








REVIEWED

By Tamara Salazar at 8:15 am, Jul 12, 2024



7/9/2024

Worklist: 6866

<u>LAB_CASE</u>	<u>ITEM</u>	<u>ITEM_TYPE</u>	<u>DESCRIPTION</u>	
C2024-1093	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2024-1114	2	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2024-1120	1	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
C2024-1181	1	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
C2024-1188	3	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
C2024-1197	1	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
C2024-1232	1	BCK	AM 27 Blood THC Quant by LC-QQQ	



AM# 27: Quantitation of THC and Metabolites in Blood and Urine by LC-MS/MS

Extraction Date: 07/09/2024

Plate lot#: 240513

Mobile phase A: 0.1% Formic Acid in LCMS Water

Blank Blood Lot: 24C52042

Column: UCT Selectra DA 100 x 2.1mm 3um

Analyst: Anne Nord

Plate Retest Date: 11/13/2024

Mobile phase B: 0.1% Formic acid in Acetonitrile

Blank Urine Lot: 6524

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 1.5mL urine to blank plate, add 250µl 1N KOH. Shake and incubate at 40 degrees for 15 minutes. Using a calibrated pipette, add 1000µl blood and urine (if applicable) (calibrated pipette) into the appropriate wells of analytical (standards) plate. Pipette ID: K52558G
- 3. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 4. 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.
- 5. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 6. Transfer 700-800µL of blood+acid or urine+acid mixture to corresponding wells of SLE+ plate. Amount transferred: 750 µL
- 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 2.25mL MTBE. (Add in 3 increments of 750uL)
- 10. Wait 5 minutes.
- 11. Apply positive pressure for approx. 15 seconds. (10-15 PSI- Selector to the left).
- 12. Add 2.25mL Hexane. (Add in 3 increments of 750uL)
- 13. Wait 5 minutes.
- 14. Apply positive pressure for approx. 15 seconds. (10-15 PSI- Selector to the left).
- 15. Remove plate containing eluate. Place on SPE Dry 75401 and evaporate to dryness at approx. 35°C.
- 16. Reconstitute in 100µL 100% MeOH and heat seal plate with foil. Place in autosampler and run worklist.

Post-Analytic

- 1. Create batch and process data.
- 2. Make any necessary integration changes, Curve weighting of Linear 1/x with r² values ≥0.98 for each analyte
- 3. RT +/- 3% or 0.100 min, whichever is greater, +/- 20% Accuracy for greater than (+/- 30% for 10ng/ml or less). Ion ratios must be within +/- 20% of the averaged calibrators
- 4. Did all QCs pass for each analyte? (if not, describe in comments section)
- 5. Enter QCs into control charting.
- 6. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

COMMENTS: The positive urine control did not get injected on 7/9/24 it was injected on 7/10/24 the ratios on the positive urine control were out of range. The urine samples will not be evaluated in this batch.

	1	2	3	4	5	6
a	cal 1	Internal control urine	1188-3			
b	cal 2	negative blood	1197-1			
c	cal 3	1093-1				
d	cal 4	1114-2				
e	cal 5	1232-1				
f	cal 6	Negative urine				
g	cal 7	1120-1				
h	Internal control (blood)	1181-1				

Plate position 3

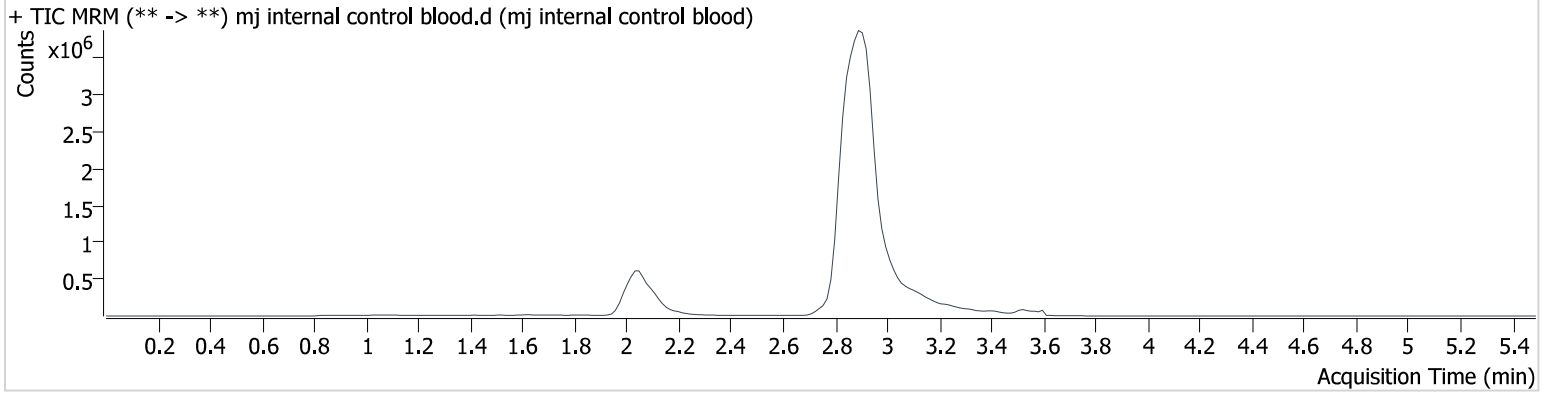
c2024-____-__

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\070924\QuantResults\am 27.batch.bin
Calibration Last Update 7/10/2024 1:40:19 PM

Instrument 69679 **Data File** mj internal control blood.d
Type QC **Sample** mj internal control blood
Acq. Method thc quant 50 50.m **Operator** Anne Nord
Sample Position P3-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 7/9/2024 8:09:32 PM
Sample Info.

