


















**REVIEWED**

By Sarah Collins at 2:48 pm, Mar 23, 2022

3/21/2022

TS

**Worklist: 5692**

<u>LAB CASE</u>	<u>ITEM</u>	<u>ITEM TYPE</u>	<u>DESCRIPTION</u>	
M2022-0566	4	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
M2022-0687	4	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
M2022-0826	2	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
M2022-1025	3	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2022-0432	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2022-0433	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2022-0532	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2022-0533	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2022-0543	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2022-0583	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2022-0585	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2022-0593	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2022-0670	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2022-0683	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2022-0820	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2022-0830	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2022-0841	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	

	1	2	3	4	5	6	7	8	9	10	11	12
A	IS + Cal. 1	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	P2022-0585-1	M2022-0826-2
B	IS + Cal. 1	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	P2022-0583-1	M2022-0687-4
C	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	P2022-0841-1	P2022-0543-1	M2022-0566-4
D	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	P2022-0830-1	P2022-0533-1	Urine Neg
E	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	P2022-0820-1	P2022-0532-1	Urine Ext Ctrl
F	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	P2022-0683-1	P2022-0433-1	Neg Blood
G	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	P2022-0670-1	P2022-0432-1	IS + Cal. 1
H	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	P2022-0593-1	M2022-1025-3	IS + Cal. 1

All wells to contain 60 µl of residual DMSO

\*Urine samples were hydrolyzed in an empty plate in the same well locations as the analytical and SLE plate.

**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



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

Extraction Date: 03/21/22

Plate lot#: IDP-120-211015

**Mobile phase A:** 10mM Amm Form

Instant Buffer I

**Blank Blood Lot:** Lampire 22B52016-2

**LCMS-QQQ ID:** 069901

Analyst: Tamara Salazar

Plate Re-Test Date: 04/15/2022

**Mobile phase B:** 0.1% Formic Acid in MeOH

Ethyl Acetate LC Methanol

**Column:** Phenomenex Phenyl Hexyl (4.6x50mm, 2.6um)

**Blank Urine:** POC021022

### 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: In blank well, add 250µL urine, 40µL BG Turbo, and 100µL Instant Buffer I. Place on plate shaker for 5 minutes.**
- 3. Using a calibrated pipette, pipette **250µL blood and urine** (if applicable) into wells of analytical (standards) plate.  
**Pipette ID: 42**
- 4. ~~Place on shaking incubator at ambient temp., 900rpm for 15 minutes. (Skipped per deviation)~~
- 5. Pipette **250µL 0.5 M ammonium hydroxide** in wells of analytical plate.
- 6. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 7. Transfer **200-450µL of blood+base and urine+base (if applicable)** mixture to corresponding wells of SLE+ plate.  
Amount transferred: *300µL*
- 8. 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).*
- 9. Wait 5 minutes.
- 10. Add **900uL ethyl acetate.**
- 11. Wait 5 minutes.
- 12. Apply positive pressure for approx. 15 seconds. *(10-15 PSI- Selector to the left).*
- 13. Add **900uL ethyl acetate.**
- 14. Wait 5 minutes.
- 15. Apply positive pressure for approx. 15 seconds. *(10-15 PSI- Selector to the left).*
- 16. Remove plate containing eluate. Place on SPE Dry and evaporate to dryness at approx. 35°C. If run contains urine, add 50µL 1% HCl in MeOH to wells and place plate cover on plate before drying.
- 17. Reconstitute in **100µL 20% LC MeOH** and heat seal plate with foil. Place in autosampler and run worklist.

### 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 of 5 or greater or 2-5 for discretionary range.
- 4. Did all QCs pass for each analyte? If no, describe issue in comments (below).
- 5. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

COMMENTS:



# Idaho State Police Forensic Services

## AM #25 Urine Multi-Drug Screen by LCMS-QQQ And AM #28 Urine Multi-Drug Confirmatory Analysis by LCMS-QQQ---Panel 1

### Methanol External Control Solution (Lot: 120320)

*100  $\mu$ L of 1mg/mL stock was added to each drug to 9700  $\mu$ L of LC MeOH.*

<i>Component</i>	<i>Source</i>	<i>Source Lot Number</i>	<i>Expiration Date</i>
Methanol (LCMS)	Fisher	197468	
O-desmethyl Tramadol	Cerilliant	FN01241702	04/30/2022
Amphetamine	Cerilliant	FE04061701	06/30/2022
Alprazolam	Cerilliant	FE07061604	07/31/2021
Prepared:	12/03/2020		
Prepared By:	Celena Shrum		

### Urine External Control Solution (Lot: WS032122)

*100  $\mu$ L of methanol external control solution was added to 9900  $\mu$ L of urine.*

*Approximately 100 ng/mL of each compound.*

<i>Component</i>	<i>Source</i>	<i>Source Lot Number</i>
Negative Urine	Pocatello Lab	POC021022
Methanol External Control Solution		120320
Prepared:	03/21/22	
Prepared by:	Tamara Salazar	

TS

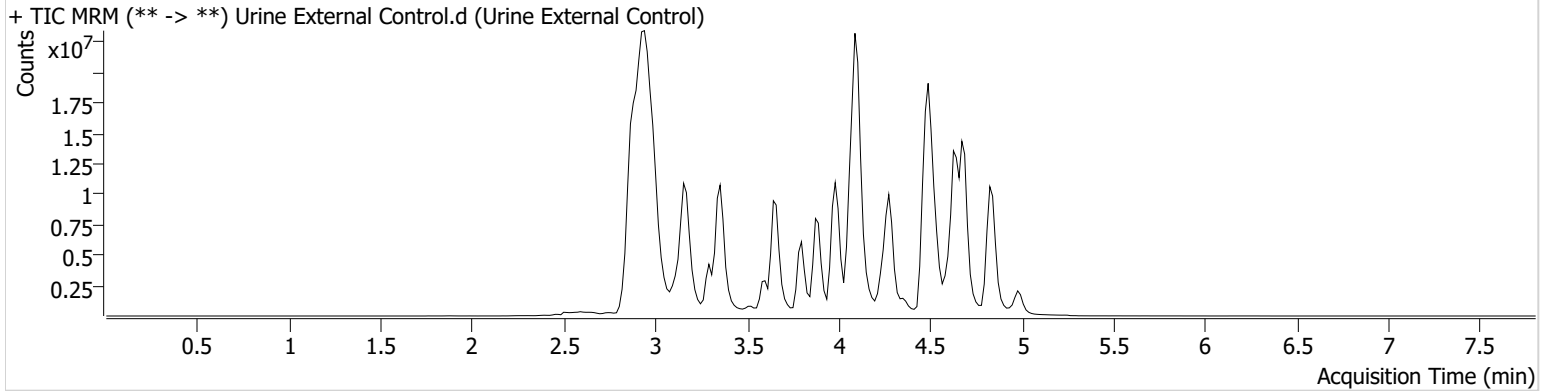


# AM #25 Multi-Drug Screen Results

**Batch results** D:\MassHunter\Data\2022\AM 25-26\032122 AM 26 26 Urines TS\QuantResults\AM 25.batch.bin  
**Calibration Last Update** 3/23/2022 12:06:11 PM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	Urine External Control.d
<b>Type</b>	Sample	<b>Sample</b>	Urine External Control
<b>Acq. Method</b>	AM 25 MDS.m	<b>Operator</b>	Tamara Salazar
<b>Sample Position</b>	P2-E12	<b>Comment</b>	
<b>Injection Volume</b>	5		
<b>Acq. Date-Time</b>	3/21/2022 6:25:34 PM		
<b>Sample Info.</b>			

## Sample Chromatogram



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Alprazolam	4.631	19036213	704.10	781.22	23532523	70.1725
Amphetamine	2.911	29490377	9511.16	31550.80	14017344	65.8616
O-desmethyl-tramadol	2.946	43683178	2522.53	1320.73	47383064	47.6439

