

REVIEWED

By Tamara Salazar at 3:54 pm, Aug 17, 2023

**Worklist: 6447**

<u>LAB_CASE</u>	<u>ITEM</u>	<u>ITEM_TYPE</u>	<u>DESCRIPTION</u>	
C2023-1429	2	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
C2023-1444	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2023-1449	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2023-1496	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
C2023-1530	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2023-1532	1	COBCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2023-1534	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2023-1546	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
C2023-1600	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2023-1613	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2023-1616	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2023-1657	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2023-1666	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2023-1687	1	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
C2023-1707	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
C2023-1726	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ	
M2023-2977	2	UCK	AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ	
M2023-2977	3	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: 07/26/23 Analyst: Anne Nord
Plate lot#: 230119 Plate retest date: 07/19/2023

Mobile phase A: 10mM Ammonium Formate
0.5M Ammonium Hydroxide
Mobile phase B: 0.1% Formic Acid in MeOH
Ethyl Acetate LC 20% Methanol
Blank Blood Lot: 23C57106 **Blank Urine lot:** 61423 **Column:** Agilent Phenyl Hexyl (4.6x50mm, 2.7um)
LCMS-QQQ ID: 69679

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 pipette: 250 ul urine in blank well, add 40 ul BG Turbo, add 100 ul 500 mm sodium phosphate buffer mix for at least five minutes ambient temperature.
Pipette 250 µL blood (**calibrated pipette**) or 250 ul urine in wells of analytical (standards) plate. **Pipette ID: 390993**
- 3. Pipette **250 µL of 0.5 M ammonium hydroxide** in wells of analytical plate.
- 4. Place on shaking incubator at ambient temp., 900 rpm for 15 minutes.
- 5. Transfer **300 µL of blood or urine+base** mixture to corresponding wells of SLE+ plate.
- 6. 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: 66792
- 7. Wait 5 minutes.
- 8. Add **900 µL ethyl acetate**.
- 9. Wait 5 minutes.
- 10. Apply positive pressure for approx. 10-15 seconds. *(12-15 PSI- Selector to the left)*.
- 11. Add **900 µL ethyl acetate**.
- 12. Wait 5 minutes.
- 13. Apply positive pressure for approx. 10-15 seconds. *(12-15 PSI- Selector to the left)*.
- 14. Remove plate containing eluate. add 50 ul 1% HCl in MeOH Place on SPE Dry and evaporate to dryness at approx. 35°C.
SPE Dry ID: 66819
- 15. Reconstitute in **100 µL 20% LC MeOH** in LC Water 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 5 or greater or 2-5 for discretionary range.
- 4. Did all QCs pass for each analyte? (If no is it described in comments?)
- 5. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

COMMENTS: *Hands of Analyst Mikel Buffaloe*

External control run for blood and urine for plate re-test.

When the run was started some compounds were outside the acquisition window, the acquisition method was updated and the samples that had been run were re-injected and evaluated.

M2023-2977-2, C2023-1449-1, and C2023-1726-1 were placed in mixing wells that were previously used these samples were not evaluated in this run.



Idaho State Police Forensic Services

AM #25 Multidrug Screen and AM #28 Confirmation Multidrug Control Prep Sheet

Methanol External Control Working Solution (Lot: WS72623)

50 µL 1mg/ml methamphetamine, alprazolam, diphenhydramine, and morphine in ~4800 µL MeOH

Approximate concentration 10000ng/ml of each compound

Component	Source	Source Lot Number	Expiration Date
Methamphetamine	Cerilliant	FE03132001	7/1/2025
Alprazolam	Cerilliant	FE06102008	6/1/2025
Diphenhydramine	Cerilliant	FE02212011	3/1/2025
Morphine	Cerilliant	FE03232010	4/1/2025
Prepared:	07/26/2023		
Expires:	07/26/2024		
Prepared By:	Anne Nord		

Urine External Control Solution

500 ul of methanol external control working solution to 4500 ul of urine.

Approximately 1000 ng/ml of each compound

Negative urine source and lot number	Date prepared	Expiration	Lot number	Prepared by	Out of use
In house 61423	07/26/23	07/26/24	U72623	Anne Nord	

Blood External Control Solution

50 ul of methanol external control working solution to 4950 ul of blood.

Approximately 100ng/ml of each compound

Negative blood source and lot number	Date prepared	Expiration	Lot number	Prepared by	Out of use
Lampire 23C57106	07/26/23	07/26/24	B72623	Anne Nord	

	1	2	3	4	5	6	7	8	9	10	11	12
A								1616-1	*2977-2			
B							negative blood	1657-1	1496-1			
C							positive blood	*2977-3	1546-1			
D							1444-1	1666-1	1449-1		1429-2	
E							1532-1	1707-1	1726-1			1687-1
F							1534-1	1530-1				
G							1600-1	negative urine				cal 1
H							1613-1	positive control urine				

C2023-____-

plate position 2

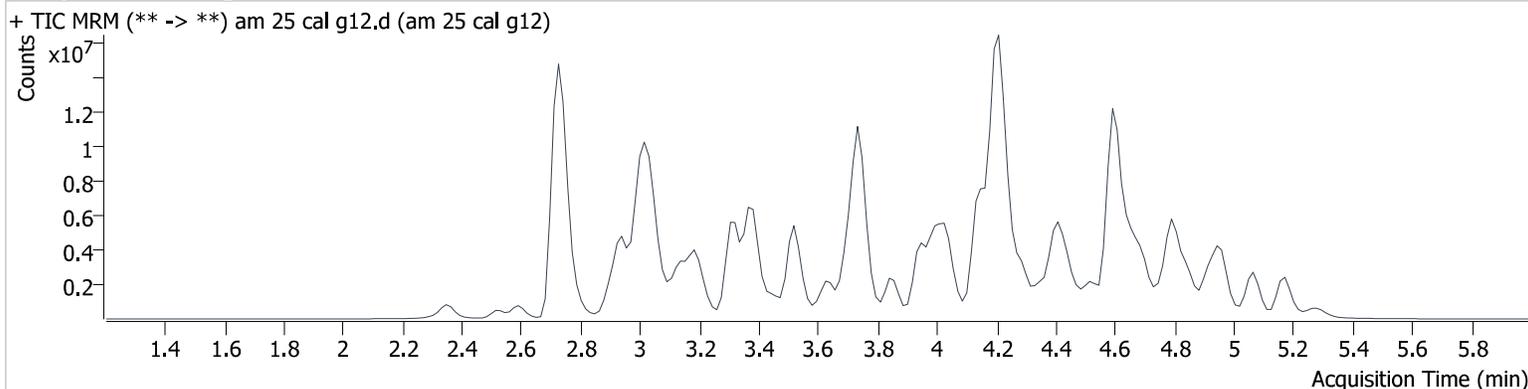
* M2023-____-

AM #25 Multi-Drug Screen Results

Batch results D:\MassHunter\Data\2023\am 25-26\072623R\QuantResults\MDS.batch.bin
Calibration Last Update 7/27/2023 11:48:55 AM

Instrument 69679 **Data File** am 25 cal g12.d
Type Cal **Sample** am 25 cal g12
Acq. Method mds713.m **Operator** Anne Nord
Sample Position P2-G12 **Comment**
Injection Volume 2.5
Acq. Date-Time 7/26/2023 3:32:14 PM
Sample Info.

Sample Chromatogram



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
10-OH-Carbamazepine	3.850	902780	8213.0	9.0	572727	10.000
6-MAM	3.045	41831	27.1	472.9	1027048	10.000
7-aminoclonazepam	3.615	178402	1166.7	194.0	1134863	10.000
7-aminoflunitrazepam	3.846	619784	367.0	1405.3	1134863	10.000
9-Hydroxyrisperidone	4.161	4737938	316.7	53039.8	1134863	10.000
Acetyl Fentanyl	4.181	301737	1029.4	174753.6	11589245	10.000
Acetyl Norfentanyl	2.901	192762	189210.2	444.8	15985104	10.000
a-hydroxyalprazolam	4.702	74134	354.5	842.7	572727	10.000
alpha-hydroxymidazolam	4.762	681277	281839.4	483.7	4092573	10.000
alpha-PHP	4.020	1993190	272.2	3664.2	5566957	10.000
alpha-PVP	3.713	2566346	1862.2	1443.3	5566957	10.000
Alprazolam	4.782	1080029	1007.2	888.1	4092573	10.000
Amitriptyline	4.709	712667	279.0	260.1	2817755	10.000
Amphetamine	2.952	1653530	165.3	2185.0	5566957	10.000
Benzoylcegonine	3.446	136079	223.7	35.4	178475	10.000
Brompheniramine	4.259	99734	27866.9	185.0	6322905	10.000
Buprenorphine	5.291	83865	35126.3	2653.9	1651226	10.000
Bupropion	4.036	2709468	27699.8	3175.5	11607957	10.000
Carbamazepine	4.359	4981914	1691.6	602.8	4347804	10.000
Carisoprodol	4.296	789102	382.3	162.0	2966907	10.000
Chlordiazepoxide	4.966	323165	115254.4	302.8	4092573	10.000
Chlorpheniramine	4.140	4549104	34946.7	17387.9	6322905	10.000
Chlorpromazine	4.978	545313	197919.0	825.7	2140679	10.000
Citalopram	4.303	2167274	533.4	275392.1	40317587	10.000
Clomipramine	4.963	723785	1479.6	382.2	704148	10.000
Clonazepam	4.642	268683	152.1	37262.7	39837	10.000
clonazolam	4.516	370048	243.5	47057.9	572727	10.000
clozapine	4.808	3181635	125.7	1476.1	11553842	10.000
Cocaethylene	3.951	2997452	2545.8	375963.6	14839687	10.000
Cocaine	3.752	3568160	481.2	199.7	14839687	10.000
Codeine	2.957	278025	3748.6	10642.7	4347804	10.000
Cyclobenzaprine	4.618	1595271	294.7	33.1	2817755	10.000
Desipramine	4.619	1966398	5384.5	682.8	2817755	10.000
Dextromethorphan	4.248	1399384	4373.4	1497.7	6322905	10.000