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	2.036	37963	1327.7	887.09	∞	2538017	4.656 ng/ml
THC-COOH	2.107	64477	420.3	277.89	314362	870150	14.898 ng/ml
THC	3.528	34943	∞	22.14	∞	293964	4.369 ng/ml

AM #27 Cannabinoids

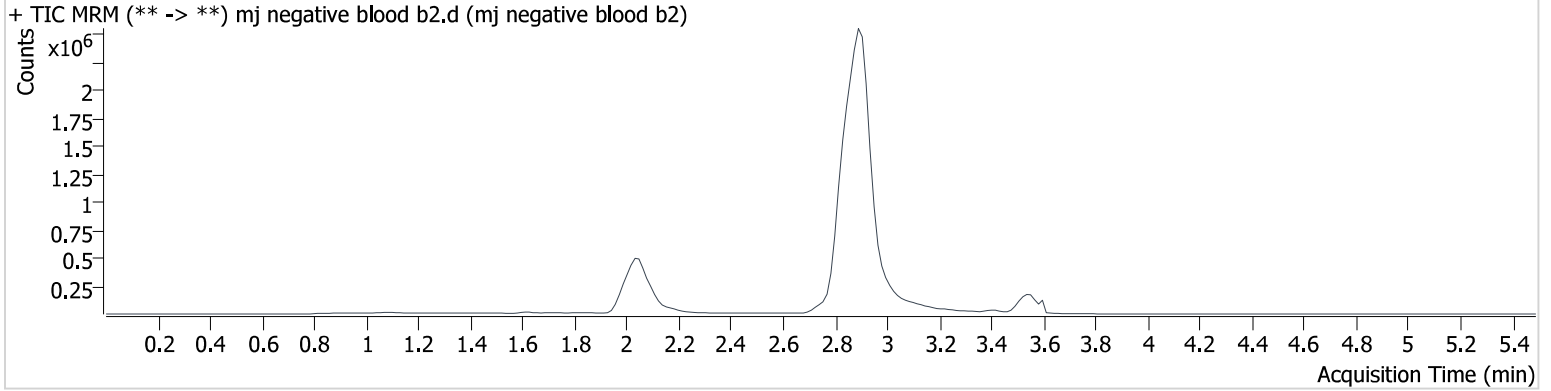
Batch results D:\MassHunter\Data\2024\am 27-28\070924\QuantResults\am 27.batch.bin
Calibration Last Update 7/10/2024 1:40:19 PM

Instrument 69679
Type Sample
Acq. Method thc quant 50 50.m
Sample Position P3-B2
Injection Volume 10
Acq. Date-Time 7/9/2024 8:16:06 PM
Sample Info.

Data File mj negative blood b2.d
Sample mj negative blood b2
Operator Anne Nord
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

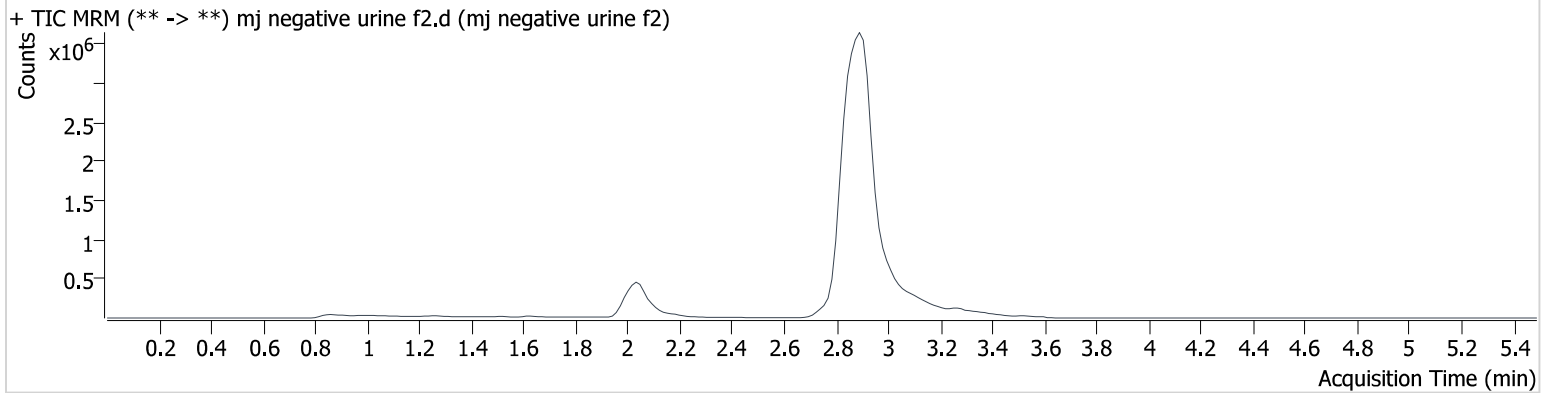


AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\070924\QuantResults\am 27.batch.bin
Calibration Last Update 7/10/2024 1:40:19 PM

Instrument	69679	Data File	mj negative urine f2.d
Type	Sample	Sample	mj negative urine f2
Acq. Method	thc quant 50 50.m	Operator	Anne Nord
Sample Position	P3-F2	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	7/9/2024 9:08:52 PM		
Sample Info.			