TS

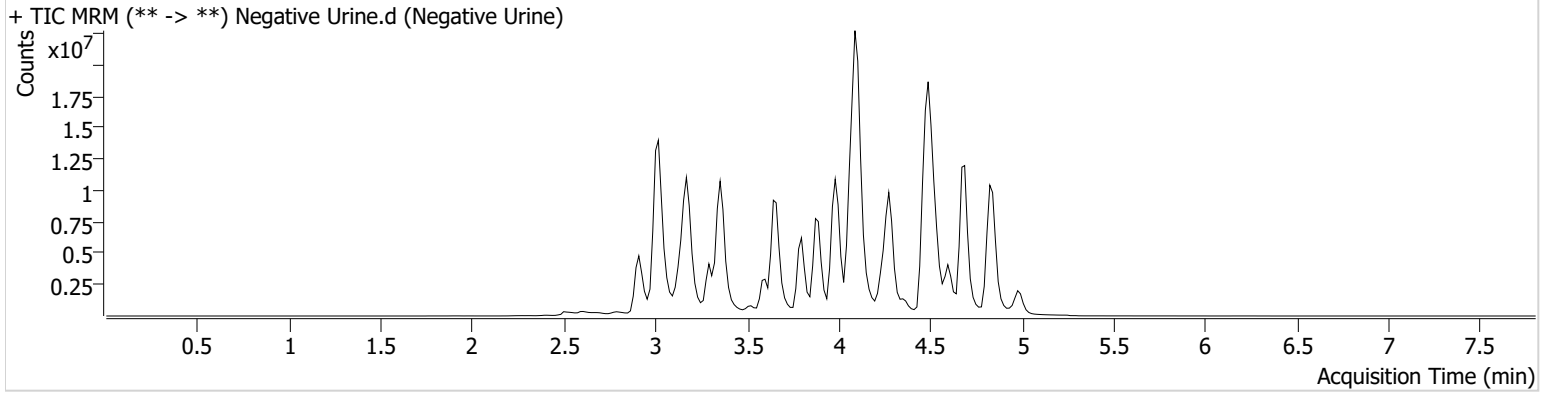


# AM #25 Multi-Drug Screen Results

**Batch results** D:\MassHunter\Data\2022\AM 25-26\032122 AM 26 26 Urines TS\QuantResults\AM 25.batch.bin  
**Calibration Last Update** 3/23/2022 12:06:11 PM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	Negative Urine.d
<b>Type</b>	Sample	<b>Sample</b>	Negative Urine
<b>Acq. Method</b>	AM 25 MDS.m	<b>Operator</b>	Tamara Salazar
<b>Sample Position</b>	P2-D12	<b>Comment</b>	
<b>Injection Volume</b>	5		
<b>Acq. Date-Time</b>	3/21/2022 6:33:58 PM		
<b>Sample Info.</b>			

## Sample Chromatogram



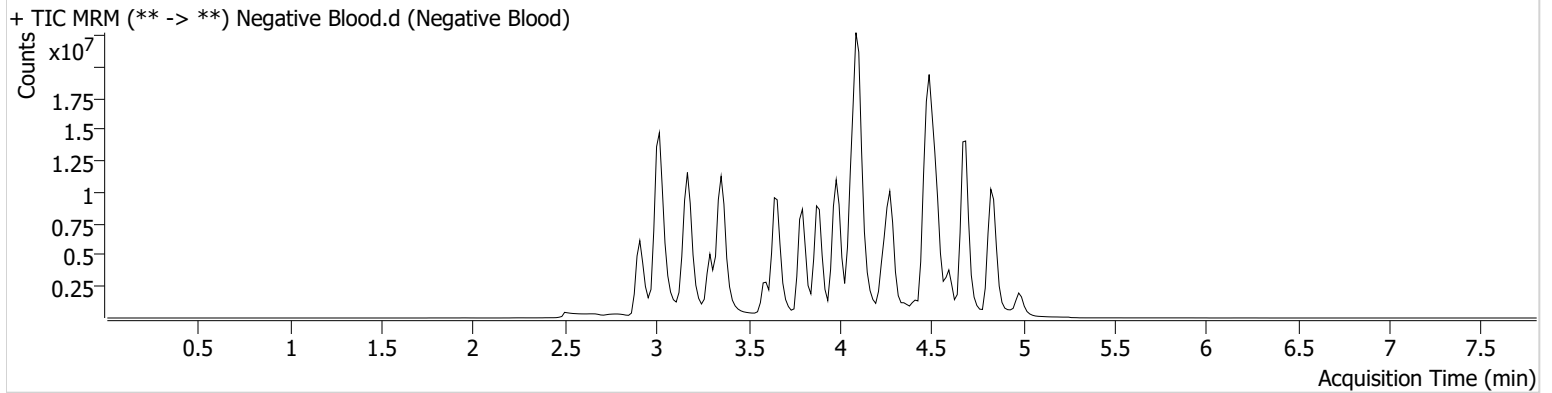
# AM #25 Multi-Drug Screen Results



**Batch results** D:\MassHunter\Data\2022\AM 25-26\032122 AM 26 26 Urines TS\QuantResults\AM 25.batch.bin  
**Calibration Last Update** 3/23/2022 12:06:11 PM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	Negative Blood.d
<b>Type</b>	Sample	<b>Sample</b>	Negative Blood
<b>Acq. Method</b>	AM 25 MDS.m	<b>Operator</b>	Tamara Salazar
<b>Sample Position</b>	P2-F12	<b>Comment</b>	
<b>Injection Volume</b>	5		
<b>Acq. Date-Time</b>	3/21/2022 6:17:10 PM		
<b>Sample Info.</b>			

## Sample Chromatogram





TS

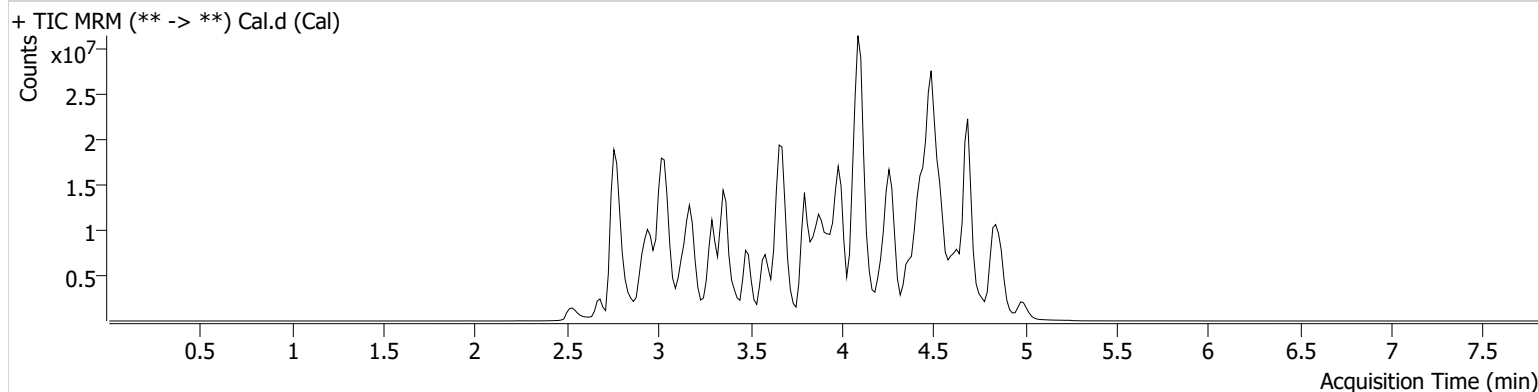


# AM #25 Multi-Drug Screen Results

**Batch results** D:\MassHunter\Data\2022\AM 25-26\032122 AM 26 26 Urines TS\QuantResults\AM 25.batch.bin  
**Calibration Last Update** 3/23/2022 12:06:11 PM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	Cal.d
<b>Type</b>	Cal	<b>Sample</b>	Cal
<b>Acq. Method</b>	AM 25 MDS.m	<b>Operator</b>	Tamara Salazar
<b>Sample Position</b>	P2-G12	<b>Comment</b>	
<b>Injection Volume</b>	5		
<b>Acq. Date-Time</b>	3/21/2022 6:08:36 PM		

## Sample Chromatogram



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
6-MAM	3.076	63308	251.09	31790.99	1756551	10.0000
7-aminoclonazepam	3.602	1582163	423.16	364.46	6454295	10.0000
7-aminoflunitrazepam	3.801	2523471	577.94	648.37	6454295	10.0000
Acetyl Fentanyl	4.060	437004	643.81	115624.34	33949314	10.0000
Acetyl Norfentanyl	2.947	443863	2247.36	411.04	33949314	10.0000
a-hydroxyalprazolam	4.536	400950	49.81	150.02	6454295	10.0000
alpha-hydroxymidazolam	4.611	2735191	356.15	484.36	6454295	10.0000
Alpha-PHP	3.944	4046158	2271.57	2678.85	33949314	10.0000
alpha-PVP	3.669	5313453	1699.70	555.25	24428493	10.0000
Alprazolam	4.631	2852044	263.22	363.05	24740652	10.0000
Amitriptyline	4.496	2170682	213.82	385.91	7565110	10.0000
Amphetamine	2.951	5426403	1077.56	4126.37	16987503	10.0000
Benzoylcegonine	3.402	200585	581.71	11.23	354958	10.0000
Brompheniramine	4.076	134565	98.70	351.39	46535493	10.0000
Buprenorphine	5.005	1360258	92277.88	117257.16	5277469	10.0000
Bupropion	3.929	6266088	25637.74	583.62	24428493	10.0000
Carbamazepine	4.253	10094101	∞	1077.15	645153	10.0000
Carisoprodol	4.252	1566232	586.10	70.04	9454692	10.0000
Chlordiazepoxide	4.770	1654695	362.13	829.81	24740652	10.0000
Chlorpheniramine	3.987	8542764	3111.29	10.62	46535493	10.0000
Citalopram	4.105	3707346	445.32	1061395.37	46535493	10.0000
Clomipramine	4.691	3553992	7295.36	5113.51	46535493	10.0000
Clonazepam	4.476	1534705	368.00	932.18	24740652	10.0000
Clonazolam	4.395	1789612	3648.38	445778.88	24740652	10.0000
Cocaethylene	3.860	5790598	3786036.96	29706.04	30029143	10.0000
Cocaine	3.662	5528774	326.82	526.98	30029143	10.0000
Codeine	3.018	400265	6308.11	290.08	11458771	10.0000
Cyclobenzaprine	4.405	3892020	1534.39	304.70	7565110	10.0000
Desipramine	4.405	6833474	1030.39	492.01	7565110	10.0000
Dextromethorphan	4.112	2446941	392.58	706.53	14012577	10.0000
Dextrorphan	3.420	2987938	742.97	1251891.50	14012577	10.0000
Diazepam	4.879	1640227	491.83	1163.39	24740652	10.0000
Dihydrocodeine	2.865	1133606	2923.75	384.70	11458771	10.0000
Diphenhydramine	4.082	12266194	18927.89	892.24	46535493	10.0000

