








TS

Worklist: 6553

<u>LAB CASE</u>	<u>ITEM</u>	<u>ITEM TYPE</u>	<u>DESCRIPTION</u>	
M2023-3631	2	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
M2023-3910	2	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
M2023-4194	3	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
M2023-4195	2	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
M2023-4294	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
M2023-4381	3	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
M2023-4483	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
M2023-4503	2	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
M2023-4533	2	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2023-3012	2	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-3101	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2023-3110	3	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-3119	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-3130	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-3131	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
P2023-3131	2	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-3193	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-3216	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-3275	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-3277	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-3293	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	

Worklist: 6553

TS

<u>LAB CASE</u>	<u>ITEM</u>	<u>ITEM TYPE</u>	<u>DESCRIPTION</u>	
P2023-3294	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-3297	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-3304	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-3318	1	BLOOD	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-3321	1	BLOOD	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-3340	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-3345	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	

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

Extraction Date: 11/06/2023

Analyst: Tamara Salazar

Plate lot#: 230712

Plate Retest Date: 01/12/2024

Mobile phase A: 10mM Amm Form in LCMS Water

Mobile phase B: 0.1% Formic Acid in MeOH

Blank Blood Lot: Lampire 23E52981

Blank Urine Lot: POC021022

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 Instant Buffer I. Place on plate shaker for 5 minutes.**
- 3. Using a calibrated pipette, pipette 250µL blood or 250µL hydrolyzed urine in wells of analytical (standards) plate. Pipette ID: 42
- 4. Pipette **250µL 0.5 M ammonium hydroxide** in wells of analytical plate.
- 5. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 6. Transfer **200-450µL of blood+base and urine+base (if applicable)** mixture to corresponding wells of SLE+ plate. Amount transferred: 250uL
- 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 **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.
- 16. Add 50µL 1% HCl in MeOH to wells and place plate cover on plate before drying. This step is required for urine samples, but optional for blood samples.
- 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: Extraction was performed on 11/06/2023; however, due to an unrelated fault in the nitrogen generator, the samples could not be run the same day. The samples were frozen until the generator could be repaired. The samples were run on 11/13/2023.

	1	2	3	4	5	6	7	8	9	10	11	12
A	IS + Cal. 1	M2023-4483-1	P2023-3216-1	P2023-3321-1	P2023-3101-1	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample
B	IS + Cal. 1	M2023-4503-2	P2023-3275-1	P2023-3340-1	P2023-3131-1	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample
C	IS + Control 1	P2023-3012-2	P2023-3277-1	P2023-3345-1	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample
D	IS + Control 1	P2023-3110-3	P2023-3293-1	Urine Neg	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample
E	Neg Blood	P2023-3119-1	P2023-3294-1	M2023-3631-2	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Control 1
F	M2023-3910-2	P2023-3130-1	P2023-3297-1	M2023-4194-3	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Control 1
G	M2023-4294-3	P2023-3131-2	P2023-3304-1	M2023-4195-2	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Cal. 1
H	M2023-4381-3	P2023-3193-1	P2023-3318-1	M2023-4533-2	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Sample	IS + Cal. 1

All wells to contain 60 µl of residual DMSO

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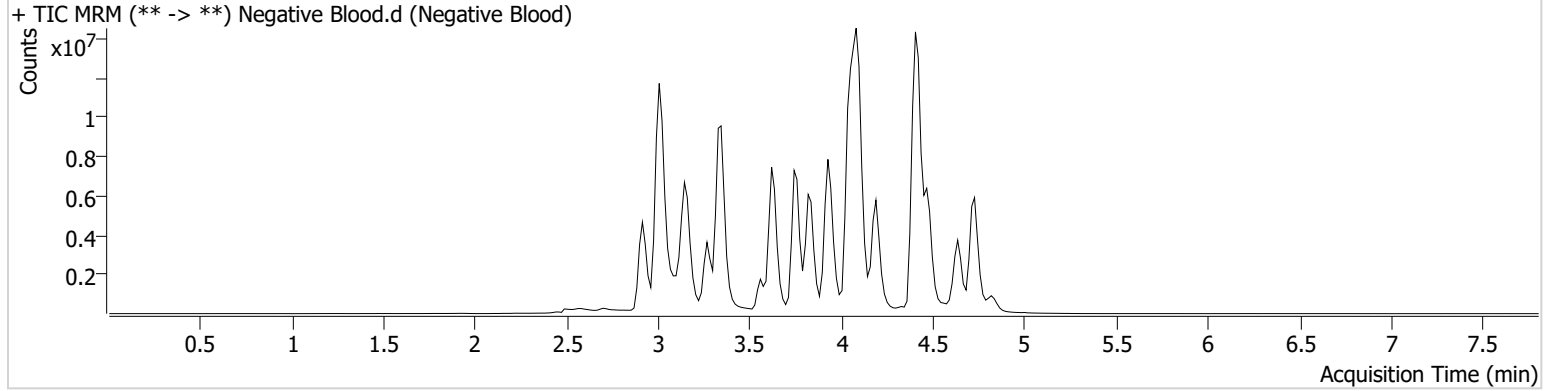


AM #25 Multi-Drug Screen. Results

Batch results D:\MassHunter\Data\2023\AM 25 26\111323 AM 25 26 TS_Combo and Validation\QuantResults\AM 25.batch.bin
Calibration Last Update 11/21/2023 8:01:40 AM

Instrument	Falco (069901)	Data File	Negative Blood.d
Type	Sample	Sample	Negative Blood
Acq. Method	AM 25 MDS.m	Operator	Tamara Salazar
Sample Position	P2-E1	Comment	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.
Injection Volume	5		
Acq. Date-Time	11/13/2023 4:44:13 PM		
Sample Info.			

Sample Chromatogram



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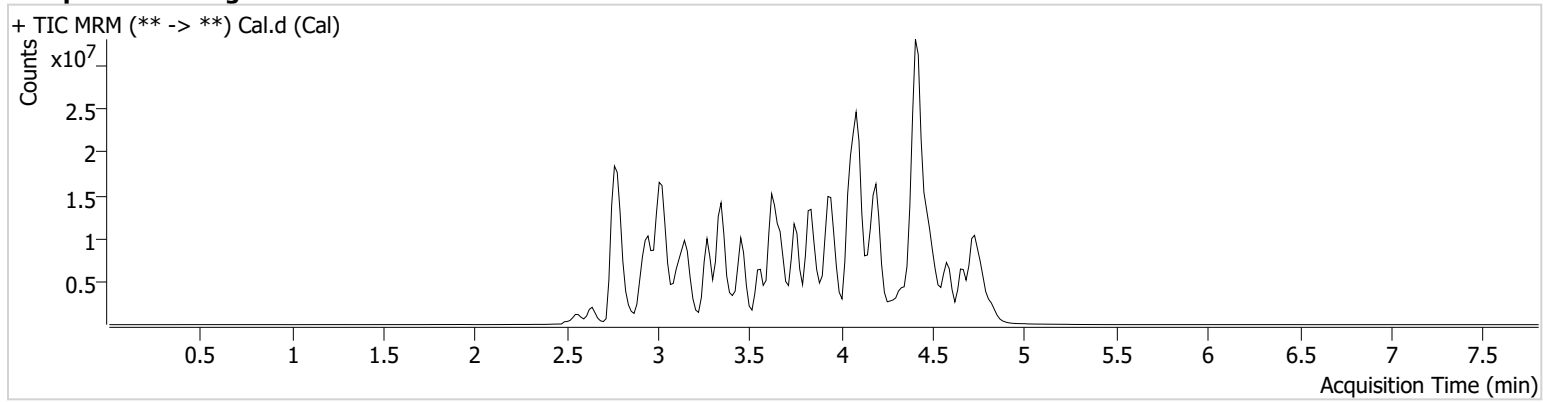
AM #25 Multi-Drug Screen. Results

Batch results D:\MassHunter\Data\2023\AM 25 26\111323 AM 25 26 TS_Combo and Validation\QuantResults\AM 25.batch.bin
Calibration Last Update 11/21/2023 8:01:40 AM

Instrument Falco (069901) **Data File** Cal.d
Type Cal **Sample** Cal
Acq. Method AM 25 MDS.m **Operator** Tamara Salazar
Sample Position P2-A1 **Comment**
Injection Volume 5
Acq. Date-Time 11/13/2023 4:35:38 PM
Sample Info.

Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
10-OH-Carbamazepine	3.749	3637416	140.51	99.3	774.90	22972946	10.0000 ng/ml
6-MAM	3.050	52382	32011.12	73.0	13477.48	1550897	10.0000 ng/ml
7-aminoclonazepam	3.577	1364495	1455.32	85.8	244.93	6625966	10.0000 ng/ml
7-aminoflunitrazepam	3.777	2815135	749.45	18.9	759.47	6625966	10.0000 ng/ml
9-Hydroxyrisperidone	3.939	8007998	34116.24	2.5	239.37	33247063	10.0000 ng/ml
Acetyl Fentanyl	3.974	378477	175.23	78.8	123089.35	34741450	10.0000 ng/ml
Acetyl Norfentanyl	2.951	541936	4390.42	30.0	219.31	34741450	10.0000 ng/ml
a-hydroxyalprazolam	4.483	337550	198.47	45.4	526.38	6625966	10.0000 ng/ml
alpha-hydroxymidazolam	4.574	2520262	1059.68	54.0	700.51	6625966	10.0000 ng/ml
Alpha-PHP	3.888	4733438	4316.66	32.2	2297.85	34741450	10.0000 ng/ml
alpha-PVP	3.628	6095459	4984.51	48.6	1296.24	16070428	10.0000 ng/ml
Alprazolam	4.593	1605249	520.44	91.3	279.74	3919923	10.0000 ng/ml
Amitriptyline	4.458	2433242	105.99	63.2	204.47	6735355	10.0000 ng/ml
Amphetamine	2.955	3844261	537.79	249.1	4204.59	16070428	10.0000 ng/ml
Benzoylcegonine	3.376	131649	67189.21	25.7	31.01	501399	10.0000 ng/ml
Bromazolam	4.665	493778	2977.10	134.9	142556.14	3919923	10.0000 ng/ml
Brompheniramine	4.067	99866	400.29	923.9	774551.46	46308708	10.0000 ng/ml
Buprenorphine	4.846	161870	6181.09	9.2	7324.48	3774968	10.0000 ng/ml
Bupropion	3.858	5106284	1909.29	66.4	1311.87	20283730	10.0000 ng/ml
Carbamazepine	4.214	10219514	∞	91.2	630.43	271804	10.0000 ng/ml
Carisoprodol	4.197	789653	1141.87	71.5	119.27	5138801	10.0000 ng/ml
Chlordiazepoxide	4.702	934408	6651.94	149.0	38455.07	3919923	10.0000 ng/ml
Chlorpheniramine	3.978	7764647	520.55	0.3	111.04	14166746	10.0000 ng/ml
Chlorpromazine	4.668	1745424	631122.04	124.3	1470.10	6160818	10.0000 ng/ml
Citalopram	4.082	3189545	1750.38	31.6	400404.44	46308708	10.0000 ng/ml
Clomipramine	4.669	1916076	2523.78	90.3	2292.65	46308708	10.0000 ng/ml
Clonazepam	4.407	1385521	1605.47	29.0	16230.06	271804	10.0000 ng/ml
Clonazolam	4.342	1519565	10259.20	27.9	310264.25	3919923	10.0000 ng/ml
Clozapine	4.420	4921313	547.77	75.9	917.30	23250713	10.0000 ng/ml
Cocaethylene	3.836	4939520	3326946.22	45.2	1437852.88	25477306	10.0000 ng/ml

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AM #25 Multi-Drug Screen. Results

Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
Cocaine	3.637	4721484	3859686.52	20.1	381.73	25477306	10.0000 ng/ml
Codeine	3.038	411660	157528.58	82.0	16821.60	10521318	10.0000 ng/ml
Cyclobenzaprine	4.381	2778330	1121.98	9.0	349.05	6735355	10.0000 ng/ml
Desipramine	4.382	5114230	882.65	40.1	1787.40	6735355	10.0000 ng/ml
Dextromethorphan	4.103	2528949	1347682.07	75.2	387.82	14166746	10.0000 ng/ml
Dextrorphan	3.410	2760003	327.62	48.8	544.20	14166746	10.0000 ng/ml
Diazepam	4.826	1154990	970.06	86.4	435.72	3919923	10.0000 ng/ml
Dihydrocodeine	2.930	1377959	573.58	54.9	2648.44	10521318	10.0000 ng/ml
Diphenhydramine	4.057	11740096	2444.27	23.8	15996.91	46308708	10.0000 ng/ml
DMT	3.014	186075	296.09	253.5	419.68	14166746	10.0000 ng/ml
Doxepin	4.179	2390969	315.93	41.8	107.02	30729056	10.0000 ng/ml
Doxylamine	3.670	11735146	15303.96	87.9	173.24	14166746	10.0000 ng/ml
Duloxetine	4.333	91249	49770.57	882.2	14285.12	1018212	10.0000 ng/ml
EDDP	4.102	801925	168.18	54.1	152.91	4237314	10.0000 ng/ml
Etazolam	4.502	5684221	1135.10	48.2	1008.68	3919923	10.0000 ng/ml
Etizolam	4.604	81849	48371.18	351.1	121872.63	3919923	10.0000 ng/ml
Fentanyl	4.204	258839	108.57	72.8	207.65	22721591	10.0000 ng/ml
Flualprazolam	4.467	623316	590208.94	170.8	2041.59	3919923	10.0000 ng/ml
Flunitrazepam	4.531	2579882	884.90	36.4	1012.74	3919923	10.0000 ng/ml
Fluorofentanyl	4.234	589255	3676.30	95.1	536.84	22721591	10.0000 ng/ml
Fluoxetine	4.331	2577617	657.29	6.9	95.49	3324016	10.0000 ng/ml
Flurazepam	4.279	2961991	1831847.53	25.6	746.98	3919923	10.0000 ng/ml
Hydrocodone	3.160	1635546	969.61	36.8	366.64	10521318	10.0000 ng/ml
Hydromorphone	2.795	939376	12924.26	104.9	447.84	356742	10.0000 ng/ml
Hydroxyzine	4.556	2365547	1057.54	84.0	1676.51	23250713	10.0000 ng/ml
Imipramine	4.411	4953912	894.37	65.1	302.98	6735355	10.0000 ng/ml
Ketamine	3.735	4181148	1378.37	40.4	253.88	13192401	10.0000 ng/ml
Lamotrigine	3.625	326003	1804.32	76.8	1535.52	46308708	10.0000 ng/ml
Levamisole	3.121	3888979	34080.77	78.9	250.67	25477306	10.0000 ng/ml
Levetiracetam	2.649	2838667	577.06	55.5	351.34	46308708	10.0000 ng/ml
Lorazepam	4.406	447179	179.19	244.6	∞	3919923	10.0000 ng/ml
Maprotiline	4.397	396075	49.90	79.1 Low	194.92	6735355	10.0000 ng/ml
MDA	3.045	1799663	1895.24	44.9	5.16	32392873	10.0000 ng/ml
MDEA	3.259	3978095	603.58	53.7	270.64	32392873	10.0000 ng/ml
MDMA	3.121	4843766	726.23	49.1	562.19	32392873	10.0000 ng/ml
Meperidine	3.657	2910409	585.44	51.1	1412.75	14166746	10.0000 ng/ml
Meprobamate	3.659	480074	246.10	23.1	241.40	5138801	10.0000 ng/ml
Methadone	4.408	6547236	1906.23	41.6	6942.31	4237314	10.0000 ng/ml
Methamphetamine	3.032	5172768	5458.10	43.3	1019.69	32392873	10.0000 ng/ml
Methocarbamol	3.565	321058	142.27	70.6	152.70	4237314	10.0000 ng/ml
Methylphenidate	3.550	10285093	3058.80	22.4	376.47	16224249	10.0000 ng/ml
Metoprolol	3.455	781485	200.73	110.8	1442.23	14166746	10.0000 ng/ml
Midazolam	4.744	734370	15075.59	85.7	11495.68	3919923	10.0000 ng/ml
Mirtazapine	4.166	4404859	7779.85	222.1	658430.85	14166746	10.0000 ng/ml
Mitragynine	4.278	583227	197918.86	212.5	805324.69	14166746	10.0000 ng/ml
Morphine	2.628	292556	457.92	113.2	72.83	356742	10.0000 ng/ml
Norbuprenorphine	3.847	58263	22754.19	130.5	45853.80	3774968	10.0000 ng/ml
Nordiazepam	4.674	1070818	1077.61	63.8	308.15	3919923	10.0000 ng/ml
Norfentanyl	3.350	7743835	6915.55	38.1	73.38	34741450	10.0000 ng/ml
Norhydrocodone	2.979	214558	93.63	39.4	31.40	356742	10.0000 ng/ml
Norketamine	3.844	595124	197.43	596.2	5075.35	13192401	10.0000 ng/ml
Norperidine	3.627	3154847	715.87	67.1	1639.23	46308708	10.0000 ng/ml
Noroxycodone	2.931	1623954	∞	28.4	150.71	13192401	10.0000 ng/ml
Nortriptyline	4.428	1305739	949.67	73.7	923.21	6735355	10.0000 ng/ml
O-desmethyl-tramadol	2.965	8260727	625.98	5.5	1458.42	46308708	10.0000 ng/ml
O-desmethylvenlafaxine	3.270	1716484	709.70	671.8	∞	11191354	10.0000 ng/ml
Olanzapine	3.929	1252424	654292.67	49.6	787.29	271804	10.0000 ng/ml
Oxazepam	4.487	2084320	1010.53	78.0	427.33	14819506	10.0000 ng/ml
Oxycodone	3.036	3202677	658.28	26.4	786.27	13192401	10.0000 ng/ml

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AM #25 Multi-Drug Screen. Results

Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
Oxymorphone	2.550	2470635	76.19	22.5	281.48	356742	10.0000 ng/ml
Paroxetine	4.343	450180	350.35	47.5	77898.30	3324016	10.0000 ng/ml
Phenazepam	4.604	421072	535.25	60.4	70665.30	3919923	10.0000 ng/ml
Phencyclidine	3.950	5270939	1728.81	55.6	169.20	14166746	10.0000 ng/ml
Phentermine	3.185	1205703	147.06	8.8	79.49	16224249	10.0000 ng/ml
Phenytoin	4.105	665145	366.39	76.9	206.31	271804	10.0000 ng/ml
Primidone	3.460	1278542	7223.69	92.4	144.02	271804	10.0000 ng/ml
Promethazine	4.380	6887036	2828497.48	36.7	2635.72	46308708	10.0000 ng/ml
Pseudoephedrine	2.786	57723670	665.86	31.3	14688.93	32392873	10.0000 ng/ml
Quetiapine	4.587	4128279	3870731.70	56.3	862514.97	41680232	10.0000 ng/ml
Risperidone	4.139	6904421	4610576.17	11.6	1236.95	33247063	10.0000 ng/ml
Sertraline	4.578	609557	277615.87	107.5	532610.27	3324016	10.0000 ng/ml
Sufentanil	4.586	228827	141931.39	85.3	19611.58	34741450	10.0000 ng/ml
Tapentadol	3.459	4709775	961.51	40.3	545.37	13192401	10.0000 ng/ml
Temazepam	4.656	1095443	208.84	42.6	116.30	3919923	10.0000 ng/ml
Topiramate	3.834	41418	15439.05	36.1	14808.76	143208	10.0000 ng/ml
Tramadol	3.455	16256412	276.61	1.6	120.01	46308708	10.0000 ng/ml
Trazodone	4.771	7905763	11958129.75	65.2	2386435.75	30729056	10.0000 ng/ml
Venlafaxine	3.824	5617887	2307.57	28.4	125.42	11191354	10.0000 ng/ml
Xylazine	3.429	2439608	1238.65	44.4	127.15	13192401	10.0000 ng/ml
Zaleplon	4.317	2579829	7477.30	72.7	14258.02	41680232	10.0000 ng/ml
Zolpidem	4.424	10057499	1702260.54	30.4	2787.46	41680232	10.0000 ng/ml
Zopiclone	4.325	159546	31546.14	66.1	37213.92	749394	10.0000 ng/ml

TS



AM #25 Multi-Drug Screen. Results

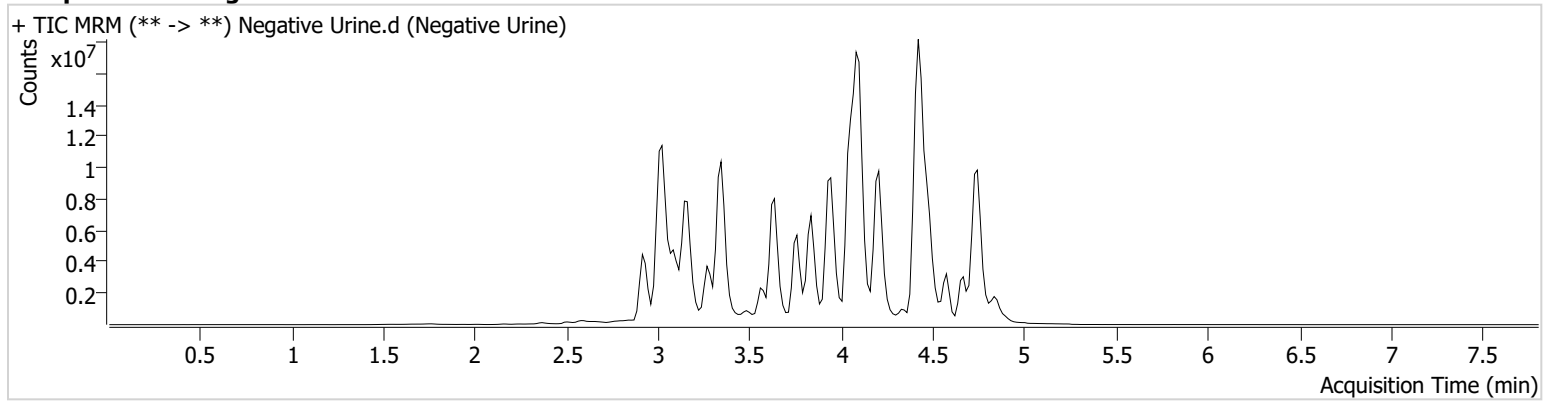
Batch results D:\MassHunter\Data\2023\AM 25 26\111323 AM 25 26 TS_Combo and Validation\QuantResults\AM 25.batch.bin
Calibration Last Update 11/21/2023 8:01:40 AM

Instrument Falco (069901)
Type Sample
Acq. Method AM 25 MDS.m
Sample Position P2-D4
Injection Volume 5
Acq. Date-Time 11/13/2023 7:57:52 PM
Sample Info.

Data File Negative Urine.d
Sample Negative Urine
Operator Tamara Salazar
Comment

Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.

Sample Chromatogram



TS



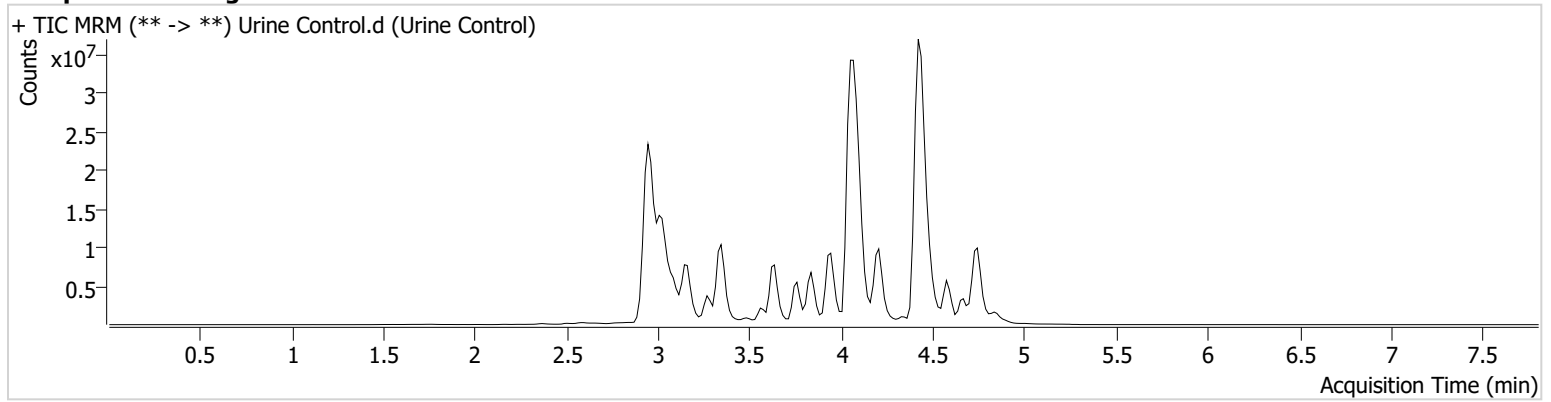
AM #25 Multi-Drug Screen. Results

Batch results D:\MassHunter\Data\2023\AM 25 26\111323 AM 25 26 TS_Combo and Validation\QuantResults\AM 25.batch.bin
Calibration Last Update 11/21/2023 8:01:40 AM

Instrument Falco (069901) **Data File** Urine Control.d
Type Sample **Sample** Urine Control
Acq. Method AM 25 MDS.m **Operator** Tamara Salazar
Sample Position P2-C1 **Comment**
Injection Volume 5
Acq. Date-Time 11/13/2023 8:06:18 PM
Sample Info.

Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
Alprazolam	4.593	4389592	807.56	109.1	139.26	3094983	34.6339 ng/ml
Amphetamine	2.955	32480980	3908.44	150.4 Low	431.78	12310255	110.3003 ng/ml
Codeine	3.053	3888765	∞	90.6	18980.10	9133910	108.8144 ng/ml
Diphenhydramine	4.073	57217251	827.91	52.8 High	12794.17	46359102	48.6836 ng/ml
Zolpidem	4.439	56185817	12380.89	53.2 High	4085.91	38667834	60.2167 ng/ml

TS

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

Extraction Date: 11/06/2023

Analyst: Tamara Salazar

Plate lot#: 230627

Plate Retest Date: 12-27-2023

Mobile phase A: 10mM Amm Form in LCMS Water

Mobile phase B: 0.1% Formic acid in MeOH

Blank Blood Lot: Lampire 23E52981

Blank Urine Lot: POC021022

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: 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, pipette 1000ul blood or 1000ul hydrolyzed urine in wells of analytical (standards) plate. Pipette ID: 42
- 4. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 5. Add 500ul of 0.1% formic acid in water to blood samples, and 500ul of saturated phosphate buffer to urine samples in the wells of the analytical plate.
- 6. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 7. Transfer 700-800ul of blood+acid or urine+acid mixture to corresponding wells of SLE+ plate. Amount transferred: 750 ul
- 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 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.
- 17. Reconstitute in 100ul 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, R² 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

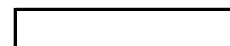
COMMENTS: Extraction was performed on 11/06/2023; however, due to an unrelated fault in the nitrogen generator, the samples could not be run the same day. The samples were frozen until the generator could be repaired. The samples were run on 11/13/2023.

