

# TBI-FORENSIC SERVICES DIVISION PERFORMANCE VERIFICATION FORM

Instrument/Method to Verify:

Poseidon - Agilent 1260 Infinity Lab LC/MSD Single Quadrupole / Drug1 Method (Raptor)

Check the appropriate box: New Validation ☐ Modification ☐ Performance Check ☒

Laboratory: NCL ☐ KCL ☒ JCL ☐ Unit: Forensic Chemistry

Based on training and competency, the following analyst(s) are authorized by the Technical Leader to participate in this study:

Name Allison Webb Title SA/FS II Initials AW

Completed: **Allison Webb**

Digitally signed by Allison Webb  
Date: 2025.10.02 09:50:09 -04'00'

Name \_\_\_\_\_ Title \_\_\_\_\_ Initials \_\_\_\_\_

Completed:

Name \_\_\_\_\_ Title \_\_\_\_\_ Initials \_\_\_\_\_

Completed:

Verification of final review:

Unit Supervisor: **Michael Bleakley**

Digitally signed by Michael Bleakley  
Date: 2025.10.02 10:02:15 -04'00'

Section Manager: *Mollie Hood*

Unit Supervisor: **Sharon A. Norman**

Digitally signed by Sharon A. Norman  
Date: 2025.10.02 10:55:18 -04'00'

Section Manager:

Unit Supervisor:

Section Manager:

Regional Administrator: *Adam Dray*

IT Manager:

Regional Administrator:

Regional Administrator:

Quality Assurance Manager: *chad johnson*

By signing below, I have verified this study meets all requirements and I deem this procedure/instrument fit for the intended use:

Technical Leader: *Brett Trotter*

All information must be submitted to the Quality Assurance Manager prior to the implementation of the procedure/instrument. If applicable, include training plan and competency testing schedule.

# Poseidon

Drug1 Method Performance Check  
Tennessee Bureau of Investigation  
Knoxville Regional Crime Laboratory  
9/10/25-9/12/25

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## **1. Purpose**

The purpose of this performance check report is to document the performance and accuracy of the Drug1 method on LC/MS (Liquid Chromatograph/Mass Spectrometer) instrument through the analysis of eleven standards. This performance check aims to ensure that the Drug1 method is operating correctly and producing reliable and accurate results.

## **2. Procedure**

A series of eleven standards will be run to evaluate the instrument's ability to detect various compounds and separate mixtures.

Standards will be chosen based on concentration, relation to other closely eluting compounds, possibility of thermal degradation, and compounds commonly found together in casework mixtures.

The standards for this performance check will be prepared using 10µL of the existing standards diluted in 2mL of LC/MS grade acetonitrile, with the exception of PMOX and psilocybin. These two standards will be prepared using 26µL of the standard diluted in 2mL of LC/MS grade acetonitrile to achieve adequate sensitivity. This is due to the concentration of the premade GC/MS standard prior to LC/MS dilution.

A weekly autotune or check tune will be performed prior to any standards being run. All standards will be run on the Drug1 method and the data collected will include the retention time and mass spectrum for each standard. These standards will then be compared to respective known standards for identification.

### 3. Instrument Details

|                                                                       |                                                     |
|-----------------------------------------------------------------------|-----------------------------------------------------|
| <b>Agilent 1260 Infinity Lab LC/MSD Single Quadrupole</b>             |                                                     |
| <b><u>Agilent 1260 Vialsampler</u></b>                                |                                                     |
| Serial number: DEAEQ69799<br>Product number: G7129A                   |                                                     |
| <b><u>Agilent 1260 Binary Pump</u></b>                                |                                                     |
| Serial number: DEAE902044<br>Product number: G7112B                   |                                                     |
| <b><u>Agilent Single Quadrupole Mass Spectrometer (LC/MSD iQ)</u></b> |                                                     |
| Serial number: SG2352R002<br>Product number: G6160A                   |                                                     |
| <b><u>Software Version</u></b>                                        |                                                     |
| OpenLab CDS v. 3.7                                                    |                                                     |
| <b><u>Computer</u></b>                                                |                                                     |
| Device name                                                           | POSEIDON                                            |
| 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                                                            | 00355-61348-95648-AAOEM                             |
| System type                                                           | 64-bit operating system, x64-based processor        |
| Pen and touch                                                         | No pen or touch input is available for this display |
| Edition                                                               | Windows 11 Pro                                      |
| Version                                                               | 24H2                                                |
| Installed on                                                          | 5/6/2025                                            |
| OS build                                                              | 26100.4946                                          |
| Experience                                                            | Windows Feature Experience Pack 1000.26100.234.0    |

**Column:** Raptor FluoroPhenyl 2.7  $\mu$ m 100 x 3.0 mm  
 Cat#9319A1E  
 Lot#240629B  
 Serial#19050761

#### 4. LC/MS Method – Drug1

##### Mobile Phases

Mobile A: 0.1% Formic Acid in pH2O (high purity water)

Mobile B: 0.1% Formic Acid in Acetonitrile

##### Binary Pump

Pressure limits – min 0.00 bar / max 600.00 bar

Gas Flow – 13.0 L/min

Nebulizer – 45.0 psi

Gas Temperature – 325°C

Oven (Column) Temperature – 45.0°C

Injection Volume – 3.00 µL

| Time (min) | Mobile A (%) | Mobile B (%) | Flow rate (mL/min) |
|------------|--------------|--------------|--------------------|
| 0.00       | 49.0         | 51.0         | 0.500              |
| 5.00       | 40.0         | 60.0         | -                  |
| 6.00       | 51.0         | 49.0         | -                  |

#### 5. Standards

##### Alprazolam

Sigma lot# 117K4017

MeOH (Fisher lot 198477 bottle 3/4 exp: u/c)

Made by ZJ 3/25/22 expires 1/16/26

##### Buprenorphine

Sigma lot# SLBN0684V

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

Made by SR 11/14/23 expires 10/24/25

##### Diazepam

Sigma lot# 105F0451

MeOH (Fisher lot 211779 exp. u/c)

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

**Etizolam**

Cayman lot# 0480732-55

MeOH (Fisher lot 217364 bottle 4/4 exp: u/c)

Made by CNS 3/13/23 expires 1/17/26

**Isotonitazene**

Cayman lot# 0586760-21

MeOH (Fisher lot 217364 bottle 4/4 exp: u/c)

Made 6/1/23 by ZJ expires 3/18/26

**LSD**

Cerilliant lot# FE12052214

Quick Check (Acetonitrile)

Made 1/3/25 by AW expires 1/31/29

**Psilocybin**

Cayman lot# 0698168

Quick check (1:1 ACN:H<sub>2</sub>O)

Made 9/8/25 by AW expires 1/9/27

**Psilocyn**

Cayman lot# 0704075

Quick Check (Acetonitrile)

Made 5/27/25 by AW expires 3/8/26

## Tianeptine

**\*\*\*dried down and reconstituted in MeOH (Fisher 233981 bottle 2/4 exp: u/c)**

Cayman lot# 0480578-50

Dissolved in MeOH (Fisher 233981 Bottle 2/4 exp. u/c) + 1 drop concentrated HCl (Fisher 201932 exp. u/c) + saturated sodium bicarbonate (Fisher 206384 + DI H<sub>2</sub>O) -> CHCl<sub>3</sub>  
(Thermo B0543886A Bottle ¼ exp. u/c)

Made 5/28/25 by AW expires 5/28/26

## LCMS STD mix

Methanol (Fisher 233981 bottle 2/4 exp. u/c)

Pethidine (S.B. Penick 413NMN-027)

Hydrocodone (Cayman 0616125-30)

Cocaine (Sigma 59H0640)

Made by AW 8/28/25 exp. 8/28/26

**PMOX \*dried down and reconstituted in MeOH (Fisher 233981 bottle 2/4 exp: u/c)**

Chloroform: Thermo B0543886A exp: U/C

DI H<sub>2</sub>O + NH<sub>4</sub>OH: BDH 2014061276 exp: U/C

Phentermine (Sigma 074K1059)

Methamphetamine (Sigma 071K1580)

Xylazine (Cayman 0471462-19)

Heroin (Cayman 0689892-8)

Para-Fluorofentanyl (Cayman 0699563-6)

Fentanyl (Cayman 0806383-13)

4-ANPP (Cayman 050831-18)

Made by SR 8/28/25 exp. 8/28/26

## **6. Training and Competency**

No additional training will be required due to this being a new method for an existing instrument at the Knoxville Regional Crime Laboratory. The existing analysis technique has not been changed.

## **7. Results and conclusions**

The LC/MS demonstrated satisfactory performance overall based on the analysis of the eleven standards. The Drug1 method was able to distinguish most of the individual substances with acceptable sensitivity, separation, and resolution, with the exception of phentermine and methamphetamine together.

As shown in the data from PMOX, phentermine and methamphetamine did not resolve from each other. It may be necessary to use an alternate method or testing procedure for casework.

Overall, the Drug1 method demonstrated satisfactory performance and is considered suitable for use in casework.

## Acquisition Method Report



Acquisition Method: Drug1

Path: C:\CDSProjects\September 2025\Methods

## 1 Method Information

|                |                                                        |                |                           |              |                 |
|----------------|--------------------------------------------------------|----------------|---------------------------|--------------|-----------------|
| Last Saved As: | C:\CDSProjects\September 2025\Methods\Drug1 091025.amx | Modified:      | 2025-09-10 12:41:37-04:00 | Modifier:    | SYSTEM (SYSTEM) |
| Created:       | 2025-09-10 12:31:01-04:00                              | Creator:       | SYSTEM (SYSTEM)           | Description: |                 |
| Version:       | 2025-0910-1641-37629                                   | Method Status: | Generic                   |              |                 |

## 2 Binary Pump Method

|                      |              |                        |                             |                      |             |
|----------------------|--------------|------------------------|-----------------------------|----------------------|-------------|
| Flow:                | 0.500 mL/min | Use Solvent Types:     | Yes                         | Low Pressure Limit:  | 0.00 bar    |
| High Pressure Limit: | 600.00 bar   | Maximum Flow Gradient: | 100.000 mL/min <sup>2</sup> | Module Display Name: | Binary Pump |
| Module Type:         | G7112B       | Order:                 | 1                           |                      |             |

## Solvent Composition

| Channel | Solvent 1 | Name 1           | Solvent 2 | Name 2           | Selected | Used | Percent |
|---------|-----------|------------------|-----------|------------------|----------|------|---------|
| A       | H2O       | 0.1% Formic Acid | H2O       | 0.1% Formic Acid | Ch. 1    | Yes  | 49.0 %  |
| B       | MeOH      | 0.1% Formic Acid | ACN       | 0.1% Formic Acid | Ch. 2    | Yes  | 51.0 %  |

## Timetable

| Time             | A      | B      | Flow         | Pressure   |
|------------------|--------|--------|--------------|------------|
| Start. Cond. min | 49.0 % | 51.0 % | 0.500 mL/min | 600.00 bar |
| 5.00 min         | 40.0 % | 60.0 % | --- mL/min   | --- bar    |
| 6.00 min         | 51.0 % | 49.0 % | --- mL/min   | --- bar    |

## 2.1 Stroke A

Automatic Stroke Calculation A: Yes

## 2.2 Stroke B

Automatic Stroke Calculation B: Yes

## 2.3 Stoptime

Stoptime Mode: Time set Stoptime: 6.00 min

## 2.4 Posttime

Posttime Mode: Time set Posttime: 1.00 min

## 3 Sampler Method

Module Display Name: Sampler Module Type: G7129A Order: 1

## 3.1 Auxiliary

Draw Speed: 100 µL/min Eject Speed: 100 µL/min Wait Time After Draw: 1.2 s

Needle Height Offset: 0.2 mm

## 3.2 Injection

Injection Mode: Injection with needle wash Injection Volume: 3.00 µL

## 3.2.1 Needle Wash

Needle Wash Location: Flush Port Wash Time: 3 s

## 3.3 High throughput

Sample Flush-Out Factor: 6.0 Injection Valve to Bypass for Delay Volume Reduction: Yes

## 3.3.1 Overlapped Injection

Overlapped Injection Mode: Off

## Acquisition Method Report



## 3.4 Stoptime

Stoptime Mode: As Pump/No Limit

## 3.5 Posttime

Posttime Mode: Off

## 4 Column Oven Method

Module Display Name: Column Oven | Module Type: G7130A | Order: 1

## 4.1 Temperature Control

Temperature Control Mode: Temperature Set | Temperature: 45.0 °C

## 4.1.1 Temperature Not Ready Limit

Temperature Not Ready Limit On: Yes | Temperature Not Ready Limit Value: 0.8 °C | Temperature Equilibration Time: 0.0 min

## 4.2 Enforce column for run

Enforce column for run is enabled: No

## 4.3 Stoptime

Stoptime Mode: As Pump/Injector

## 4.4 Posttime

Posttime Mode: Off

## 5 Method

Module Display Name: SQ Mass Spectrometer | Module Type: LC/MSD iQ | Order: 1

## 5.1 General

Acquire Mode: Advanced | Tune File: atunes.tune | Ion Source: ESI  
 Optimized Method: Off | Last Compound Optimized Time: | Last Source Optimized Time:  
 Time Filter Enabled: On | Time filter window: 0.03 min

## 5.2 Stop Time

Stop Mode: By Pump Time

## 5.3 Time Segment

## Time Segment

| Start Time | Scan Type |
|------------|-----------|
| 0 min      | Scan      |

## 5.3.1

Targeted Points Per Second Enabled: On | Targeted Points Per Second: 0.93 Hz | SIM %: 0 %

## 5.3.2 Time Segment 1

## 5.3.2.1 Scan Type: Scan

Empty columns are hidden.

| Start mass | End mass | Scan time | Detector Gain Factor | Fragmentor | Polarity | Threshold | Data Storage | Ion Mode |
|------------|----------|-----------|----------------------|------------|----------|-----------|--------------|----------|
| 45 m/z     | 600 m/z  | 1074 ms   | 1                    | 135 V      | +        | 0         | Centroid     | ESI      |

## 5.3.2.2 Fragmentor Ramp

N/A:

# Acquisition Method Report



## 5.3.2.3 Source Parameter

### Source Parameter

| Parameter Id          | Positive Value | Negative Value |
|-----------------------|----------------|----------------|
| Gas Temperature (°C)  | 325            | 325            |
| Gas Flow (L/min)      | 13             | 13             |
| Nebulizer (psi)       | 45             | 45             |
| Capillary Voltage (V) | 3500           | 3500           |

## 5.4 Chromatogram

### Chromatogram

| Chromatogram Type | Label |
|-------------------|-------|
| Channel TIC       | TIC   |

## 5.5 Timetable

### Timetable

| Start Time | Timetable Type | Timetable Value |
|------------|----------------|-----------------|
| 0 min      | Diverter Valve | To MS           |

