

SC

9/15/2023

TS

REVIEWED

By Anne Nord at 9:58 am, Sep 18, 2023








Worklist: 6491

<u>LAB_CASE</u>	<u>ITEM</u>	<u>ITEM_TYPE</u>	<u>DESCRIPTION</u>	
M2023-3186	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
M2023-3353	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
M2023-3354	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
M2023-3704	2	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2021-2645	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-0787	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-2252	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-2253	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-2266	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-2329	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-2330	2	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-2334	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-2335	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-2336	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-2412	1	BLOOD	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-2415	1	COBCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-2415	2	COBCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-2419	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-2451	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-2521	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-2634	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	

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<u>LAB CASE</u>	<u>ITEM</u>	<u>ITEM TYPE</u>	<u>DESCRIPTION</u>	
P2023-2644	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-2646	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-2649	4	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-2650	3	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-2659	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-2660	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
P2023-2662	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

TS &C

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Extraction Date: 09/13/2023

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:

Sarah Collins included a case sample with this run. Tamara Salazar acted as the primary analyst and performed steps 4-17. I, Sarah Collins, approve of all of the steps utilized in this method.

TS &C

Cases were initially injected with the wrong acquisition method. The acquisition method was corrected, and the samples were injected on 09/14/2023.

&C

TS

	1	2	3	4	5	6	7	8	9	10	11	12
A		M2023-3354-1	P2023-2330-2	P2023-2451-1	P2023-2660-1							
B	IS + Cal. 1	M2023-3704-2	P2023-2334-1	P2023-2521-1	P2023-2662-1							
C	IS + Control 1	P2021-2645-1	P2023-2335-1	P2023-2634-1	Urine Neg							
D		P2023-0787-1	P2023-2336-1	P2023-2644-1	M2023-3392-4							
E	Blood Neg	P2023-2252-1	P2023-2412-1	P2023-2646-1								
F	P2023-2554-2_SC	P2023-2253-1	P2023-2415-1	P2023-2649-4								
G	M2023-3186-1	P2023-2266-1	P2023-2415-2	P2023-2650-3								
H	M2023-3353-1	P2023-2329-1	P2023-2419-1	P2023-2659-1								

All wells to contain 60 µl of residual DMSO

AM #25 Multi-Drug Screen. Results

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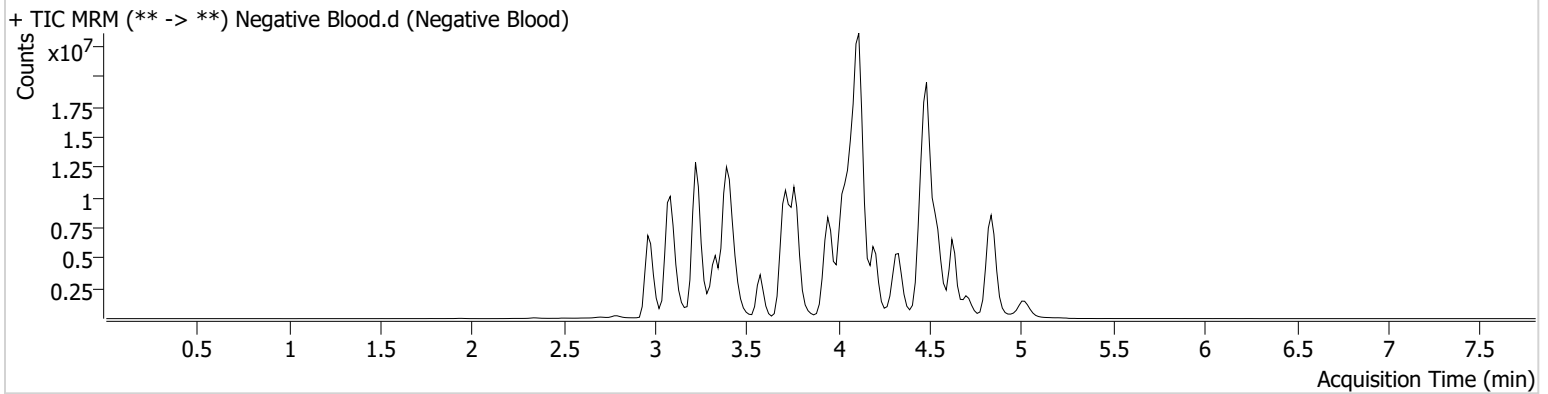
Batch results D:\MassHunter\Data\2023\AM 25 26\091323 AM 25 26 TS\QuantResults\AM 25.batch.bin
Calibration Last Update 9/14/2023 1:57:12 PM

Instrument Falco (069901)
Type Sample
Acq. Method AM 25 MDS.m
Sample Position P2-E1
Injection Volume 5
Acq. Date-Time 9/14/2023 9:06:50 AM
Sample Info.

Data File Negative Blood.d
Sample Negative Blood
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



AM #25 Multi-Drug Screen. Results

SC TS

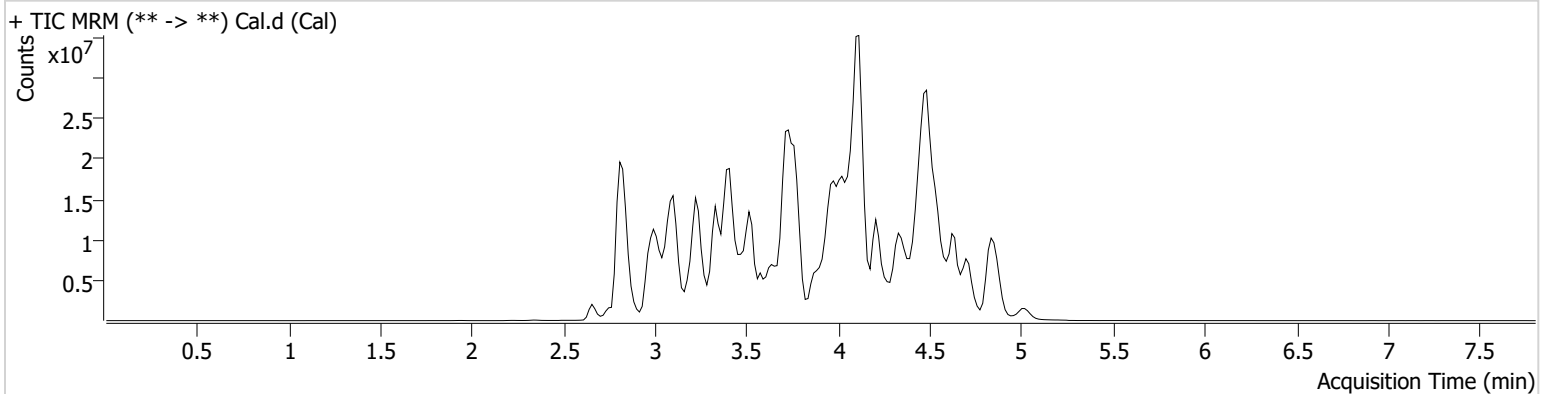


Batch results D:\MassHunter\Data\2023\AM 25 26\091323 AM 25 26 TS\QuantResults\AM 25.batch.bin
Calibration Last Update 9/14/2023 1:57:12 PM

