

REVIEWED

By Celena Shrum at 11:50 am, Feb 08, 2024



2/5/2024

Worklist: 6670

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<u>LAB_CASE</u>	<u>ITEM</u>	<u>ITEM_TYPE</u>	<u>DESCRIPTION</u>	
C2024-0087	1	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
C2024-0088	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2024-0092	1	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
C2024-0098	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2024-0099	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2024-0122	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2024-0128	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2024-0134	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2024-0141	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2024-0164	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: 2/1/24

Plate lot#: 231212

Mobile phase A: 0.1% Formic Acid in LCMS Water

Blank Blood Lot: 23J52629

Column: UCT Selectra DA 100 x 2.1mm 3um

Analyst: Anne Nord

Plate Retest Date: 6/12/24

Mobile phase B: 0.1% Formic acid in Acetonitrile

Blank Urine Lot: 1324

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: I41142J**
- 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: **800 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 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 r^2 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: *Mikel Buffaloe hands of the analyst*

	1	2	3	4	5	6
a	cal 1	Internal control urine	0141-1			
b	cal 2	negative blood	0164-1			
c	cal 3	0088-1	negative urine			
d	cal 4	0098-1	0087-1			
e	cal 5	0099-1	0092-1			
f	cal 6	0122-1				
g	cal 7	0128-1				
h	Internal control (blood)	0134-1				

Plate position 3

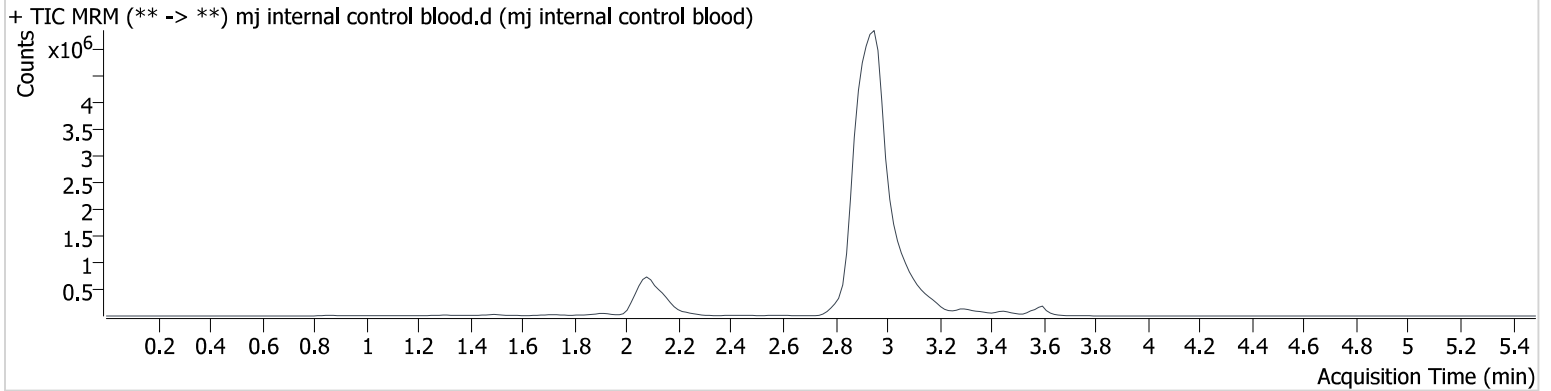
c2024-____-__

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\020124\QuantResults\am 27.batch.bin
Calibration Last Update 2/5/2024 8:59:05 AM

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 2/2/2024 12:42:47 PM
Sample Info.

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	2.081	41931	443.2	820.41	∞	3015688	4.710 ng/ml
THC-COOH	2.152	75935	365.5	271.09	291091	1152946	13.918 ng/ml
THC	3.603	66062	2983.8	26.96	∞	492125	4.491 ng/ml

