REVIEWED
By Tamara Salazar at 7:55 am, Oct 19, 2022

10/13/2022

Worklist: 6126

LAB_CASE	ITEM	ITEM_TYPE	DESCRIPTION
M2022-3767	3	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ
M2022-3905	3	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ
M2022-3995	3	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ
M2022-4023	3	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ
M2022-4163	2	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ
P2022-2586	2	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ
P2022-2879	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ
P2022-2895	2	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ
P2022-2915	3	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ
P2022-2920	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ
P2022-2932	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ
P2022-3034	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ
P2022-3042	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ
P2022-3043	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ
P2022-3094	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ
P2022-3104	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ

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

Extraction Date: 10/13/2022
Analyst: Celena Shrum
Plate lot#: 220315
Plate Retest Date: 09/15/2022
Mobile phase A: 10mM Amm Form
Mobile phase B: 0.1% Formic Acid in MeOH
Instant Buffer I
Ethyl Acetate LC Methanol
Blank Blood Lot: Lampire 22B52015-1
Column: Phenomenex Phenyl Hexyl (4.6x50mm, 2.6um)
LCMS-QQQ ID: 069901
Blank Urine Lot: 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 or 250µL hydrolyzed urine** 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).*** *Manifold ID: 067104*
☒ 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.
☒ 17. Add 50µl of 1% HCl in MeOH to all wells in the run and place ACT cover on top of plate prior to drying.
☒ 18. Place on SPE Dry and evaporate to dryness at approx. 35°C.
☒ 19. 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: Per the method, an external control was included in the run since it was after the plate re-test date. M2022-4163-2 not evaluated for 10-OH-Carbamazepine due to an ISTD issue

Idaho State Police
Forensic Services

Request for Departure from an Analytical Method or Quality Standard

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

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

☒ Departure approved
Comments:

☐ Departure Not Approved
Comments:

Approver: Rachel Cutler Date: 2/10/2022
Title: Laboratory Manager

Quality Review

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

	1	2	3	4	5	6	7	8	9	10	11	12
A											P2022-2920-1	M2022-3905-3
B										Blood NC	P2022-2915-3	M2022-3767-3
C										P2022-3104-1	P2022-2895-2	Urine External
D										P2022-3094-1	P2022-2879-1	Urine NC
E										P2022-3043-1	P2022-2586-2	Blood External
F										P2022-3042-1	M2022-4163-2	
G										P2022-3034-1	M2022-4023-3	
H										P2022-2932-1	M2022-3995-3	CAL

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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: 042222)

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

Component	***Source***	***Source Lot Number***	***Expiration Date***
Methanol (LCMS)	Fisher	215245	N/A
Tramadol	Cerilliant	FE10051901	12/31/2024
Hydrocodone	Cerilliant	FE04241902	09/30/2024
Alprazolam	Cerilliant	FE06102008	06/30/2025
Buprenorphine	Cerilliant	FE03191903	06/31/2024
Prepared:	04/22/2022		
Expires:	04/22/2023		
Prepared By:	Celena Shrum		

Blood External Control Solution (Lot: WS101322)

50 µL of methanol external control solution was added to 9950 µL of blood.
Approximately 50 ng/mL of each compound.

Component	***Source***	***Source Lot Number***
Negative Blood	Lampire	22B52015-1
Methanol External Control Solution		042222
Prepared:	10/13/2022	
Expires:	04/22/2023	
Prepared by:	Celena Shrum	

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: 042222)

100 µL of 1mg/mL stock was added to each drug to 9600 µL of LC MeOH.

Component	***Source***	***Source Lot Number***	***Expiration Date***
Methanol (LCMS)	Fisher	215245	N/A
Tramadol	Cerilliant	FE10051901	N/A- Qualitative
Hydrocodone	Cerilliant	FE04241902	N/A- Qualitative
Alprazolam	Cerilliant	FE06102008	N/A- Qualitative
Buprenorphine	Cerilliant	FE03191903	N/A- Qualitative
Prepared:	04/22/2022		
Prepared By:	Celena Shrum		

Urine External Control Solution (Lot: WS042222)

200 µL of methanol external control solution was added to 9800 µL of blood.
Approximately 200 ng/mL of each compound.

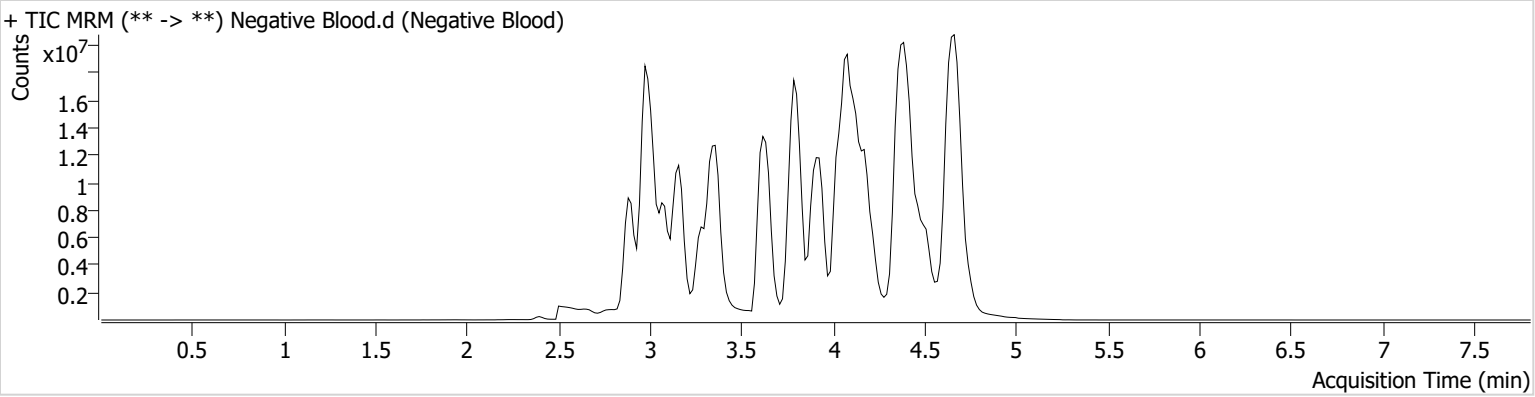
Component	***Source***	***Source Lot Number***
Negative Urine	Pocatello Lab	POC021022
Methanol External Control Solution		042222
Prepared:	04/22/2022	
Prepared by:	Celena Shrum	

AM #25 Multi-Drug Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\101322 AM 25 26 CS\QuantResults\AM 25.batch.bin
Calibration Last Update 10/17/2022 2:02:46 PM

Instrument	Falco (069901)	**Data File**	Negative Blood.d
Type	Sample	**Sample**	Negative Blood
Acq. Method	AM 25 MDS.m	**Operator**	Celena Shrum
Sample Position	P2-B10	**Comment**	
Injection Volume	5		
Acq. Date-Time	10/13/2022 8:54:26 PM		
Sample Info.			

Sample Chromatogram

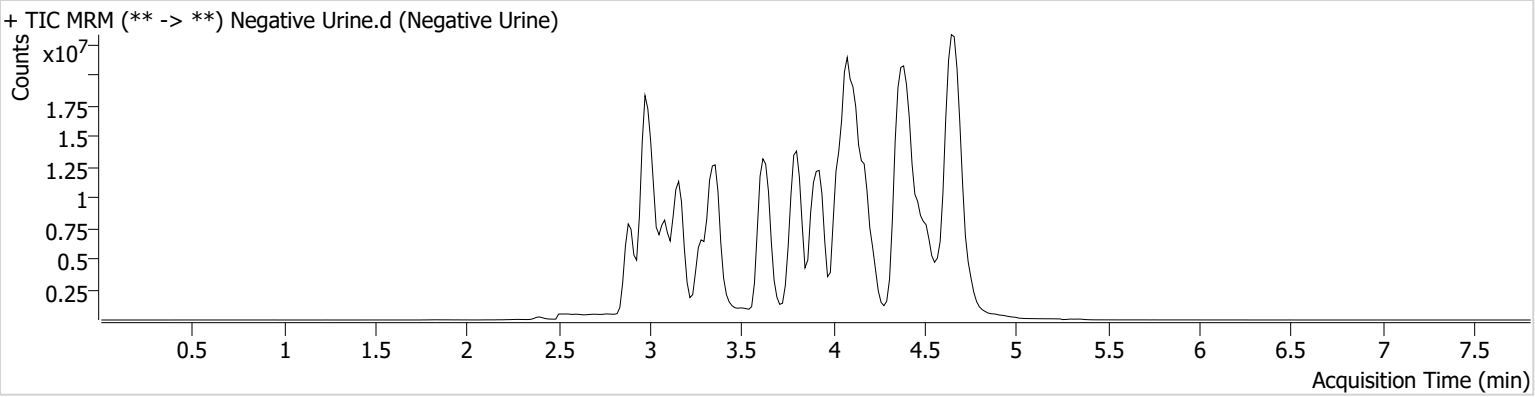


AM #25 Multi-Drug Screen Results

Batch results	D:\MassHunter\Data\2022\AM 25-26\101322 AM 25 26 CS\QuantResults\AM 25.batch.bin
Calibration Last Update	10/17/2022 2:02:46 PM

Instrument	Falco (069901)	**Data File**	Negative Urine.d
Type	Sample	**Sample**	Negative Urine
Acq. Method	AM 25 MDS.m	**Operator**	Celena Shrum
Sample Position	P2-D12	**Comment**	
Injection Volume	5		
Acq. Date-Time	10/13/2022 9:11:16 PM		
Sample Info.			

