

REVIEWED

By Anne Nord at 11:53 am, Mar 26, 2020

B

CS

3/25/2020

Worklist: 4099

<u>LAB_CASE</u>	<u>ITEM</u>	<u>ITEM_TYPE</u>	<u>DESCRIPTION</u>	
M2019-1518	5	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
M2020-0662	3	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
M2020-0722	3	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
M2020-0741	3	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
M2020-0862	2	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
M2020-0865	4	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
M2020-1022	3	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
M2020-1043	8	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2020-0574	2	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2020-0579	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2020-0580	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2020-0656	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2020-0705	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2020-0706	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2020-0748	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2020-0780	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2020-0801	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2020-0803	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2020-0851	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2020-0871	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	

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CS

3/26/2020

Worklist: 4109

<u>LAB CASE</u>	<u>ITEM</u>	<u>ITEM TYPE</u>	<u>DESCRIPTION</u>
P2020-0498	4	URINE	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ 

TS CS

**Idaho State Police
Forensic Services
Toxicology Discipline**

Request for Departure from an Analytical Method

Date of Request
01/13/2020

Forensic Scientist
Celena Shrum

Analytical Methods
Toxicology AM #25, Toxicology AM #26/27, and AM #28

Deviation

The expiration dates listed for the current batch of PinPoint ToxBox extraction plates are as follows:

- *MDS (batch IDP-107-190725)- Expiration is 1/25/2020
- *THC (batch IDP-108-190716)- Expiration is 1/16/2020
- *MDQ P1 (batch IDP-111-190729)- Expiration is 1/29/2020
- *MDQ P2 (batch IDP-112-190730)- Expiration is 1/30/2020

I am issuing a deviation to allow for the use of the remaining plates of these batches. The controls will be used to evaluate if the plate is working as intended. In addition, at least one external control must be included for each run.

Celena Shrum

Date: 01/13/2020
Celena Shrum
Toxicology Discipline Lead

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

Extraction Date: 03/24/2020
Plate Item #: IDP-107 Plate Lot#: 190725

Analyst: Tamara Salazar
Plate Expiration: 01/25/2020—Ok, deviation in place

Mobile phase A: 10mM Amm Form
0.5M Ammonium Hydroxide

Mobile phase B: 0.1% Formic Acid in MeOH
Ethyl Acetate LC Methanol

Blank Blood Lot: Hemostat 445283-3

Blank Urine Lot: POC031319

LCMS-QQQ ID: 069901

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

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 500mM sodium phosphate buffer. Place plate on shaker for 5 minutes.
- 2. Pipette **250µL blood and urine** (if applicable) (**calibrated pipette**) in wells of analytical (standards) plate.
Pipette ID: 42
- 3. Place on shaking incubator at ambient temp., 900rpm for 15 minutes. *Shaker ID: 067105*
- 4. Pipette **250µL 0.5M ammonium hydroxide** in wells of analytical plate.
- 5. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 6. Transfer **300µL of blood+base or urine+base** 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: 067104
- 8. Wait 5 minutes.
- 9. Add **900uL ethyl acetate**.
- 10. Wait 5 minutes.
- 11. Apply positive pressure for approx. 15 seconds. *(10-15 PSI- Selector to the left)*.
- 12. Add **900uL ethyl acetate**.
- 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. If run contains urine, add 50µL 1%HCl in MeOH to wells and place plate cover on plate before drying. *SPE Dry ID: 067103*
- 16. Reconstitute in **100µL 100% 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.
Worklist path: *D:\MassHunter\Data\2020\AM 25-26\032420 AM 25-26 wklst 4099 TS*
Batch Name: *AM 25 TS*
- 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? Y / N _____
- 5. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

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COMMENTS: *Compounds not evaluated: Zopiclone and Pseudoephedrine*

Due to low internal standard response in some compounds, case samples M2020-1022-3, P2020-0656-1, P2020-0705-1, and P2020-0706-1 were reinjected.

Meprobamate not evaluated for case sample M2020-0862-2

Norhydrocodone not evaluated for case sample M2020-1022-3, P2020-0656-1.

Norbuprenorphine not evaluated for case sample P2020-0580-1.

Due to extenuating circumstances, P2020-0498-4 from worklist 4109 was assigned to Tamara Salazar. Tamara Salazar acted as the primary analyst on the case to open the evidence and perform the necessary extractions. Celena Shrum reviewed all of the data and central files.



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Idaho State Police Forensic Services

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

Methanol External Control Solution (Lot: 031820)

100 μ L of 1mg/mL stock was added to each drug to 9700 μ L of LC MeOH.

<i>Component</i>	<i>Source</i>	<i>Source Lot Number</i>	<i>Expiration Date</i>
Methanol (LCMS)	Fisher	193068	
O-desmethyl Tramadol	Cerilliant	FN01241702	04/30/2022
Amphetamine	Cerilliant	FE04061701	06/30/2022
Alprazolam	Cerilliant	FE07061604	07/31/2021
Prepared:	03/18/20		
Prepared By:	Sarah Pickle		
Expires:	03/18/21		

Blood External Control Solution (Lot: WS031820)

100 μ L of methanol external control solution was added to 9900 μ L of blood.

Approximately 100 ng/mL of each compound.

<i>Component</i>	<i>Source</i>	<i>Source Lot Number</i>
Negative Blood	Hemostat	445283-3
Methanol External Control Solution		031820
Prepared:	03/18/20	
Prepared by:	Sarah Pickle	
Expires:	03/18/21	



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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: 031820)

100 µL of 1mg/mL stock was added to each drug to 9700 µL of LC MeOH.

<i>Component</i>	<i>Source</i>	<i>Source Lot Number</i>	<i>Expiration Date</i>
Methanol (LCMS)	Fisher	193068	
O-desmethyl Tramadol	Cerilliant	FN01241702	04/30/2022
Amphetamine	Cerilliant	FE04061701	06/30/2022
Alprazolam	Cerilliant	FE07061604	07/31/2021
Prepared:	03/18/20		
Prepared By:	Sarah Pickle		
Expires:	03/18/21		

Urine External Control Solution (Lot: WS031820)

100 µL of methanol external control solution was added to 9900 µL of urine.

Approximately 100 ng/mL of each compound.

<i>Component</i>	<i>Source</i>	<i>Source Lot Number</i>
Negative Urine	Pocatello Lab	POC031319
Methanol External Control Solution		031820
Prepared:	03/23/20	
Prepared by:	Tamara Salazar	
Expires:	Per AM 21 reference materials used for qualitative purposes do not have an expiration date.	