AM #25 Multi-Drug Screen Results

Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Dextrophan	3.465	2175109	477915.7	35640.7	5566957	10.000
Diazepam	5.044	695663	676.7	1480.3	4092573	10.000
Dihydrocodeine	2.788	756948	1074.2	930.4	4347804	10.000
Dimethyltryptamine	3.025	1393531	491.3	507.9	5566957	10.000
Diphenhydramine	4.219	7580314	2872.9	3618.0	40317587	10.000
Doxepin	4.401	1203463	178.1	416.6	11553842	10.000
Doxylamine	3.740	6993089	776.1	1075.2	5566957	10.000
Duloxetine	4.568	20308	75.2	290.3	704148	10.000
EDDP	4.231	914201	191809.0	120.5	1513295	10.000
Estazolam	4.692	2385960	934.2	2069.3	4092573	10.000
Etizolam	4.762	108189	50679.2	611017.4	4092573	10.000
Fentanyl	4.425	212621	183063.8	75659.3	11589245	10.000
Flualprazolam	4.610	442312	94021.1	137557.3	4092573	10.000
Flunitrazepam	4.750	918788	259974.8	320510.1	572727	10.000
Fluorofentanyl	4.485	180610	38230.0	297.4	11589245	10.000
Fluoxetine	4.536	1046662	1064.8	70107.3	704148	10.000
Flurazepam	4.515	2585783	901229.8	425653.9	1651226	10.000
Hydrocodone	3.185	975586	309.0	368.0	4347804	10.000
Hydromorphone	2.534	833905	3129.6	170.1	160523	10.000
hydroxyzine	4.912	3132012	1067953.6	648221.1	11553842	10.000
Imipramine	4.662	3466689	710.1	459.4	2817755	10.000
Ketamine	3.944	1765252	673.7	174.6	6444788	10.000
Lamotrigine	3.726	150957	136113.9	672.3	5566957	10.000
Levamisole	3.116	1360700	6252.1	476.4	14839687	10.000
Levetiracetam	2.600	830420	5930.8	∞	1134863	10.000
Lorazepam	4.595	19551	76.5	60.0	572727	10.000
Maprotiline	4.709	444526	203.3	154.0	2817755	10.000
MDA	3.071	2137269	2649.9	197.0	17437789	10.000
MDEA	3.315	3136615	4794.0	224.5	17437789	10.000
MDMA	3.147	2624982	21143.8	5916.5	17437789	10.000
Meperidine	3.757	1829866	5123.9	636.3	160523	10.000
Meprobamate	3.714	252559	9921.6	87.5	2966907	10.000
Methadone	4.582	5195824	9522.8	1474.4	1513295	10.000
Methamphetamine	3.042	2684658	∞	∞	17437789	10.000
Methocarbamol	3.666	169743	910.8	602.2	2966907	10.000
Methylphenidate	3.651	5176057	1246.7	541.8	8022019	10.000
Metoprolol	3.525	669933	8220.9	17911.4	5566957	10.000
Midazolam	4.931	422056	160011.3	128459.7	1134863	10.000
Mirtazapine	4.449	2236052	238402.4	688640.4	1651226	10.000
Mitragynine	4.529	404680	184210.4	∞	11589245	10.000
Morphine	2.352	245355	5076.6	∞	160523	10.000
Norbuprenorphine	3.947	56721	20486.2	25872.7	1651226	10.000
Nordiazepam	4.909	185840	216.5	457.0	4092573	10.000
Norfentanyl	3.390	3549880	8799.5	1154.9	15985104	10.000
Norhydrocodone	2.973	130864	62.5	79.2	4347804	10.000
norketamine	4.052	331667	∞	∞	6444788	10.000
Normeperidine	3.713	4354054	754.6	430.5	160523	10.000
Noroxycodone	2.926	1015176	∞	361.4	4347804	10.000
Nortriptyline	4.665	709017	147547.8	233.4	704148	10.000
O-desmethyl-tramadol	2.946	4697279	752.5	213.8	5863210	10.000
O-Desmethylvenlafaxine	3.326	1460911	∞	192188.3	5863210	10.000
Olanzapine	4.105	775383	437847.7	38644.7	704148	10.000
Oxazepam	4.708	133086	233.0	∞	572727	10.000
Oxycodone	3.030	1539201	444.0	4738.0	6444788	10.000
Oxymorphone	2.348	1014903	1157.5	25.8	160523	10.000
Paroxetine	4.563	123463	122.4	17171.9	704148	10.000
Phenazepam	4.822	297901	605.3	11204.2	4092573	10.000
Phencyclidine	4.051	4126115	2643.6	2106.8	5863210	10.000
Phentermine	3.225	858283	301.7	∞	8022019	10.000
Phenytion	4.250	81152	171.6	70.1	39837	10.000



AM #25 Multi-Drug Screen Results

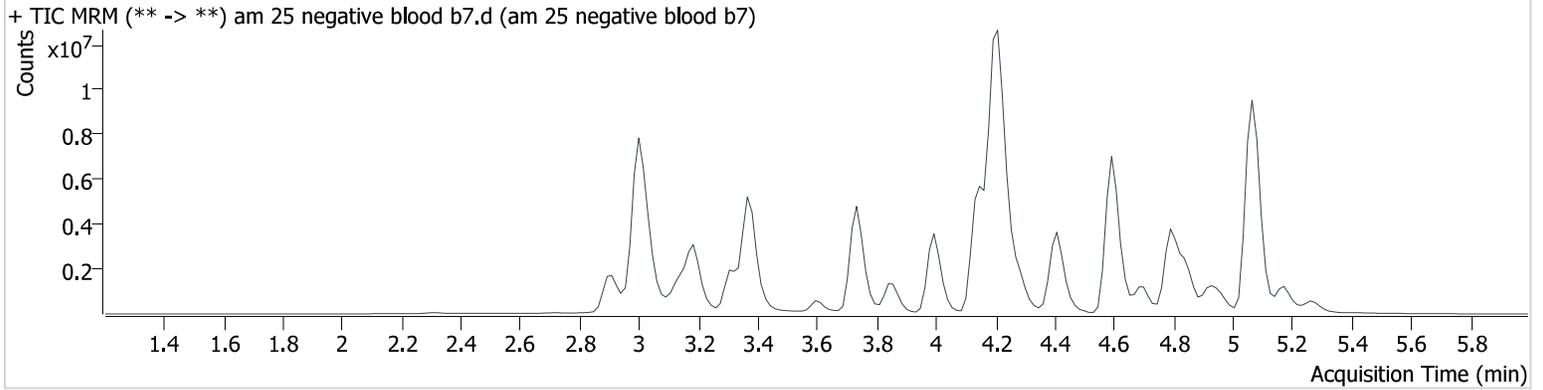
Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
primidone	3.514	106258	40885.3	88.8	39837	10.000
Promethazine	4.662	2655334	232867.7	780.5	2817755	10.000
Pseudoephedrine	2.737	46343568	26531.4	5545.9	8022019	10.000
Quetiapine	4.958	4146943	1323556.4	1422538. 4	6322905	10.000
Risperidone	4.391	4002215	495250.3	136.1	6322905	10.000
Sertraline	4.874	190845	738.2	213.6	704148	10.000
Sufentanil	4.897	193554	4349.1	2194.6	11589245	10.000
Tapentadol	3.545	3359095	389249.0	5943.6	6444788	10.000
Temazepam	4.859	1098998	606.8	109.6	4092573	10.000
Topiramate	3.903	8347	3019.0	2622.6	52510	10.000
Tramadol	3.526	6066663	1173.3	181.9	1027048	10.000
Trazodone	5.172	3687651	3460092.6	13846.1	1513295	10.000
Venlafaxine	3.955	6273106	566.5	498.0	5863210	10.000
Zaleplon	4.491	1018380	531947.3	184580.0	572727	10.000
Zolpidem	4.614	5845136	1567872.9	563.5	21892841	10.000
Zopiclone	4.637	288039	∞	7127.2	1249073	10.000

AM #25 Multi-Drug Screen Results

Batch results D:\MassHunter\Data\2023\am 25-26\072623R\QuantResults\MDS.batch.bin
Calibration Last Update 7/27/2023 11:48:55 AM

Instrument	69679	Data File	am 25 negative blood b7.d
Type	Sample	Sample	am 25 negative blood b7
Acq. Method	mds713.m	Operator	Anne Nord
Sample Position	P2-B7	Comment	
Injection Volume	2.5		
Acq. Date-Time	7/26/2023 3:45:48 PM		
Sample Info.			

Sample Chromatogram

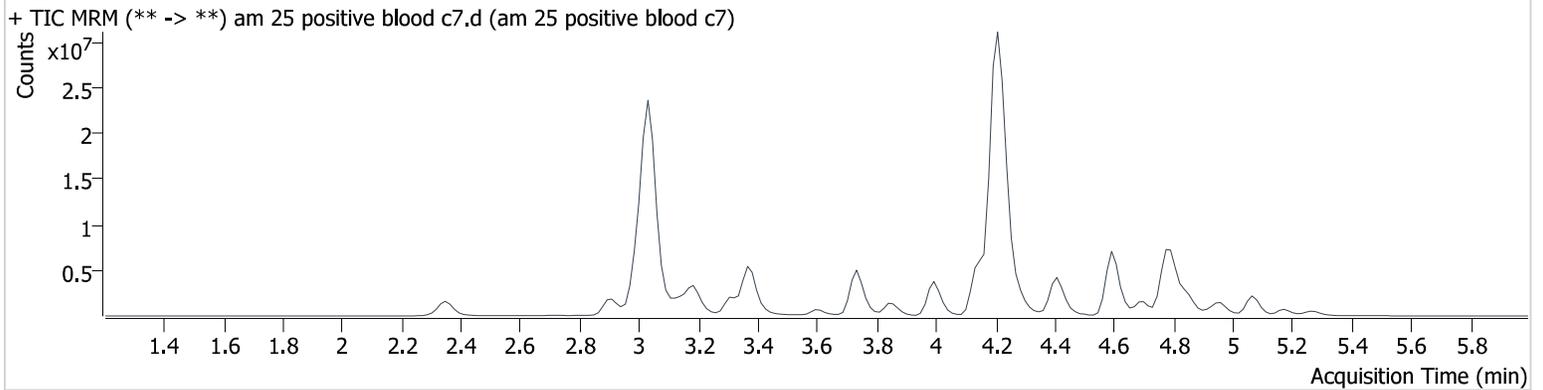


AM #25 Multi-Drug Screen Results

Batch results D:\MassHunter\Data\2023\am 25-26\072623R\QuantResults\MDS.batch.bin
Calibration Last Update 7/27/2023 11:48:55 AM

Instrument	69679	Data File	am 25 positive blood c7.d
Type	Sample	Sample	am 25 positive blood c7
Acq. Method	mds713.m	Operator	Anne Nord
Sample Position	P2-C7	Comment	
Injection Volume	2.5		
Acq. Date-Time	7/26/2023 3:52:31 PM		
Sample Info.			