Sample Chromatogram

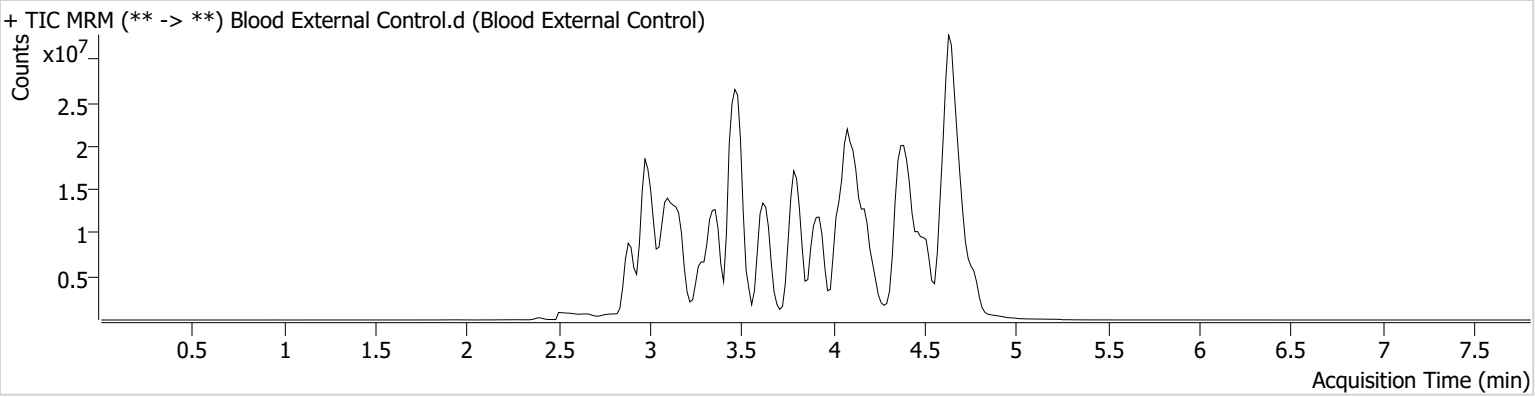


AM #25 Multi-Drug Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\101322 AM 25 26 CS\QuantResults\AM 25.batch.bin
Calibration Last Update 10/17/2022 2:02:46 PM

Instrument	Falco (069901)	**Data File**	Blood External Control.d
Type	Sample	**Sample**	Blood External Control
Acq. Method	AM 25 MDS.m	**Operator**	Celena Shrum
Sample Position	P2-E12	**Comment**	
Injection Volume	5		
Acq. Date-Time	10/13/2022 9:02:50 PM		
Sample Info.			

Sample Chromatogram



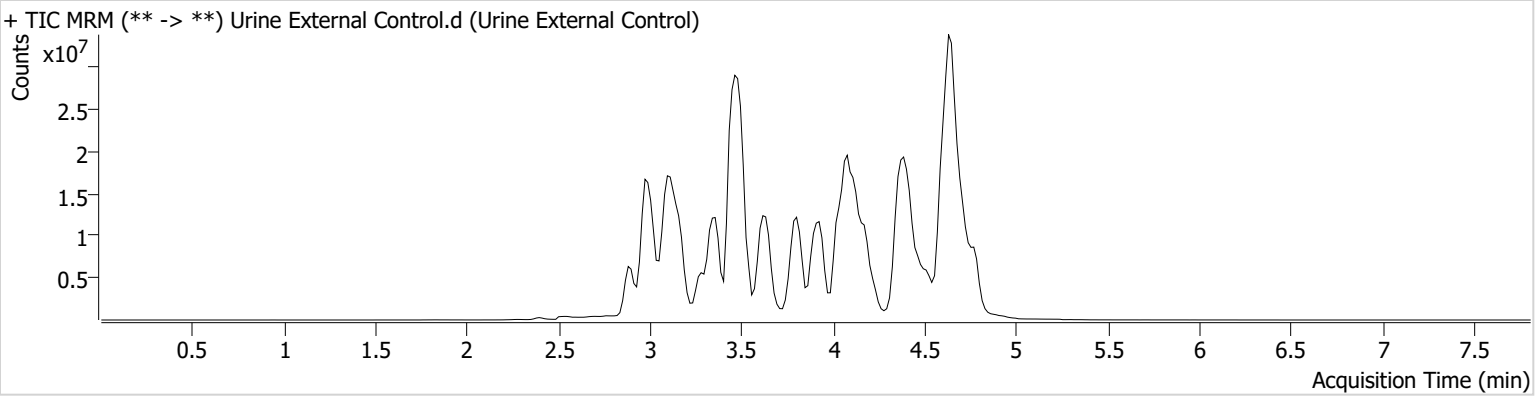
Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Alprazolam	4.636	36134314	916.45	547.72	44807801	46.3239
Buprenorphine	4.765	16286478	10696.54	328539.63	9808015	63.9992
Hydrocodone	3.098	22947775	7106.76	2254.50	24977595	51.6544
Tramadol	3.469	127021891	∞	214.25	74596821	25.9343

AM #25 Multi-Drug Screen Results

Batch results	D:\MassHunter\Data\2022\AM 25-26\101322 AM 25 26 CS\QuantResults\AM 25.batch.bin
Calibration Last Update	10/17/2022 2:02:46 PM

Instrument	Falco (069901)	**Data File**	Urine External Control.d
Type	Sample	**Sample**	Urine External Control
Acq. Method	AM 25 MDS.m	**Operator**	Celena Shrum
Sample Position	P2-C12	**Comment**	
Injection Volume	5		
Acq. Date-Time	10/13/2022 9:19:41 PM		
Sample Info.			

Sample Chromatogram



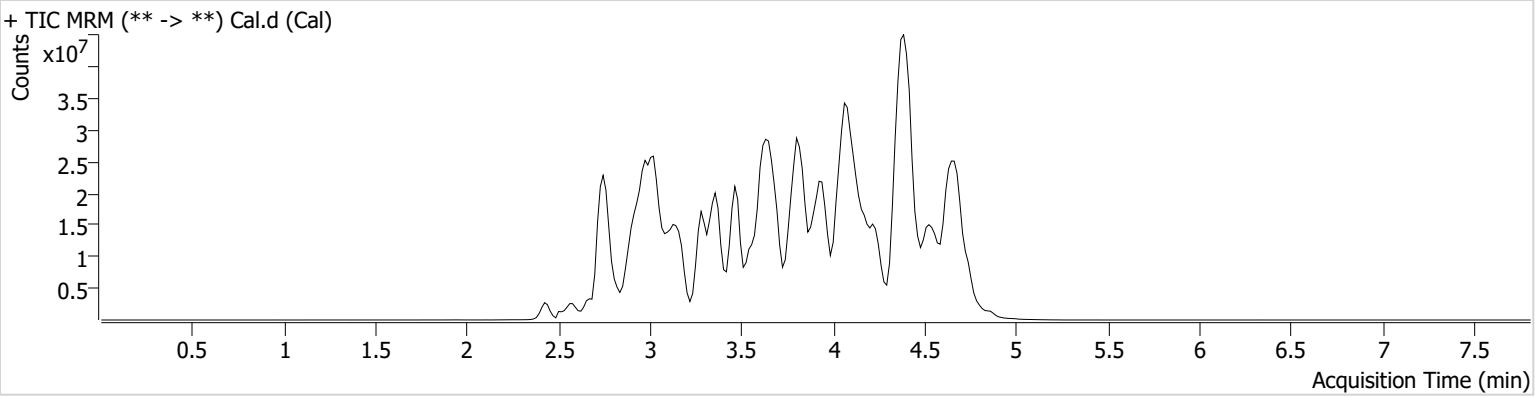
Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Alprazolam	4.636	48869761	327.09	587.63	29997265	93.5831
Buprenorphine	4.765	29187230	29063.82	1838112.01	9185923	122.4612
Hydrocodone	3.113	32463101	2253.39	2060.00	18272442	99.8874
Tramadol	3.469	149583520	711.77	374.60	71110616	32.0381