Analytical Plate Map

TS

	1	2	3	4	5	6
A	IS + Cal. 1	IS + QC_1	P2023-3110-3	P2023-3293-1	Urine Neg	IS + QC_1
B	IS + Cal. 2	Neg Blood	P2023-3119	P2023-3294-1	M2023-3631-2	IS + Cal. 7
C	IS + Cal. 3	M2023-3910-2	P2023-3130-1	P2023-3297-1	M2023-4194-3	IS + Cal. 6
D	IS + Cal. 4	M2023-4294	P2023-3131-2	P2023-3304-1	M2023-4195-2	IS + Cal. 5
E	IS + Cal. 5	M2023-4381-3	P2023-3193-1	P2023-3318-1	M2023-4533-2	IS + Cal. 4
F	IS + Cal. 6	M2023-4483-1	P2023-3216-1	P2023-3321-1	P2023-3101-1	IS + Cal. 3
G	IS + Cal. 7	M2023-4503-2	P2023-3275-1	P2023-3340-1	P2023-3131-1	IS + Cal. 2
H	IS + QC_1	P2023-3012-2	P2023-3277-1	P2023-3345-1	IS + QC_1	IS + Cal. 1

All wells to contain 100 µl of residual DMSO



SLE Plate Map

TS

	1	2	3	4	5	6
A	IS + Cal. 1	IS + QC_1	P2023-3110-3	P2023-3293-1	Urine Neg	P2023-3193-1
B	IS + Cal. 2	Neg Blood	P2023-3119	P2023-3294-1*	M2023-3631-2	P2023-3216-1
C	IS + Cal. 3	M2023-3910-2	P2023-3130-1	P2023-3297-1*	M2023-4194-3	P2023-3294-1
D	IS + Cal. 4	M2023-4294	P2023-3131-2	P2023-3304-1	M2023-4195-2	P2023-3297-1
E	IS + Cal. 5	M2023-4381-3	P2023-3193-1*	P2023-3318-1	M2023-4533-2	P2023-3321-1
F	IS + Cal. 6	M2023-4483-1	P2023-3216-1*	P2023-3321-1*	P2023-3101-1	
G	IS + Cal. 7	M2023-4503-2	P2023-3275-1	P2023-3340-1	P2023-3131-1	
H	IS + QC_1	P2023-3012-2*	P2023-3277-1	P2023-3345-1	P2023-3012-2	

*Moved during step 7 of the analysis due to clotting.



TS

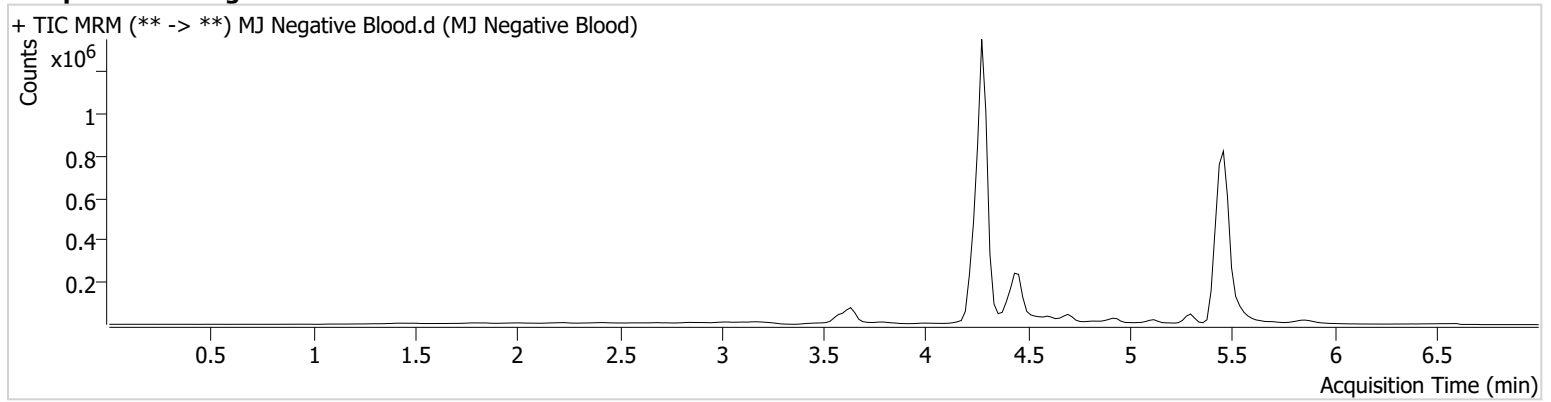


AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2023\AM 25 26\111323 AM 25 26 TS_Combo and Validation\QuantResults\AM 26.batch.bin
Calibration Last Update 11/21/2023 8:04:25 AM

Instrument	Falco (069901)	Data File	MJ Negative Blood.d
Type	Sample	Sample	MJ Negative Blood
Acq. Method	AM 26 THC.m	Operator	Tamara Salazar
Sample Position	P1-B2	Comment	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.
Injection Volume	10		
Acq. Date-Time	11/13/2023 12:13:52 PM		
Sample Info.			

Sample Chromatogram



TS

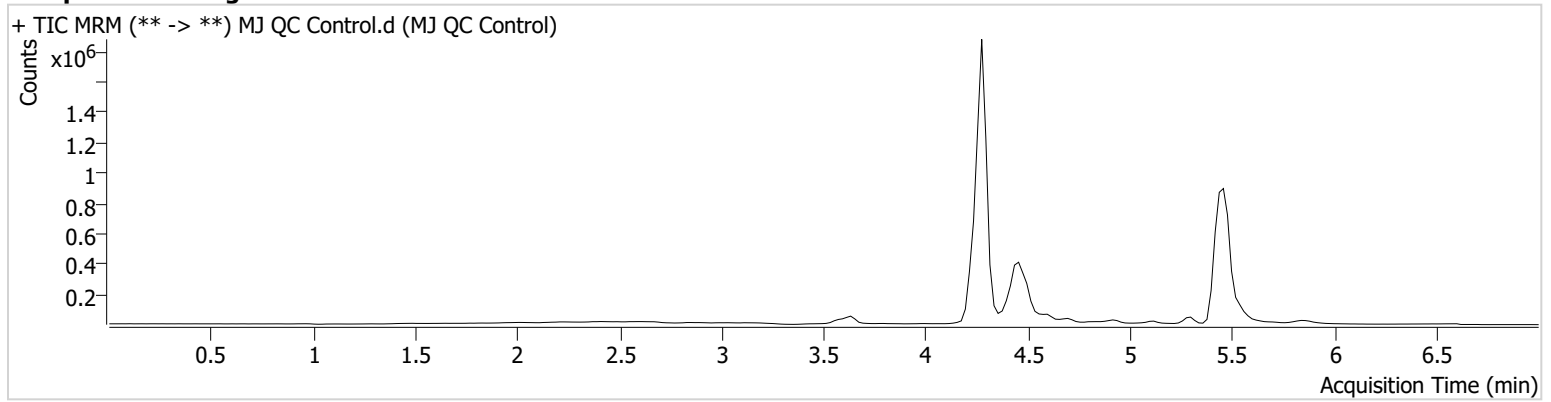


AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2023\AM 25 26\111323 AM 25 26 TS_Combo and Validation\QuantResults\AM 26.batch.bin
Calibration Last Update 11/21/2023 8:04:25 AM

Instrument	Falco (069901)	Data File	MJ QC Control.d
Type	QC	Sample	MJ QC Control
Acq. Method	AM 26 THC.m	Operator	Tamara Salazar
Sample Position	P1-H1	Comment	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.
Injection Volume	10		
Acq. Date-Time	11/13/2023 11:58:41 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.409	4680	28.65	441.3 High	∞	165281	4.2061 ng/ml
THC-COOH	4.476	380288	∞	157.8	∞	1296460	14.8182 ng/ml
THC-OH	4.282	56688	∞	796.8	∞	6679201	4.4846 ng/ml

TS



AM #26 Cannabinoids Screen Results

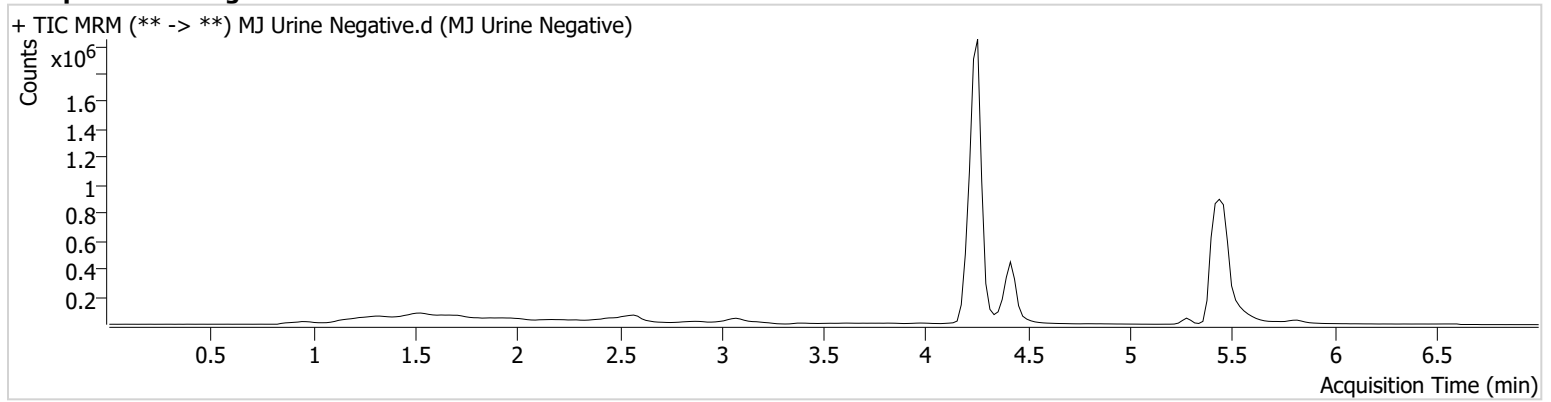
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Calibration Last Update 11/21/2023 8:04:25 AM

Instrument Falco (069901)
Type Sample
Acq. Method AM 26 THC.m
Sample Position P1-A5
Injection Volume 10
Acq. Date-Time 11/13/2023 3:08:07 PM
Sample Info.

Data File MJ Urine Negative.d
Sample MJ Urine Negative
Operator Tamara Salazar
Comment

Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.