## 6 Method Properties

Instrument Technique: Liquid Chromatography

## 7 Schema version

Schema version: 2.3

## Method Audit Trail

Method audit trail is not printed

## Analysis Report

Sample Name MeOH/ACN blank for PMOX

Injection Data File 091225-pmox-b.dx  
Name

Instrument Poseidon  
Name

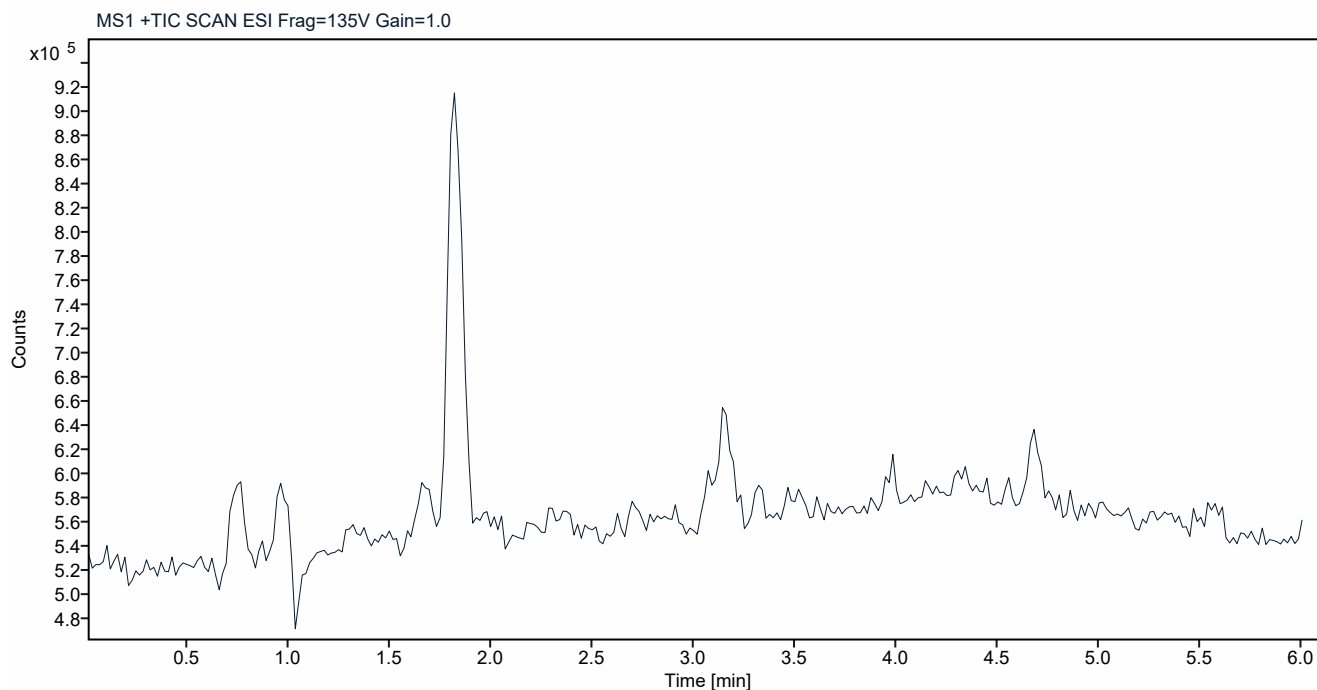
Injection Acq Drug1.amx  
Method Name

Sample Vial P2-A1  
Number

Injection Acquired 2025-09-12 09:34:23-04:00  
Date

Injection Volume 3.000

Data File Path C:\CDSPProjects\September  
2025\Results\pmox.rslt



## Analysis Report

Sample Name PMOX MeOH/ACN  
see log for lot #s

Instrument Poseidon  
Name

Sample Vial P2-C1  
Number

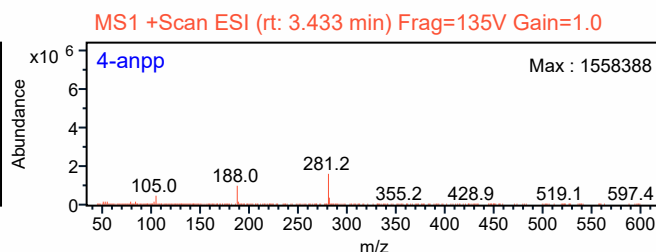
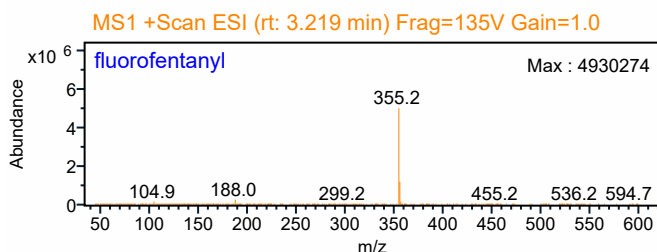
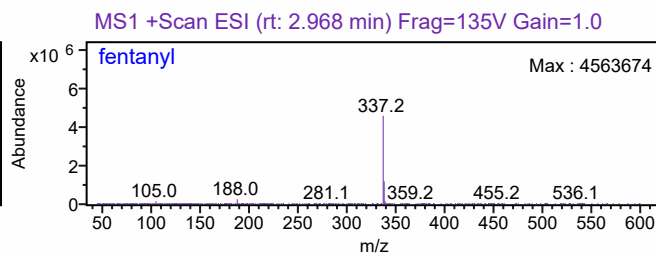
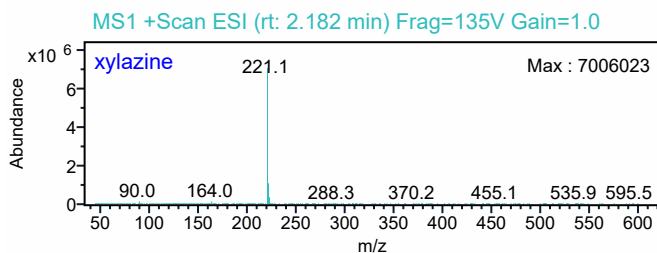
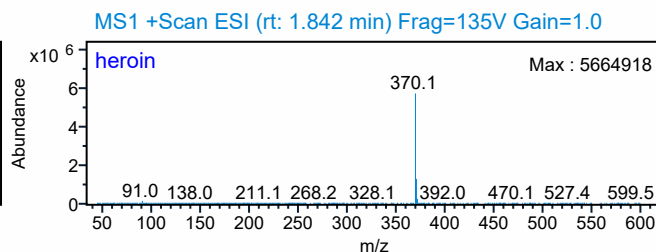
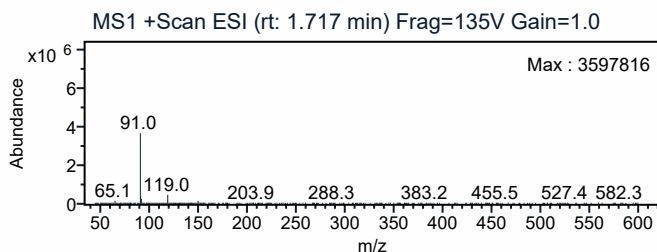
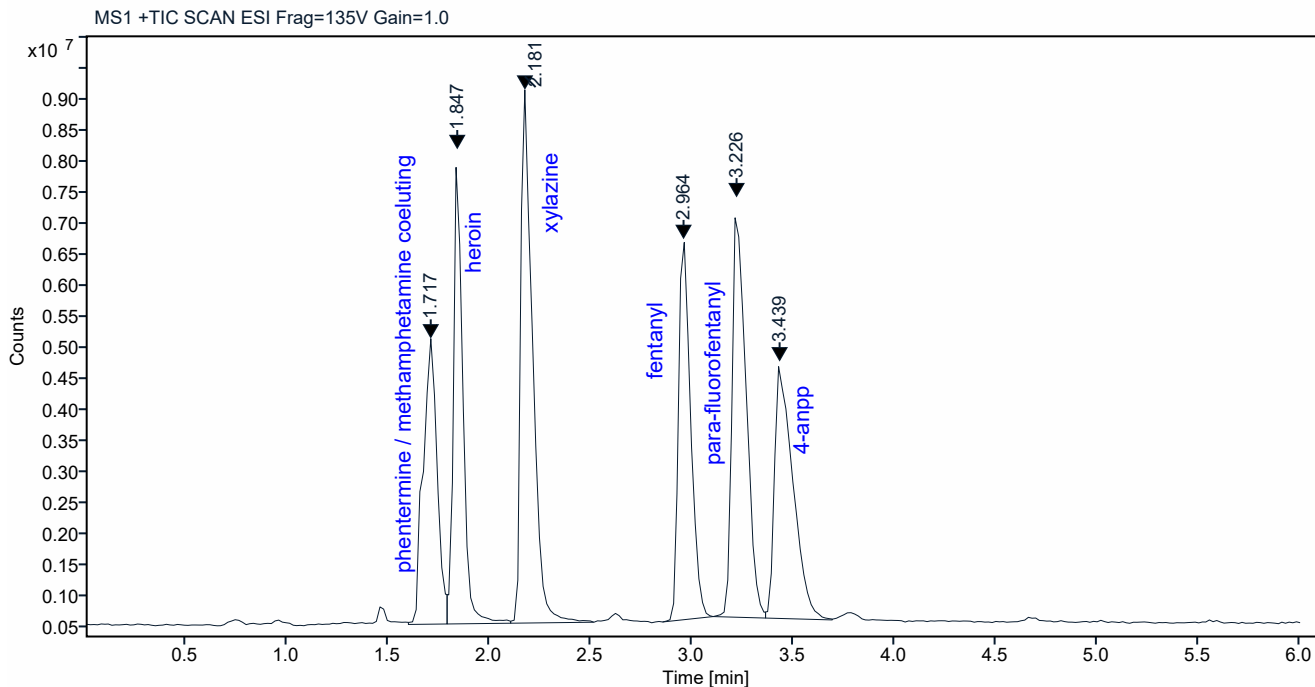
Injection Volume 3.000

Injection Data File 091225-pmox.dx  
Name

Injection Acq Drug1.amx  
Method Name

Injection Acquired 2025-09-12 09:41:59-04:00  
Date

Data File Path C:\CDSPProjects\September  
2025\Results\pmox.rslt



## Analysis Report

Sample Name MeOH/ACN blank for STD MIX

Injection Data File 091025-stdmix-B.dx  
Name

Instrument Poseidon  
Name

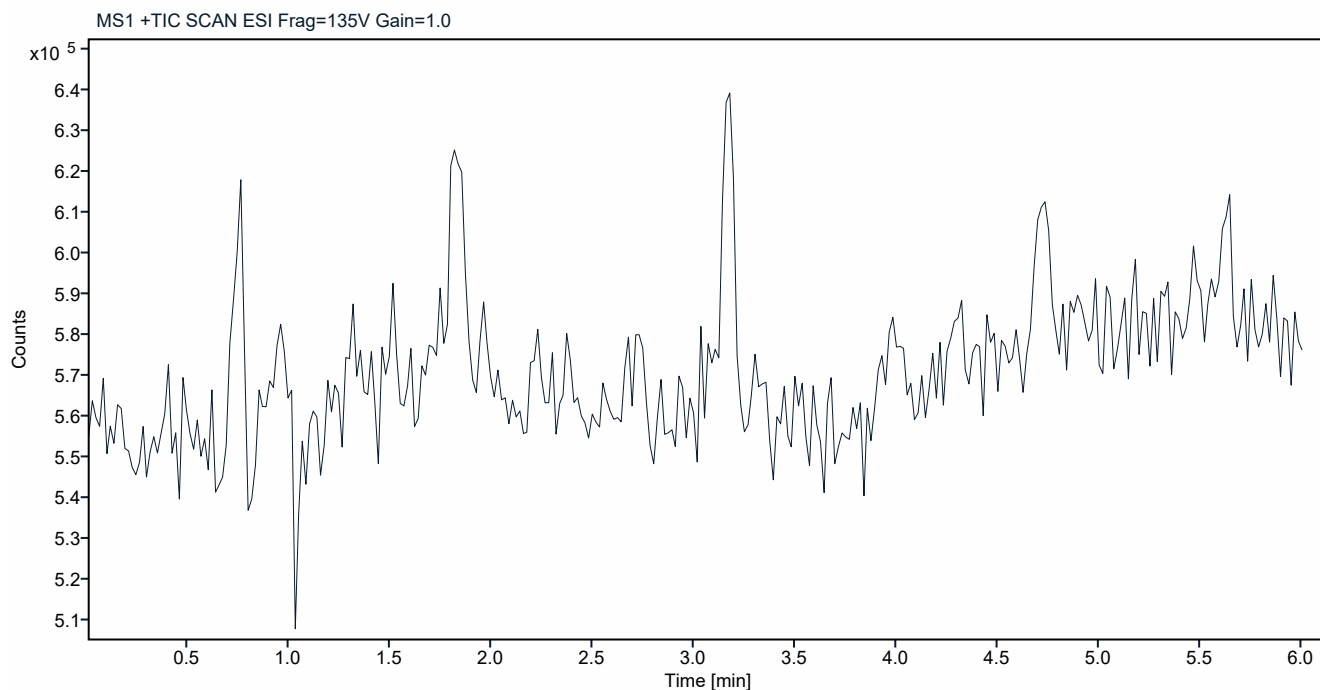
Injection Acq Drug1.amx  
Method Name

Sample Vial P2-A1  
Number

Injection Acquired 2025-09-10 13:27:06-04:00  
Date

Injection Volume 3.000

Data File Path C:\CDSPProjects\September  
2025\Results\drug1 method.rslt



## Analysis Report

Sample Name STD MIX in MeOH/ACN  
see log for lot #s

Instrument Poseidon  
Name

Sample Vial P2-A2  
Number

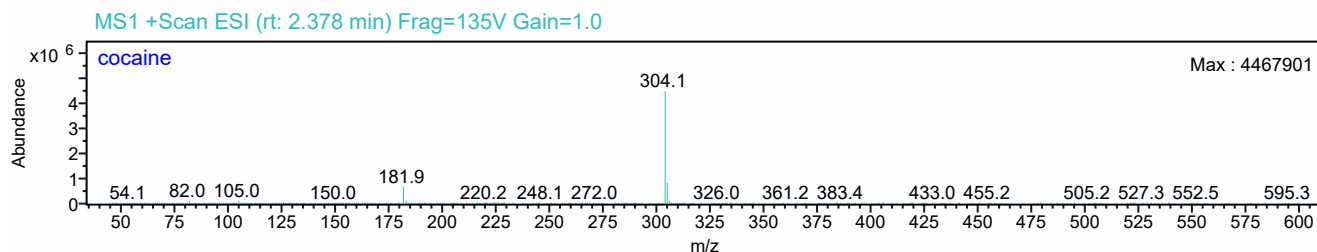
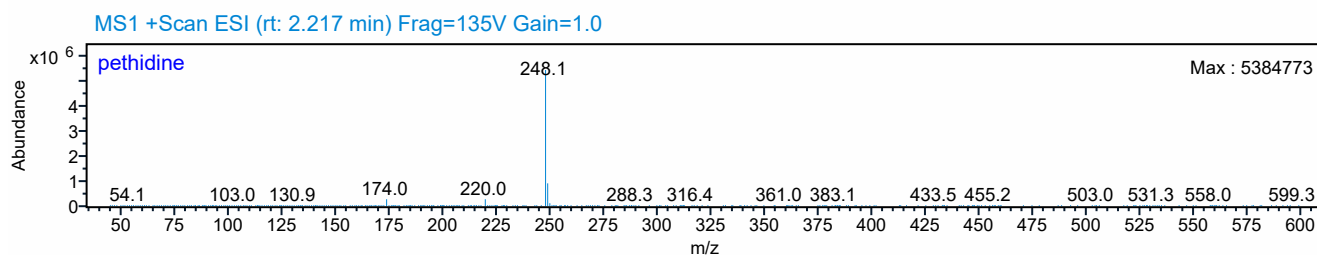
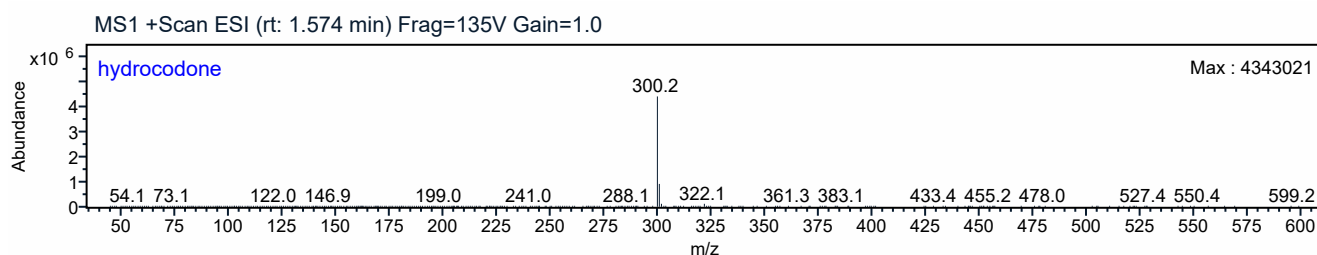
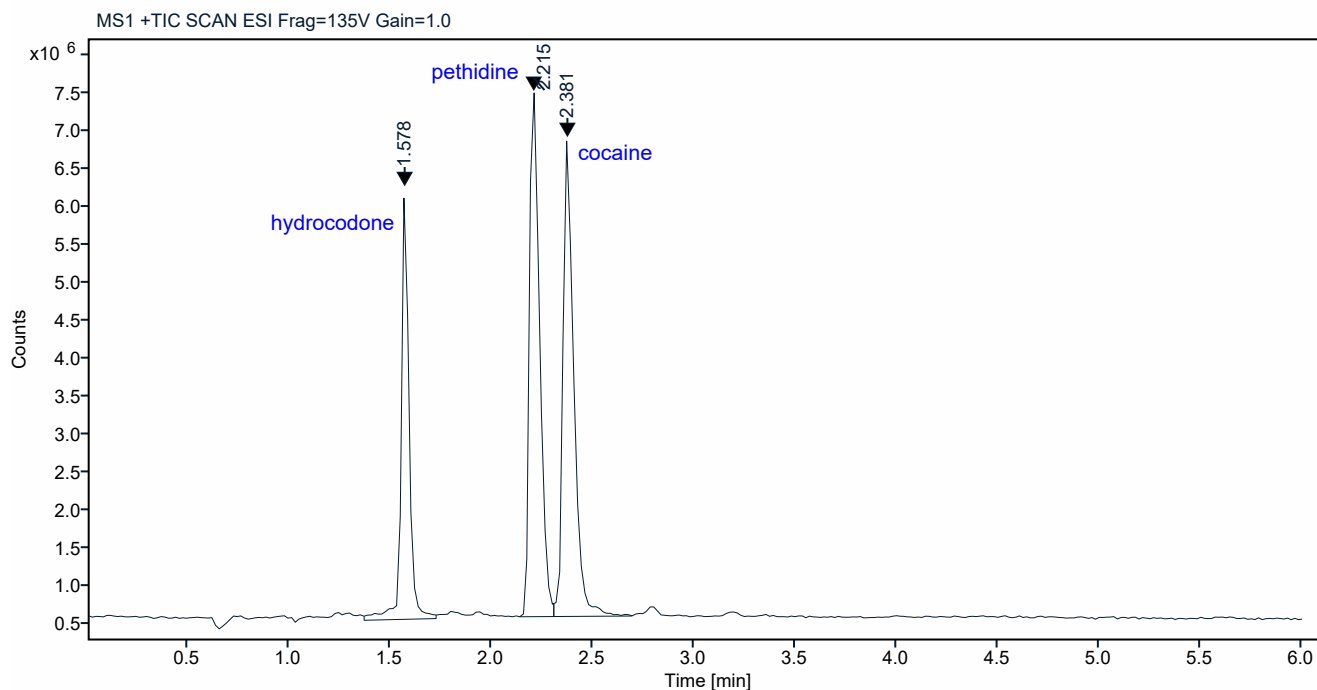
Injection Volume 3.000

