



**REVIEWED**

















By Sarah Collins at 12:35 pm, Nov 07, 2022

1/1/2022

**Worklist: 6149**

**REVIEWED**

By Briany Wylie at 12:56 pm, Nov 09, 2022

<u>LAB_CASE</u>	<u>ITEM</u>	<u>ITEM_TYPE</u>	<u>DESCRIPTION</u>	
C2022-2351		BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2022-2359		BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2022-2371		BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2022-2380		BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2022-2383		BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2022-2390		BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2022-2391		BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2022-2393		BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2022-2394	3	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
C2022-2408		BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2022-2410		BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2022-2412		BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2022-2423		BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2022-2429		BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2022-2440		BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2022-2443		BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	

# AM# 25: Multi-Drug Screen in Blood and Urine by LC-MS/MS

Extraction Date: 11/1/22 Analyst: Anne Nord  
Plate lot#: 220315 Plate retest date: 09/15/22

**Mobile phase A:** 10mM Ammonium Formate  
0.5M Ammonium Hydroxide  
**Mobile phase B:** 0.1% Formic Acid in MeOH  
Ethyl Acetate LC 20% Methanol  
**Blank Blood Lot:** 22B52016-1 **Blank Urine lot:** 7722 **Column:** Agilent Phenyl Hexyl (4.6x50mm, 2.7um)  
**LCMS-QQQ ID:** 69679

## Pre-Analytic:

- 1. Check levels of mobile phases and needle wash refill as needed. Ensure waste is not full.
- 2. Ensure correct column is installed and begin mobile phase flow allow to equilibrate ~ 30 minutes.

## Analytic:

- 1. Remove standards, plate, controls, and samples from cold storage. Allow to reach room temperature.
- 2. Urine hydrolysis pipette: 250 ul urine in blank well, add 40 ul BG Turbo, add 100 ul 500 mm sodium phosphate buffer mix for at least five minutes ambient temperature.  
Pipette 250 µL blood (calibrated pipette) or 250 ul urine in wells of analytical (standards) plate. **Pipette ID: 390993**
- 3. Pipette 250 µL of 0.5 M ammonium hydroxide in wells of analytical plate.
- 4. Place on shaking incubator at ambient temp., 900 rpm for 15 minutes.
- 5. Transfer 300 µL of blood or urine+base mixture to corresponding wells of SLE+ plate.
- 6. Apply positive pressure for approx. 10-15 seconds (or until no liquid remains on top of sorbent).  
*(Load at 85-100 PSI- Selector to the right) Manifold ID: 66792*
- 7. Wait 5 minutes.
- 8. Add 900 µL ethyl acetate.
- 9. Wait 5 minutes.
- 10. Apply positive pressure for approx. 10-15 seconds. *(12-15 PSI- Selector to the left).*
- 11. Add 900 µL ethyl acetate.
- 12. Wait 5 minutes.
- 13. Apply positive pressure for approx. 10-15 seconds. *(12-15 PSI- Selector to the left).*
- 14. Remove plate containing eluate. add 50 ul 1% HCl in MeOH Place on SPE Dry and evaporate to dryness at approx. 35°C.  
*SPE Dry ID: 66819*
- 15. Reconstitute in 100 µL 100% LC MeOH in LC Water and heat seal plate with foil. Place in autosampler and run worklist. (see deviation)

## Post-Analytic

- 1. Open quantitation software and create a new quantitation batch.
- 2. Make necessary changes to integration limits
- 3. Evaluate samples, S/N of primary transition >5 and S/N of secondary transition >3 or evaluation of peak symmetry and resolution. Within +/- 2% or 0.1 min RT of administrative control. Calculated concentration 5 or greater or 2-5 for discretionary range.
- 4. Did all QCs pass for each analyte? (If no is it described in comments?)
- 5. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

COMMENTS: *Ran external controls for re-test.*

· The initial injection of the calibrator did not have any reconstitution solvent. The reconstitution solvent was added to the correct well and it was injected that injection was evaluated.

**Idaho State Police  
Forensic Services**

**Request for Departure from an Analytical Method or Quality Standard**

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Deviation Number (assigned by QM):    ISP Dev TOX-22-04

Date of Request:        **11/1/22**

Requestor/Discipline: Anne Nord Toxicology

Analytical Method/Quality Standard, Revision #: am 25 4.1.14 Reconstitute in 100 µL 20% methanol in water and heat seal plate with foil.

Temporary or Permanent Deviation: temporary

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**Scope of Deviation** (record specific information, e.g. affected programs, evidence types, expected end date; etc): For am 25 extraction done on 11/1/22 in the cda lab. I added 100% methanol rather than 20% at step 4.1.14.

**Deviation Request** (Describe detailed instructions of the changes being made; include reference to specific section number(s) in the method manual):

I am requesting for the reconstitution step to be 100% methanol rather than 20% for the extraction performed on 11/1/22 in the Cda lab.

**Technical Justification for Analytical Method Deviations:**

The method was originally validated with 100% methanol. It has been proven to be an appropriate reconstitution solvent for this method.

**Technical Review**

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Departure approved  
Comments:

Departure Not Approved  
Comments:

Approver: *Celena Shown*  
Title: *Toxicology Lead*

Date: *11/1/22*

**Quality Review**

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Quality Approver: *Corinna C Oswald*  
Title: **Acting Quality Manager**



Date: November 1, 2022

**Idaho State Police  
Forensic Services**

**Request for Departure from an Analytical Method or Quality Standard**

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Deviation Number (assigned by QM): TOX-22-01

Date of Request: **2/3/2022**

Requestor/Discipline: Celena Shrum/Toxicology

Analytical Method/Quality Standard, Revision #: AM #25, AM #28, AM #29, Revision 13

Temporary or Permanent Deviation: Permanent

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**Scope of Deviation** (record specific information, e.g. affected programs, evidence types, expected end date; etc): Deviation will remain in place until the change is made in the next method revision.

**Deviation Request** (Describe detailed instructions of the changes being made; include reference to specific section number(s) in the method manual): 4.1.4 (Place plate on shaking incubator at approximately 900 rpm for approximately 15 minutes) of AM #25, AM # 28, and AM #29 is being removed. The removal of this step was tested in the validation "Addition of Compounds/Modifications for the MDS" (approved on 2/2/2022) and it was determined that that step is not necessary and can be removed.

**Technical Justification for Analytical Method Deviations:** Refer to validation "Addition of Compounds/Modifications for the MDS" (approved on 2/2/2022)

**Technical Review**

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Departure approved  
Comments:

Departure Not Approved  
Comments:

Approver: Rachel Cutler  
Title: Laboratory Manager




Date: 2/10/2022

**Quality Review**

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Quality Approver: Jason Crowe  
Title: Quality Manager  
Date: 2/10/2022





Toxicology AM method 25/28 urine external control prep

working solution 10000 ng/ml in meoh diphendyramine, methamphetamine, alprazolam, , morphine  
Stock solution 1mg/ml 50 ul each in 4800 ul MeOH (VWR 21050767)

ppd 7/7/22: Exp: 7/7/23 lot 7722 by AMN

Drug	lot	expiration
Methamphetamine	FE03132001	7/1/2025
alprazolam	FE06102008	6/1/2025
Diphendyramine	FN02212011	3/1/2025
Morphine	FE03232010	4/1/2025

**AM 25/28 control 500 ul working solution (7722) in 4500 ul negative urine (1000ng/mL Expected concentration)**

ppd 7/7/22, exp 7/7/23 lot u7722 negative urine 21522 by AMN

**AM 25/28 Blood Control: 50ul working solution (7722) in 4950 ul neg blood (100ng/mL Expected concentration)**

ppp 7/7/22, exp 7/7/23 lot b7722 neg blood 22B52016-3 by AMN

	1	2	3	4	5	6	7	8	9	10	11	12
A						negative blood	2391-1	2443-1			2394-3	
B						positive control blood	2393-1					
C						2351-1	2408-1					
D						2359-1	2410-1					
E						2371-1	2412-1					
F						2380-1	2423-1					
G						2383-1	2429-1			urine control		
H						2390-1	2440-1			negative urine		cal 1

C2022-\_\_\_\_-\_-

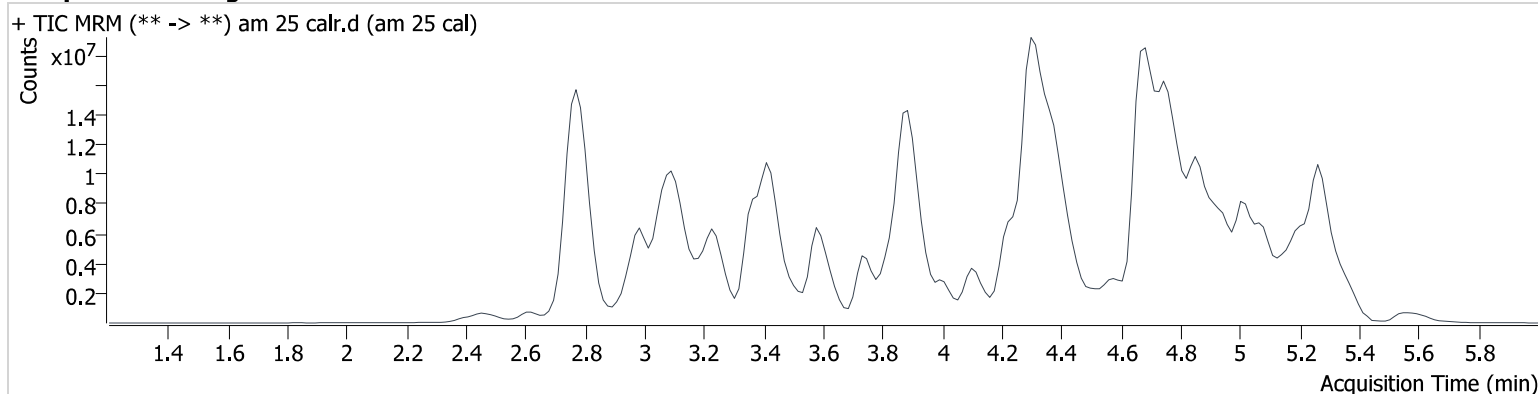
plate position 2

# AM #25 Multi-Drug Screen Results

**Batch results** D:\MassHunter\Data\2022\am 25-26\110122\QuantResults\mds.batch.bin  
**Calibration Last Update** 11/1/2022 4:42:52 PM