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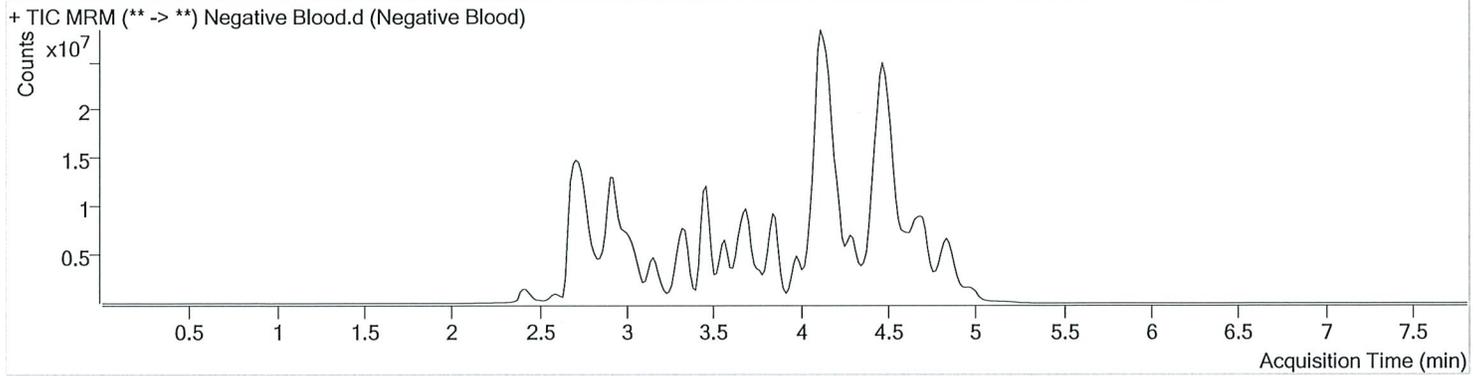


AM #25 Multi-Drug Screen Results

Batch results D:\MassHunter\Data\2020\AM 25-26\032420 AM 25-26 wk1st 4099 TS\QuantResults\AM 25 TS.batch.bin
Calibration Last Update 3/26/2020 10:59:16 AM

Instrument	Falco	Data File	Negative Blood.d
Type	Sample	Sample	Negative Blood
Acq. Method	am 25 all.m	Operator	Tamara Salazar
Sample Position	P5-F12	Comment	
Injection Volume	5		
Acq. Date-Time	3/24/2020 5:17:47 PM		
Sample Info.			

Sample Chromatogram



TS CG

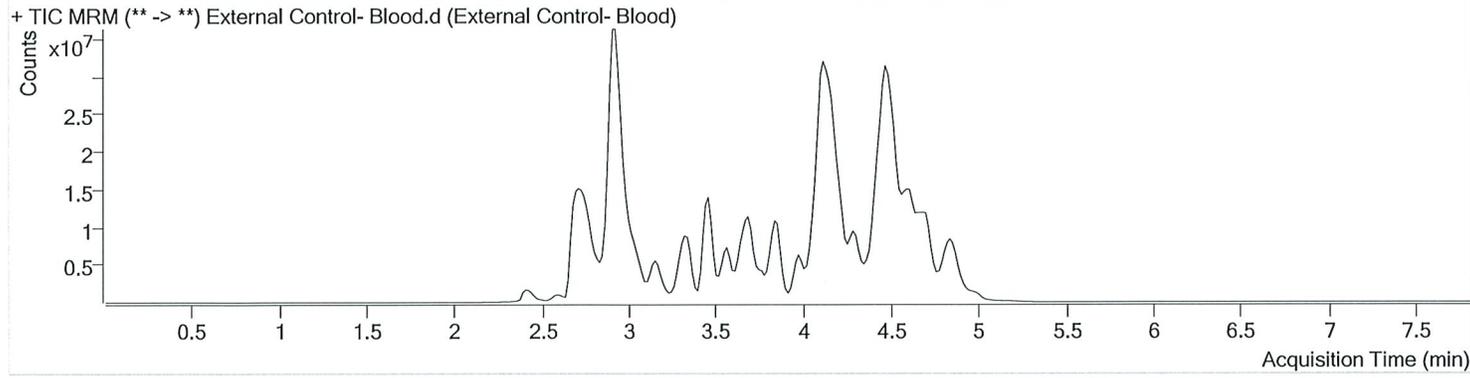


AM #25 Multi-Drug Screen Results

Batch results D:\MassHunter\Data\2020\AM 25-26\032420 AM 25-26 wk1st 4099 TS\QuantResults\AM 25 TS.batch.bin
Calibration Last Update 3/26/2020 10:59:16 AM

Instrument	Falco	Data File	External Control- Blood.d
Type	Sample	Sample	External Control- Blood
Acq. Method	am 25 all.m	Operator	Tamara Salazar
Sample Position	P5-E12	Comment	
Injection Volume	5		
Acq. Date-Time	3/24/2020 5:26:07 PM		

Sample Chromatogram



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Alprazolam	4.602	15820644	∞	1552.00	3726409	111.7611
Amphetamine	2.919	22059225	11962.98	∞	6091856	115.6700
O-desmethyl-tramadol	2.944	58004808	∞	4455.53	36336629	82.7564

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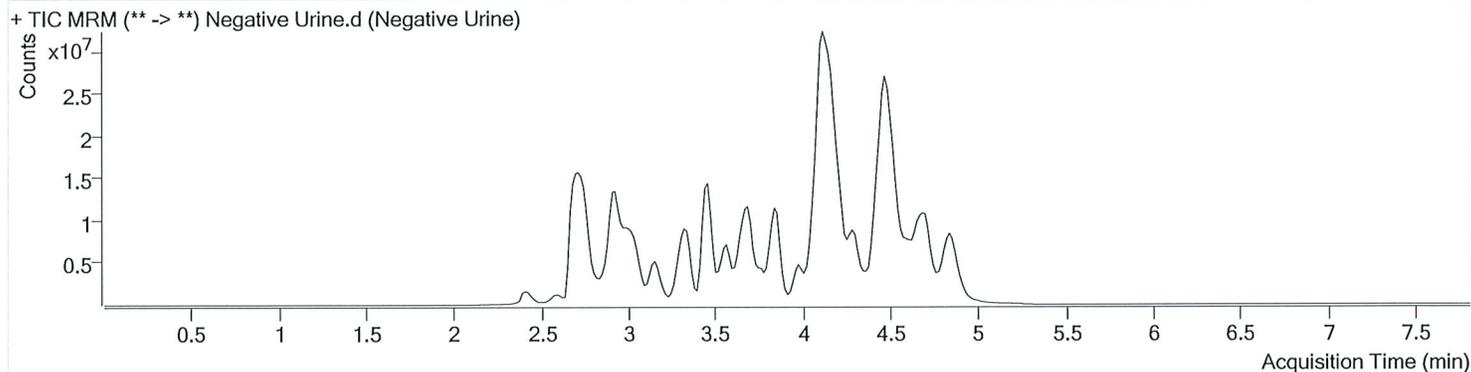


AM #25 Multi-Drug Screen Results

Batch results D:\MassHunter\Data\2020\AM 25-26\032420 AM 25-26 wk1st 4099 TS\QuantResults\AM 25 TS.batch.bin
Calibration Last Update 3/26/2020 10:59:16 AM

Instrument	Falco	Data File	Negative Urine.d
Type	Sample	Sample	Negative Urine
Acq. Method	am 25 all.m	Operator	Tamara Salazar
Sample Position	P5-D12	Comment	
Injection Volume	5		
Acq. Date-Time	3/24/2020 5:34:27 PM		
Sample Info.			