Cal

# AM #25 Multi-Drug Screen Results



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Doxepin	4.218	2908685	285.61	328.19	32601870	10.0000
Doxylamine	3.680	12197920	206.35	146386.02	14012577	10.0000
EDDP	4.111	1508976	1006.43	163.75	3762154	10.0000
Estazolam	4.556	7177974	1166.42	635.66	24740652	10.0000
Etizolam	4.641	268257	743.23	544843.30	24740652	10.0000
Fentanyl	4.289	371187	127.70	118642.14	25828553	10.0000
Flualprazolam	4.504	794774	407946.03	599702.09	24740652	10.0000
Flunitrazepam	4.584	2866816	955.56	951972.94	24740652	10.0000
Fluoxetine	4.370	3485826	1649.86	306.69	6674742	10.0000
Flurazepam	4.348	3657434	202.92	131770.85	24740652	10.0000
Hydrocodone	3.186	1765534	929.84	629.62	11458771	10.0000
Hydromorphone	2.685	1165985	26546.93	39175.76	314302	10.0000
Imipramine	4.449	7587133	1471.78	622.39	7565110	10.0000
Ketamine	3.837	4500197	1368.55	154.83	13654368	10.0000
Lamotrigine	3.666	343498	1193.23	3801.01	46535493	10.0000
Levamisole	3.147	3329863	21315.43	638.97	30029143	10.0000
Levetiracetam	2.690	1615545	611.41	1082.62	46535493	10.0000
Lorazepam	4.460	482229	271.29	201.66	24740652	10.0000
Maprotiline	4.497	1094872	74.95	263.25	7565110	10.0000
MDA	3.056	3277897	1026.48	∞	33118929	10.0000
MDEA	3.285	5762828	723.83	5265.02	33118929	10.0000
MDMA	3.132	6990663	1449.85	786.21	33118929	10.0000
Meperidine	3.682	3189846	664.65	794.16	14012577	10.0000
Meprobamate	3.700	1094528	328.34	98.79	9454692	10.0000
Methadone	4.431	7391315	394.62	537.49	3762154	10.0000
Methamphetamine	3.042	9844660	1512.39	401.16	33118929	10.0000
Methocarbamol	3.606	434923	1074.10	223.16	3762154	10.0000
Methylphenidate	3.576	12617862	1595.49	1122.93	23992092	10.0000
Metoprolol	3.480	792242	640.74	560.37	14012577	10.0000
Midazolam	4.781	896424	1089.94	804.48	24740652	10.0000
Mirtazapine	4.267	4042319	2038.01	56454.75	14012577	10.0000
Mitragynine	4.348	566108	340925.05	757574.89	14012577	10.0000
Morphine	2.549	263396	706.95	1235.14	314302	10.0000
Norbuprenorphine	3.871	93974	192376.51	17345.59	5277469	10.0000
Nordiazepam	4.727	1818859	689.65	391.57	24740652	10.0000
Norfentanyl	3.376	7893119	417201.02	122.98	33949314	10.0000
Norhydrocodone	2.974	149601	42.12	19.89	314302	10.0000
Norketamine	3.930	992257	355.16	3270.56	13654368	10.0000
Normeperidine	3.638	2763352	1946.14	331.93	46535493	10.0000
Noroxycodone	2.926	1407392	∞	184.00	13654368	10.0000
Nortriptyline	4.452	2110737	130348.85	158.66	7565110	10.0000
O-desmethyl-tramadol	2.976	9004684	531.33	200.41	46535493	10.0000
Olanzapine	3.968	2004436	1407089.40	3314.71	645153	10.0000
Oxazepam	4.541	3241014	1453.50	256.44	13900011	10.0000
Oxycodone	3.047	2934081	533.84	1552.51	13654368	10.0000
Oxymorphone	2.516	1287076	279.22	34432.97	314302	10.0000
Paroxetine	4.381	547538	393.98	184407.48	6674742	10.0000
Phenazepam	4.672	2641764	5980.48	664.52	24740652	10.0000
Phencyclidine	3.959	6611248	651.90	995.33	14012577	10.0000
Phentermine	3.195	2022599	274.61	26.78	23992092	10.0000
Phenytoin	4.160	1126781	597.53	276.68	645153	10.0000
Promethazine	4.434	8747437	1503.18	293.68	46535493	10.0000
Pseudoephedrine	2.766	58951979	958.76	2672.40	33118929	10.0000
Quetiapine	4.686	5282775	35796.55	481.03	39603211	10.0000
Sertraline	4.601	1234018	475613.94	442.66	6674742	10.0000
Sufentanil	4.685	325715	358617.53	139.68	33949314	10.0000
Tapentadol	3.500	5966605	4651.83	537.17	13654368	10.0000
Temazepam	4.694	4816499	589.52	183.17	24740652	10.0000
Tramadol	3.480	10536201	1001.23	59.42	46535493	10.0000
Trazodone	4.869	7704713	4198977.67	3883193.09	32601870	10.0000

TS



# AM #25 Multi-Drug Screen Results

Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Venlafaxine	3.848	7736176	4083.45	181.37	6674742	10.0000
Zaleplon	4.371	2864112	1034.77	1763.92	39603211	10.0000
Zolpidem	4.493	9965963	158784.55	8105.02	39603211	10.0000
Zopiclone	4.425	485077	421914.53	146148.78	2352040	10.0000

## AM# 26: Screening of THC and Metabolites in Blood and Urine by LC-MS/MS

Extraction Date: 03/21/2022

Analyst: Tamara Salazar

Plate lot#: IDP-108-3-211018

Plate Re-Test Date: 04-18-2022

**Mobile phase A:** 0.1% Formic Acid in LCMS Water

**Mobile phase B:** 0.1% Formic acid in Acetonitrile

**Blank Blood Lot:** Lampire 22B52016-2

**Column:** Phenomenex Phenyl Hexyl (4.6x50mm, 2.6um)

**LCMS-QQQ ID:** 069901

**Blank Urine:** POC021022

### 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 1.5mL urine to blank plate, add 250µl 1N KOH. Shake and incubate at 40 degrees for 15 minutes.**  
Using a calibrated pipette, add **1000µl blood and urine (if applicable) (calibrated pipette)** into the appropriate wells of analytical (standards) plate. **Pipette ID: 42**
- 3. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 4. Pipette **500µL 0.1% formic acid in water blood sample, 500 µL saturated phosphate buffer in urine** in wells of analytical plate.
- 5. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 6. Transfer **700-800µL of blood+acid or urine+acid** mixture to corresponding wells of SLE+ plate.  
Amount transferred: 750µL
- 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)*
- 8. Wait 5 minutes.
- 9. Add **2.25mL MTBE. (Add in 3 increments of 750uL)**
- 10. Wait 5 minutes.
- 11. Apply positive pressure for approx. 15 seconds. *(10-15 PSI- Selector to the left).*
- 12. Add **2.25mL Hexane. (Add in 3 increments of 750uL)**
- 13. Wait 5 minutes.
- 14. Apply positive pressure for approx. 15 seconds. *(10-15 PSI- Selector to the left).*
- 15. Remove plate containing eluate. Place on SPE Dry and evaporate to dryness at approx. 35°C.
- 16. Reconstitute in **100µL 100% MeOH** and heat seal plate with foil. Place in autosampler and run worklist.

### Post-Analytic

- 1. Create batch and process data.
- 2. Make any necessary integration changes, R<sup>2</sup> values ≥0.98 for each analyte
- 3. RT +/- 2% or 0.100 min, whichever is greater
- 4. Confirmation testing on case samples with a response for THC and OH-THC of 3ng/mL or greater and/or Carboxy-THC at 10ng/mL or greater (analyst discretion between 5-10ng/mL) may be pursued.
- 5. Did all QCs pass for each analyte? (if not, describe in comments section)
- 6. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

COMMENTS: THC calibrator 5 and 6 dropped due to accuracy.