AM #25 Multi-Drug Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\101322 AM 25 26 CS\QuantResults\AM 25.batch.bin
Calibration Last Update 10/17/2022 2:02:46 PM

Instrument	Falco (069901)	**Data File**	Cal.d
Type	Cal	**Sample**	Cal
Acq. Method	AM 25 MDS.m	**Operator**	Celena Shrum
Sample Position	P2-H12	**Comment**	
Injection Volume	5		
Acq. Date-Time	10/13/2022 8:45:50 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
10-OH-Carbamazepine	3.778	5961852	62.87	1460.16	33141842	10.0000
6-MAM	2.987	116437	1436.13	26783.48	3178027	10.0000
7-aminoclonazepam	3.621	1979347	255.76	437.99	7678948	10.0000
7-aminoflunitrazepam	3.820	2878977	395.36	172.59	7678948	10.0000
9-Hydroxyrisperidone	3.921	16677762	11055.32	108639.35	54836964	10.0000
Acetyl Fentanyl	3.956	1090691	184.81	184870.39	54416955	10.0000
Acetyl Norfentanyl	2.934	982096	1117.75	174.92	54416955	10.0000
a-hydroxyalprazolam	4.525	454736	87.99	164.71	7678948	10.0000
alpha-hydroxymidazolam	4.600	4011658	170.96	297.42	7678948	10.0000
Alpha-PHP	3.886	8023587	6573.86	7236.74	54416955	10.0000
alpha-PVP	3.610	12595107	7739.11	462.11	29466612	10.0000
Alprazolam	4.636	4778140	180.12	240.62	27447176	10.0000
Amitriptyline	4.455	4012328	85.26	406.84	14112490	10.0000
Amphetamine	2.923	8443317	3574.30	3368.52	29466612	10.0000
Benzoylecgonine	3.405	555202	29981.58	171.73	984154	10.0000
Brompheniramine	4.064	329635	67.40	810.21	70807269	10.0000
Buprenorphine	4.765	2043835	269476.05	46798.97	7877243	10.0000
Bupropion	3.840	10156915	3105.66	2282.07	38514402	10.0000
Carbamazepine	4.242	22923506	∞	1267.12	446038	10.0000
Carisoprodol	4.225	3675205	273691.87	268.82	14261999	10.0000
Chlordiazepoxide	4.745	1653539	282.20	665.46	27447176	10.0000
Chlorpheniramine	3.976	19150734	359.10	254.27	70807269	10.0000
Chlorpromazine	4.649	3690148	885.13	354.31	15100474	10.0000
Citalopram	4.079	7794152	1211.38	12863.26	70807269	10.0000
Clomipramine	4.641	5481606	8795.11	8682.17	70807269	10.0000
Clonazepam	4.434	1221677	244.43	753.70	27447176	10.0000
Clonazolam	4.369	2218649	1172.42	650395.70	27447176	10.0000
Clozapine	4.371	10169924	856.94	473.41	34194522	10.0000
Cocaethylene	3.833	11660647	5330905.32	4610.13	53465478	10.0000
Cocaine	3.635	12619366	20755.02	512.10	53465478	10.0000
Codeine	2.915	874186	4338.09	614.54	22400860	10.0000
Cyclobenzaprine	4.363	6329855	496.20	139.90	14112490	10.0000
Desipramine	4.379	10646959	∞	487.27	14112490	10.0000
Dextromethorphan	4.101	5307784	304.77	1169.50	28528108	10.0000

AM #25 Multi-Drug Screen Results

Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Dextrorphan	3.423	6425838	510.51	466.88	28528108	10.0000
Diazepam	4.868	2251952	572.60	549.65	27447176	10.0000
Dihydrocodeine	2.822	2821816	1348.62	969.53	22400860	10.0000
Diphenhydramine	4.054	25728991	1943.29	830.50	70807269	10.0000
Doxepin	4.182	5215143	313.13	483.58	53446690	10.0000
Doxylamine	3.683	30437210	35709.65	23510.50	28528108	10.0000
Duloxetine	4.345	96076	32515.97	1827.47	1857509	10.0000
EDDP	4.115	685443	88.47	43.48	1633944	10.0000
Estazolam	4.536	9669017	748.56	1077.39	27447176	10.0000
Etizolam	4.646	564095	123723.31	931011.02	27447176	10.0000
Fentanyl	4.170	783635	245.47	122547.07	41255285	10.0000
Flualprazolam	4.494	2413176	523141.28	32064.90	27447176	10.0000
Flunitrazepam	4.558	2909255	2639.92	251.04	27447176	10.0000
Fluoxetine	4.328	5366107	2376.14	138.11	5690736	10.0000
Flurazepam	4.253	8876764	2868337.65	18552.70	27447176	10.0000
Hydrocodone	3.098	3984258	1391.49	1115.36	22400860	10.0000
Hydromorphone	2.581	3122218	15536.17	1874.66	644555	10.0000
Hydroxyzine	4.537	7594318	1948.65	1382.55	70807269	10.0000
Imipramine	4.413	13207523	718.34	627.31	14112490	10.0000
Ketamine	3.657	8055568	985.07	110.76	25387816	10.0000
Lamotrigine	3.639	610780	341.77	28543.46	70807269	10.0000
Levamisole	3.058	7301615	773.71	307.96	53465478	10.0000
Levetiracetam	2.677	2752045	1887.77	1969.49	70807269	10.0000
Lorazepam	4.434	546132	157.80	103.66	27447176	10.0000
Maprotiline	4.455	3003771	123.09	949.44	14112490	10.0000
MDA	3.044	7121233	629.26	7.10	52323874	10.0000
MDEA	3.273	9852010	3858.62	2010.20	52323874	10.0000
MDMA	3.120	16477895	1326.86	751.63	52323874	10.0000
Meperidine	3.655	6396295	1544.04	353.05	28528108	10.0000
Meprobamate	3.688	2417943	438135.61	173.27	14261999	10.0000
Methadone	4.420	16192822	7510.19	349.74	1633944	10.0000
Methamphetamine	3.030	18699518	4303.73	3077.92	52323874	10.0000
Methocarbamol	3.594	598568	218.77	104.30	1633944	10.0000
Methylphenidate	3.564	31562917	822.43	479.96	38725143	10.0000
Metoprolol	3.483	2087353	9294.84	1594.63	28528108	10.0000
Midazolam	4.786	1955265	352.30	3003.13	27447176	10.0000
Mirtazapine	4.091	7464873	2076.74	2740.36	28528108	10.0000
Mitragynine	4.260	1280705	489.59	828392.44	28528108	10.0000
Morphine	2.429	667741	1571.18	1411.99	644555	10.0000
Norbuprenorphine	3.859	204001	52741.87	137942.70	7877243	10.0000
Nordiazepam	4.701	2060243	293.20	248.53	27447176	10.0000
Norfentanyl	3.364	18327306	65030.94	148.22	54416955	10.0000
Norhydrocodone	2.977	235181	60.18	82.92	644555	10.0000
Norketamine	3.765	2032879	473.22	2636.23	25387816	10.0000
Normeperidine	3.641	6251063	1333.60	674.17	70807269	10.0000
Noroxycodone	2.929	3483253	259.38	488.09	25387816	10.0000
Nortriptyline	4.425	2882957	744.80	258.76	14112490	10.0000
O-desmethyl-tramadol	2.963	22424403	32032.55	968.01	70807269	10.0000
O-desmethylvenlafaxine	3.284	3899539	197.36	16111.29	17197631	10.0000
Olanzapine	3.895	1533444	590079.80	418.15	446038	10.0000
Oxazepam	4.515	2936140	417.94	228.03	16767171	10.0000
Oxycodone	2.989	5803725	662.38	1098.70	25387816	10.0000
Oxymorphone	2.426	5595051	1073.20	19665.41	644555	10.0000
Paroxetine	4.340	626666	1248.74	572.32	5690736	10.0000
Phenazepam	4.646	2642328	166.67	873.08	27447176	10.0000
Phencyclidine	3.963	15080369	832.35	1912.49	28528108	10.0000
Phentermine	3.183	3791726	871.77	36.35	38725143	10.0000
Phenytoin	4.133	773055	311.73	116.86	446038	10.0000
Primidone	3.488	1848090	349508.21	128.48	446038	10.0000
Promethazine	4.373	18024360	427.79	385.75	70807269	10.0000