Sample Chromatogram



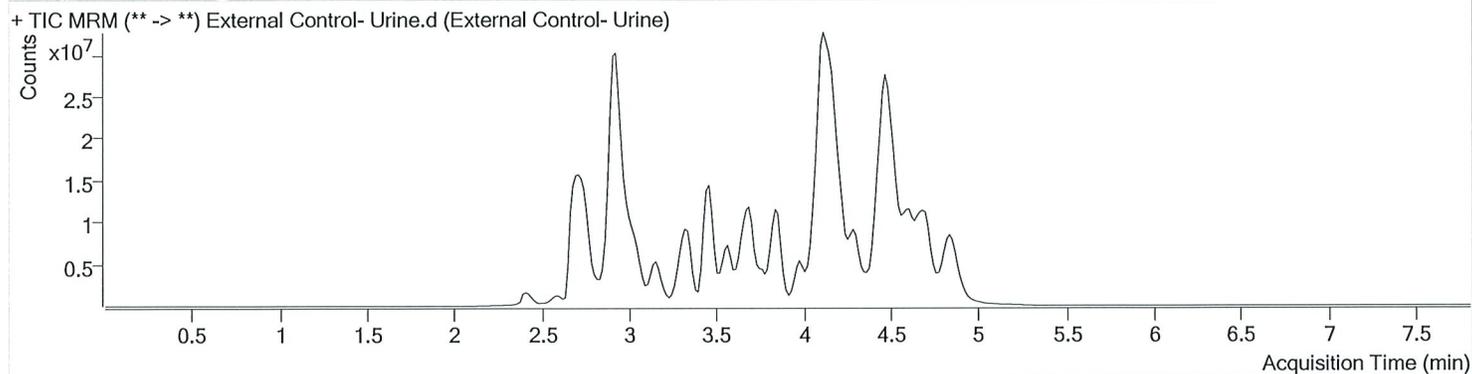
AM #25 Multi-Drug Screen Results



Batch results D:\MassHunter\Data\2020\AM 25-26\032420 AM 25-26 wk1st 4099 TS\QuantResults\AM 25 TS.batch.bin
Calibration Last Update 3/26/2020 10:59:16 AM

Instrument	Falco	Data File	External Control- Urine.d
Type	Sample	Sample	External Control- Urine
Acq. Method	am 25 all.m	Operator	Tamara Salazar
Sample Position	P5-C12	Comment	
Injection Volume	5		
Acq. Date-Time	3/24/2020 5:42:47 PM		

Sample Chromatogram



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Alprazolam	4.604	8975605	∞	∞	3701557	63.8317
Amphetamine	2.904	15033966	2075.70	∞	6801776	70.6043
O-desmethyl-tramadol	2.929	41969175	∞	451.86	38452993	56.5825

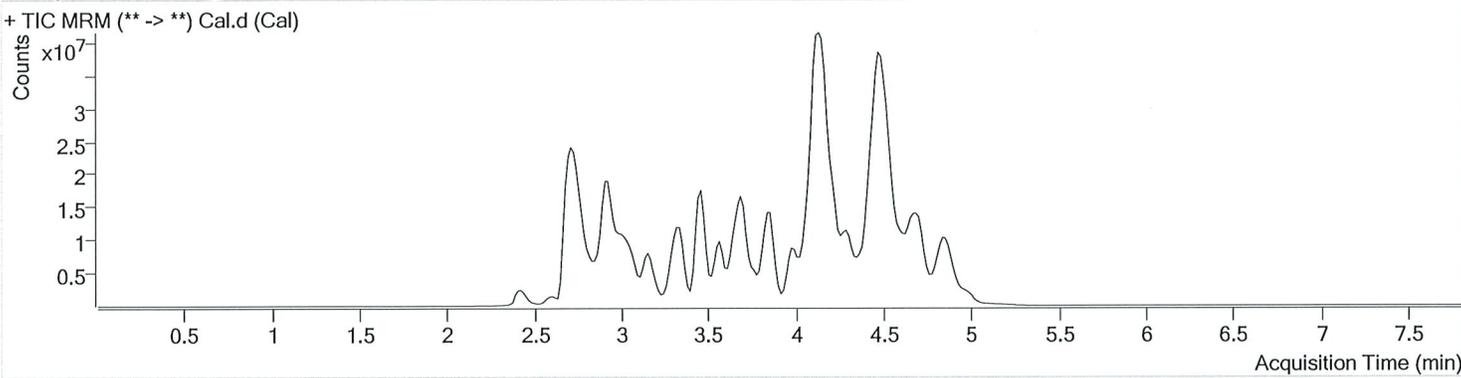


AM #25 Multi-Drug Screen Results

Batch results D:\MassHunter\Data\2020\AM 25-26\032420 AM 25-26 wklst 4099 TS\QuantResults\AM 25 TS.batch.bin
Calibration Last Update 3/26/2020 10:59:16 AM

Instrument	Falco	Data File	Cal.d
Type	Cal	Sample	Cal
Acq. Method	am 25 all.m	Operator	Tamara Salazar
Sample Position	P5-H12	Comment	
Injection Volume	5		
Acq. Date-Time	3/24/2020 5:09:19 PM		

Sample Chromatogram



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
6-MAM	3.043	50597	93.79	13.08	1207235	10.0000
7-aminoclonazepam	3.567	675115	830.89	∞	2804095	10.0000
7-aminoflunitrazepam	3.782	1649031	214.28	314.14	10871873	10.0000
Acetyl Fentanyl	4.071	366365	52.56	38262.39	28883580	10.0000
Acetyl Norfentanyl	2.915	293688	59.51	41.08	15050584	10.0000
a-hydroxyalprazolam	4.500	105779	∞	32.76	599634	10.0000
alpha-hydroxymidazolam	4.575	978956	330.71	∞	6686310	10.0000
alpha-PVP	3.651	729404	66.49	89.78	3654504	10.0000
Alprazolam	4.610	1518530	∞	146.83	3997426	10.0000
Amitriptyline	4.569	3666385	∞	763.15	9560322	10.0000
Amphetamine	2.919	2271613	1396.29	1194.74	7256285	10.0000
Benzoylcegonine	3.352	871484	302.54	57.05	4458865	10.0000
Buprenorphine	4.953	1048095	∞	21129.29	4116498	10.0000
Bupropion	3.880	3713460	14071.41	415.53	10864179	10.0000
Carbamazepine	4.219	4570257	1804.72	706.89	29903123	10.0000
Carisoprodol	4.202	386978	117010.16	27.71	1838918	10.0000
Chlordiazepoxide	4.719	541216	236.50	331.00	14064481	10.0000
Chlorpheniramine	4.030	26013	11.17	∞	49713887	10.0000
Citalopram	4.177	2019596	71605.20	108.15	9556892	10.0000
Clonazepam	4.424	728344	2042.82	105866.32	1470280	10.0000
Cocaine	3.657	3619481	760.82	108.04	18536103	10.0000
Codeine	2.955	278278	31054.07	215.10	1416739	10.0000
Cyclobenzaprine	4.492	2941288	1256.33	∞	9830005	10.0000
Desipramine	4.493	4430420	∞	∞	26865627	10.0000
Dextromethorphan	4.201	2050270	102847.35	1879.07	9612056	10.0000
Dextrorphan	3.463	1346891	178.89	280.44	9076349	10.0000
Diazepam	4.828	1721941	561.98	519.08	8162294	10.0000
Dihydrocodeine	2.848	970021	185.16	∞	5200739	10.0000
Diphenhydramine	4.110	6481837	∞	1087.12	49713887	10.0000
Doxepin	4.291	2231187	∞	∞	14859691	10.0000
Doxylamine	3.706	7907095	∞	122061.38	33853496	10.0000
EDDP	4.153	5202160	4041.33	1917.97	35802282	10.0000
Estazolam	4.520	2658360	388.01	∞	8187404	10.0000
Etizolam	4.621	272332	14435.84	599705.50	8187404	10.0000

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AM #25 Multi-Drug Screen Results

Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Fentanyl	4.299	308770	42.44	91094.77	21517466	10.0000
Flunitrazepam	4.548	1057736	505.73	422.49	220726	10.0000
Fluoxetine	4.410	3275906	∞	3321.87	14832380	10.0000
Flurazepam	4.359	3257717	1451598.40	313041.57	220726	10.0000
Hydrocodone	3.183	1102183	98.20	67.31	6942973	10.0000
Hydromorphone	2.623	1029462	∞	11.56	4257136	10.0000
Imipramine	4.537	5839275	1026.31	∞	22430297	10.0000
Ketamine	3.726	1377337	99.87	146.27	4938499	10.0000
Lamotrigine	3.632	123868	66.97	∞	6423235	10.0000
Levamisole	3.084	4156936	∞	461.89	18536103	10.0000
Lorazepam	4.409	370994	134.34	∞	1470280	10.0000
Maprotiline	4.569	3862255	∞	218.27	9560322	10.0000
MDA	3.069	1982770	364.03	20.29	9249096	10.0000
MDEA	3.314	4091749	4128.55	708.03	19570401	10.0000
MDMA	3.161	4711052	6805.82	∞	3109346	10.0000
Meperidine	3.694	1289215	182.86	139.55	6423235	10.0000
Meprobamate	3.621	33748	14.54	6.39	222032	10.0000
Methadone	4.471	6323876	817.12	∞	29757722	10.0000
Methamphetamine	3.040	3394455	416.50	∞	17633928	10.0000
Methocarbamol	3.541	133531	∞	∞	6423235	10.0000
Methylphenidate	3.573	4927990	∞	97.08	25512902	10.0000
Metoprolol	3.477	331281	∞	211.70	6423235	10.0000
Midazolam	4.760	795457	∞	∞	9405084	10.0000
Mirtazapine	4.263	3151624	181692.09	∞	6423235	10.0000
Mitragynine	4.373	319988	43029.07	330114.17	14859691	10.0000
Morphine	2.427	182734	381.30	547.51	123162	10.0000
Norbuprenorphine	3.943	39502	212.14	14600.75	196824	10.0000
Nordiazepam	4.677	1107644	∞	183.46	3696125	10.0000
Norfentanyl	3.358	5057888	476.65	351.68	24322651	10.0000
Norhydrocodone	3.018	28682	20.22	44.45	1044297	10.0000
Normeperidine	3.650	986232	608.43	∞	4084855	10.0000
Noroxycodone	2.955	842891	154.34	42.52	2725436	10.0000
Nortriptyline	4.540	1676906	337.83	378.98	4134119	10.0000
O-desmethyl-tramadol	2.929	8069671	6455.04	182.08	41834816	10.0000
Olanzapine	4.195	665125	∞	4.51 Low	45195	10.0000
Oxazepam	4.490	1265259	258.33	∞	8704305	10.0000
Oxycodone	2.998	2139433	∞	95.27	8937363	10.0000
Oxymorphone	2.424	1969963	∞	495.73	7382561	10.0000
Paroxetine	4.514	260069	37.75	∞	8497333	10.0000
Phenazepam	4.636	1210907	49529.10	358534.79	6126107	10.0000
Phencyclidine	4.002	5379717	370.66	475.09	25343991	10.0000
Phentermine	3.178	1026886	∞	8.79	12655602	10.0000
Phenytol	4.095	6667	6.91	7.00	45195	10.0000
Promethazine	4.521	9616002	32754.22	∞	38789870	10.0000
Pseudoephedrine	2.719	42060970	∞	4691.19	130887925	10.0000
Quetiapine	4.666	3044887	3363.20	1189.10	4245922	10.0000
Sertraline	4.703	1648087	66207.52	∞	8497333	10.0000
Sufentanil	4.696	352138	148.78	1925.69	24262426	10.0000
Tapentadol	3.467	2282592	240.83	62275.96	12366193	10.0000
Temazepam	4.657	2573054	174.72	25.97	13788581	10.0000
Tramadol	3.462	7439877	6025.28	54.48	37716699	10.0000
Trazodone	4.879	8240396	11466.20	∞	38092992	10.0000
Venlafaxine	3.859	6355133	∞	170.98	38547959	10.0000
Zaleplon	4.350	1994360	668.75	473.25	4446303	10.0000
Zolpidem	4.457	9677672	∞	∞	49590759	10.0000
Zopiclone	4.420	264525	97.11	∞	1666179	10.0000

TS CS

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

Extraction Date: 03/24/2020

Analyst: Tamara Salazar

Plate lot# IDP-108-2, 200303

Plate Expiration: 09-03-2020

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

MTBE

Mobile phase B: 0.1% Formic acid in MeOH
Hexane

Blank Blood Lot: 445283-3

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

Blank Urine Lot: POC031319

LCMS-QQQ ID: 069901

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 250ul 1N KOH. Shake and incubate at 40 degrees for 15 minutes.
- 3. Using a calibrated pipette, add **1000 µL blood and urine (if applicable) (calibrated pipette)** into the appropriate wells of analytical (standards) plate. **Pipette ID: #42**
- 4. Place on shaking incubator at ambient temp., 900rpm for 15 minutes. *Shaker ID: 067105*
- 5. Pipette **500 µL 0.1% formic acid in water** for blood samples, **500µL saturated phosphate buffer** for urine samples, in wells of analytical plate.
- 5. Place on shaking incubator at ambient temp., 900rpm 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. 4 seconds (or until no liquid remains on top of sorbent). **(Load at 85-100 PSI- Selector to the right)** Manifold ID: 067104
- 8. Wait 5 minutes.
- 9. Add **2.25 mL 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 **2.25 mL 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. *SPE Dry ID: 067103*
- 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.
Worklist path: *D:\MassHunter\Data\2020\AM 25-26\032420 AM 25-26 wklt 4099 TS*
Batch Name: *AM 26 TS*
- 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 +/- .100 min whichever is greater of the average retention time of the calibrators.
- 4. Did all QCs pass for each analyte? Y / N
- 5. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

COMMENTS: *Only THC-COOH evaluated.*

Due to extenuating circumstances, P2020-0498-4 from worklist 4109 was assigned to Tamara Salazar. Tamara Salazar acted as the primary analyst on the case to open the evidence and perform the necessary extractions. Celena Shrum reviewed all of the data and central files.



15 09

Idaho State Police Forensic Services

**AM #26 Screening of THC and Metabolites Screen in Blood
and Urine by LCMS-QQQ**

**AM #27 Quantitative Analysis of THC and Metabolites in
Blood and Urine by LCMS-QQQ**

Methanol External Control Solution (Lot: WS021320)

100 ul of 100 ug/mL C-THC in 9900 ul MeOH

Approximate concentration 1ug/mL.

<i>Component</i>	<i>Source</i>	<i>Source Lot Number</i>	<i>Expiration Date</i>
Methanol (LCMS)	Fisher	193941	
C-THC	Cerilliant	FE07171501	09/30/2020
Prepared:	02/13/2020		
Prepared By:	Celena Shrum		
Expires:	Per AM 21 reference materials used for qualitative purposes do not have an expiration date.		

Urine External Control Solution (Lot: 021320)

200 ul of methanol external control solution was added to 9800 ul of urine.

Approximately 20ng/mL.