**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 ToxBox 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				IS + QC_1	P2022-0433-1	P2022-0683-1
B					P2022-0532-1	P2022-0820-1
C				Neg Urine	P2022-0533-1	P2022-0830-1
D				M2022-0566-4	P2022-0543-1	P2022-0841-1
E				M2022-0687-4	P2022-0583-1	
F				M2022-0826-2	P2022-0585-1	
G				M2022-1025-3	P2022-0593-1	
H				P2022-0432-1	P2022-0670-1	

All wells to contain 100 µl of residual DMSO

\*Urine hydrolysis plate map

	1	2	3	4	5	6
A	IS + Cal. 1	IS + QC_1	P2022-0433-1	P2022-0683-1	IS + Sample	IS + QC_1
B	IS + Cal. 2	Neg Blood	P2022-0532-1	P2022-0820-1	IS + Sample	IS + Cal. 7
C	IS + Cal. 3	Neg Urine	P2022-0533-1	P2022-0830-1	IS + Sample	IS + Cal. 6
D	IS + Cal. 4	M2022-0566-4	P2022-0543-1	P2022-0841-1	IS + Sample	IS + Cal. 5
E	IS + Cal. 5	M2022-0687-4	P2022-0583-1	IS + Sample	IS + Sample	IS + Cal. 4
F	IS + Cal. 6	M2022-0826-2	P2022-0585-1	IS + Sample	IS + Sample	IS + Cal. 3
G	IS + Cal. 7	M2022-1025-3	P2022-0593-1	IS + Sample	IS + Sample	IS + Cal. 2
H	IS + QC_1	P2022-0432-1	P2022-0670-1	IS + Sample	IS + QC_1	IS + Cal. 1

All wells to contain 100  $\mu$ l of residual DMSO



TS

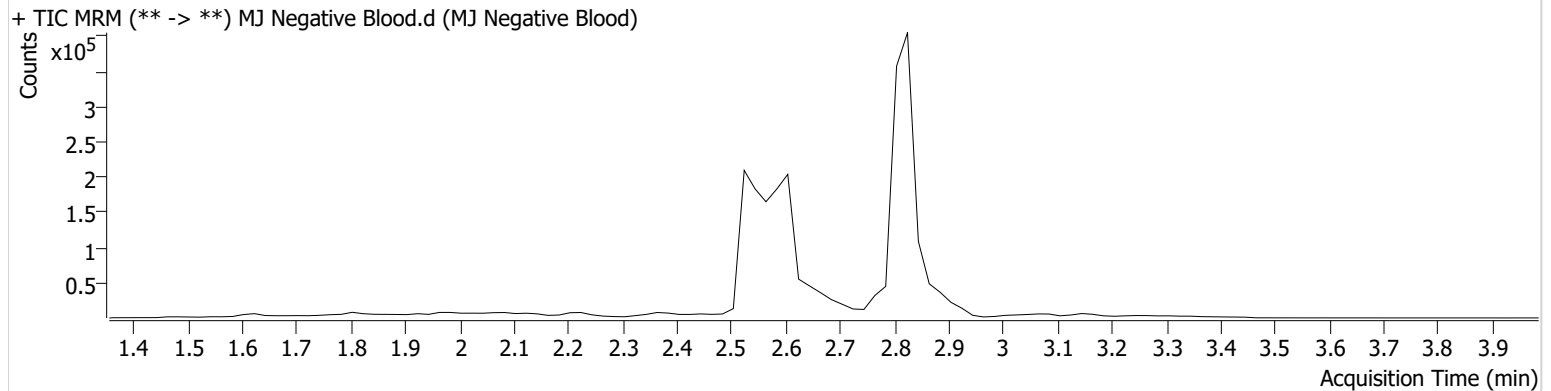


# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2022\AM 25-26\032122 AM 26 26 Urines TS\QuantResults\AM 26.batch.bin  
**Calibration Last Update** 3/23/2022 12:10:45 PM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	MJ Negative Blood.d
<b>Type</b>	Sample	<b>Sample</b>	MJ Negative Blood
<b>Acq. Method</b>	AM 26 THCS.m	<b>Operator</b>	Tamara Salazar
<b>Sample Position</b>	P1-B2	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	3/21/2022 2:54:03 PM		
<b>Sample Info.</b>			

## Sample Chromatogram



TS

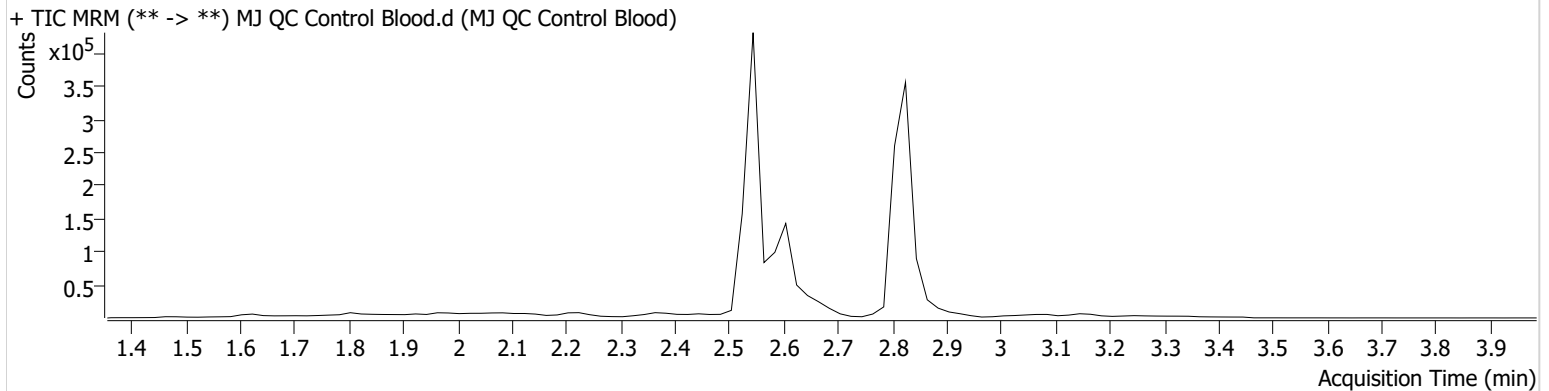


# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2022\AM 25-26\032122 AM 26 26 Urines TS\QuantResults\AM 26.batch.bin  
**Calibration Last Update** 3/23/2022 12:10:45 PM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	MJ QC Control Blood.d
<b>Type</b>	QC	<b>Sample</b>	MJ QC Control Blood
<b>Acq. Method</b>	AM 26 THCS.m	<b>Operator</b>	Tamara Salazar
<b>Sample Position</b>	P1-H1	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	3/21/2022 2:40:55 PM		
<b>Sample Info.</b>			

### Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	2.879	1556	20569	10.2991 ng/ml
THC-COOH	2.587	28181	204317	18.0732 ng/ml
THC-OH	2.554	7234	784471	3.8573 ng/ml

TS

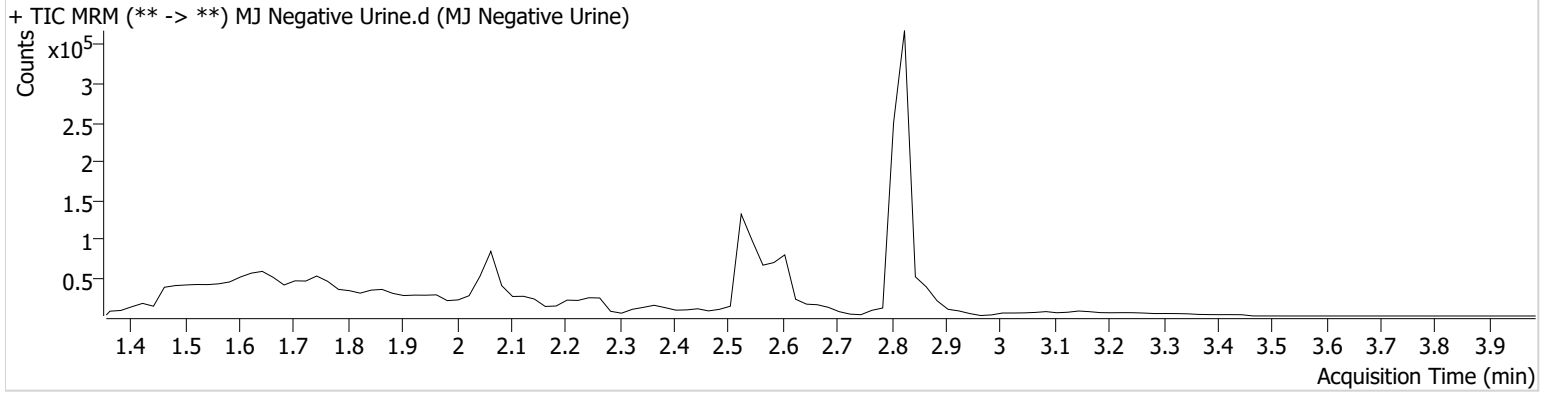


# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2022\AM 25-26\032122 AM 26 26 Urines TS\QuantResults\AM 26.batch.bin  
**Calibration Last Update** 3/23/2022 12:10:45 PM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	MJ Negative Urine.d
<b>Type</b>	Sample	<b>Sample</b>	MJ Negative Urine
<b>Acq. Method</b>	AM 26 THCS.m	<b>Operator</b>	Tamara Salazar
<b>Sample Position</b>	P1-C2	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	3/21/2022 3:00:38 PM		
<b>Sample Info.</b>			