Injection Data File 091025-stdmix.dx  
Name

Injection Acq Drug1.amx  
Method Name

Injection Acquired 2025-09-10 13:34:40-04:00  
Date

Data File Path C:\CDSPProjects\September  
2025\Results\drug1 method.rslt



## Analysis Report

Sample Name MeOH/ACN blank for alprazolam

Injection Data File 091025-alprazolam-B.dx  
Name

Instrument Poseidon  
Name

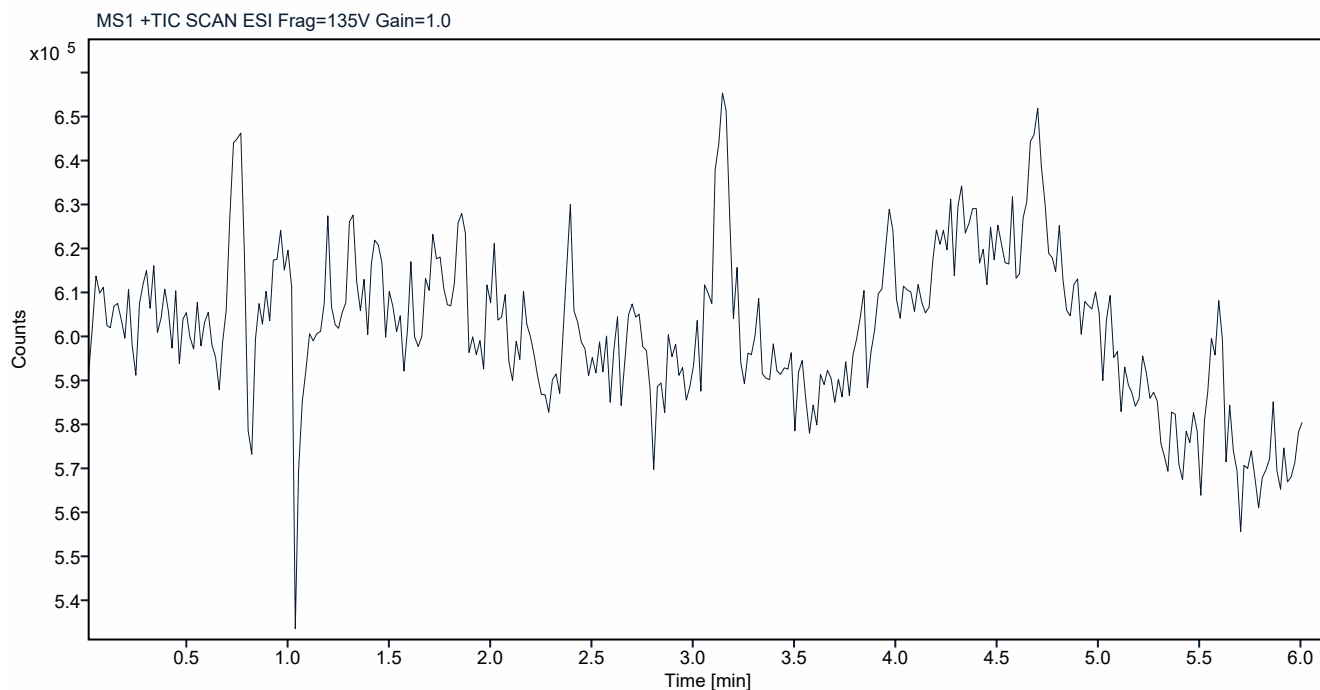
Injection Acq Drug1.amx  
Method Name

Sample Vial P2-A1  
Number

Injection Acquired 2025-09-10 14:12:37-04:00  
Date

Injection Volume 3.000

Data File Path C:\CDSPProjects\September  
2025\Results\drug1 method.rslt



## Analysis Report

Sample Name alprazolam in MeOH/ACN  
Sigma lot# 117K4017

Instrument Poseidon  
Name

Sample Vial P2-A4  
Number

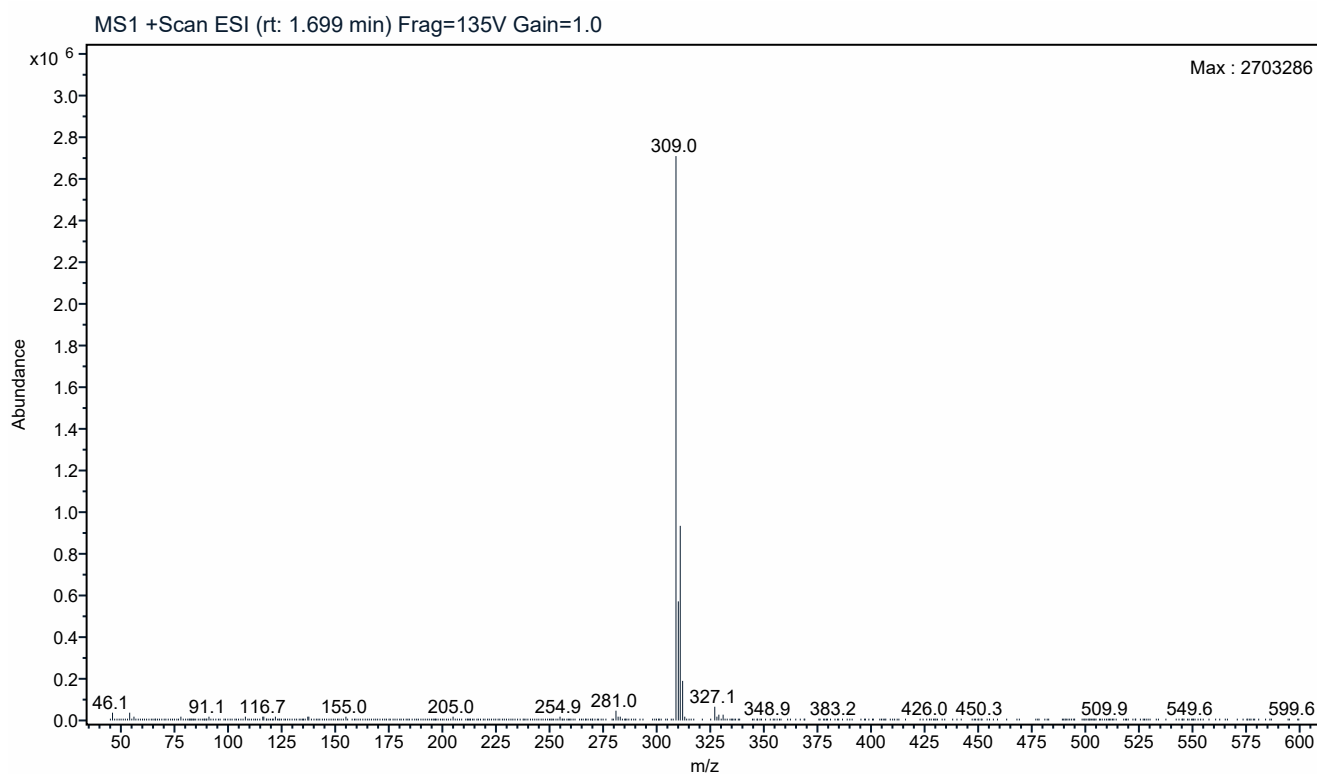
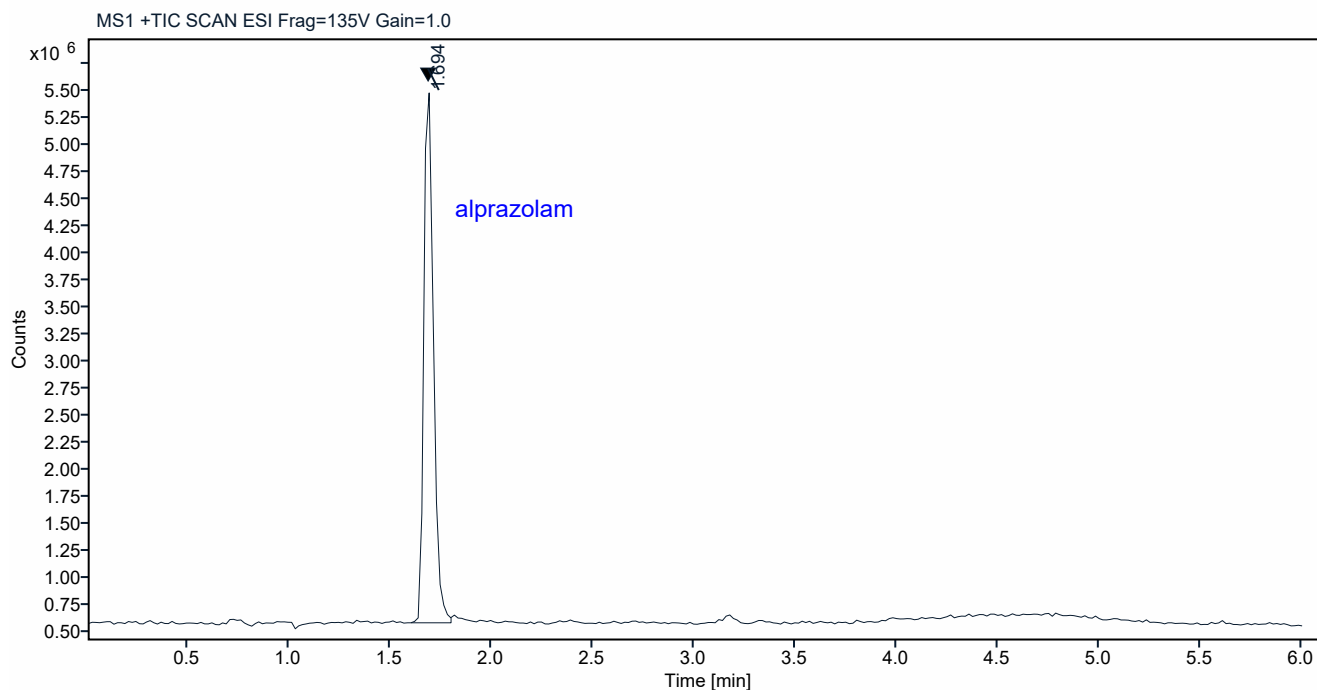
Injection Volume 3.000

Injection Data File 091025-alprazolam.dx  
Name

Injection Acq Drug1.amx  
Method Name

Injection Acquired 2025-09-10 14:20:10-04:00  
Date

Data File Path C:\CDSPProjects\September  
2025\Results\drug1 method.rslt



## Analysis Report

Sample Name MeOH/ACN blank for buprenorphine

Injection Data File 091025-buprenorphine-B.dx  
Name

Instrument Poseidon  
Name

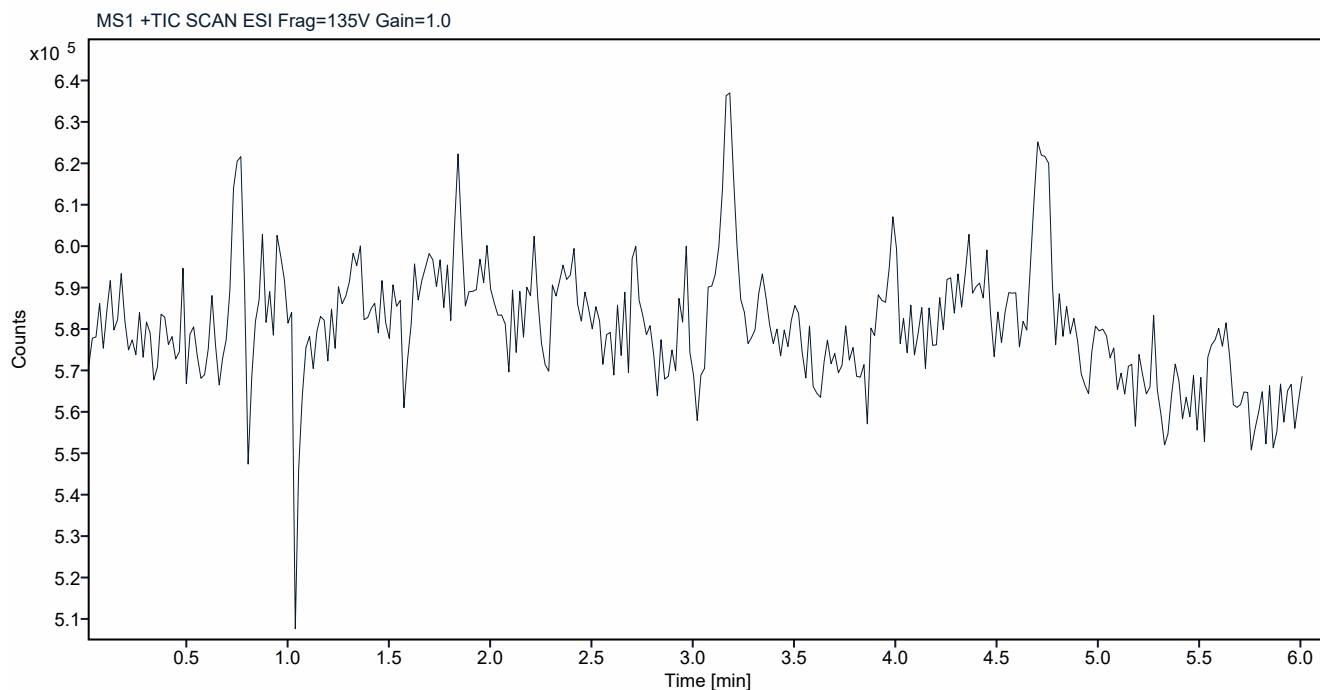
Injection Acq Drug1.amx  
Method Name

Sample Vial P2-A1  
Number

Injection Acquired 2025-09-10 14:35:21-04:00  
Date

Injection Volume 3.000

Data File Path C:\CDSPProjects\September  
2025\Results\drug1 method.rslt



## Analysis Report

Sample Name buprenorphine in MeOH/ACN  
Sigma lot# SLBN0684V

Instrument Poseidon  
Name

Sample Vial P2-A5  
Number

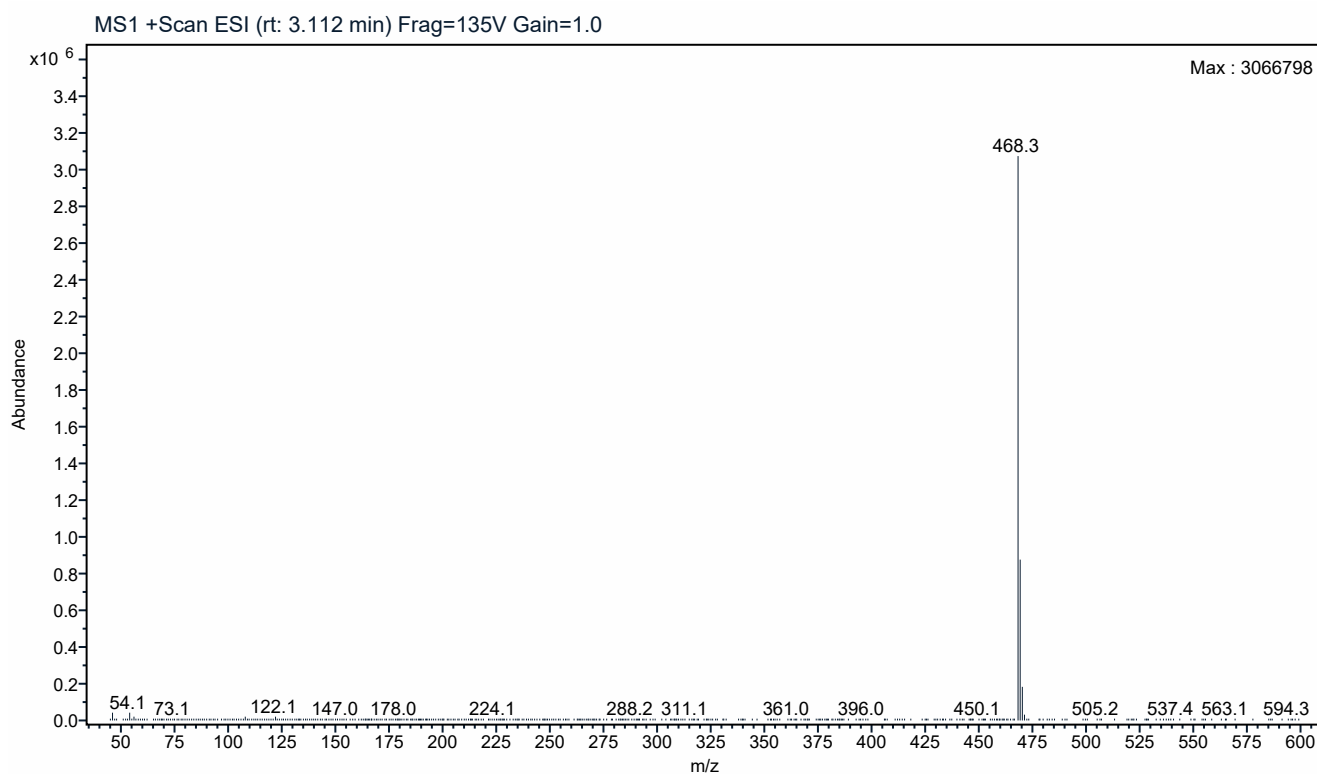
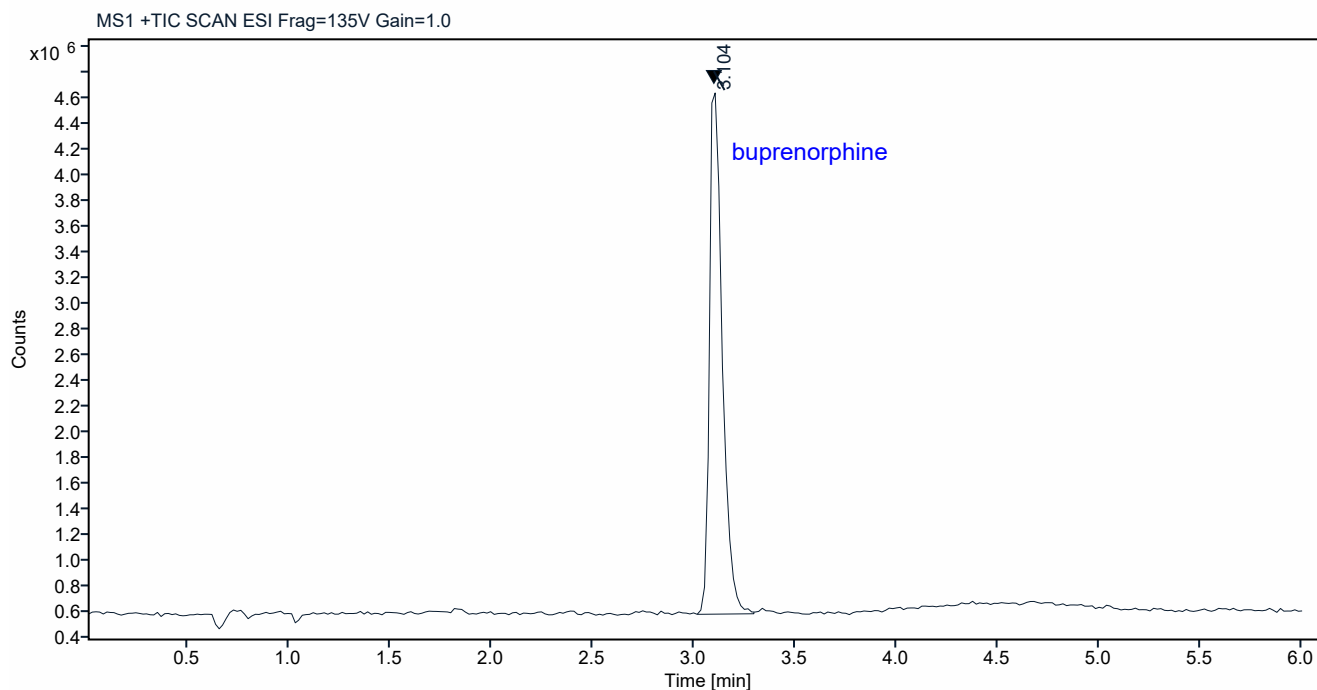
Injection Volume 3.000

