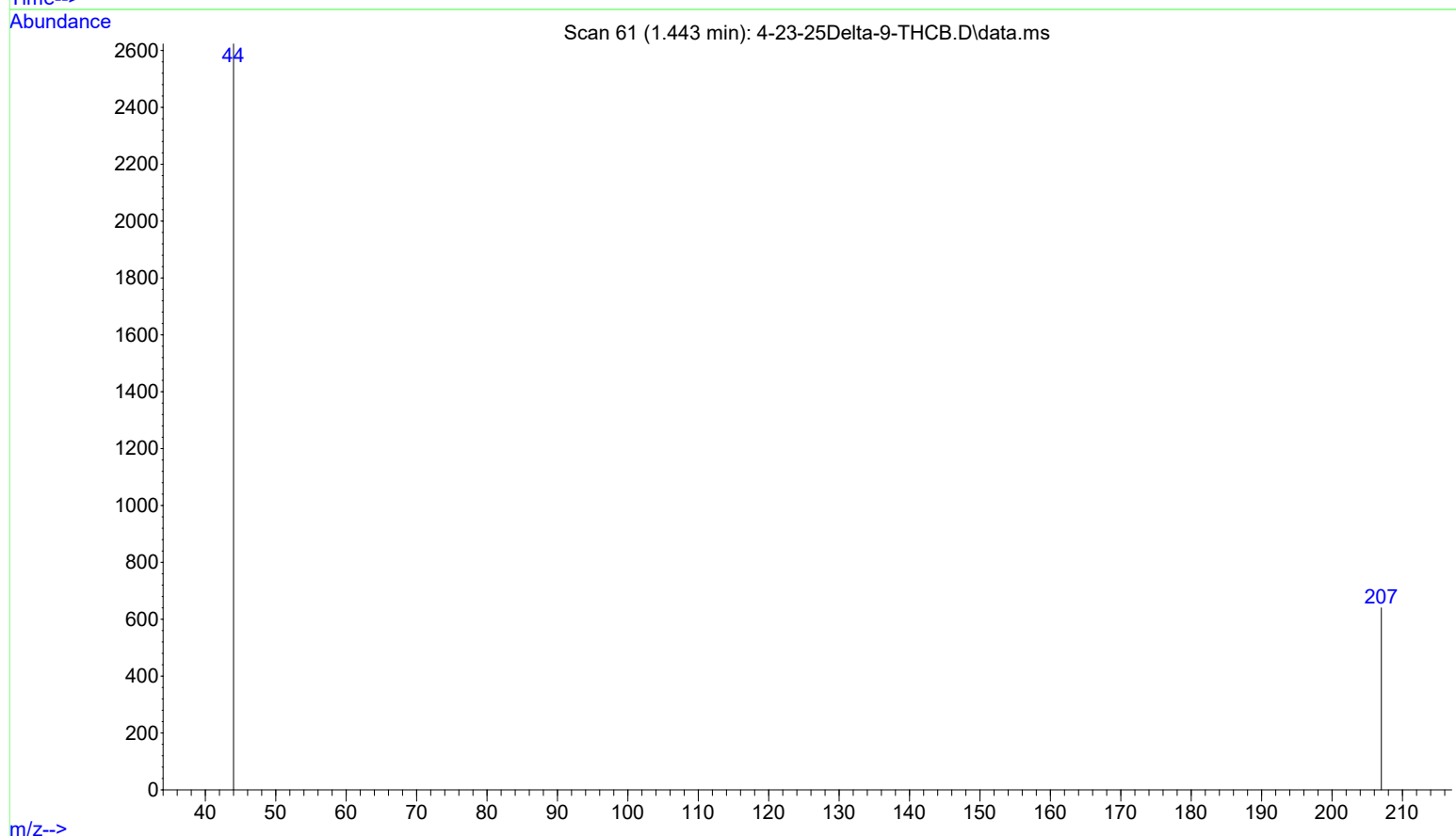
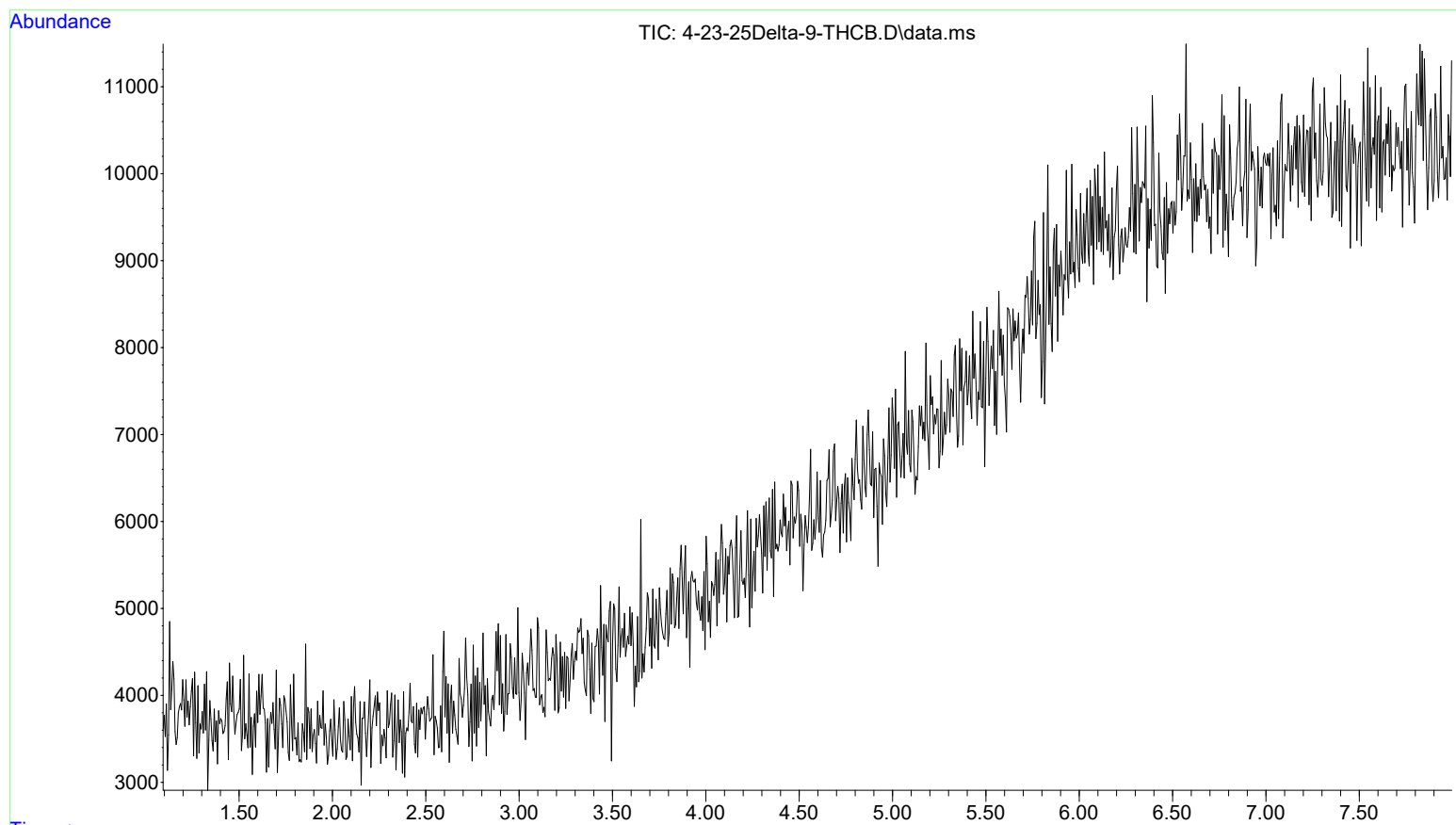
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25Delta-8-THCB.D
Operator :
Acquired : 23 Apr 2025 18:22 using AcqMethod THCMS.M
Instrument : Lilo
Sample Name: Delta-8-THC std blank
Misc Info : MeOH
Vial Number: 141



File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25Delta-9-THC.D
Operator :
Acquired : 23 Apr 2025 19:21 using AcqMethod THCMS.M
Instrument : Lilo
Sample Name: Delta-9-THC std
Misc Info : MeOH
Vial Number: 149



File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25Delta-9-THCB.D
Operator :
Acquired : 23 Apr 2025 19:11 using AcqMethod THCMS.M
Instrument : Lilo
Sample Name: Delta-9-THC std blank
Misc Info : MeOH
Vial Number: 141



METHOD CONTROL PARAMETERS

Method Information for: D:\MassHunter\GCMS\1\methods\XLDRUGS.M

Method Sections To Run:

- () Save Copy of Method With Data
- () Instrument Control Pre-Run Cmd/Macro =
- () Data Analysis Pre-Run Cmd/Macro =
- (X) Data Acquisition
- (X) Data Analysis
- () Instrument Control Post-Run Cmd/Macro =
- () Data Analysis Post-Run Cmd/Macro =

Method Comments:

XLDRUGS for all drugs

END OF METHOD CONTROL PARAMETERS

D:\MassHunter\GCMS\1\methods\XLDRUGS.M
Fri Apr 25 09:08:41 2025

Control Information

Sample Inlet : GC
Injection Source : GC ALS
Injection Location: Front
Mass Spectrometer : Enabled

No Sample Prep method has been assigned to this method.

GC
GC Summary
Run Time 28.058 min
Post Run Time 0 min

Oven
Temperature
Setpoint On
(Initial) 70 °C
Hold Time 0 min
Post Run 50 °C
Program
#1 Rate 15 °C/min
#1 Value 150 °C
#1 Hold Time 3 min
#2 Rate 40 °C/min
#2 Value 299 °C
#2 Hold Time 16 min

Equilibration Time 0.5 min
Max Temperature 325 °C
Maximum Temperature Override Disabled
Slow Fan Disabled

ALS
Front Injector
Syringe Size 10 µL
Injection Volume 1 µL
Solvent A Washes (PreInj) 1
Solvent A Washes (PostInj) 1
Solvent A Volume 8 µL
Solvent B Washes (PreInj) 1
Solvent B Washes (PostInj) 1
Solvent B Volume 8 µL
Sample Washes 1
Sample Wash Volume 8 µL
Sample Pumps 2
Dwell Time (PreInj) 0 min
Dwell Time (PostInj) 0 min
Solvent Wash Draw Speed 300 µL/min
Solvent Wash Dispense Speed 3000 µL/min
Sample Wash Draw Speed 300 µL/min
Sample Wash Dispense Speed 3000 µL/min
Injection Dispense Speed 6000 µL/min
Viscosity Delay 0 sec

Sample Depth	Disabled
Injection Type	Standard
L1 Airgap	0.2 µL
Solvent Wash Mode	A, B
Sample Overlap Mode	Sample overlap is not enabled
ALS Errors	Pause for user interaction
Front SS Inlet He Mode	Split
Heater	On 250 °C
Pressure	On 9.4112 psi
Total Flow	On 25.091 mL/min
Septum Purge Flow	On 3 mL/min
Pre-Run Flow Test	Off
Gas Saver	Off
Split Ratio	20 :1
Split Flow	21.039 mL/min
Liner	A Liner has not been selected.
Column	
Column #1	
Flow	
Setpoint	On
(Initial)	1.0519 mL/min
Post Run	1.322 mL/min
Column Information	Agilent 19091S-433UI: US4814636H
Description	HP-5MS UI
Temperature Range	-60 °C-325 °C (350 °C)
Dimensions	30 m x 250 µm x 0.25 µm (Uncalibrated)
Heater	Oven
Column lock	Locked
In	Front SS Inlet He
Out	MSD
(Initial)	70 °C
Pressure	9.4112 psi
Flow	1.0519 mL/min
Average Velocity	37.74 cm/sec
Holdup Time	1.3248 min
Control Mode	Constant Flow
Column Outlet Pressure	0 psi
Detector Evaluation	
Perform Detector Evaluation Test	Off
MSD Transfer Line	
Temperature	
Setpoint	On
(Initial)	280 °C
Signals	
Signal #1:	
Description	None
Signal #2:	
Description	None
Signal #3:	
Description	None

Signal #4:
Description
None

Signal #5:
Description
None

Signal #6:
Description
None

Signal #7:
Description
None

Signal #8:
Description
None

TUNE PARAMETERS for SN: US2449MA23

Trace Ion Detection is OFF.