Sample Chromatogram

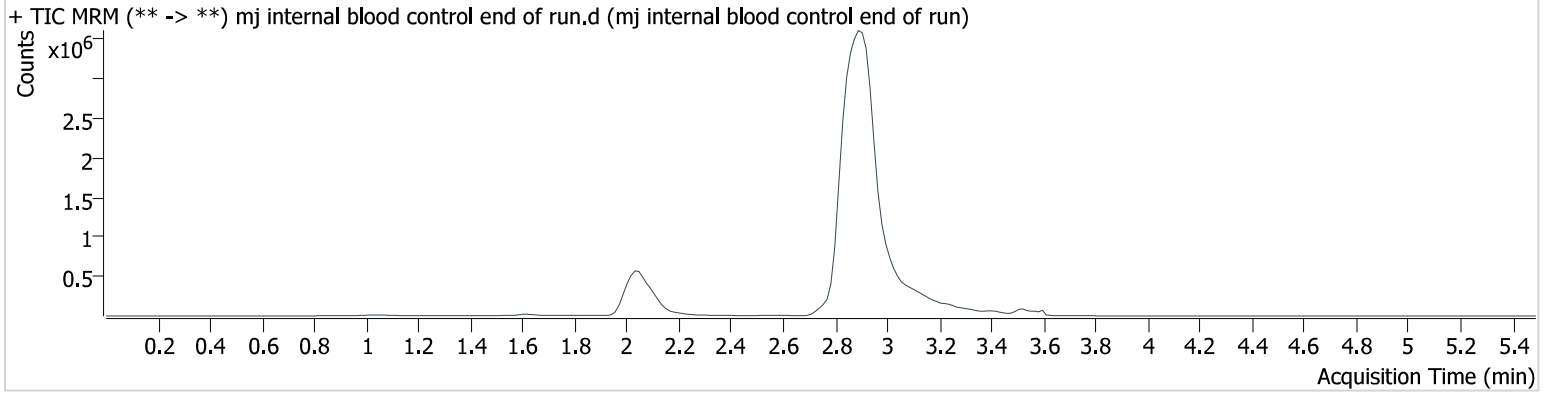


AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\070924\QuantResults\am 27.batch.bin
Calibration Last Update 7/10/2024 1:40:19 PM

Instrument	69679	Data File	mj internal blood control end of run.d
Type	QC	Sample	mj internal blood control end of run
Acq. Method	thc quant 50 50.m	Operator	Anne Nord
Sample Position	P3-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	7/9/2024 10:14:48 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	2.036	35432	∞	762.52	∞	2244627	4.887 ng/ml
THC-COOH	2.107	57040	87346.4	232.14	562.6	959451	12.223 ng/ml
THC	3.528	39491	∞	24.77	∞	317520	4.560 ng/ml

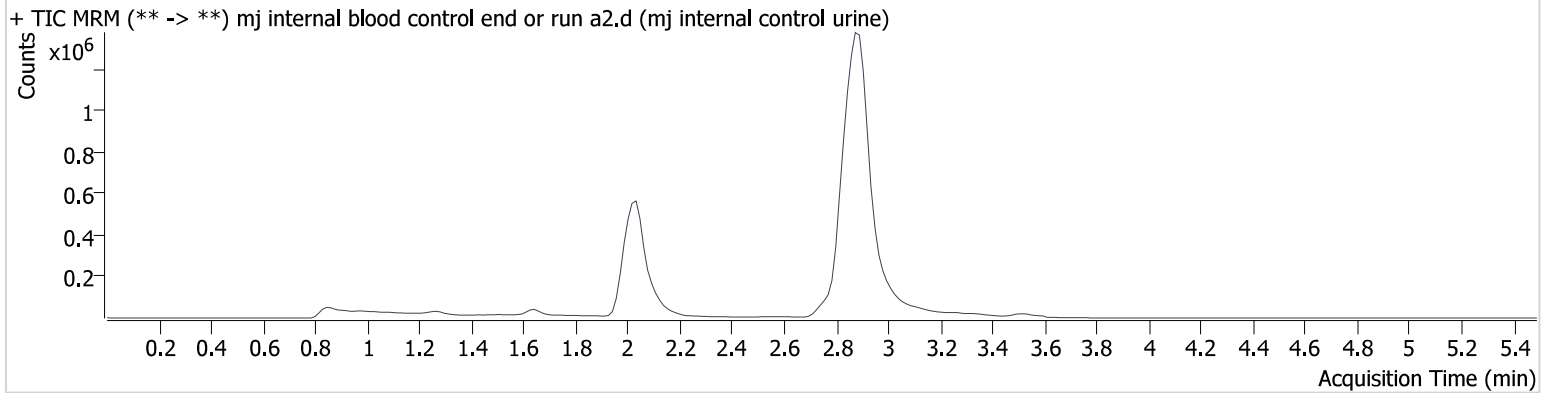
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\070924\QuantResults\am 27.batch.bin
Calibration Last Update 7/10/2024 1:40:19 PM

Instrument 69679 **Data File** mj internal blood control end or run a2.d
Type Sample **Sample** mj internal control urine
Acq. Method thc quant 50 50.m **Operator** Anne Nord
Sample Position P3-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 7/10/2024 12:29:16 PM
Sample Info.

This sample is the internal urine control. The data file name was not updated.

Sample Chromatogram



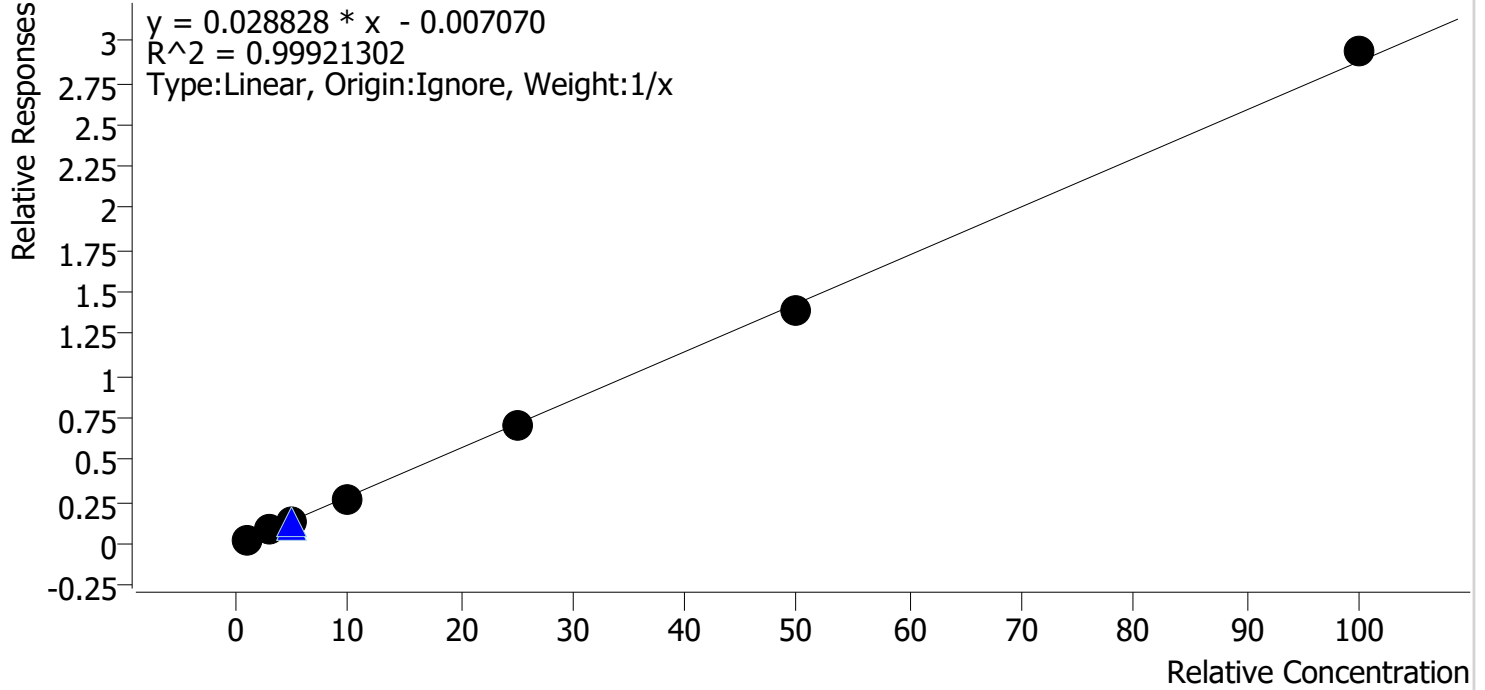
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	2.036	38756	769.3	851.57	368.4	2469973	4.861 ng/ml
THC-COOH	2.107	19150	16251.8	373.10 High	137.4	320348	12.283 ng/ml
THC	3.543	10799	∞	49.49 High	∞	83193	4.748 ng/ml