Sample Chromatogram



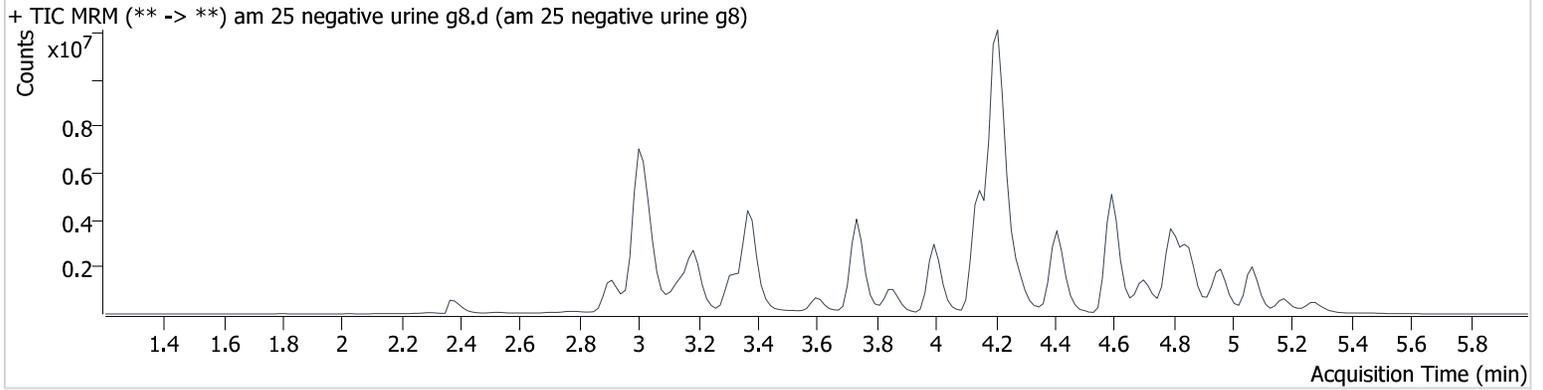
Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Alprazolam	4.782	7602124	853.9	925.5	4180211	68.912
Diphenhydramine	4.219	51089439	∞	10228.7	40573115	66.973
Methamphetamine	3.042	12144650	∞	∞	17941548	43.967
Morphine	2.352	1940935	42421.1	∞	174995	72.565

AM #25 Multi-Drug Screen Results

Batch results D:\MassHunter\Data\2023\am 25-26\072623R\QuantResults\MDS.batch.bin
Calibration Last Update 7/27/2023 11:48:55 AM

Instrument	69679	Data File	am 25 negative urine g8.d
Type	Sample	Sample	am 25 negative urine g8
Acq. Method	mds713.m	Operator	Anne Nord
Sample Position	P2-G8	Comment	
Injection Volume	2.5		
Acq. Date-Time	7/26/2023 5:26:25 PM		
Sample Info.			

Sample Chromatogram

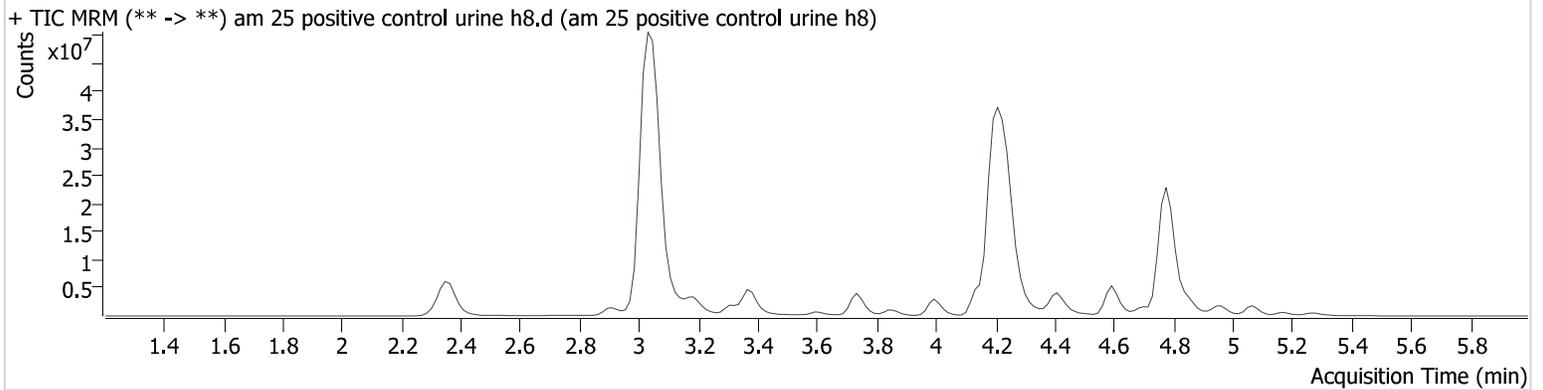


AM #25 Multi-Drug Screen Results

Batch results D:\MassHunter\Data\2023\am 25-26\072623R\QuantResults\MDS.batch.bin
Calibration Last Update 7/27/2023 11:48:55 AM

Instrument	69679	Data File	am 25 positive control urine h8.d
Type	Sample	Sample	am 25 positive control urine h8
Acq. Method	mds713.m	Operator	Anne Nord
Sample Position	P2-H8	Comment	
Injection Volume	2.5		
Acq. Date-Time	7/26/2023 5:33:08 PM		
Sample Info.			

Sample Chromatogram



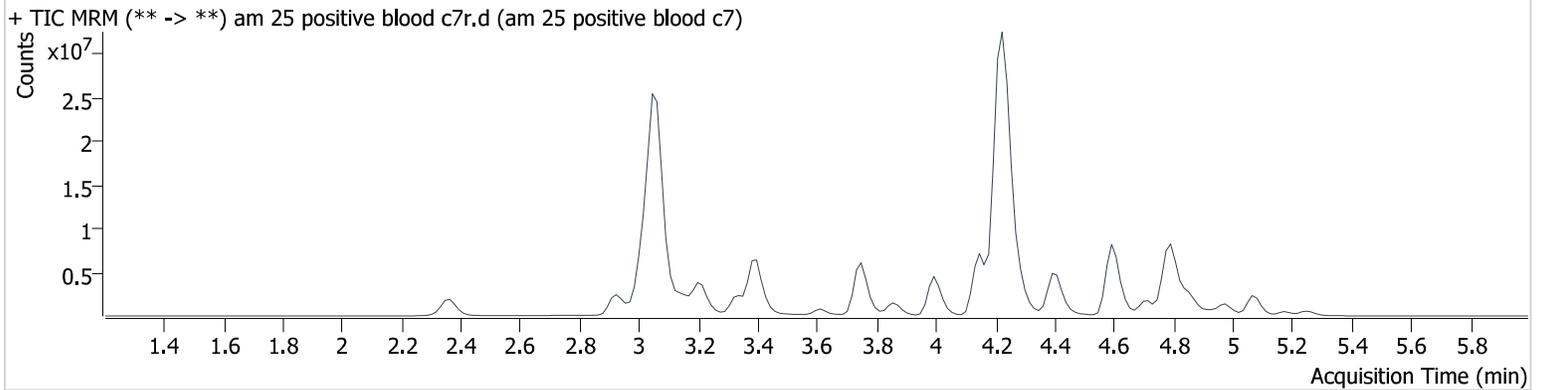
Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Alprazolam	4.782	41062170	2984.5	710.3	4166283	373.469
Diphenhydramine	4.219	101235659	35056.5	54778.1	27174462	198.144
Methamphetamine	3.042	47388603	∞	∞	12966755	237.381
Morphine	2.352	8593847	∞	40791.8	123665	454.654

AM #25 Multi-Drug Screen Results

Batch results D:\MassHunter\Data\2023\am 25-26\072623R\QuantResults\MDS.batch.bin
Calibration Last Update 7/27/2023 11:48:55 AM

Instrument	69679	Data File	am 25 positive blood c7r.d
Type	Sample	Sample	am 25 positive blood c7
Acq. Method	mds713.m	Operator	Anne Nord
Sample Position	P2-C7	Comment	
Injection Volume	2.5		
Acq. Date-Time	7/27/2023 10:18:25 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Alprazolam	4.782	7607383	859.8	813.1	5508861	52.328
Diphenhydramine	4.234	53917163	496.7	1139518	43785165	65.495
Methamphetamine	3.072	14416756	∞	∞	20977876	44.638
Morphine	2.368	2338448	∞	∞	204765	74.716

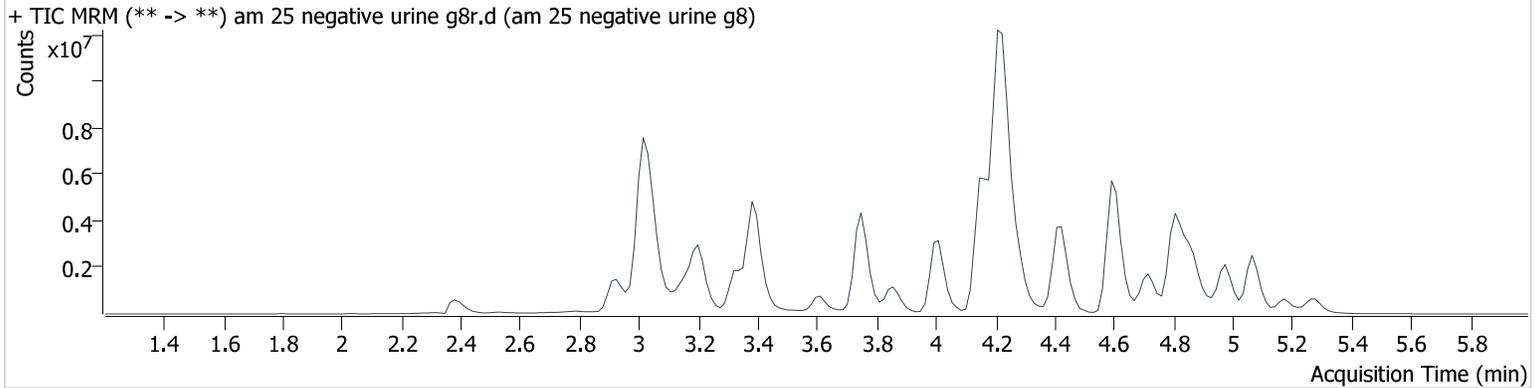
Additional injection the next day.