Injection Data File 091025-buprenorphine.dx  
Name

Injection Acq Drug1.amx  
Method Name

Injection Acquired 2025-09-10 14:42:55-04:00  
Date

Data File Path C:\CDSPProjects\September  
2025\Results\drug1 method.rslt



## Analysis Report

Sample Name MeOH/ACN blank for etizolam

Injection Data File 091025-etizolam-B.dx  
Name

Instrument Poseidon  
Name

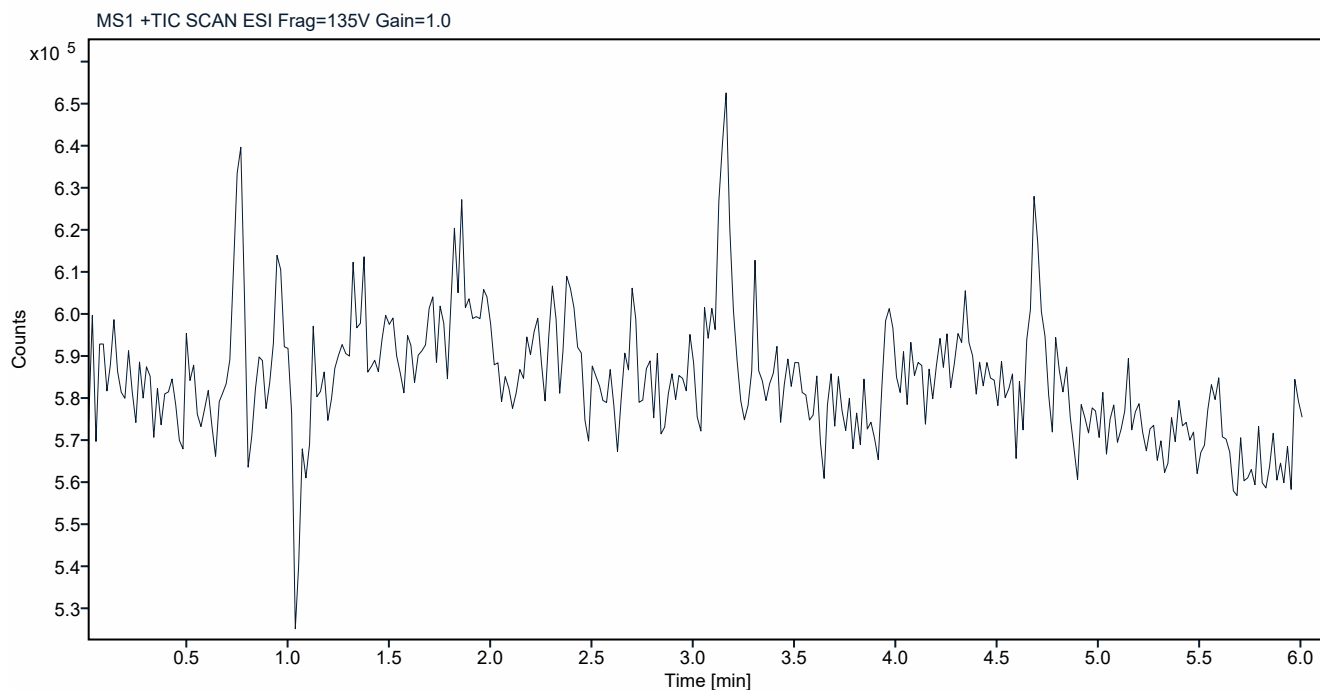
Injection Acq Drug1.amx  
Method Name

Sample Vial P2-A1  
Number

Injection Acquired 2025-09-10 14:58:06-04:00  
Date

Injection Volume 3.000

Data File Path C:\CDSPProjects\September  
2025\Results\drug1 method.rslt



## Analysis Report

Sample Name etizolam in MeOH/ACN  
Cayman lot# 0480732-55

Instrument Poseidon  
Name

Sample Vial P2-A6  
Number

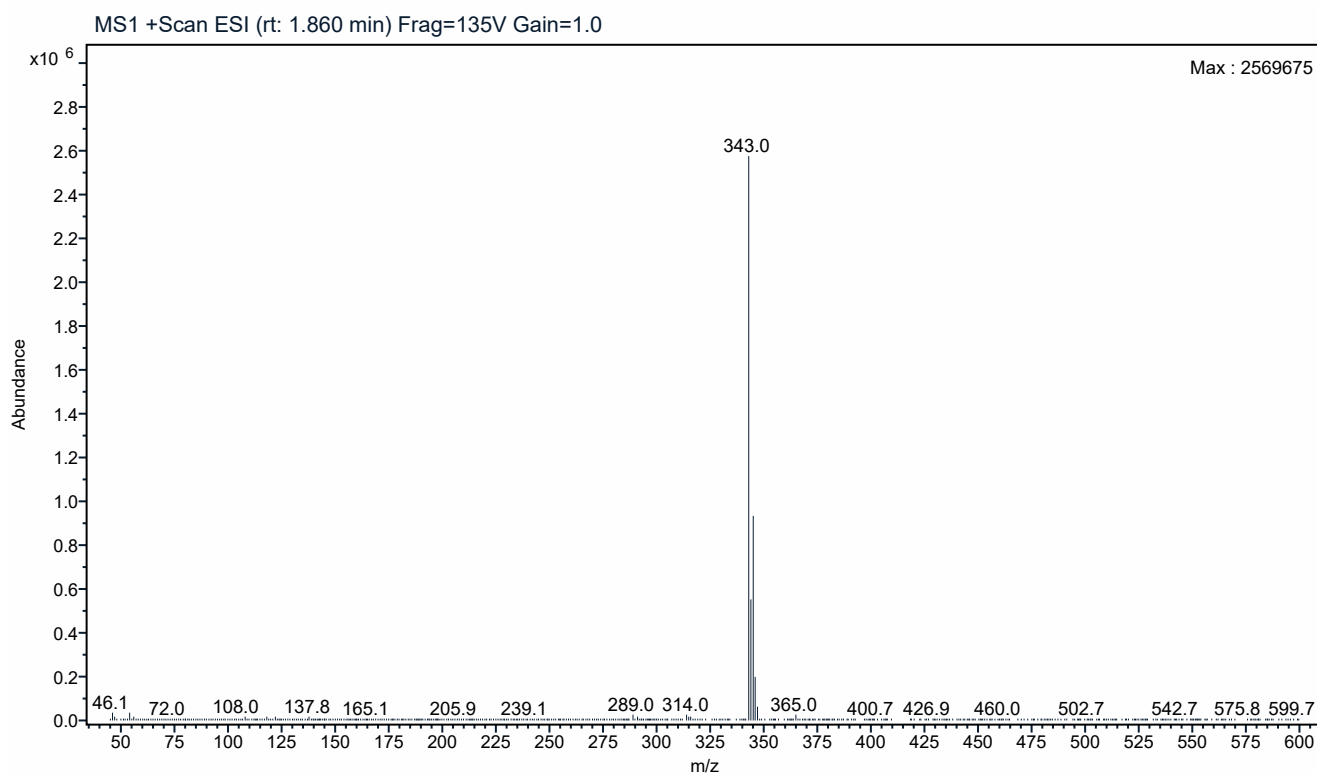
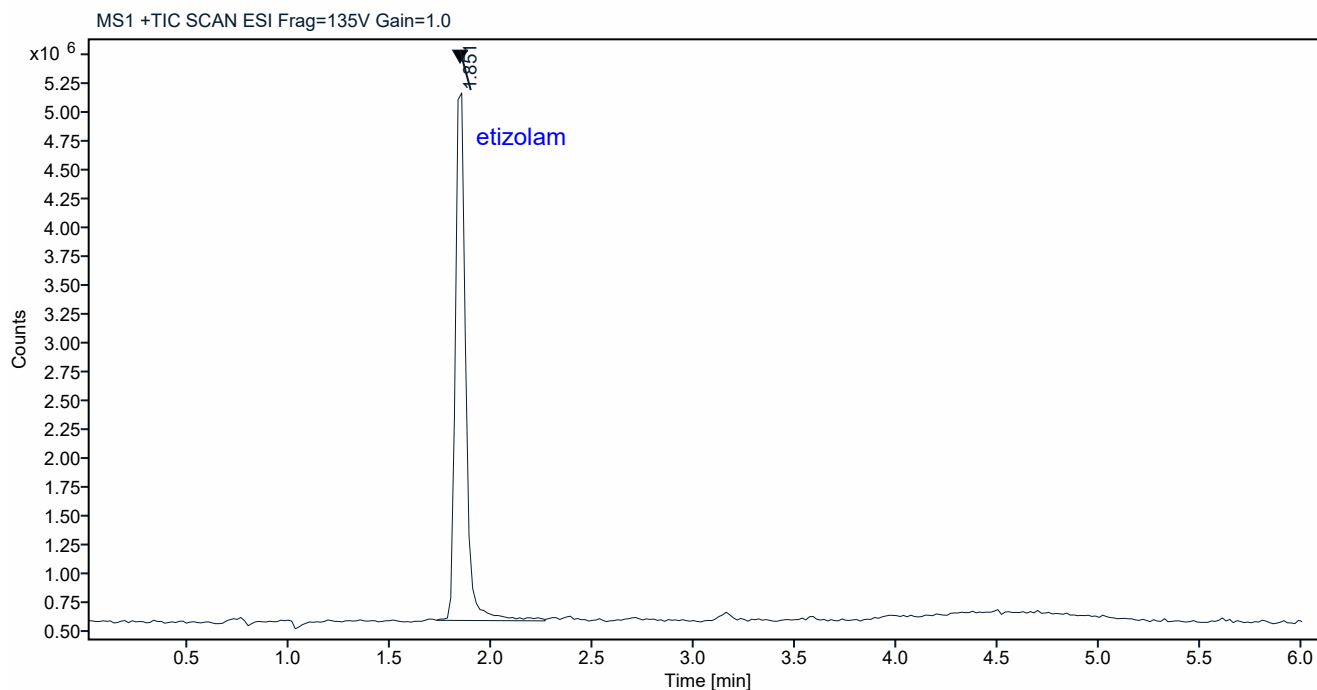
Injection Volume 3.000