<b>Instrument</b>	69679	<b>Data File</b>	am 25 calr.d
<b>Type</b>	Cal	<b>Sample</b>	am 25 cal
<b>Acq. Method</b>	mds713.m	<b>Operator</b>	Anne Nord
<b>Sample Position</b>	P2-H12	<b>Comment</b>	
<b>Injection Volume</b>	2.5		
<b>Acq. Date-Time</b>	11/1/2022 12:02:30 PM		

## Sample Chromatogram



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
10-OH-Carbamazepine	3.878	2828344	6583.3	179.4	8835163	10.000
6-MAM	3.240	57340	40748.9	27094.9	1533544	10.000
7-aminoclonazepam	3.643	362933	191.5	80.4	1336488	10.000
7-aminoflunitrazepam	3.858	383754	301.6	121.3	1336488	10.000
9-Hydroxyrisperidone	4.418	6632061	68043.3	83215.2	1336488	10.000
Acetyl Fentanyl	4.531	550263	78.7	23363.1	20953748	10.000
Acetyl Norfentanyl	2.945	293977	797.6	386.9	20953748	10.000
a-hydroxyalprazolam	4.715	390504	∞	∞	1336488	10.000
alpha-hydroxymidazolam	4.775	2377095	296.1	336.3	1336488	10.000
alpha-PHP	4.232	3312491	1847.7	289.1	8773685	10.000
alpha-PVP	3.911	5055008	3568.5	184.5	8773685	10.000
Alprazolam	4.794	2013140	459.1	340.6	8835163	10.000
Amitriptyline	4.890	2307042	∞	718.2	10648830	10.000
Amphetamine	2.995	3551412	2125.6	3437.8	8773685	10.000
Benzoylcegonine	3.474	155730	556.0	57.0	287951	10.000
Brompheniramine	4.378	126527	589.7	187.5	59854655	10.000
Buprenorphine	5.560	98241	16364.5	118239.2	2813993	10.000
Bupropion	4.278	4386763	686.1	937.9	16770071	10.000
Carbamazepine	4.371	7509934	∞	437.6	106965	10.000
Carisoprodol	4.308	1318274	395687.9	175.3	4832327	10.000
Chlordiazepoxide	4.980	874016	247.7	65.3	14945793	10.000
Chlorpheniramine	4.244	7245995	10751.0	∞	6442197	10.000
Chlorpromazine	5.250	4151896	7411.9	6433.2	16365195	10.000
Citalopram	4.377	3575973	1012.6	2580.3	6442197	10.000
Clomipramine	5.190	5506802	1023448.9	1607.7	6442197	10.000
Clonazepam	4.640	939905	551.1	8519.1	14945793	10.000
Clonazolam	4.529	1169499	199828.4	74551.1	14945793	10.000
clozapine	5.020	6545804	1487252.3	1562229.9	19784135	10.000
Cocaethylene	4.101	4772297	1516161.7	5293.0	26691300	10.000
Cocaine	3.903	5758480	23465.2	785.2	26691300	10.000
Codeine	3.197	469902	1436.7	270.9	7850231	10.000
Cyclobenzaprine	4.753	3921412	25902.4	126.0	10648830	10.000
Desipramine	4.677	7762403	1250870.2	828.9	10648830	10.000



# AM #25 Multi-Drug Screen Results

Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Dextromethorphan	4.352	2516985	7842.6	2789.1	12377806	10.000
Dextrorphan	3.524	2842015	880.0	1879.8	12377806	10.000
Diazepam	5.057	1326114	869.8	730.1	14945793	10.000
Dihydrocodeine	2.907	1236060	694.8	349.8	59854655	10.000
Dimethyltryptamine	3.099	2361030	2622.6	497.3	26163444	10.000
Diphenhydramine	4.323	10426020	3537.6	626.2	59854655	10.000
Doxepin	4.567	2924514	1097.4	378.1	29426801	10.000
Doxylamine	3.829	11027842	4512.7	4206.2	4177040	10.000
Duloxetine	4.612	116090	24244.4	436.6	9236418	10.000
EDDP	4.290	229904	53552.9	52625.1	516810	10.000
Estazolam	4.704	2941190	1625.8	1424.7	14945793	10.000
Etizolam	4.774	252914	185890.0	322823.6	14945793	10.000
Fentanyl	4.760	421335	348.5	100623.5	20953748	10.000
Flualprazolam	4.608	848114	2927.7	382.8	14945793	10.000
Flunitrazepam	4.763	1523277	443066.0	348.2	14945793	10.000
Fluorofentanyl	4.820	426724	91207.9	200.7	20953748	10.000
Fluoxetine	4.579	5036231	1938.6	293.8	9236418	10.000
Flurazepam	4.803	3399619	698270.0	192139.0	14945793	10.000
Hydrocodone	3.442	1346234	741.4	252.9	7850231	10.000
Hydromorphone	2.697	1230881	2385.3	562.1	7850231	10.000
hydroxyzine	5.155	6531069	2231.4	12623.8	12377806	10.000
Imipramine	4.813	7891696	10522.6	4152.0	10648830	10.000
Ketamine	4.279	3330387	1802.8	150.1	12377806	10.000
Lamotrigine	3.754	281172	305.9	23894.2	6442197	10.000
Levamisole	3.374	2742201	4320.3	399.4	12377806	10.000
Levetiracetam	2.613	1073771	501.2	1174.0	6442197	10.000
Lorazepam	4.609	405665	191.7	∞	14945793	10.000
Maprotiline	4.691	984356	84.3	93.2	10648830	10.000
MDA	3.130	2615647	1170.6	239.3	26163444	10.000
MDEA	3.374	4572175	4594.7	234.6	26163444	10.000
MDMA	3.206	4879893	9856.6	274.4	26163444	10.000
Meperidine	3.909	2654764	391.4	152.6	12377806	10.000
Meprobamate	3.727	538728	128355.9	83.0	4832327	10.000
Methadone	4.656	6443852	11063.7	868.1	516810	10.000
Methamphetamine	3.101	8258338	∞	∞	26163444	10.000
Methocarbamol	3.694	428935	607.2	348.0	59854655	10.000
Methylphenidate	3.741	11820692	1688.8	1454.3	12377806	10.000
Metoprolol	3.569	925348	306.9	23732.6	12377806	10.000
Midazolam	4.944	763653	3250.9	151739.2	14945793	10.000
Mirtazapine	4.770	3691949	2623.5	1556.6	12377806	10.000
Mitragynine	4.818	520095	61748.7	528124.5	12377806	10.000
Morphine	2.501	293937	300.9	258.8	176183	10.000
Norbuprenorphine	4.020	69377	14418.7	22435.1	2813993	10.000
Nordiazepam	4.921	1180148	5745.3	304.9	14945793	10.000
Norfentanyl	3.449	5552621	5371.0	367.5	25475751	10.000
Norhydrocodone	3.031	132338	58.7	74271.3	7850231	10.000
norketamine	4.249	622690	282.5	624753.4	12377806	10.000
Normeperidine	3.756	2734637	262.3	380.4	6442197	10.000
Noroxycodone	2.984	1412467	∞	291.5	9728139	10.000
Nortriptyline	4.723	2673341	606448.3	3456.4	10648830	10.000
O-desmethyl-tramadol	2.990	8548792	16610.6	959.0	6442197	10.000
O-Desmethylvenlafaxine	3.370	1967577	517.2	7111.7	6442197	10.000
Olanzapine	4.364	1203349	488488.1	653.5	106965	10.000
Oxazepam	4.720	1539679	278.8	155.4	8835163	10.000
Oxycodone	3.180	2395569	477.2	1595.1	9728139	10.000
Oxymorphone	2.452	1364782	300.6	314.1	176183	10.000
Paroxetine	4.638	840738	256.5	136792.8	9236418	10.000
Phenazepam	4.835	1548665	522.2	1108.9	14945793	10.000
Phencyclidine	4.124	5578755	626.8	147.5	12377806	10.000
Phentermine	3.269	1659685	∞	215.2	17547360	10.000