Cal

AM #25 Multi-Drug Screen Results

Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Pseudoephedrine	2.754	74982387	10578.33	1620.98	52323874	10.0000
Quetiapine	4.568	10496981	1209.70	2503.97	69624261	10.0000
Risperidone	4.136	15984278	75479.47	732.91	54836964	10.0000
Sertraline	4.575	1232985	1915.56	3092.41	5690736	10.0000
Sufentanil	4.537	625306	52821.36	17342.24	54416955	10.0000
Tapentadol	3.473	14369487	811.03	1786.80	25387816	10.0000
Temazepam	4.668	5937017	715.09	118.27	27447176	10.0000
Topiramate	3.862	126236	53368.56	26519.09	503887	10.0000
Tramadol	3.469	46490142	∞	85.31	70807269	10.0000
Trazodone	4.722	13879924	7162772.97	929.70	53446690	10.0000
Venlafaxine	3.836	19120437	692.23	969.31	5690736	10.0000
Zaleplon	4.360	3174947	677.41	1051.22	69624261	10.0000
Zolpidem	4.405	22892594	3238041.36	148053.68	69624261	10.0000
Zopiclone	4.291	816709	82689.94	352.02	3349450	10.0000

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

Extraction Date: 10/13/2022
Plate lot#: 220309
Mobile phase A: 10mM Amm Form
Blank Blood Lot: Lampire 22B52015-1
LCMS-QQQ ID: 069901

Analyst: Celena Shrum
Plate Retest Date: 09/09/2022
Mobile phase B: 0.1% Formic Acid in MeOH
Column: Phenomenex Phenyl Hexyl (4.6x50mm, 2.6um)
Blank Urine Lot: 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.
☒ 3. Using a calibrated pipette, add **1000µl blood or 1000µl hydrolyzed urine** into the appropriate wells of analytical (standards) plate. **Pipette ID: #42**
☒ 4. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
☒ 5. Pipette **500µL 0.1% formic acid in water to blood samples and 500µl of saturated phosphate buffer to urine samples** to the appropriate wells of the analytical plate.
☒ 6. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
☒ 7. Transfer **800µL of blood+acid mixture or urine+acid** to corresponding wells of SLE+ plate.
☒ 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)*** Manifold ID: 067104
☒ 9. Wait 5 minutes.
☒ 10. Add **2.25mL MTBE. (*Add in 3 increments of 750uL)***
☒ 11. Wait 5 minutes.
☒ 12. Apply positive pressure for approx. 15 seconds. ***(10-15 PSI- Selector to the left).***
☒ 13. Add **2.25mL Hexane. (*Add in 3 increments of 750uL)***
☒ 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. *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.
☒ 2. Make any necessary integration changes, R^2 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: Only THC-COOH evaluated. Per the method, an external control was included in the run since it was after the plate re-test date.

Idaho State Police
Forensic Services

Request for Departure from an Analytical Method or Quality Standard

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

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

☒ Departure approved
Comments:

☐ Departure Not Approved
Comments:

Approver: Rachel Cutler Date: 3/2/22
Title: Lab Manager

Quality Review

Quality Approver: Jason Crowe
Title: Quality Manager
Date: 3/2/2022

	1	2	3	4	5	6
A	IS + Cal. 1	IS + QC_1 urine	M2022-4023-3	P2022-3034-1		
B	IS + Cal. 2	Blood NEG	M2022-4163-2	P2022-3042-1		
C	IS + Cal. 3	Blood External	P2022-2586-2	P2022-3043-1		
D	IS + Cal. 4	Urine NEG	P2022-2879-1	P2022-3094-1		
E	IS + Cal. 5	Urine External	P2022-2895-2	P2022-3104-1		
F	IS + Cal. 6	M2022-3767-3	P2022-2915-3			
G	IS + Cal. 7	M2022-3905-3	P2022-2920-1			
H	IS + QC_1 blood	M2022-3995-3	P2022-2932-1			

Idaho State Police
Forensic Services

AM #26 Screening of THC and Metabolites and AM #27 Confirmation of THC and Metabolites Blood External Control Prep Sheet

Methanol External Control Solution (Lot: WS101322)
100 µL of 100 µg/mL C-THC in 9900 µL MeOH
Approximate concentration 1ug/mL.

Component	***Source***	***Source Lot Number***	***Expiration Date***
Methanol (LCMS)	Fisher	215245	-
C-THC	Cerilliant	FE08011801	08/31/2023
Prepared:	10/13/2022		
Expires:	08/31/2023		
Prepared By:	Celena Shrum		

Blood External Control Solution (Lot: 101322)
100 ul of methanol external control solution was added to 9900 ul of blood.
Approximately 10ng/mL each

Component	***Source***	***Source Lot Number***
Negative Blood	Lampire	22B52015-1
Methanol External Control Solution	-	WS101322
Prepared:	10/13/2022	
Expires:	08/31/2023	
Prepared by:	Celena Shrum	

Idaho State Police
Forensic Services

AM #26 Screening of THC and Metabolites and AM #27 Confirmation of THC and Metabolites Urine External Control Prep Sheet

Methanol External Control Solution (Lot: WS101322)
100 µL of 100 µg/mL C-THC in 9900 µL MeOH
Approximate concentration 1ug/mL.

Component	***Source***	***Source Lot Number***	***Expiration Date***
Methanol (LCMS)	Fisher	215245	-
C-THC	Cerilliant	FE08011801	08/31/2023
Prepared:	10/13/2022		
Expires:	08/31/2023		
Prepared By:	Celena Shrum		

Urine External Control Solution (Lot: 101322)
200 ul of methanol external control solution was added to 9800 ul of urine.
Approximately 20ng/mL each

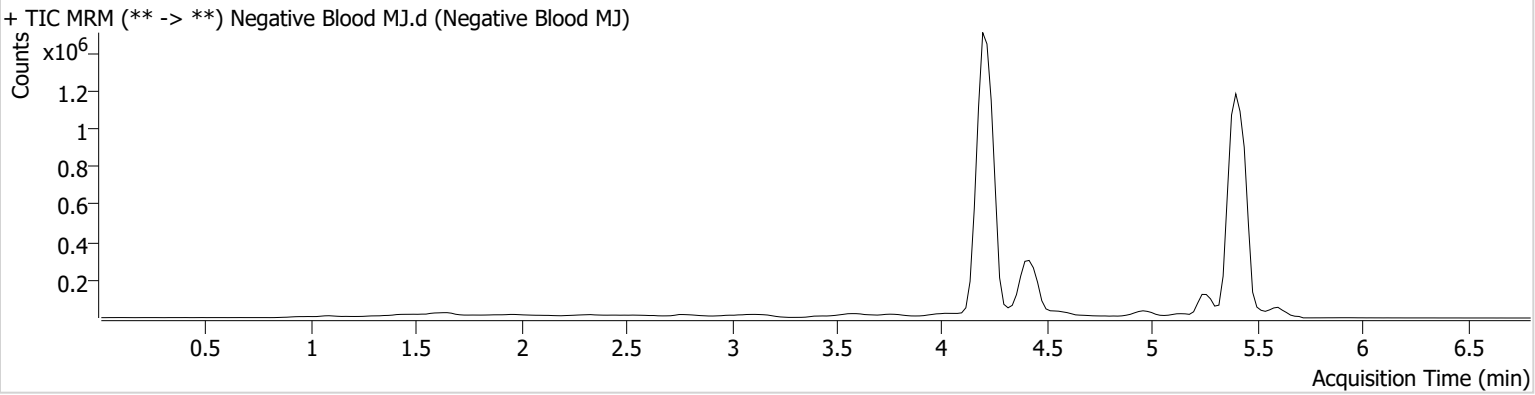
Component	***Source***	***Source Lot Number***
Negative Urine	Pocatello Lab	POC021022
Methanol External Control Solution	-	WS101322
Prepared:	10/13/2022	
Expires:	08/31/2023	
Prepared by:	Celena Shrum	

AM #26 Cannabinoids Screen Results

Batch results	D:\MassHunter\Data\2022\AM 25-26\101322 AM 25 26 CS\QuantResults\AM 26.batch.bin
Calibration Last Update	10/17/2022 10:40:51 AM

Instrument	Falco (069901)	**Data File**	Negative Blood MJ.d
Type	Sample	**Sample**	Negative Blood MJ
Acq. Method	AM 26 THC.m	**Operator**	Celena Shrum
Sample Position	P1-B2	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/13/2022 4:45:22 PM		
Sample Info.			