The ratios are out for two compounds, due to this urines will not be evaluated in this run.

Compound Calibration Report

Batch results D:\MassHunter\Data\2024\lam 27-28\070924\QuantResults\lam 27.batch.bin
Last Cal. Update 7/10/2024 1:40 PM
Analyst Name ISP\datastor
Analyte THC **Internal Standard** THC-d3

THC - 7 Levels, 7 Levels Used, 7 Points, 7 Points Used, 2 QCs

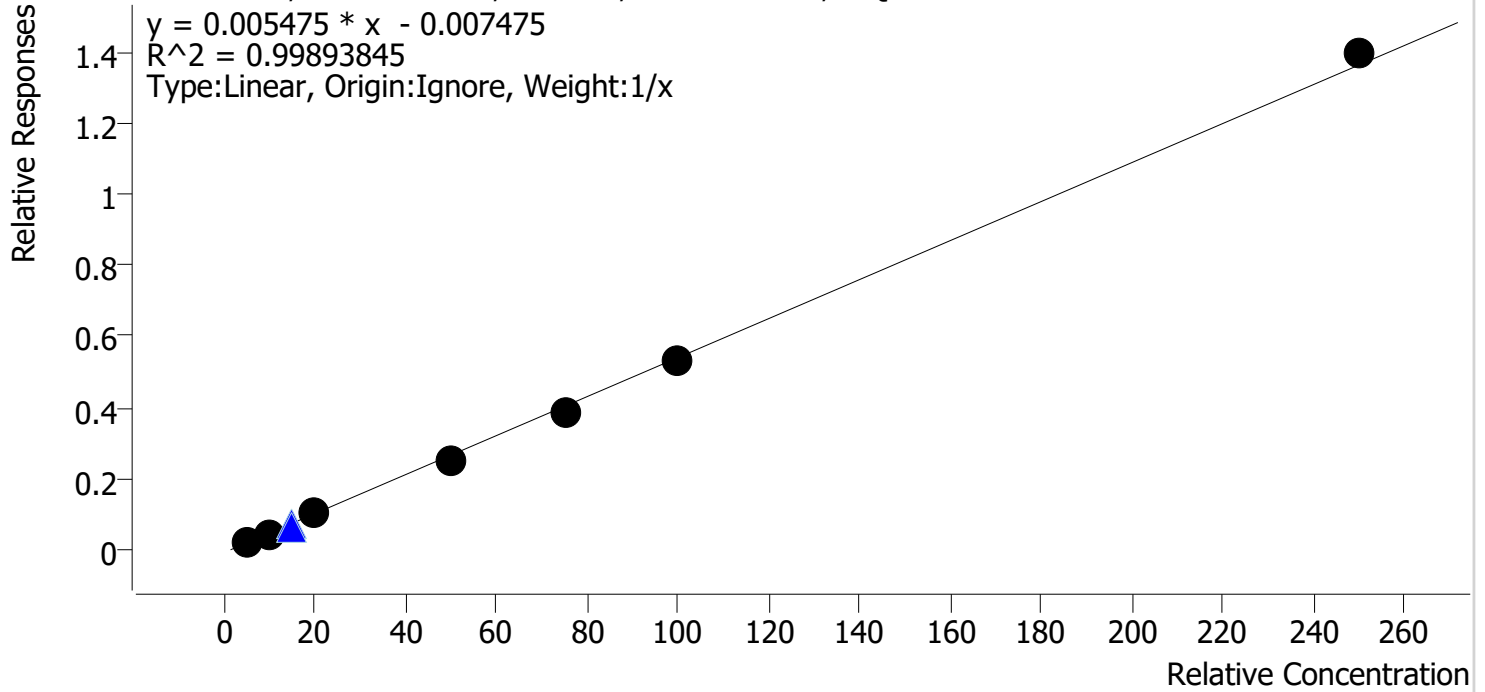


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
mj cal 1	1	✓	1.0	1.1	106.6
mj cal 2	2	✓	3.0	3.2	105.2
mj cal 3	3	✓	5.0	4.8	95.1
mj cal 4	4	✓	10.0	9.5	94.5
mj cal 5	5	✓	25.0	24.7	99.0
mj cal 6	6	✓	50.0	48.8	97.5
mj cal 7	7	✓	100.0	102.1	102.1