<i>Component</i>	<i>Source</i>	<i>Source Lot Number</i>
Negative Urine	Pocatello Lab	POC031319
Methanol External Control Solution	-	WS021320
Prepared:	02/13/2020	
Prepared by:	Celena Shrum	
Expires:	09/30/2020	

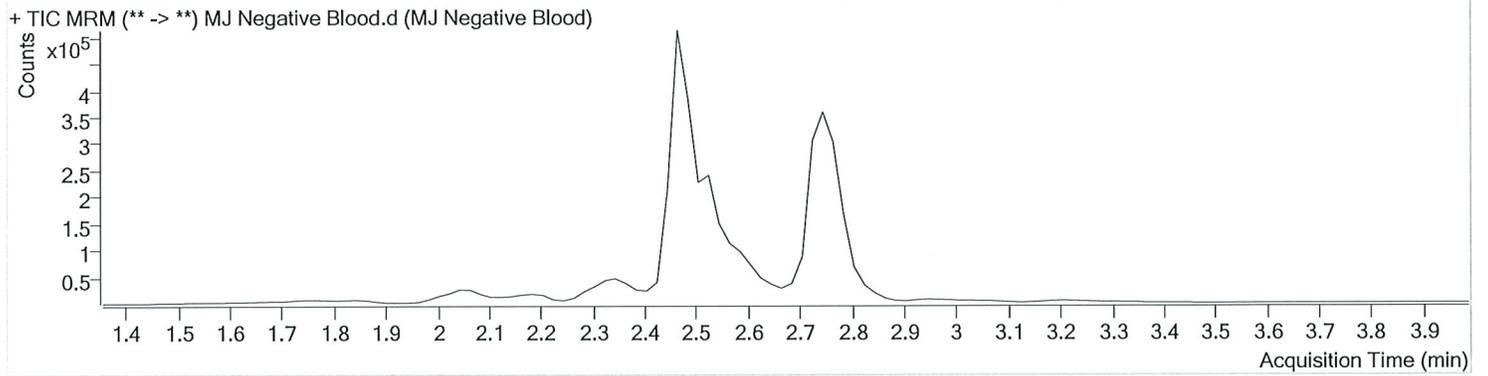


AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2020\AM 25-26\032420 AM 25-26 wk1st 4099 TS\QuantResults\AM 26 TS_COOH only.batch.bin
Calibration Last Update 3/26/2020 10:14:08 AM

Instrument	Falco	Data File	MJ Negative Blood.d
Type	Sample	Sample	MJ Negative Blood
Acq. Method	am 26 test.m	Operator	Tamara Salazar
Sample Position	P3-A2	Comment	
Injection Volume	10		
Acq. Date-Time	3/24/2020 1:36:11 PM		
Sample Info.			

Sample Chromatogram



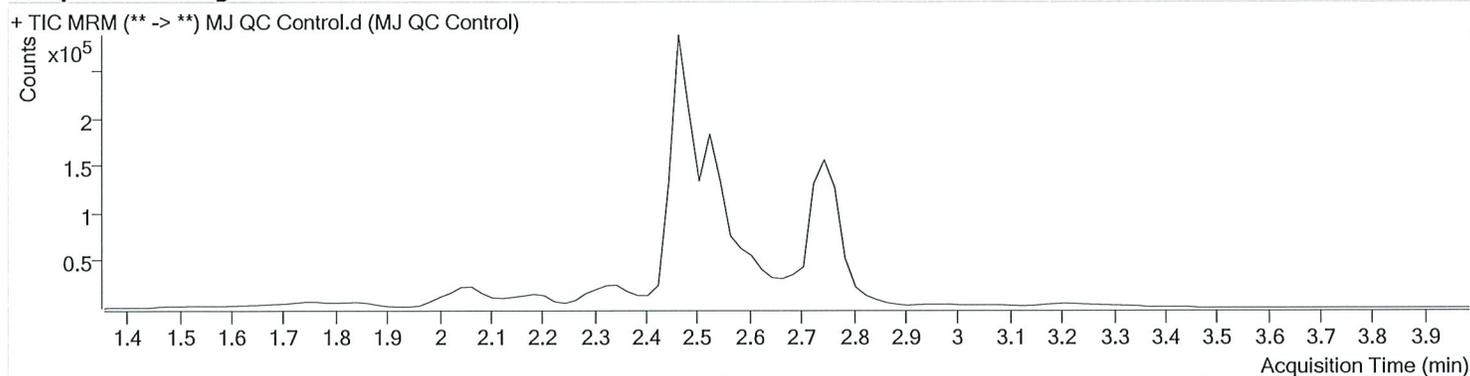


AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2020\AM 25-26\032420 AM 25-26 wk1st 4099 TS\QuantResults\AM 26 TS_COOH only.batch.bin
Calibration Last Update 3/26/2020 10:14:08 AM

Instrument	Falco	Data File	MJ QC Control.d
Type	Sample	Sample	MJ QC Control
Acq. Method	am 26 test.m	Operator	Tamara Salazar
Sample Position	P3-H1	Comment	
Injection Volume	10		
Acq. Date-Time	3/24/2020 1:23:08 PM		

Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	2.525	65286	282049	16.7396 ng/ml



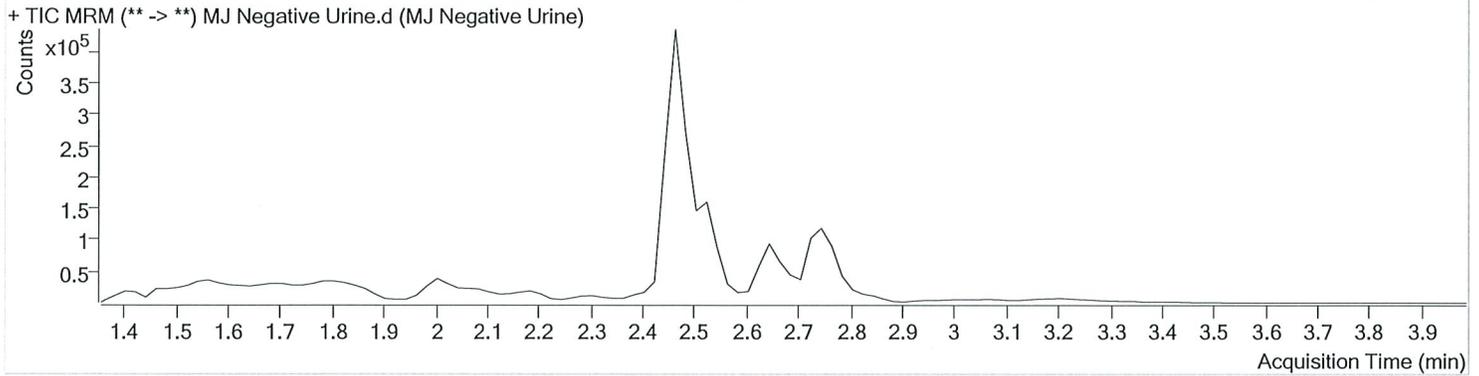
AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2020\AM 25-26\032420 AM 25-26 wk1st 4099 TS\QuantResults\AM 26 TS_COOH only.batch.bin

Calibration Last Update 3/26/2020 10:14:08 AM

Instrument	Falco	Data File	MJ Negative Urine.d
Type	Sample	Sample	MJ Negative Urine
Acq. Method	am 26 test.m	Operator	Tamara Salazar
Sample Position	P3-B2	Comment	
Injection Volume	10		
Acq. Date-Time	3/24/2020 1:44:36 PM		
Sample Info.			