# AM #25 Multi-Drug Screen Results

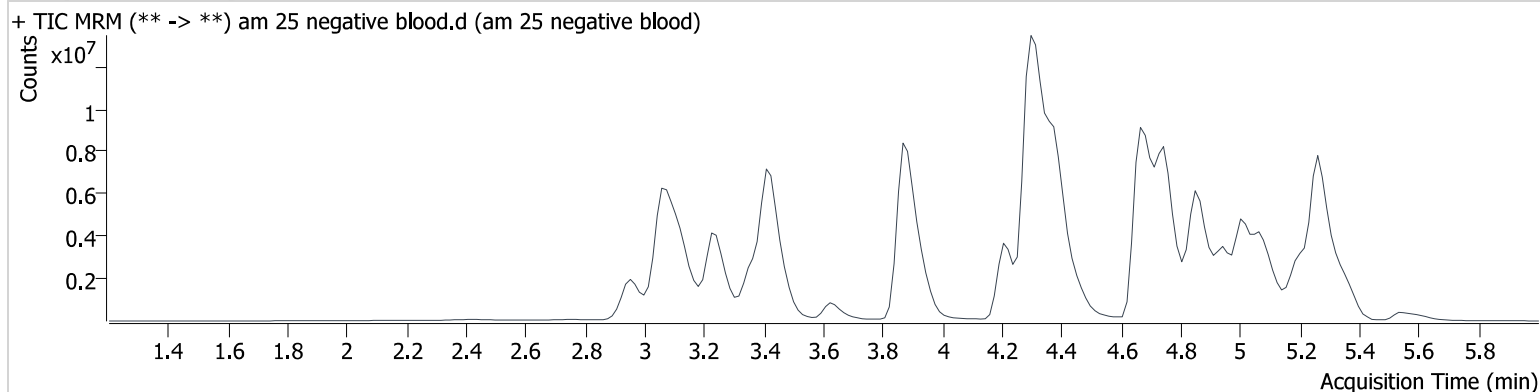
Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Phenytoin	4.262	181316	78.5	49.3	106965	10.000
primidone	3.542	559112	179.1	168.5	10648830	10.000
Promethazine	4.919	10210011	7974.9	225.1	6442197	10.000
Pseudoephedrine	2.780	72791600	12313.2	6282.9	26163444	10.000
Quetiapine	5.079	7386739	1170043.9	989960.6	41689783	10.000
Risperidone	4.695	6488709	1061.6	1228.2	473448	10.000
Sertraline	4.979	1999228	∞	∞	9236418	10.000
Sufentanil	5.200	409071	157926.7	425.3	25475751	10.000
Tapentadol	3.588	5512513	4240.4	2735.4	7850231	10.000
Temazepam	4.872	3715493	1101.7	228.2	14945793	10.000
Topiramate	3.944	33461	7603.4	5420.7	141652	10.000
Tramadol	3.585	9064596	12080.9	30.2	6442197	10.000
Trazodone	5.278	6602630	1801.1	2271.2	29426801	10.000
Venlafaxine	4.013	7706995	519.1	121.5	9236418	10.000
Zaleplon	4.519	2154250	615949.6	689.2	41689783	10.000
Zolpidem	4.688	8805398	4966.5	3179.9	41689783	10.000
Zopiclone	4.757	946753	∞	41526.0	4177040	10.000

# AM #25 Multi-Drug Screen Results

**Batch results** D:\MassHunter\Data\2022\am 25-26\110122\QuantResults\mds.batch.bin  
**Calibration Last Update** 11/1/2022 4:42:52 PM

<b>Instrument</b>	69679	<b>Data File</b>	am 25 negative blood.d
<b>Type</b>	Sample	<b>Sample</b>	am 25 negative blood
<b>Acq. Method</b>	mds713.m	<b>Operator</b>	Anne Nord
<b>Sample Position</b>	P2-A6	<b>Comment</b>	
<b>Injection Volume</b>	2.5		
<b>Acq. Date-Time</b>	11/1/2022 11:14:35 AM		
<b>Sample Info.</b>			

## Sample Chromatogram

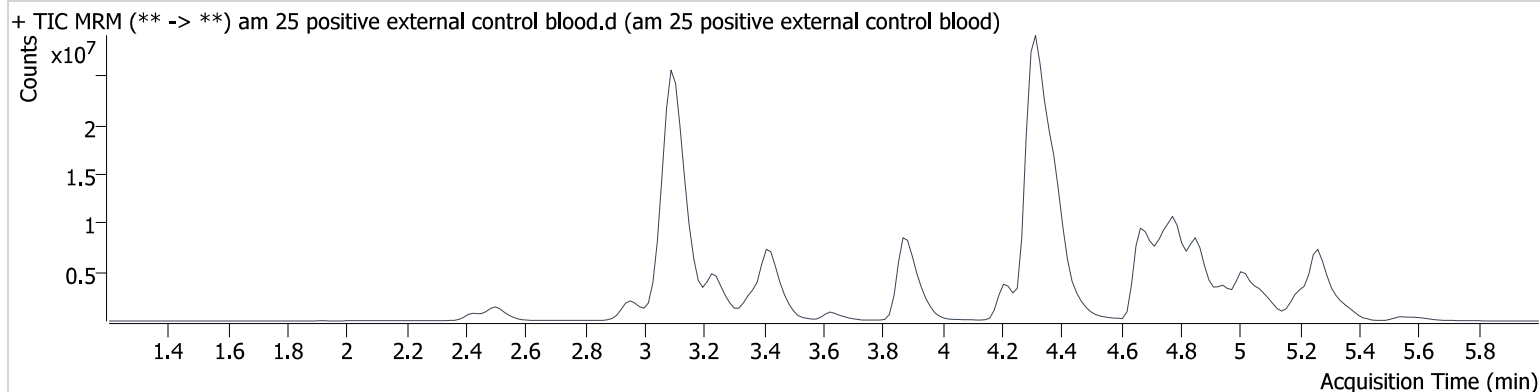


# AM #25 Multi-Drug Screen Results

**Batch results** D:\MassHunter\Data\2022\am 25-26\110122\QuantResults\mds.batch.bin  
**Calibration Last Update** 11/1/2022 4:42:52 PM

<b>Instrument</b>	69679	<b>Data File</b>	am 25 positive external control blood.d
<b>Type</b>	Sample	<b>Sample</b>	am 25 positive external control blood
<b>Acq. Method</b>	mds713.m	<b>Operator</b>	Anne Nord
<b>Sample Position</b>	P2-B6	<b>Comment</b>	
<b>Injection Volume</b>	2.5		
<b>Acq. Date-Time</b>	11/1/2022 11:21:26 AM		
<b>Sample Info.</b>			

## Sample Chromatogram



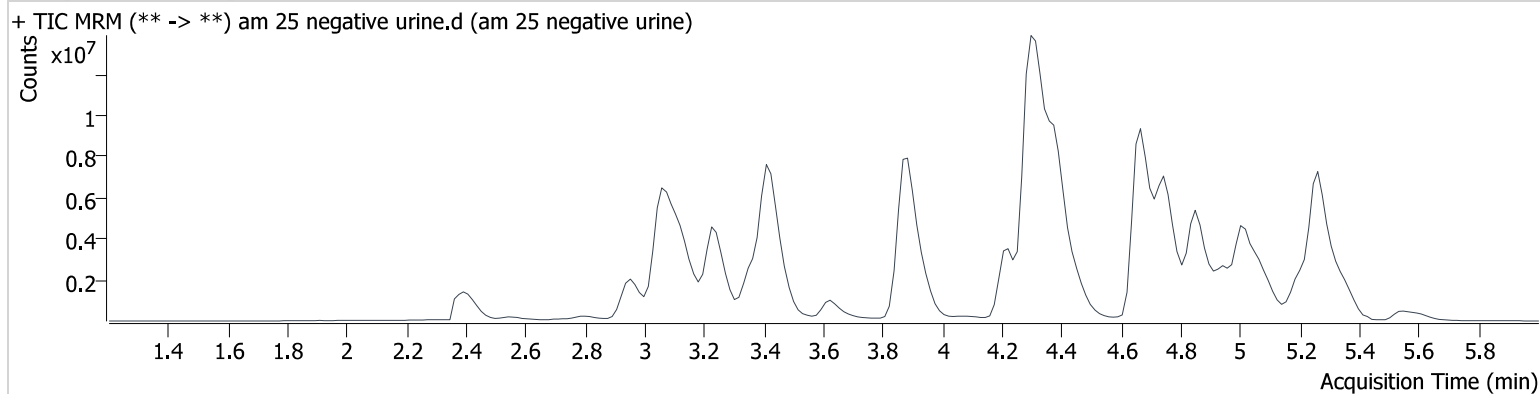
Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Alprazolam	4.794	16066289	22492.8	1802.4	10065331	70.053
Diphenhydramine	4.323	68864655	43761.3	406069.3	58595987	67.470
Methamphetamine	3.101	49769964	∞	∞	24857052	63.434
Morphine	2.501	2636036	342.1	2820.5	204193	77.378

# AM #25 Multi-Drug Screen Results

**Batch results** D:\MassHunter\Data\2022\am 25-26\110122\QuantResults\mds.batch.bin  
**Calibration Last Update** 11/1/2022 4:42:52 PM

<b>Instrument</b>	69679	<b>Data File</b>	am 25 negative urine.d
<b>Type</b>	Sample	<b>Sample</b>	am 25 negative urine
<b>Acq. Method</b>	mds713.m	<b>Operator</b>	Anne Nord
<b>Sample Position</b>	P2-H10	<b>Comment</b>	
<b>Injection Volume</b>	2.5		
<b>Acq. Date-Time</b>	11/1/2022 1:24:41 PM		
<b>Sample Info.</b>			

## Sample Chromatogram

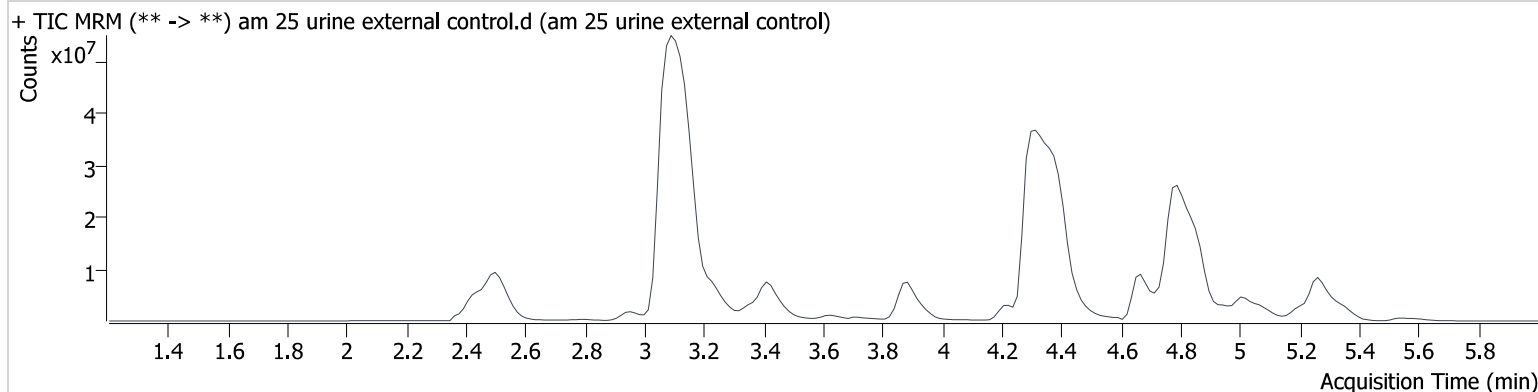


# AM #25 Multi-Drug Screen Results

**Batch results** D:\MassHunter\Data\2022\am 25-26\110122\QuantResults\mds.batch.bin  
**Calibration Last Update** 11/1/2022 4:42:52 PM