Instrument Falco (069901) **Data File** Cal.d
Type Cal **Sample** Cal
Acq. Method AM 25 MDS.m **Operator** Tamara Salazar
Sample Position P2-B1 **Comment**
Injection Volume 5
Acq. Date-Time 9/14/2023 8:58:15 AM
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	3.765	4277225	225.77	116.4	787.27	29130852	10.0000 ng/ml
6-MAM	3.342	79688	18318.36	80.8	33.70	2801945	10.0000 ng/ml
7-aminoclonazepam	3.592	1771378	318.19	82.1	327.03	9489431	10.0000 ng/ml
7-aminoflunitrazepam	3.792	3135689	3386.66	20.8	148.84	9489431	10.0000 ng/ml
9-Hydroxyrisperidone	4.046	9505814	1735.38	2.5	173979.71	45188493	10.0000 ng/ml
Acetyl Fentanyl	4.144	432917	127.27	54.8	855.15	37792123	10.0000 ng/ml
Acetyl Norfentanyl	2.998	559890	284.19	34.8	65.52	37792123	10.0000 ng/ml
a-hydroxyalprazolam	4.498	436053	241.98	58.5	12900.39	9489431	10.0000 ng/ml
alpha-hydroxymidazolam	4.574	3256589	596.49	57.7	703.21	9489431	10.0000 ng/ml
Alpha-PHP	3.996	6181248	12619.85	36.7	1130.77	37792123	10.0000 ng/ml
alpha-PVP	3.751	8888784	8232.24	50.5	1039.81	23566027	10.0000 ng/ml
Alprazolam	4.593	3825442	519.32	88.4	513.61	16202124	10.0000 ng/ml
Amitriptyline	4.504	1022274	35.40	83.4	383.01	3912539	10.0000 ng/ml
Amphetamine	3.017	5835080	5532.66	219.1	451.84	23566027	10.0000 ng/ml
Benzoylecgonine	3.392	145186	3394.19	27.7	37.14	543803	10.0000 ng/ml
Bromazolam	4.665	801477	2548.15	147.7	198214.81	16202124	10.0000 ng/ml
Brompheniramine	4.098	138943	10585.32	927.8	578.82	53091960	10.0000 ng/ml
Buprenorphine	5.029	159249	47775.73	10.9	8057.91	6033520	10.0000 ng/ml
Bupropion	3.981	7246515	807.05	64.9	658.02	31491188	10.0000 ng/ml
Carbamazepine	4.229	15083706	∞	90.2	1932.89	639816	10.0000 ng/ml
Carisoprodol	4.212	2332025	940225.83	59.9	86.53	14787487	10.0000 ng/ml
Chlordiazepoxide	4.718	2473881	982.62	70.0	3997.73	16202124	10.0000 ng/ml
Chlorpheniramine	4.025	9390573	7899.04	0.2	11092.09	15251358	10.0000 ng/ml
Chlorpromazine	4.715	988976	216.27	122.8	71.70	4197796	10.0000 ng/ml
Citalopram	4.113	3863898	5963.23	35.2	1084.79	53091960	10.0000 ng/ml
Clomipramine	4.715	1268846	1574.70	81.7	2138.91	53091960	10.0000 ng/ml
Clonazepam	4.422	2439123	1154.73	32.6	184900.66	639816	10.0000 ng/ml
Clonazolam	4.357	2236627	1073852.16	35.6	420244.63	16202124	10.0000 ng/ml
Clozapine	4.544	5175521	511.23	74.1	1093.04	23820083	10.0000 ng/ml
Cocaethylene	3.897	8034571	2626168.83	44.1	2110562.15	41899479	10.0000 ng/ml

AM #25 Multi-Drug Screen. Results

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Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
Cocaine	3.729	8391488	28694.85	18.3	1160.19	41899479	10.0000 ng/ml
Codeine	3.329	515860	207155.78	92.6	295311.62	15165515	10.0000 ng/ml
Cyclobenzaprine	4.412	2229063	269.87	6.8	41.37	3912539	10.0000 ng/ml
Desipramine	4.413	3379363	45700.29	39.3	322.60	3912539	10.0000 ng/ml
Dextromethorphan	4.150	2745547	929.89	82.8	261.95	15251358	10.0000 ng/ml
Dextrorphan	3.471	4201160	482.88	50.2	2253115.90	15251358	10.0000 ng/ml
Diazepam	4.826	1557020	1068.71	94.3	521.86	16202124	10.0000 ng/ml
Dihydrocodeine	2.747	124858	39.72	51.7	495.85	15165515	10.0000 ng/ml
Diphenhydramine	4.104	16129752	27440.42	27.6	1151.17	53091960	10.0000 ng/ml
DMT	3.122	662531	1098.07	124.0	1360.58	15251358	10.0000 ng/ml
Doxepin	4.241	2208292	426.41	44.3	199.19	32160026	10.0000 ng/ml
Doxylamine	3.716	14744961	73233.72	86.8	13530.39	15251358	10.0000 ng/ml
Duloxetine	4.363	42796	27756.03	855.7	8268.65	444865	10.0000 ng/ml
EDDP	4.118	1000794	585.82	51.3	378.14	4940609	10.0000 ng/ml
Etazolam	4.517	7629194	956.15	51.6	196038.61	16202124	10.0000 ng/ml
Etizolam	4.619	264548	67764.79	401.4	590716.47	16202124	10.0000 ng/ml
Fentanyl	4.328	297795	30.43	63.7	74577.25	20120318	10.0000 ng/ml
Flualprazolam	4.467	1212122	1071855.62	119.6	440766.92	16202124	10.0000 ng/ml
Flunitrazepam	4.546	3666886	961.02	39.5	493.29	16202124	10.0000 ng/ml
Fluorofentanyl	4.372	359933	1070.39	99.3	94.26	20120318	10.0000 ng/ml
Fluoxetine	4.362	1299980	621.68	7.8	27.03	1657950	10.0000 ng/ml
Flurazepam	4.387	4530530	1262457.65	21.8	500396.80	16202124	10.0000 ng/ml
Hydrocodone	3.453	2645793	949.12	34.4	148.43	15165515	10.0000 ng/ml
Hydromorphone	3.024	1440739	801.12	87.7	170891.36	529857	10.0000 ng/ml
Hydroxyzine	4.633	2765832	7097.16	82.5	659.74	23820083	10.0000 ng/ml
Imipramine	4.457	3984862	107644.44	67.6	457.32	3912539	10.0000 ng/ml
Ketamine	3.951	5134597	1313353.67	36.8	181.77	19367369	10.0000 ng/ml
Lamotrigine	3.656	476502	3629.56	77.6	87698.38	53091960	10.0000 ng/ml
Levamisole	3.430	4942553	31557.50	82.7	710.49	41899479	10.0000 ng/ml
Levetiracetam	2.664	2187994	589.17	160.5	470.07	53091960	10.0000 ng/ml
Lorazepam	4.422	696124	595.32	277.3	304.07	16202124	10.0000 ng/ml
Maprotiline	4.427	232863	∞	96.0	126.49	3912539	10.0000 ng/ml
MDA	3.107	4194460	523.45	39.7	258.42	37781823	10.0000 ng/ml
MDEA	3.321	6761438	2352.49	50.1	1471.19	37781823	10.0000 ng/ml
MDMA	3.198	8144105	5685356.66	49.1	220.72	37781823	10.0000 ng/ml
Meperidine	3.750	4030736	196.68	57.4	222.51	15251358	10.0000 ng/ml
Meprobamate	3.675	1729732	1152325.95	23.5	185.91	14787487	10.0000 ng/ml
Methadone	4.439	8994508	654.83	42.9	556.14	4940609	10.0000 ng/ml
Methamphetamine	3.124	8587603	469.68	40.0	408.24	37781823	10.0000 ng/ml
Methocarbamol	3.580	542204	96888.07	92.3	442.86	4940609	10.0000 ng/ml
Methylphenidate	3.627	14370816	2410.12	25.0	19250.38	25030522	10.0000 ng/ml
Metoprolol	3.501	1039935	4202.42	108.3	532146.34	15251358	10.0000 ng/ml
Midazolam	4.759	910148	475.40	89.1	291401.96	16202124	10.0000 ng/ml
Mirtazapine	4.367	4291705	19408.03	228.8	243083.45	15251358	10.0000 ng/ml
Mitragynine	4.371	616794	244335.60	237.0	555628.85	15251358	10.0000 ng/ml
Morphine	2.857	344736	242.02	94.8	3809.27	529857	10.0000 ng/ml
Norbuprenorphine	3.893	116054	53869.73	93.3	66657.18	6033520	10.0000 ng/ml
Nordiazepam	4.689	1424445	405.88	58.9	473.02	16202124	10.0000 ng/ml
Norfentanyl	3.412	9980975	31254.94	35.3	2378.71	37792123	10.0000 ng/ml
Norhydrocodone	3.070	360674	97.68	56.8	161.25	529857	10.0000 ng/ml
Norketamine	4.013	1014703	678.61	503.7	17569.98	19367369	10.0000 ng/ml
Norperidine	3.658	5229842	669.05	66.5	599.40	53091960	10.0000 ng/ml
Noroxycodone	2.992	2479140	∞	31.1	118.24	19367369	10.0000 ng/ml
Nortriptyline	4.444	799052	68144.07	64.8	112.99	3912539	10.0000 ng/ml
O-desmethyl-tramadol	3.041	9491511	124520.31	5.7	121.52	53091960	10.0000 ng/ml
O-desmethylvenlafaxine	3.347	2515233	944.57	597.8	10344.59	14150183	10.0000 ng/ml
Olanzapine	4.037	1300503	1446405.80	54.6	249157.98	639816	10.0000 ng/ml
Oxazepam	4.502	2612158	389.02	78.1	137.94	18939196	10.0000 ng/ml
Oxycodone	3.267	4468081	956.23	27.5	1022.49	19367369	10.0000 ng/ml