Sample Chromatogram

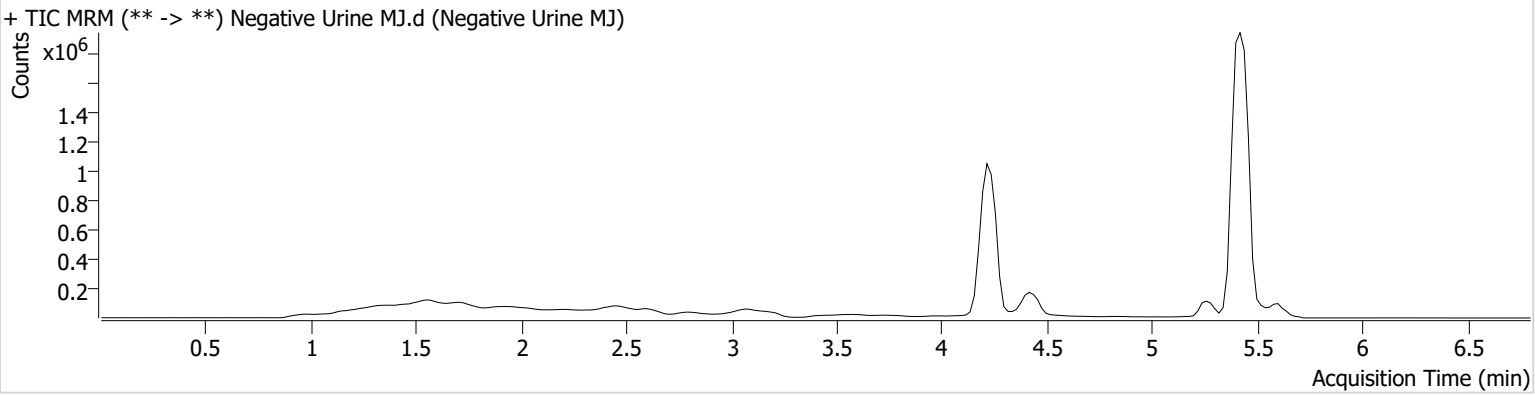


AM #26 Cannabinoids Screen Results

Batch results	D:\MassHunter\Data\2022\AM 25-26\101322 AM 25 26 CS\QuantResults\AM 26.batch.bin
Calibration Last Update	10/17/2022 10:40:51 AM

Instrument	Falco (069901)	**Data File**	Negative Urine MJ.d
Type	Sample	**Sample**	Negative Urine MJ
Acq. Method	AM 26 THC.m	**Operator**	Celena Shrum
Sample Position	P1-D2	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/13/2022 5:15:42 PM		
Sample Info.			

Sample Chromatogram

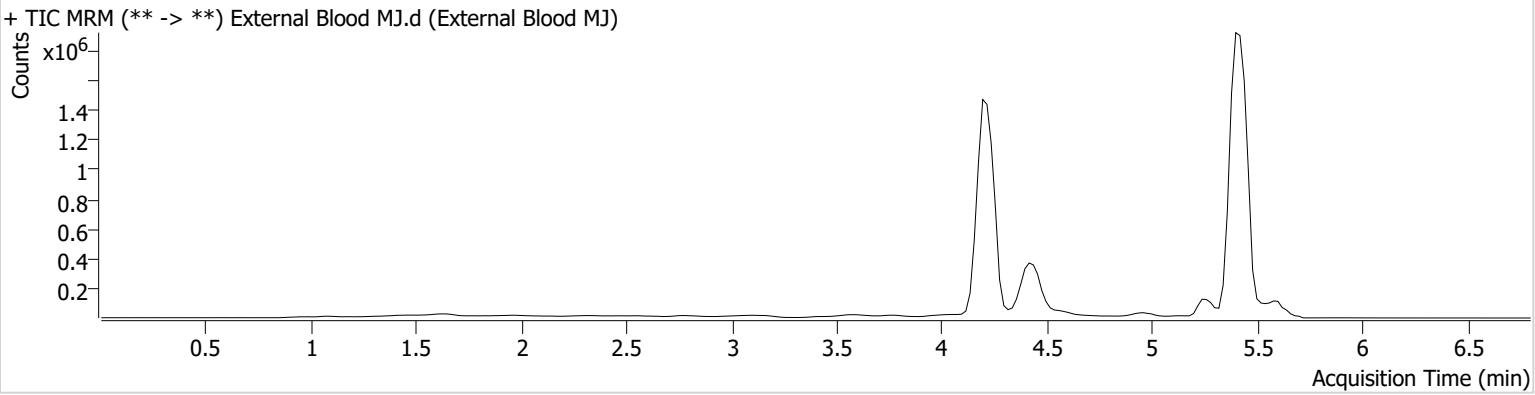


AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\101322 AM 25 26 CS\QuantResults\AM 26.batch.bin
Calibration Last Update 10/17/2022 10:40:51 AM

Instrument	Falco (069901)	**Data File**	External Blood MJ.d
Type	Sample	**Sample**	External Blood MJ
Acq. Method	AM 26 THC.m	**Operator**	Celena Shrum
Sample Position	P1-C2	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/13/2022 5:00:32 PM		
Sample Info.			

Sample Chromatogram



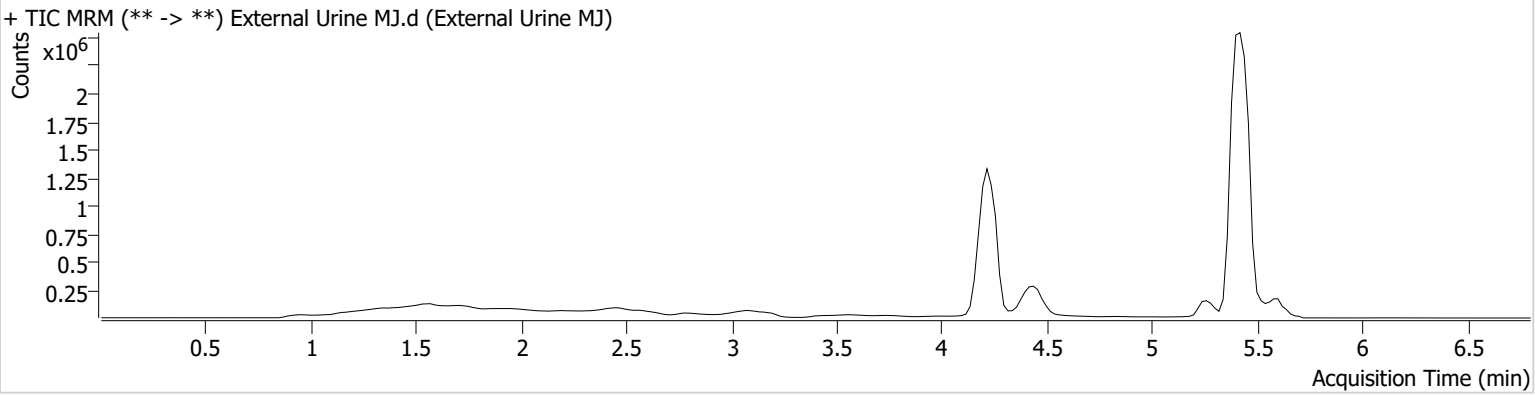
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	4.456	192478	1717641	8.6974 ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\101322 AM 25 26 CS\QuantResults\AM 26.batch.bin
Calibration Last Update 10/17/2022 10:40:51 AM

Instrument	Falco (069901)	**Data File**	External Urine MJ.d
Type	Sample	**Sample**	External Urine MJ
Acq. Method	AM 26 THC.m	**Operator**	Celena Shrum
Sample Position	P1-E2	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/13/2022 5:30:51 PM		
Sample Info.			

Sample Chromatogram



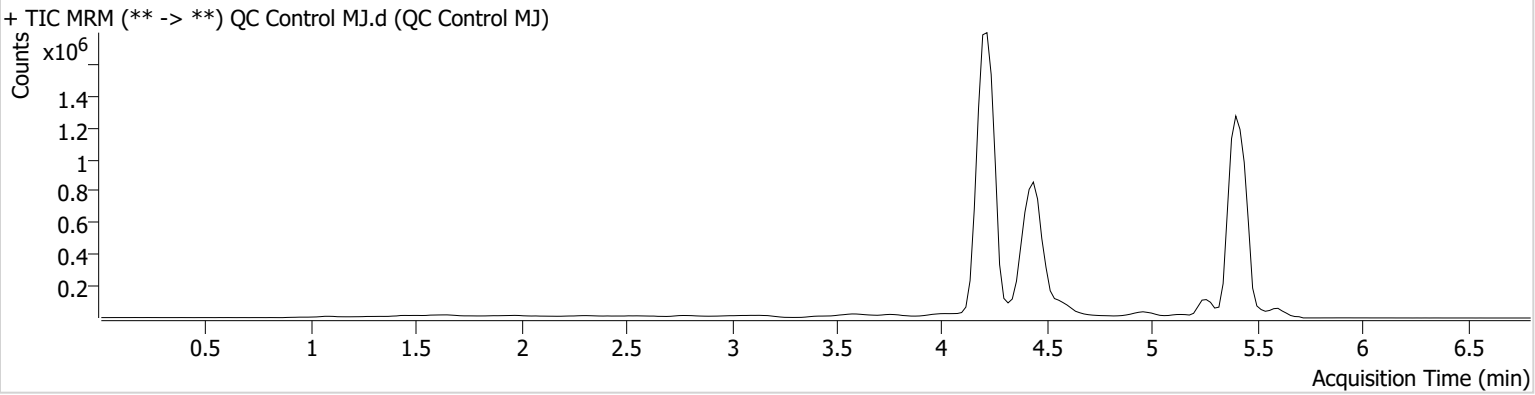
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	4.456	210711	1106731	14.3859 ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\101322 AM 25 26 CS\QuantResults\AM 26.batch.bin
Calibration Last Update 10/17/2022 10:40:51 AM

Instrument	Falco (069901)	**Data File**	QC Control MJ.d
Type	QC	**Sample**	QC Control MJ
Acq. Method	AM 26 THC.m	**Operator**	Celena Shrum
Sample Position	P1-H1	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/13/2022 4:30:12 PM		
Sample Info.			