<b>Instrument</b>	69679	<b>Data File</b>	am 25 urine external control.d
<b>Type</b>	Sample	<b>Sample</b>	am 25 urine external control
<b>Acq. Method</b>	mds713.m	<b>Operator</b>	Anne Nord
<b>Sample Position</b>	P2-G10	<b>Comment</b>	
<b>Injection Volume</b>	2.5		
<b>Acq. Date-Time</b>	11/1/2022 1:31:31 PM		
<b>Sample Info.</b>			

## Sample Chromatogram



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
7-aminoclonazepam	3.613	89133	87.0	missing qualifier ion	3365393	0.975 <5
Alprazolam	4.794	75857901	6465.8	5938.9	2139157	1556.320
Diphenhydramine	4.377	146247730	38204.4	31999.0	41821885	200.754
Methamphetamine	3.132	125666589	∞	∞	18323756	217.274
Morphine	2.501	18592213	∞	11978.5	159006	700.850

# AM# 26: THC and Metabolites Screen in Blood by LC-MS/MS

Extraction Date: 11/01/22 Analyst: Anne Nord

Plate lot#: 220802 Plate retest date: 2/02/23

**Mobile phase A:** 10mM Ammonium Formate  
0.1% Formic Acid in Water

**Mobile phase B:** 0.1% Formic acid in MeOH  
MTBE Hexane

**Blank Blood Lot:** 22B52016-1 **Urine Blank:** 7722

**Column:** Agilent Phenyl Hexyl (4.6x50mm: 2.7 um)

**LCMS-QQQ ID:** 69679

## Pre-Analytic:

- 1. Check levels of mobile phases and needle wash refill as needed. Ensure waste is not full.
- 2. Ensure correct column is installed and begin mobile phase flow allow to equilibrate ~ 30 minutes.

## Analytic:

- 1. Remove standards, plate, controls, and samples from cold storage. Allow to reach room temperature.
- 2. Urine hydrolysis: add 1.5 ml urine to blank plate, add 250 ul 1N KOH mix and incubate at 40 degrees for 15 minutes.  
Pipette **1000 µL blood (calibrated pipette)** in wells of analytical (standards) plate. **Pipette ID: I41142J**  
Pipette 1000 ul urine to analytical (standards) plate.
- 3. Place on shaking incubator at ambient temp., 900 rpm for 15 minutes.
- 4. Pipette **500 µL 0.1% formic acid in blood** wells **500 ul saturated phosphate buffer in urine** wells of analytical plate.
- 5. Place on shaking incubator at ambient temp., 900 rpm for 15 minutes.
- 6. Transfer **800 µL of blood acid or urine acid** mixture to corresponding wells of SLE+ plate.
- 7. Apply positive pressure for approx. 10-15 seconds (or until no liquid remains on top of sorbent).  
**(Load at 85-100 PSI- Selector to the right)** Manifold ID: 66792
- 8. Wait 5 minutes.
- 9. Add **2.25 mL MTBE** (add in 3 increments of 750 µL).
- 10. Wait 5 minutes.
- 11. Apply positive pressure for approx. 10-15 seconds. **(12-15 PSI- Selector to the left)**.
- 12. Add **2.25 mL hexane** (add in 3 increments of 750 µL).
- 13. Wait 5 minutes.
- 14. Apply positive pressure for approx. 10-15 seconds. **(12-15 PSI- Selector to the left)**.
- 15. Remove plate containing eluate. Place on SPE Dry and evaporate to dryness at approx. 35°C.  
*SPE Dry ID: 66819*
- 16. Reconstitute in **100 µL 100% LCMS MeOH** and heat seal plate with foil. Place in autosampler and run worklist.

## Post-Analytic

- 1. Create batch and process data.
- 2. Calculated sample concentration of 3 ng/mL or greater for THC and THC-OH, a calculated sample concentration of 10 ng/mL or greater for Carboxy-THC.
- 3. Retention time within +/- 2% or +/-0.100 min whichever is greater of the average retention time of the calibrators.
- 4. Did all QCs pass for each analyte? Yes
- 5. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

COMMENTS:



**Idaho State Police  
Forensic Services**

**Request for Departure from an Analytical Method or Quality Standard**

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Deviation Number (assigned by QM): TOX-22-02

Date of Request:

03/02/2022

Requestor/Discipline:

Celena Shrum/Toxicology

Analytical Method/Quality Standard, Revision #:

Toxicology AM #25, AM #26, and AM #27, Revision 13

Temporary or Permanent Deviation:

Permanent

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**Scope of Deviation** (record specific information, e.g. affected programs, evidence types, expected end date; etc):

Deviation will remain in place until the change is made in the next method revision.

**Deviation Request** (Describe detailed instructions of the changes being made; include reference to specific section number(s) in the method manual):

Toxicology AM #25 3.3.1.1 Internal standards are prepared by the ToxBBox plate manufacturer and contained on the 96 well plate. If the run contains urine samples, a positive external urine control must also be run.

Toxicology AM #26 3.3.2 A negative control will be run with each extraction. If the run contains urine samples, a negative urine control and external positive urine control must also be included.

Toxicology AM #27 3.3.2 A negative control will be run with each extraction. If the run contains urine samples, a negative urine control and positive external urine control will also be included in the run.

The deviation is to include the option of using an internal urine control in lieu of an external urine control.





**Technical Justification for Analytical Method Deviations:**

Internal controls serve the same purpose as external controls but also helps to avoid the possible issues that can occur with using external controls (incorrect spiking, incorrect preparation, evaporation of compounds, etc.). If these errors occur, runs need to be repeated and this wastes time, sample, and supplies.

**Technical Review**

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Departure approved

Comments:

Departure Not Approved

Comments:



Approver: Rachel Cutler

Title: Lab Manager

Date: 3/2/22

**Quality Review**

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Quality Approver: Jason Crowe

Title: Quality Manager

Date: 3/2/2022



	1	2	3	4	5	6
a	cal 1	internal control urine	2391-1	2443-1		
b	cal 2	negative blood	2393-1	negative urine		
c	cal 3	2351-1	2408-1	2394-3		
d	cal 4	2359-1	2410-1			
e	Cal 5	2371-1	2412-1			
f	cal 6	2380-1	2423-1			
g	cal 7	2383-1	2429-1			
h	Internal control (blood)	2390-1	2440-1			

Plate position 3

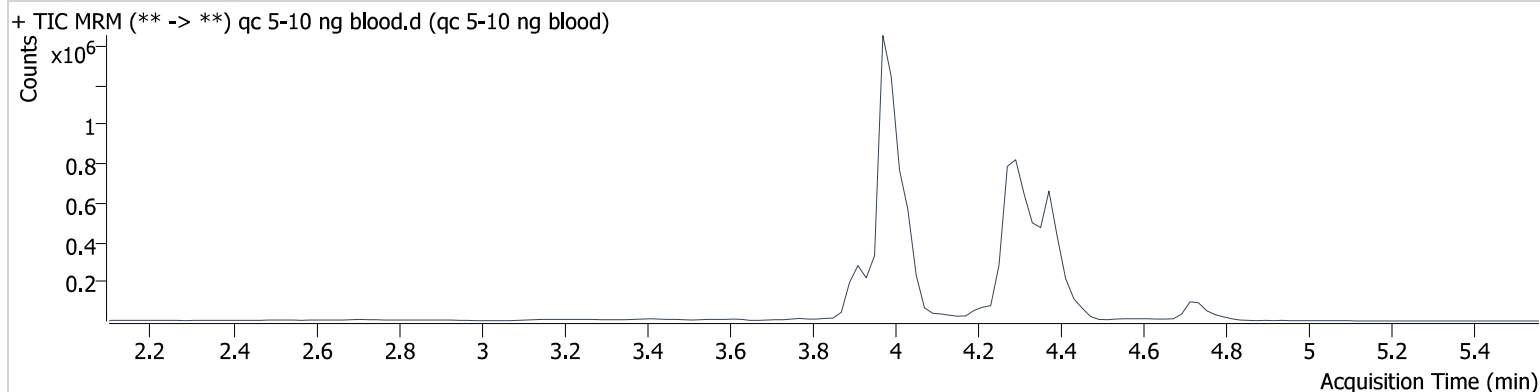
c2022-\_\_\_\_-\_\_

# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2022\am 25-26\110122\QuantResults\cann.batch.bin  
**Calibration Last Update** 11/2/2022 8:33:55 AM

<b>Instrument</b>	69679	<b>Data File</b>	qc 5-10 ng blood.d
<b>Type</b>	QC	<b>Sample</b>	qc 5-10 ng blood
<b>Acq. Method</b>	am 26 cann scr 5-5-20.m	<b>Operator</b>	Anne Nord
<b>Sample Position</b>	P3-H1	<b>Comment</b>	
<b>Injection Volume</b>	5		
<b>Acq. Date-Time</b>	11/1/2022 2:58:36 PM		
<b>Sample Info.</b>			