Compound Calibration Report

Batch results D:\MassHunter\Data\2024\lam 27-28\070924\QuantResults\lam 27.batch.bin
Last Cal. Update 7/10/2024 1:40 PM
Analyst Name ISP\datastor
Analyte THC-COOH **Internal Standard** THC-COOH-d9

THC-COOH - 7 Levels, 7 Levels Used, 7 Points, 7 Points Used, 2 QCs

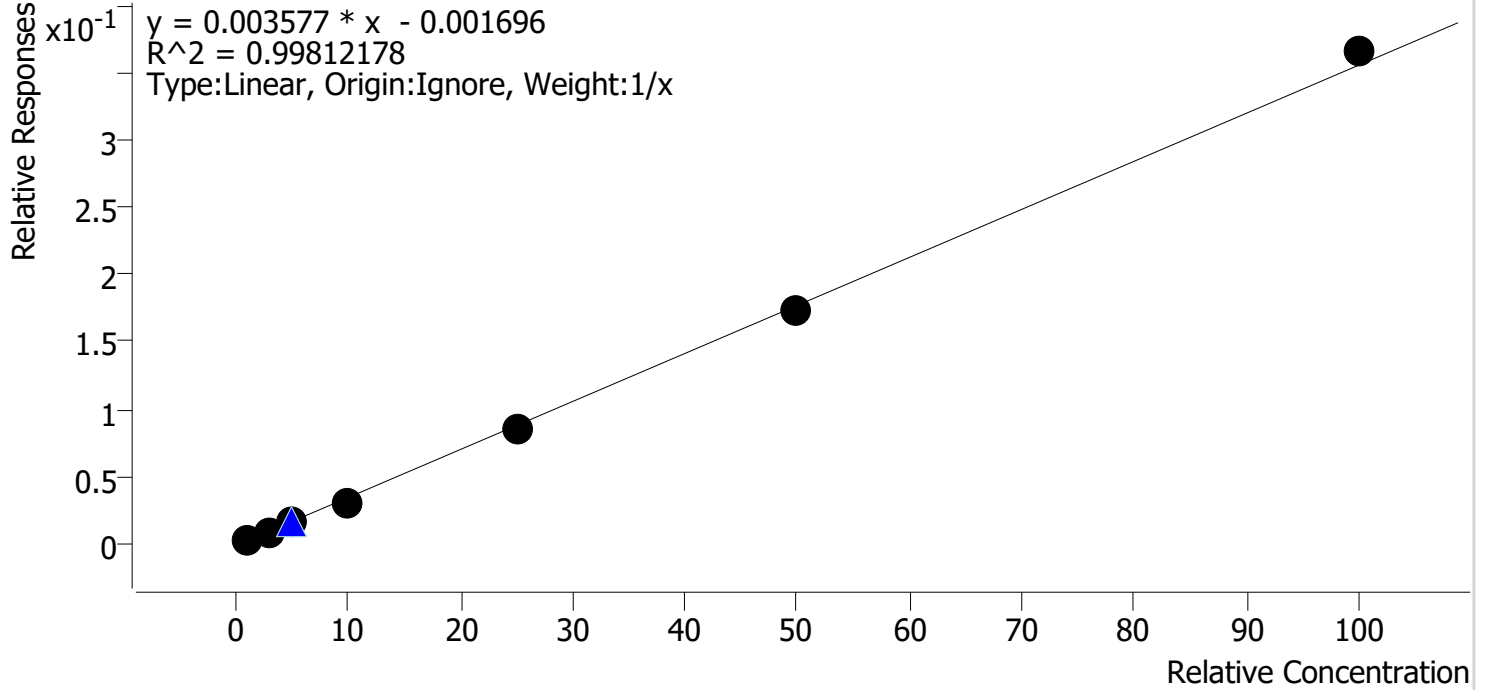


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
mj cal 1	1	✓	5.0	5.5	110.5
mj cal 2	2	✓	10.0	9.8	98.1
mj cal 3	3	✓	20.0	19.6	97.9
mj cal 4	4	✓	50.0	47.8	95.6
mj cal 5	5	✓	75.0	72.2	96.2
mj cal 6	6	✓	100.0	99.3	99.3
mj cal 7	7	✓	250.0	255.8	102.3

Compound Calibration Report

Batch results D:\MassHunter\Data\2024\lam 27-28\070924\QuantResults\lam 27.batch.bin
Last Cal. Update 7/10/2024 1:40 PM
Analyst Name ISP\datastor
Analyte THC-OH **Internal Standard** THC-OH-d3

THC-OH - 7 Levels, 7 Levels Used, 7 Points, 7 Points Used, 2 QCs



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
mj cal 1	1	✓	1.0	1.2	122.2
mj cal 2	2	✓	3.0	2.9	96.9
mj cal 3	3	✓	5.0	4.7	93.8
mj cal 4	4	✓	10.0	8.9	88.6
mj cal 5	5	✓	25.0	24.3	97.3
mj cal 6	6	✓	50.0	49.2	98.4
mj cal 7	7	✓	100.0	102.8	102.8

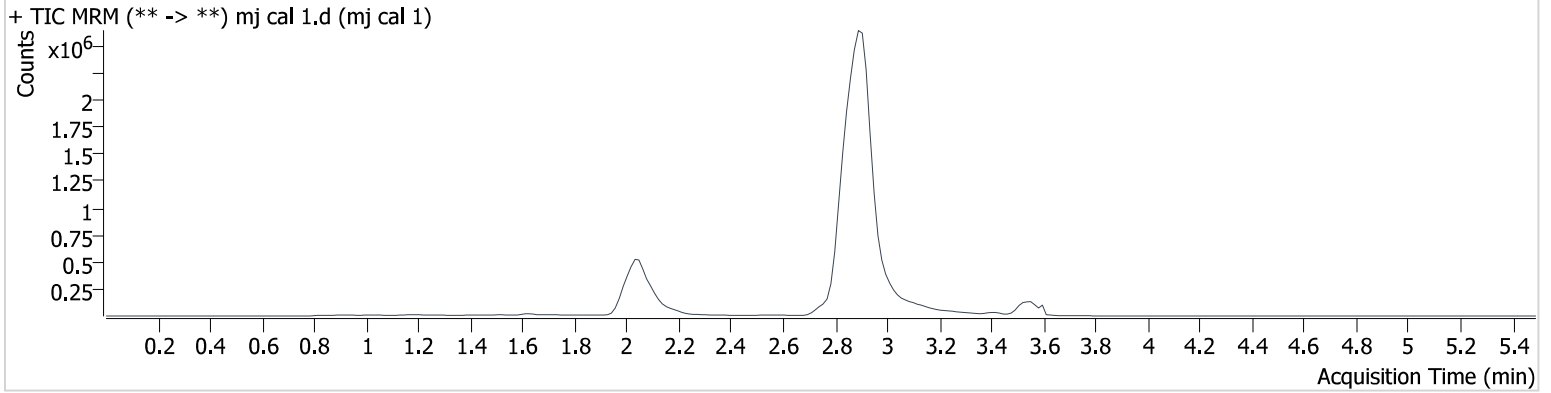
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\070924\QuantResults\am 27.batch.bin
Calibration Last Update 7/10/2024 1:40:19 PM