AM #25 Multi-Drug Screen Results

Batch results D:\MassHunter\Data\2023\am 25-26\072623R\QuantResults\MDS.batch.bin
Calibration Last Update 7/27/2023 11:48:55 AM

Instrument	69679	Data File	am 25 negative urine g8r.d
Type	Sample	Sample	am 25 negative urine g8
Acq. Method	mds713.m	Operator	Anne Nord
Sample Position	P2-G8	Comment	
Injection Volume	2.5		
Acq. Date-Time	7/27/2023 10:52:07 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Methamphetamine	3.057	1311034	1543.1	∞	17099152	4.980 < 32

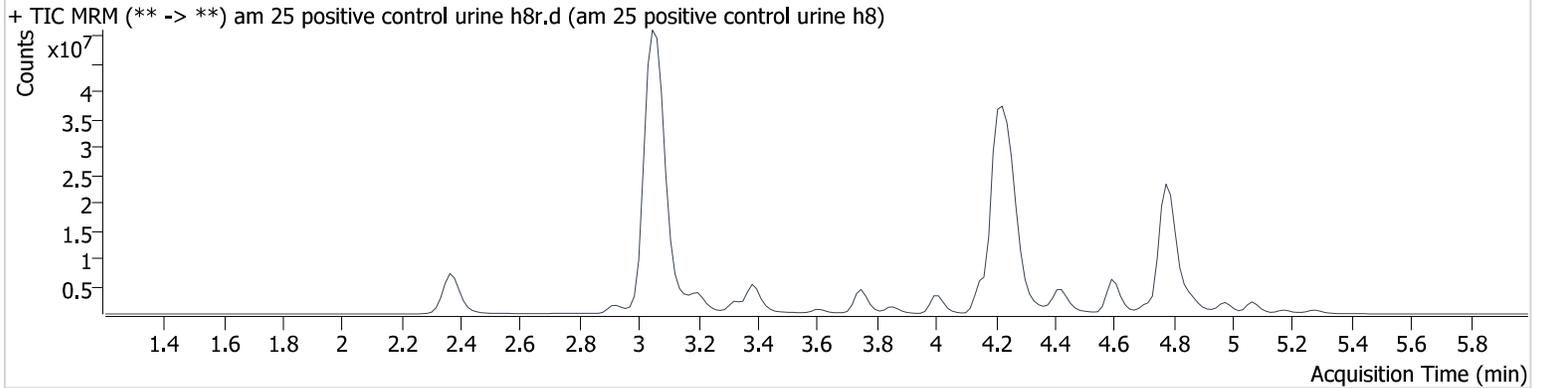
Additional injection the next day

AM #25 Multi-Drug Screen Results

Batch results D:\MassHunter\Data\2023\am 25-26\072623R\QuantResults\MDS.batch.bin
Calibration Last Update 7/27/2023 11:48:55 AM

Instrument	69679	Data File	am 25 positive control urine h8r.d
Type	Sample	Sample	am 25 positive control urine h8
Acq. Method	mds713.m	Operator	Anne Nord
Sample Position	P2-H8	Comment	
Injection Volume	2.5		
Acq. Date-Time	7/27/2023 10:58:49 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Alprazolam	4.782	43012141	1842.5	868.0	4975170	327.600
Diphenhydramine	4.234	100897079	18316.3	63500.0	28909760	185.627
Methamphetamine	3.057	49157021	∞	∞	13995654	228.137
Morphine	2.368	9185615	∞	∞	137238	437.899

additional injection the next day.

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

Extraction Date: 8/1/23 Analyst: Anne Nord

Plate lot#: 230113 Plate retest date: 7/13/23

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

Mobile phase B: 0.1% Formic acid in MeOH
MTBE Hexane

Blank Blood Lot: 23C57106 **Urine Blank:** 61423

Column: Agilent Phenyl Hexyl (4.6x50mm: 2.7 um)

LCMS-QQQ ID: 69679

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 1.5 ml urine to blank plate, add 250 ul 1N KOH mix and incubate at 40 degrees for 15 minutes.
Pipette **1000 µL blood (calibrated pipette)** in wells of analytical (standards) plate. **Pipette ID: K52558G**
Pipette 1000 ul urine to analytical (standards) plate.
- 3. Place on shaking incubator at ambient temp., 900 rpm for 15 minutes.
- 4. Pipette **500 µL 0.1% formic acid in blood** wells **500 ul saturated phosphate buffer in urine** wells of analytical plate.
- 5. Place on shaking incubator at ambient temp., 900 rpm for 15 minutes.
- 6. Transfer **800 µL of blood acid or urine acid** mixture to corresponding wells of SLE+ plate.
- 7. Apply positive pressure for approx. 10-15 seconds (or until no liquid remains on top of sorbent).
(Load at 85-100 PSI- Selector to the right) Manifold ID: 66792
- 8. Wait 5 minutes.
- 9. Add **2.25 mL MTBE** (add in 3 increments of 750 µL).
- 10. Wait 5 minutes.
- 11. Apply positive pressure for approx. 10-15 seconds. **(12-15 PSI- Selector to the left)**.
- 12. Add **2.25 mL hexane** (add in 3 increments of 750 µL).
- 13. Wait 5 minutes.
- 14. Apply positive pressure for approx. 10-15 seconds. **(12-15 PSI- Selector to the left)**.
- 15. Remove plate containing eluate. Place on SPE Dry and evaporate to dryness at approx. 35°C.
SPE Dry ID: 66819
- 16. Reconstitute in **100 µL 100% LCMS MeOH** and heat seal plate with foil. Place in autosampler and run worklist.

Post-Analytic

- 1. Create batch and process data.
- 2. Calculated sample concentration of 3 ng/mL or greater for THC and THC-OH, a calculated sample concentration of 10 ng/mL or greater for Carboxy-THC.
- 3. Retention time within +/- 2% or +/-0.100 min whichever is greater of the average retention time of the calibrators.
- 4. Did all QCs pass for each analyte? Yes
- 5. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

COMMENTS: HOA – Mikel Buffaloe

external blood and urine controls were run for plate retest.

The samples were initially extracted 7/26/23 - while pipetting a sample there was a splash, potentially contaminating other samples, the results were not evaluated from that extraction. The samples were re-extracted and run on 8/1/23, the results of that extraction were evaluated.

THC curve range 3-100 dropped 1 cal due to part of internal standard peak being cut off.

	1	2	3	4	5	6
a	Cal 1		1613-1 mixing plate <small>amn 8/18/23</small>	1429-2		
b	cal 2	negative blood	1616-1	1496-1		
c	cal 3	positive blood	1657-1	1546-1		
d	cal 4	1444-1	M2023-2977-3	M2023-2977-2		
e	cal 5	1530-1	1666-1	1687-1		
f	cal 6	1532-1	1707-1	1449-1		
g	cal 7	1534-1 Mixing Plate	negative urine	1726-1		
h	Internal control (blood)	1600-1	postive urine	1613-1 SLE and injection <small>amn 8/18/23</small>		

1534 -1 SLE and Injection H4
Plate position 3

c2023-____-__

Toxicology AM method 27/26 external prep information



working solution 1500 ng/ml in meoh C-THC, THC-OH, 750 ng/ml THC

Stock solution 1mg/ml 7.5 ul each THC, 100 ug/ml 150 ul C-THC, 150 ul THC-OH in 9692.5 ul meOH
Ppd 9/27/22 Exp: 9/27/23 lot 92722 by AMN

Drug	lot	expiration
C-THC	FE04151901	6/1/2024
THC-OH	FE06152002	6/1/2025
THC	FE04222001	5/1/2025

AM 27/26 blood control 100 ul working solution in 9900 ul blood

out of use

ppd 9/27/22 exp 9/27/23 blood lot 22B52016-1	lot b92722	Concentration 7.5 ng/ml THC, 15 ng/ml C-THC, THC-OH	by amn	
---	------------	--	--------	--



**Idaho State Police
Forensic Services**

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

Methanol External Control Solution (Lot: WS61423)

150 µL of 100 µg/mL C-THC and THC-OH, 7.5 ul 1mg/ml THC in ~9692.5 µL MeOH
Approximate concentration 1500ng/ml C-THC, THC-OH and 750 ng/ml THC

<i>Component</i>	<i>Source</i>	<i>Source Lot Number</i>	<i>Expiration Date</i>
C-THC	Cerilliant	FE04151901	6/1/2024
THC-OH	Cerilliant	FE06152002	6/1/2025
THC	Cerilliant	FE04222001	5/1/2025
Prepared:	06/14/2023		
Expires:	6/1/2024		
Prepared By:	Anne Nord		

Urine External Control Solution

400 ul of methanol external control solution to 9600 ul of urine.
Approximately 30 ng/ml THC, 60 ng/ml C-THC and THC-OH

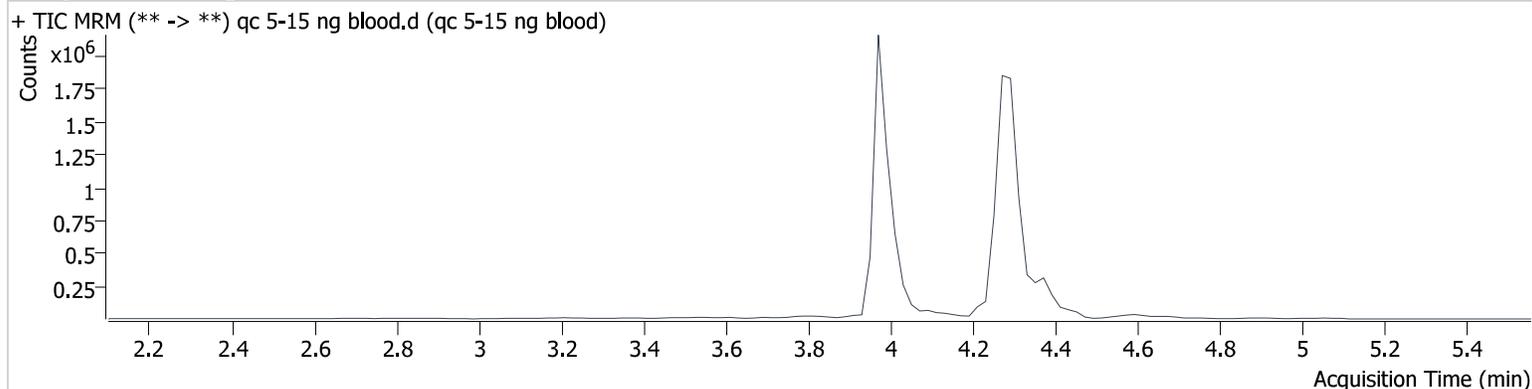
<i>Negative urine source and lot number</i>	<i>Date prepared</i>	<i>Expiration</i>	<i>Lot number</i>	<i>Prepared by</i>	<i>Out of use</i>
In house 61423	06-14-23	06-01-24	U61423	Anne Nord	

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2023\am 25-26\080123\QuantResults\cann.batch.bin
Calibration Last Update 8/2/2023 8:28:28 AM

Instrument	69679	Data File	qc 5-15 ng blood.d
Type	QC	Sample	qc 5-15 ng blood
Acq. Method	am 26 cann scr 5-5-20.m	Operator	Anne Nord
Sample Position	P3-H1	Comment	
Injection Volume	5		
Acq. Date-Time	8/1/2023 5:25:07 PM		
Sample Info.			