AM #27 Cannabinoids

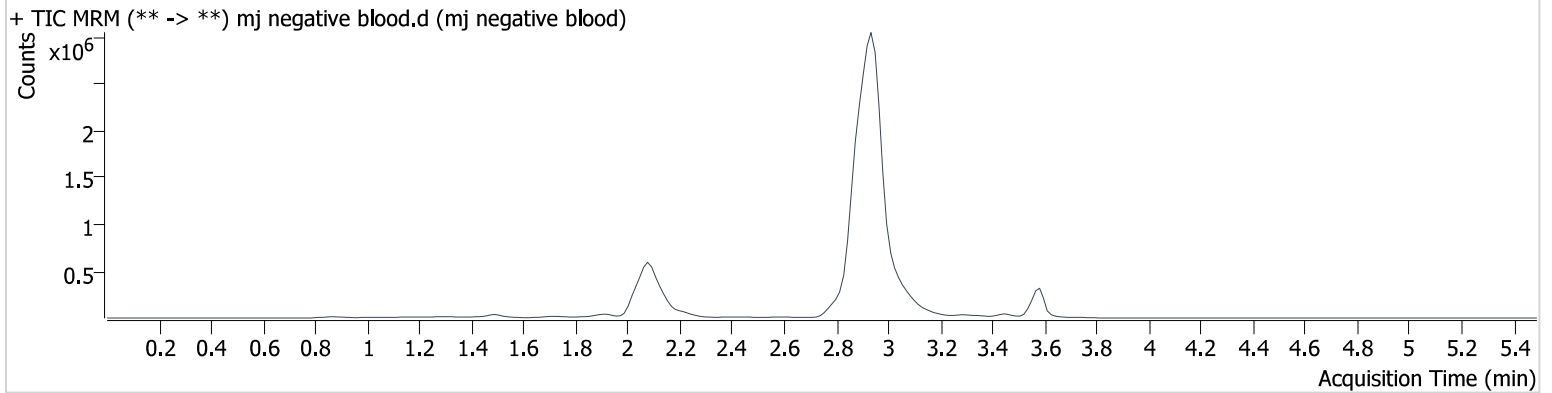
Batch results D:\MassHunter\Data\2024\am 27-28\020124\QuantResults\am 27.batch.bin
Calibration Last Update 2/5/2024 8:59:05 AM

Instrument 69679
Type Sample
Acq. Method thc quant 50 50.m
Sample Position P3-B2
Injection Volume 10
Acq. Date-Time 2/2/2024 12:49:22 PM
Sample Info.

Data File mj negative blood.d
Sample mj negative blood
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

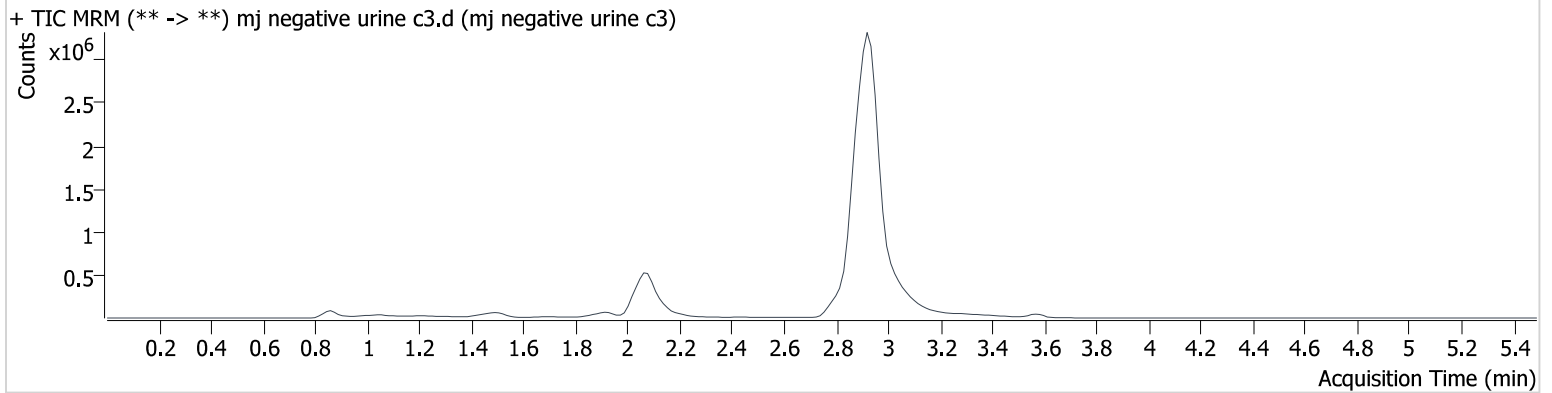


AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\020124\QuantResults\am 27.batch.bin
Calibration Last Update 2/5/2024 8:59:05 AM

Instrument	69679	Data File	mj negative urine c3.d
Type	Sample	Sample	mj negative urine c3
Acq. Method	thc quant 50 50.m	Operator	Anne Nord
Sample Position	P3-C3	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	2/2/2024 2:41:31 PM		
Sample Info.			