Instrument 69679
Type Cal
Acq. Method thc quant 50 50.m
Sample Position P3-A1
Injection Volume 10
Acq. Date-Time 7/9/2024 7:23:16 PM
Sample Info.

Data File mj cal 1.d
Sample mj cal 1
Operator Anne Nord
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-OH	2.051	6431	∞	749.81	363.7	2403559	1.222 ng/ml	Low
THC-COOH	2.107	18802	51.0	282.16	126.5	825562	5.525 ng/ml	
THC	3.558	11023	∞	21.36	∞	465953	1.066 ng/ml	

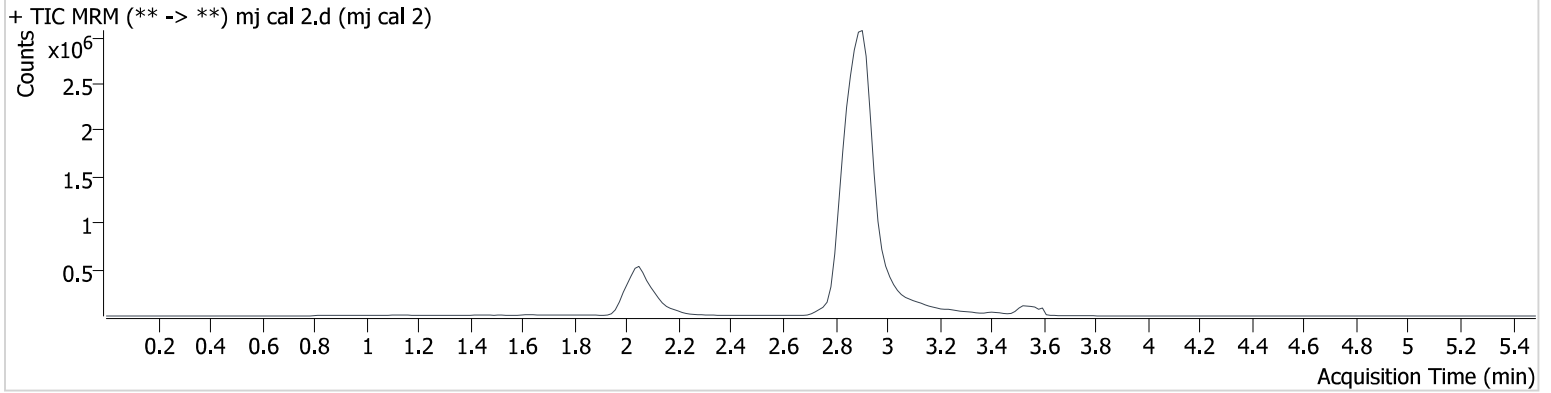
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\070924\QuantResults\am 27.batch.bin
Calibration Last Update 7/10/2024 1:40:19 PM

Instrument 69679
Type Cal
Acq. Method thc quant 50 50.m
Sample Position P3-B1
Injection Volume 10
Acq. Date-Time 7/9/2024 7:30:00 PM
Sample Info.

Data File mj cal 2.d
Sample mj cal 2
Operator Anne Nord
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-OH	2.051	19768	∞	843.21	∞	2271269	2.907 ng/ml	Low
THC-COOH	2.107	37375	209.2	282.70	112448	808066	9.813 ng/ml	
THC	3.558	32663	∞	23.19	59.0	389169	3.157 ng/ml	

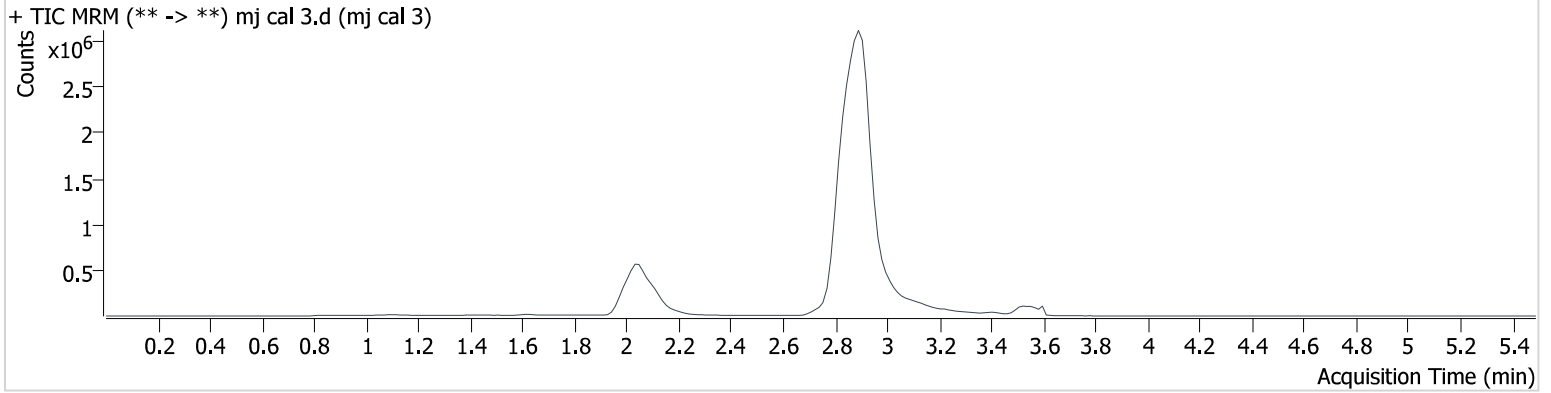
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\070924\QuantResults\am 27.batch.bin
Calibration Last Update 7/10/2024 1:40:19 PM

Instrument 69679
Type Cal
Acq. Method thc quant 50 50.m
Sample Position P3-C1
Injection Volume 10
Acq. Date-Time 7/9/2024 7:36:35 PM
Sample Info.