Sample Chromatogram



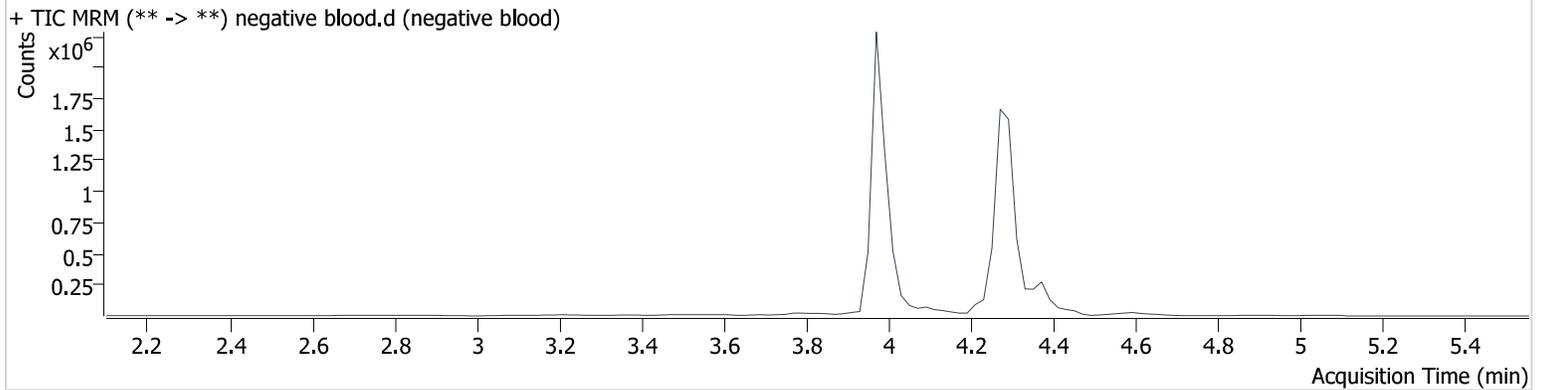
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	4.365	23740	330283	5.873 ng/ml
THC-COOH	4.013	166433	737712	15.374 ng/ml
THC-OH	3.979	40721	4287801	4.588 ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2023\am 25-26\080123\QuantResults\cann.batch.bin
Calibration Last Update 8/2/2023 8:28:28 AM

Instrument	69679	Data File	negative blood.d
Type	Sample	Sample	negative blood
Acq. Method	am 26 cann scr 5-5-20.m	Operator	Anne Nord
Sample Position	P3-B2	Comment	
Injection Volume	5		
Acq. Date-Time	8/1/2023 5:31:35 PM		
Sample Info.			

Sample Chromatogram

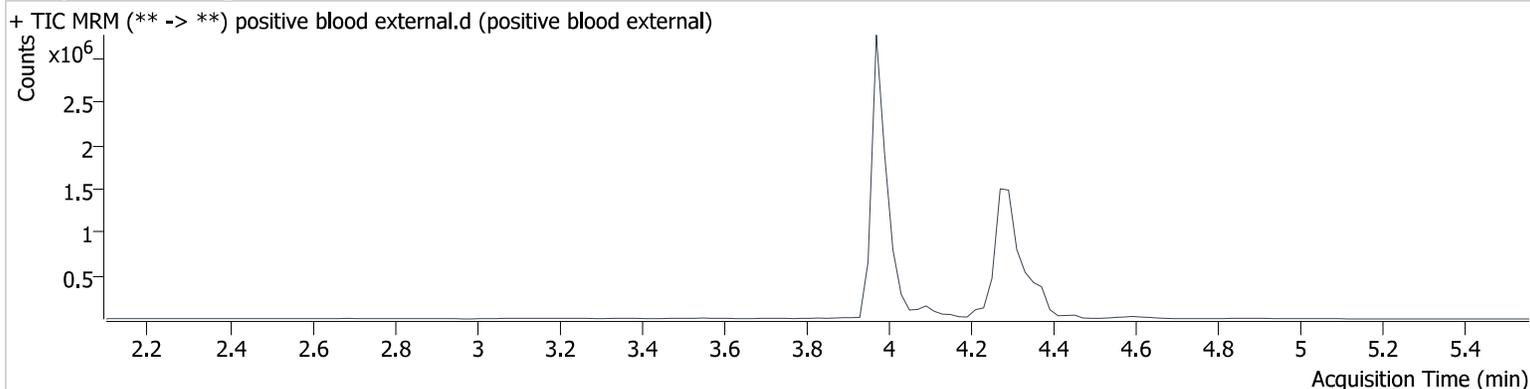


AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2023\am 25-26\080123\QuantResults\cann.batch.bin
Calibration Last Update 8/2/2023 8:28:28 AM

Instrument	69679	Data File	positive blood external.d
Type	Sample	Sample	positive blood external
Acq. Method	am 26 cann scr 5-5-20.m	Operator	Anne Nord
Sample Position	P3-C2	Comment	
Injection Volume	5		
Acq. Date-Time	8/1/2023 5:38:03 PM		
Sample Info.			

Sample Chromatogram



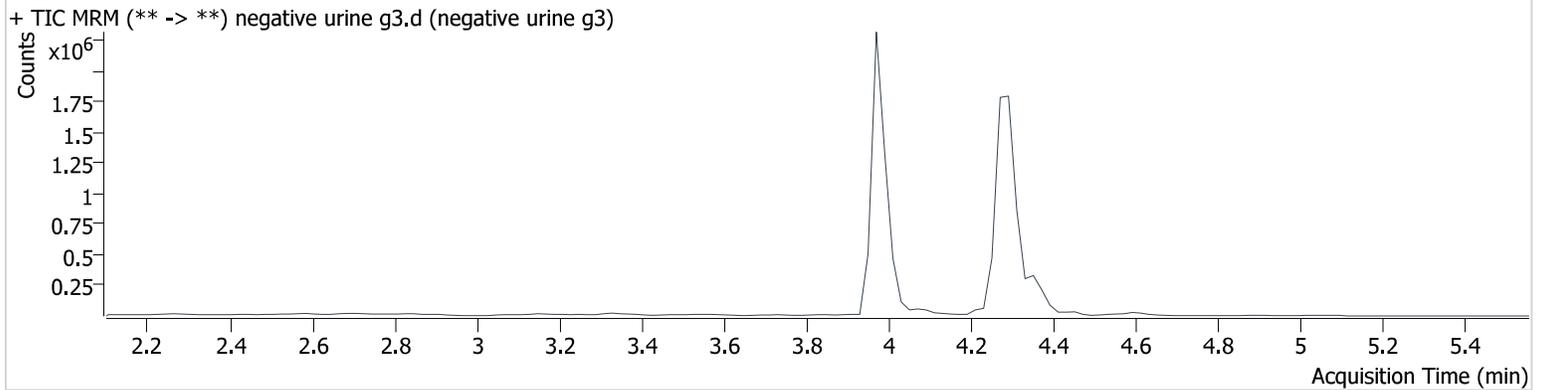
Name	RT	Resp.	ISTD Resp.	Final Conc.	
THC	4.365	52795	1023159	4.603 ng/ml	
THC-COOH	4.013	120164	978490	8.625 ng/ml	Low Analyst discretion 5-10
THC-OH	3.979	106771	6054190	8.549 ng/ml	evaluated as positive.

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2023\am 25-26\080123\QuantResults\cann.batch.bin
Calibration Last Update 8/2/2023 8:28:28 AM

Instrument	69679	Data File	negative urine g3.d
Type	Sample	Sample	negative urine g3
Acq. Method	am 26 cann scr 5-5-20.m	Operator	Anne Nord
Sample Position	P3-G3	Comment	
Injection Volume	5		
Acq. Date-Time	8/1/2023 6:55:38 PM		
Sample Info.			

Sample Chromatogram

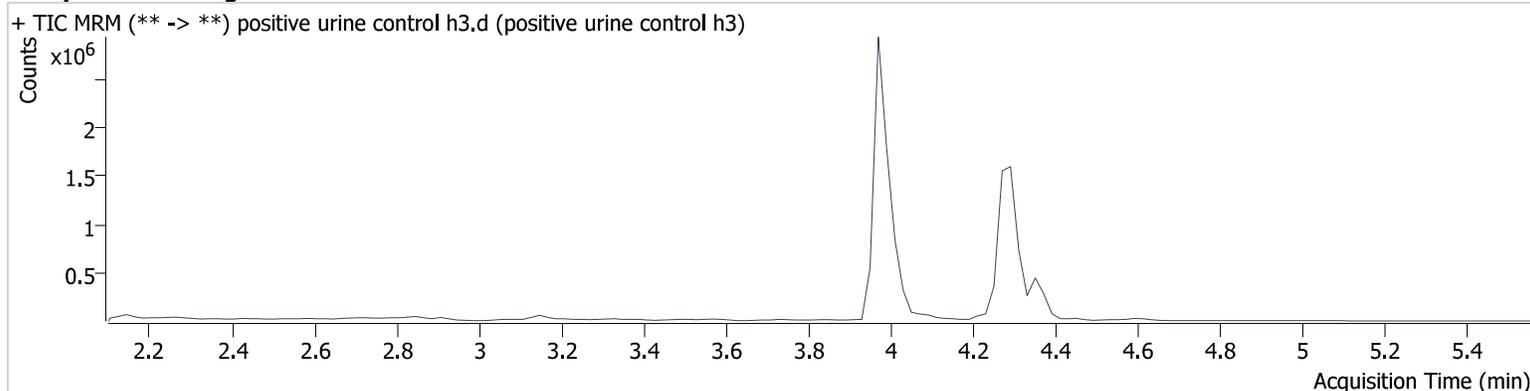


AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2023\am 25-26\080123\QuantResults\cann.batch.bin
Calibration Last Update 8/2/2023 8:28:28 AM

Instrument	69679	Data File	positive urine control h3.d
Type	Sample	Sample	positive urine control h3
Acq. Method	am 26 cann scr 5-5-20.m	Operator	Anne Nord
Sample Position	P3-H3	Comment	
Injection Volume	5		
Acq. Date-Time	8/1/2023 7:02:07 PM		
Sample Info.			