Sample Chromatogram

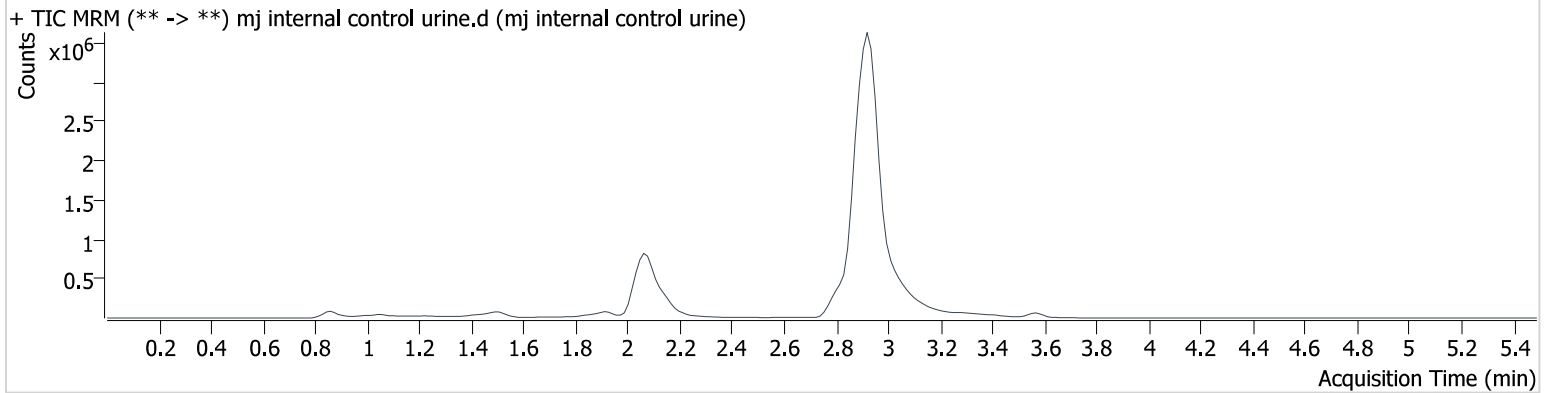


AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\020124\QuantResults\am 27.batch.bin
Calibration Last Update 2/5/2024 8:59:05 AM

Instrument	69679	Data File	mj internal control urine.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	2/2/2024 3:14:31 PM		
Sample Info.			

Sample Chromatogram



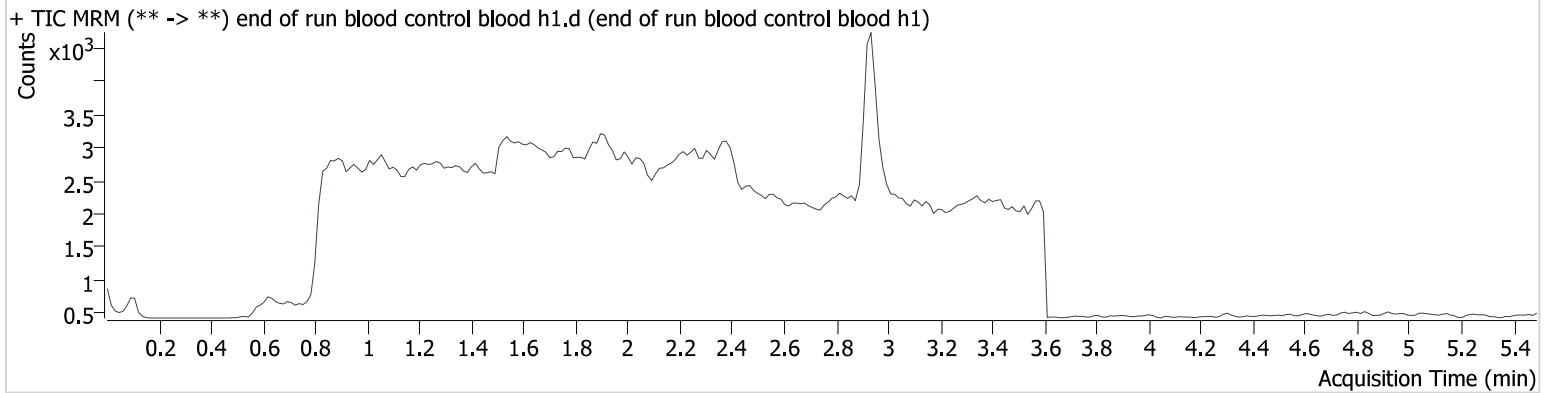
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	2.066	47264	282.3	878.80	1873.2	3580781	4.487 ng/ml
THC-COOH	2.137	55703	120.1	318.19	168290	815662	14.398 ng/ml
THC	3.573	24832	∞	27.61	∞	192126	4.339 ng/ml

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\020124\QuantResults\am 27.batch.bin
Calibration Last Update 2/5/2024 8:59:05 AM

Instrument	69679	Data File	end of run blood control blood h1.d
Type	Sample	Sample	end of run blood control blood h1
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	2/2/2024 3:21:07 PM		
Sample Info.			