Data File mj cal 3.d
Sample mj cal 3
Operator Anne Nord
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-OH	2.036	34649	1005.5	888.84	781.1	2297611	4.690 ng/ml
THC-COOH	2.107	83271	93845.6	281.16	7501.1	834606	19.588 ng/ml
THC	3.558	48954	∞	25.16	196.9	376410	4.757 ng/ml

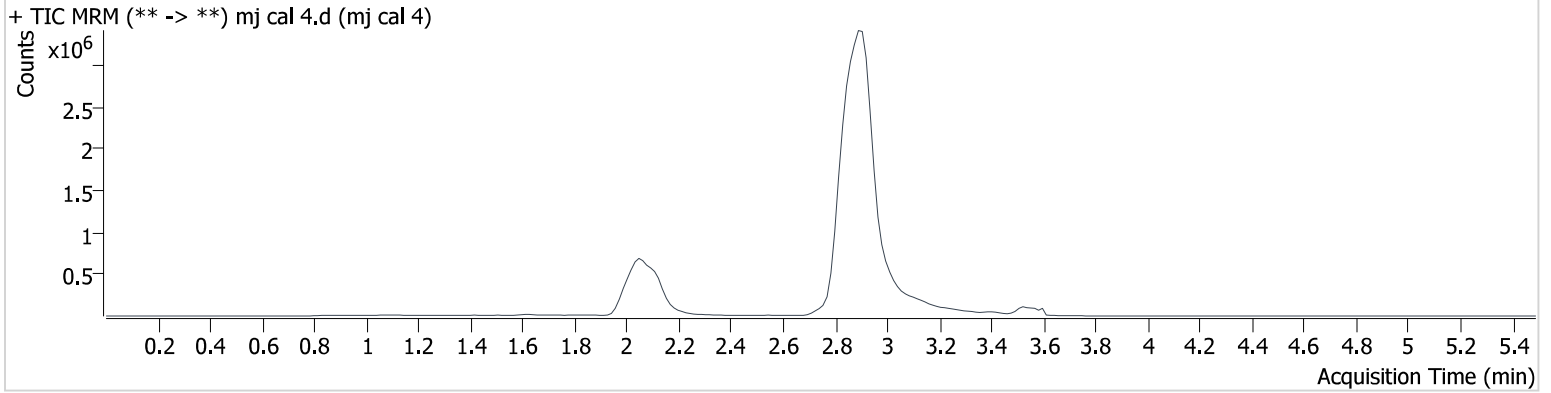
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\070924\QuantResults\am 27.batch.bin
Calibration Last Update 7/10/2024 1:40:19 PM

Instrument 69679
Type Cal
Acq. Method thc quant 50 50.m
Sample Position P3-D1
Injection Volume 10
Acq. Date-Time 7/9/2024 7:43:09 PM
Sample Info.

Data File mj cal 4.d
Sample mj cal 4
Operator Anne Nord
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-OH	2.051	71742	∞	907.82	∞	2392624	8.857 ng/ml
THC-COOH	2.107	215307	500.9	277.77	494.7	847044	47.789 ng/ml
THC	3.558	88115	1146.3	24.48	∞	332057	9.450 ng/ml

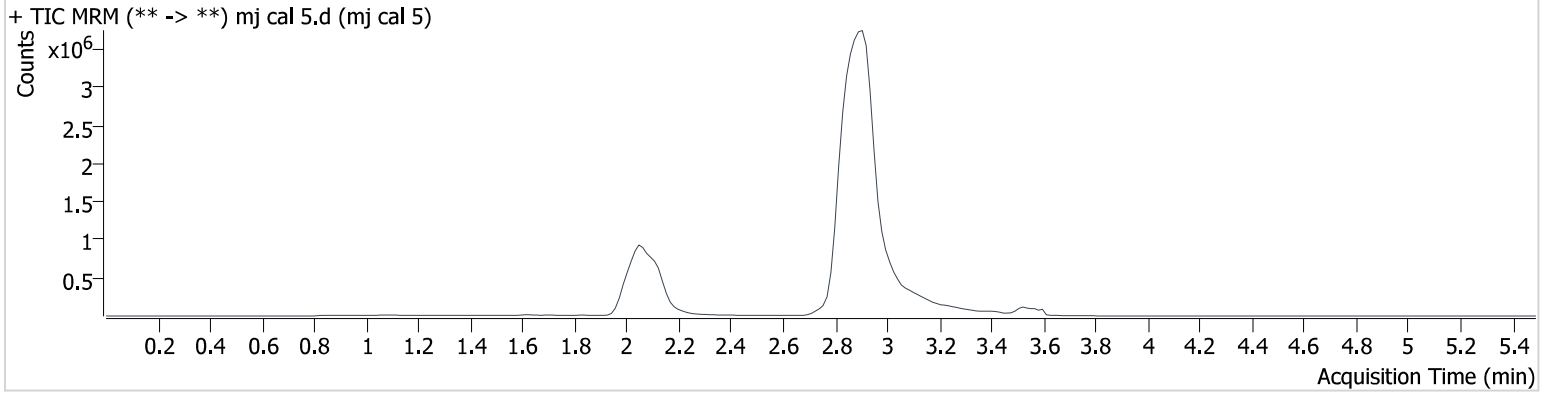
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\070924\QuantResults\am 27.batch.bin
Calibration Last Update 7/10/2024 1:40:19 PM

Instrument 69679
Type Cal
Acq. Method thc quant 50 50.m
Sample Position P3-E1
Injection Volume 10
Acq. Date-Time 7/9/2024 7:49:45 PM
Sample Info.