## Sample Chromatogram



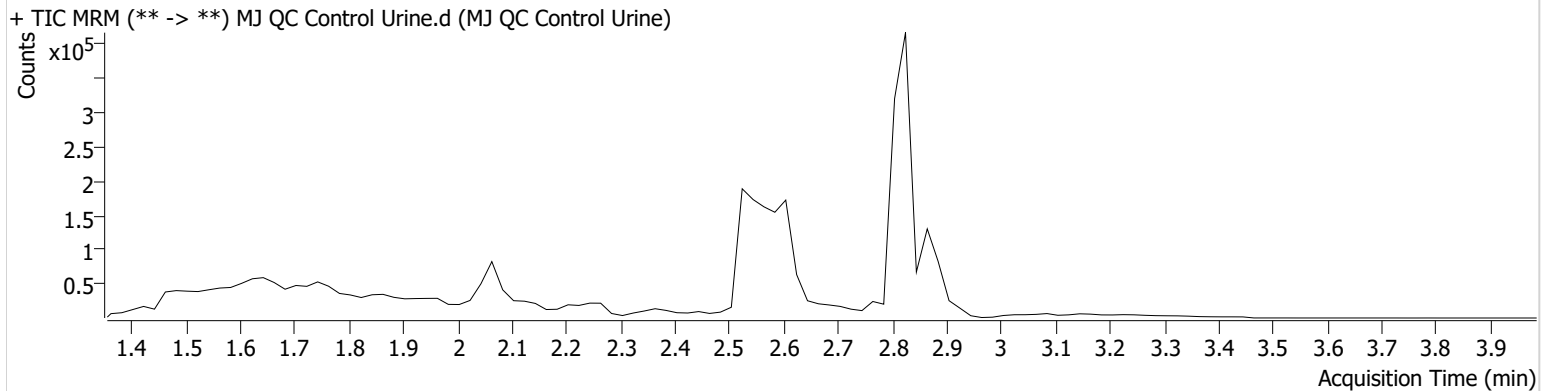


# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2022\AM 25-26\032122 AM 26 26 Urines TS\QuantResults\AM 26.batch.bin  
**Calibration Last Update** 3/23/2022 12:10:45 PM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	MJ QC Control Urine.d
<b>Type</b>	QC	<b>Sample</b>	MJ QC Control Urine
<b>Acq. Method</b>	AM 26 THCS.m	<b>Operator</b>	Tamara Salazar
<b>Sample Position</b>	P1-A2	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	3/21/2022 5:11:58 PM		

## Sample Chromatogram



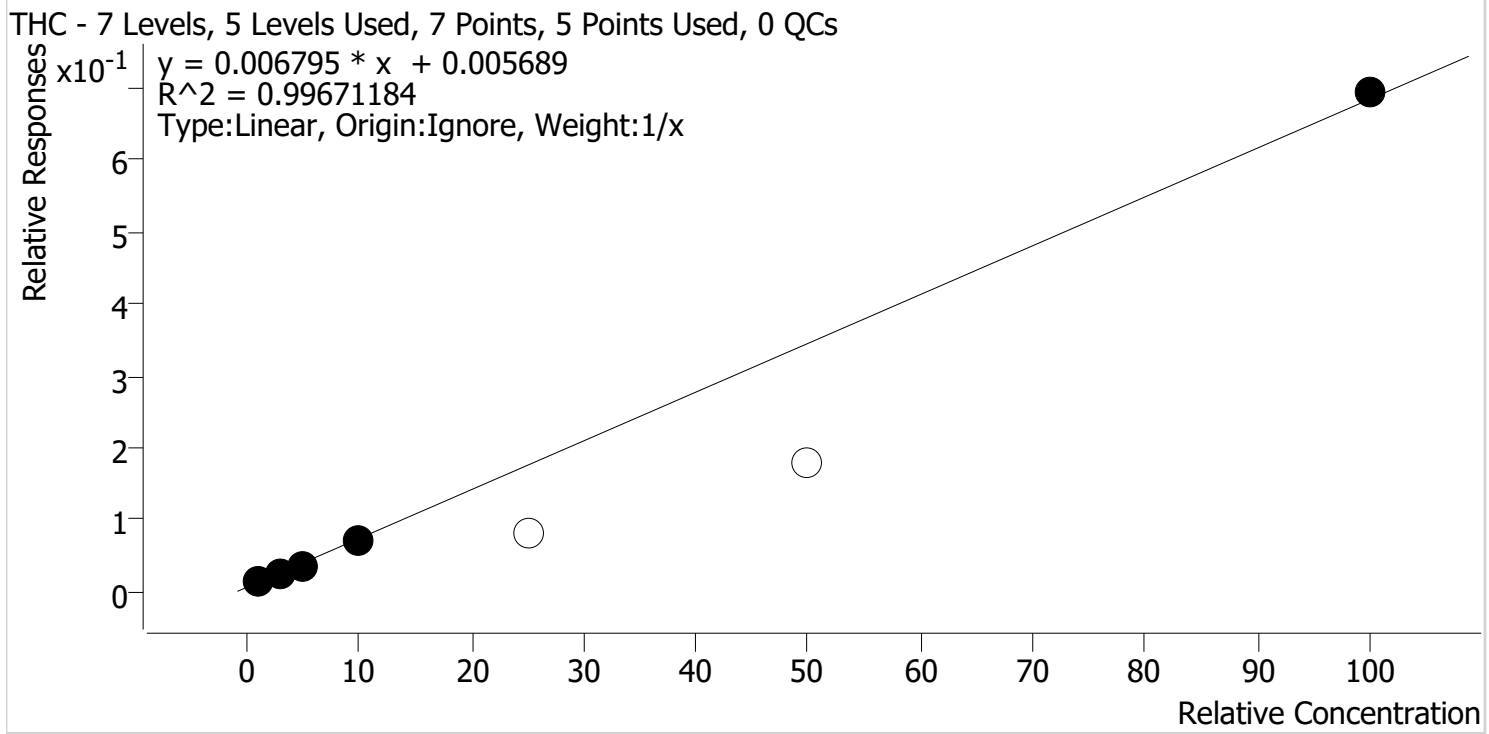
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	2.879	5615	136542	5.2152 ng/ml
THC-COOH	2.627	29937	286498	13.7943 ng/ml
THC-OH	2.534	6337	632402	4.3081 ng/ml

TS



# AM #26 Cannabinoids Screen Calibration Curve Report

**Batch results** D:\MassHunter\Data\2022\AM 25-26\032122 AM 26 26 Urines TS\QuantResults\AM 26.batch.bin  
**Last Cal. Update** 3/23/2022 12:10 PM  
**Analyst Name** ISP\Datastor  
**Analyte** THC **Internal Standard** THC-D3



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ Cal 1	1	✓	1.0	1.3	134.6
MJ Cal 2	2	✓	3.0	2.4	81.3
MJ Cal 3	3	✓	5.0	4.4	87.8
MJ Cal 4	4	✓	10.0	9.5	95.0
MJ Cal 5	5	✗	25.0	11.1	44.5
MJ Cal 6	6	✗	50.0	25.6	51.2
MJ Cal 7	7	✓	100.0	101.3	101.3