AM #25 Multi-Drug Screen. Results

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Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
Oxymorphone	2.747	3681495	343.95	23.8	1521955.78	529857	10.0000 ng/ml
Paroxetine	4.374	275388	123.26	44.6	11252.66	1657950	10.0000 ng/ml
Phenazepam	4.619	2555819	468863.91	70.0	1897316.64	16202124	10.0000 ng/ml
Phencyclidine	3.981	9046985	968.27	68.2	15010.28	15251358	10.0000 ng/ml
Phentermine	3.247	1964602	213.50	7.1	29.43	25030522	10.0000 ng/ml
Phenytoin	4.120	1369619	6799.07	75.0	394.67	639816	10.0000 ng/ml
Primidone	3.475	3837689	94601.39	84.6	880.46	639816	10.0000 ng/ml
Promethazine	4.457	4365831	9409.35	33.6	1139.64	53091960	10.0000 ng/ml
Pseudoephedrine	2.832	59565416	627.89	36.8	877.46	37781823	10.0000 ng/ml
Quetiapine	4.694	5721010	716.99	60.0	48188.09	44330686	10.0000 ng/ml
Risperidone	4.263	10371173	6505.49	9.3	261.88	45188493	10.0000 ng/ml
Sertraline	4.609	289089	95296.92	111.9	82.17	1657950	10.0000 ng/ml
Sufentanil	4.724	215805	75948.17	73.0	76497.66	37792123	10.0000 ng/ml
Tapentadol	3.521	7248193	949.07	33.8	3549.52	19367369	10.0000 ng/ml
Temazepam	4.640	2776077	583.77	30.6	69.59	16202124	10.0000 ng/ml
Topiramate	3.849	171699	154049.21	36.7	40351.92	655322	10.0000 ng/ml
Tramadol	3.532	22423600	71.02	1.6	165.39	53091960	10.0000 ng/ml
Trazodone	4.863	7563628	1243362.62	71.7	4466651.18	32160026	10.0000 ng/ml
Venlafaxine	3.870	9836173	152115.86	27.1	195.63	14150183	10.0000 ng/ml
Xylazine	3.521	3333039	1102479.47	48.4	183.85	19367369	10.0000 ng/ml
Zaleplon	4.332	3976395	1567229.13	73.7	5017.66	44330686	10.0000 ng/ml
Zolpidem	4.485	12916165	5846522.86	27.5	2845.99	44330686	10.0000 ng/ml
Zopiclone	4.432	989254	427134.80	56.7	213490.23	5024231	10.0000 ng/ml

AM #25 Multi-Drug Screen. Results

SC TS



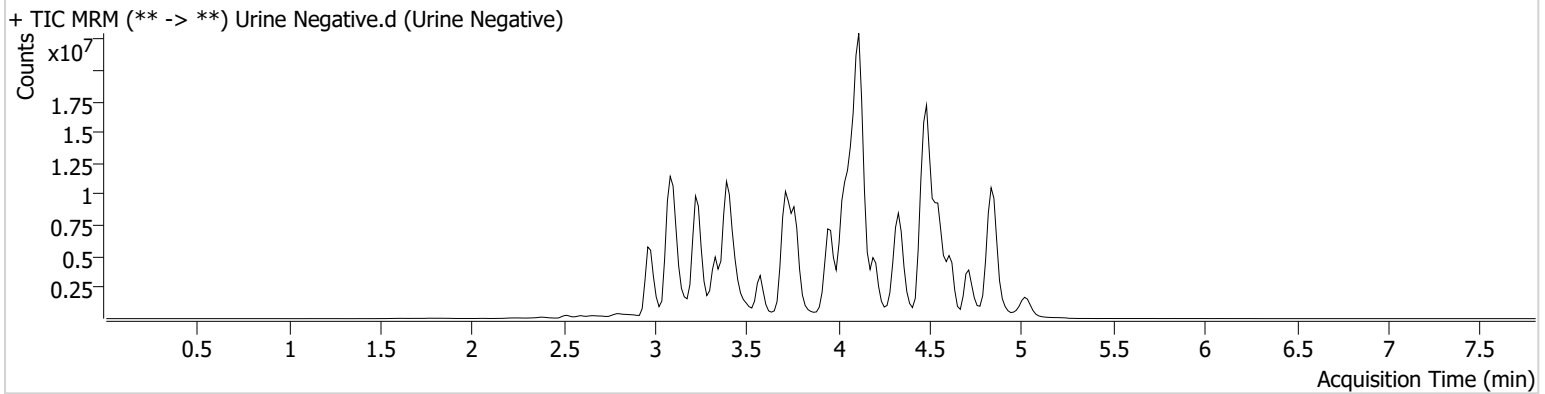
Batch results D:\MassHunter\Data\2023\AM 25 26\091323 AM 25 26 TS\QuantResults\AM 25.batch.bin
Calibration Last Update 9/14/2023 1:57:12 PM

Instrument Falco (069901)
Type Sample
Acq. Method AM 25 MDS.m
Sample Position P2-C5
Injection Volume 5
Acq. Date-Time 9/14/2023 1:19:15 PM
Sample Info.

Data File Urine Negative.d
Sample 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



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
Methamphetamine	3.124	2662869	221.89	39.0	153.39	34955724	3.3515 ng/ml

AM #25 Multi-Drug Screen. Results

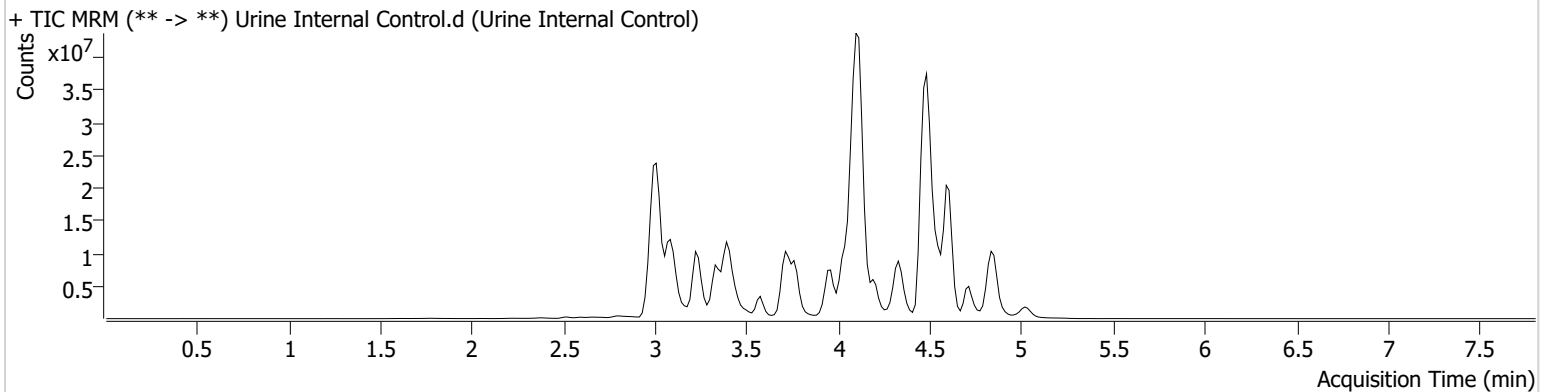
SC TS



Batch results D:\MassHunter\Data\2023\AM 25 26\091323 AM 25 26 TS\QuantResults\AM 25.batch.bin
Calibration Last Update 9/14/2023 1:57:12 PM

Instrument	Falco (069901)	Data File	Urine Internal Control.d
Type	Sample	Sample	Urine Internal Control
Acq. Method	AM 25 MDS.m	Operator	Tamara Salazar
Sample Position	P2-C1	Comment	<p style="color: red;">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.</p>
Injection Volume	5		
Acq. Date-Time	9/14/2023 1:27:38 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
Alprazolam	4.593	25626061	933.98	93.0	901.08	5489553	197.7130 ng/ml
Amphetamine	3.017	37071358	4484.78	133.1 Low	2845.58	16820109	89.0121 ng/ml
Codeine	3.345	4259697	15781.66	98.4	1337.09	11163347	112.1784 ng/ml
Diphenhydramine	4.104	65000517	67376.79	60.5 High	22718.04	50821982	42.0985 ng/ml
Hydrocodone	3.345 Low	2284719	1884139.64	95.9 High	425.56	11163347	11.7311 ng/ml *
Zolpidem	4.485	59599792	4648.29	56.1 High	5204.26	41328921	49.4950 ng/ml

*Hydrocodone negative due to retention time being outside the acceptable window.