34.593 : EMISSION
70.007 : ENERGY
31.911 : REPELLER
90.331 : IONFOCUS
25.226 : ENTRANCE_LENS
885.369 : EMVOLTS
947.4 : Actual EMV
1.00 : GAIN FACTOR

2087.000 : AMUGAIN
139.000 : AMUOFFSET
1.000 : FILAMENT
1.000 : DCPOLARITY
10.822 : ENTLENSOFFSET
0.000 : Ion_Body
0.000 : EXTLENS
-195.000 : MASSGAIN
-20.000 : MASSOFFSET

END OF TUNE PARAMETERS

END OF INSTRUMENT CONTROL PARAMETERS

Single Quadrupole Acquisition Method - MS Parameters Report

Method file	D:\MassHunter\GCMS\1\methods\XLDRUGS.M
Tune file	ATUNE.U
Ion source	EI
Source temperature (°C)	230
Quad temperature (°C)	150
Fixed Electron energy (eV)	70.0
Acquisition Type	Scan
Stop time (min)	10.00
Solvent delay (min)	2.50
Trace Ion Detection	False
Gain Factor	1
EM Saver	False
EM Saver Limit	N/A

Scan Time Segments

Time	Start Mass	End Mass	Threshold	Scan Speed
2.50	40	550	100	1,562 [N=2]

Timed Events

Time	Type of Event	Parameter
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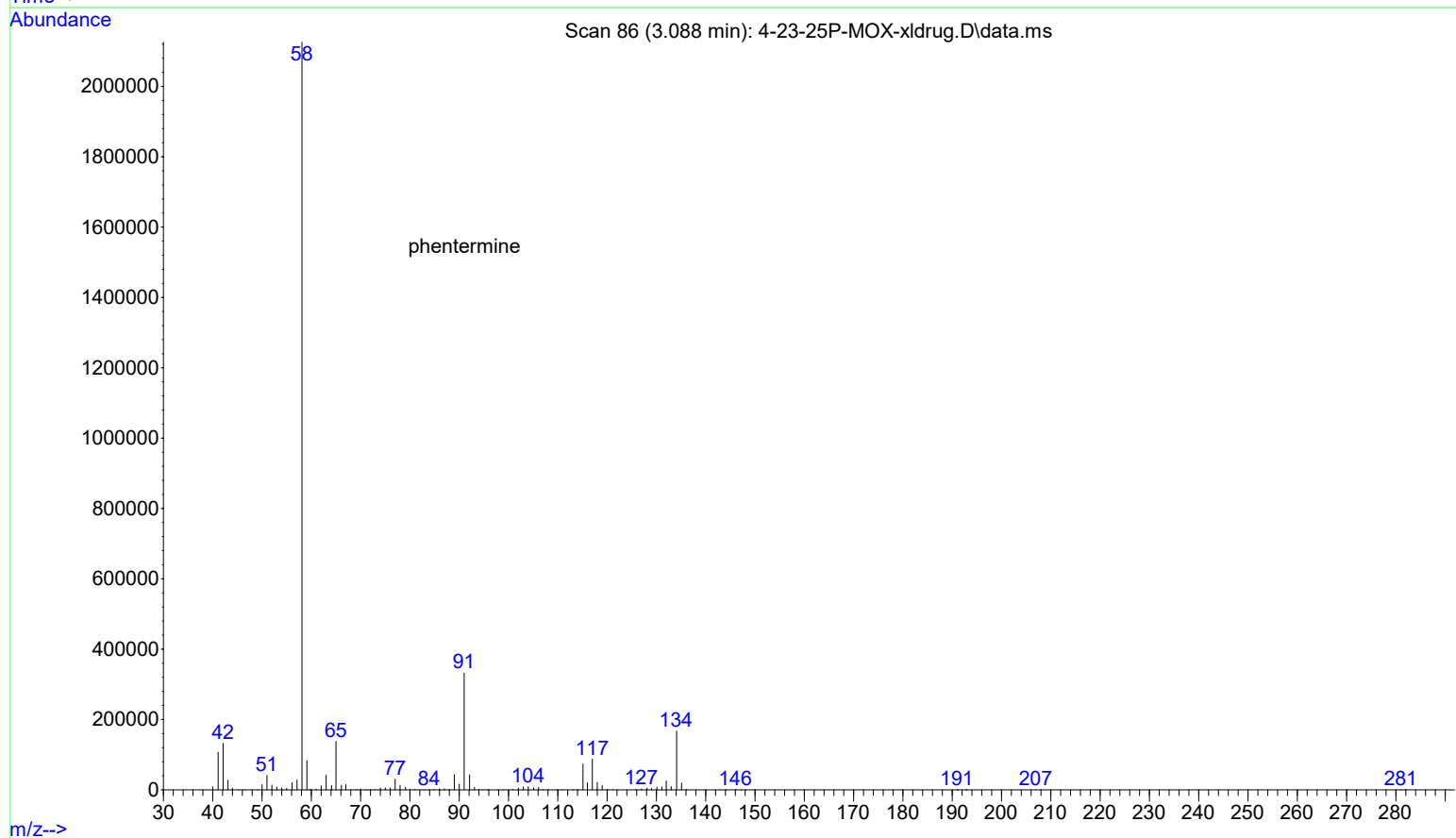
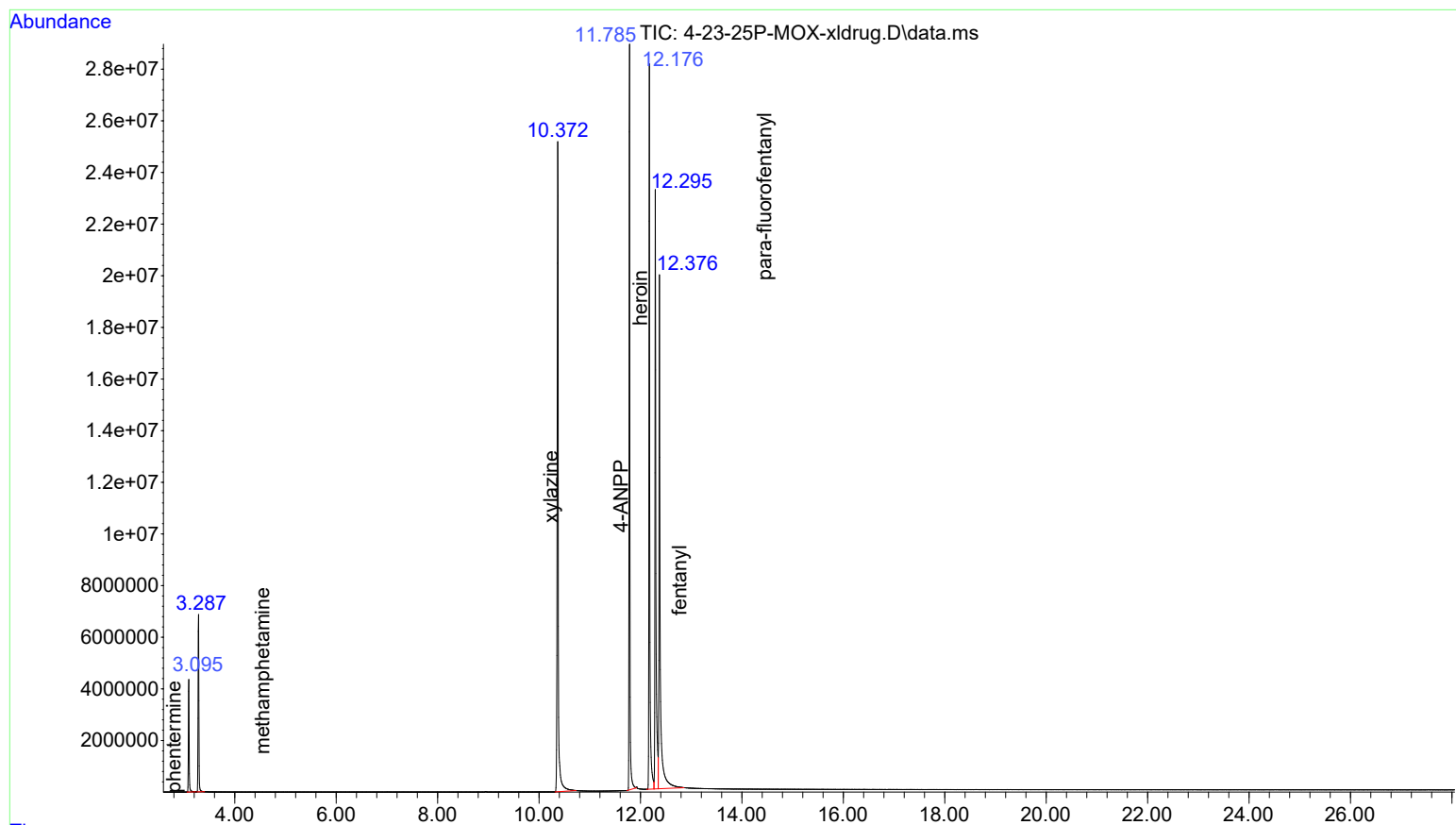
Real-Time Plots

Type of Plot	Label	Low Mass	High Mass
Total Ion	N/A	N/A	N/A
Spectrum	N/A	N/A	N/A
Extracted Ion	Scan 1-1	50	550

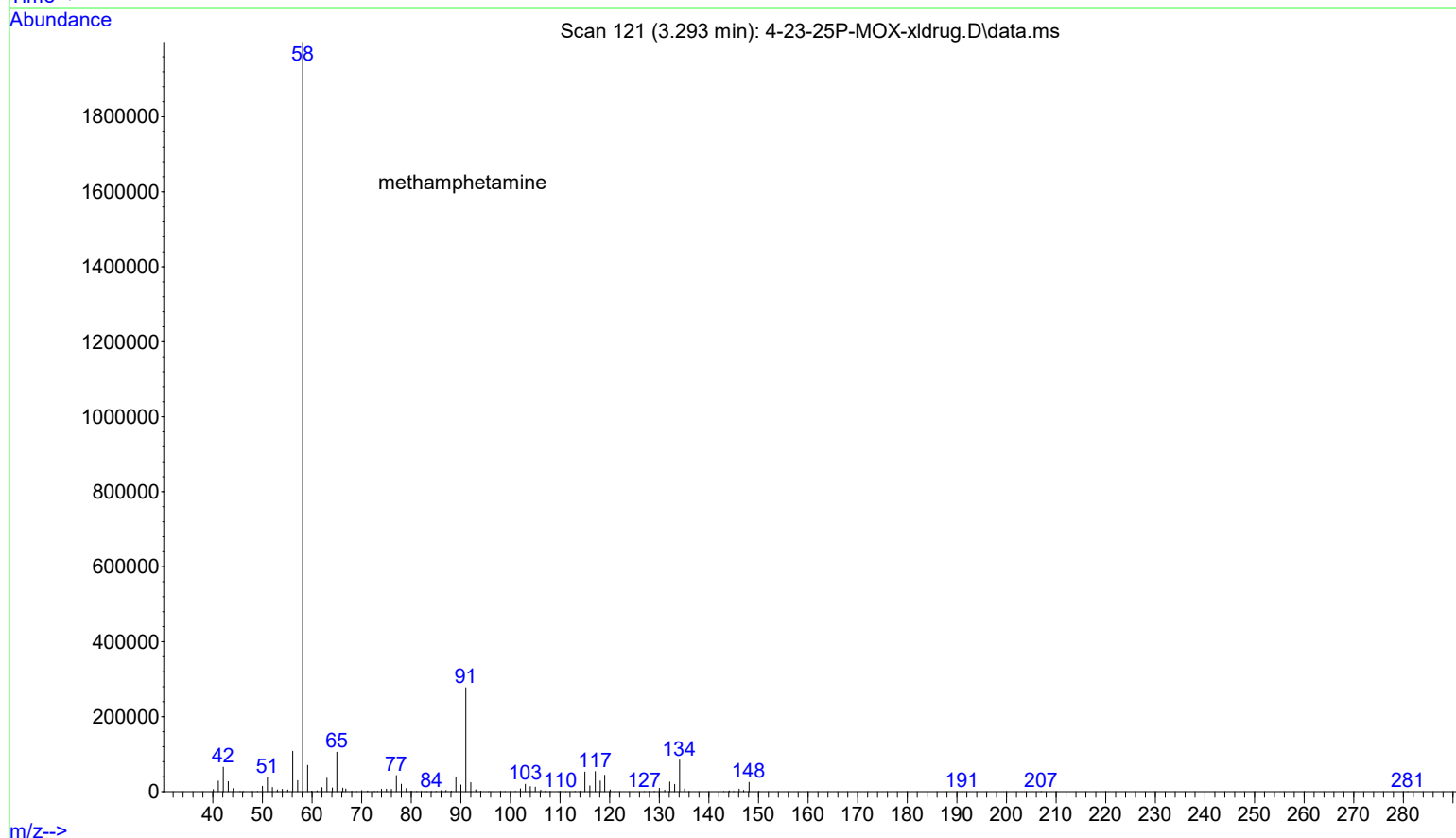
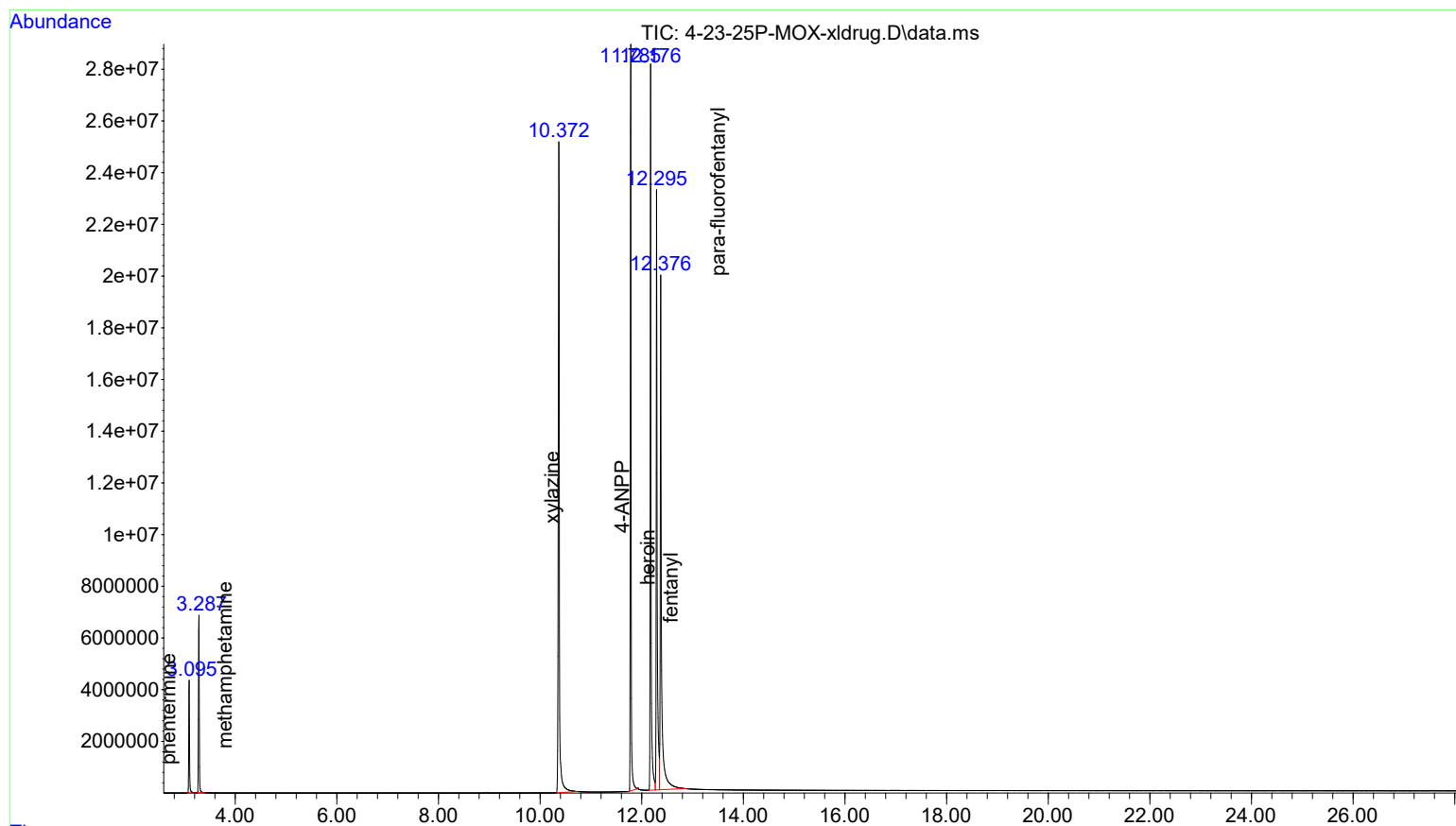
Self-Cleaning Ion Source Parameters