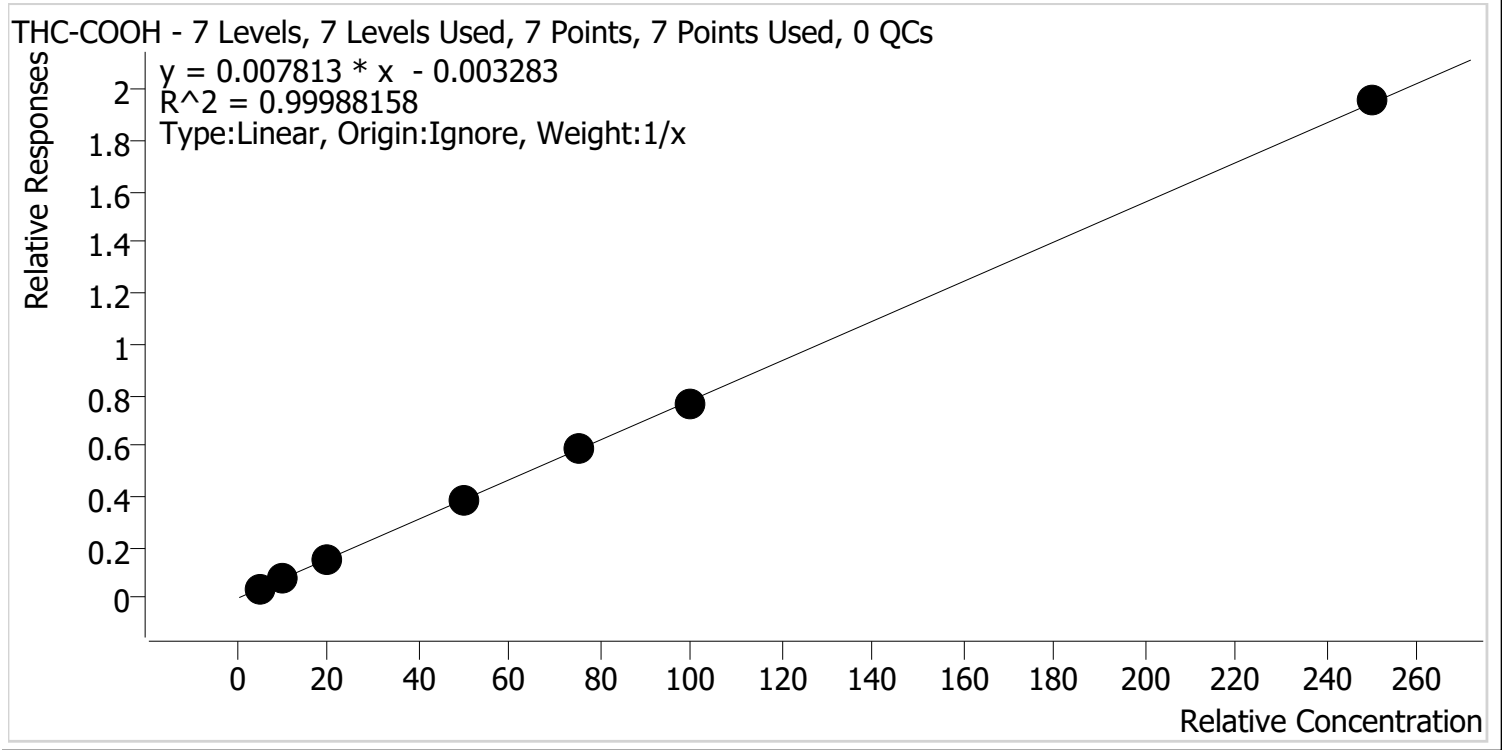
Cal 5 and 6 dropped due to accuracy.

TS



# AM #26 Cannabinoids Screen Calibration Curve Report

**Batch results** D:\MassHunter\Data\2022\AM 25-26\032122 AM 26 26 Urines TS\QuantResults\AM 26.batch.bin  
**Last Cal. Update** 3/23/2022 12:10 PM  
**Analyst Name** ISP\Datastor  
**Analyte** THC-COOH **Internal Standard** THC-COOH-D9



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ Cal 1	1	✓	5.0	4.9	98.0
MJ Cal 2	2	✓	10.0	10.4	103.6
MJ Cal 3	3	✓	20.0	19.8	99.0
MJ Cal 4	4	✓	50.0	50.2	100.3
MJ Cal 5	5	✓	75.0	75.0	100.0
MJ Cal 6	6	✓	100.0	98.5	98.5
MJ Cal 7	7	✓	250.0	251.3	100.5

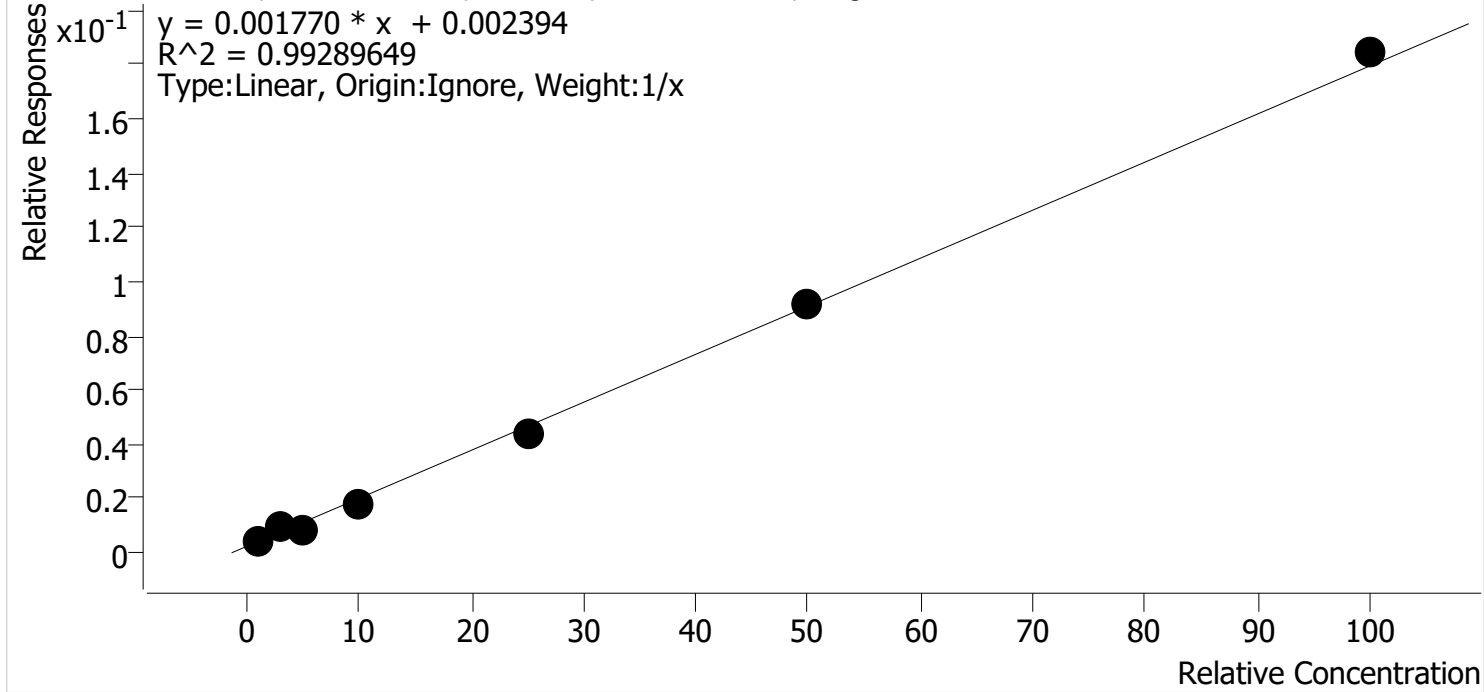
TS



# AM #26 Cannabinoids Screen Calibration Curve Report

**Batch results** D:\MassHunter\Data\2022\AM 25-26\032122 AM 26 26 Urines TS\QuantResults\AM 26.batch.bin  
**Last Cal. Update** 3/23/2022 12:10 PM  
**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
MJ Cal 1	1	✓	1.0	1.2	117.1
MJ Cal 2	2	✓	3.0	3.9	130.8
MJ Cal 3	3	✓	5.0	3.4	67.2
MJ Cal 4	4	✓	10.0	8.6	86.4
MJ Cal 5	5	✓	25.0	23.7	94.9
MJ Cal 6	6	✓	50.0	50.4	100.9
MJ Cal 7	7	✓	100.0	102.8	102.8

TS

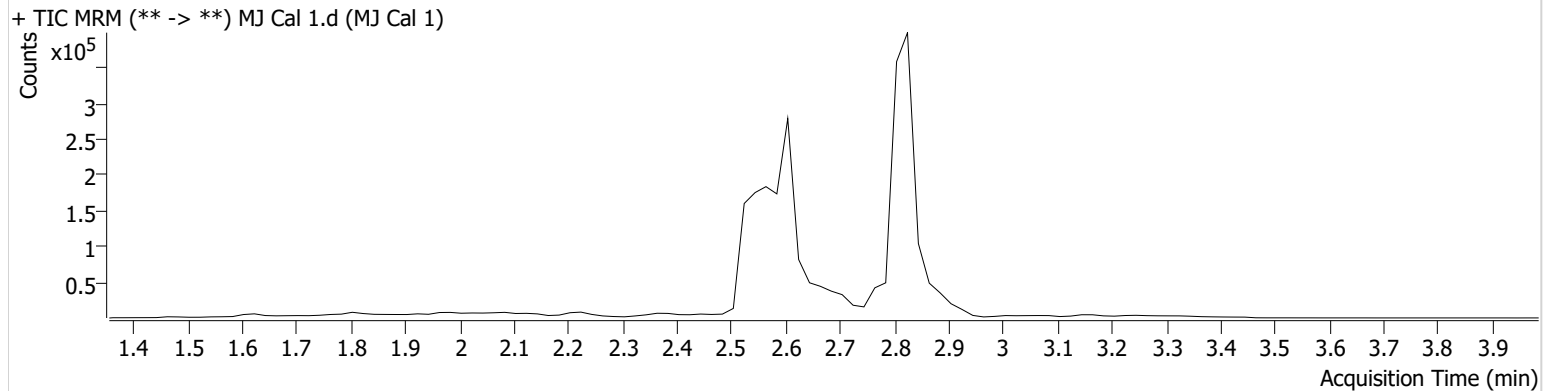


# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2022\AM 25-26\032122 AM 26 26 Urines TS\QuantResults\AM 26.batch.bin  
**Calibration Last Update** 3/23/2022 12:10:45 PM