SC TS

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

Extraction Date: 09/13/2023

Plate lot#: 230113

Mobile phase A: 10mM Amm Form in LCMS Water

Blank Blood Lot: Lampire 23E52981

LCMS-QQQ ID: 069901

Analyst: Tamara Salazar

Plate Retest Date: 07/23/2023-**external control included**

Mobile phase B: 0.1% Formic acid in MeOH

Blank Urine Lot:

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 250µl 1N KOH. Shake and incubate at 40 degrees for 15 minutes.**
- 3. Using a calibrated pipette, pipette 1000µL blood or 1000µL 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 **500µL of 0.1% formic acid in water to blood samples,** and **500µL 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 **700-800µL of blood+acid or urine+acid** mixture to corresponding wells of SLE+ plate. Amount transferred: 750 µL
- 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 **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, 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:

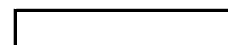
Analytical Plate Map

&C

TS

	1	2	3	4	5	6
A	IS + Cal. 1		P2023-0787-1	P2023-2336-1	P2023-2644-1	IS + QC_1
B	IS + Cal. 2	Neg Blood	P2023-2252-1	P2023-2412-1	P2023-2646-1	IS + Cal. 7
C	IS + Cal. 3	Blood Ext.	P2023-2253-1	P2023-2415-1	P2023-2649-4	IS + Cal. 6
D	IS + Cal. 4	M2023-3186-1	P2023-2266-1	P2023-2415-2	P2023-2650-3	IS + Cal. 5
E	IS + Cal. 5	M2023-3353-1	P2023-2329-1	P2023-2419-1	P2023-2659-1	IS + Cal. 4
F	IS + Cal. 6	M2023-3354-1	P2023-2330-2	P2023-2451-1	P2023-2660-1	IS + Cal. 3
G	IS + Cal. 7	M2023-3704-2	P2023-2334-1	P2023-2521-1	P2023-2662-1	IS + Cal. 2
H	IS + QC_1	P2021-2645-1	P2023-2335-1	P2023-2634-1	IS + QC_1	IS + Cal. 1

All wells to contain 100 µl of residual DMSO



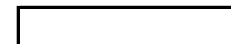
SLE/Catcher Plate Plate Map

&C

TS

	1	2	3	4	5	6
A	IS + Cal. 1		P2023-0787-1	P2023-2336-1*	P2023-2644-1	P2023-2266-1
B	IS + Cal. 2	Neg Blood	P2023-2252-1	P2023-2412-1	P2023-2646-1	P2023-2336-1
C	IS + Cal. 3	Blood Ext.	P2023-2253-1	P2023-2415-1	P2023-2649-4	P2023-2650-3
D	IS + Cal. 4	M2023-3186-1*	P2023-2266-1*	P2023-2415-2	P2023-2650-3*	
E	IS + Cal. 5	M2023-3353-1	P2023-2329-1	P2023-2419-1	P2023-2659-1	
F	IS + Cal. 6	M2023-3354-1	P2023-2330-2	P2023-2451-1	P2023-2660-1	
G	IS + Cal. 7	M2023-3704-2	P2023-2334-1	P2023-2521-1	P2023-2662-1	
H	IS + QC_1	P2021-2645-1	P2023-2335-1	P2023-2634-1	M2023-3186-1	

*Moved during step 7 of the analysis due to a clot



AM #26 Cannabinoids Screen Results

SC TS



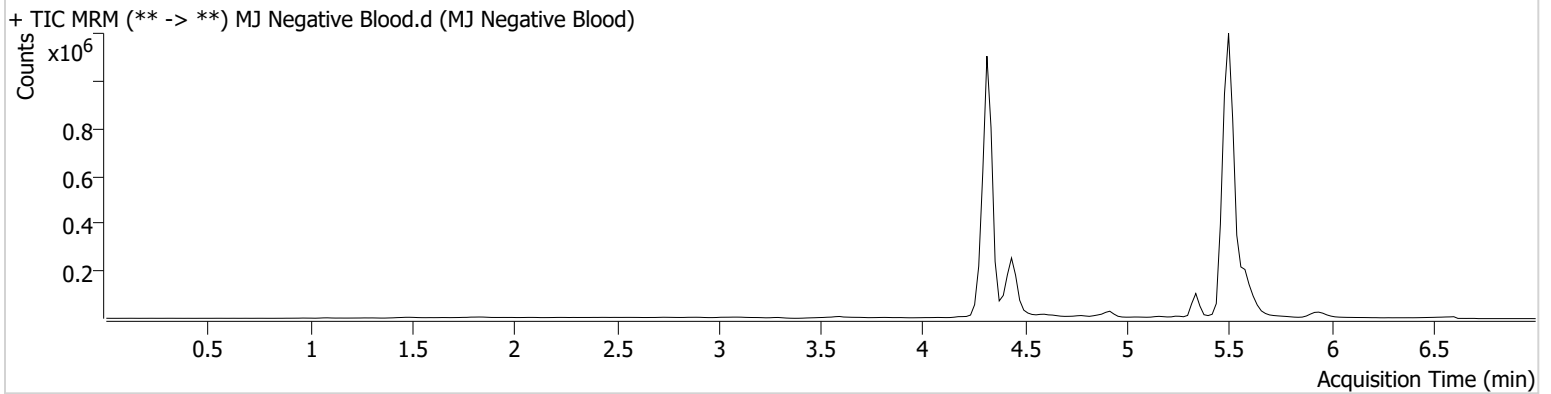
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Instrument Falco (069901)
Type Sample
Acq. Method AM 26 THC.m
Sample Position P1-B2
Injection Volume 10
Acq. Date-Time 9/13/2023 1:29:56 PM
Sample Info.

Data File MJ Negative Blood.d
Sample MJ Negative Blood
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



AM #26 Cannabinoids Screen Results

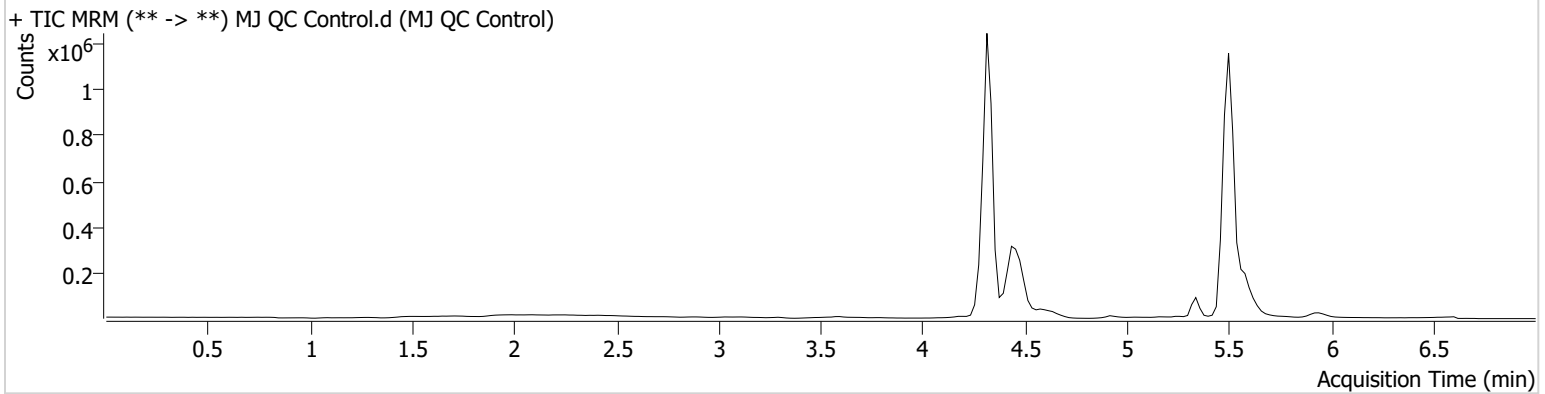
SC TS



Batch results D:\MassHunter\Data\2023\AM 25 26\091323 AM 25 26 TS\QuantResults\AM 26.batch.bin
Calibration Last Update 9/13/2023 4:46:20 PM

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	9/13/2023 1:14:45 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.489	10337	15.61	123.3	17.98	265819	4.8699 ng/ml
THC-COOH	4.476	247131	∞	170.0	∞	953308	15.5008 ng/ml
THC-OH	4.342	37113	∞	767.6	37.54	3960459	4.6199 ng/ml

SC TS



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: WS091323)

10 µL of 1mg/mL THC in 9990 µL MeOH

Approximate concentration 1ug/mL.

<i>Component</i>	<i>Source</i>	<i>Source Lot Number</i>	<i>Expiration Date</i>
Methanol (LCMS)	Fisher	217005	-
THC	Cerilliant	FE05252135	02/28/2027
Prepared:	09/13/2023		
Expires:	09/13/2024		
Prepared By:	Tamara Salazar		

Blood External Control Solution (Lot: 091323)

500 ul of methanol external control solution was added to 9500 ul of blood.