Mode	No Cleaning
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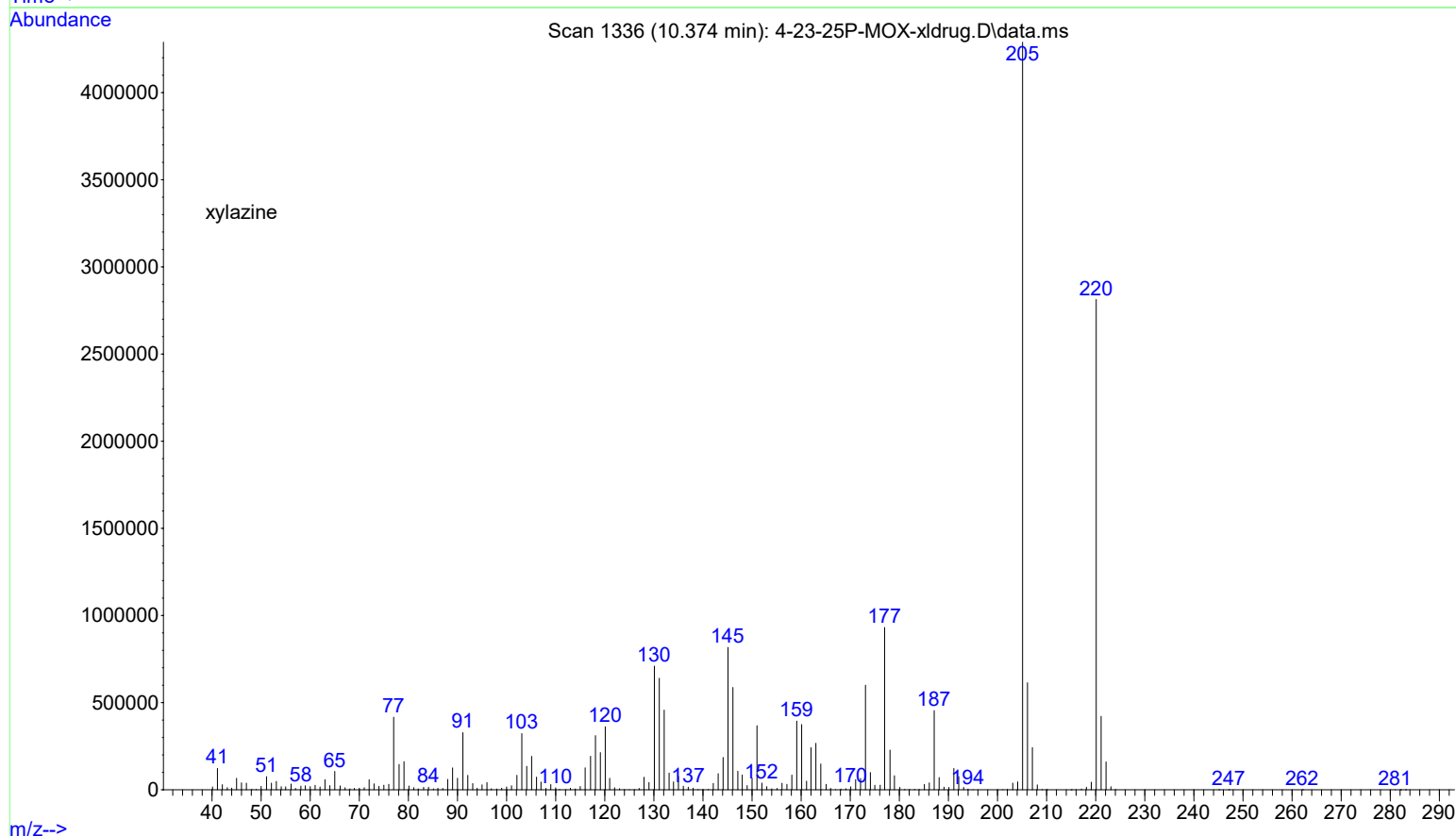
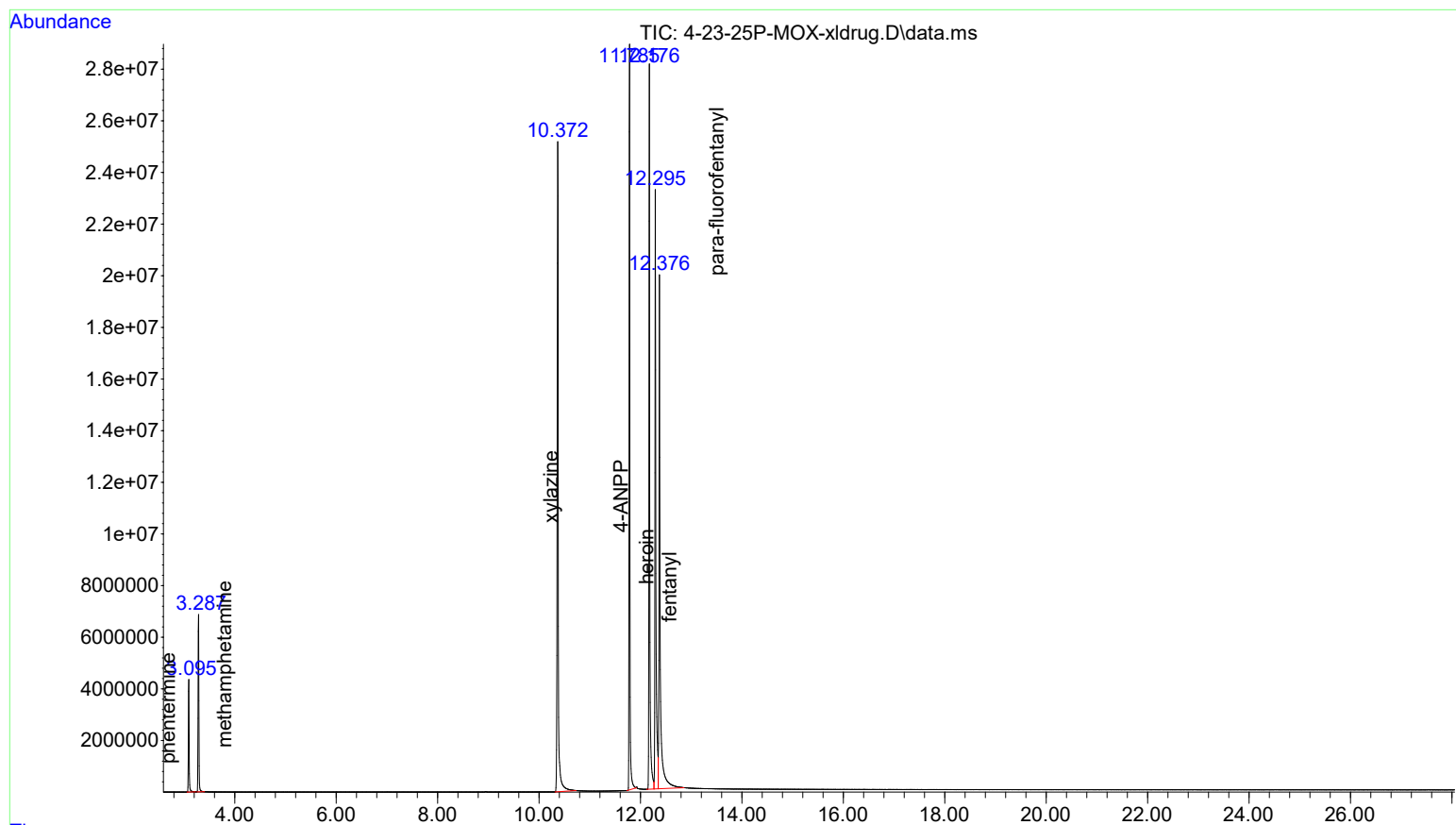
File : H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOX-xldrug.D
Operator :
Acquired : 23 Apr 2025 12:07 using AcqMethod XLDRUGS.M
Instrument : Lilo
Sample Name: P-MOX std
Misc Info : CHCl3
Vial Number: 143



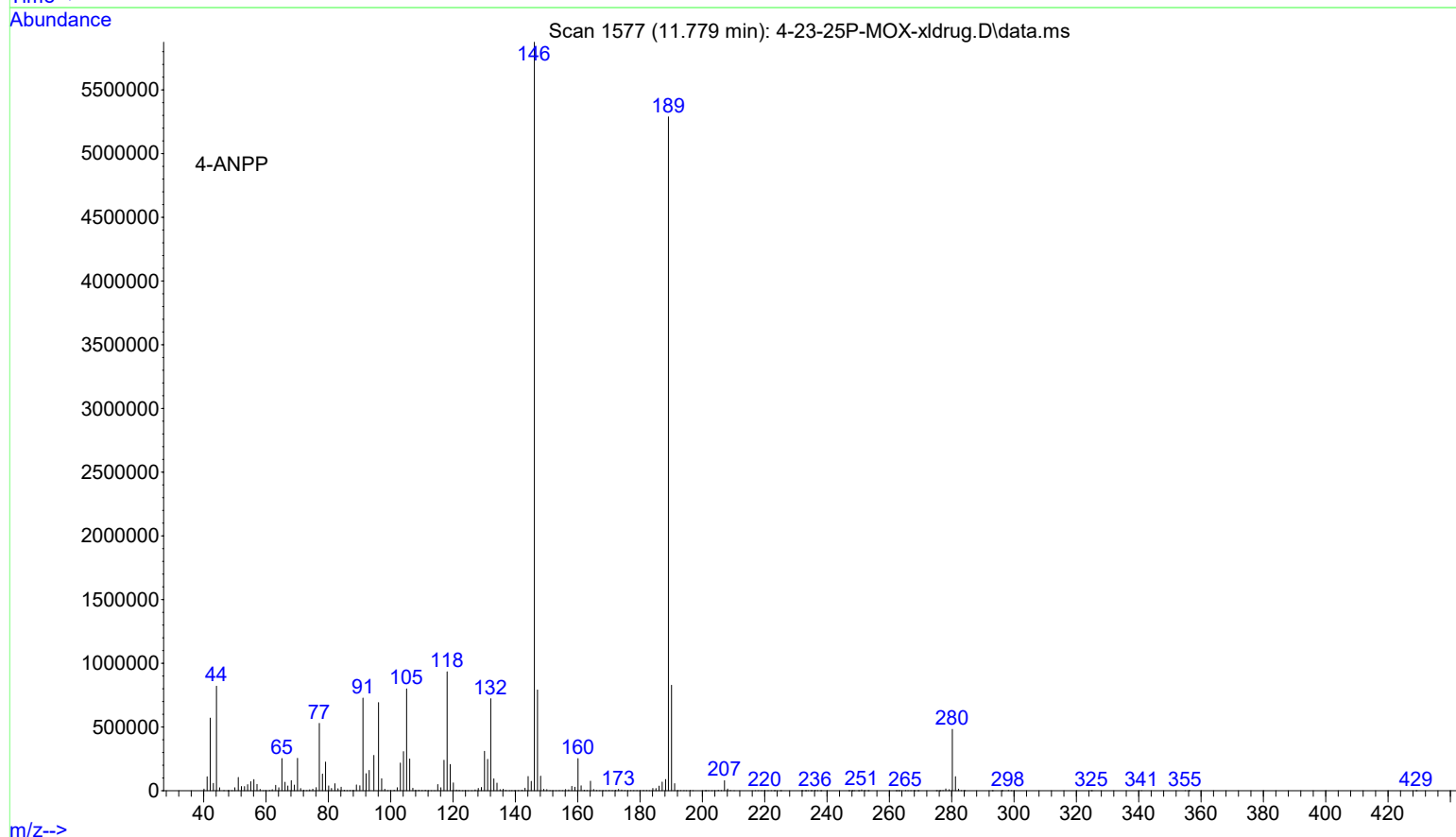
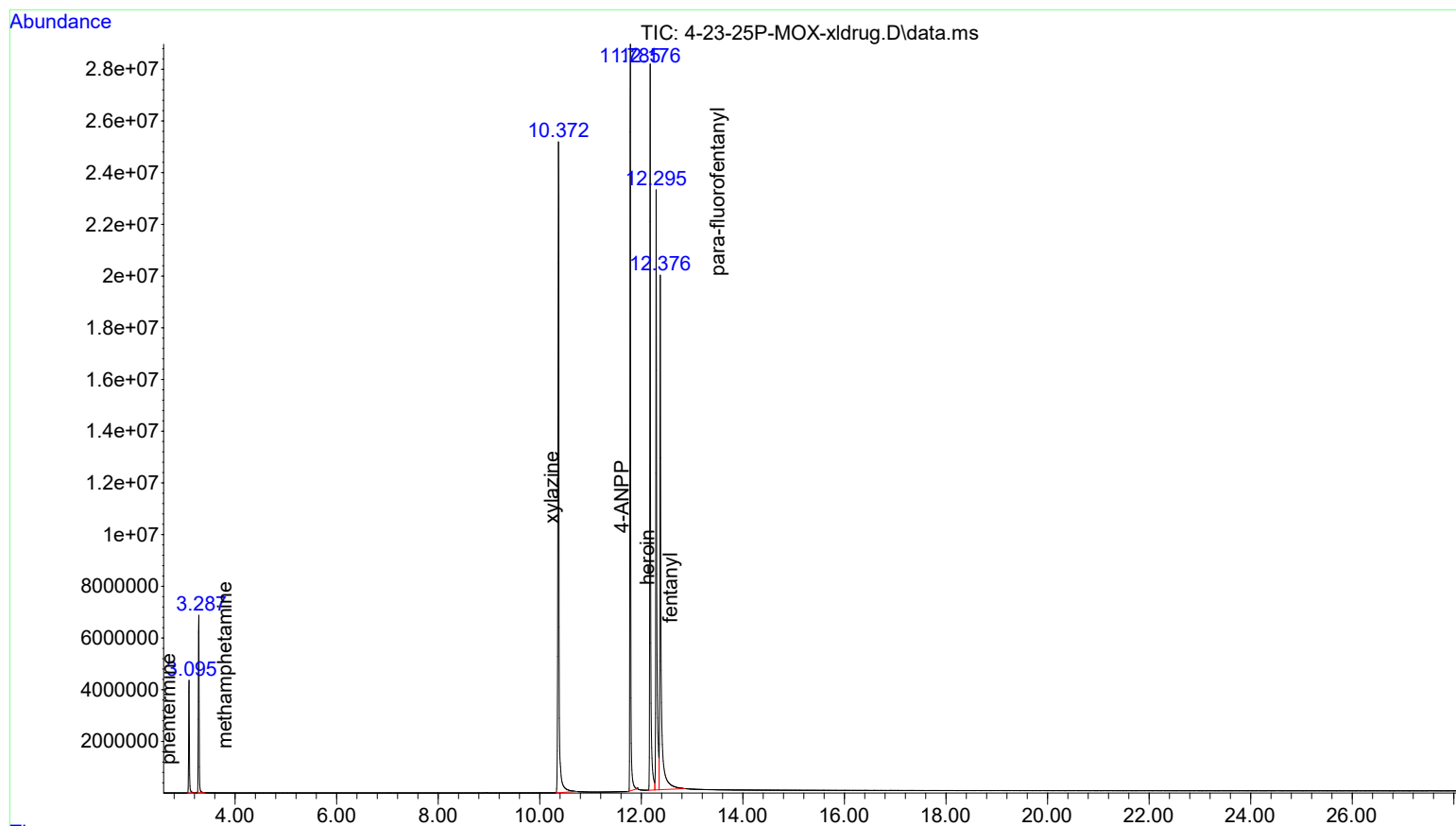
File : H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOX-xldrug.D
Operator :
Acquired : 23 Apr 2025 12:07 using AcqMethod XLDRUGS.M
Instrument : Lilo
Sample Name: P-MOX std
Misc Info : CHCl3
Vial Number: 143