Sample Chromatogram



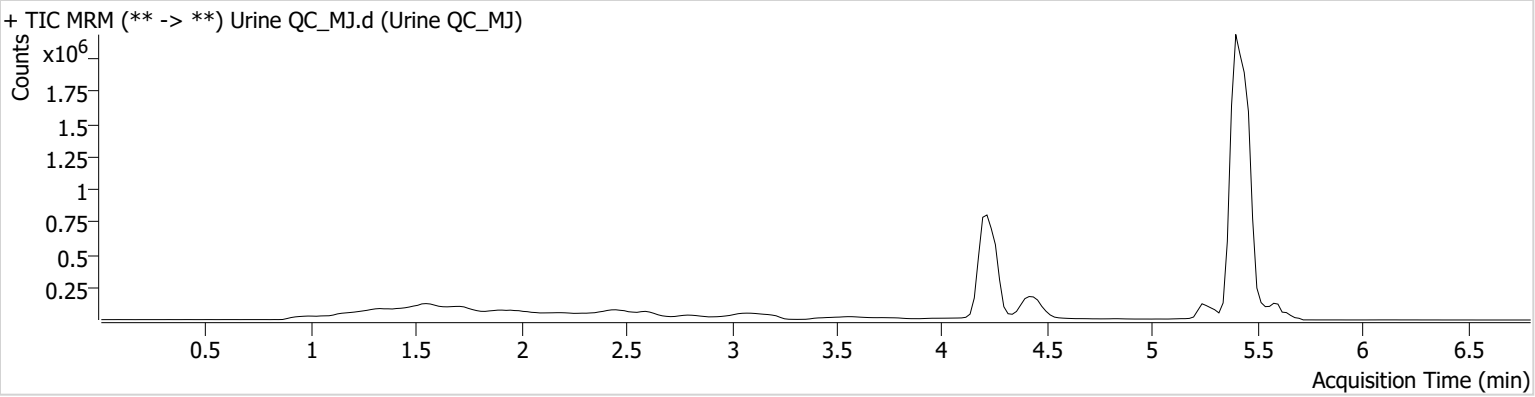
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	4.456	720602	3565761	15.2355 ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\101322 AM 25 26 CS\QuantResults\AM 26.batch.bin
Calibration Last Update 10/17/2022 10:40:51 AM

Instrument	Falco (069901)	**Data File**	Urine QC_MJ.d
Type	QC	**Sample**	Urine QC_MJ
Acq. Method	AM 26 THC.m	**Operator**	Celena Shrum
Sample Position	P1-A2	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/13/2022 7:54:45 PM		
Sample Info.			

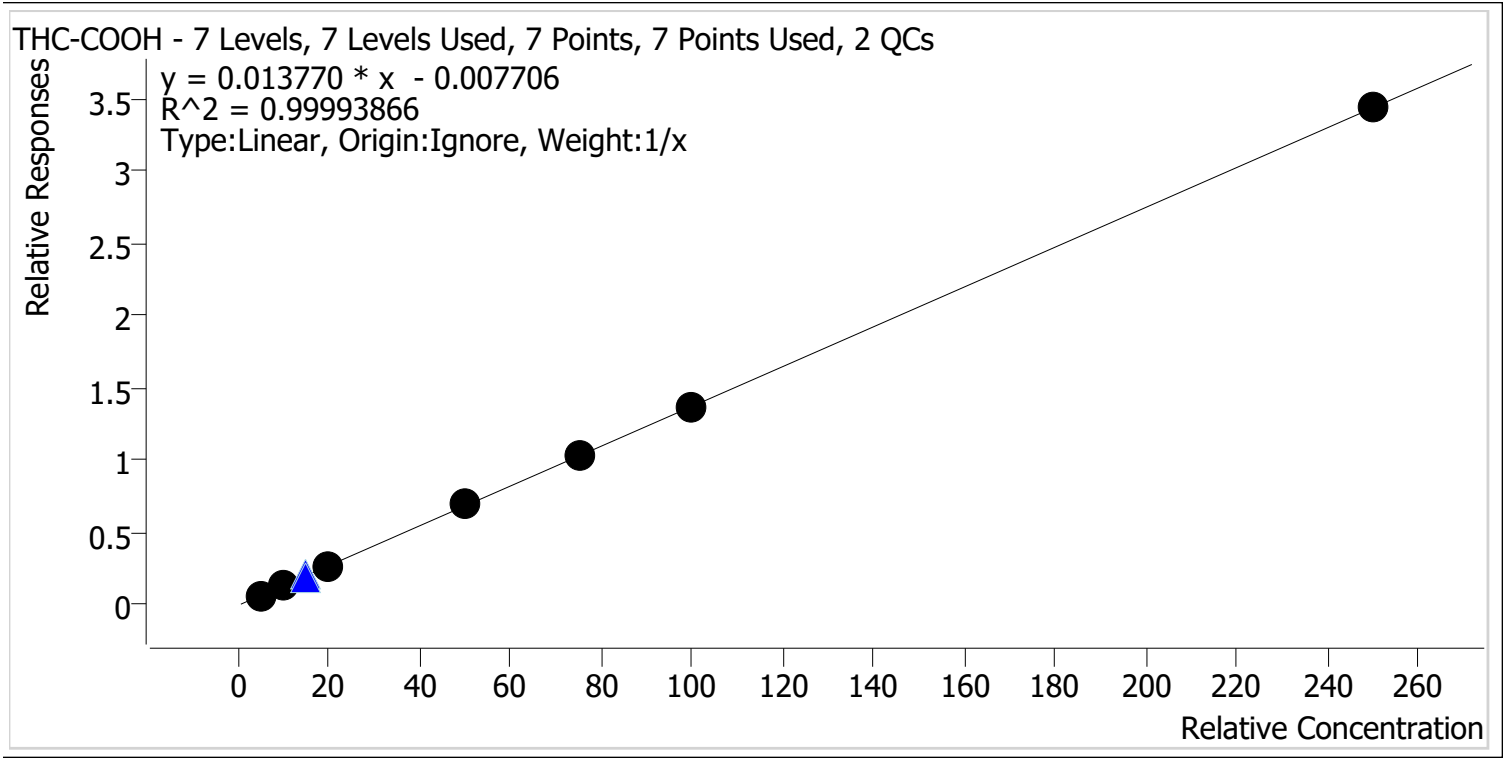
Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	4.456	118667	695011	12.9590 ng/ml

AM #26 Cannabinoids Screen Calibration Curve Report

Batch results D:\MassHunter\Data\2022\AM 25-26\101322 AM 25 26 CS\QuantResults\AM 26.batch.bin
Last Cal. Update 10/17/2022 10:40 AM
Analyst Name ISP\datastor
Analyte THC-COOH **Internal Standard** THC-COOH-D9