Approximately 50ng/mL each

<i>Component</i>	<i>Source</i>	<i>Source Lot Number</i>
Negative Blood	Lampire	23E52981
Methanol External Control Solution	-	WS101322
Prepared:	09/13/2023	
Expires:	09/13/2024	
Prepared by:	Tamara Salazar	

AM #26 Cannabinoids Screen Results

SC TS



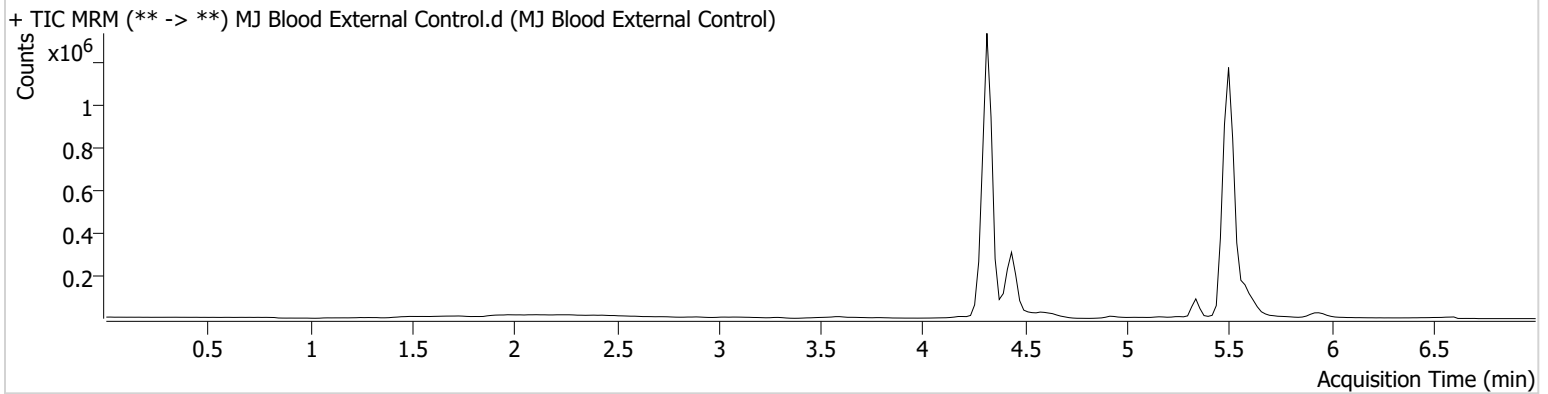
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Calibration Last Update 9/13/2023 4:46:20 PM

Instrument Falco (069901)
Type Sample
Acq. Method AM 26 THC.m
Sample Position P1-C2
Injection Volume 10
Acq. Date-Time 9/13/2023 1:37:30 PM
Sample Info.

Data File MJ Blood External Control.d
Sample MJ Blood External Control
Operator Tamara Salazar
Comment

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Sample Chromatogram



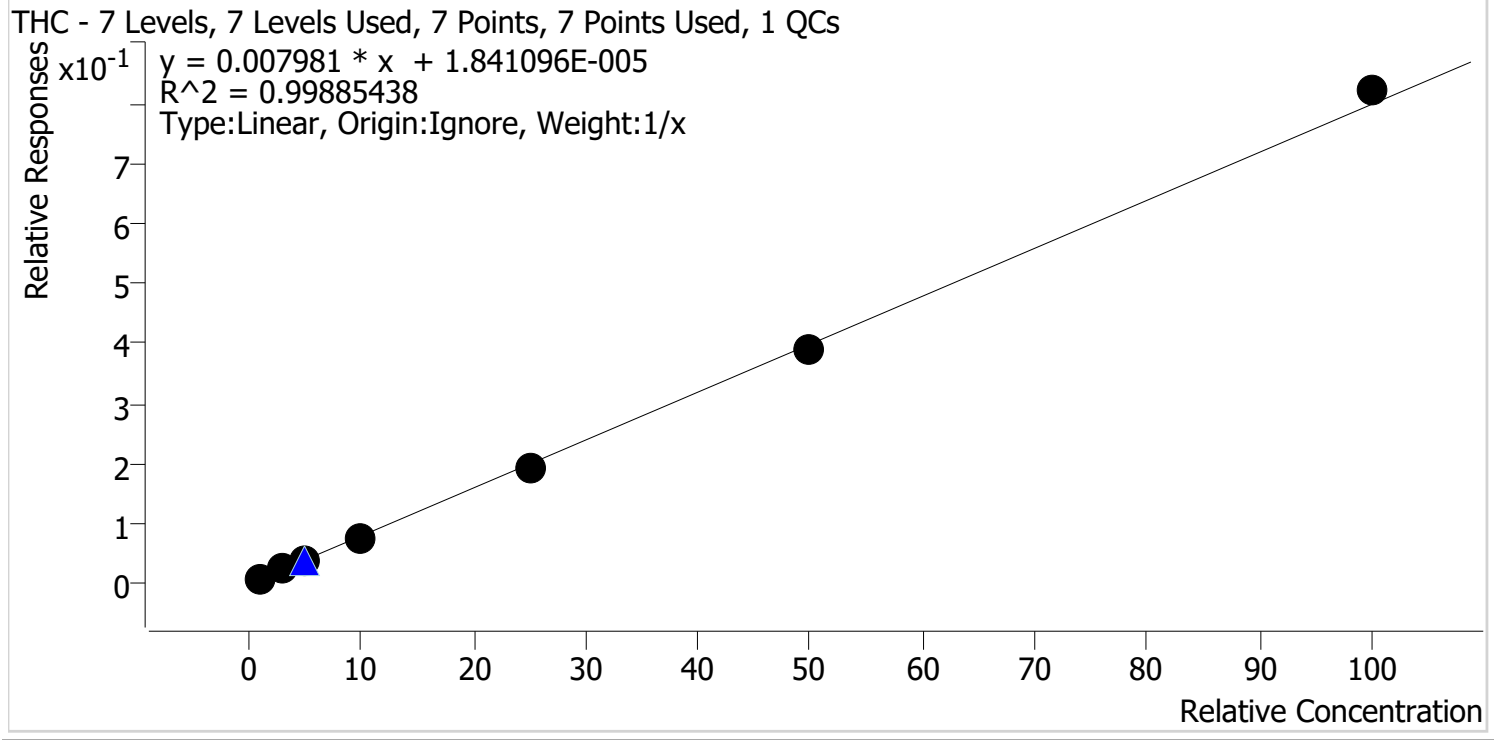
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.489	127194	2680.09	35.0 Low	∞	293419	54.3114 ng/ml

SC TS



AM #26 Cannabinoids Screen Calibration Curve Report

Batch results D:\MassHunter\Data\2023\AM 25 26\091323 AM 25 26 TS\QuantResults\AM 26.batch.bin
 Last Cal. Update 9/13/2023 4:46 PM
 Analyst Name ISP\Datastor
 Analyte THC Internal Standard THC-D3