Injection Data File 091025-etizolam.dx  
Name

Injection Acq Drug1.amx  
Method Name

Injection Acquired 2025-09-10 15:05:40-04:00  
Date

Data File Path C:\CDSPProjects\September  
2025\Results\drug1 method.rslt



## Analysis Report

Sample Name MeOH/ACN blank for isotonitazene

Injection Data File 091025-isotonitazene-B.dx  
Name

Instrument Poseidon  
Name

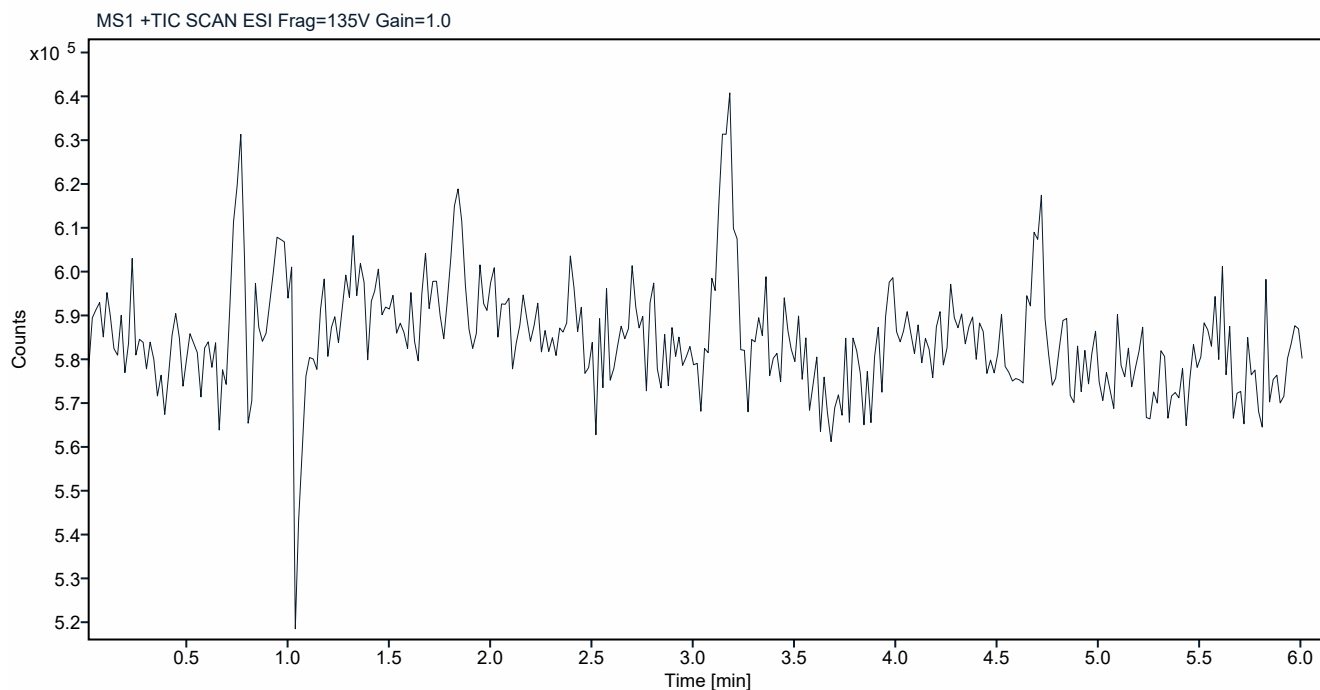
Injection Acq Drug1.amx  
Method Name

Sample Vial P2-A1  
Number

Injection Acquired 2025-09-10 15:20:50-04:00  
Date

Injection Volume 3.000

Data File Path C:\CDSPProjects\September  
2025\Results\drug1 method.rslt



## Analysis Report

Sample Name isotonitazene in MeOH/ACN  
Cayman lot# 0586760-21

Instrument Poseidon  
Name

Sample Vial P2-A7  
Number

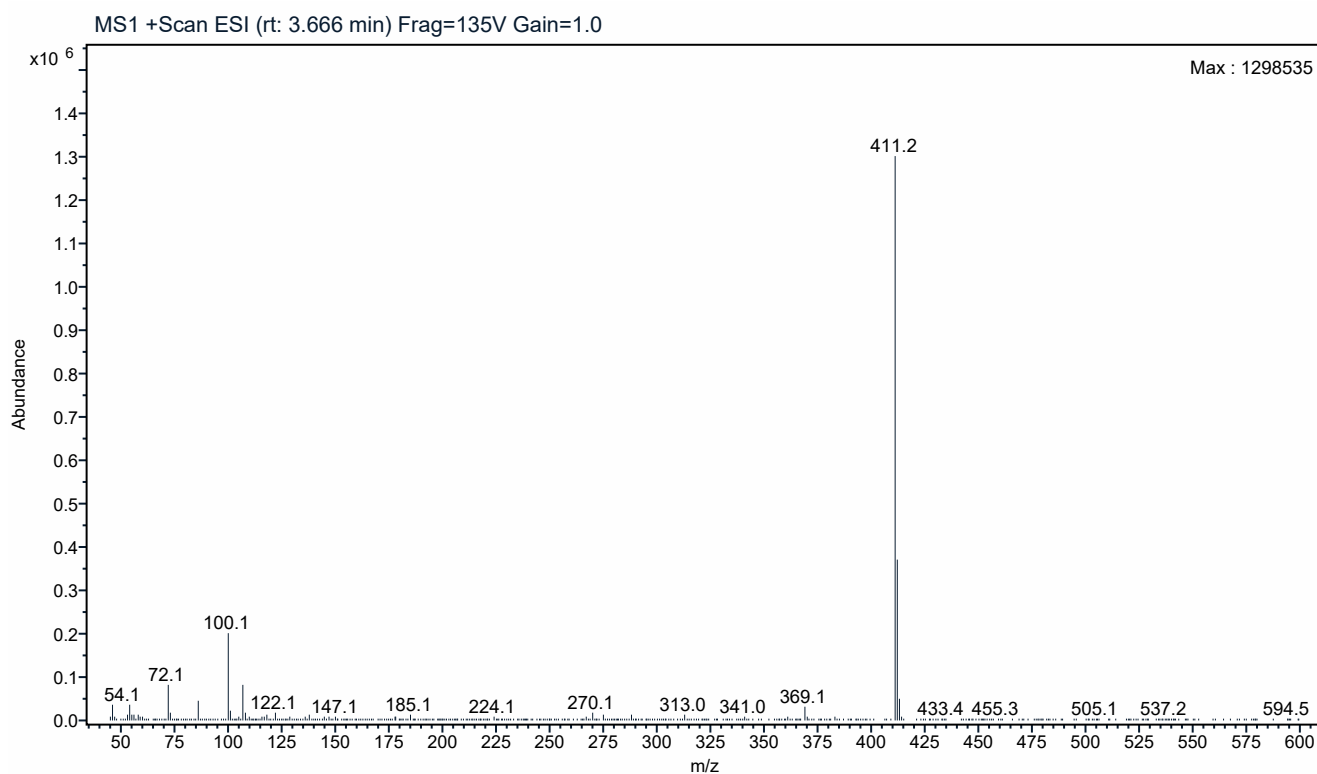
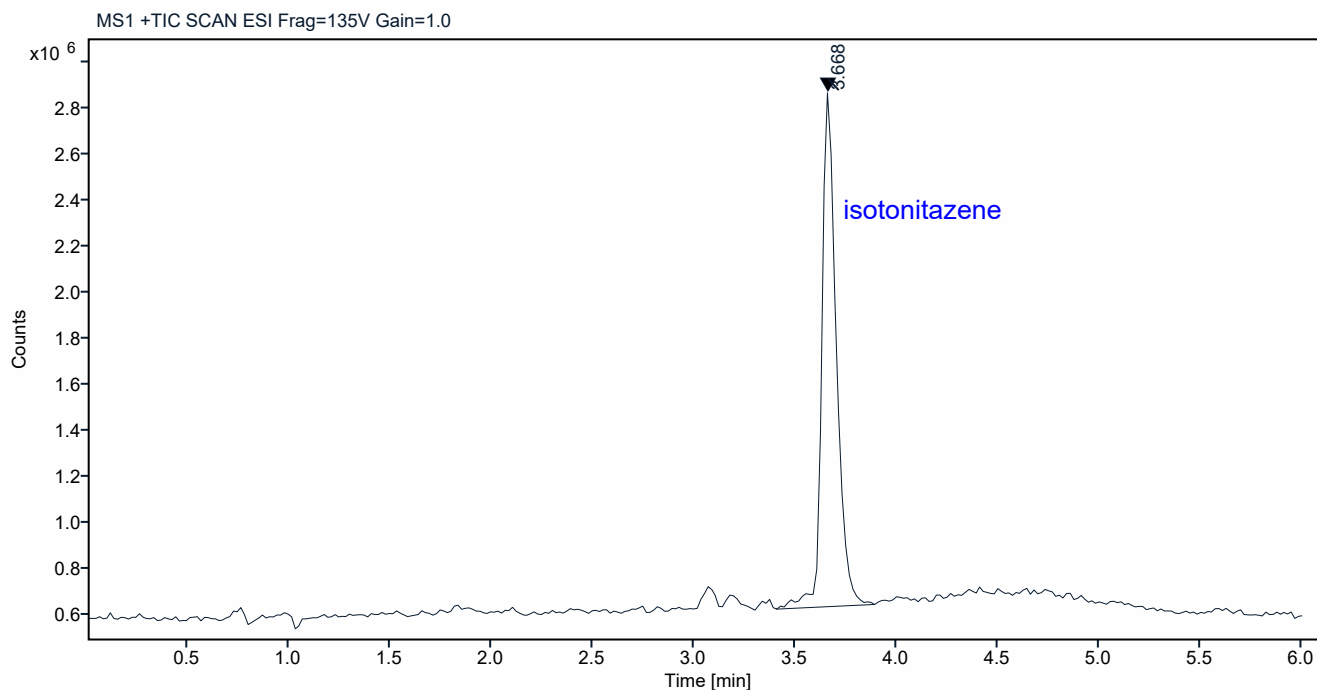
Injection Volume 3.000

Injection Data File 091025-isotonitazene.dx  
Name

Injection Acq Drug1.amx  
Method Name

Injection Acquired 2025-09-10 15:28:25-04:00  
Date

Data File Path C:\CDSPProjects\September  
2025\Results\drug1 method.rslt



## Analysis Report

Sample Name MeOH/ACN blank for lsd

Injection Data File 091025-lsd-B.dx  
Name

Instrument Poseidon  
Name

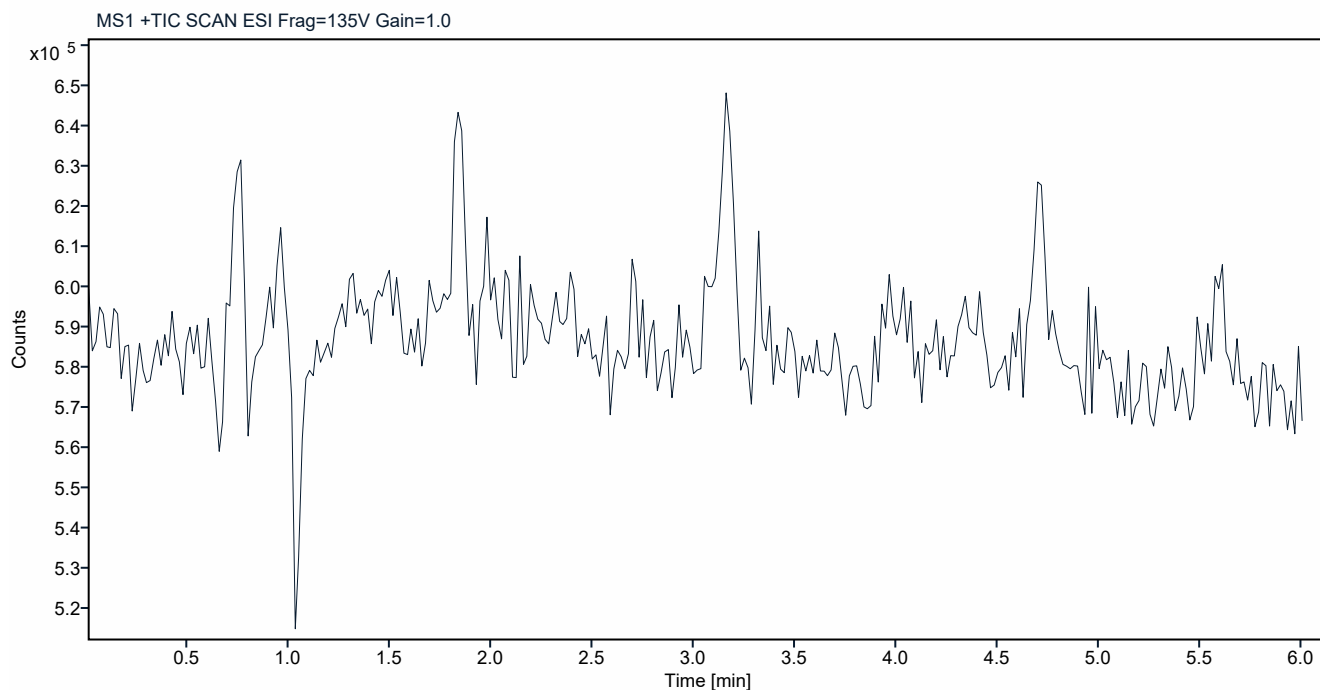
Injection Acq Drug1.amx  
Method Name

Sample Vial P2-A1  
Number

Injection Acquired 2025-09-10 15:43:36-04:00  
Date

Injection Volume 3.000

Data File Path C:\CDSPProjects\September  
2025\Results\drug1 method.rslt



## Analysis Report

Sample Name Isd in ACN/ACN  
Cerilliant lot# FE12052214

Instrument Poseidon  
Name

Sample Vial P2-A8  
Number

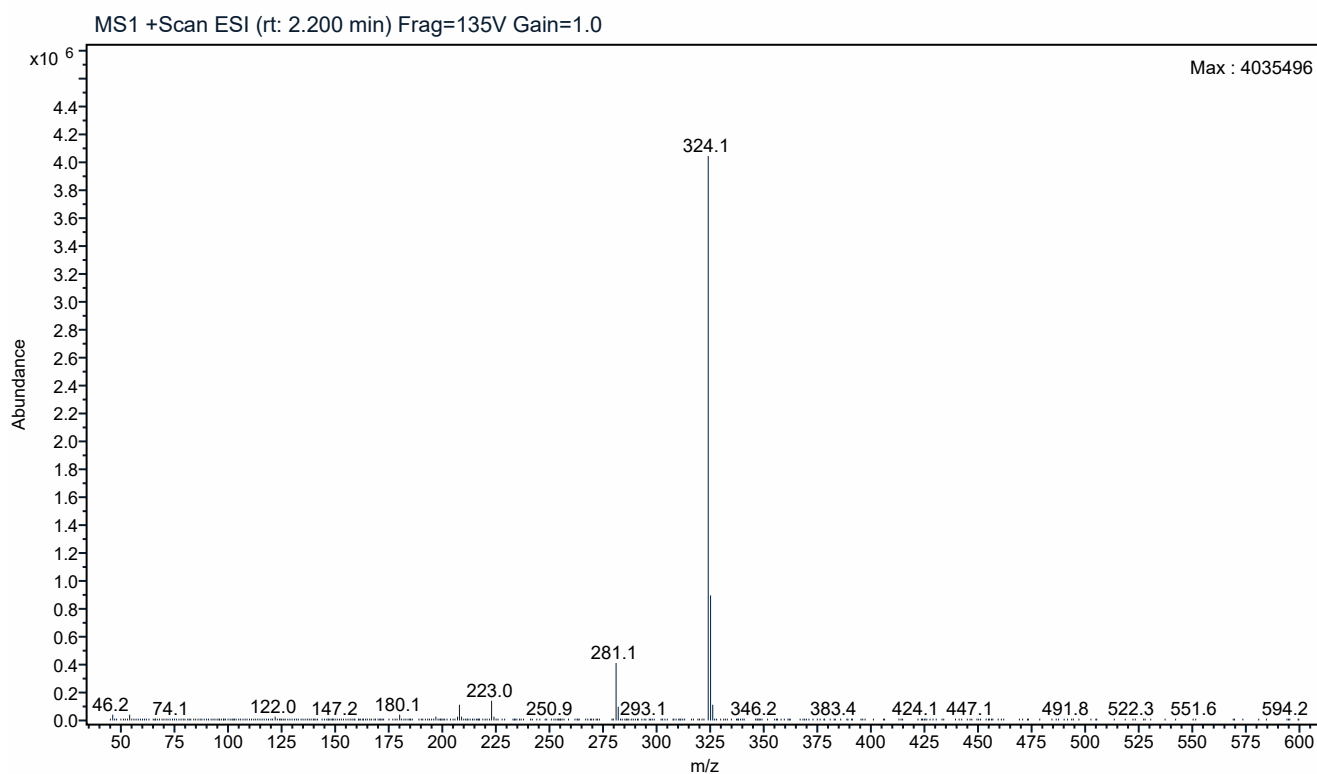
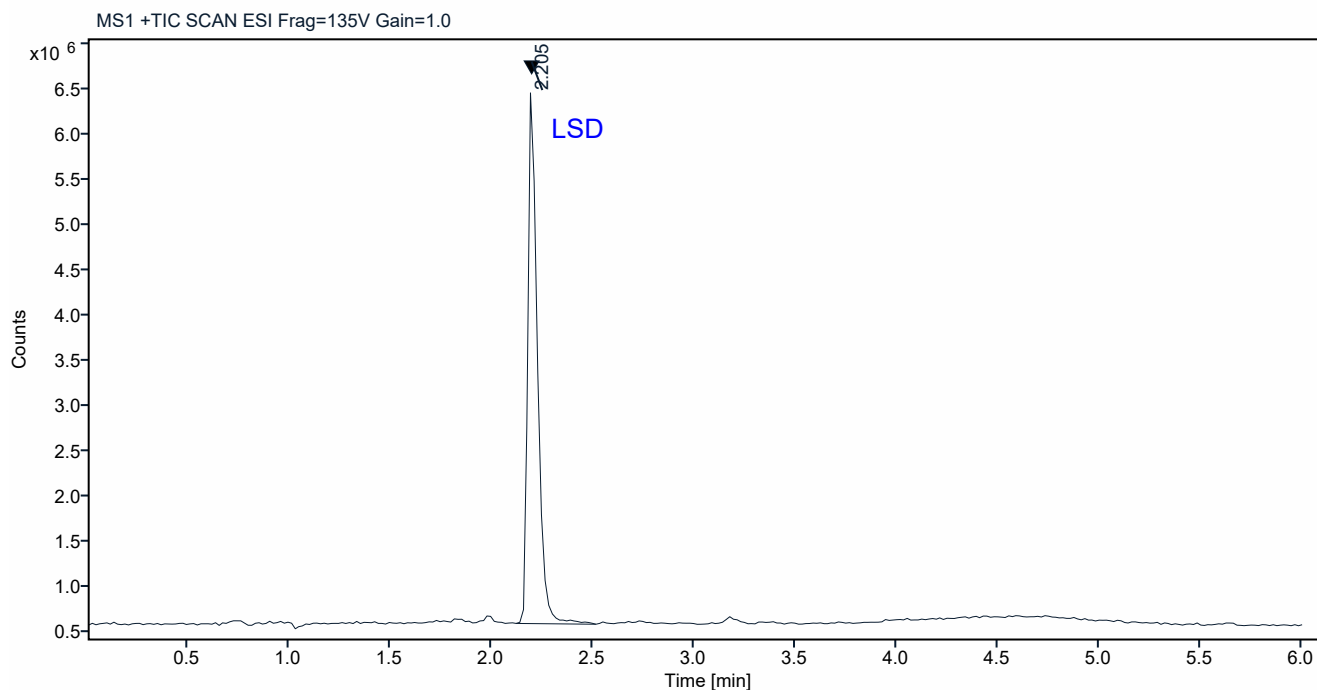
Injection Volume 3.000