Sample Chromatogram



Sample did not inject.

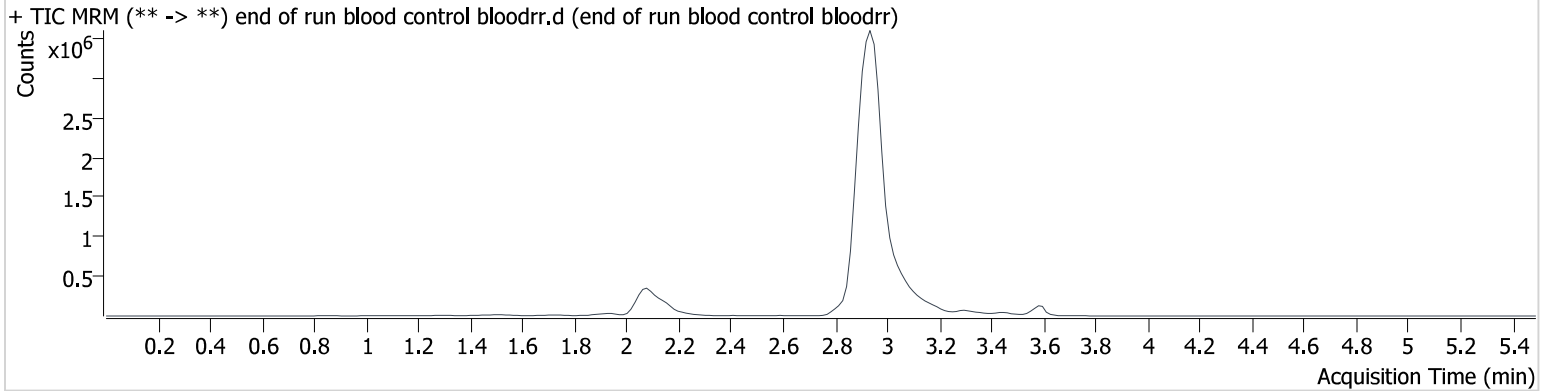
*Reconstituted and reinjected

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\020124\QuantResults\am 27.batch.bin
Calibration Last Update 2/5/2024 8:59:05 AM

Instrument 69679 **Data File** end of run blood control bloodrr.d
Type Sample **Sample** end of run blood control bloodrr
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 2/2/2024 4:17:39 PM
Sample Info.