Sample Chromatogram



TS

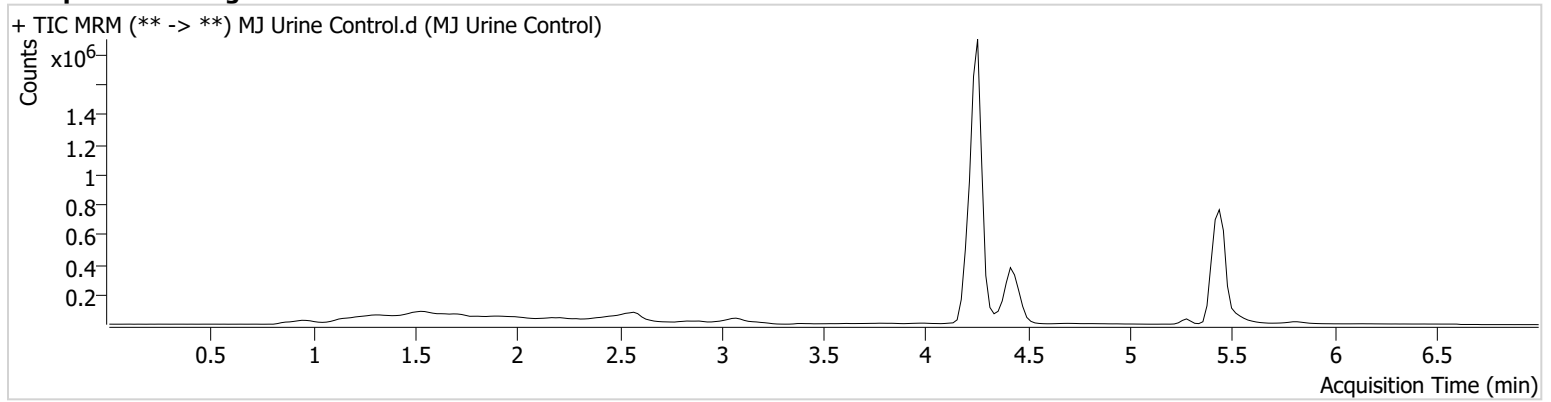


AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2023\AM 25 26\111323 AM 25 26 TS_Combo and Validation\QuantResults\AM 26.batch.bin
Calibration Last Update 11/21/2023 8:04:25 AM

Instrument	Falco (069901)	Data File	MJ Urine Control.d
Type	Sample	Sample	MJ Urine Control
Acq. Method	AM 26 THC.m	Operator	Tamara Salazar
Sample Position	P1-A2	Comment	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.
Injection Volume	10		
Acq. Date-Time	11/13/2023 3:15:41 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.409	2215	3.85 Low	810.7 High	∞	93605	3.4775 ng/ml
THC-COOH	4.456	235421	∞	158.3	∞	1146096	10.6318 ng/ml
THC-OH	4.262	59398	∞	758.2	∞	7454686	4.2194 ng/ml

TS



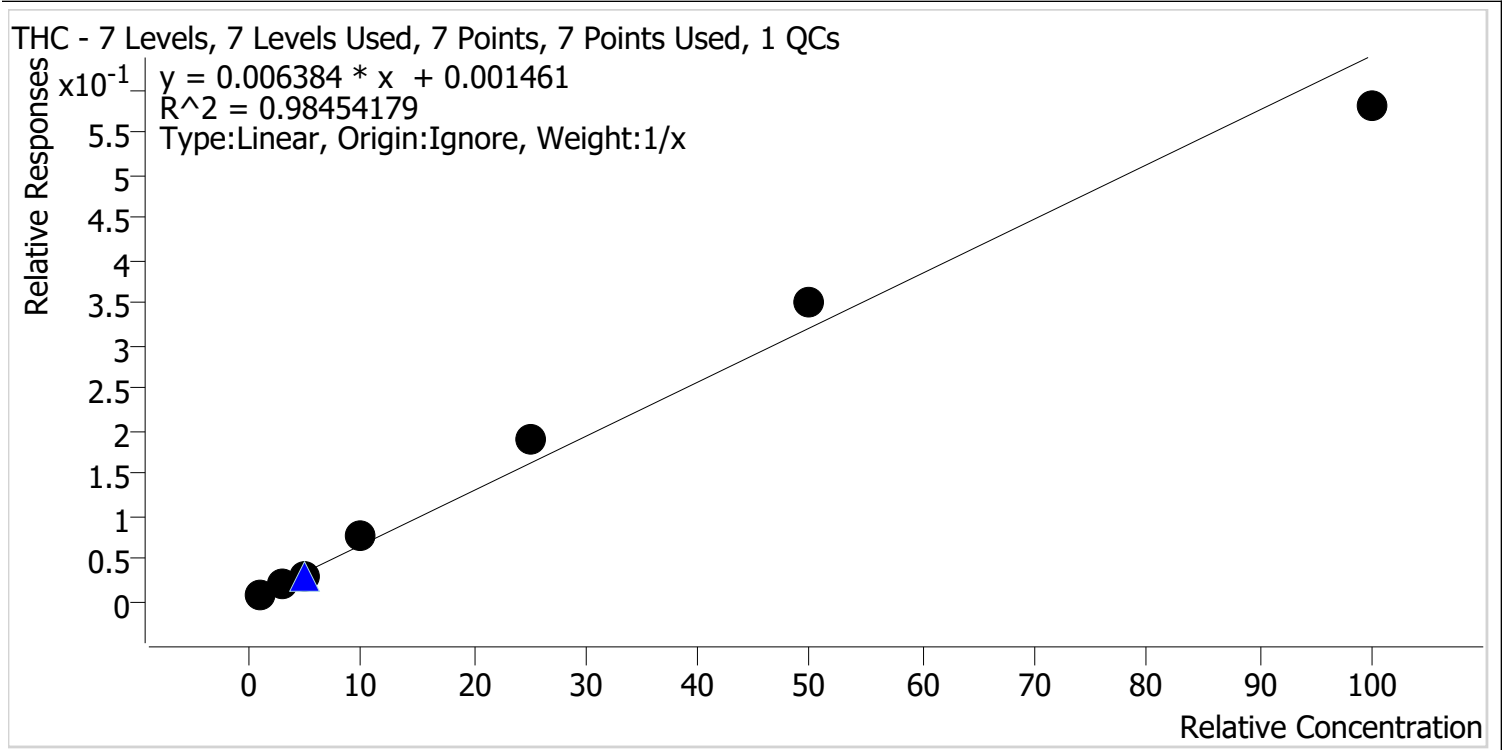
AM #26 Cannabinoids Screen Calibration Curve Report

Batch results D:\MassHunter\Data\2023\AM 25 26\111323 AM 25 26 TS_Combo and Validation\QuantResults\AM 26.batch.bin

Last Cal. Update 11/21/2023 8:04 AM

Analyst Name ISP\Datastor

Analyte THC **Internal Standard** THC-D3



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ Cal 1	1	✓	1.0	0.9	94.8
MJ Cal 2	2	✓	3.0	2.7	91.0
MJ Cal 3	3	✓	5.0	4.0	79.9
MJ Cal 4	4	✓	10.0	11.7	116.6
MJ Cal 5	5	✓	25.0	29.5	118.2
MJ Cal 6	6	✓	50.0	54.5	108.9
MJ Cal 7	7	✓	100.0	90.7	90.7

TS



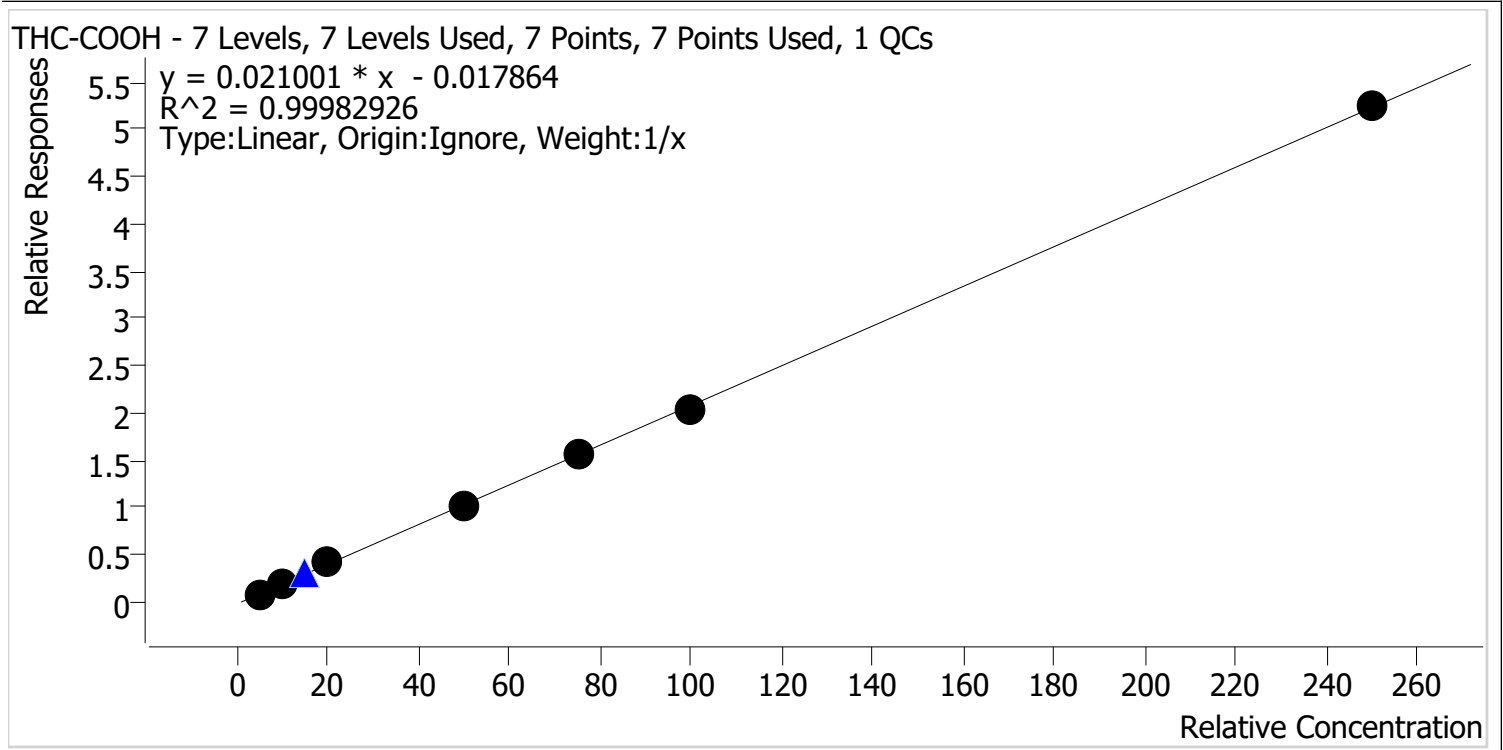
AM #26 Cannabinoids Screen Calibration Curve Report