Injection Data File 091025-lsd.dx  
Name

Injection Acq Drug1.amx  
Method Name

Injection Acquired 2025-09-10 15:51:12-04:00  
Date

Data File Path C:\CDSPProjects\September  
2025\Results\drug1 method.rslt



# Analysis Report

Sample Name MeOH/ACN blank for psilocyn

Injection Data File 091025-psilocyn-B.dx  
Name

Instrument Poseidon  
Name

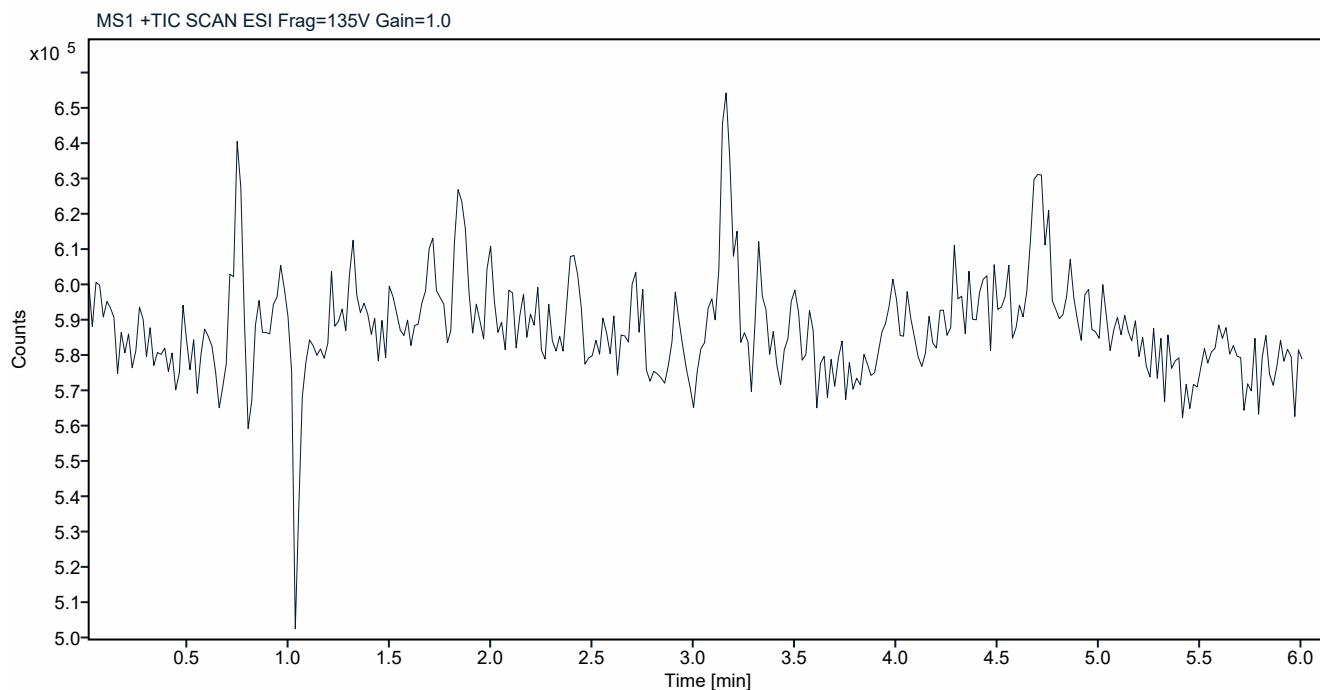
Injection Acq Drug1.amx  
Method Name

Sample Vial P2-A1  
Number

Injection Acquired 2025-09-10 16:29:09-04:00  
Date

Injection Volume 3.000

Data File Path C:\CDSPProjects\September  
2025\Results\drug1 method.rslt



# Analysis Report

Sample Name psilocyn in ACN/ACN  
Cayman lot# 0704075

Instrument Poseidon  
Name

Sample Vial P2-A10  
Number

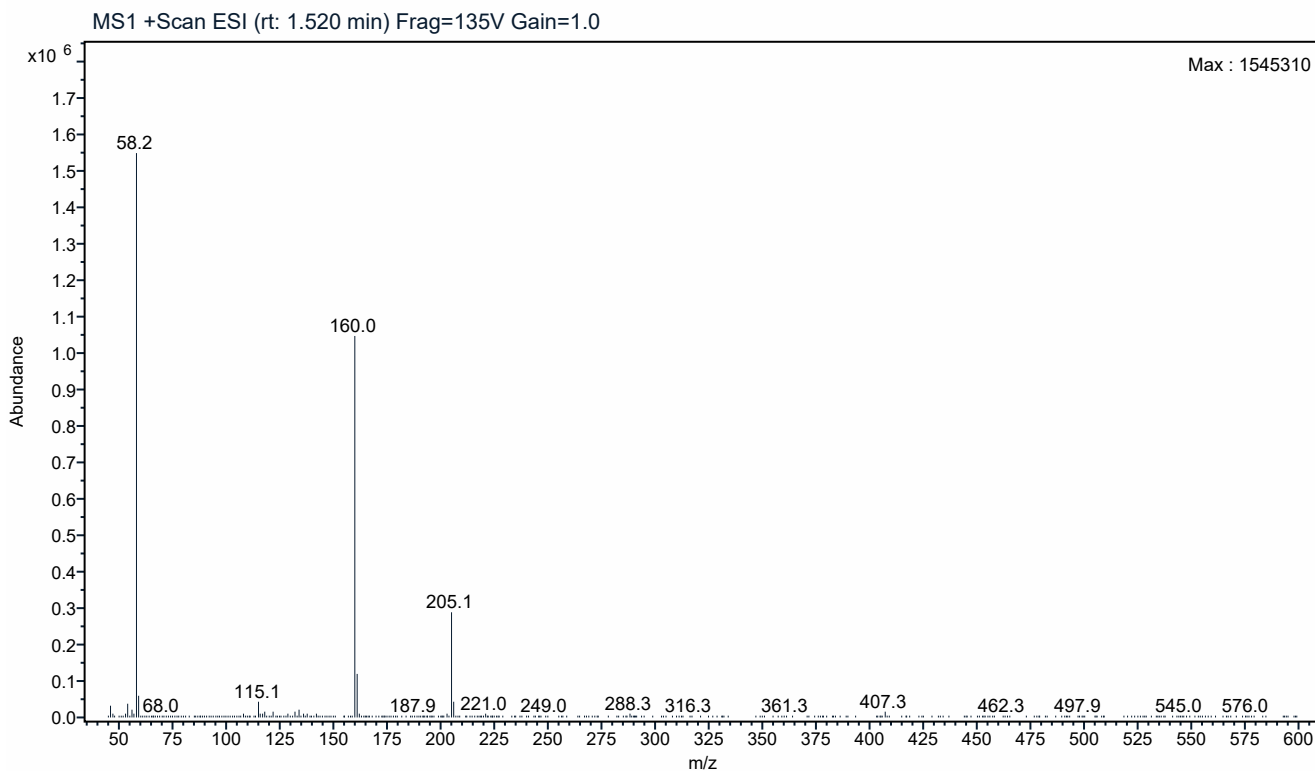
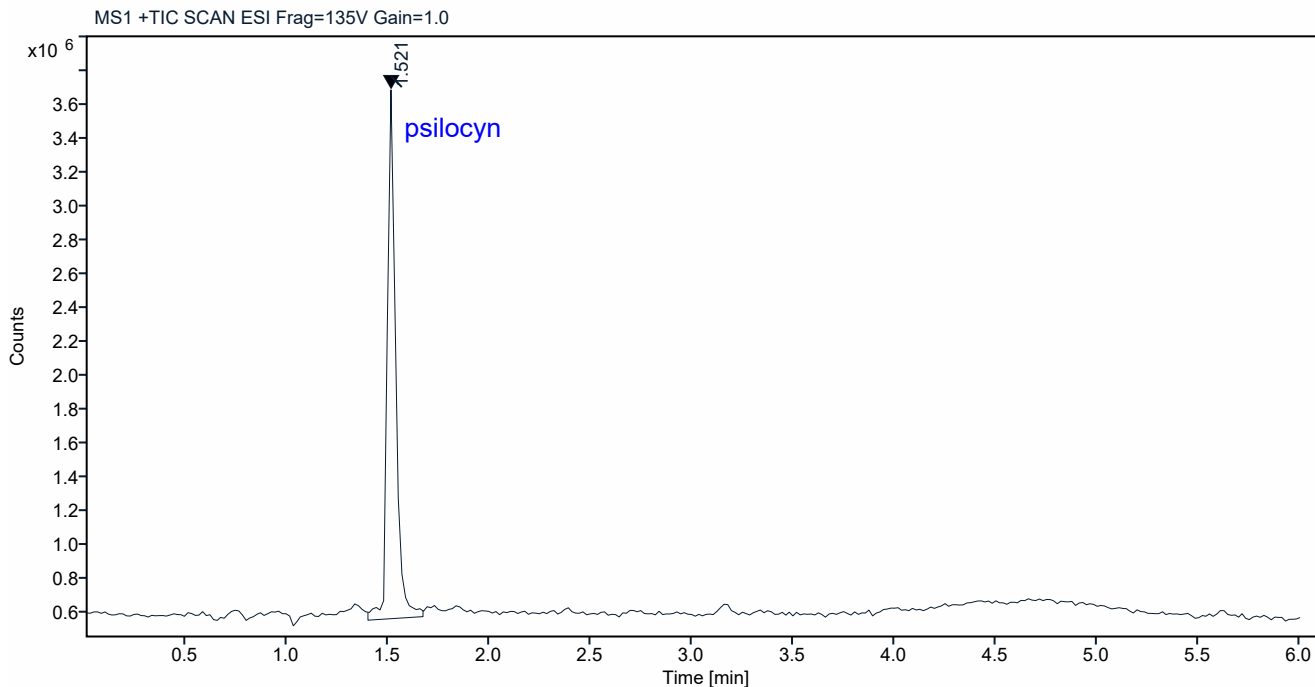
Injection Volume 3.000

Injection Data File 091025-psilocyn.dx  
Name

Injection Acq Drug1.amx  
Method Name

Injection Acquired 2025-09-10 16:36:42-04:00  
Date

Data File Path C:\CDSPProjects\September  
2025\Results\drug1 method.rslt



## Analysis Report

Sample Name MeOH/ACN blank for tianeptine

Injection Data File 091025-tianeptine-B.dx  
Name

Instrument Poseidon  
Name

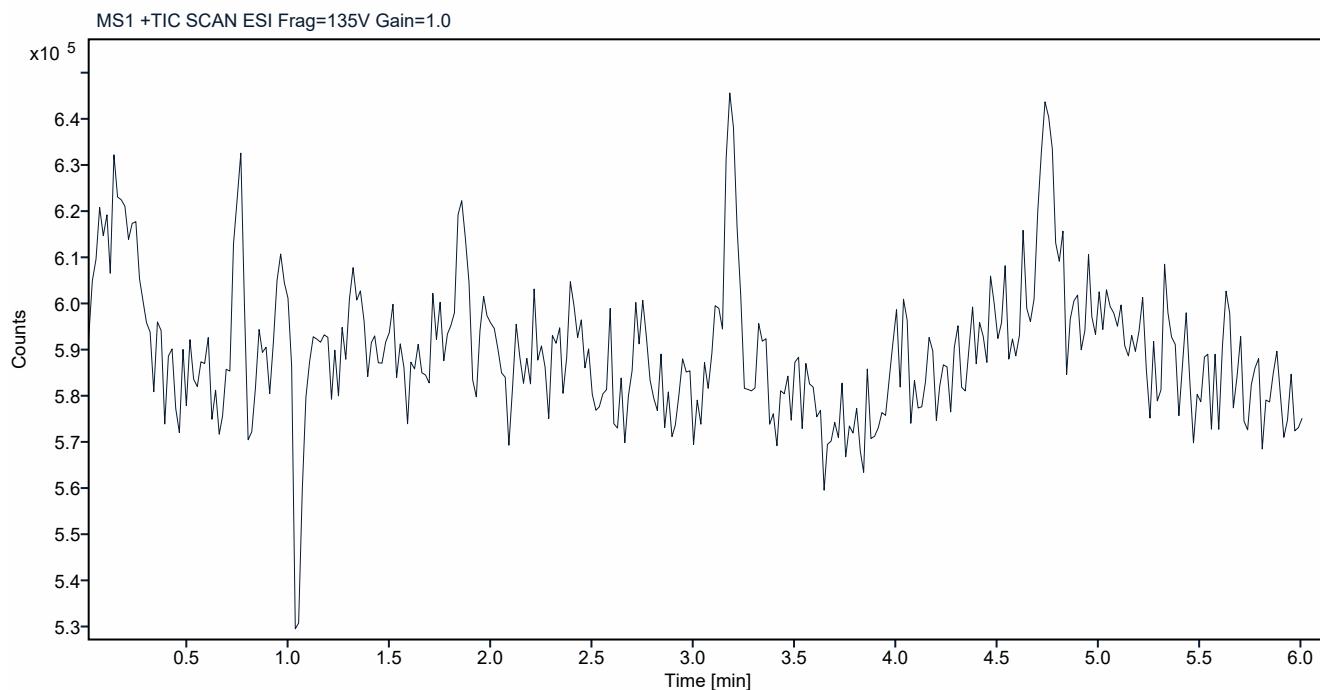
Injection Acq Drug1.amx  
Method Name

Sample Vial P2-A1  
Number

Injection Acquired 2025-09-10 16:51:54-04:00  
Date

Injection Volume 3.000

Data File Path C:\CDSPProjects\September  
2025\Results\drug1 method.rslt



## Analysis Report

Sample Name tianeptine in MeOH/ACN  
Cayman lot# 0480578-50

Instrument Poseidon  
Name

Sample Vial P2-B3  
Number

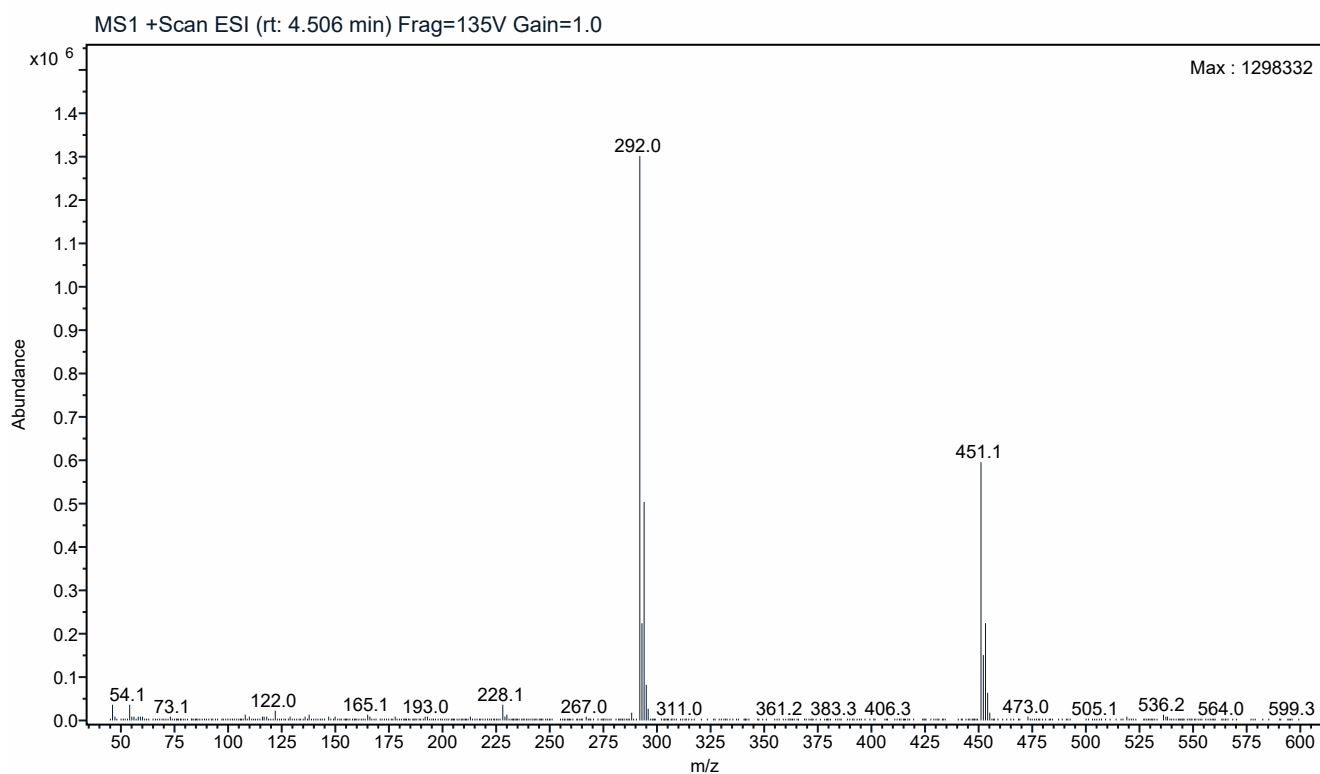
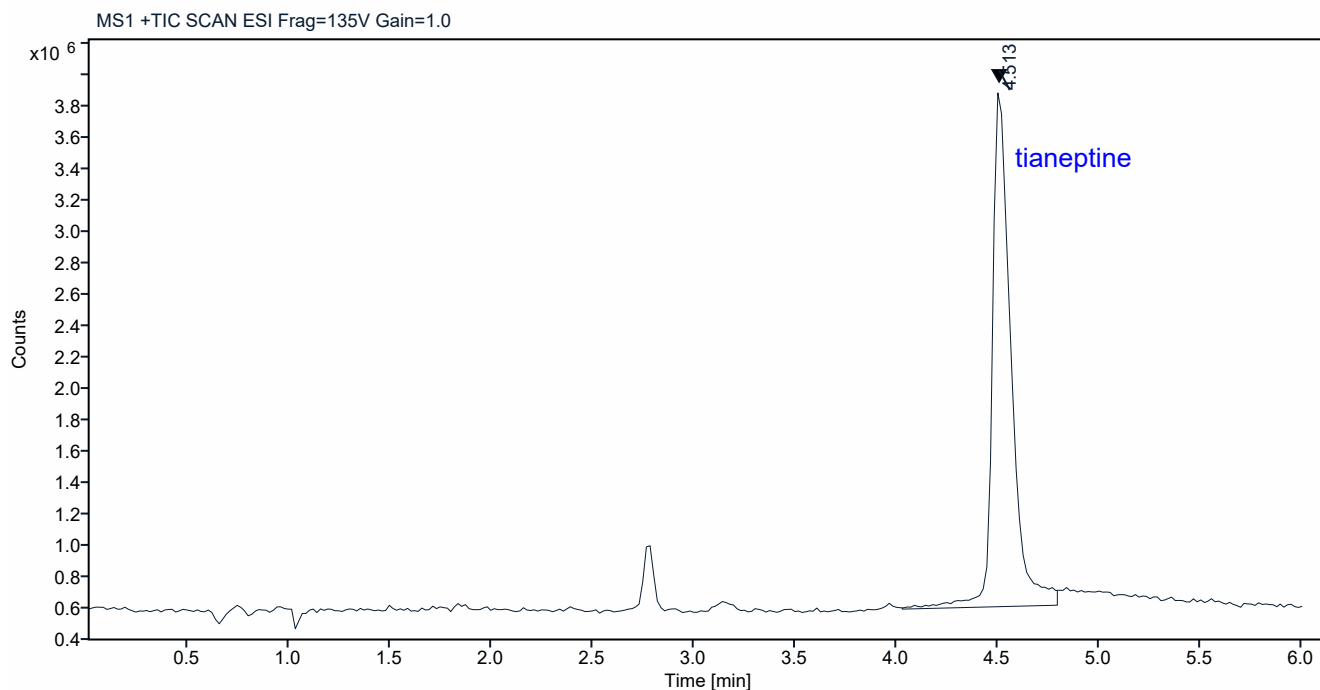
Injection Volume 3.000