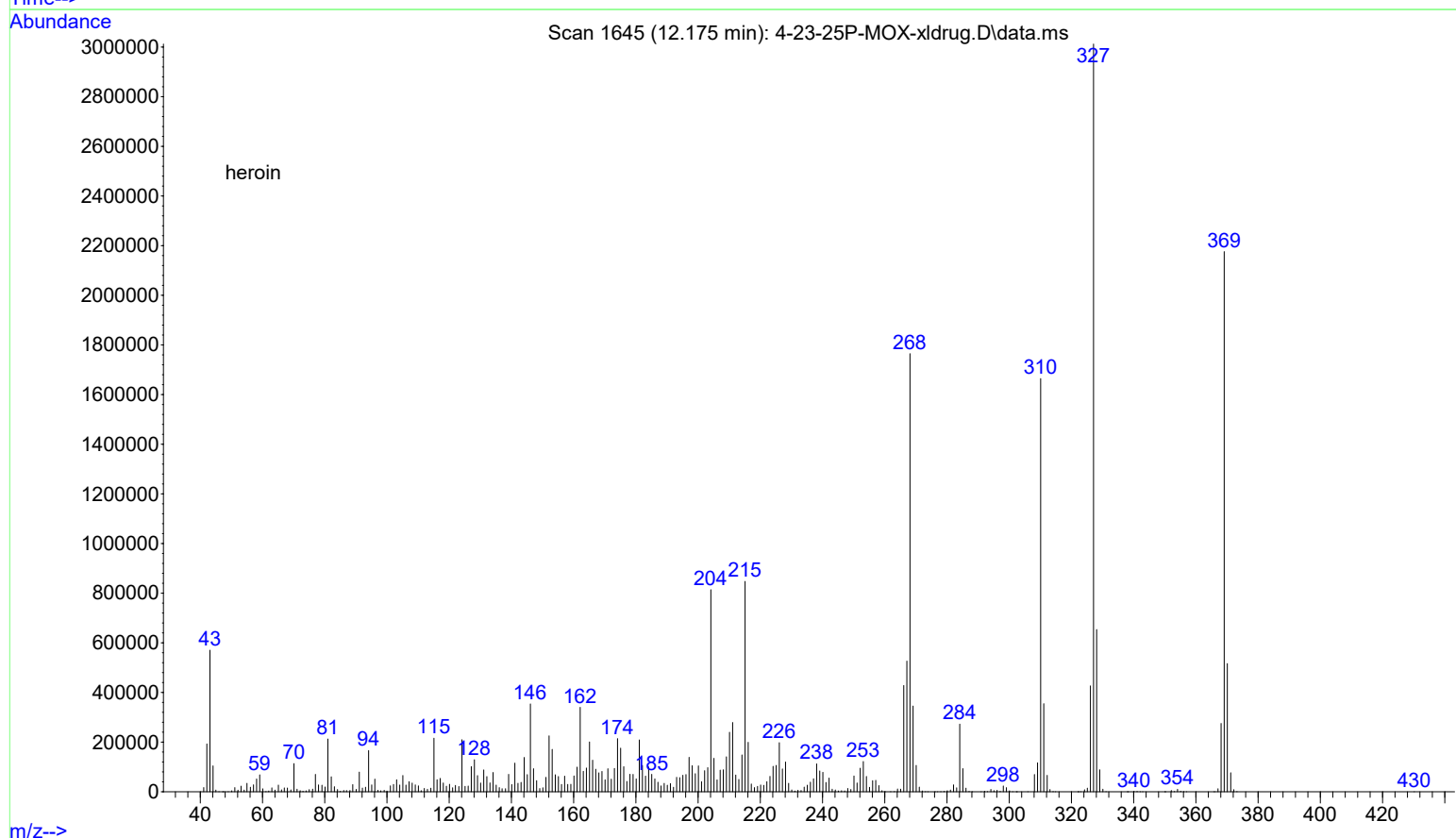
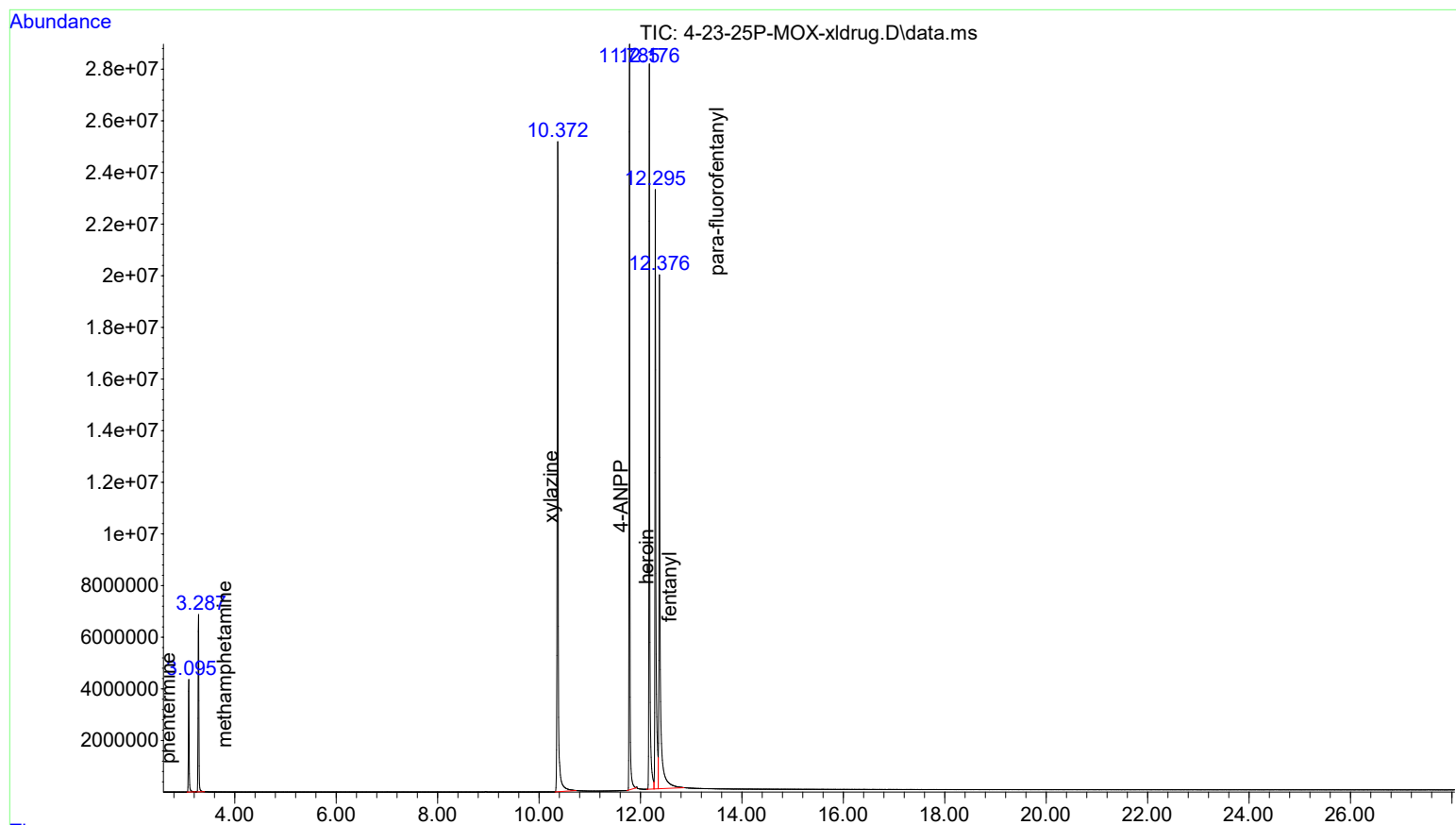
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOX-xldrug.D
Operator :
Acquired : 23 Apr 2025 12:07 using AcqMethod XLDRUGS.M
Instrument : Lilo
Sample Name: P-MOX std
Misc Info : CHCl3
Vial Number: 143