Sample Chromatogram



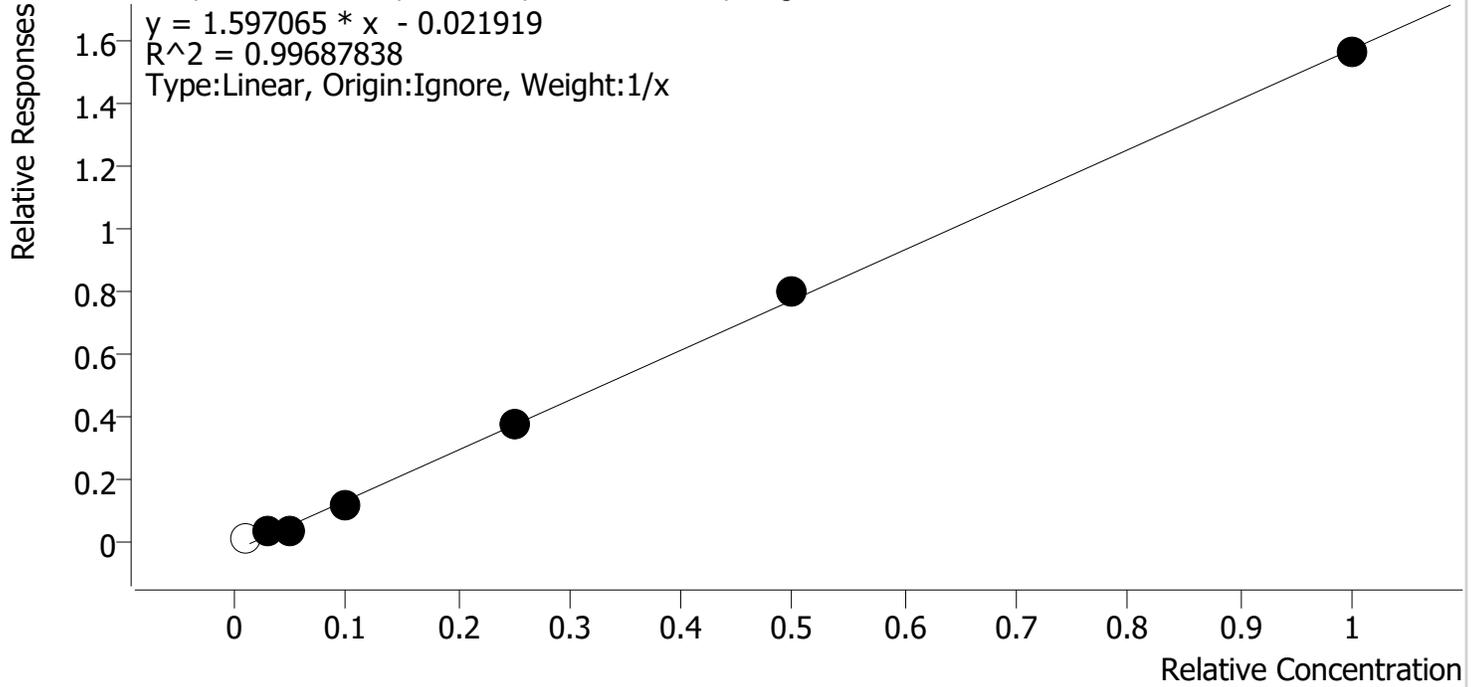
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	4.365	129210	596570	14.934 ng/ml
THC-COOH	4.013	280426	678072	27.714 ng/ml
THC-OH	3.979	249409	3986695	30.409 ng/ml

Compound Calibration Report



Batch results D:\MassHunter\Data\2023\am 25-26\080123\QuantResults\cann.batch.bin
Last Cal. Update 8/2/2023 8:28 AM
Analyst Name ISP\datastor
Analyte THC **Internal Standard** THC-d3

THC - 7 Levels, 6 Levels Used, 7 Points, 6 Points Used, 0 QCs



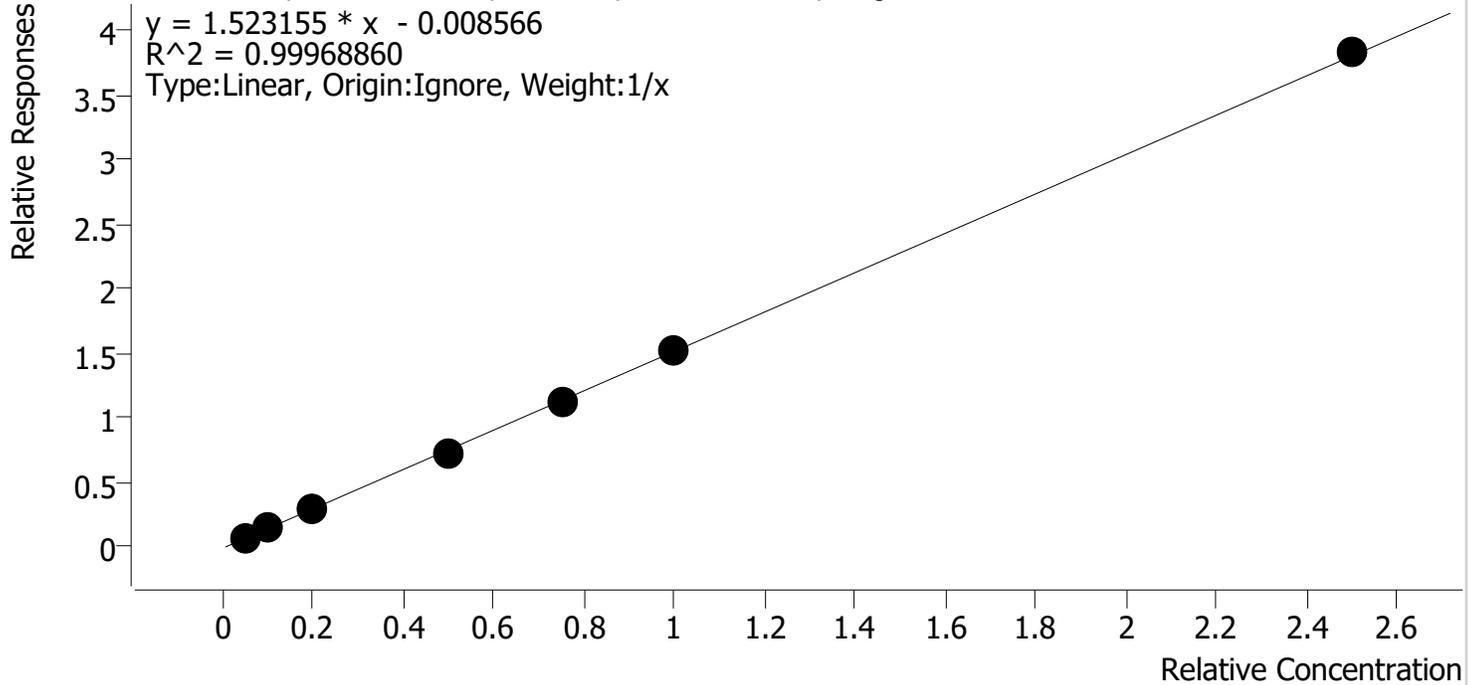
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
cal 1	1	x	1.0	2.6	255.8
cal 2	2	✓	3.0	3.7	123.2
cal 3	3	✓	5.0	4.1	82.2
cal 4	4	✓	10.0	9.2	91.5
cal 5	5	✓	25.0	25.1	100.6
cal-6	6	✓	50.0	51.5	103.1
cal-7	7	✓	100.0	99.3	99.3

Compound Calibration Report



Batch results D:\MassHunter\Data\2023\am 25-26\080123\QuantResults\cann.batch.bin
Last Cal. Update 8/2/2023 8:28 AM
Analyst Name ISP\datastor
Analyte THC-COOH **Internal Standard** THC-COOH-d9

THC-COOH - 7 Levels, 7 Levels Used, 7 Points, 7 Points Used, 0 QCs



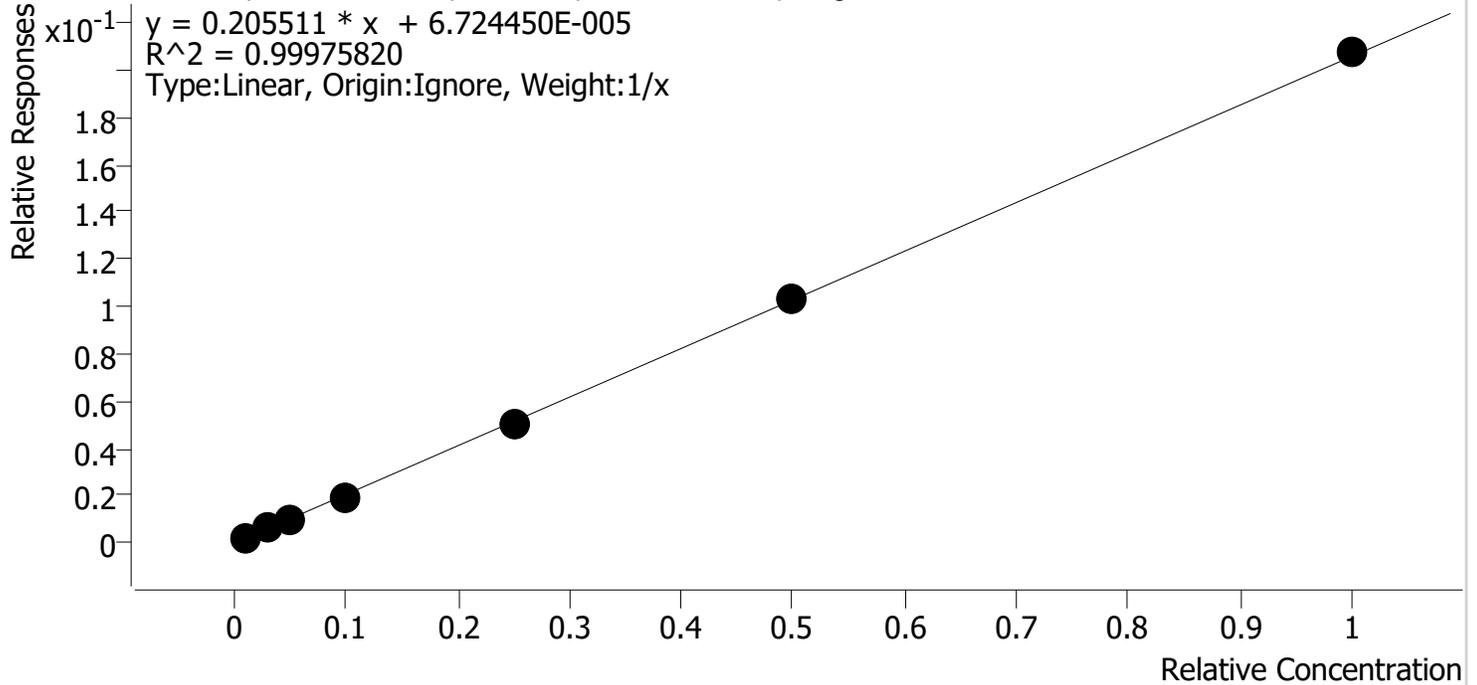
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
cal 1	1	✓	5.0	5.3	105.3
cal 2	2	✓	10.0	9.9	99.2
cal 3	3	✓	20.0	19.7	98.7
cal 4	4	✓	50.0	48.1	96.2
cal 5	5	✓	75.0	74.2	99.0
cal-6	6	✓	100.0	100.9	100.9
cal-7	7	✓	250.0	251.8	100.7