Injection Data File 091025-tianeptine.dx  
Name

Injection Acq Drug1.amx  
Method Name

Injection Acquired 2025-09-10 16:59:27-04:00  
Date

Data File Path C:\CDSPProjects\September  
2025\Results\drug1 method.rslt



## Analysis Report

Sample Name MeOH/ACN blank for diazepam

Injection Data File 091025-diazepam-B.dx  
Name

Instrument Poseidon  
Name

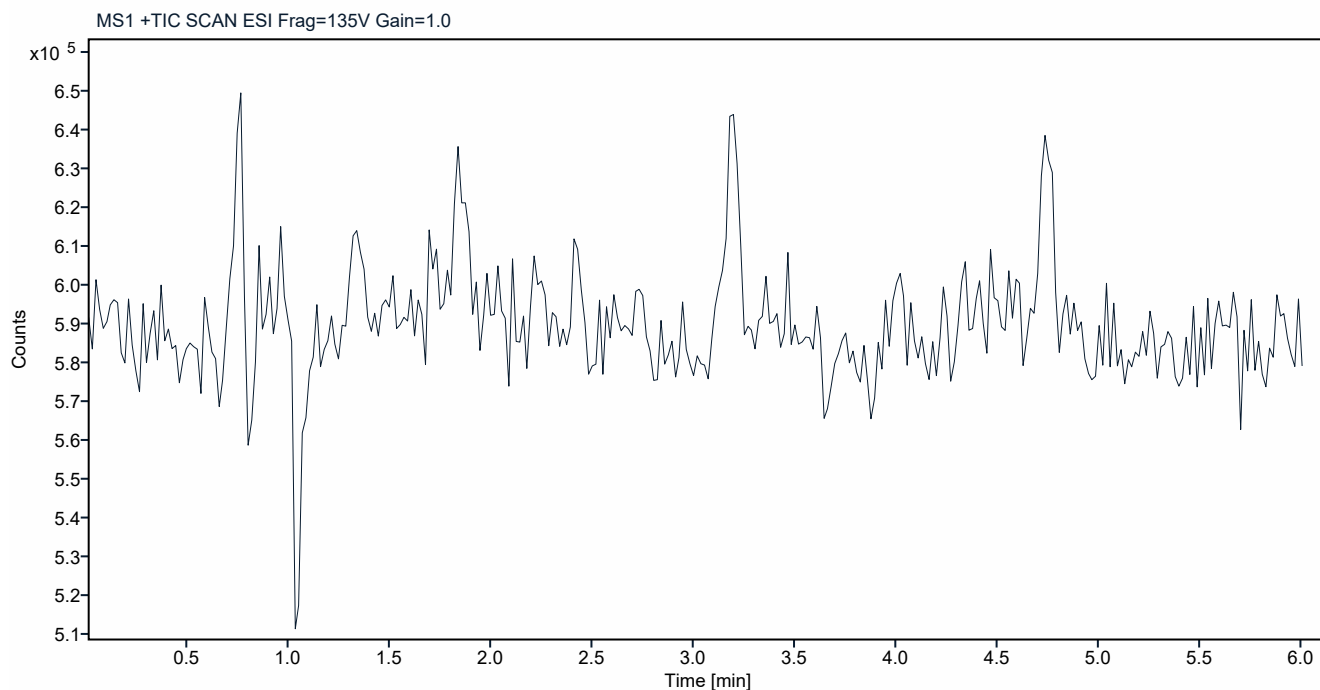
Injection Acq Drug1.amx  
Method Name

Sample Vial P2-A1  
Number

Injection Acquired 2025-09-10 17:14:38-04:00  
Date

Injection Volume 3.000

Data File Path C:\CDSPProjects\September  
2025\Results\drug1 method.rslt



## Analysis Report

Sample Name diazepam in MeOH/ACN  
Sigma lot# 105F0451

Instrument Poseidon  
Name

Sample Vial P2-B1  
Number

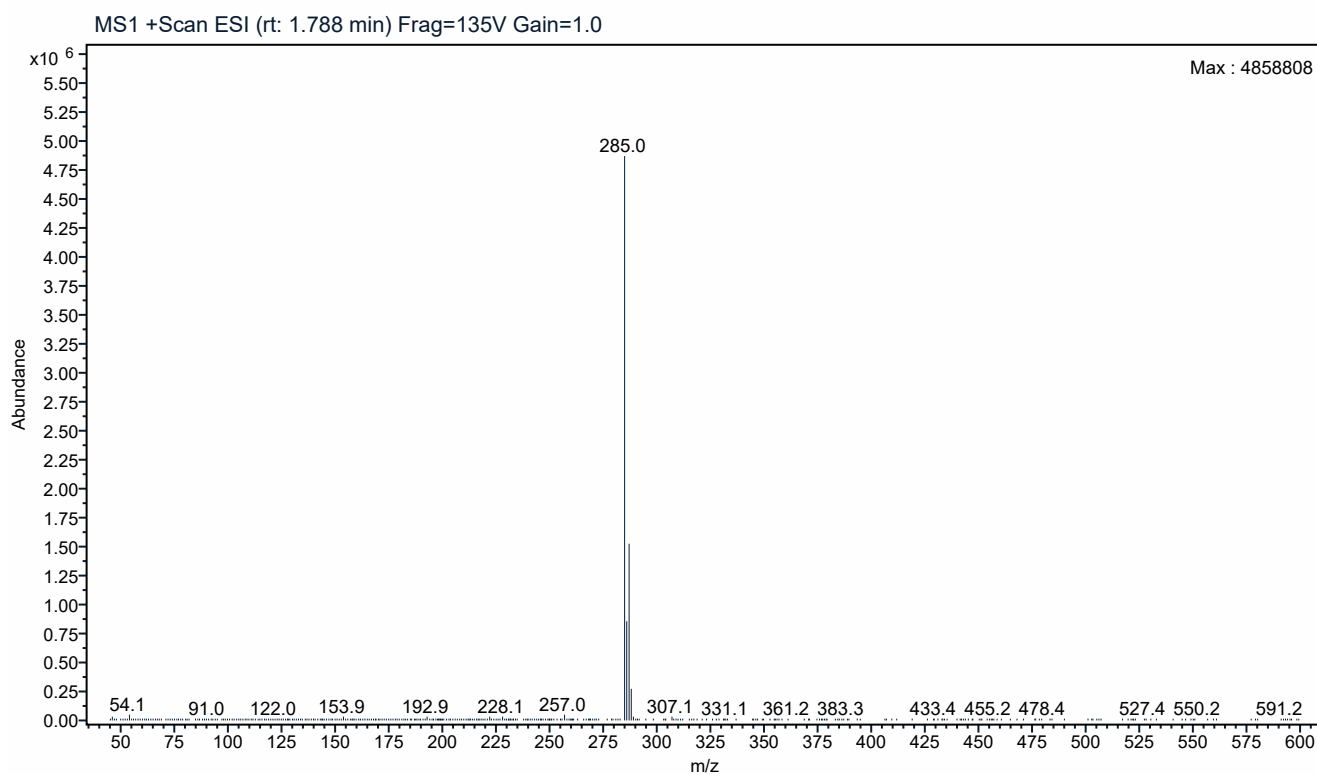
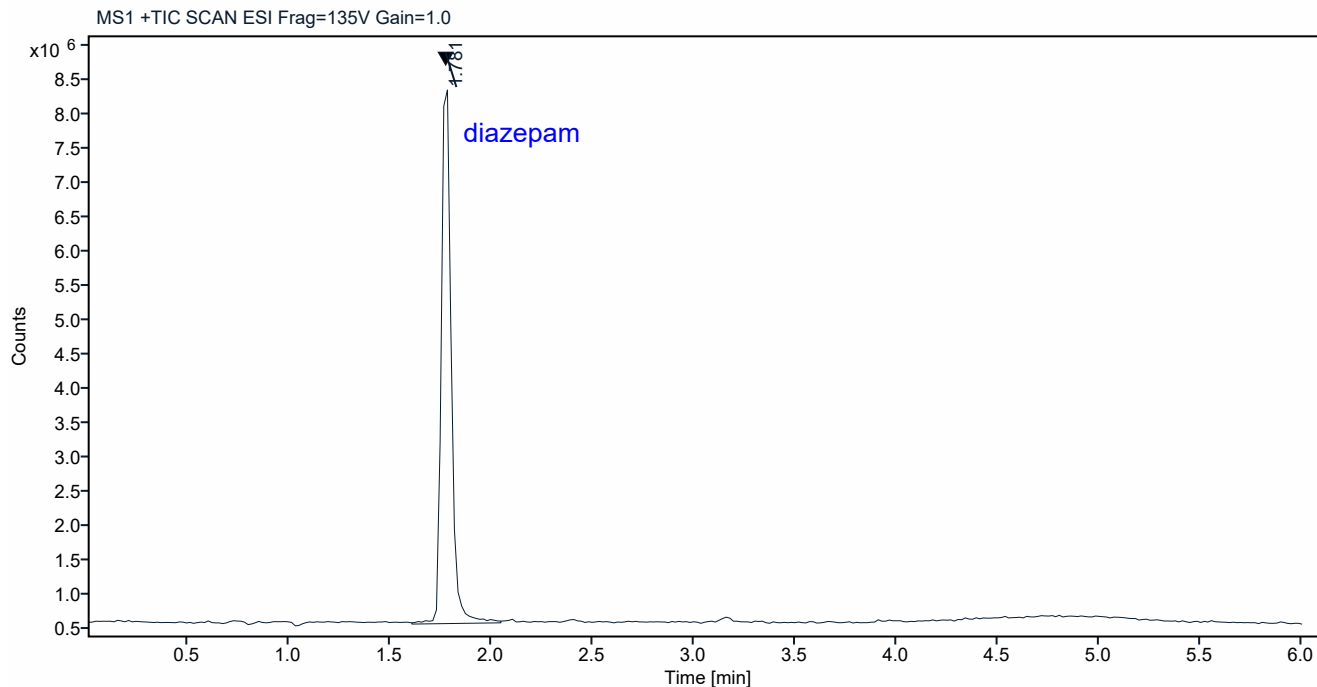
Injection Volume 3.000