**Instrument** Falco (069901) **Data File** MJ Cal 1.d  
**Type** Cal **Sample** MJ Cal 1  
**Acq. Method** AM 26 THCS.m **Operator** Tamara Salazar  
**Sample Position** P1-A1 **Comment**  
**Injection Volume** 10  
**Acq. Date-Time** 3/21/2022 1:54:50 PM  
**Sample Info.**

### Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.	
THC	2.879	536	36098	1.3462 ng/ml	Low
THC-COOH	2.627	15963	455918	4.9016 ng/ml	Low
THC-OH	2.554	2929	655624	1.1711 ng/ml	Low





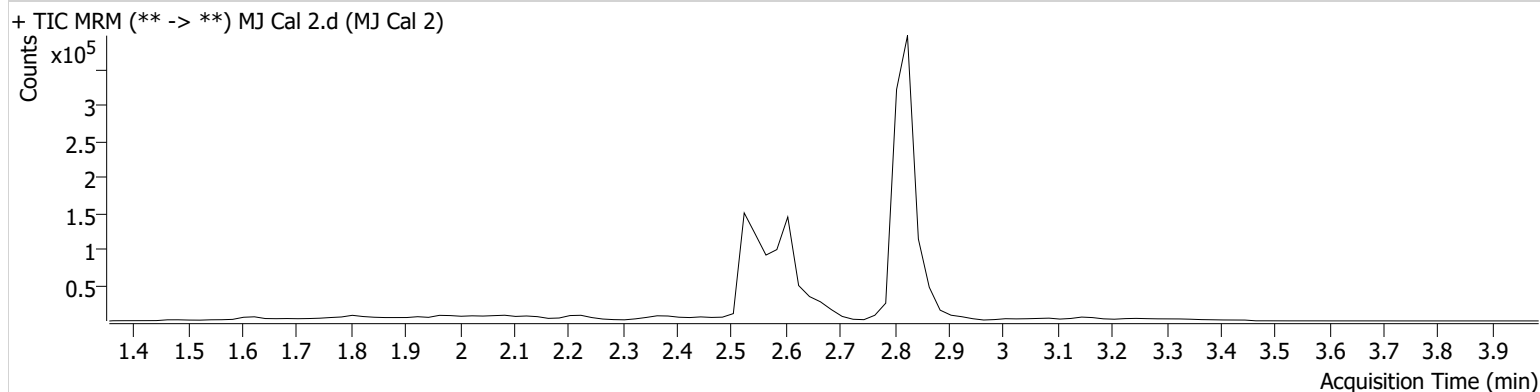
# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2022\AM 25-26\032122 AM 26 26 Urines TS\QuantResults\AM 26.batch.bin  
**Calibration Last Update** 3/23/2022 12:10:45 PM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	MJ Cal 2.d
<b>Type</b>	Cal	<b>Sample</b>	MJ Cal 2
<b>Acq. Method</b>	AM 26 THCS.m	<b>Operator</b>	Tamara Salazar
<b>Sample Position</b>	P1-B1	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	3/21/2022 2:01:33 PM		

**Sample Info.**

## Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.	
THC	2.879	1012	45453	2.4396 ng/ml	<b>Low</b>
THC-COOH	2.627	19507	251062	10.3648 ng/ml	
THC-OH	2.554	4147	443959	3.9242 ng/ml	

TS

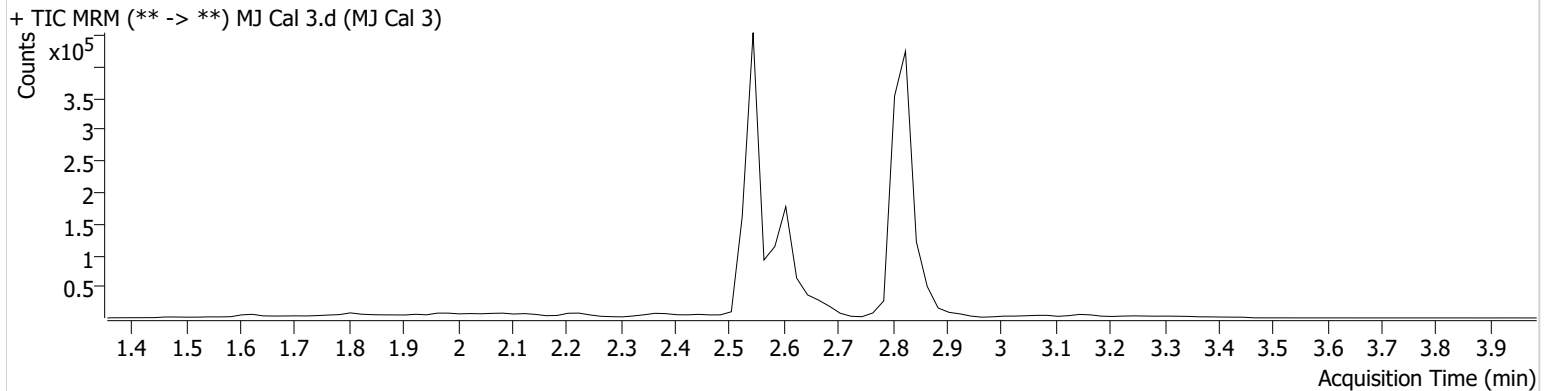


# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2022\AM 25-26\032122 AM 26 26 Urines TS\QuantResults\AM 26.batch.bin  
**Calibration Last Update** 3/23/2022 12:10:45 PM

**Instrument** Falco (069901) **Data File** MJ Cal 3.d  
**Type** Cal **Sample** MJ Cal 3  
**Acq. Method** AM 26 THCS.m **Operator** Tamara Salazar  
**Sample Position** P1-C1 **Comment**  
**Injection Volume** 10  
**Acq. Date-Time** 3/21/2022 2:08:07 PM  
**Sample Info.**

### Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	2.879	1707	48067	4.3888 ng/ml
THC-COOH	2.627	38546	254602	19.7974 ng/ml
THC-OH	2.554	7016	841191	3.3592 ng/ml



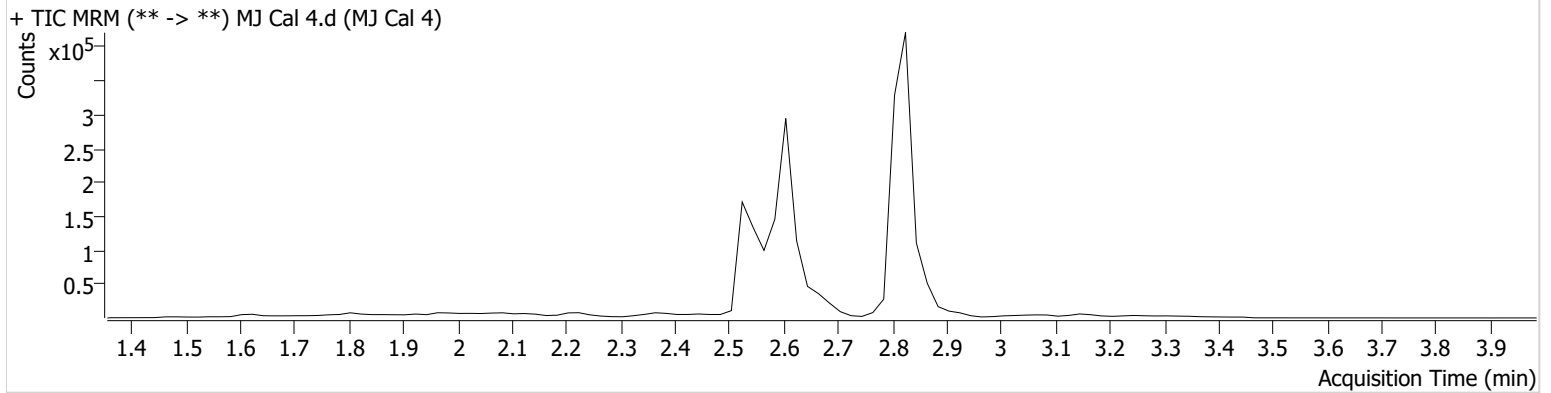
# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2022\AM 25-26\032122 AM 26 26 Urines TS\QuantResults\AM 26.batch.bin  
**Calibration Last Update** 3/23/2022 12:10:45 PM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	MJ Cal 4.d
<b>Type</b>	Cal	<b>Sample</b>	MJ Cal 4
<b>Acq. Method</b>	AM 26 THCS.m	<b>Operator</b>	Tamara Salazar
<b>Sample Position</b>	P1-D1	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	3/21/2022 2:14:41 PM		