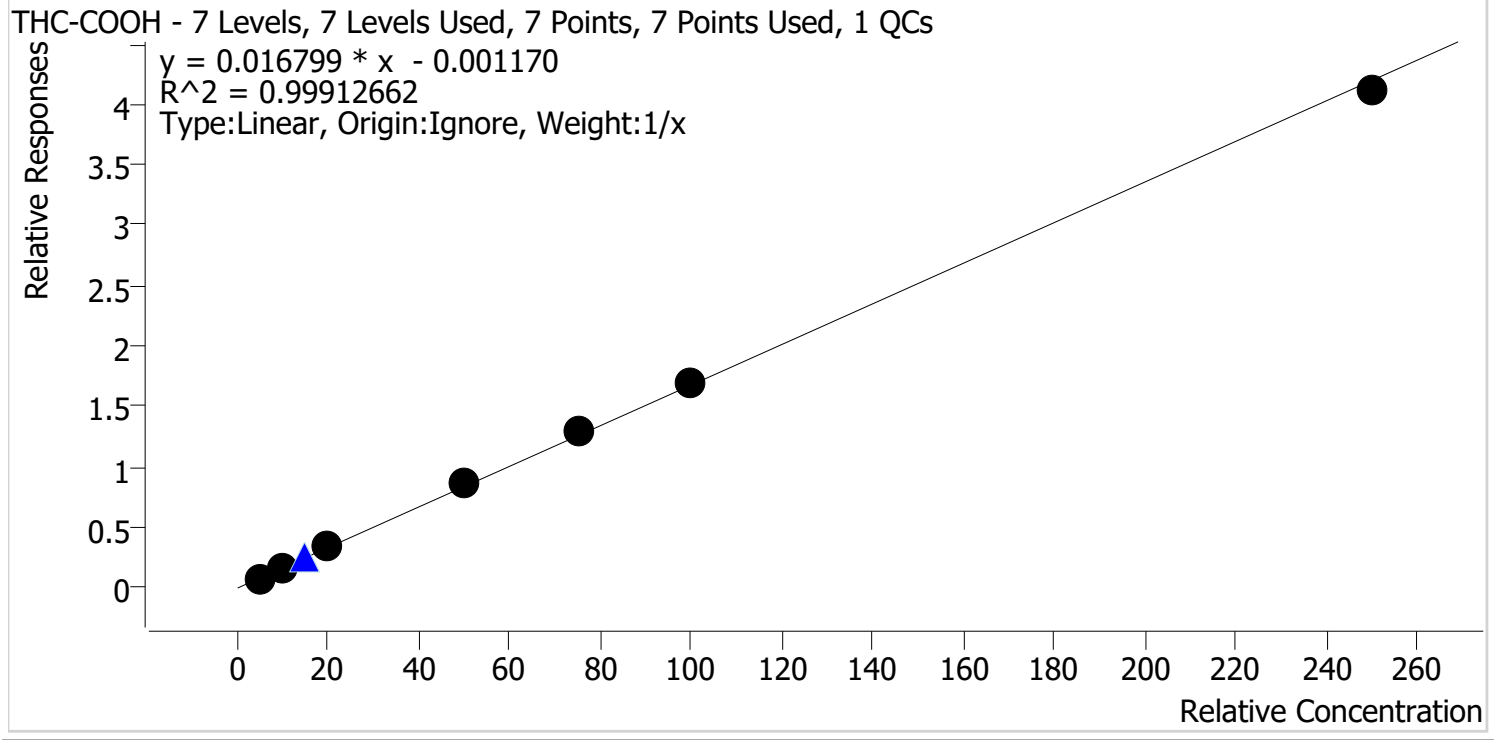
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ Cal 1	1	✓	1.0	1.1	108.9
MJ Cal 2	2	✓	3.0	3.0	99.3
MJ Cal 3	3	✓	5.0	5.0	100.1
MJ Cal 4	4	✓	10.0	9.6	95.8
MJ Cal 5	5	✓	25.0	24.0	96.0
MJ Cal 6	6	✓	50.0	48.5	97.0
MJ Cal 7	7	✓	100.0	102.8	102.8

SC TS



AM #26 Cannabinoids Screen Calibration Curve Report

Batch results D:\MassHunter\Data\2023\AM 25 26\091323 AM 25 26 TS\QuantResults\AM 26.batch.bin
Last Cal. Update 9/13/2023 4:46 PM
Analyst Name ISP\Datastor
Analyte THC-COOH **Internal Standard** THC-COOH-D9



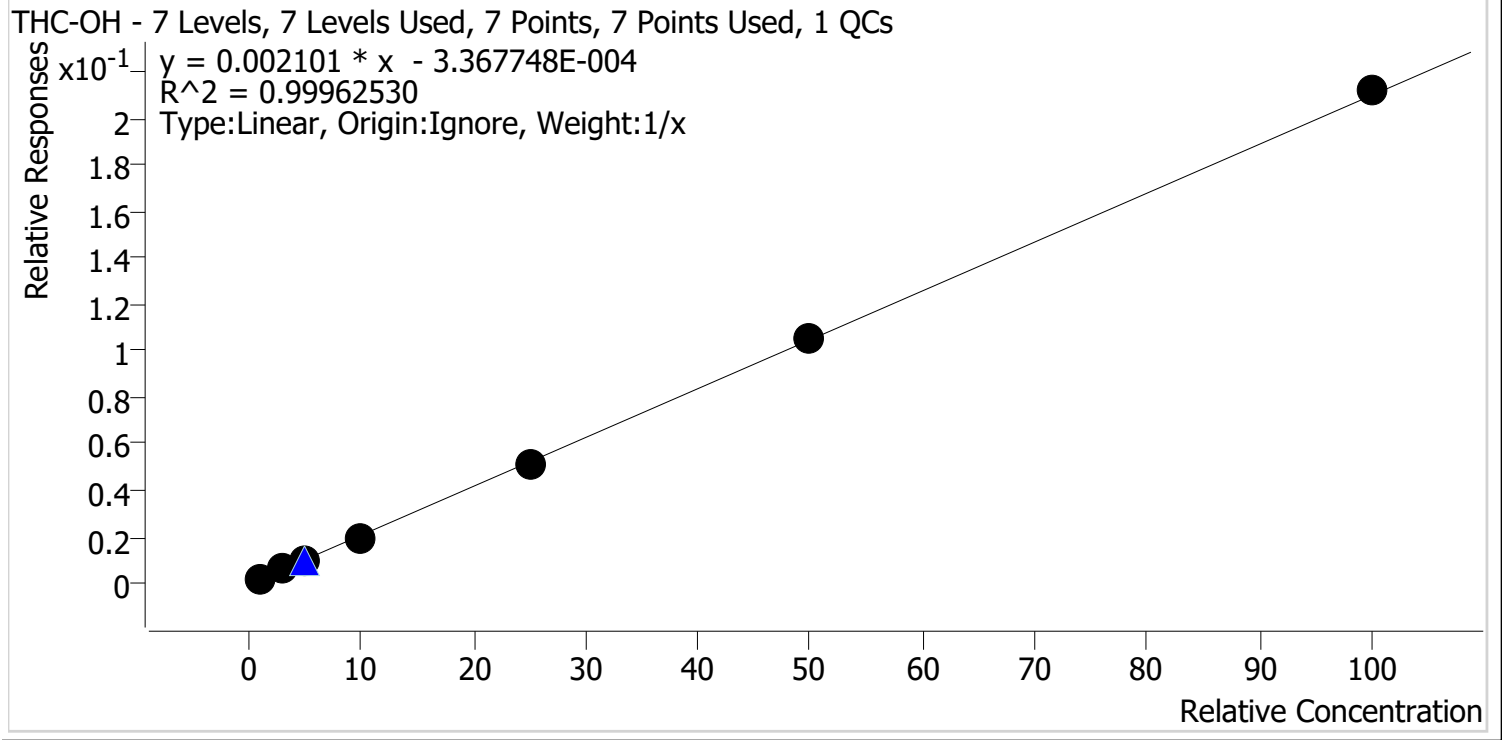
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ Cal 1	1	✓	5.0	4.7	93.2
MJ Cal 2	2	✓	10.0	9.6	95.8
MJ Cal 3	3	✓	20.0	21.2	106.0
MJ Cal 4	4	✓	50.0	51.8	103.6
MJ Cal 5	5	✓	75.0	76.9	102.6
MJ Cal 6	6	✓	100.0	100.9	100.9
MJ Cal 7	7	✓	250.0	244.9	98.0

SC TS



AM #26 Cannabinoids Screen Calibration Curve Report

Batch results D:\MassHunter\Data\2023\AM 25 26\091323 AM 25 26 TS\QuantResults\AM 26.batch.bin
Last Cal. Update 9/13/2023 4:46 PM
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	110.9
MJ Cal 2	2	✓	3.0	3.0	98.6
MJ Cal 3	3	✓	5.0	4.7	94.9
MJ Cal 4	4	✓	10.0	9.7	96.9
MJ Cal 5	5	✓	25.0	24.3	97.4
MJ Cal 6	6	✓	50.0	50.2	100.4
MJ Cal 7	7	✓	100.0	100.9	100.9

AM #26 Cannabinoids Screen Results

SC TS



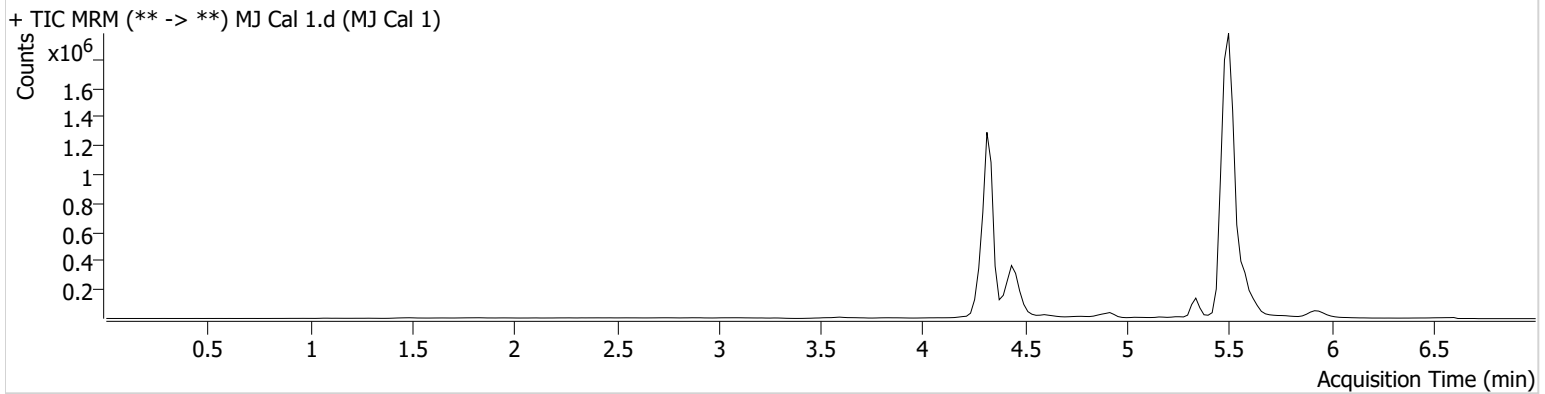
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Instrument Falco (069901)
Type Cal
Acq. Method AM 26 THC.m
Sample Position P1-A1
Injection Volume 10
Acq. Date-Time 9/13/2023 12:21:37 PM
Sample Info.