Data File mj cal 5.d
Sample mj cal 5
Operator Anne Nord
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-OH	2.036	199866	∞	862.16	∞	2343081	24.321 ng/ml
THC-COOH	2.107	320898	370132.0	274.85	2810.9	827590	72.183 ng/ml
THC	3.528	200564	8238594007 0469.5	22.40	∞	284049	24.739 ng/ml

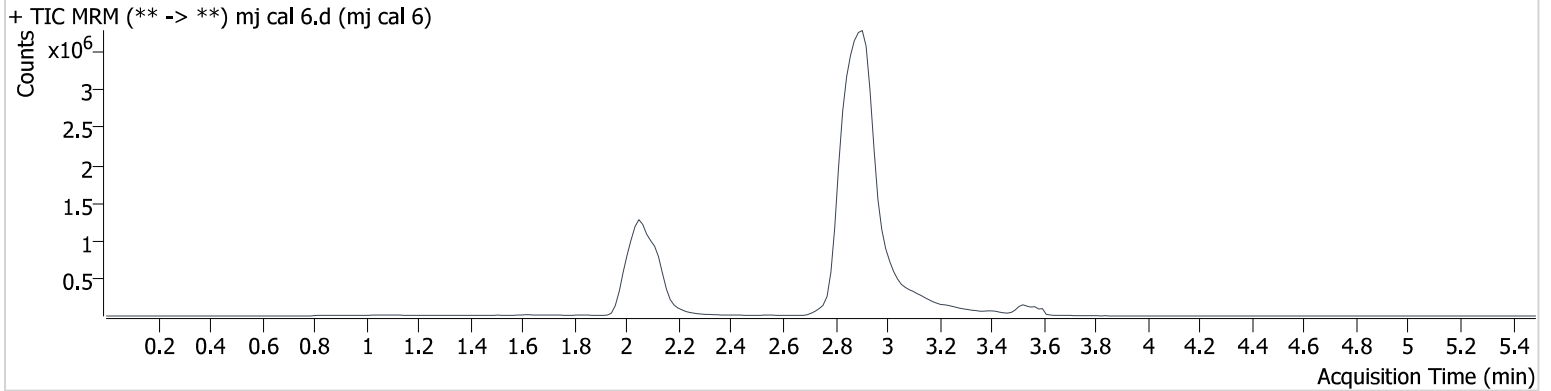
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\070924\QuantResults\am 27.batch.bin
Calibration Last Update 7/10/2024 1:40:19 PM

Instrument 69679
Type Cal
Acq. Method thc quant 50 50.m
Sample Position P3-F1
Injection Volume 10
Acq. Date-Time 7/9/2024 7:56:20 PM
Sample Info.

Data File mj cal 6.d
Sample mj cal 6
Operator Anne Nord
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-OH	2.036	404527	∞	839.10	∞	2320331	49.212 ng/ml
THC-COOH	2.107	437022	1147.4	269.57	124774	815094	99.289 ng/ml
THC	3.528	362270	2247.0	23.81	555.4	258977	48.770 ng/ml

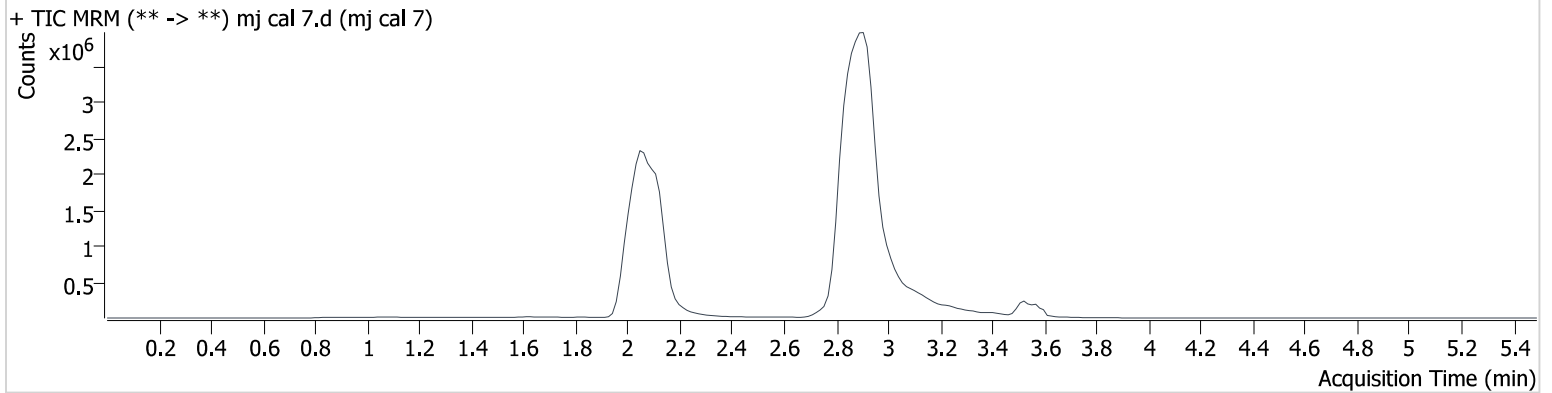
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\070924\QuantResults\am 27.batch.bin
Calibration Last Update 7/10/2024 1:40:19 PM

Instrument 69679
Type Cal
Acq. Method thc quant 50 50.m
Sample Position P3-G1
Injection Volume 10
Acq. Date-Time 7/9/2024 8:02:56 PM
Sample Info.

Data File mj cal 7.d
Sample mj cal 7
Operator Anne Nord
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-OH	2.036	918845	∞	824.92	∞	2510532	102.791 ng/ml
THC-COOH	2.107	1110427	37633.6	270.95	∞	797041	255.814 ng/ml
THC	3.528	780661	12388.0	24.07	3022.9	265968	102.062 ng/ml