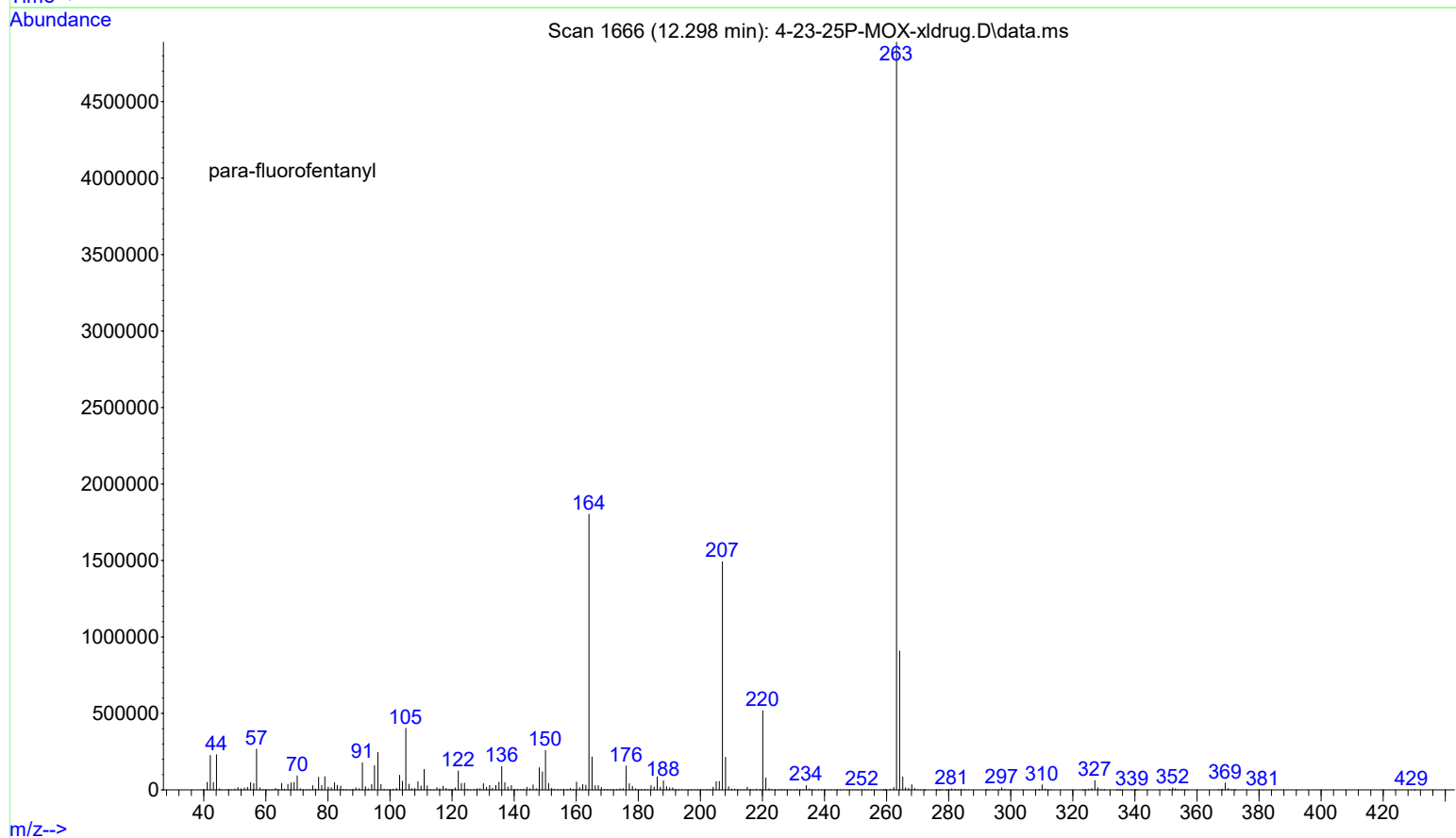
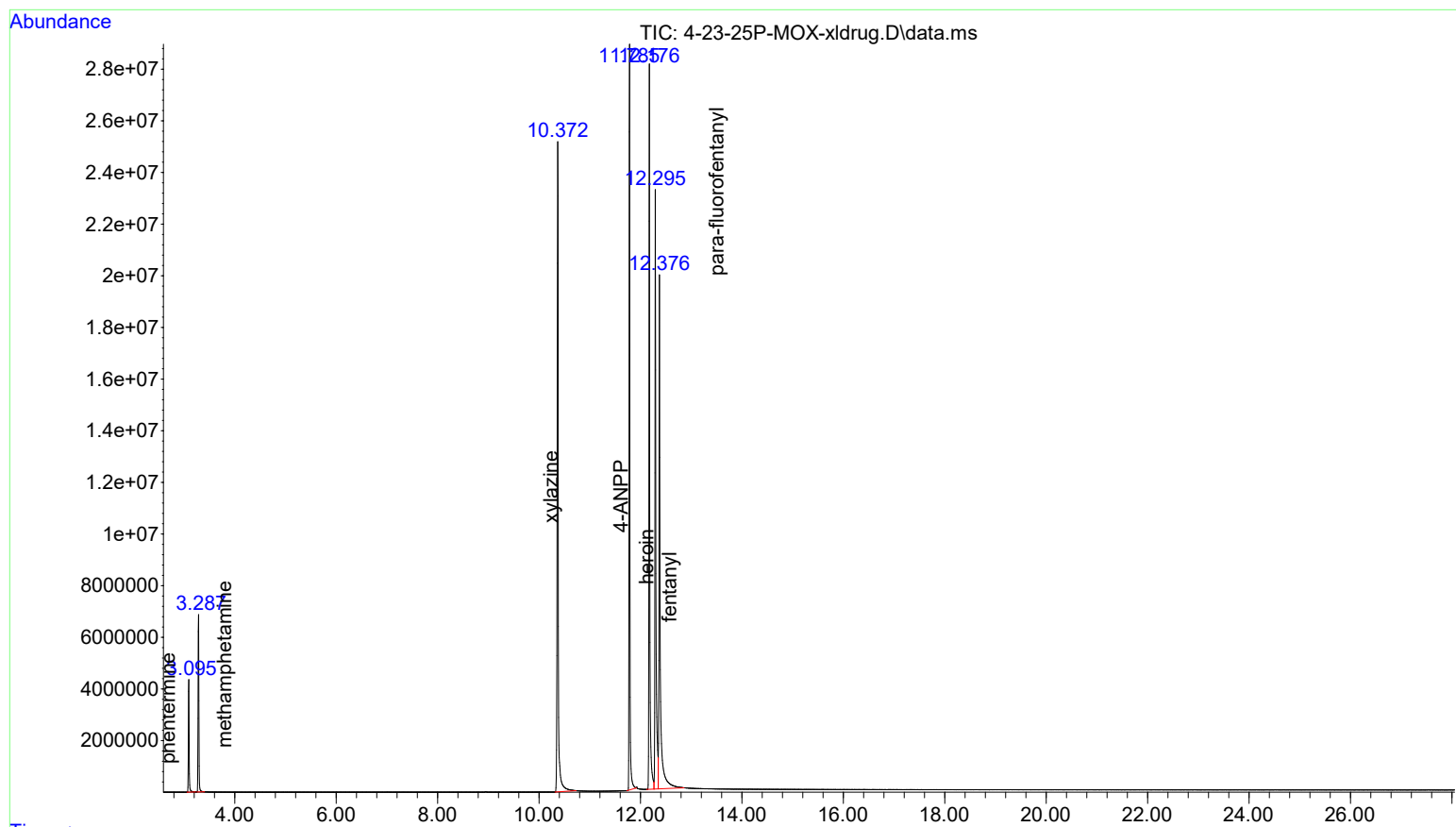
File : H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOX-xldrug.D
Operator :
Acquired : 23 Apr 2025 12:07 using AcqMethod XLDRUGS.M
Instrument : Lilo
Sample Name: P-MOX std
Misc Info : CHCl3
Vial Number: 143



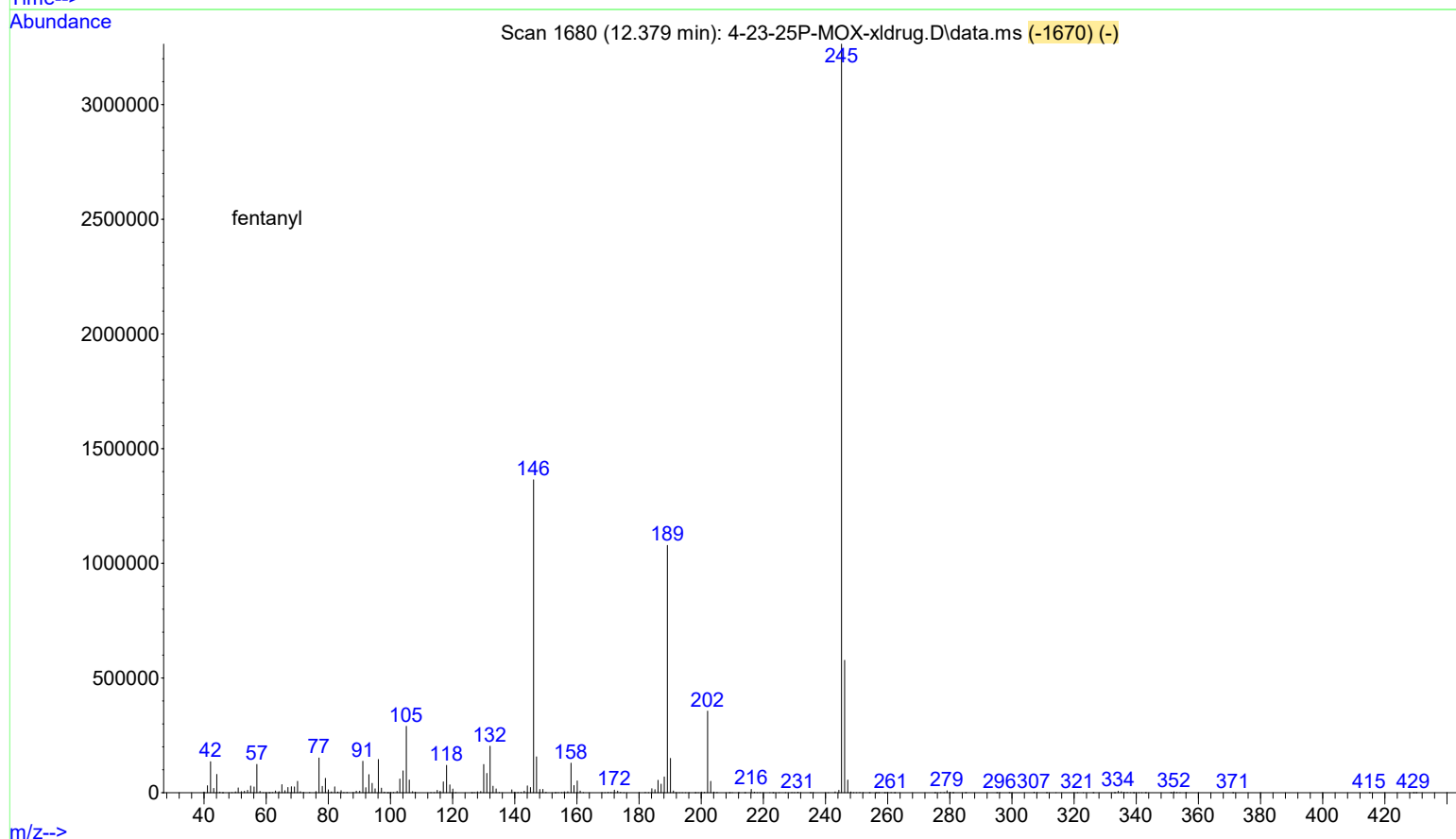
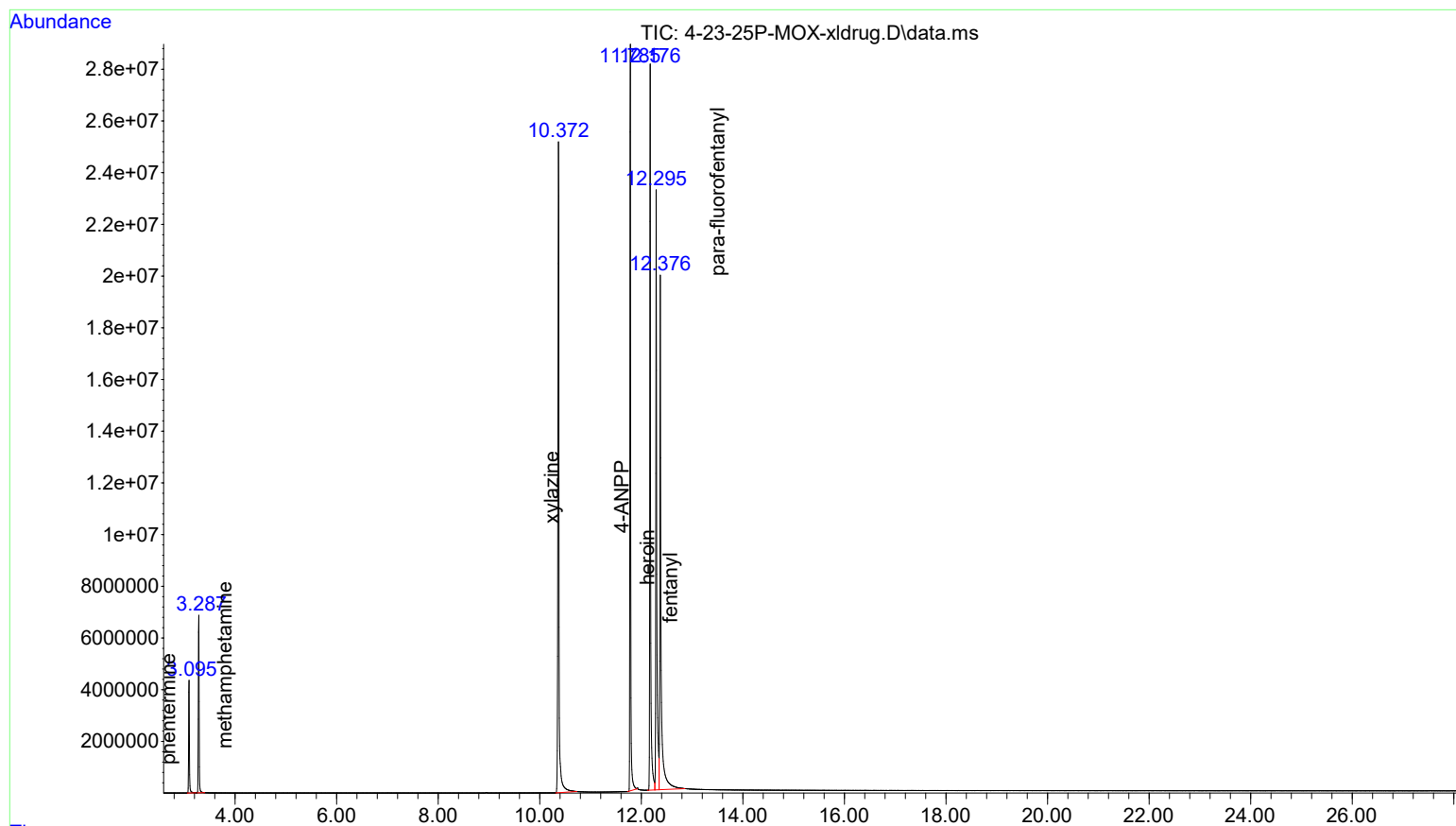
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOX-xldrug.D
Operator :
Acquired : 23 Apr 2025 12:07 using AcqMethod XLDRUGS.M
Instrument : Lilo
Sample Name: P-MOX std
Misc Info : CHCl3
Vial Number: 143