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

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Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.530	5106	9.61 Low	412.7 High	125.05	586145	1.0892 ng/ml
THC-COOH	4.476	100142	∞	159.2	∞	1298808	4.6592 ng/ml
THC-OH	4.342	9538	153.55	722.7	∞	4785252	1.1088 ng/ml

AM #26 Cannabinoids Screen Results

SC TS



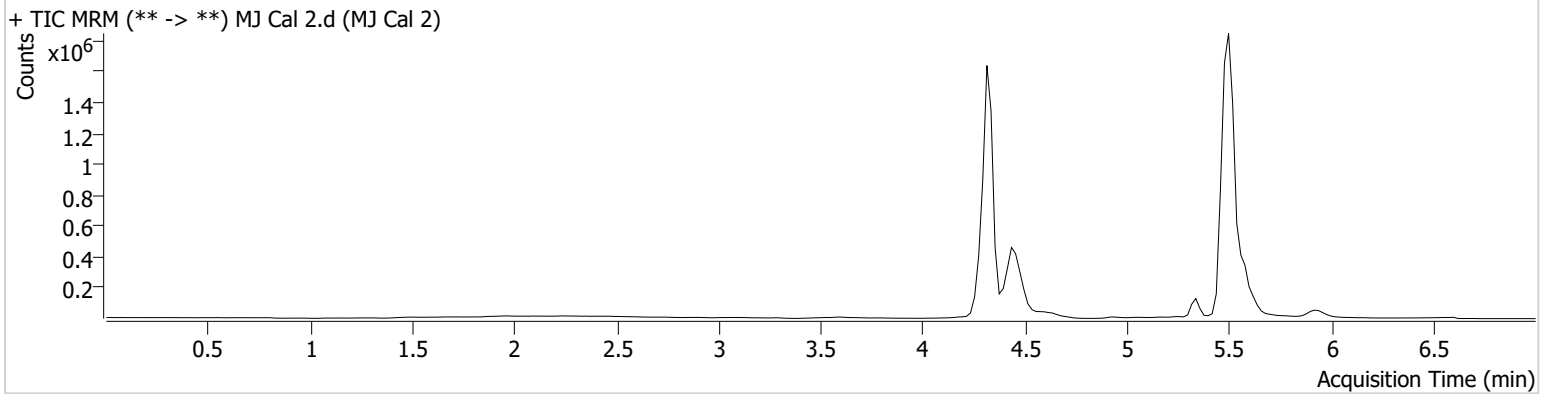
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Instrument Falco (069901)
Type Cal
Acq. Method AM 26 THC.m
Sample Position P1-B1
Injection Volume 10
Acq. Date-Time 9/13/2023 12:29:22 PM
Sample Info.

Data File MJ Cal 2.d
Sample MJ Cal 2
Operator Tamara Salazar
Comment

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Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.530	11999	30.64	211.2 High	∞	504368	2.9785 ng/ml
THC-COOH	4.476	246996	830.84	160.5	∞	1546431	9.5771 ng/ml
THC-OH	4.342	33878	38.33	762.8	∞	5763251	2.9577 ng/ml

AM #26 Cannabinoids Screen Results

SC TS



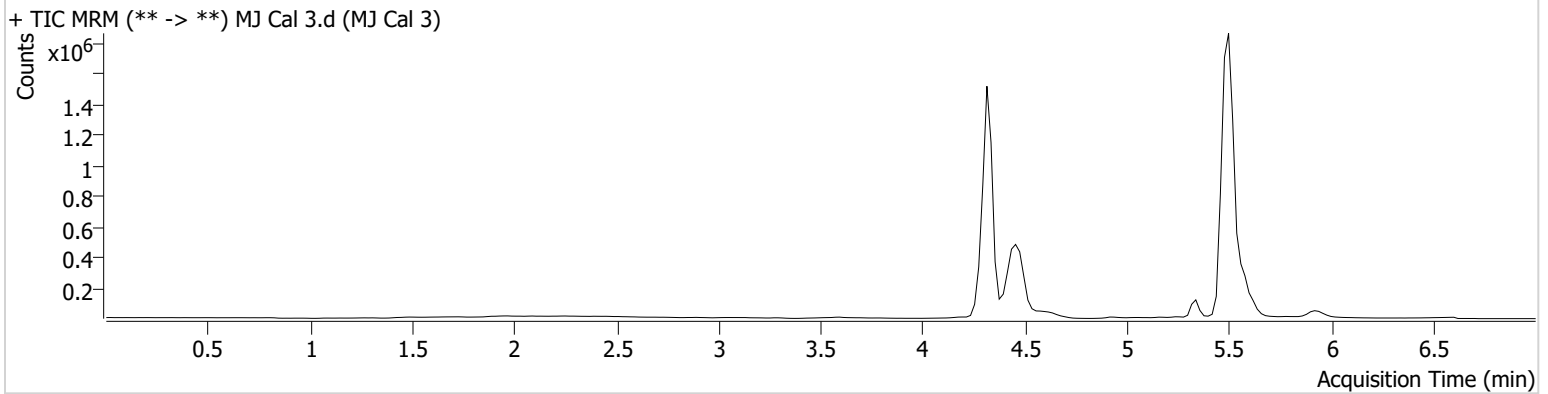
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Instrument Falco (069901)
Type Cal
Acq. Method AM 26 THC.m
Sample Position P1-C1
Injection Volume 10
Acq. Date-Time 9/13/2023 12:36:55 PM
Sample Info.

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

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Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.530	19228	158.07	121.7	∞	481168	5.0045 ng/ml
THC-COOH	4.476	477767	∞	165.3	∞	1345735	21.2026 ng/ml
THC-OH	4.322	48303	∞	764.7	∞	5014146	4.7448 ng/ml

AM #26 Cannabinoids Screen Results

SC TS



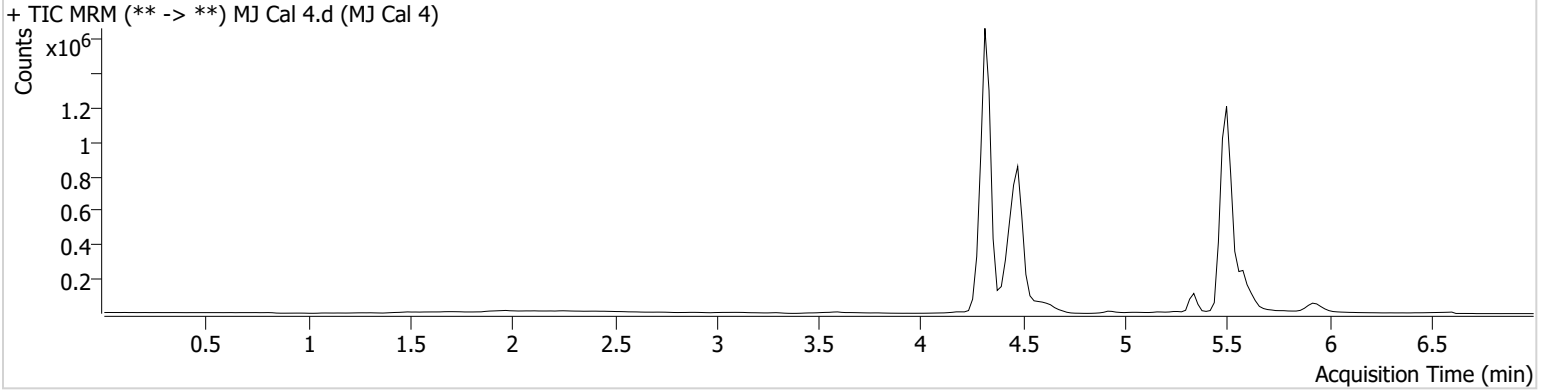
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Calibration Last Update 9/13/2023 4:46:20 PM

Instrument Falco (069901)
Type Cal
Acq. Method AM 26 THC.m
Sample Position P1-D1
Injection Volume 10
Acq. Date-Time 9/13/2023 12:44:29 PM
Sample Info.