Batch results D:\MassHunter\Data\2023\AM 25 26\111323 AM 25 26 TS_Combo and Validation\QuantResults\AM 26.batch.bin

Last Cal. Update 11/21/2023 8:04 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	4.7	95.0
MJ Cal 2	2	✓	10.0	10.3	103.3
MJ Cal 3	3	✓	20.0	20.6	103.0
MJ Cal 4	4	✓	50.0	49.7	99.5
MJ Cal 5	5	✓	75.0	75.3	100.5
MJ Cal 6	6	✓	100.0	98.6	98.6
MJ Cal 7	7	✓	250.0	250.7	100.3

TS



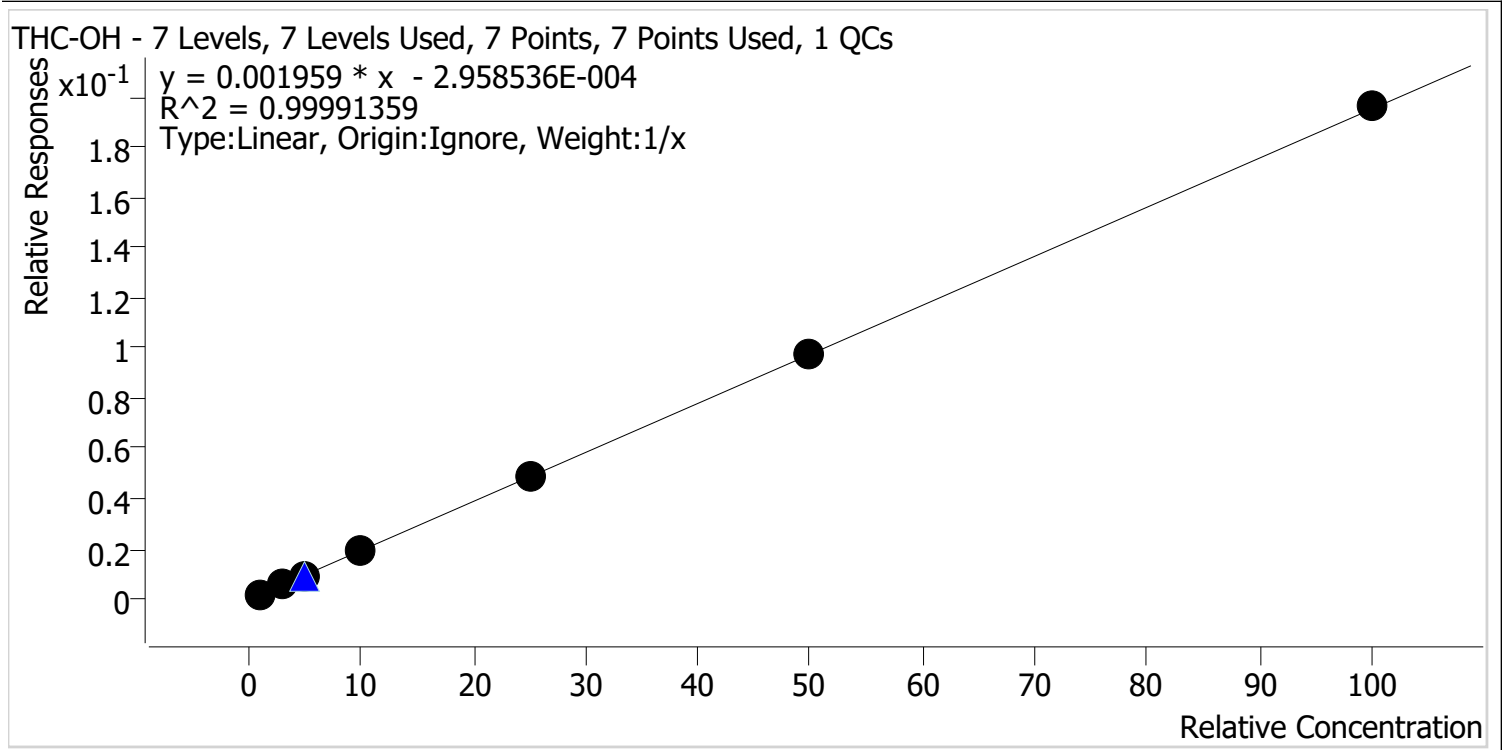
AM #26 Cannabinoids Screen Calibration Curve Report

Batch results D:\MassHunter\Data\2023\AM 25 26\111323 AM 25 26 TS_Combo and Validation\QuantResults\AM 26.batch.bin

Last Cal. Update 11/21/2023 8:04 AM

Analyst Name ISP\Datastor

Analyte THC-OH **Internal Standard** THC-OH-D3



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ Cal 1	1	✓	1.0	1.1	105.6
MJ Cal 2	2	✓	3.0	3.0	98.7
MJ Cal 3	3	✓	5.0	4.9	98.2
MJ Cal 4	4	✓	10.0	9.8	97.7
MJ Cal 5	5	✓	25.0	24.8	99.4
MJ Cal 6	6	✓	50.0	49.9	99.8
MJ Cal 7	7	✓	100.0	100.5	100.5

TS



AM #26 Cannabinoids Screen Results

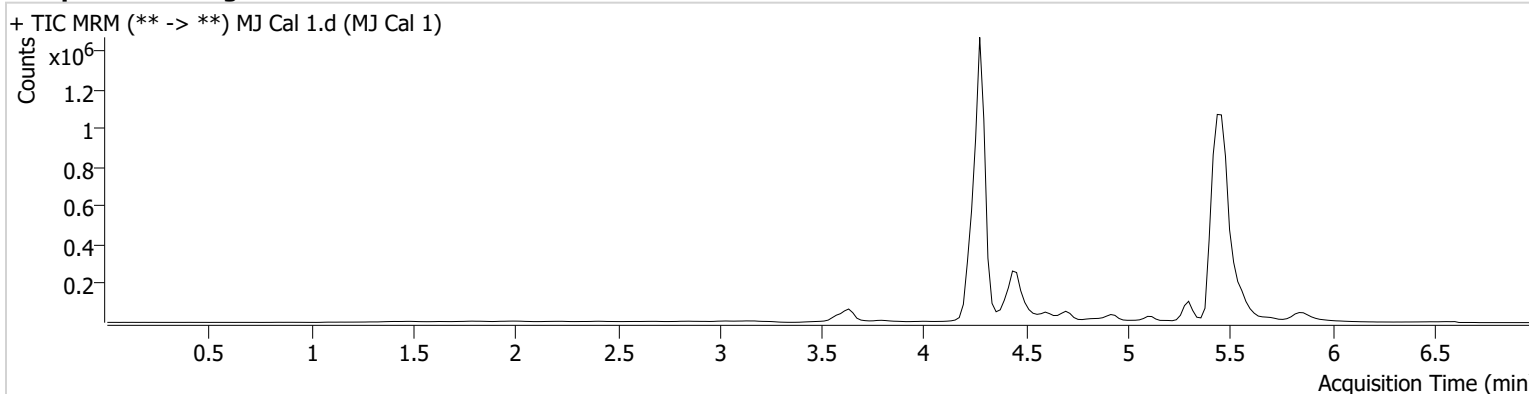
Batch results D:\MassHunter\Data\2023\AM 25 26\111323 AM 25 26 TS_Combo and Validation\QuantResults\AM 26.batch.bin
Calibration Last Update 11/21/2023 8:04:25 AM

Instrument Falco (069901)
Type Cal
Acq. Method AM 26 THC.m
Sample Position P1-A1
Injection Volume 10
Acq. Date-Time 11/13/2023 11:05:31 AM
Sample Info.