Sample Chromatogram



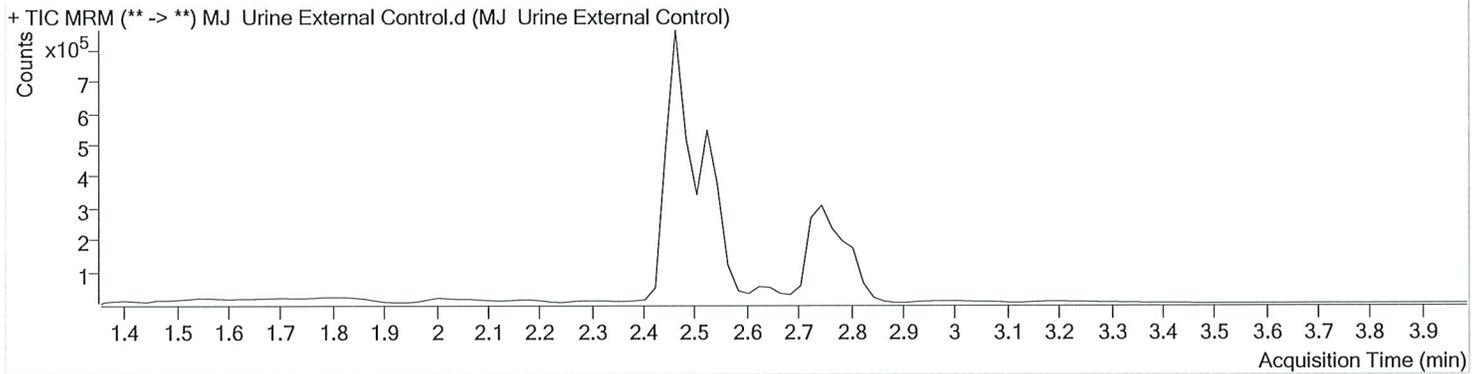
AM #26 Cannabinoids Screen Results



Batch results D:\MassHunter\Data\2020\AM 25-26\032420 AM 25-26 wk1st 4099 TS\QuantResults\AM 26 TS_COOH only.batch.bin
Calibration Last Update 3/26/2020 10:14:08 AM

Instrument	Falco	Data File	MJ Urine External Control.d
Type	Sample	Sample	MJ Urine External Control
Acq. Method	am 26 test.m	Operator	Tamara Salazar
Sample Position	P3-C2	Comment	
Injection Volume	10		
Acq. Date-Time	3/24/2020 1:51:17 PM		
Sample Info.			

Sample Chromatogram

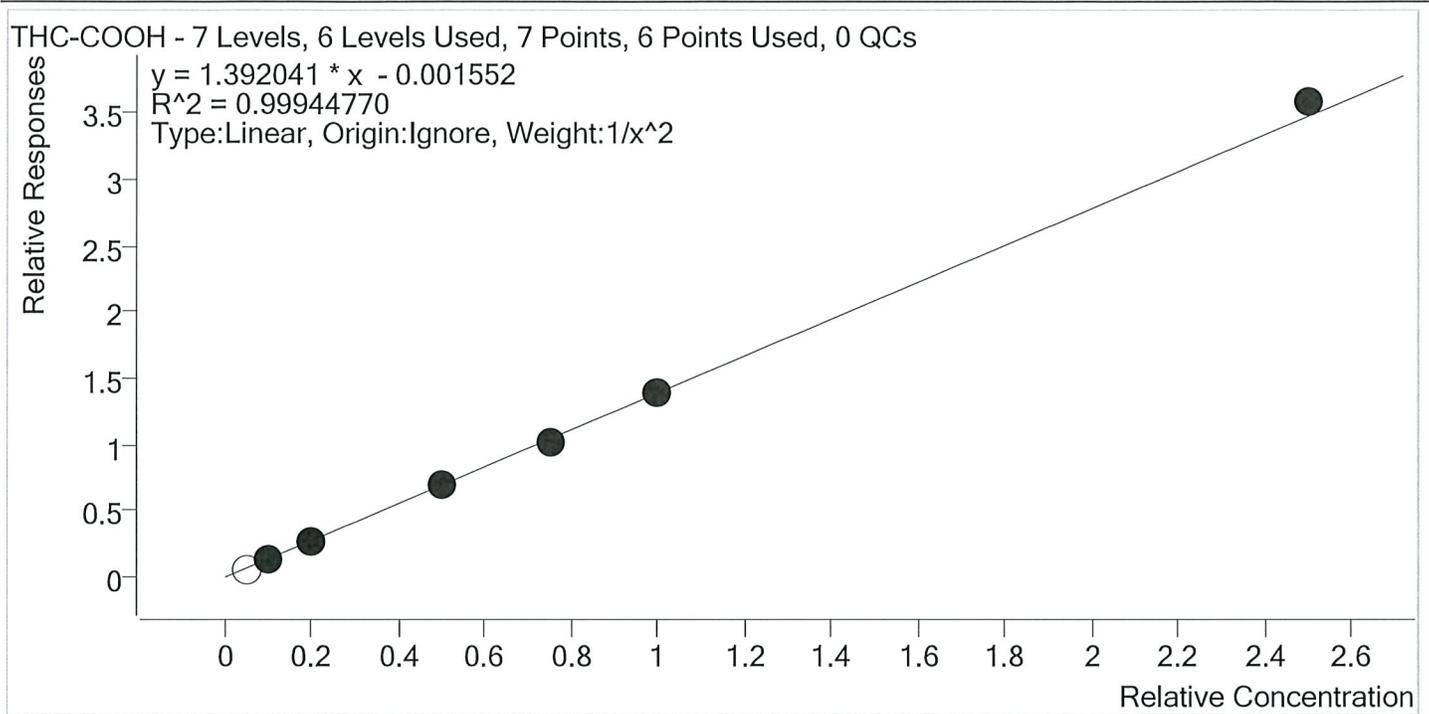


Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	2.525	308506	667863	33.2952 ng/ml



AM #26 Cannabinoids Screen Calibration Curve Report

Batch results D:\MassHunter\Data\2020\AM 25-26\032420 AM 25-26 wk\st 4099 TS\QuantResults\AM 26
 TS_COOH only.batch.bin
Last Cal. Update 3/26/2020 10:14 AM
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	4.3	85.5
MJ Cal 2	2	✓	10.0	10.0	100.2
MJ Cal 3	3	✓	20.0	20.1	100.3
MJ Cal 4	4	✓	50.0	49.8	99.6
MJ Cal 5	5	✓	75.0	73.1	97.4
MJ Cal 6	6	✓	100.0	99.4	99.4
MJ Cal 7	7	✓	250.0	257.7	103.1



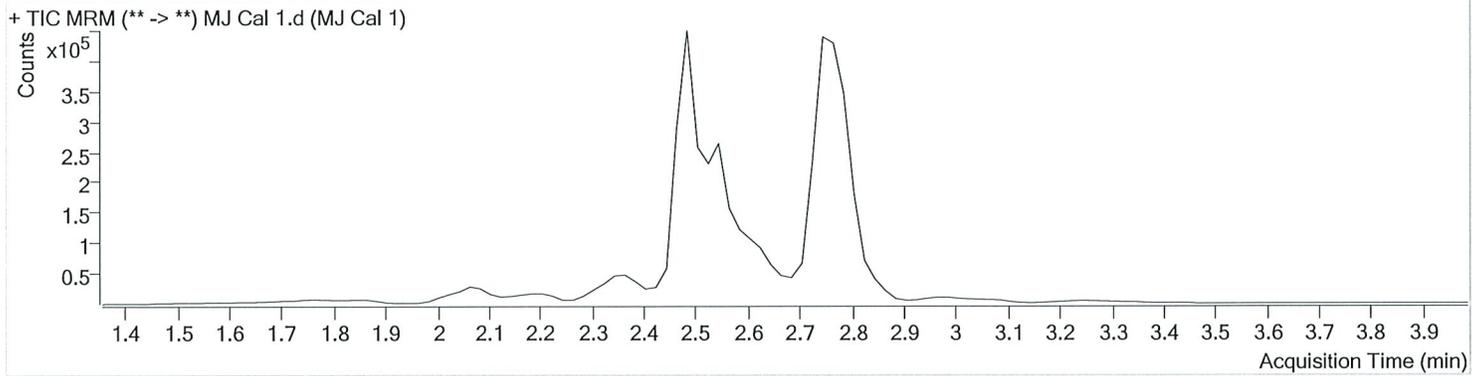
AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2020\AM 25-26\032420 AM 25-26 wk1st 4099 TS\QuantResults\AM 26 TS_COOH only.batch.bin