Sample Chromatogram

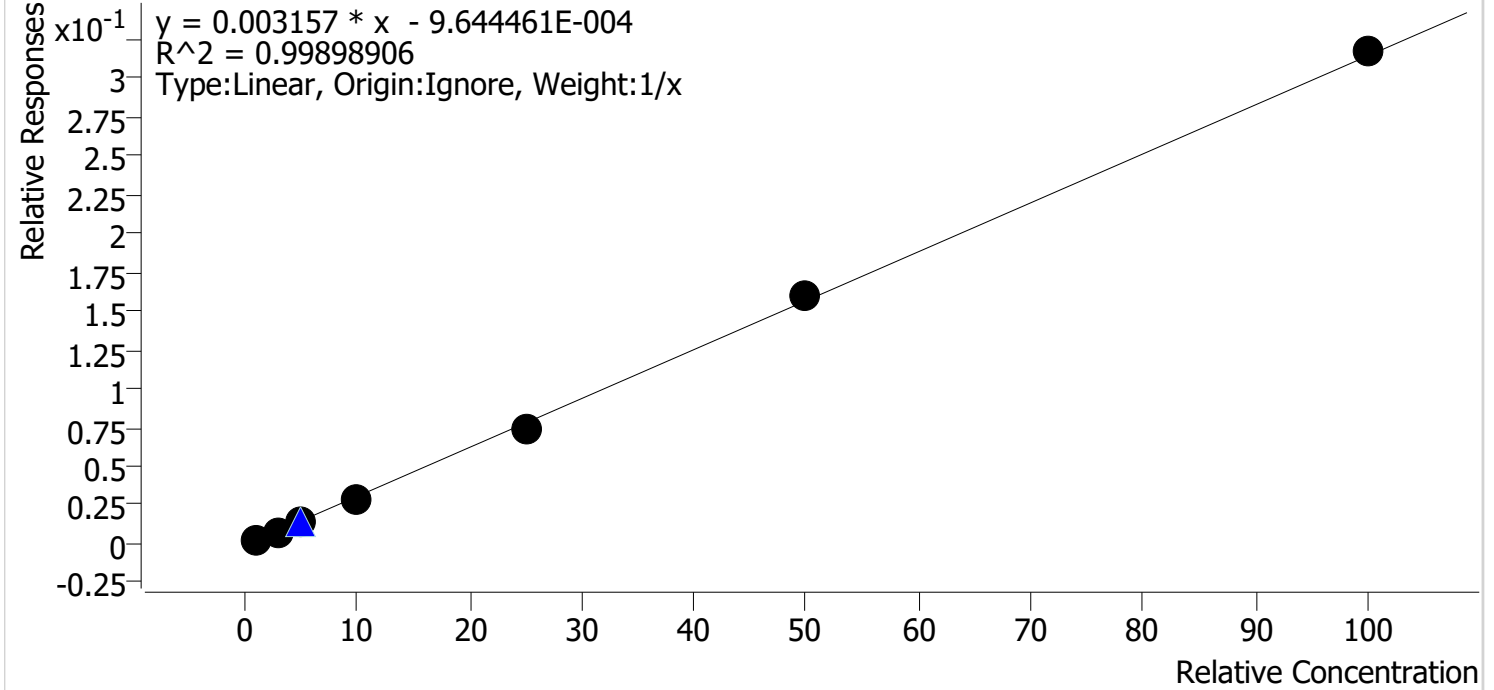


Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	2.081	20065	434.6	858.56	∞	1359087	4.983 ng/ml
THC-COOH	2.152	33826	179.8	286.44	6147.5	492074	14.487 ng/ml
THC	3.588	41214	8612.4	22.18	76.0	279521	4.892 ng/ml

Compound Calibration Report

Batch results D:\MassHunter\Data\2024\lam 27-28\020124\QuantResults\lam 27.batch.bin
Last Cal. Update 2/5/2024 8:59 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, 1 QCs



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
mj cal 1	1	✓	1.0	1.2	115.8
mj cal 2	2	✓	3.0	2.9	96.4
mj cal 3	3	✓	5.0	4.9	97.1
mj cal 4	4	✓	10.0	9.1	91.4
mj cal 5	5	✓	25.0	24.1	96.4
mj cal 6	6	✓	50.0	51.0	102.0
mj cal 7	7	✓	100.0	100.8	100.8

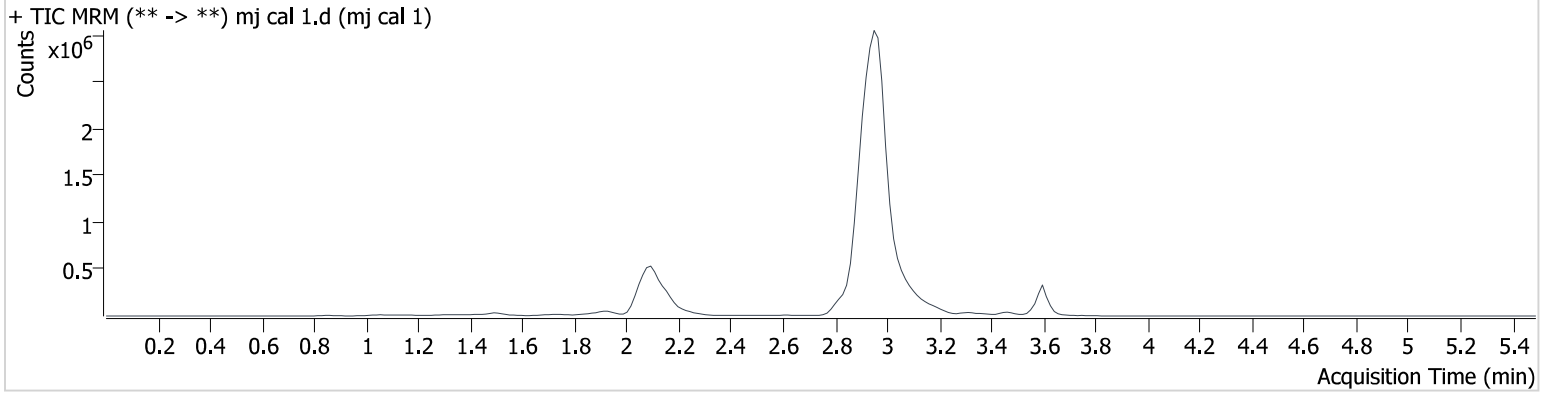
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\020124\QuantResults\am 27.batch.bin
Calibration Last Update 2/5/2024 8:59:05 AM