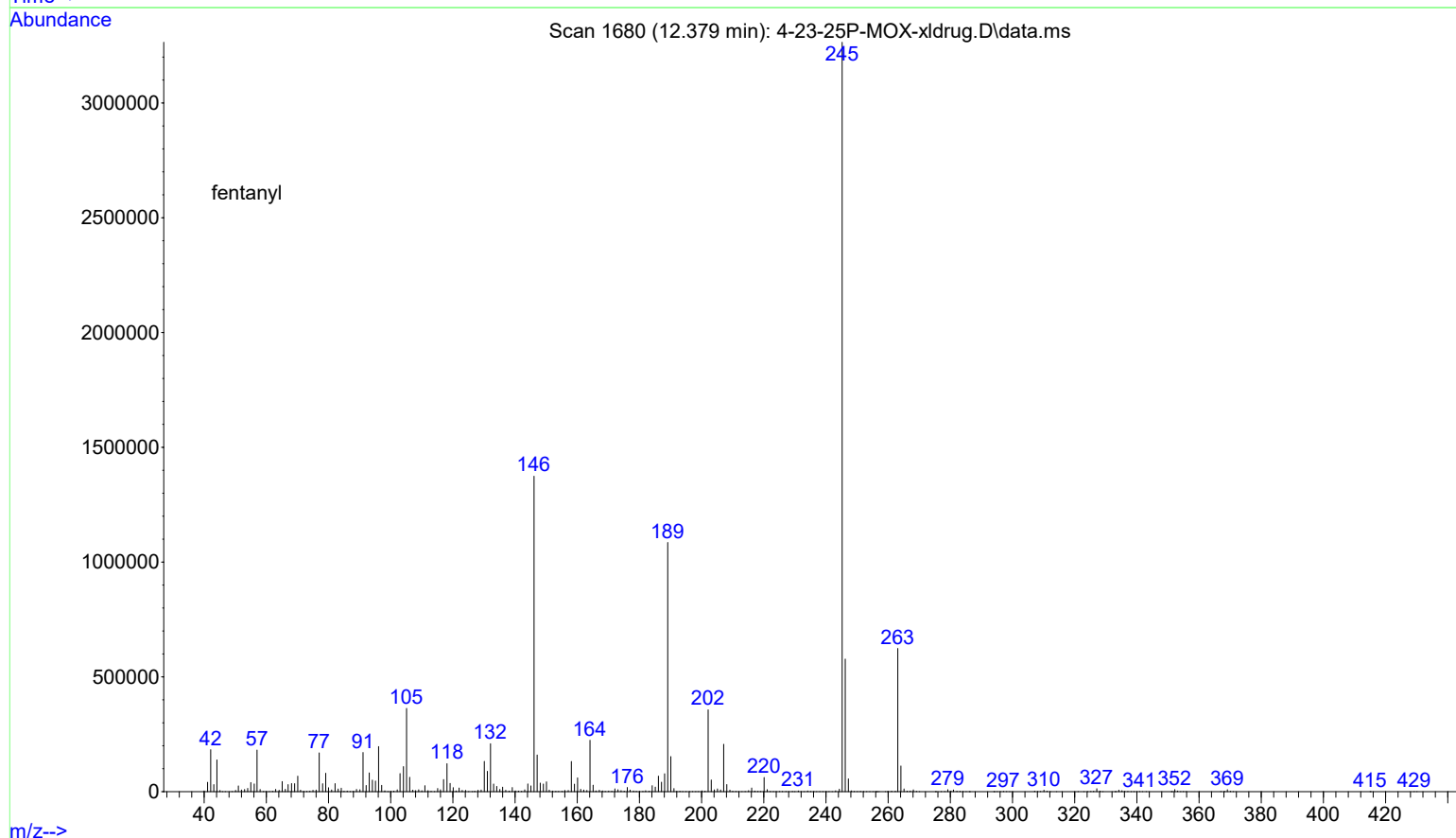
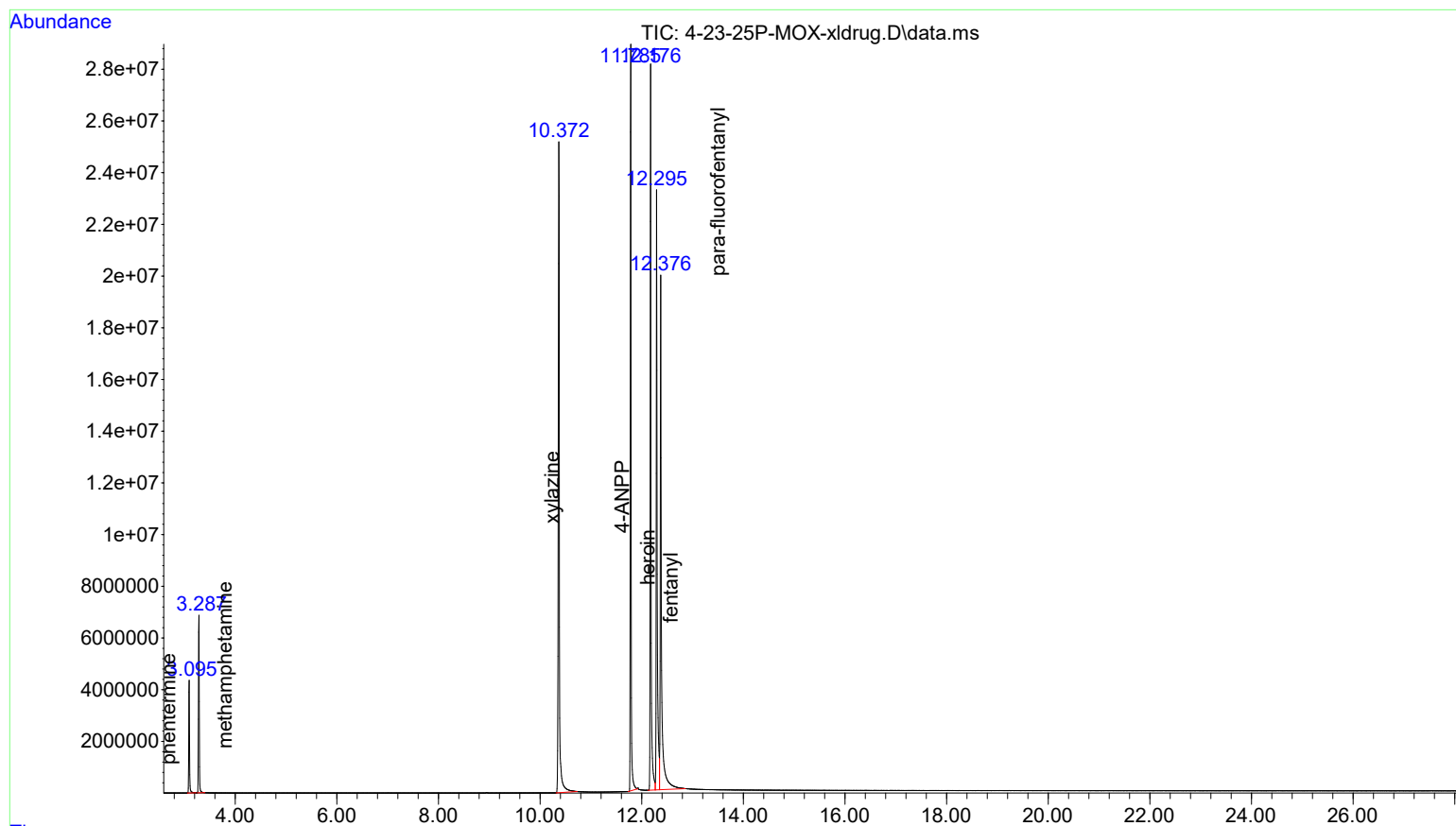
File : H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOX-xldrug.D
Operator :
Acquired : 23 Apr 2025 12:07 using AcqMethod XLDRUGS.M
Instrument : Lilo
Sample Name: P-MOX std
Misc Info : CHCl3
Vial Number: 143



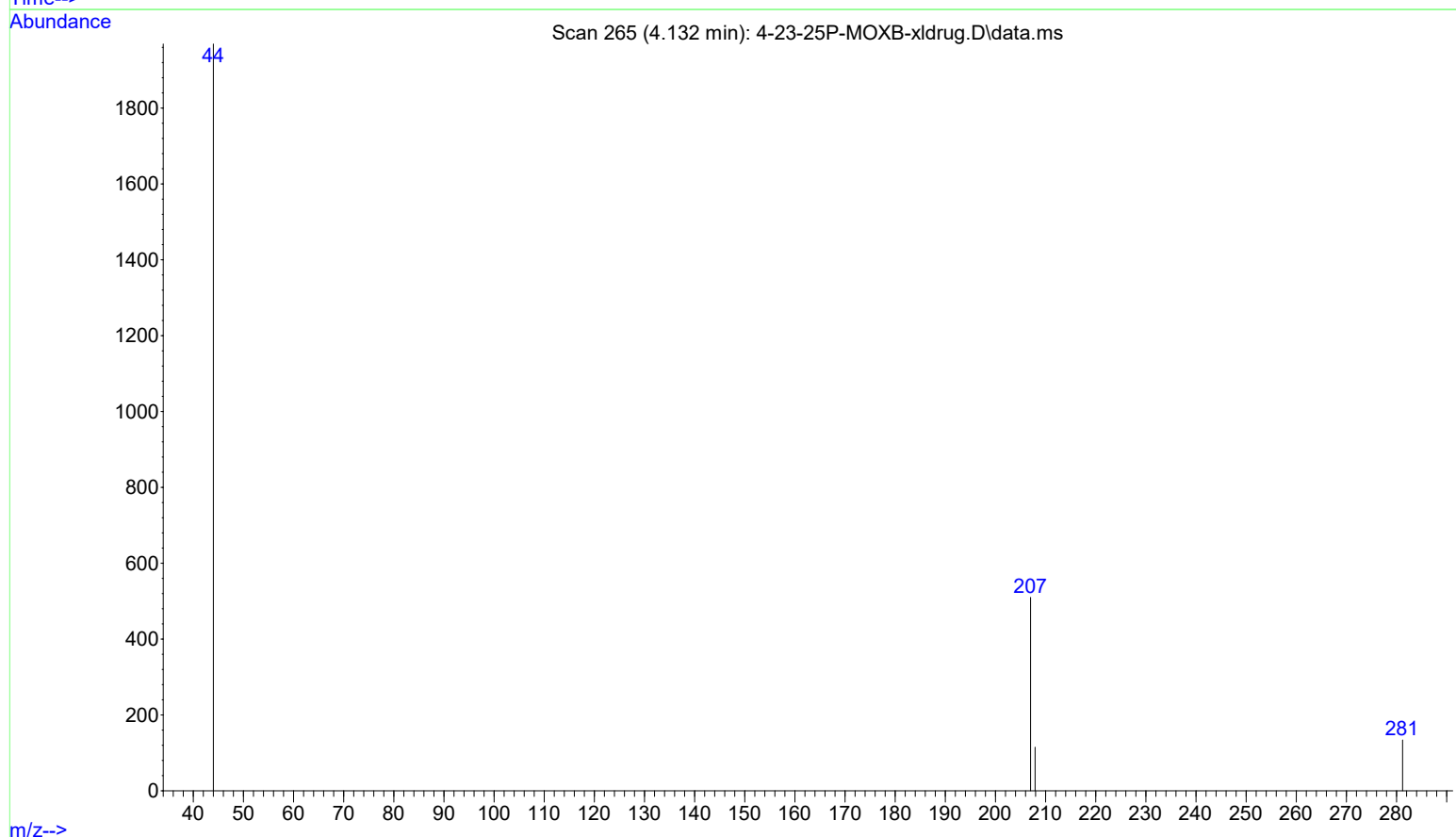
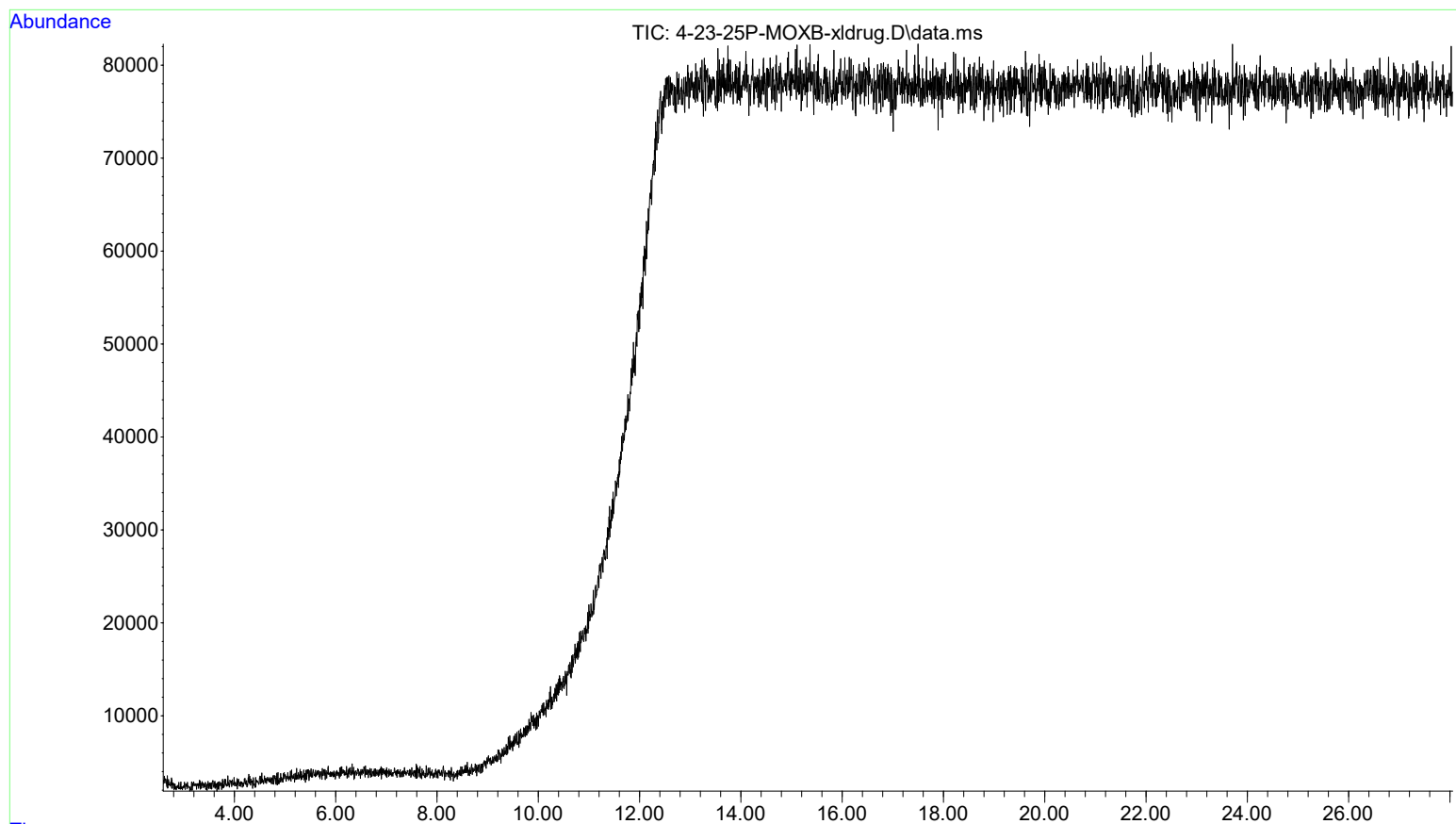
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOX-xldrug.D
Operator :
Acquired : 23 Apr 2025 12:07 using AcqMethod XLDRUGS.M
Instrument : Lilo
Sample Name: P-MOX std
Misc Info : CHCl3
Vial Number: 143