Calibration Last Update 3/26/2020 10:14:08 AM

Instrument	Falco	Data File	MJ Cal 1.d
Type	Cal	Sample	MJ Cal 1
Acq. Method	am 26 test.m	Operator	Tamara Salazar
Sample Position	P3-A1	Comment	
Injection Volume	10		
Acq. Date-Time	3/24/2020 12:37:22 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	2.545	25284	436381	4.2738 ng/ml Low



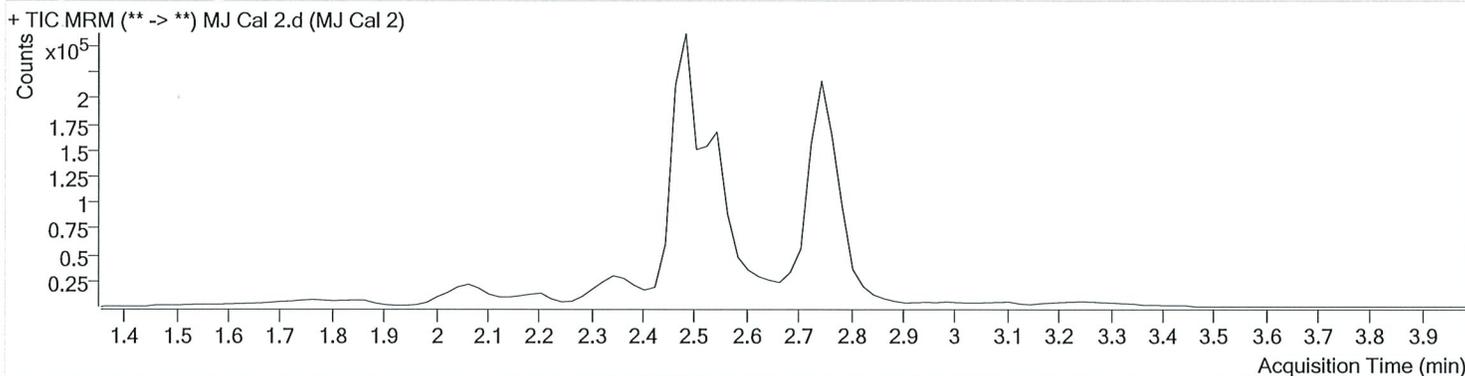
AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2020\AM 25-26\032420 AM 25-26 wk1st 4099 TS\QuantResults\AM 26 TS_COOH only.batch.bin

Calibration Last Update 3/26/2020 10:14:08 AM

Instrument	Falco	Data File	MJ Cal 2.d
Type	Cal	Sample	MJ Cal 2
Acq. Method	am 26 test.m	Operator	Tamara Salazar
Sample Position	P3-B1	Comment	
Injection Volume	10		
Acq. Date-Time	3/24/2020 12:44:04 PM		

Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	2.545	42259	306356	10.0209 ng/ml



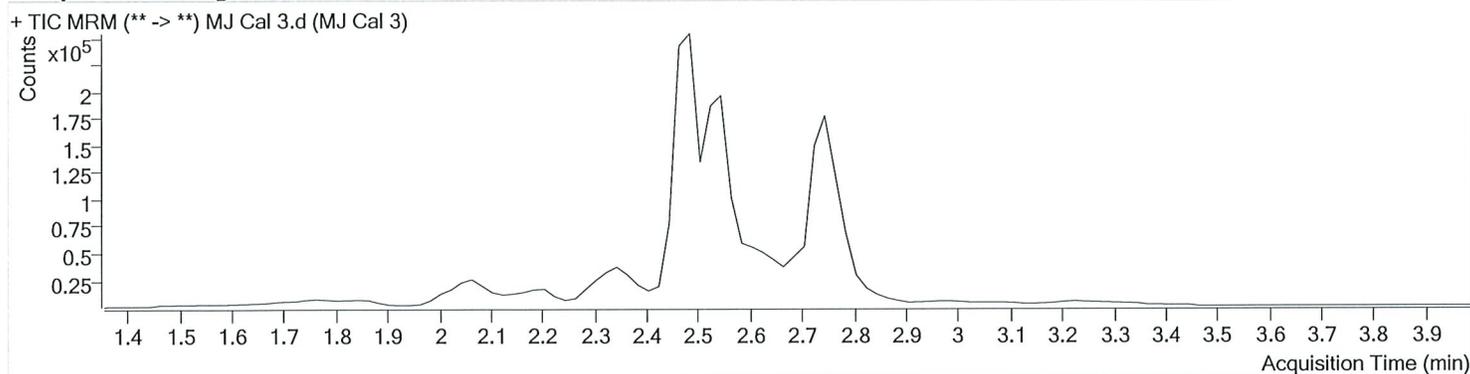
AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2020\AM 25-26\032420 AM 25-26 wk\st 4099 TS\QuantResults\AM 26 TS_COOH only.batch.bin

Calibration Last Update 3/26/2020 10:14:08 AM

Instrument	Falco	Data File	MJ Cal 3.d
Type	Cal	Sample	MJ Cal 3
Acq. Method	am 26 test.m	Operator	Tamara Salazar
Sample Position	P3-C1	Comment	
Injection Volume	10		
Acq. Date-Time	3/24/2020 12:50:36 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	2.545	77075	277507	20.0636 ng/ml



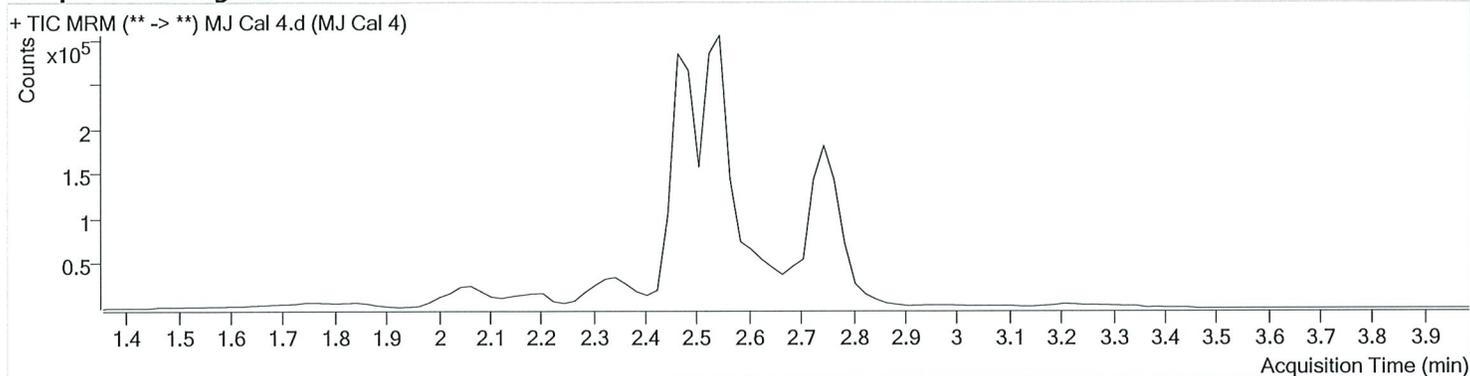
AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2020\AM 25-26\032420 AM 25-26 wk1st 4099 TS\QuantResults\AM 26 TS_COOH only.batch.bin