Instrument 69679
Type Cal
Acq. Method thc quant 50 50.m
Sample Position P3-A1
Injection Volume 10
Acq. Date-Time 2/2/2024 11:56:33 AM
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	2.081	6708	104.8	799.96	∞	2492417	1.158 ng/ml	Low
THC-COOH	2.167	19955	40.5	274.73	50.3	906619	5.252 ng/ml	
THC	3.603	20276	∞	21.97	443.5	742234	1.239 ng/ml	

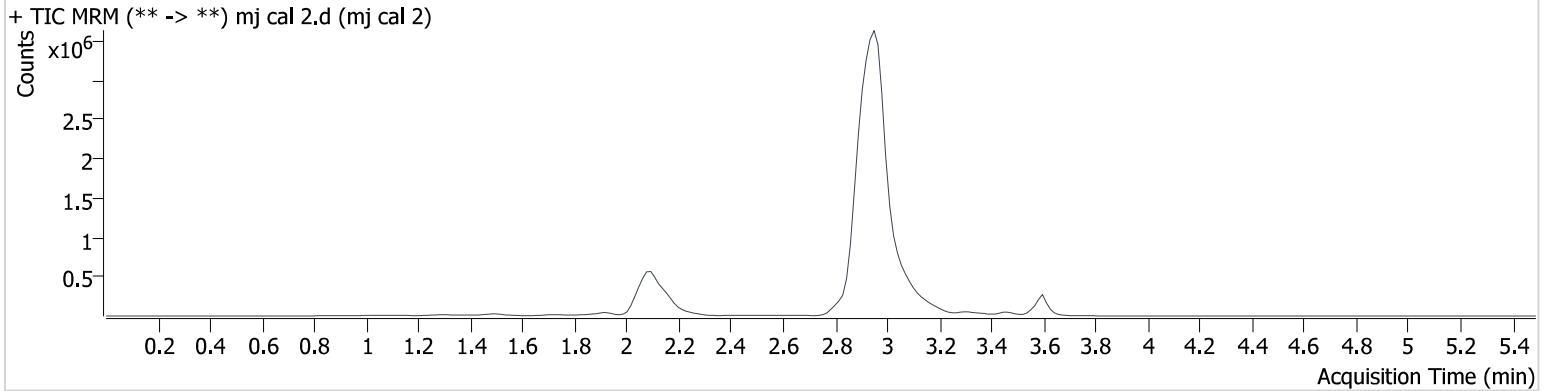
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\020124\QuantResults\am 27.batch.bin
Calibration Last Update 2/5/2024 8:59:05 AM

Instrument 69679
Type Cal
Acq. Method thc quant 50 50.m
Sample Position P3-B1
Injection Volume 10
Acq. Date-Time 2/2/2024 12:03:17 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	2.096	20362	549.3	862.86	∞	2493637	2.892 ng/ml	Low
THC-COOH	2.167	43815	31492.0	276.30	42.9	944475	10.070 ng/ml	
THC	3.603	52768	∞	25.88	∞	658711	2.845 ng/ml	

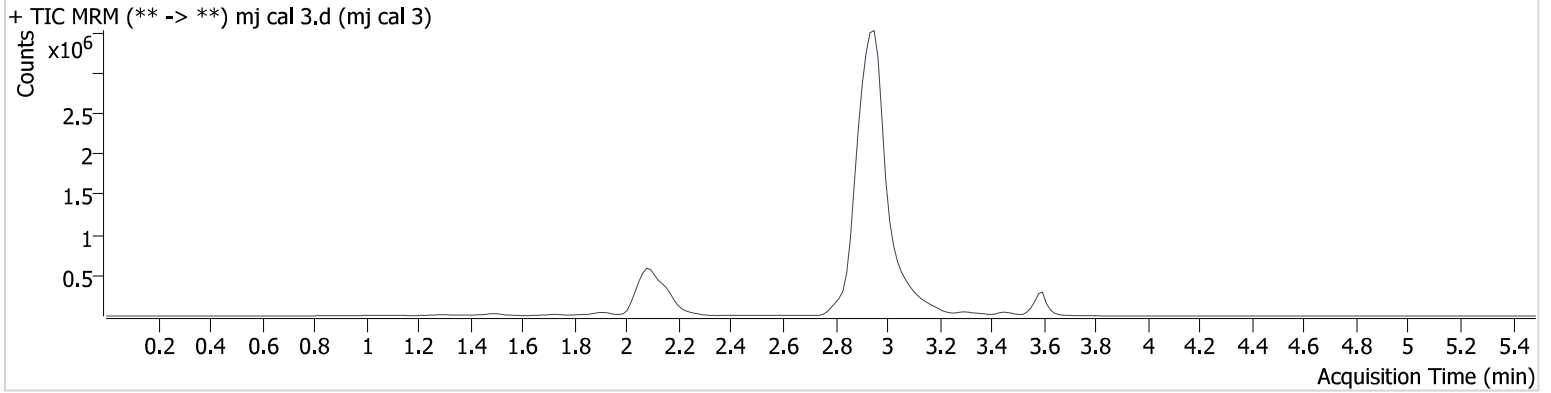
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\020124\QuantResults\am 27.batch.bin
Calibration Last Update 2/5/2024 8:59:05 AM