## Sample Chromatogram



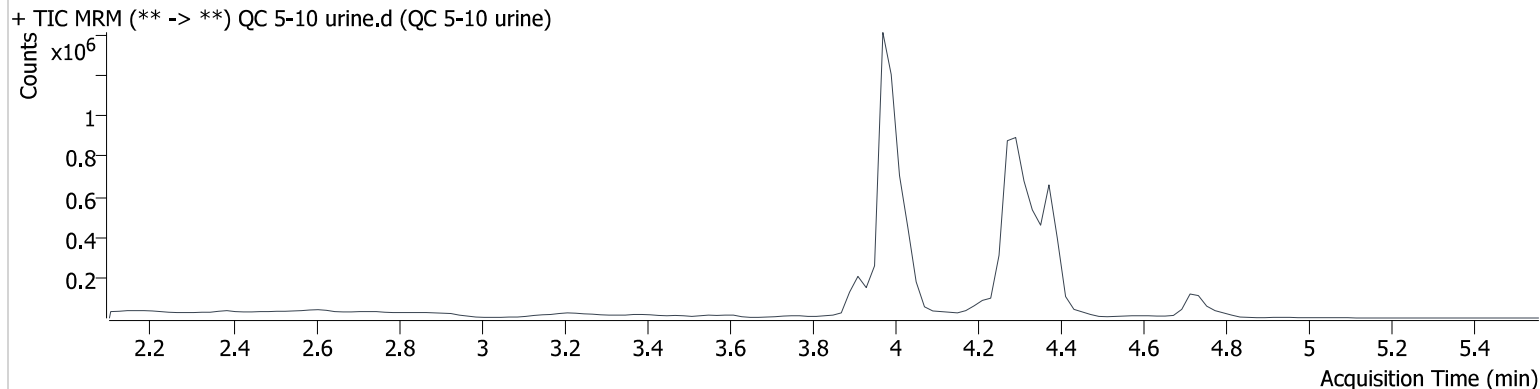
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	4.385	69357	1603407	5.021 ng/ml
THC-COOH	3.912	148643	704130	14.858 ng/ml
THC-OH	3.979	40776	4969051	4.643 ng/ml

# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2022\am 25-26\110122\QuantResults\cann.batch.bin  
**Calibration Last Update** 11/2/2022 8:33:55 AM

<b>Instrument</b>	69679	<b>Data File</b>	QC 5-10 urine.d
<b>Type</b>	Sample	<b>Sample</b>	QC 5-10 urine
<b>Acq. Method</b>	am 26 cann scr 5-5-20.m	<b>Operator</b>	Anne Nord
<b>Sample Position</b>	P3-A2	<b>Comment</b>	
<b>Injection Volume</b>	5		
<b>Acq. Date-Time</b>	11/1/2022 3:05:13 PM		
<b>Sample Info.</b>			

## Sample Chromatogram



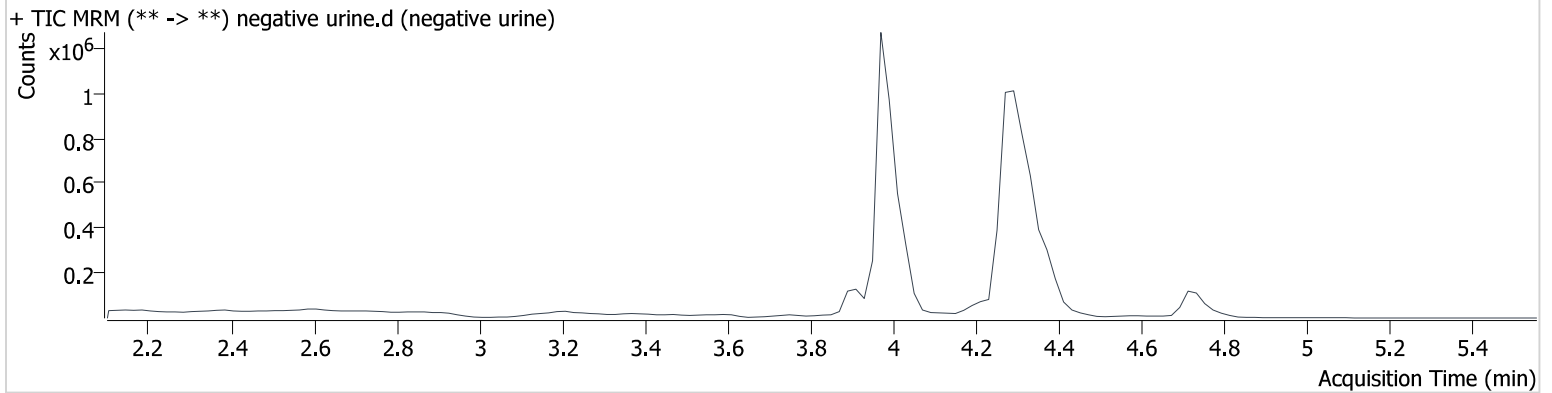
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	4.385	51519	1252867	4.785 ng/ml
THC-COOH	3.912	90322	507173	12.561 ng/ml
THC-OH	3.979	38257	4609573	4.695 ng/ml

# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2022\am 25-26\110122\QuantResults\cann.batch.bin  
**Calibration Last Update** 11/2/2022 8:33:55 AM

<b>Instrument</b>	69679	<b>Data File</b>	negative urine.d
<b>Type</b>	Sample	<b>Sample</b>	negative urine
<b>Acq. Method</b>	am 26 cann scr 5-5-20.m	<b>Operator</b>	Anne Nord
<b>Sample Position</b>	P3-B4	<b>Comment</b>	
<b>Injection Volume</b>	5		
<b>Acq. Date-Time</b>	11/1/2022 4:57:49 PM		
<b>Sample Info.</b>			

## Sample Chromatogram

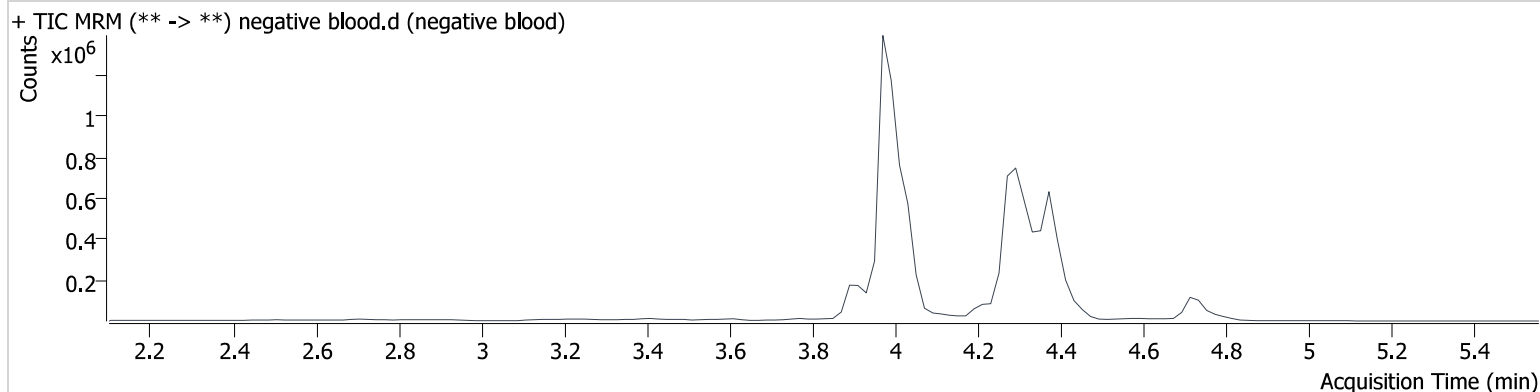


# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2022\am 25-26\110122\QuantResults\cann.batch.bin  
**Calibration Last Update** 11/2/2022 8:33:55 AM

<b>Instrument</b>	69679	<b>Data File</b>	negative blood.d
<b>Type</b>	Sample	<b>Sample</b>	negative blood
<b>Acq. Method</b>	am 26 cann scr 5-5-20.m	<b>Operator</b>	Anne Nord
<b>Sample Position</b>	P3-B2	<b>Comment</b>	
<b>Injection Volume</b>	5		
<b>Acq. Date-Time</b>	11/1/2022 3:11:51 PM		
<b>Sample Info.</b>			

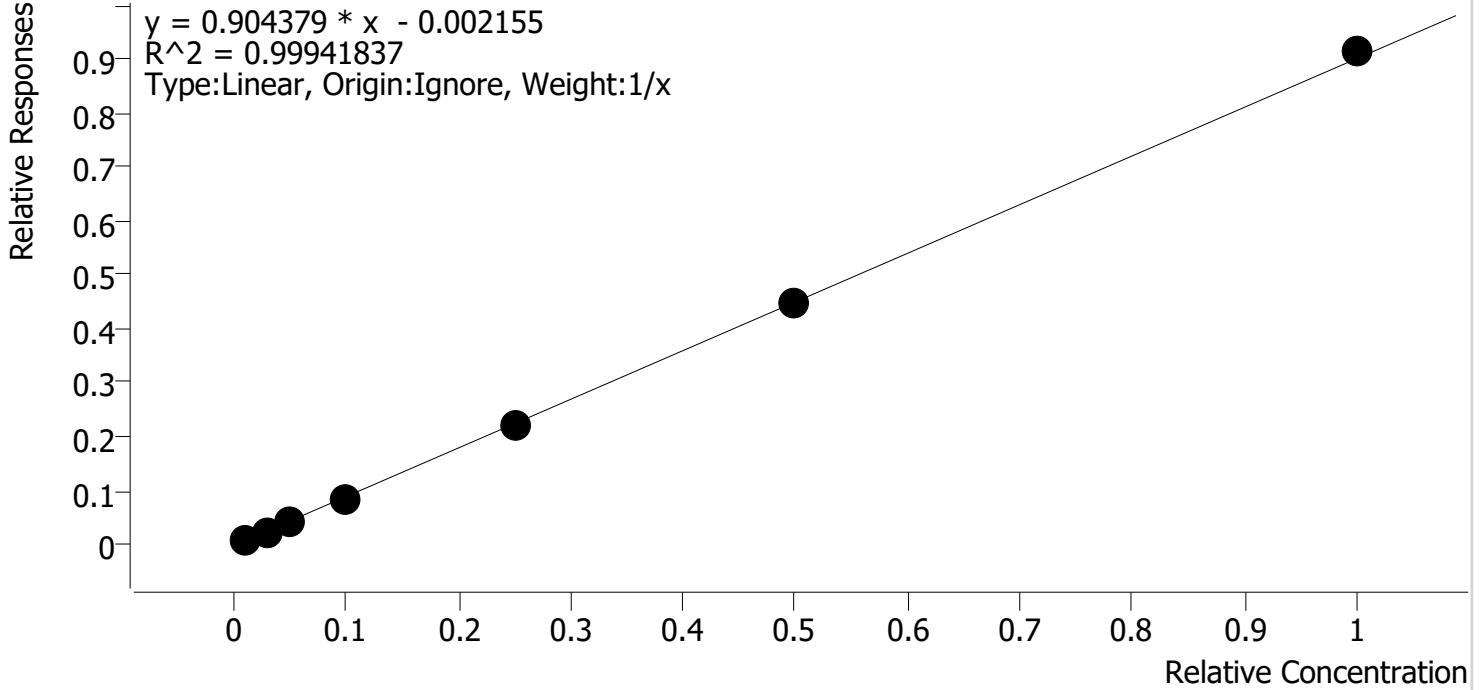
## Sample Chromatogram



# Compound Calibration Report

**Batch results** D:\MassHunter\Data\2022\am 25-26\110122\QuantResults\cann.batch.bin  
**Last Cal. Update** 11/2/2022 8:33 AM  
**Analyst Name** ISP\datastor  
**Analyte** THC **Internal Standard** THC-d3