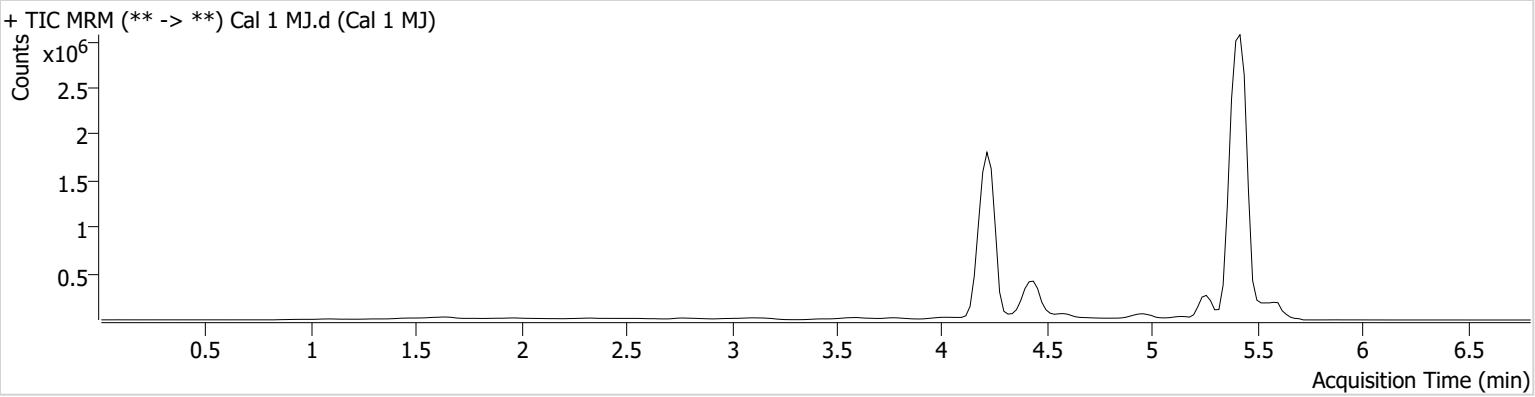
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1 MJ	1	✔	5.0	4.8	96.6
Cal 2 MJ	2	✔	10.0	10.2	102.3
Cal 3 MJ	3	✔	20.0	20.2	101.0
Cal 4 MJ	4	✔	50.0	50.5	101.1
Cal 5 MJ	5	✔	75.0	74.8	99.8
Cal 6 MJ	6	✔	100.0	99.3	99.3
Cal 7 MJ	7	✔	250.0	250.1	100.0

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\101322 AM 25 26 CS\QuantResults\AM 26.batch.bin
Calibration Last Update 10/17/2022 10:40:51 AM

Instrument	Falco (069901)	**Data File**	Cal 1 MJ.d
Type	Cal	**Sample**	Cal 1 MJ
Acq. Method	AM 26 THC.m	**Operator**	Celena Shrum
Sample Position	P1-A1	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/13/2022 3:37:03 PM		
Sample Info.			

Sample Chromatogram



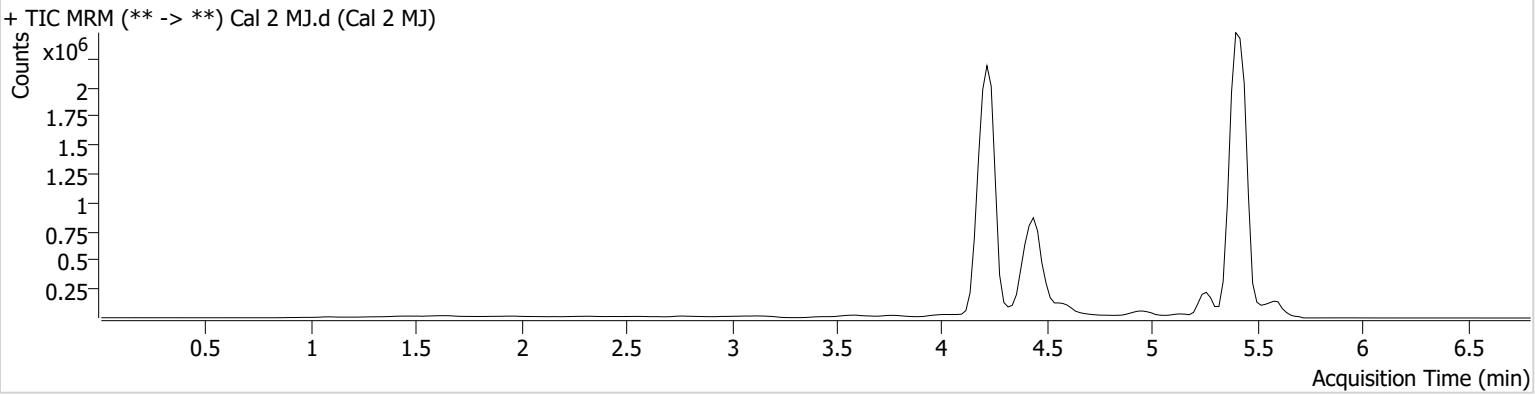
Name	RT	Resp.	ISTD Resp.	Final Conc.		
THC-COOH	4.456	115908	1972069	4.8279	ng/ml	**Low**

AM #26 Cannabinoids Screen Results

Batch results	D:\MassHunter\Data\2022\AM 25-26\101322 AM 25 26 CS\QuantResults\AM 26.batch.bin
Calibration Last Update	10/17/2022 10:40:51 AM

Instrument	Falco (069901)	**Data File**	Cal 2 MJ.d
Type	Cal	**Sample**	Cal 2 MJ
Acq. Method	AM 26 THC.m	**Operator**	Celena Shrum
Sample Position	P1-B1	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/13/2022 3:44:48 PM		
Sample Info.			

Sample Chromatogram



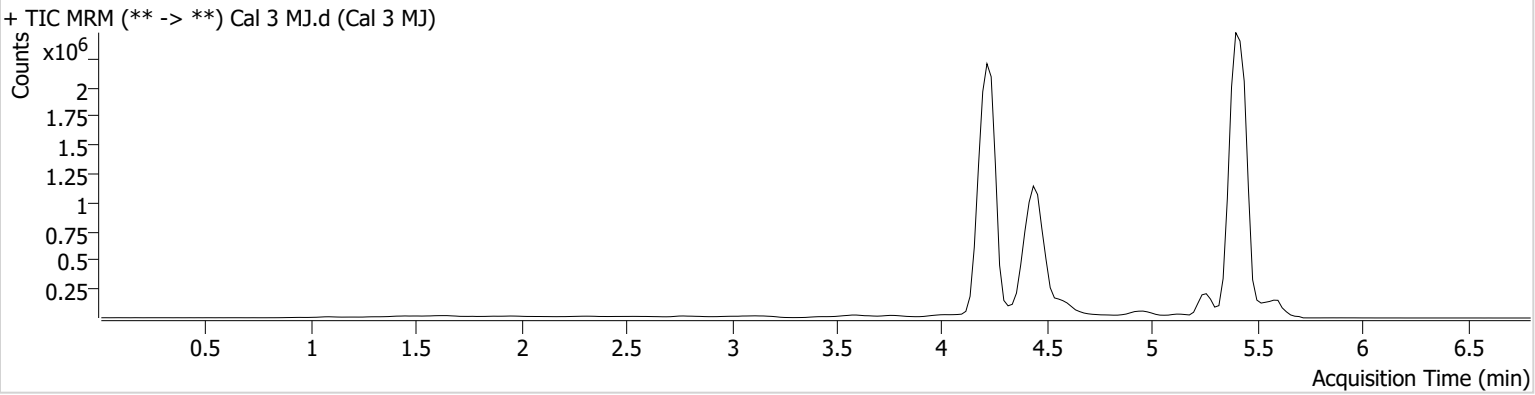
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	4.456	530883	3987159	10.2289 ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\101322 AM 25 26 CS\QuantResults\AM 26.batch.bin
Calibration Last Update 10/17/2022 10:40:51 AM

Instrument	Falco (069901)	**Data File**	Cal 3 MJ.d
Type	Cal	**Sample**	Cal 3 MJ
Acq. Method	AM 26 THC.m	**Operator**	Celena Shrum
Sample Position	P1-C1	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/13/2022 3:52:22 PM		
Sample Info.			

Sample Chromatogram



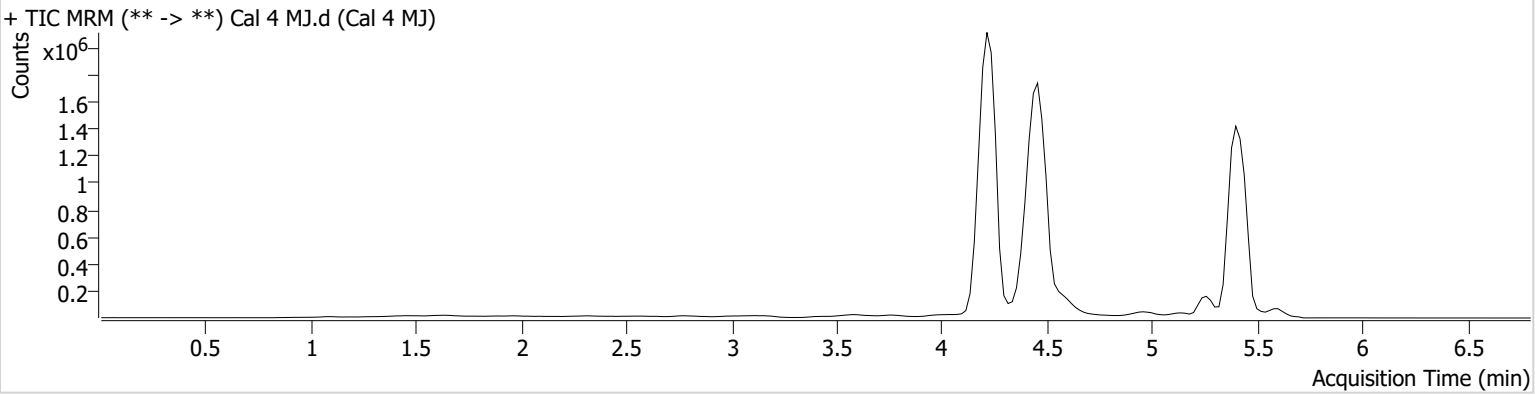
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	4.456	1151476	4259401	20.1917 ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\101322 AM 25 26 CS\QuantResults\AM 26.batch.bin
Calibration Last Update 10/17/2022 10:40:51 AM

Instrument	Falco (069901)	**Data File**	Cal 4 MJ.d
Type	Cal	**Sample**	Cal 4 MJ
Acq. Method	AM 26 THC.m	**Operator**	Celena Shrum
Sample Position	P1-D1	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/13/2022 3:59:56 PM		
Sample Info.			