Compound Calibration Report



Batch results D:\MassHunter\Data\2023\am 25-26\080123\QuantResults\cann.batch.bin
Last Cal. Update 8/2/2023 8:28 AM
Analyst Name ISP\datastor
Analyte THC-OH **Internal Standard** THC-OH-d3

THC-OH - 7 Levels, 7 Levels Used, 7 Points, 7 Points Used, 0 QCs



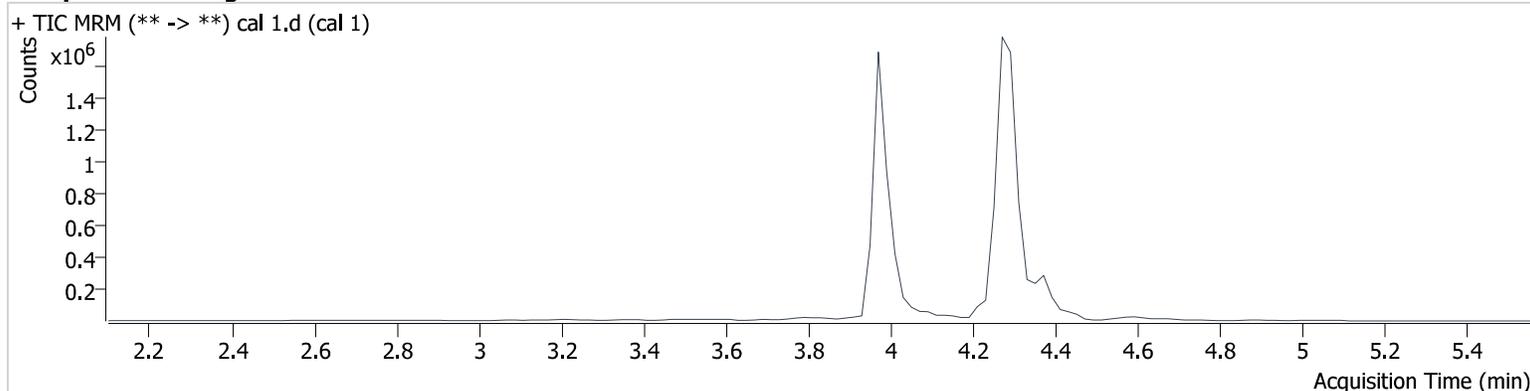
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
cal 1	1	✓	1.0	1.1	109.7
cal 2	2	✓	3.0	2.9	98.0
cal 3	3	✓	5.0	4.8	96.1
cal 4	4	✓	10.0	9.7	96.6
cal 5	5	✓	25.0	24.7	98.7
cal-6	6	✓	50.0	50.0	100.0
cal-7	7	✓	100.0	100.8	100.8

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2023\am 25-26\080123\QuantResults\cann.batch.bin
Calibration Last Update 8/2/2023 8:28:28 AM

Instrument	69679	Data File	cal 1.d
Type	Cal	Sample	cal 1
Acq. Method	am 26 cann scr 5-5-20.m	Operator	Anne Nord
Sample Position	P3-A1	Comment	
Injection Volume	5		
Acq. Date-Time	8/1/2023 4:33:07 PM		
Sample Info.			

Sample Chromatogram



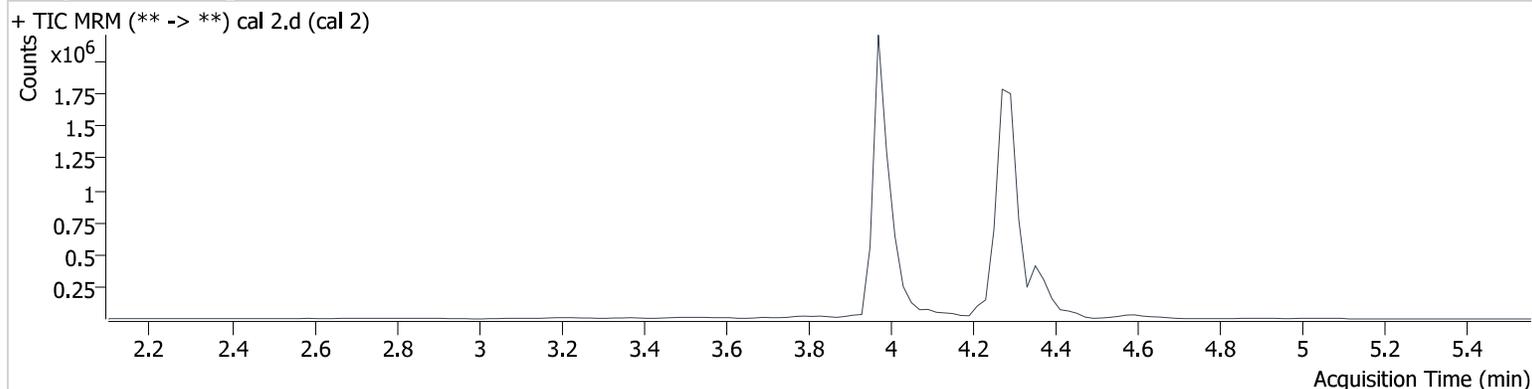
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	4.365	6796	358829	2.558 ng/ml Low
THC-COOH	4.013	46031	642977	5.263 ng/ml Low
THC-OH	3.979	8369	3603876	1.097 ng/ml Low

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2023\am 25-26\080123\QuantResults\cann.batch.bin
Calibration Last Update 8/2/2023 8:28:28 AM

Instrument	69679	Data File	cal 2.d
Type	Cal	Sample	cal 2
Acq. Method	am 26 cann scr 5-5-20.m	Operator	Anne Nord
Sample Position	P3-B1	Comment	
Injection Volume	5		
Acq. Date-Time	8/1/2023 4:39:46 PM		
Sample Info.			

Sample Chromatogram



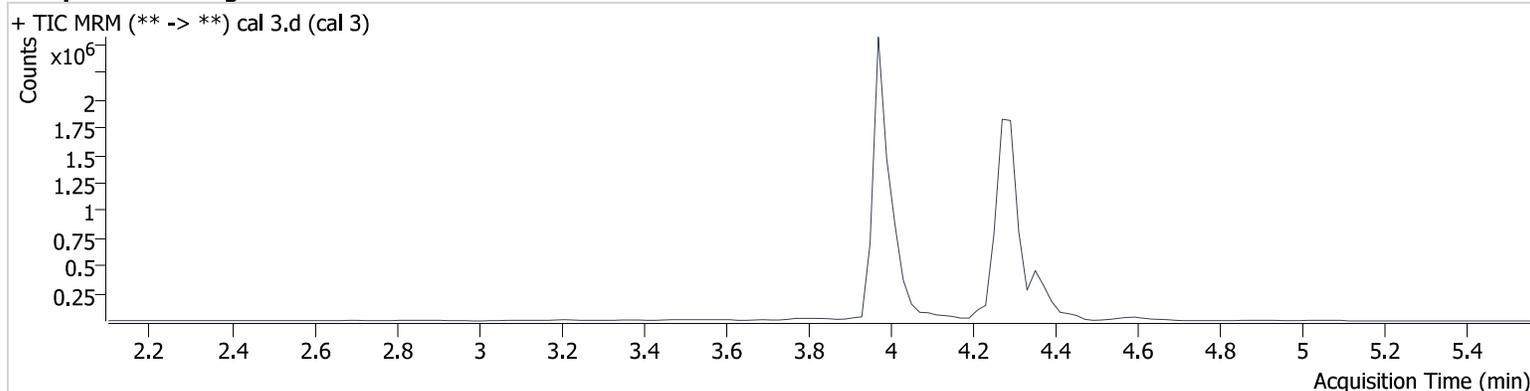
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	4.365	20344	548102	3.697 ng/ml
THC-COOH	4.013	121710	853690	9.923 ng/ml Low
THC-OH	3.979	27822	4555535	2.939 ng/ml Low

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2023\am 25-26\080123\QuantResults\cann.batch.bin
Calibration Last Update 8/2/2023 8:28:28 AM

Instrument	69679	Data File	cal 3.d
Type	Cal	Sample	cal 3
Acq. Method	am 26 cann scr 5-5-20.m	Operator	Anne Nord
Sample Position	P3-C1	Comment	
Injection Volume	5		
Acq. Date-Time	8/1/2023 4:46:14 PM		
Sample Info.			

Sample Chromatogram



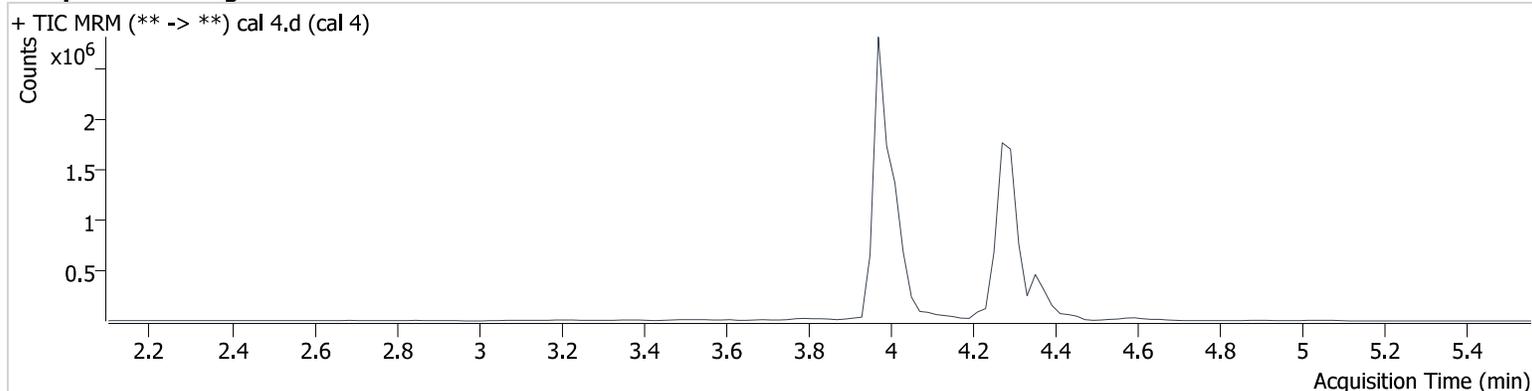
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	4.365	24996	571380	4.112 ng/ml
THC-COOH	4.013	281828	964863	19.739 ng/ml
THC-OH	3.979	50447	5071872	4.807 ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2023\am 25-26\080123\QuantResults\cann.batch.bin
Calibration Last Update 8/2/2023 8:28:28 AM

Instrument	69679	Data File	cal 4.d
Type	Cal	Sample	cal 4
Acq. Method	am 26 cann scr 5-5-20.m	Operator	Anne Nord
Sample Position	P3-D1	Comment	
Injection Volume	5		
Acq. Date-Time	8/1/2023 4:52:44 PM		
Sample Info.			