Data File MJ Cal 1.d
Sample MJ Cal 1
Operator Tamara Salazar
Comment

Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.510	3116	5.83 Low	738.7 High	∞	414686	0.9480 ng/ml
THC-COOH	4.476	82476	94.90	166.0	∞	1007678	4.7480 ng/ml
THC-OH	4.282	10076	∞	856.1	∞	5687168	1.0557 ng/ml

TS

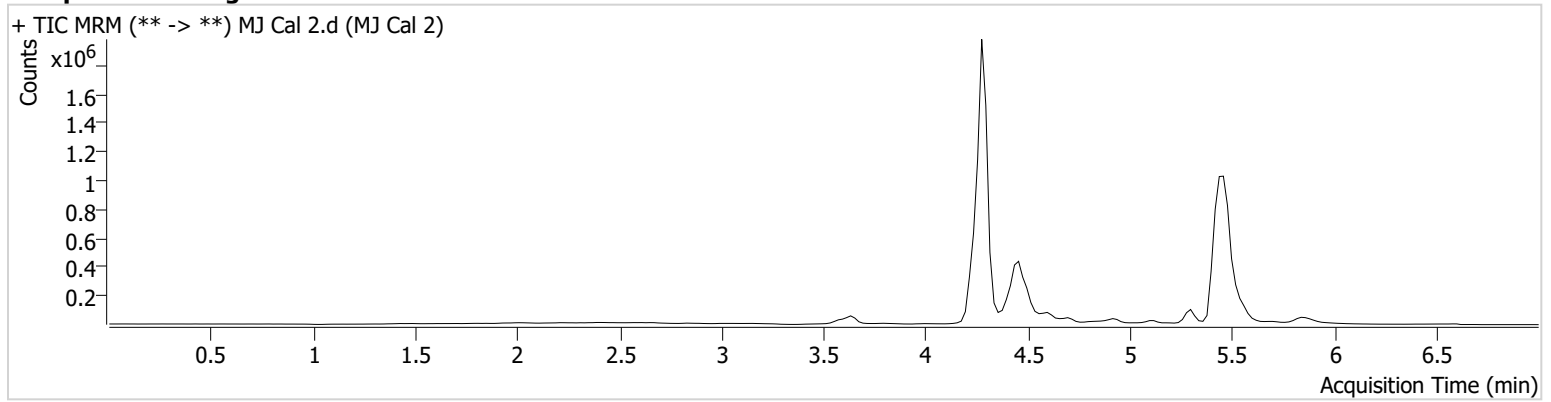


AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2023\AM 25 26\111323 AM 25 26 TS_Combo and Validation\QuantResults\AM 26.batch.bin
Calibration Last Update 11/21/2023 8:04:25 AM

Instrument	Falco (069901)	Data File	MJ Cal 2.d
Type	Cal	Sample	MJ Cal 2
Acq. Method	AM 26 THC.m	Operator	Tamara Salazar
Sample Position	P1-B1	Comment	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.
Injection Volume	10		
Acq. Date-Time	11/13/2023 11:13:16 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.409	8936	12.82	273.5 High	∞	473101	2.7298 ng/ml
THC-COOH	4.496	299470	∞	160.7	∞	1504546	10.3286 ng/ml
THC-OH	4.302	39360	73.45	820.2	∞	7149638	2.9619 ng/ml

TS



AM #26 Cannabinoids Screen Results

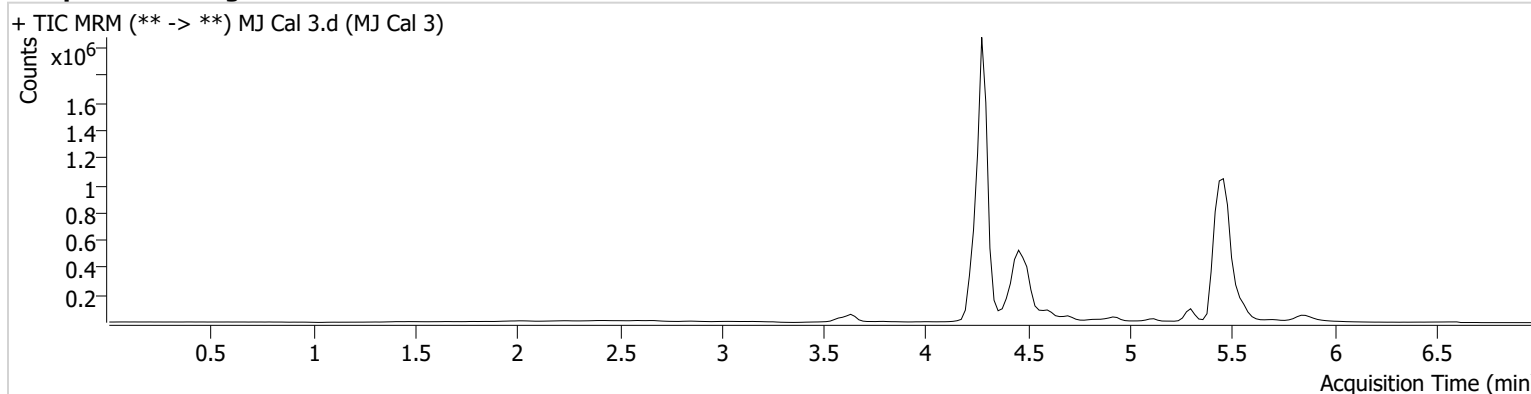
Batch results D:\MassHunter\Data\2023\AM 25 26\111323 AM 25 26 TS_Combo and Validation\QuantResults\AM 26.batch.bin
Calibration Last Update 11/21/2023 8:04:25 AM

Instrument Falco (069901)
Type Cal
Acq. Method AM 26 THC.m
Sample Position P1-C1
Injection Volume 10
Acq. Date-Time 11/13/2023 11:20:50 AM
Sample Info.

Data File MJ Cal 3.d
Sample MJ Cal 3
Operator Tamara Salazar
Comment

Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.409	11372	34.36	226.2	∞	421652	3.9954 ng/ml
THC-COOH	4.496	594869	∞	156.8	∞	1434655	20.5949 ng/ml
THC-OH	4.282	68653	∞	780.1	∞	7364682	4.9108 ng/ml

TS

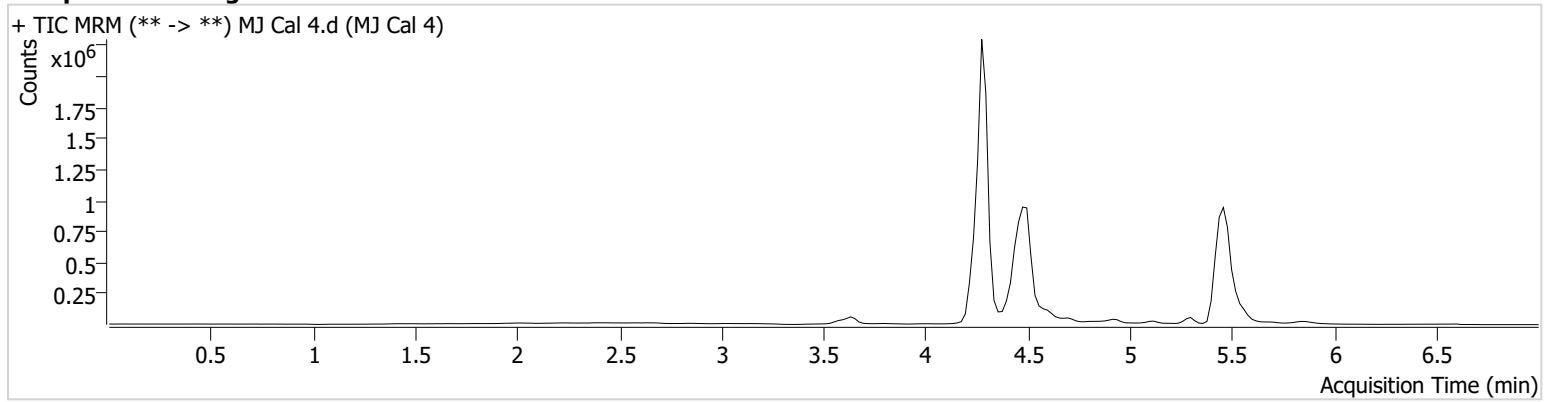


AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2023\AM 25 26\111323 AM 25 26 TS_Combo and Validation\QuantResults\AM 26.batch.bin
Calibration Last Update 11/21/2023 8:04:25 AM

Instrument	Falco (069901)	Data File	MJ Cal 4.d
Type	Cal	Sample	MJ Cal 4
Acq. Method	AM 26 THC.m	Operator	Tamara Salazar
Sample Position	P1-D1	Comment	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.
Injection Volume	10		
Acq. Date-Time	11/13/2023 11:28:24 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.489	25612	129.78	111.3 Low	∞	337555	11.6554 ng/ml
THC-COOH	4.496	1549923	∞	160.5	∞	1509619	49.7396 ng/ml
THC-OH	4.282	143912	∞	768.5	∞	7636573	9.7733 ng/ml