Instrument 69679
Type Cal
Acq. Method thc quant 50 50.m
Sample Position P3-C1
Injection Volume 10
Acq. Date-Time 2/2/2024 12:09:53 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	2.081	34809	∞	856.65	∞	2423267	4.856 ng/ml
THC-COOH	2.152	89241	1542.5	285.26	293102	914099	20.195 ng/ml
THC	3.603	95045	∞	25.89	1786.7	682654	4.642 ng/ml

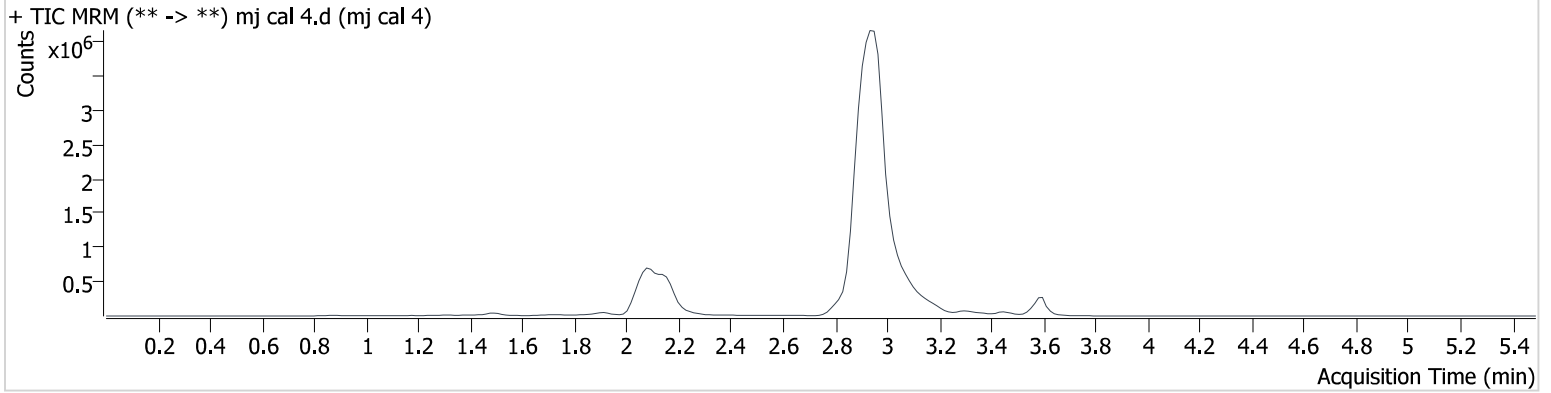
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\020124\QuantResults\am 27.batch.bin
Calibration Last Update 2/5/2024 8:59:05 AM

Instrument 69679
Type Cal
Acq. Method thc quant 50 50.m
Sample Position P3-D1
Injection Volume 10
Acq. Date-Time 2/2/2024 12:16:28 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	2.081	71281	586.6	910.31	∞	2556487	9.139 ng/ml
THC-COOH	2.152	223657	258842.2	265.89	381.4	999349	45.130 ng/ml
THC	3.603	177000	∞	24.50	∞	602710	9.339 ng/ml