Sample Chromatogram



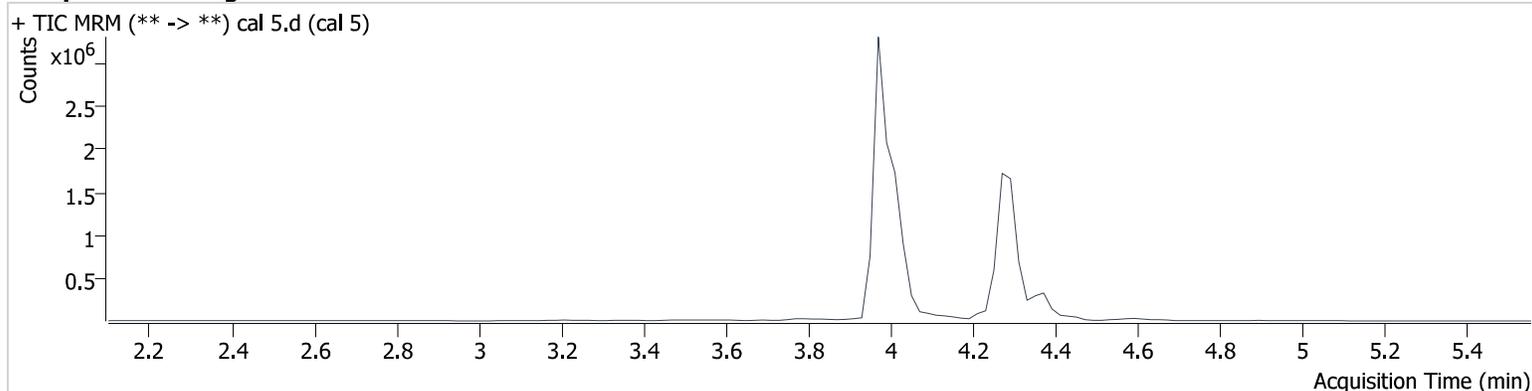
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	4.365	70732	569184	9.154 ng/ml
THC-COOH	4.013	700768	967916	48.095 ng/ml
THC-OH	3.979	102191	5130408	9.660 ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2023\am 25-26\080123\QuantResults\cann.batch.bin
Calibration Last Update 8/2/2023 8:28:28 AM

Instrument	69679	Data File	cal 5.d
Type	Cal	Sample	cal 5
Acq. Method	am 26 cann scr 5-5-20.m	Operator	Anne Nord
Sample Position	P3-E1	Comment	
Injection Volume	5		
Acq. Date-Time	8/1/2023 4:59:12 PM		
Sample Info.			

Sample Chromatogram



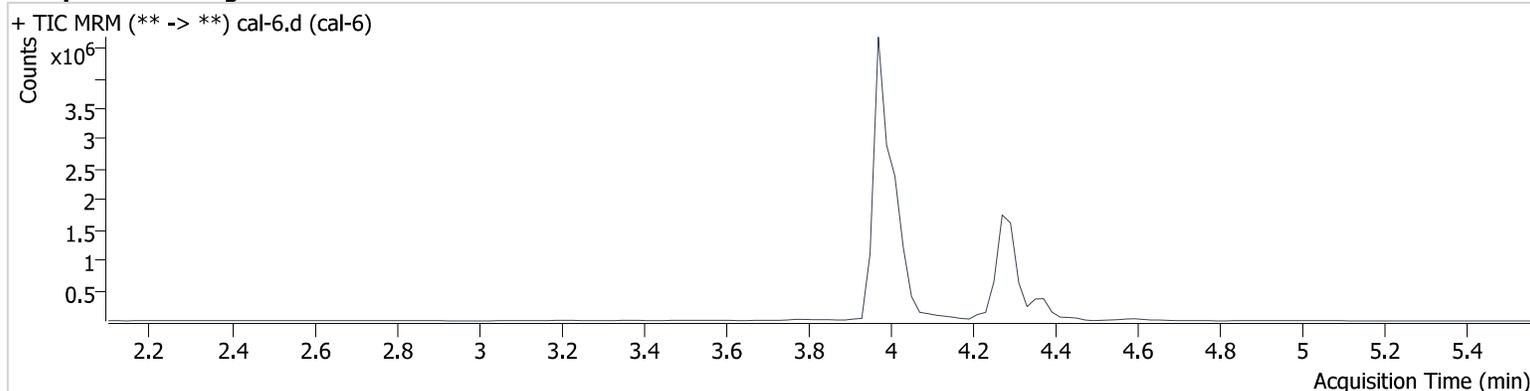
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	4.365	138194	364010	25.144 ng/ml
THC-COOH	4.013	999070	890449	74.224 ng/ml
THC-OH	3.979	250272	4926845	24.685 ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2023\am 25-26\080123\QuantResults\cann.batch.bin
Calibration Last Update 8/2/2023 8:28:28 AM

Instrument	69679	Data File	cal-6.d
Type	Cal	Sample	cal-6
Acq. Method	am 26 cann scr 5-5-20.m	Operator	Anne Nord
Sample Position	P3-F1	Comment	
Injection Volume	5		
Acq. Date-Time	8/1/2023 5:05:40 PM		
Sample Info.			

Sample Chromatogram



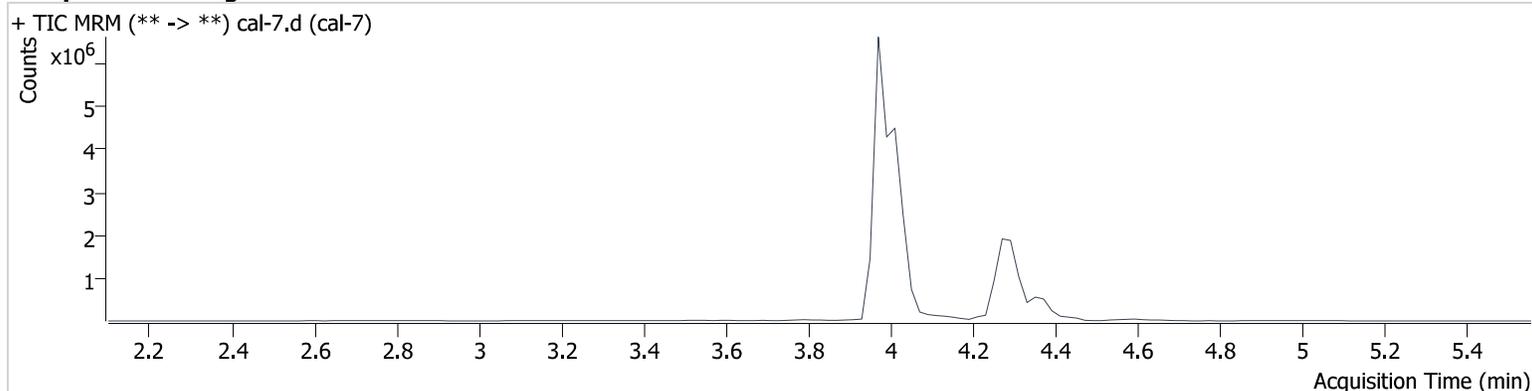
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	4.365	275962	344390	51.546 ng/ml
THC-COOH	4.013	1437533	940162	100.948 ng/ml
THC-OH	3.979	541771	5266825	50.021 ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2023\am 25-26\080123\QuantResults\cann.batch.bin
Calibration Last Update 8/2/2023 8:28:28 AM

Instrument	69679	Data File	cal-7.d
Type	Cal	Sample	cal-7
Acq. Method	am 26 cann scr 5-5-20.m	Operator	Anne Nord
Sample Position	P3-G1	Comment	
Injection Volume	5		
Acq. Date-Time	8/1/2023 5:12:09 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	4.365	489848	313054	99.349 ng/ml
THC-COOH	4.013	3189732	833511	251.808 ng/ml
THC-OH	3.979	1015857	4902671	100.792 ng/ml

Request for Departure from an Analytical Method or Quality Standard

Deviation Number (assigned by QM): ISP Dev QUAL-23-02

Date of Request: 8/8/23

Requestor/Discipline: Anne Nord / Quality manual

Analytical Method/Quality Standard, Revision #: Quality manual Revision 9
16.2.5c.2.6 Training in the use and understanding of analytical methods shall include the analysis of training samples. The trainee may, under the direct observation of a competent analyst, handle case samples, but the trainer will make all conclusions and must be present and observe all aspects of the work (the trainee works as the hands of the trainer). All evidence in the “hands of the trainer” process will be checked out by the trainer and the chain of custody shall be maintained in the name of the trainer/trained analyst. Probative samples may be independently handled by the trainee if the evidence can be analyzed without changing it (e.g. comparison of latent prints or bullets). Examination reports shall be based solely on examinations performed by or directly observed by approved analysts. The report will be issued by the trainer/trained analyst. **The analytical notes will clearly indicate the samples handled by the trainee.** In the case of controlled substances, if an additional training sample is taken it will be stored in a secure locked location (either a drug locker or the controlled substance cabinet)

Temporary or Permanent Deviation: Permanent until the next version of the quality manual is released and analytical notes can be defined.

Scope of Deviation (record specific information, e.g. affected programs, evidence types, expected end date; etc): Documentation for hands of the trainer, in case records.

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

The quality manual currently requires that documentation that the trainee handled samples will be in the “analytical notes” the manual does not further define what is meant by analytical notes. I am requesting to document this in the case notes that are attached in ILIMS or if there is batch data associated with the analysis it may be documented in the central batch data.

Technical Justification for Analytical Method Deviations: The batch data and the notes packet are both part of the case record. They both provide a path to clear documentation of what the trainee handled or did.



Technical Review

Departure approved
Comments:

Departure Not Approved
Comments:

Approver:
Title:

Date:

Quality Review

Quality Approver: Corinna Owsley
Title: Acting Quality Manager
Date: 8-8-23