TS



AM #26 Cannabinoids Screen Results

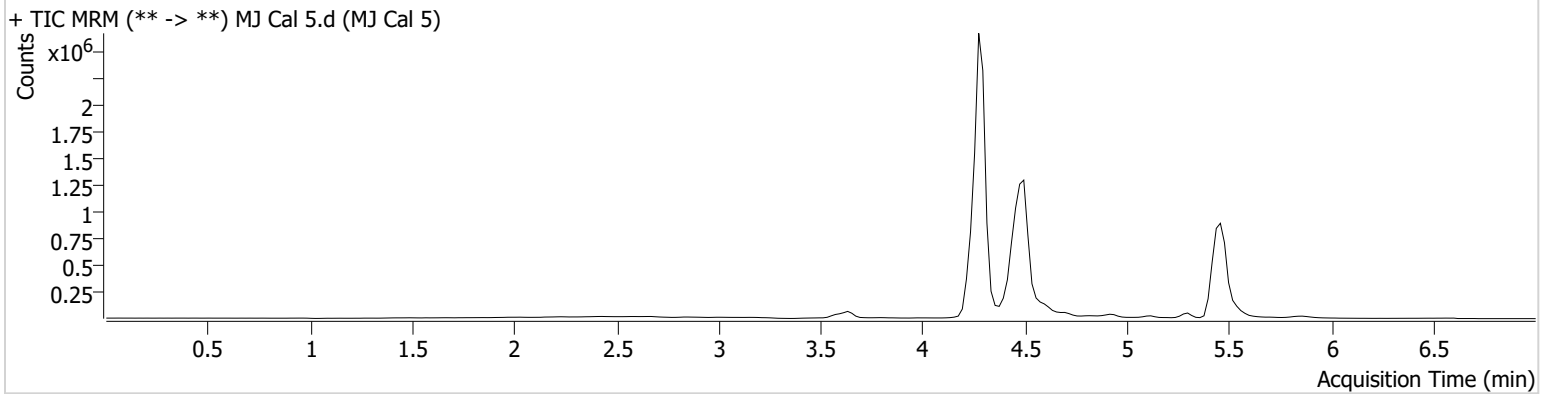
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Calibration Last Update 11/21/2023 8:04:25 AM

Instrument Falco (069901)
Type Cal
Acq. Method AM 26 THC.m
Sample Position P1-E1
Injection Volume 10
Acq. Date-Time 11/13/2023 11:35:59 AM
Sample Info.

Data File MJ Cal 5.d
Sample MJ Cal 5
Operator Tamara Salazar
Comment

Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.429	40896	∞	67.3 Low	∞	215174	29.5402 ng/ml
THC-COOH	4.496	2230617	85.78	160.0	184.62	1425964	75.3383 ng/ml
THC-OH	4.302	368993	∞	751.4	∞	7629552	24.8452 ng/ml

TS

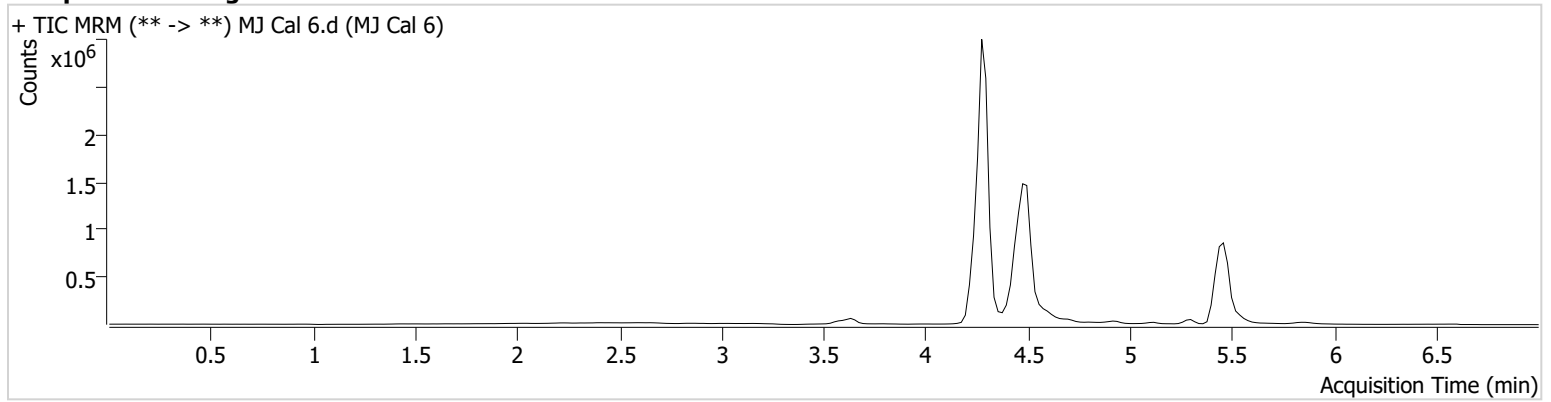


AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2023\AM 25 26\111323 AM 25 26 TS_Combo and Validation\QuantResults\AM 26.batch.bin
Calibration Last Update 11/21/2023 8:04:25 AM

Instrument	Falco (069901)	Data File	MJ Cal 6.d
Type	Cal	Sample	MJ Cal 6
Acq. Method	AM 26 THC.m	Operator	Tamara Salazar
Sample Position	P1-F1	Comment	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.
Injection Volume	10		
Acq. Date-Time	11/13/2023 11:43:33 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.429	78418	∞	47.1 Low	∞	224605	54.4566 ng/ml
THC-COOH	4.496	2659137	∞	161.1	∞	1295636	98.5801 ng/ml
THC-OH	4.282	650210	∞	749.6	∞	6671028	49.9175 ng/ml

TS

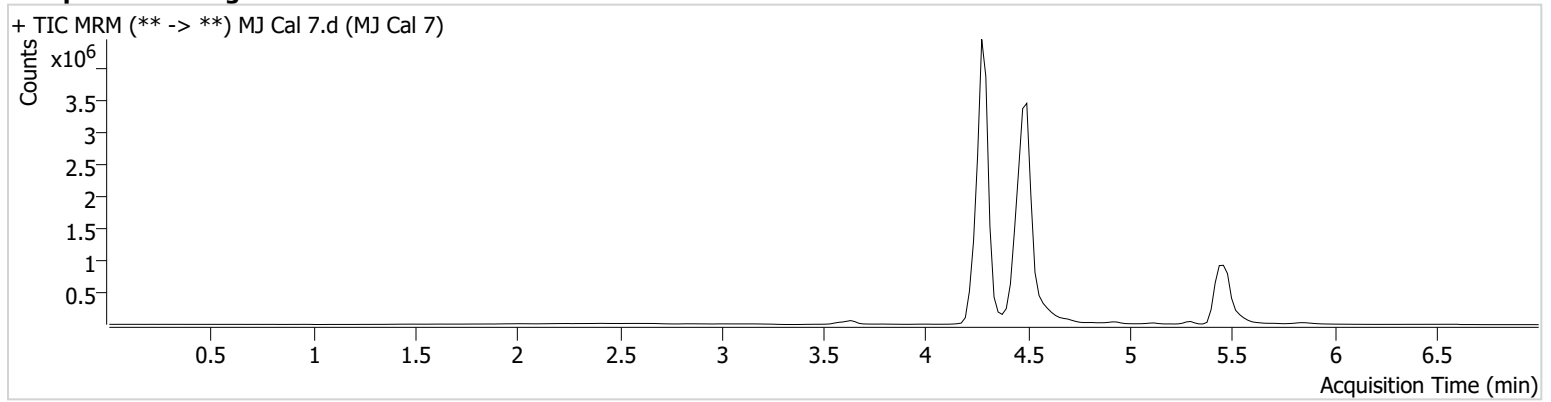


AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2023\AM 25 26\111323 AM 25 26 TS_Combo and Validation\QuantResults\AM 26.batch.bin
Calibration Last Update 11/21/2023 8:04:25 AM

Instrument	Falco (069901)	Data File	MJ Cal 7.d
Type	Cal	Sample	MJ Cal 7
Acq. Method	AM 26 THC.m	Operator	Tamara Salazar
Sample Position	P1-G1	Comment	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.
Injection Volume	10		
Acq. Date-Time	11/13/2023 11:51:07 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.429	81899	∞	56.7 Low	∞	141116	90.6746 ng/ml
THC-COOH	4.496	6484402	∞	159.9	∞	1235980	250.6703 ng/ml
THC-OH	4.282	1328984	∞	748.0	∞	6759716	100.5356 ng/ml

TS

**Idaho State Police
Forensic Services**

Request for Departure from an Analytical Method or Quality Standard

Deviation Number (assigned by QM): ISP DEV ~~QUAL-23-05~~ JW 11/17/2023

TOX-23-02

Date of Request: 11/13/2023

Requestor/Discipline: Tamara Salazar/Toxicology

Analytical Method/Quality Standard, Revision #: AM #25 and AM #26, Revision 17

Temporary or Permanent Deviation: Temporary

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

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

AM #25: 4.1.14 Analyze samples or freeze for future analysis. The plate must be injected within 7 days of the extraction date.

AM #26: 4.1.16 Analyze samples or freeze for future analysis. The plate must be injected within 7 days of the extraction date.

AM 25 and 26 extractions were performed on 11/06/2023; however, the samples could not be injected due to an unrelated issue with the LC/MS/MS-QQQ nitrogen generator. The samples were placed in the freezer until a technician could repair the nitrogen generator. The repair of the generator pushed the time from the completion of the extraction to the injection of the samples outside of the acceptable 7-day window. The requestor is asking to inject the samples after the 7-day window and use the data associated with the AM #25 and AM #26 if all associated quality control criteria are met.

Technical Justification for Analytical Method Deviations:

Stability studies in the original validation showed that samples in the freezer are stable for 14 days. If we have an issue with the run, we are allowed to go back to the extraction plate and do another extraction, starting from step 6. The plate must then be injected from 7 days after that point, so this is no different except that there is no re-extraction. In addition, positive and negative controls are included with each run to ensure the quality of the results. If the data for the positive and negative controls are consistent with expected results and the internal standard responses are adequate, there is no reason to doubt the validity of the results.

TS

Technical Review

Departure approved
Comments:

Departure Not Approved
Comments:

Approver: Celena Shrum
Title: Toxicology Lead

Date: 11/13/2023

Quality Review

Quality Approver: 
Title: Forensic Scientist III Assistant Quality Manager
Date: 11/13/2023