THC - 7 Levels, 7 Levels Used, 7 Points, 7 Points Used, 0 QCs

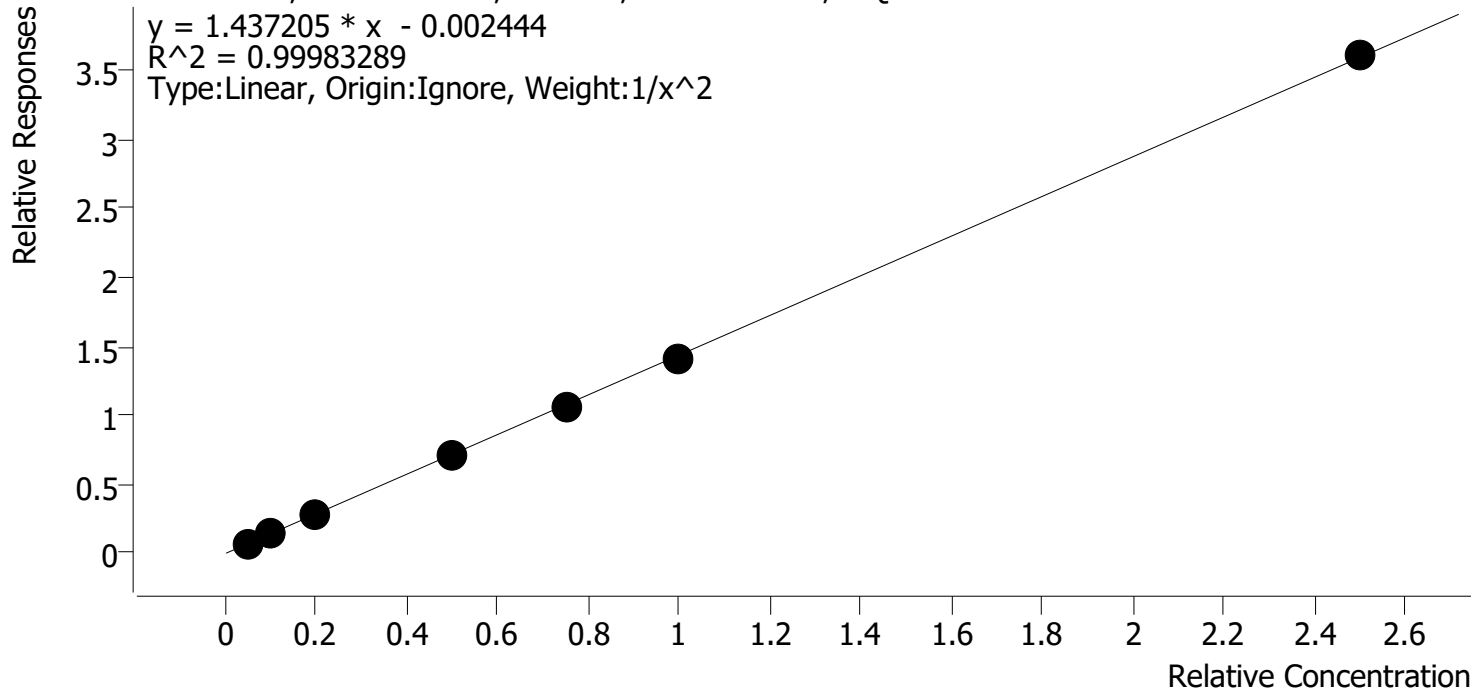


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
cal 1	1	✓	1.0	1.2	115.4
cal 2	2	✓	3.0	2.9	95.8
cal 3	3	✓	5.0	4.7	93.4
cal 4	4	✓	10.0	9.7	96.7
cal 5	5	✓	25.0	24.4	97.5
cal-6	6	✓	50.0	49.8	99.7
cal-7	7	✓	100.0	101.4	101.4

# Compound Calibration Report

<b>Batch results</b>	D:\MassHunter\Data\2022\am 25-26\110122\QuantResults\cann.batch.bin		
<b>Last Cal. Update</b>	11/2/2022 8:33 AM		
<b>Analyst Name</b>	ISP\datastor		
<b>Analyte</b>	THC-COOH	<b>Internal Standard</b>	THC-COOH-d9

THC-COOH - 7 Levels, 7 Levels Used, 7 Points, 7 Points Used, 0 QCs



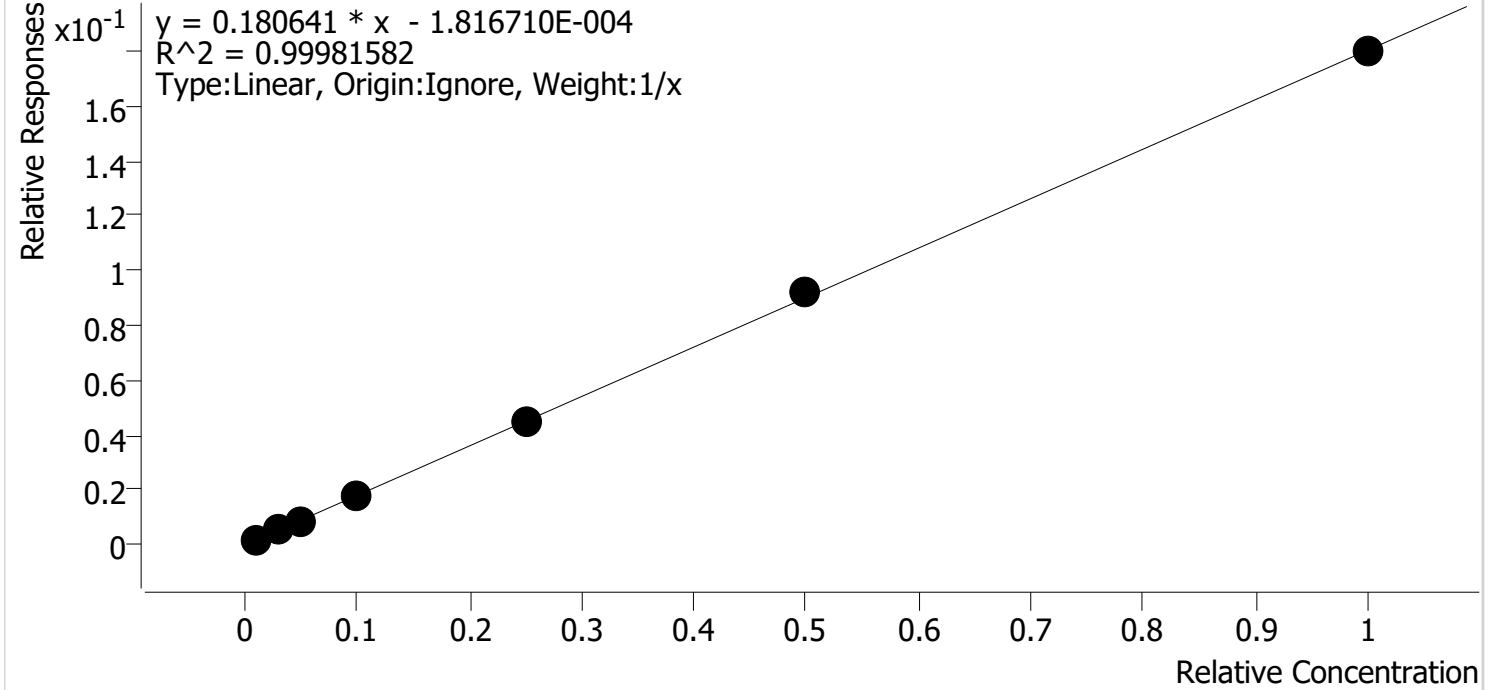
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
cal 1	1	✓	5.0	5.0	99.1
cal 2	2	✓	10.0	10.1	101.4
cal 3	3	✓	20.0	20.2	101.2
cal 4	4	✓	50.0	50.0	99.9
cal 5	5	✓	75.0	74.5	99.3
cal-6	6	✓	100.0	98.7	98.7
cal-7	7	✓	250.0	250.9	100.4



# Compound Calibration Report

**Batch results** D:\MassHunter\Data\2022\am 25-26\110122\QuantResults\cann.batch.bin  
**Last Cal. Update** 11/2/2022 8:33 AM  
**Analyst Name** ISP\datastor  
**Analyte** THC-OH **Internal Standard** THC-OH-d3