Data File MJ Cal 4.d
Sample MJ Cal 4
Operator Tamara Salazar
Comment

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Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.509	23464	101.19	72.9 Low	∞	306693	9.5835 ng/ml
THC-COOH	4.476	1089949	∞	161.6	∞	1254559	51.7850 ng/ml
THC-OH	4.322	101392	∞	755.3	∞	5065244	9.6863 ng/ml

AM #26 Cannabinoids Screen Results

SC TS



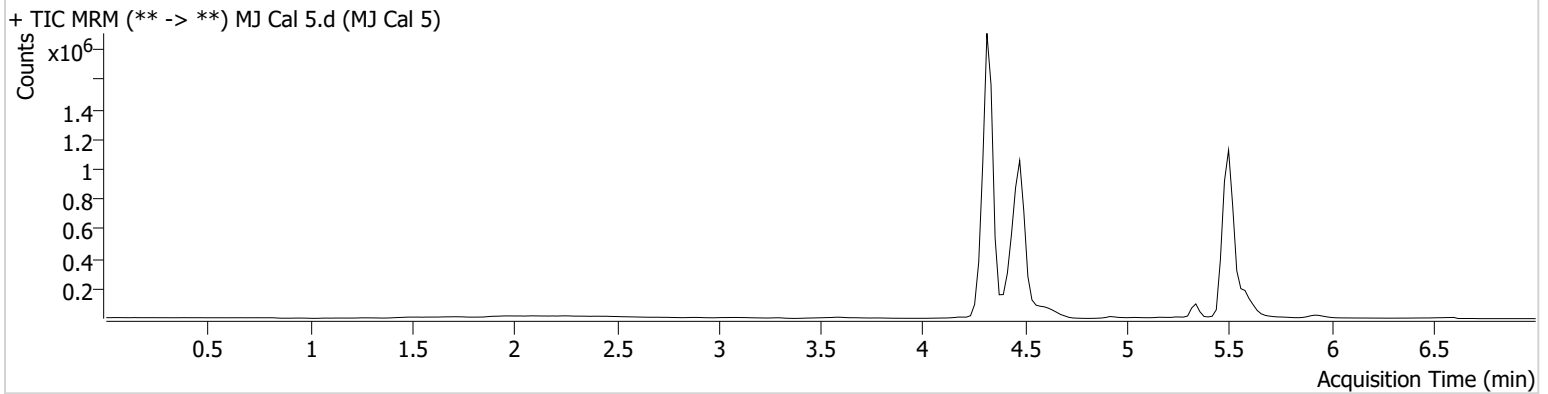
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Instrument Falco (069901)
Type Cal
Acq. Method AM 26 THC.m
Sample Position P1-E1
Injection Volume 10
Acq. Date-Time 9/13/2023 12:52:03 PM
Sample Info.

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

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Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.530	53506	116.10	44.8 Low	36.45	279212	24.0080 ng/ml
THC-COOH	4.476	1440632	∞	161.9	∞	1115581	76.9395 ng/ml
THC-OH	4.342	245276	4059.41	749.2	∞	4825516	24.3496 ng/ml

AM #26 Cannabinoids Screen Results

SC TS



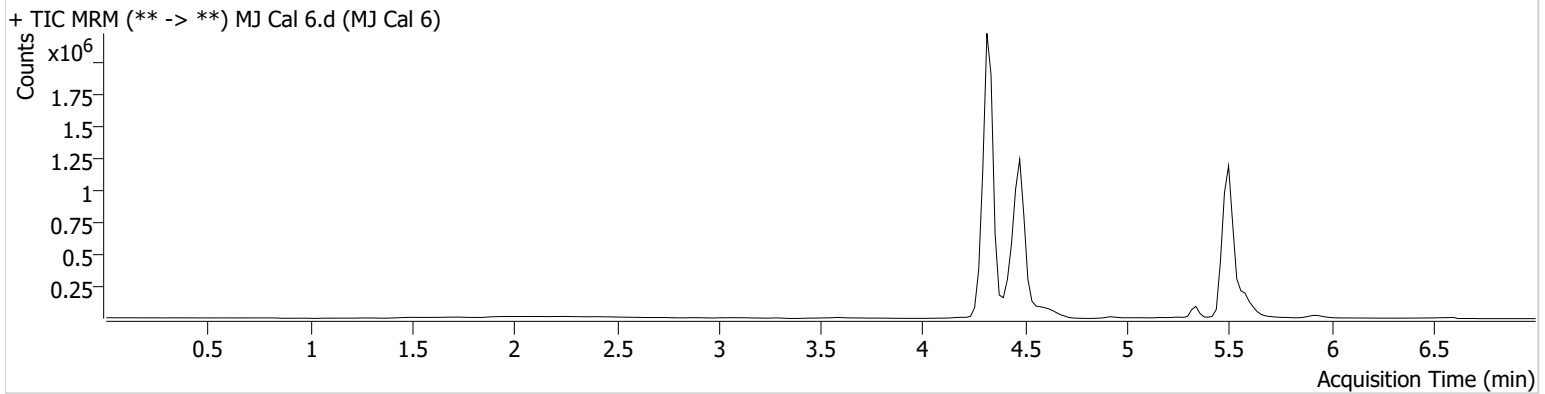
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Instrument Falco (069901)
Type Cal
Acq. Method AM 26 THC.m
Sample Position P1-F1
Injection Volume 10
Acq. Date-Time 9/13/2023 12:59:37 PM
Sample Info.

Data File MJ Cal 6.d
Sample MJ Cal 6
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	5.509	101567	560.93	36.3 Low	∞	262338	48.5065 ng/ml
THC-COOH	4.476	1693156	∞	161.0	∞	999551	100.9010 ng/ml
THC-OH	4.322	448377	4265.69	740.9	∞	4262878	50.2160 ng/ml

AM #26 Cannabinoids Screen Results

SC TS



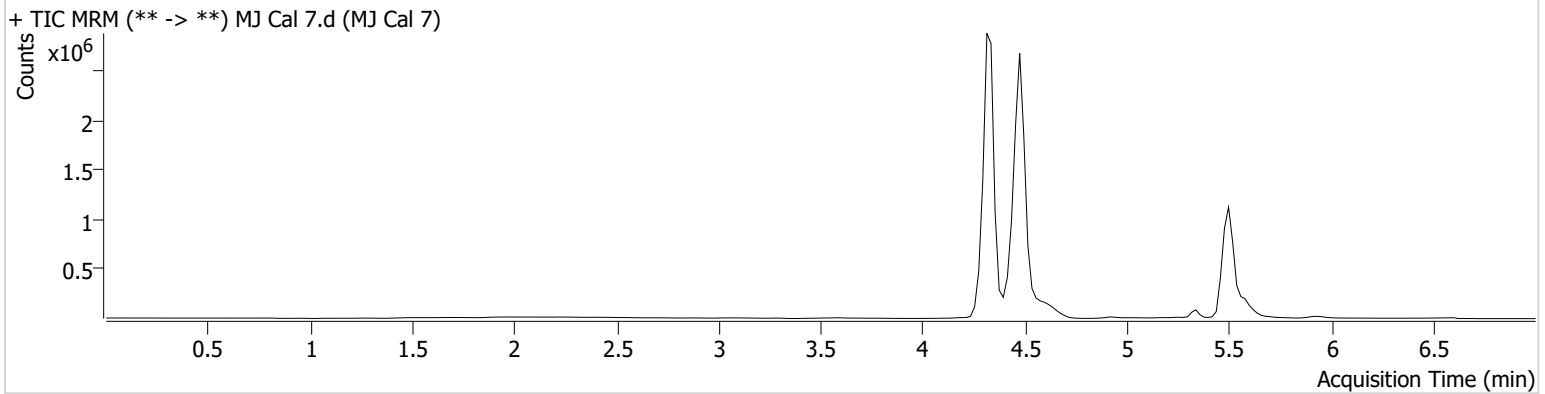
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Calibration Last Update 9/13/2023 4:46:20 PM

Instrument Falco (069901)
Type Cal
Acq. Method AM 26 THC.m
Sample Position P1-G1
Injection Volume 10
Acq. Date-Time 9/13/2023 1:07:11 PM
Sample Info.

Data File MJ Cal 7.d
Sample MJ Cal 7
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	5.509	202516	∞	31.1 Low	215.49	246753	102.8298 ng/ml
THC-COOH	4.476	3940914	∞	159.2	∞	958015	244.9356 ng/ml
THC-OH	4.342	828207	∞	739.2	∞	3911043	100.9368 ng/ml