Sample Chromatogram



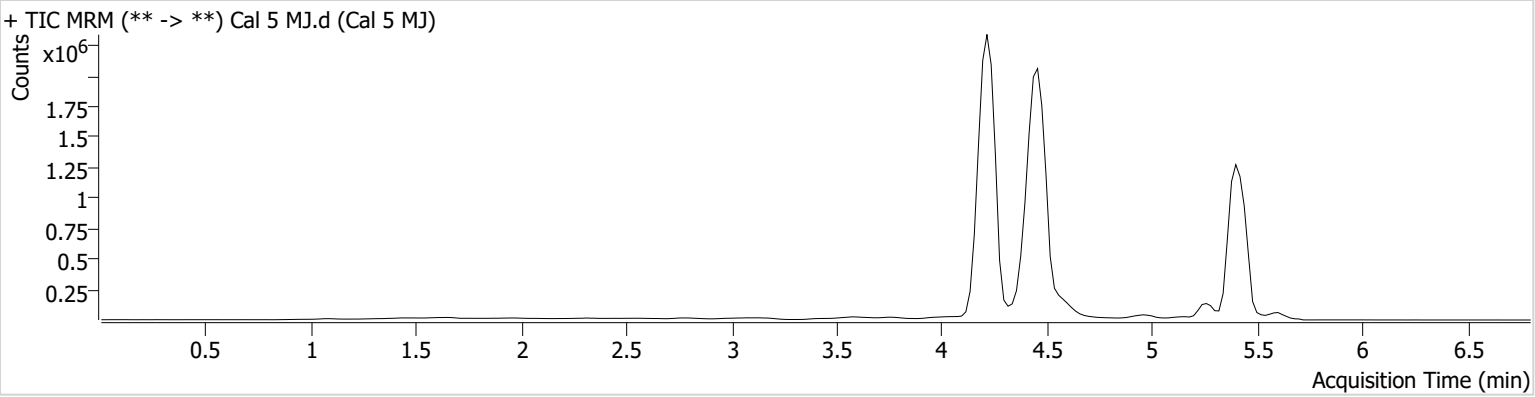
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	4.456	2763141	4015141	50.5358 ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\101322 AM 25 26 CS\QuantResults\AM 26.batch.bin
Calibration Last Update 10/17/2022 10:40:51 AM

Instrument	Falco (069901)	**Data File**	Cal 5 MJ.d
Type	Cal	**Sample**	Cal 5 MJ
Acq. Method	AM 26 THC.m	**Operator**	Celena Shrum
Sample Position	P1-E1	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/13/2022 4:07:30 PM		
Sample Info.			

Sample Chromatogram



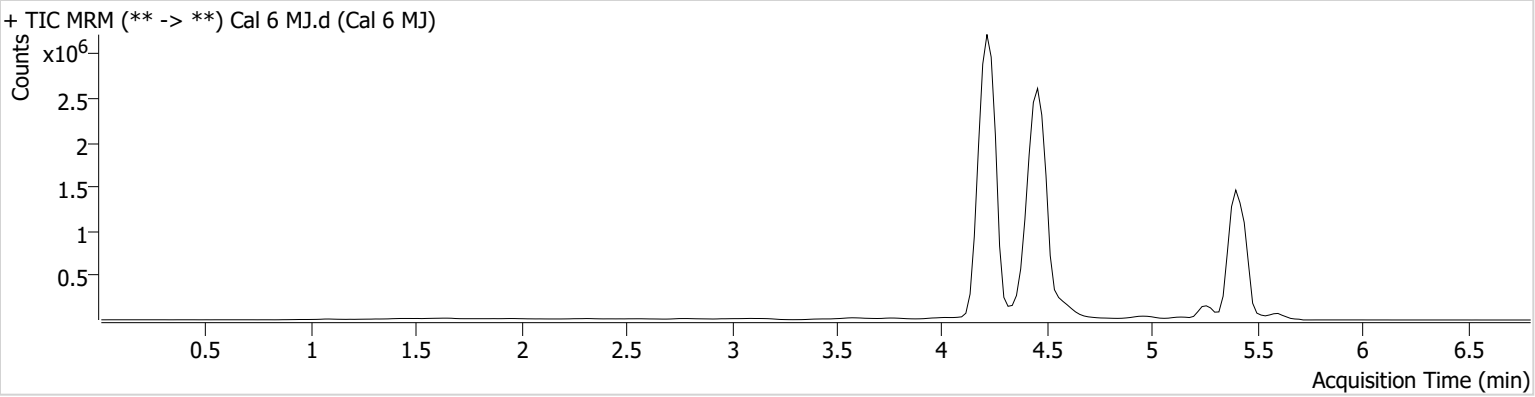
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	4.456	3600470	3520389	74.8323 ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\101322 AM 25 26 CS\QuantResults\AM 26.batch.bin
Calibration Last Update 10/17/2022 10:40:51 AM

Instrument	Falco (069901)	**Data File**	Cal 6 MJ.d
Type	Cal	**Sample**	Cal 6 MJ
Acq. Method	AM 26 THC.m	**Operator**	Celena Shrum
Sample Position	P1-F1	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/13/2022 4:15:04 PM		
Sample Info.			

Sample Chromatogram



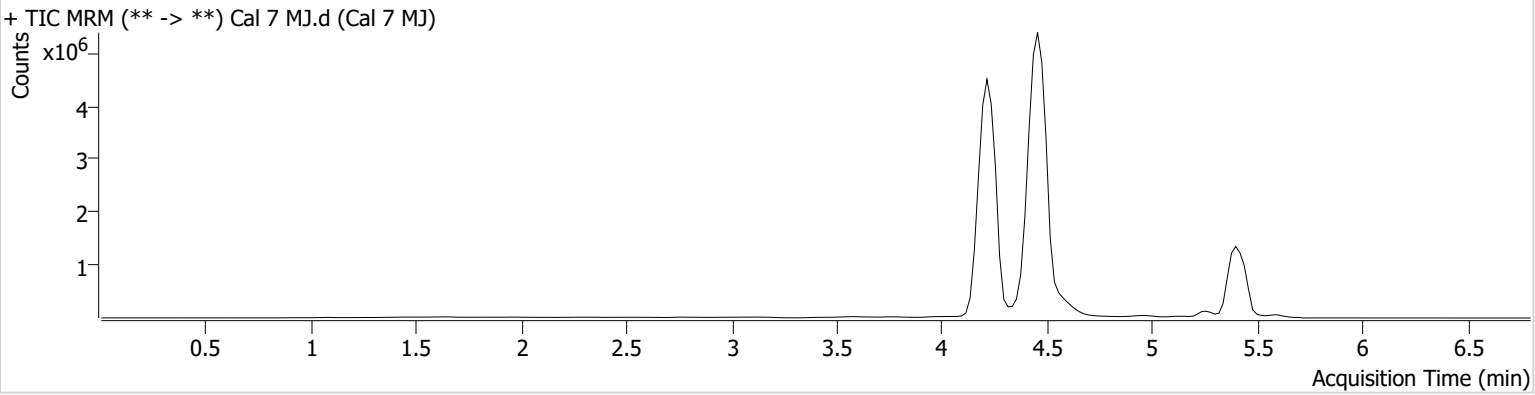
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	4.456	4913379	3612816	99.3228 ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\101322 AM 25 26 CS\QuantResults\AM 26.batch.bin
Calibration Last Update 10/17/2022 10:40:51 AM

Instrument	Falco (069901)	**Data File**	Cal 7 MJ.d
Type	Cal	**Sample**	Cal 7 MJ
Acq. Method	AM 26 THC.m	**Operator**	Celena Shrum
Sample Position	P1-G1	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/13/2022 4:22:38 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	4.456	11326133	3296627	250.0607 ng/ml