Calibration Last Update 3/26/2020 10:14:08 AM

Instrument	Falco	Data File	MJ Cal 4.d
Type	Cal	Sample	MJ Cal 4
Acq. Method	am 26 test.m	Operator	Tamara Salazar
Sample Position	P3-D1	Comment	
Injection Volume	10		
Acq. Date-Time	3/24/2020 12:57:06 PM		

Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	2.545	205044	296569	49.7787 ng/ml

TS CG

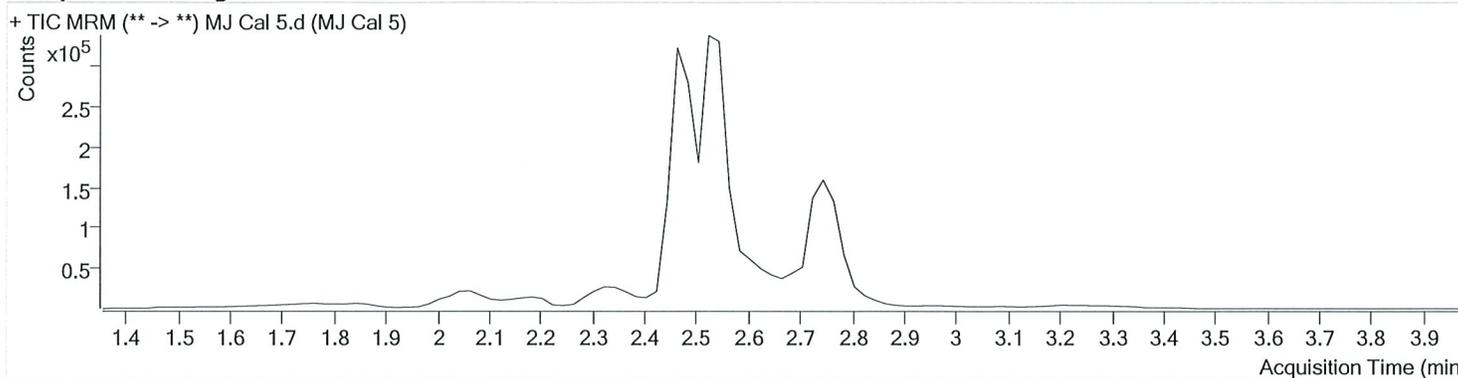


AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2020\AM 25-26\032420 AM 25-26 wklst 4099 TS\QuantResults\AM 26 TS_COOH only.batch.bin
Calibration Last Update 3/26/2020 10:14:08 AM

Instrument	Falco	Data File	MJ Cal 5.d
Type	Cal	Sample	MJ Cal 5
Acq. Method	am 26 test.m	Operator	Tamara Salazar
Sample Position	P3-E1	Comment	
Injection Volume	10		
Acq. Date-Time	3/24/2020 1:03:38 PM		

Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	2.545	266594	262456	73.0812 ng/ml

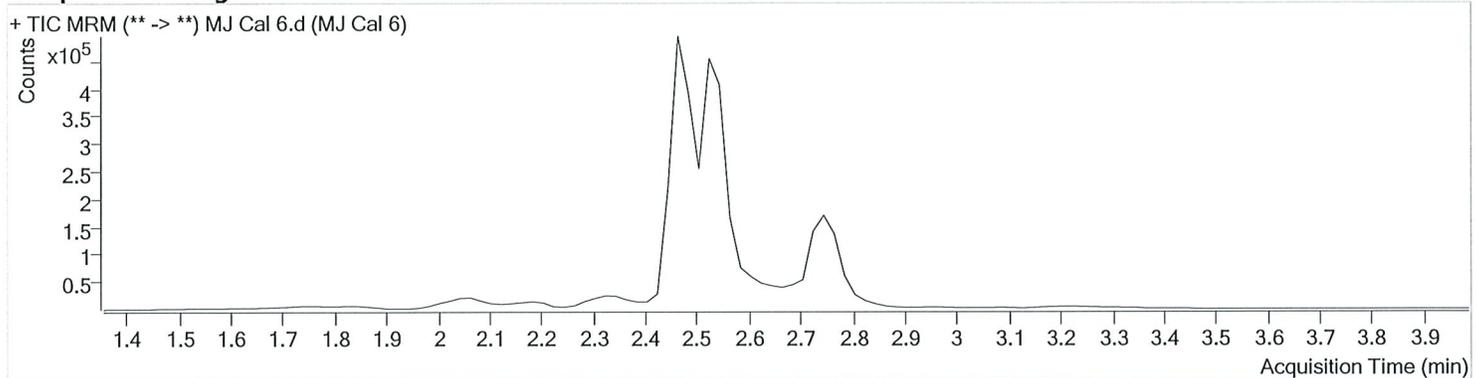


AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2020\AM 25-26\032420 AM 25-26 wk1st 4099 TS\QuantResults\AM 26 TS_COOH only.batch.bin
Calibration Last Update 3/26/2020 10:14:08 AM

Instrument	Falco	Data File	MJ Cal 6.d
Type	Cal	Sample	MJ Cal 6
Acq. Method	am 26 test.m	Operator	Tamara Salazar
Sample Position	P3-F1	Comment	
Injection Volume	10		
Acq. Date-Time	3/24/2020 1:10:08 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	2.525	388786	281352	99.3795 ng/ml

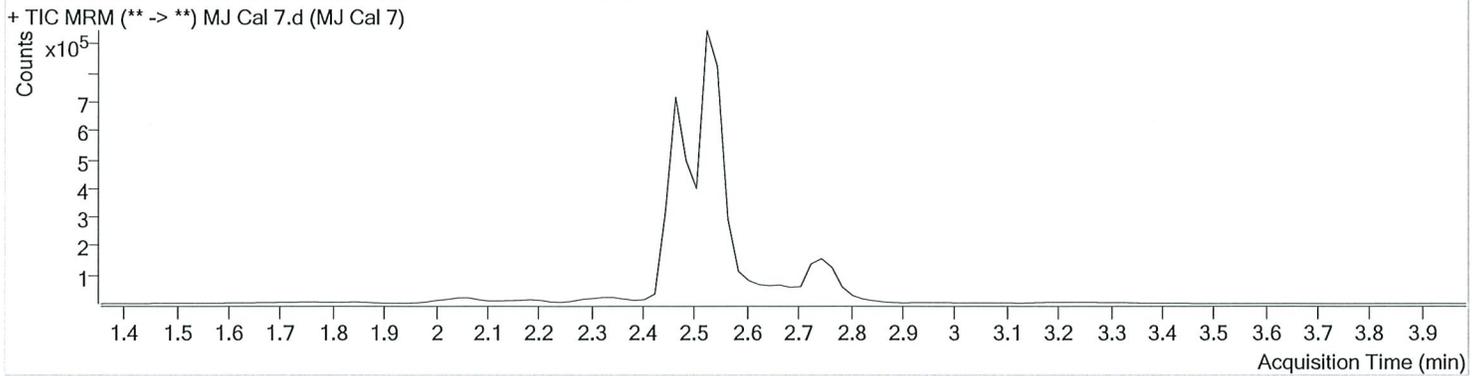


AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2020\AM 25-26\032420 AM 25-26 wk1st 4099 TS\QuantResults\AM 26 TS_COOH only.batch.bin
Calibration Last Update 3/26/2020 10:14:08 AM

Instrument	Falco	Data File	MJ Cal 7.d
Type	Cal	Sample	MJ Cal 7
Acq. Method	am 26 test.m	Operator	Tamara Salazar
Sample Position	P3-G1	Comment	
Injection Volume	10		
Acq. Date-Time	3/24/2020 1:16:38 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	2.525	929943	259309	257.7361 ng/ml