THC-OH - 7 Levels, 7 Levels Used, 7 Points, 7 Points Used, 0 QCs



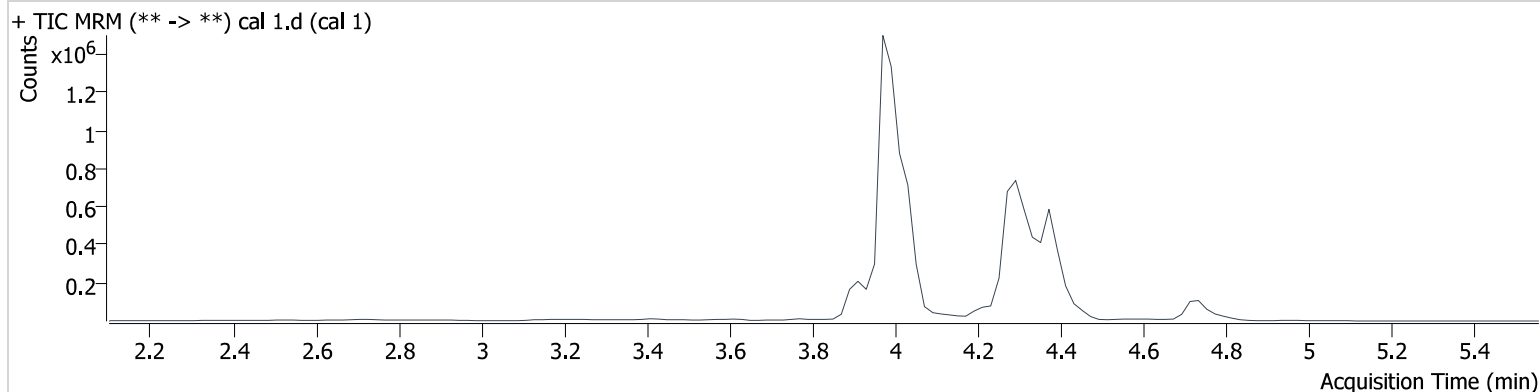
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
cal 1	1	✓	1.0	1.1	105.1
cal 2	2	✓	3.0	3.0	100.6
cal 3	3	✓	5.0	4.8	95.6
cal 4	4	✓	10.0	9.8	97.8
cal 5	5	✓	25.0	24.9	99.7
cal-6	6	✓	50.0	50.8	101.5
cal-7	7	✓	100.0	99.7	99.7

# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2022\am 25-26\110122\QuantResults\cann.batch.bin  
**Calibration Last Update** 11/2/2022 8:33:55 AM

<b>Instrument</b>	69679	<b>Data File</b>	cal 1.d
<b>Type</b>	Cal	<b>Sample</b>	cal 1
<b>Acq. Method</b>	am 26 cann scr 5-5-20.m	<b>Operator</b>	Anne Nord
<b>Sample Position</b>	P3-A1	<b>Comment</b>	
<b>Injection Volume</b>	5		
<b>Acq. Date-Time</b>	11/1/2022 2:12:18 PM		
<b>Sample Info.</b>			

## Sample Chromatogram



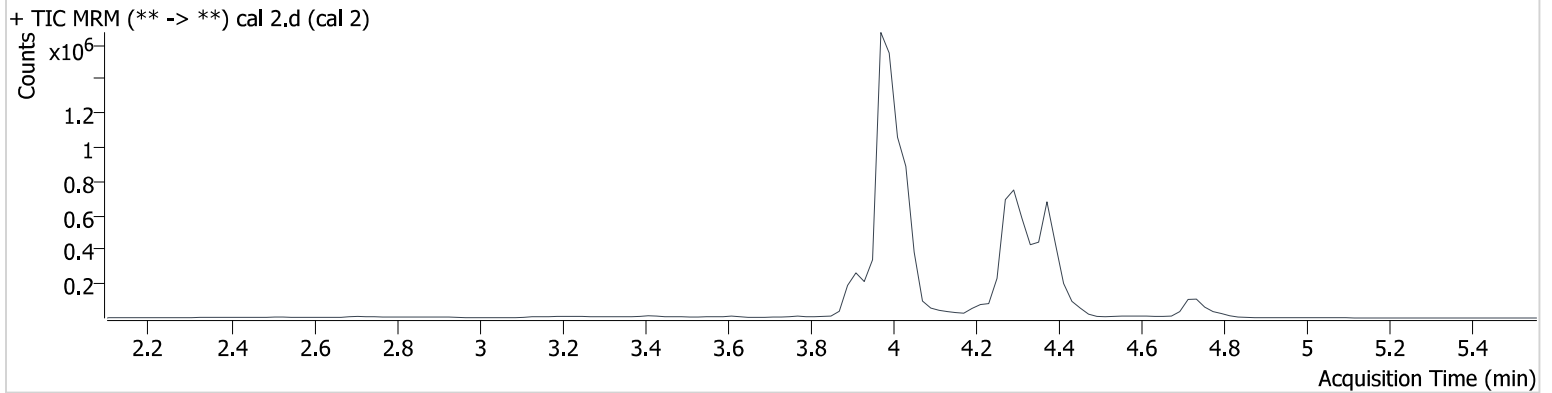
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	4.385	12132	1465422	1.154 ng/ml <b>Low</b>
THC-COOH	3.912	48206	701028	4.955 ng/ml <b>Low</b>
THC-OH	3.979	10112	5889507	1.051 ng/ml <b>Low</b>

# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2022\am 25-26\110122\QuantResults\cann.batch.bin  
**Calibration Last Update** 11/2/2022 8:33:55 AM

<b>Instrument</b>	69679	<b>Data File</b>	cal 2.d
<b>Type</b>	Cal	<b>Sample</b>	cal 2
<b>Acq. Method</b>	am 26 cann scr 5-5-20.m	<b>Operator</b>	Anne Nord
<b>Sample Position</b>	P3-B1	<b>Comment</b>	
<b>Injection Volume</b>	5		
<b>Acq. Date-Time</b>	11/1/2022 2:18:56 PM		
<b>Sample Info.</b>			

## Sample Chromatogram



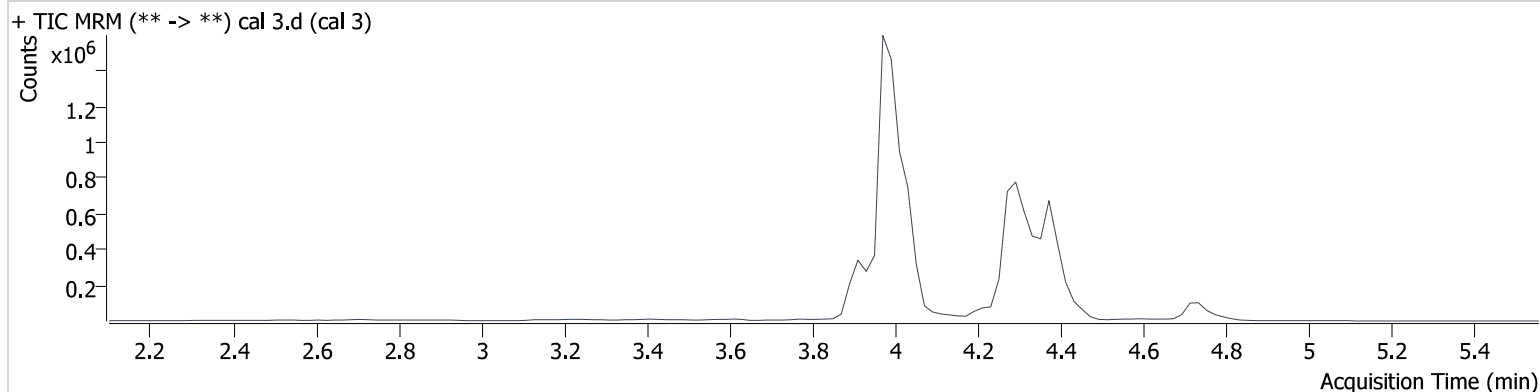
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	4.385	40393	1693871	2.875 ng/ml <b>Low</b>
THC-COOH	3.912	111584	778514	10.143 ng/ml
THC-OH	3.999	35242	6688235	3.018 ng/ml

# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2022\am 25-26\110122\QuantResults\cann.batch.bin  
**Calibration Last Update** 11/2/2022 8:33:55 AM

<b>Instrument</b>	69679	<b>Data File</b>	cal 3.d
<b>Type</b>	Cal	<b>Sample</b>	cal 3
<b>Acq. Method</b>	am 26 cann scr 5-5-20.m	<b>Operator</b>	Anne Nord
<b>Sample Position</b>	P3-C1	<b>Comment</b>	
<b>Injection Volume</b>	5		
<b>Acq. Date-Time</b>	11/1/2022 2:25:33 PM		
<b>Sample Info.</b>			

## Sample Chromatogram



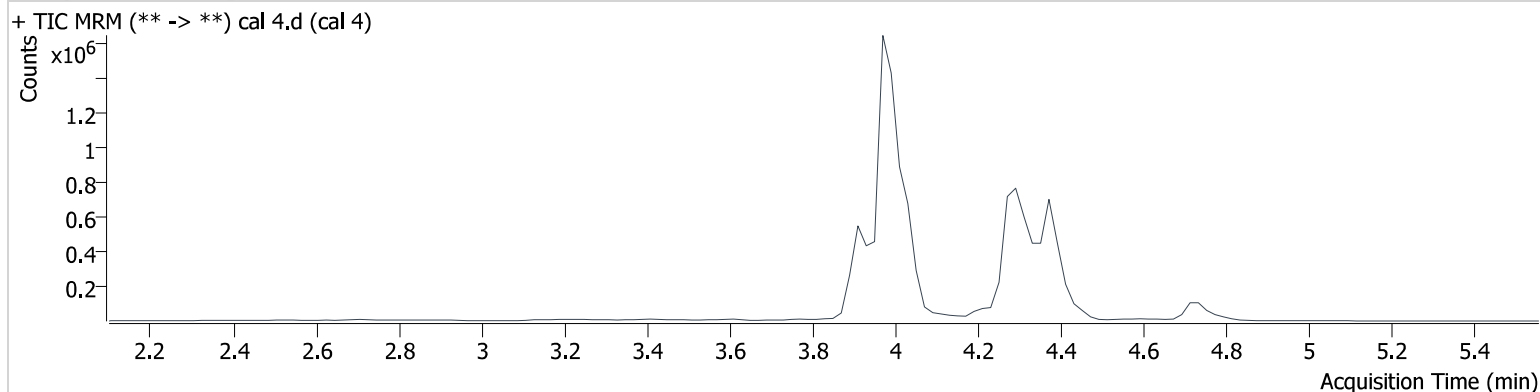
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	4.385	66584	1660439	4.672 ng/ml
THC-COOH	3.912	221166	766609	20.244 ng/ml
THC-OH	3.999	49595	5865556	4.781 ng/ml

# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2022\am 25-26\110122\QuantResults\cann.batch.bin  
**Calibration Last Update** 11/2/2022 8:33:55 AM

<b>Instrument</b>	69679	<b>Data File</b>	cal 4.d
<b>Type</b>	Cal	<b>Sample</b>	cal 4
<b>Acq. Method</b>	am 26 cann scr 5-5-20.m	<b>Operator</b>	Anne Nord
<b>Sample Position</b>	P3-D1	<b>Comment</b>	
<b>Injection Volume</b>	5		
<b>Acq. Date-Time</b>	11/1/2022 2:32:09 PM		
<b>Sample Info.</b>			

## Sample Chromatogram



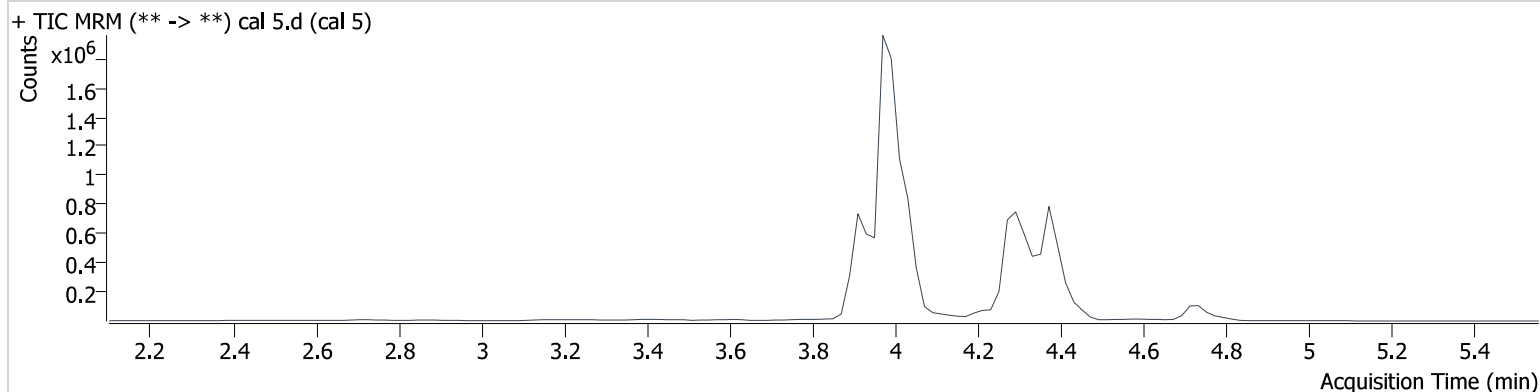
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	4.385	139362	1633270	9.673 ng/ml
THC-COOH	3.912	515141	719992	49.953 ng/ml
THC-OH	3.979	90817	5196517	9.775 ng/ml

# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2022\am 25-26\110122\QuantResults\cann.batch.bin  
**Calibration Last Update** 11/2/2022 8:33:55 AM

<b>Instrument</b>	69679	<b>Data File</b>	cal 5.d
<b>Type</b>	Cal	<b>Sample</b>	cal 5
<b>Acq. Method</b>	am 26 cann scr 5-5-20.m	<b>Operator</b>	Anne Nord
<b>Sample Position</b>	P3-E1	<b>Comment</b>	
<b>Injection Volume</b>	5		
<b>Acq. Date-Time</b>	11/1/2022 2:38:45 PM		
<b>Sample Info.</b>			

## Sample Chromatogram



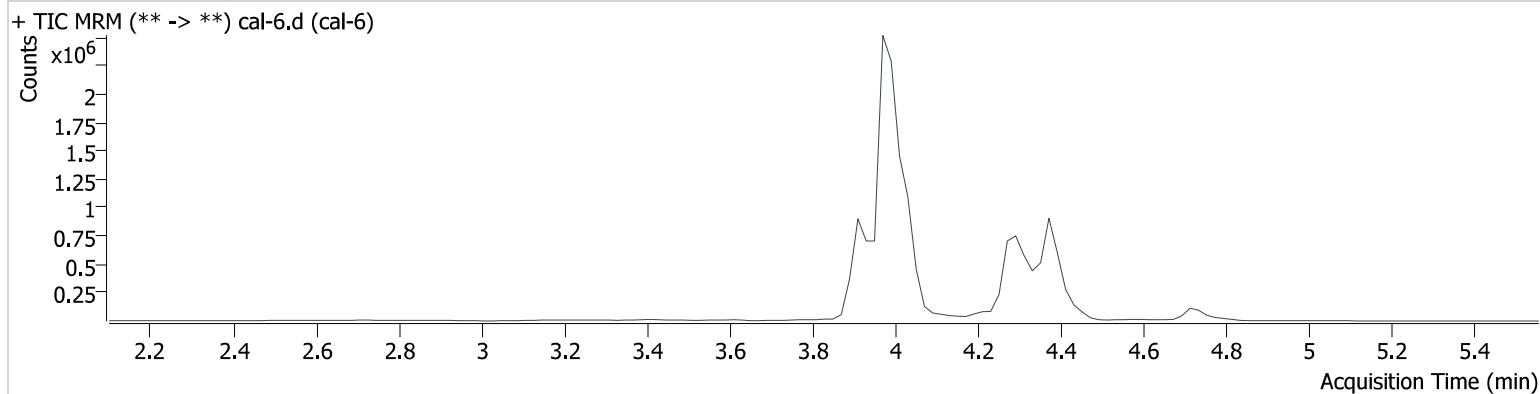
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	4.385	363042	1662340	24.387 ng/ml
THC-COOH	3.912	779766	729893	74.504 ng/ml
THC-OH	3.979	233538	5207239	24.928 ng/ml

# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2022\am 25-26\110122\QuantResults\cann.batch.bin  
**Calibration Last Update** 11/2/2022 8:33:55 AM

<b>Instrument</b>	69679	<b>Data File</b>	cal-6.d
<b>Type</b>	Cal	<b>Sample</b>	cal-6
<b>Acq. Method</b>	am 26 cann scr 5-5-20.m	<b>Operator</b>	Anne Nord
<b>Sample Position</b>	P3-F1	<b>Comment</b>	
<b>Injection Volume</b>	5		
<b>Acq. Date-Time</b>	11/1/2022 2:45:22 PM		
<b>Sample Info.</b>			

## Sample Chromatogram



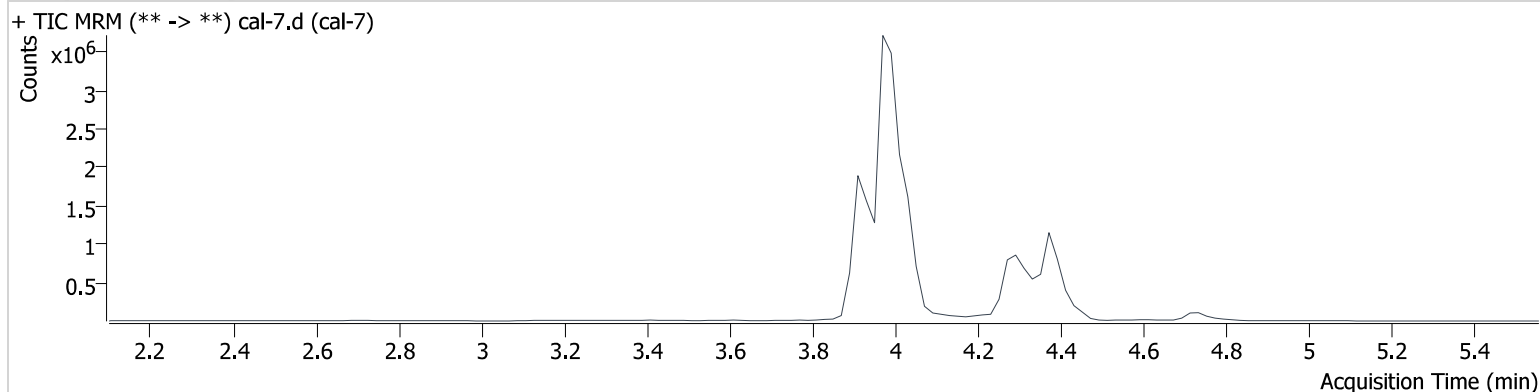
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	4.385	711773	1586720	49.839 ng/ml
THC-COOH	3.912	1001460	707548	98.652 ng/ml
THC-OH	3.979	472943	5167078	50.770 ng/ml

# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2022\am 25-26\110122\QuantResults\cann.batch.bin  
**Calibration Last Update** 11/2/2022 8:33:55 AM

<b>Instrument</b>	69679	<b>Data File</b>	cal-7.d
<b>Type</b>	Cal	<b>Sample</b>	cal-7
<b>Acq. Method</b>	am 26 cann scr 5-5-20.m	<b>Operator</b>	Anne Nord
<b>Sample Position</b>	P3-G1	<b>Comment</b>	
<b>Injection Volume</b>	5		
<b>Acq. Date-Time</b>	11/1/2022 2:51:58 PM		
<b>Sample Info.</b>			

## Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	4.385	1349807	1475382	101.400 ng/ml
THC-COOH	3.912	2448001	679333	250.902 ng/ml
THC-OH	3.979	914915	5086367	99.677 ng/ml