**Sample Info.**

## Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	2.879	3303	47043	9.4956 ng/ml
THC-COOH	2.627	100028	257431	50.1519 ng/ml
THC-OH	2.534	7968	450519	8.6388 ng/ml

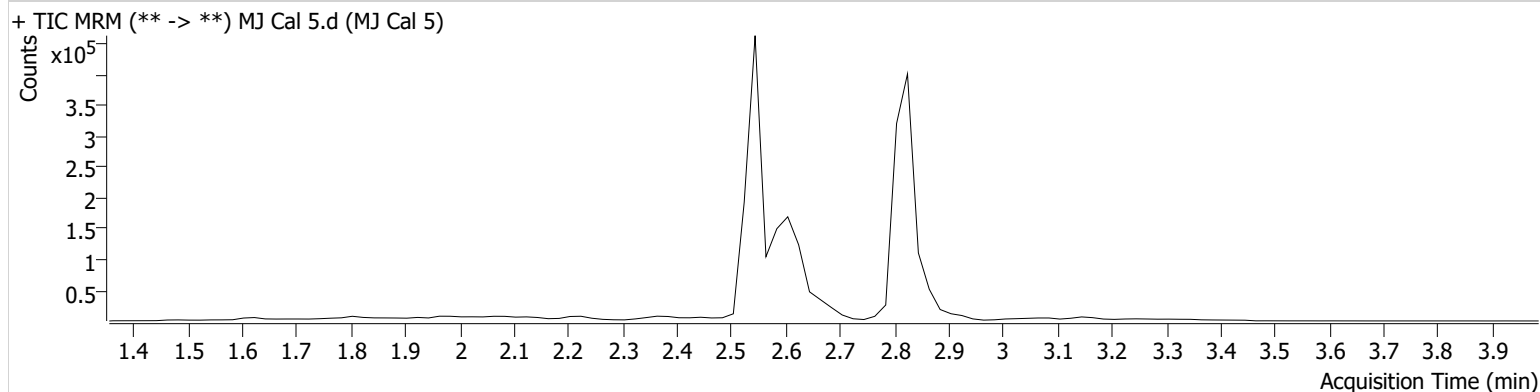


# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2022\AM 25-26\032122 AM 26 26 Urines TS\QuantResults\AM 26.batch.bin  
**Calibration Last Update** 3/23/2022 12:10:45 PM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	MJ Cal 5.d
<b>Type</b>	Cal	<b>Sample</b>	MJ Cal 5
<b>Acq. Method</b>	AM 26 THCS.m	<b>Operator</b>	Tamara Salazar
<b>Sample Position</b>	P1-E1	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	3/21/2022 2:21:15 PM		
<b>Sample Info.</b>			

## Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	2.859	3811	46870	11.1283 ng/ml
THC-COOH	2.627	121838	209089	75.0007 ng/ml
THC-OH	2.554	34493	777045	23.7261 ng/ml

TS

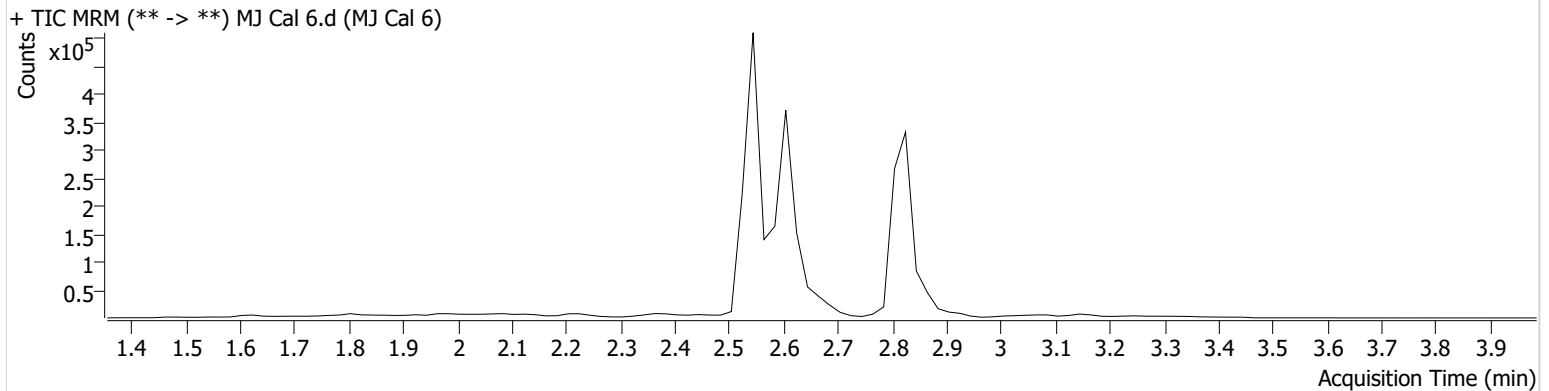


# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2022\AM 25-26\032122 AM 26 26 Urines TS\QuantResults\AM 26.batch.bin  
**Calibration Last Update** 3/23/2022 12:10:45 PM

**Instrument** Falco (069901) **Data File** MJ Cal 6.d  
**Type** Cal **Sample** MJ Cal 6  
**Acq. Method** AM 26 THCS.m **Operator** Tamara Salazar  
**Sample Position** P1-F1 **Comment**  
**Injection Volume** 10  
**Acq. Date-Time** 3/21/2022 2:27:48 PM  
**Sample Info.**

### Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	2.859	7276	40527	25.5838 ng/ml
THC-COOH	2.627	151981	198275	98.5264 ng/ml
THC-OH	2.554	70394	768053	50.4270 ng/ml

TS

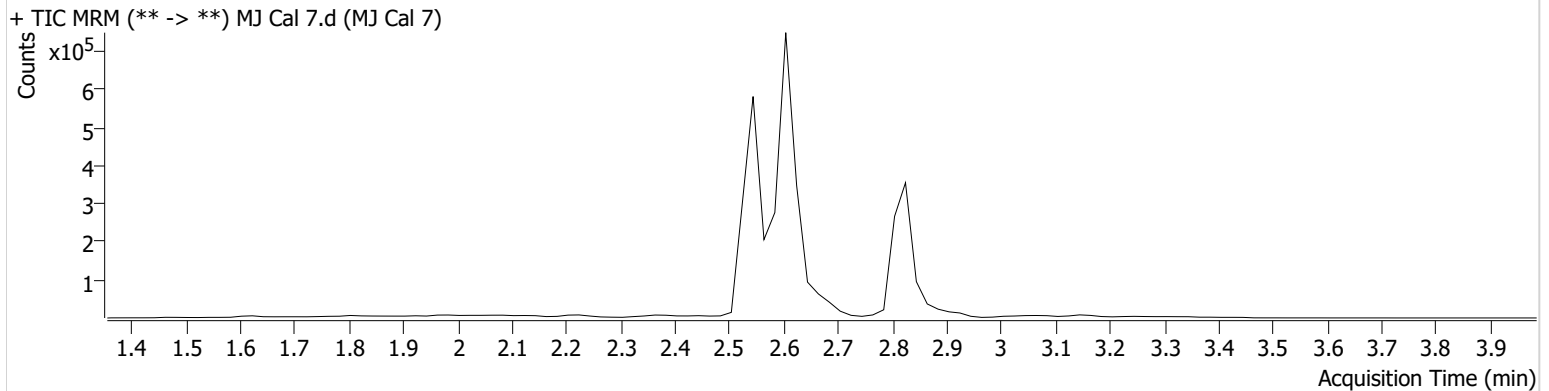


# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2022\AM 25-26\032122 AM 26 26 Urines TS\QuantResults\AM 26.batch.bin  
**Calibration Last Update** 3/23/2022 12:10:45 PM

**Instrument** Falco (069901) **Data File** MJ Cal 7.d  
**Type** Cal **Sample** MJ Cal 7  
**Acq. Method** AM 26 THCS.m **Operator** Tamara Salazar  
**Sample Position** P1-G1 **Comment**  
**Injection Volume** 10  
**Acq. Date-Time** 3/21/2022 2:34:22 PM  
**Sample Info.**

### Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	2.859	13896	20017	101.3299 ng/ml
THC-COOH	2.627	378896	193332	251.2572 ng/ml
THC-OH	2.554	134330	728973	102.7537 ng/ml