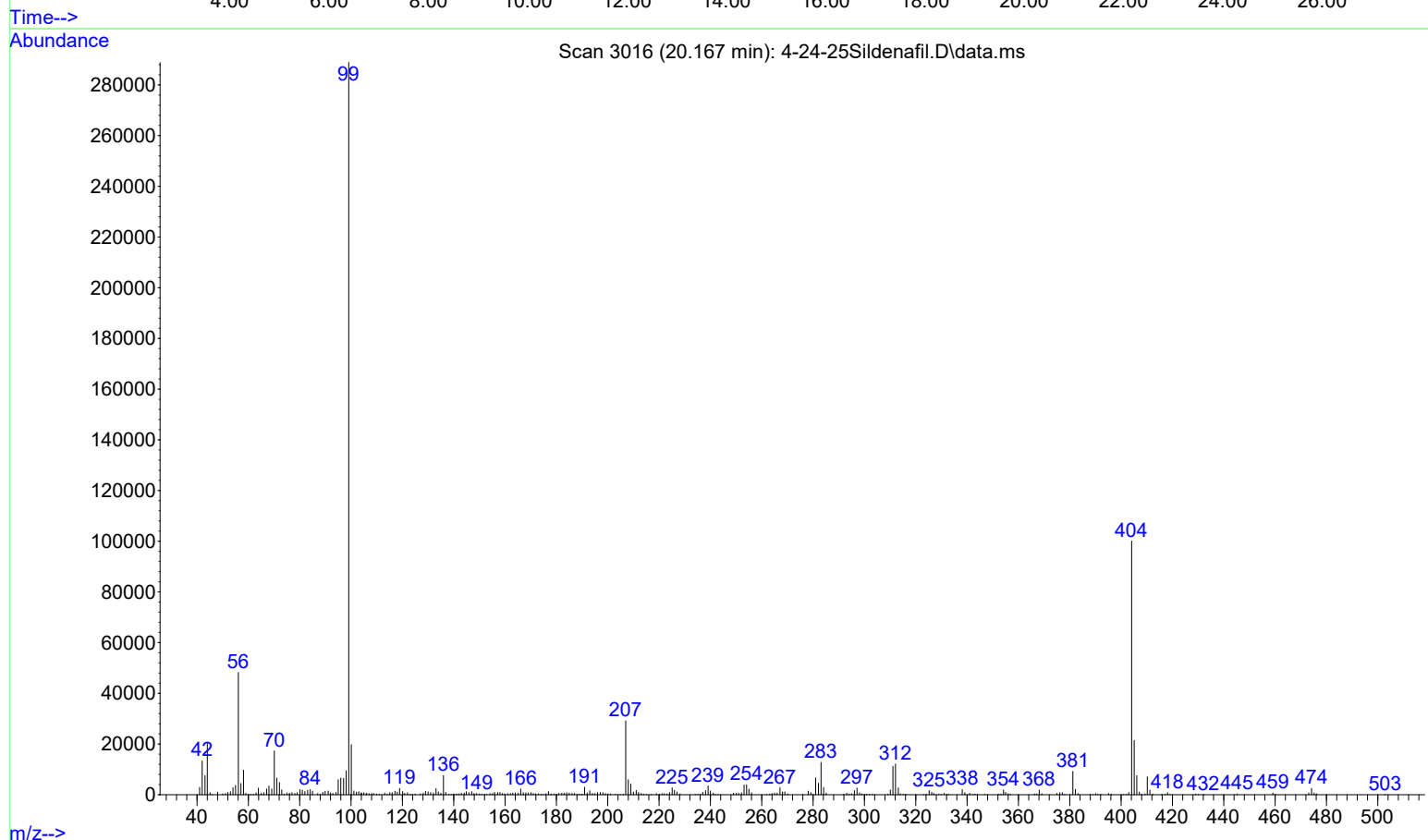
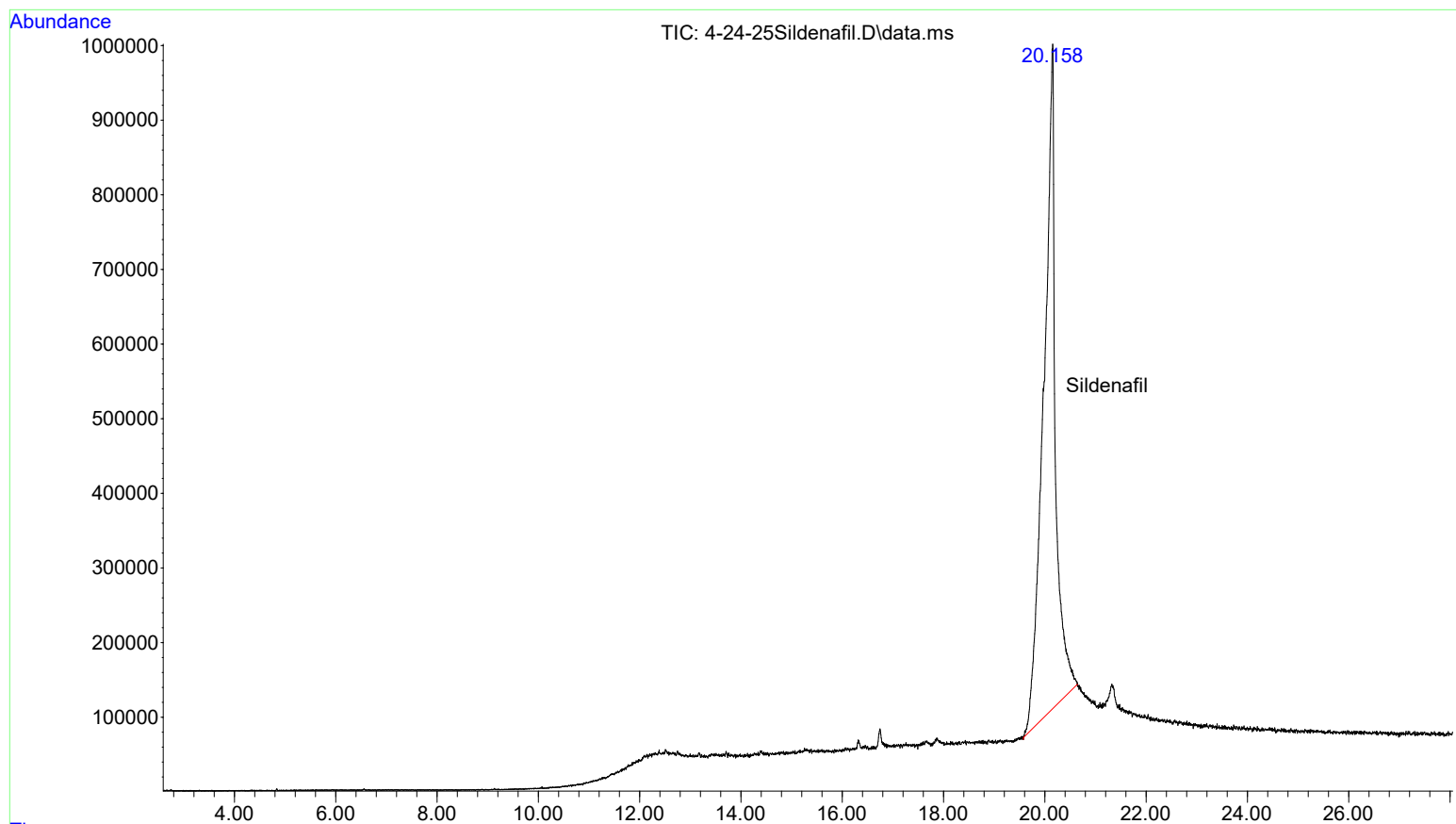
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Operator :
Acquired : 23 Apr 2025 12:07 using AcqMethod XLDRUGS.M
Instrument : Lilo
Sample Name: P-MOX std
Misc Info : CHCl3
Vial Number: 143



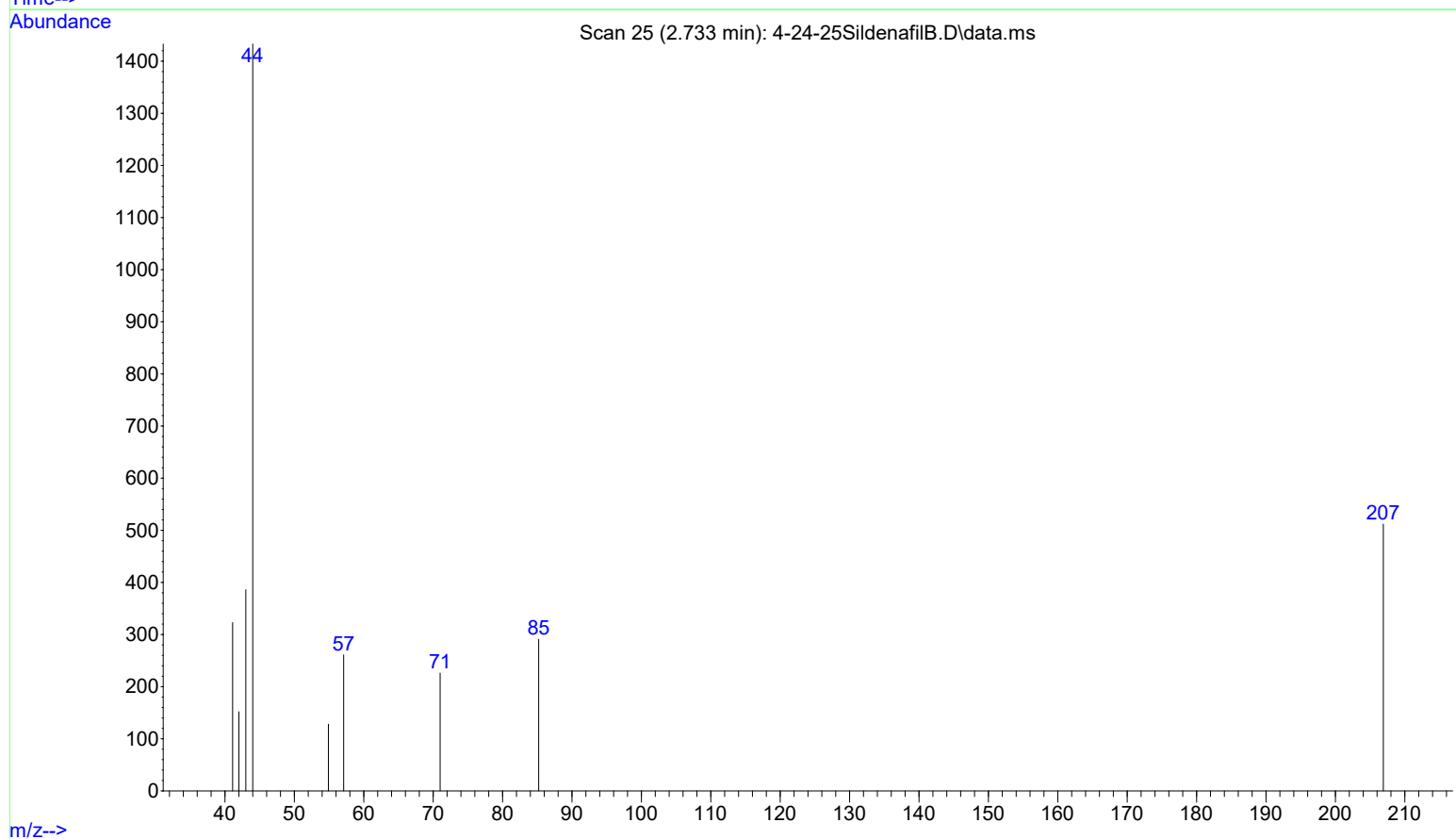
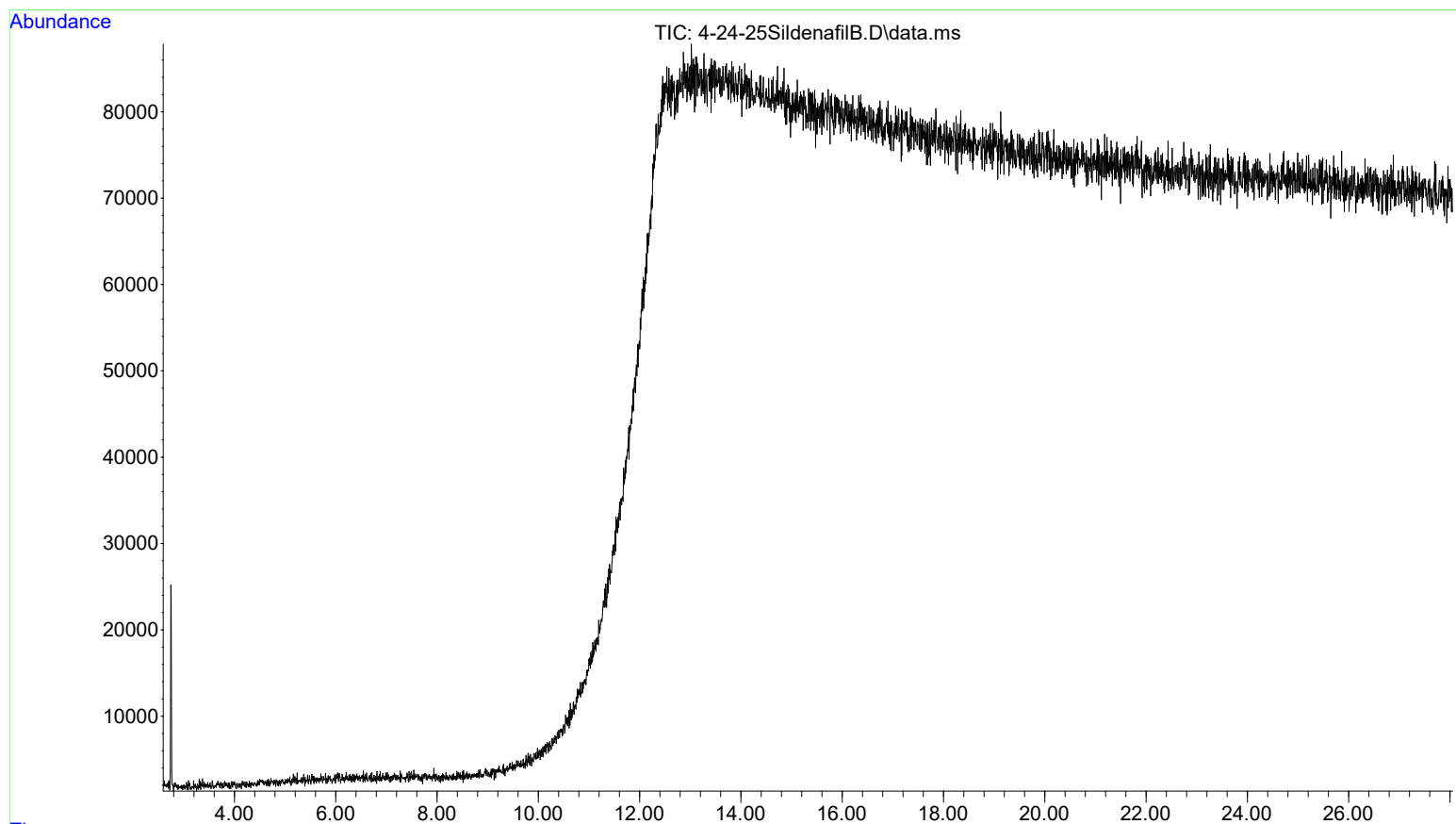
File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-23-25P-MOXB-xldrug.D
Operator :
Acquired : 23 Apr 2025 11:35 using AcqMethod XLDRUGS.M
Instrument : Lilo
Sample Name: P-MOX std blank
Misc Info : CHCl3
Vial Number: 142