Injection Data File 091025-diazepam.dx  
Name

Injection Acq Drug1.amx  
Method Name

Injection Acquired 2025-09-10 17:22:14-04:00  
Date

Data File Path C:\CDSPProjects\September  
2025\Results\drug1 method.rslt



## Analysis Report

Sample Name MeOH/ACN blank for psilocybin std

Injection Data File 091125-psilocybin-B.dx  
Name

Instrument Poseidon  
Name

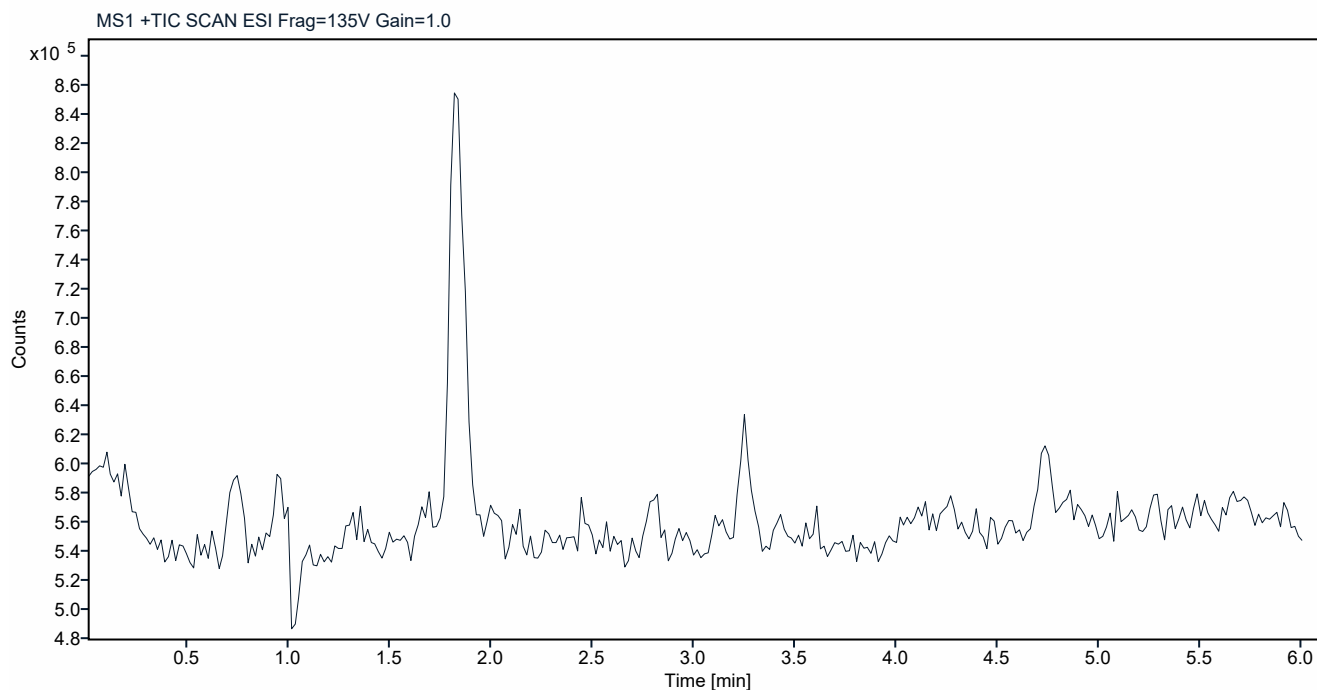
Injection Acq Drug1.amx  
Method Name

Sample Vial P2-A1  
Number

Injection Acquired 2025-09-11 16:13:47-04:00  
Date

Injection Volume 3.000

Data File Path C:\CDSPProjects\September  
2025\Results\psilocybin std.rslt



## Analysis Report

Sample Name psilocybin std in ACN&H2O/ACN  
Cayman lot# 0698168

Instrument Poseidon  
Name

Sample Vial P2-B2  
Number

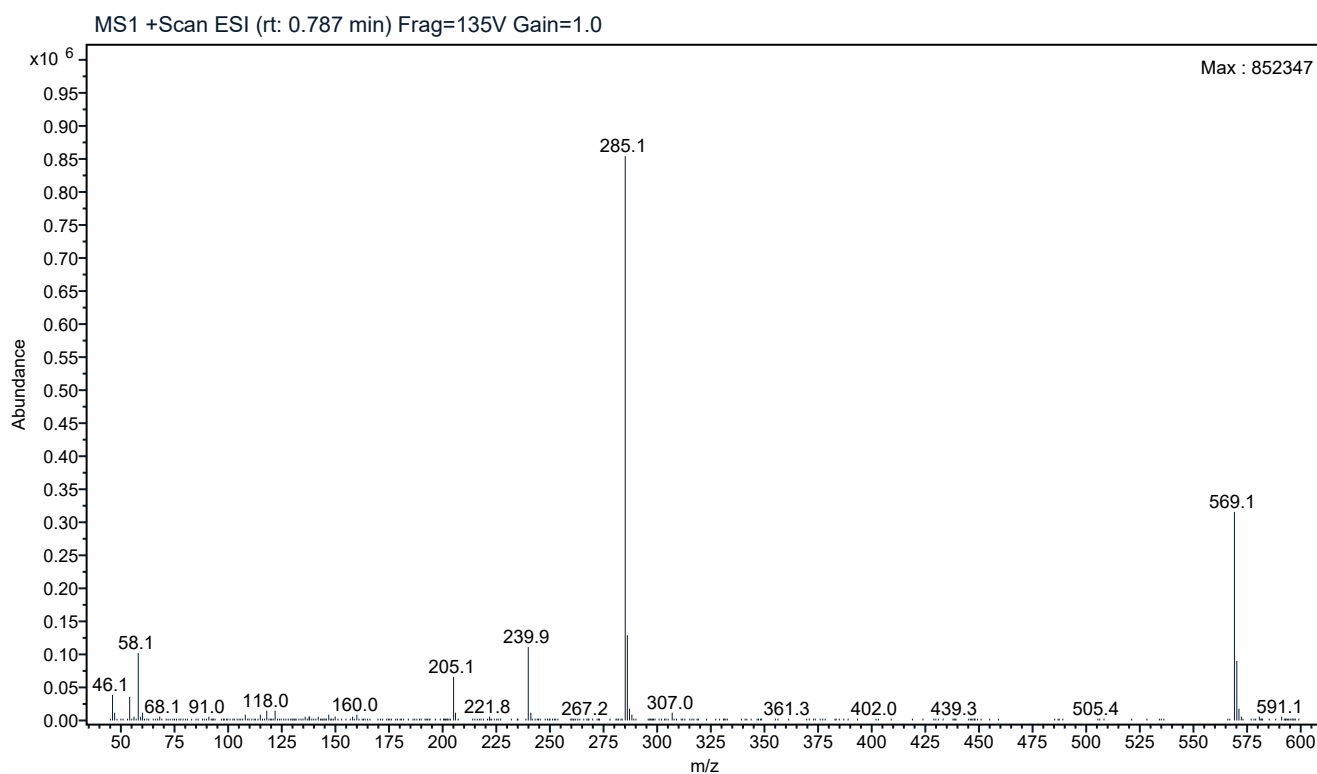
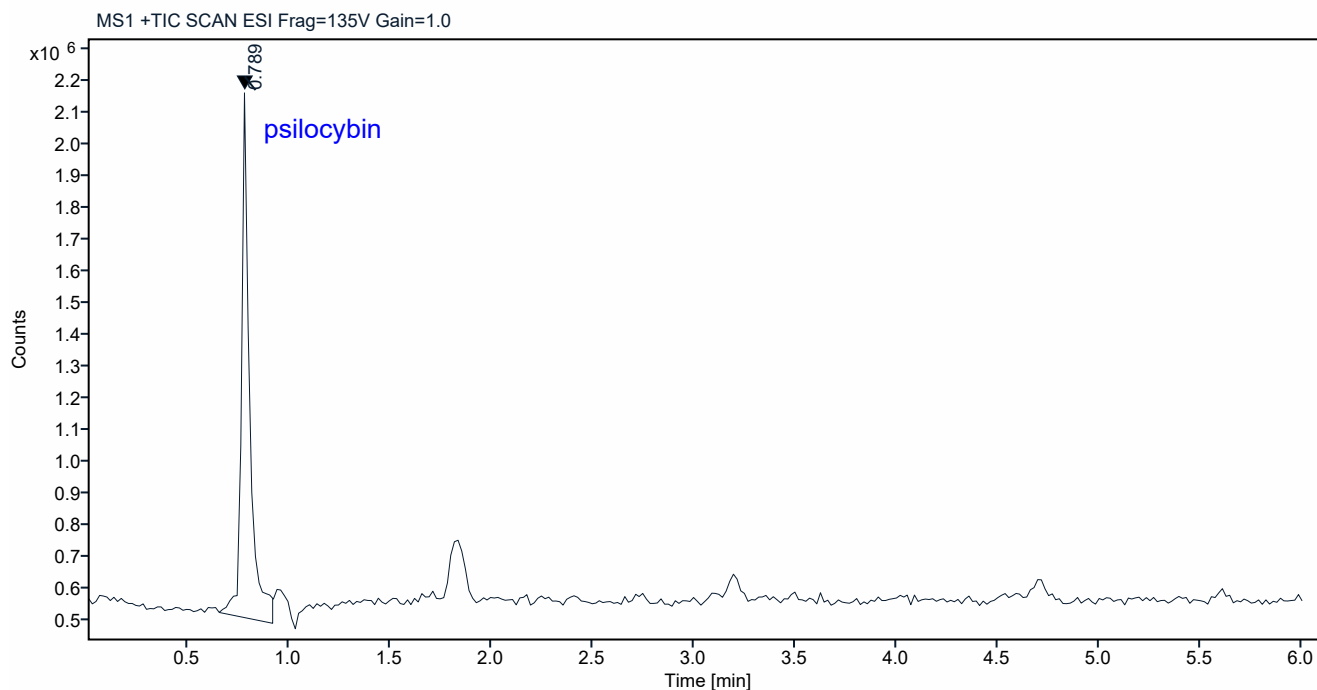
Injection Volume 3.000

Injection Data File 091125-psilocybin.dx  
Name

Injection Acq Drug1.amx  
Method Name

Injection Acquired 2025-09-11 16:21:21-04:00  
Date

Data File Path C:\CDSPProjects\September  
2025\Results\psilocybin std.rslt





Agilent

Trusted Answers

# MS Autotune Report - InfinityLab LC/MSD iQ

## Instrument Information

|               |                  |                 |                           |
|---------------|------------------|-----------------|---------------------------|
| Model         | G6160A LC/MSD iQ | Autotune Date   | 2025-09-09T10:06:18-04:00 |
| Serial Number | SG2352R002       | SW/FW Version   | 3.0.1539/8.2.12           |
| Ion Source    | ESI              | Ionization Mode | ESI                       |
| Last Tuned By | SYSTEM (SYSTEM)  | Overall Result  | Passed                    |

## Vacuum And Temperature

|                  |         |                 |         |
|------------------|---------|-----------------|---------|
| Rough Vac (Torr) | 1.65E+0 | High Vac (Torr) | 2.24E-6 |
| Turbo1 Speed (%) | 100.0   | MS Heater (°C)  | 65      |

## Positive Ion Mode

### Detector Settings

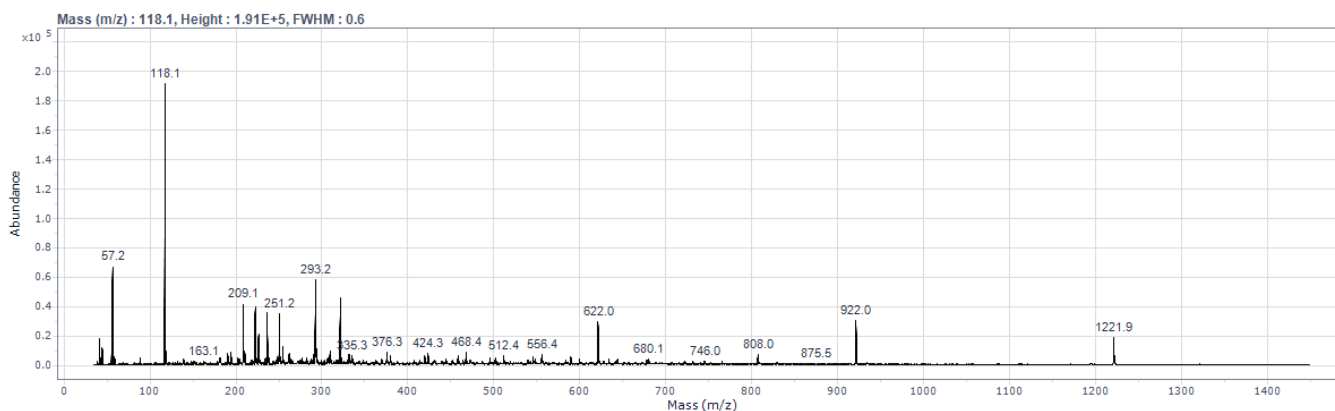
|          |     |         |     |
|----------|-----|---------|-----|
| HED (kV) | -10 | EMV (V) | 867 |
|----------|-----|---------|-----|

MS Peak Width: Unit, Scan Speed: Normal

### Calibration Information

### Result

Passed



### Mass Calibration Results

| Theoretical (m/z) | Mass Delta(m/z) | Width Delta(m/z) | Abundance | Result |
|-------------------|-----------------|------------------|-----------|--------|
| 118.09            | 0.02            | 0.01             | 156280    | Passed |
| 322.05            | -0.01           | 0.01             | 38688     | Passed |
| 622.03            | 0.02            | -0.01            | 28893     | Passed |
| 922.01            | -0.02           | 0.00             | 27981     | Passed |
| 1221.99           | -0.01           | 0.00             | 20493     | Passed |

MS Peak Width: Wide, Scan Speed: Normal

### Calibration Information

### Result

Passed

### Mass Calibration Results

| Theoretical (m/z) | Mass Delta(m/z) | Width Delta(m/z) | Abundance | Result |
|-------------------|-----------------|------------------|-----------|--------|
| 118.09            | -0.01           | -0.02            | 161159    | Passed |
| 322.05            | 0.01            | 0.00             | 40635     | Passed |
| 622.03            | -0.01           | 0.03             | 30824     | Passed |
| 922.01            | -0.02           | 0.02             | 31904     | Passed |
| 1221.99           | -0.03           | 0.00             | 27077     | Passed |

MS Peak Width: Widest, Scan Speed: Normal

### Calibration Information

### Result

Passed

**Mass Calibration Results**

| Theoretical (m/z) | Mass Delta(m/z) | Width Delta(m/z) | Abundance | Result |
|-------------------|-----------------|------------------|-----------|--------|
| 118.09            | -0.02           | 0.00             | 163724    | Passed |
| 322.05            | -0.06           | -0.01            | 46925     | Passed |
| 622.03            | -0.01           | -0.01            | 35153     | Passed |
| 922.01            | -0.04           | -0.01            | 38263     | Passed |
| 1221.99           | 0.01            | 0.04             | 31199     | Passed |

**MS Scan Speed: Fast**

|                         |        |        |
|-------------------------|--------|--------|
| Calibration Information | Result | Passed |
|-------------------------|--------|--------|

**Mass Calibration Results**

| Theoretical (m/z) | Mass Delta(m/z) | Width Delta(m/z) | Abundance | Result |
|-------------------|-----------------|------------------|-----------|--------|
| 118.09            | 0.00            | 0.02             | 145329    | Passed |
| 322.05            | 0.00            | 0.01             | 40542     | Passed |
| 622.03            | 0.01            | 0.01             | 37832     | Passed |
| 922.01            | 0.02            | 0.00             | 31143     | Passed |
| 1221.99           | 0.00            | 0.01             | 49290     | Passed |

**MS Scan Speed: Ultra**

|                         |        |        |
|-------------------------|--------|--------|
| Calibration Information | Result | Passed |
|-------------------------|--------|--------|

**Mass Calibration Results**

| Theoretical (m/z) | Mass Delta(m/z) | Width Delta(m/z) | Abundance | Result |
|-------------------|-----------------|------------------|-----------|--------|
| 118.09            | -0.01           | -0.04            | 144153    | Passed |
| 322.05            | -0.04           | 0.00             | 46475     | Passed |
| 622.03            | -0.01           | 0.00             | 39816     | Passed |
| 922.01            | -0.01           | -0.02            | 41810     | Passed |
| 1221.99           | 0.01            | 0.01             | 63727     | Passed |

**Lag Factor Results****MS1 Scan**

|        |        |
|--------|--------|
| Result | Passed |
|--------|--------|

**Lag Factor Result Table**

| Scan Speed | Samples | Step Size | Result |
|------------|---------|-----------|--------|
| 0.00       | SIM     | 0.10      | Passed |
| 50.00      | 125.00  | 0.10      | Passed |
| 250.00     | 25.00   | 0.10      | Passed |
| 520.83     | 12.00   | 0.10      | Passed |
| 1250.00    | 5.00    | 0.10      | Passed |
| 1562.50    | 4.00    | 0.10      | Passed |
| 2083.33    | 3.00    | 0.10      | Passed |
| 3125.00    | 2.00    | 0.10      | Passed |

**Detector Gain**

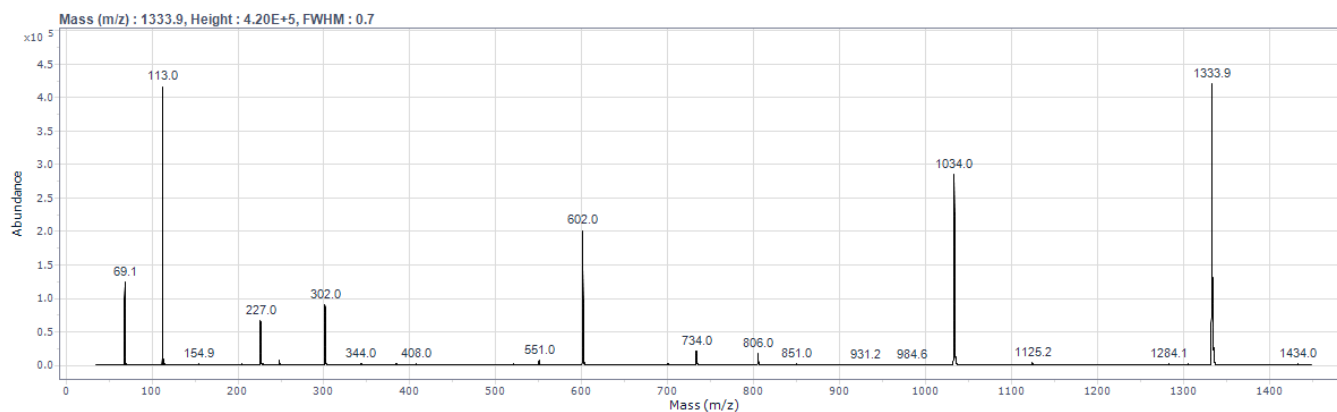
|        |        |
|--------|--------|
| Result | Passed |
|--------|--------|

**Negative Ion Mode****Detector Settings**

|          |    |         |     |
|----------|----|---------|-----|
| HED (kV) | 10 | EMV (V) | 894 |
|----------|----|---------|-----|

**MS Peak Width: Unit, Scan Speed: Normal**

|                         |        |        |
|-------------------------|--------|--------|
| Calibration Information | Result | Passed |
|-------------------------|--------|--------|



## Mass Calibration Results

| Theoretical (m/z) | Mass Delta(m/z) | Width Delta(m/z) | Abundance | Result |
|-------------------|-----------------|------------------|-----------|--------|
| 112.99            | 0.01            | 0.00             | 393912    | Passed |
| 302.00            | -0.01           | 0.01             | 96937     | Passed |
| 601.98            | -0.01           | 0.01             | 241974    | Passed |
| 1033.99           | -0.01           | -0.01            | 283732    | Passed |
| 1333.97           | 0.00            | 0.01             | 423016    | Passed |

## MS Peak Width: Wide, Scan Speed: Normal

## Calibration Information

Result

Passed

## Mass Calibration Results

| Theoretical (m/z) | Mass Delta(m/z) | Width Delta(m/z) | Abundance | Result |
|-------------------|-----------------|------------------|-----------|--------|
| 112.99            | 0.01            | -0.03            | 399207    | Passed |
| 302.00            | -0.01           | -0.01            | 85527     | Passed |
| 601.98            | 0.01            | 0.01             | 196296    | Passed |
| 1033.99           | -0.02           | 0.00             | 338248    | Passed |
| 1333.97           | -0.01           | -0.01            | 608565    | Passed |

## MS Peak Width: Widest, Scan Speed: Normal

## Calibration Information

Result

Passed

## Mass Calibration Results

| Theoretical (m/z) | Mass Delta(m/z) | Width Delta(m/z) | Abundance | Result |
|-------------------|-----------------|------------------|-----------|--------|
| 112.99            | 0.00            | -0.01            | 392007    | Passed |
| 302.00            | 0.02            | -0.01            | 87266     | Passed |
| 601.98            | -0.02           | -0.02            | 216589    | Passed |
| 1033.99           | 0.04            | 0.00             | 395009    | Passed |
| 1333.97           | 0.01            | -0.01            | 766390    | Passed |

## MS Scan Speed: Fast

## Calibration Information

Result

Passed

## Mass Calibration Results

| Theoretical (m/z) | Mass Delta(m/z) | Width Delta(m/z) | Abundance | Result |
|-------------------|-----------------|------------------|-----------|--------|
| 112.99            | 0.02            | 0.01             | 414901    | Passed |
| 302.00            | 0.01            | -0.01            | 89390     | Passed |
| 601.98            | 0.01            | 0.00             | 289408    | Passed |
| 1033.99           | 0.00            | 0.00             | 237965    | Passed |
| 1333.97           | -0.04           | -0.13            | 258641    | Passed |

## MS Scan Speed: Ultra

## Calibration Information

Result

Passed

**Mass Calibration Results**

| Theoretical (m/z) | Mass Delta(m/z) | Width Delta(m/z) | Abundance | Result |
|-------------------|-----------------|------------------|-----------|--------|
| 112.99            | 0.03            | -0.05            | 413099    | Passed |
| 302.00            | -0.01           | 0.03             | 94643     | Passed |
| 601.98            | 0.01            | 0.01             | 296395    | Passed |
| 1033.99           | -0.02           | 0.01             | 318725    | Passed |
| 1333.97           | 0.04            | 0.00             | 106530    | Passed |

**Lag Factor Results****MS1 Scan**

Result Passed

**Lag Factor Result Table**

| Scan Speed | Samples | Step Size | Result |
|------------|---------|-----------|--------|
| 3125.00    | 2.00    | 0.10      | Passed |
| 2083.33    | 3.00    | 0.10      | Passed |
| 1562.50    | 4.00    | 0.10      | Passed |
| 1250.00    | 5.00    | 0.10      | Passed |
| 520.83     | 12.00   | 0.10      | Passed |
| 250.00     | 25.00   | 0.10      | Passed |
| 50.00      | 125.00  | 0.10      | Passed |
| 0.00       | SIM     | 0.10      | Passed |

**Detector Gain**

Result Passed