File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25Sildenafil.D
Operator :
Acquired : 24 Apr 2025 19:08 using AcqMethod XLDRUGS.M
Instrument : Lilo
Sample Name: Sildenafil std
Misc Info : MeOH
Vial Number: 149



File :H:\FCU\Instr\Lilo\25\APRIL\VALIDATION\4-24-25SildenafilB.D
Operator :
Acquired : 24 Apr 2025 18:36 using AcqMethod XLDRUGS.M
Instrument : Lilo
Sample Name: Sildenafil std blank
Misc Info : MeOH
Vial Number: 141



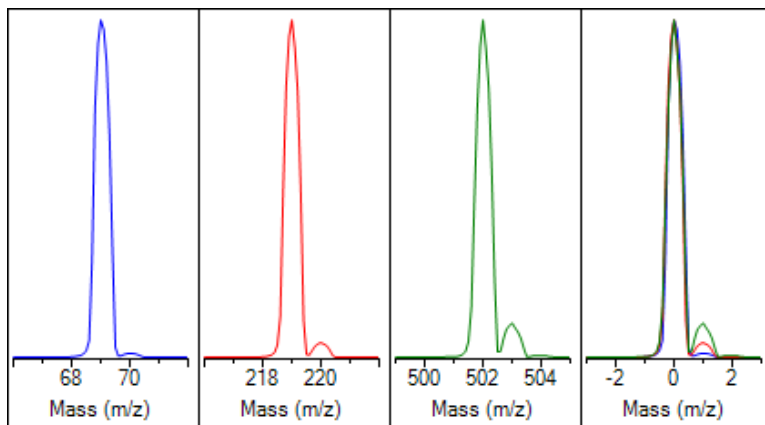
Autotune - 5977C

Tune timestamp: 4/21/2025 11:53 AM (UTC-05:00)

Lilo

D:\MASSHUNTER\GCMS\1\5977\ATUNE.U

US2449MA23



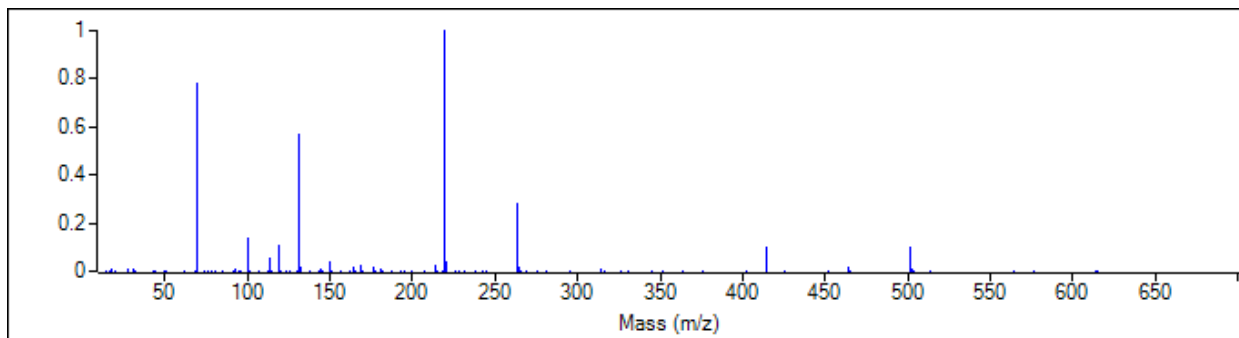
Ion Polarity	Pos	PFTBA	Open
Emission	34.6	Mass Gain	-195
Electron Energy	70.0	Mass Offset	-20
Filament	1	Amu Gain	2087
Repeller	31.91	Amu Offset	139.00
Ion Focus	90.3	Width219	-0.026
Entrance Lens	25.2	DC Polarity	Neg
Ent Lens Offset	10.82	HED Enable	On
Ion Body	0.00	EM Volts	885.4
Post Extractor 1	0	Extractor Lens	0.00
Post Extractor 2	0	Scan Speed	3
JetClean Flow Actual/[Setpoint]	0.00 [0.00]	Averages	3

Actual m/z	Abund	Rel Abund	Pw50
69.00	354,706	100.0%	0.60
219.00	459,012	129.4%	0.60
502.00	49,823	14.0%	0.60

Temperatures and Pressures

MS Source	230	Turbo Speed	100.0
MS Quad	150	Hi Vac	1.06e-05

Low	High	Step	Speed	Threshold	Peaks	Base	Abundance	Total Ion
10.00	701.00	0.10	3	100	123	219.00	438,016	1,557,950



Target m/z	Actual m/z	Abund	Rel Abund	Iso m/z	Iso Abund	Iso Ratio
69.00	69.00	342,208	100.0%	70.00	3,921	1.1%
219.00	219.00	438,016	128.0%	220.00	18,528	4.2%
502.00	502.00	45,528	13.3%	503.10	4,490	9.9%

Air/Water Check: H2O ~1.4% N2 ~1.7% O2 ~0.4% CO2 ~0.2% N2/H2O ~118.5%

Column(1) Flow: 0.97 Column(2): 0.00 ml/min Interface Temp: 280

Ramp Criteria:

Ion Focus maximum 90 volts using ion 502; Electron Multiplier Gain 42974.144

Repeller maximum 35 volts using ion 219; Gain Factor 0.4297

Mass Gain Values(Scan Speed): -189(3) -182(2) -172(1) -157(0) -105(FS1) -104(FS2)

TARGET MASS:	50	69	131	219	414	502	1091
Amu Offset	139.0	139.0	139.0	139.0	139.0	139.0	139.0
Entrance Lens Offset	10.8	10.8	10.8	10.8	10.8	10.8	10.8

Report Created: 4/21/2025 11:54 AM (UTC-05:00)

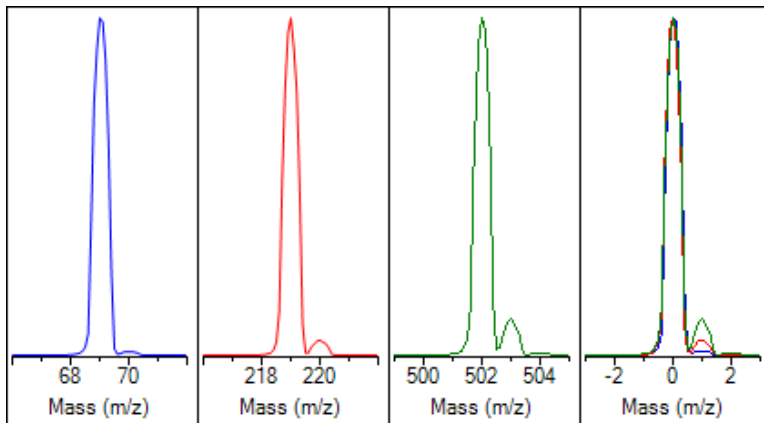
Autotune - 5977C

Tune timestamp: 4/25/2025 9:16 AM (UTC-05:00)

Lilo

D:\MASSHUNTER\GCMS\1\5977\ATUNE.U

US2449MA23



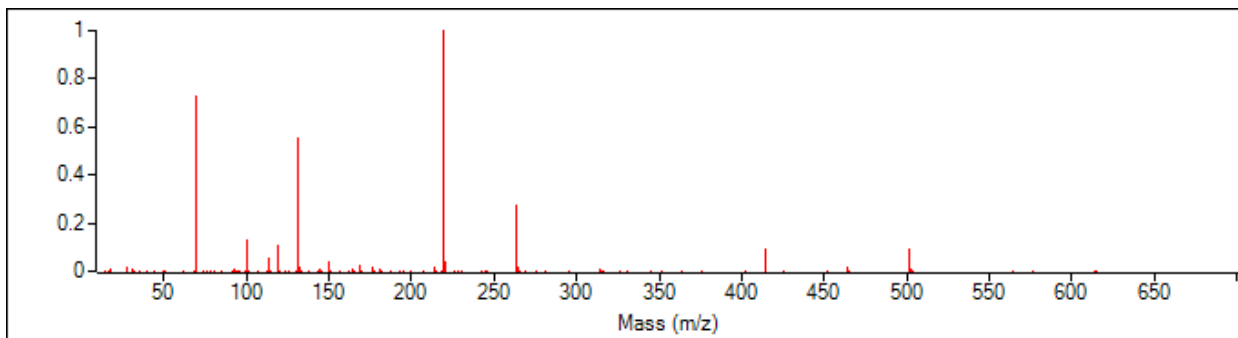
Ion Polarity	Pos	PFTBA	Open
Emission	34.6	Mass Gain	-195
Electron Energy	70.0	Mass Offset	-21
Filament	1	Amu Gain	2094
Repeller	34.90	Amu Offset	138.50
Ion Focus	90.3	Width219	-0.028
Entrance Lens	25.2	DC Polarity	Neg
Ent Lens Offset	10.82	HED Enable	On
Ion Body	0.00	EM Volts	915.9
Post Extractor 1	0	Extractor Lens	0.00
Post Extractor 2	0	Scan Speed	3
JetClean Flow Actual/[Setpoint]	0.00 [0.00]	Averages	3

Actual m/z	Abund	Rel Abund	Pw50
69.00	354,059	100.0%	0.60
219.00	498,693	140.9%	0.60
502.00	46,484	13.1%	0.61

Temperatures and Pressures

MS Source	230	Turbo Speed	100.0
MS Quad	150	Hi Vac	1.00e-05

Low	High	Step	Speed	Threshold	Peaks	Base	Abundance	Total Ion
10.00	701.00	0.10	3	100	123	219.00	471,296	1,622,264



Target m/z	Actual m/z	Abund	Rel Abund	Iso m/z	Iso Abund	Iso Ratio
69.00	69.00	344,896	100.0%	70.00	3,915	1.1%
219.00	219.00	471,296	136.6%	220.00	20,352	4.3%
502.00	502.00	45,048	13.1%	503.00	4,195	9.3%

Air/Water Check: H2O ~1.1% N2 ~2.6% O2 ~0.4% CO2 ~0.1% N2/H2O ~231.6%

Column(1) Flow: 0.97 Column(2): 0.00 ml/min Interface Temp: 280

Ramp Criteria:

Ion Focus maximum 90 volts using ion 502; Electron Multiplier Gain 64061.677

Repeller maximum 35 volts using ion 219; Gain Factor 0.6406

Mass Gain Values(Scan Speed): -189(3) -182(2) -172(1) -157(0) -105(FS1) -104(FS2)

TARGET MASS:	50	69	131	219	414	502	1091
Amu Offset	138.5	138.5	138.5	138.5	138.5	138.5	138.5
Entrance Lens Offset	10.8	10.8	10.8	10.8	10.8	10.8	10.8