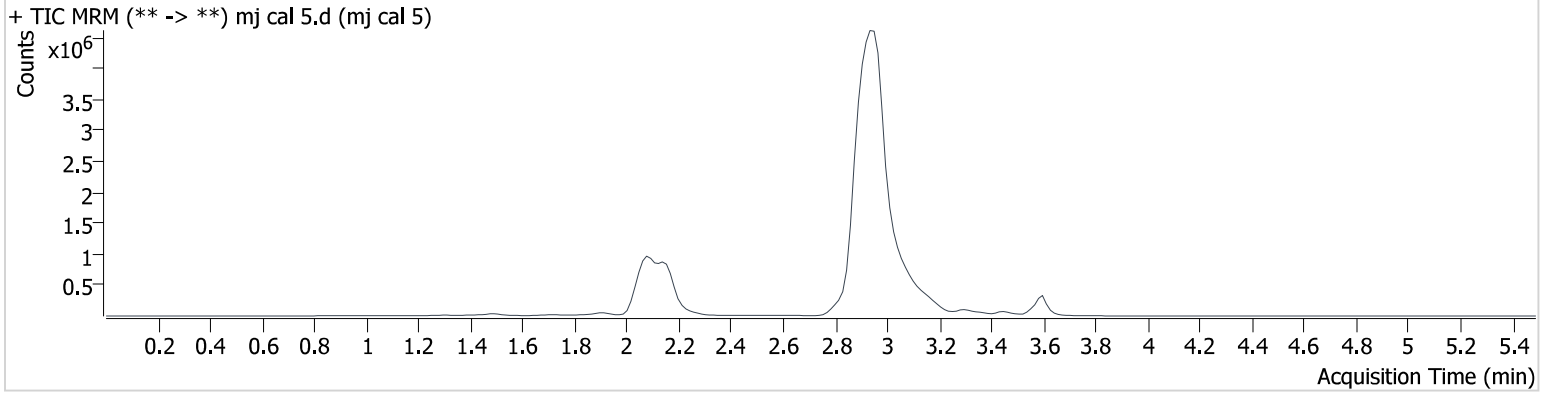
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\020124\QuantResults\am 27.batch.bin
Calibration Last Update 2/5/2024 8:59:05 AM

Instrument 69679
Type Cal
Acq. Method thc quant 50 50.m
Sample Position P3-E1
Injection Volume 10
Acq. Date-Time 2/2/2024 12:23:04 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	2.081	197465	2173.4	875.01	∞	2629254	24.099 ng/ml
THC-COOH	2.152	366384	1429.1	270.92	369.9	980427	74.753 ng/ml
THC	3.603	379331	9114.9	25.94	∞	500971	23.435 ng/ml

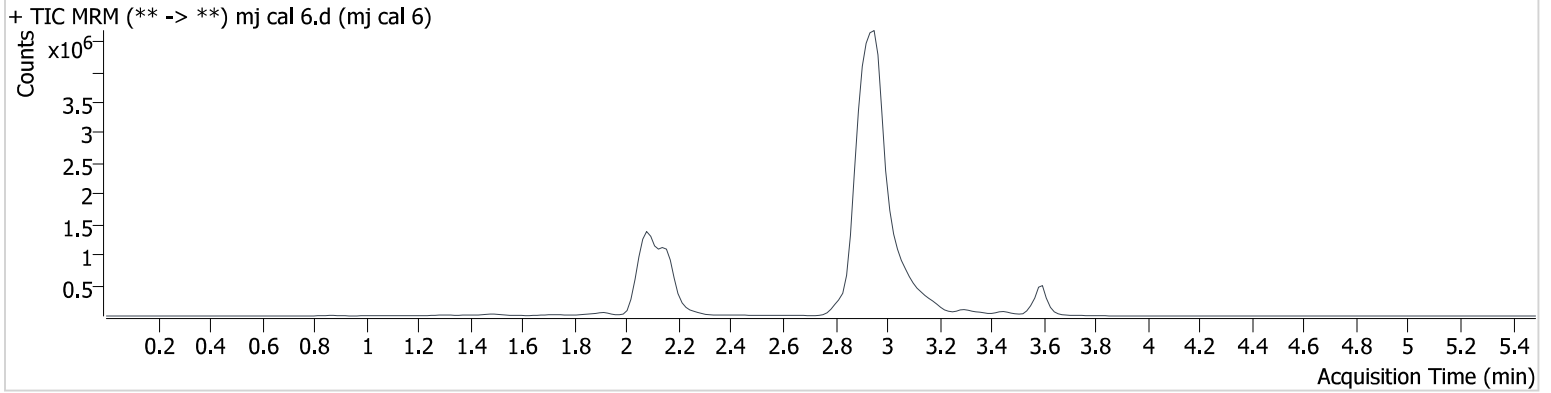
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\020124\QuantResults\am 27.batch.bin
Calibration Last Update 2/5/2024 8:59:05 AM

Instrument 69679
Type Cal
Acq. Method thc quant 50 50.m
Sample Position P3-F1
Injection Volume 10
Acq. Date-Time 2/2/2024 12:29:38 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	2.081	416424	18980.0	835.07	∞	2601828	51.010 ng/ml
THC-COOH	2.152	490279	2585.6	269.59	2395.7	953375	102.530 ng/ml
THC	3.603	824928	22985.6	27.73	∞	518662	48.776 ng/ml

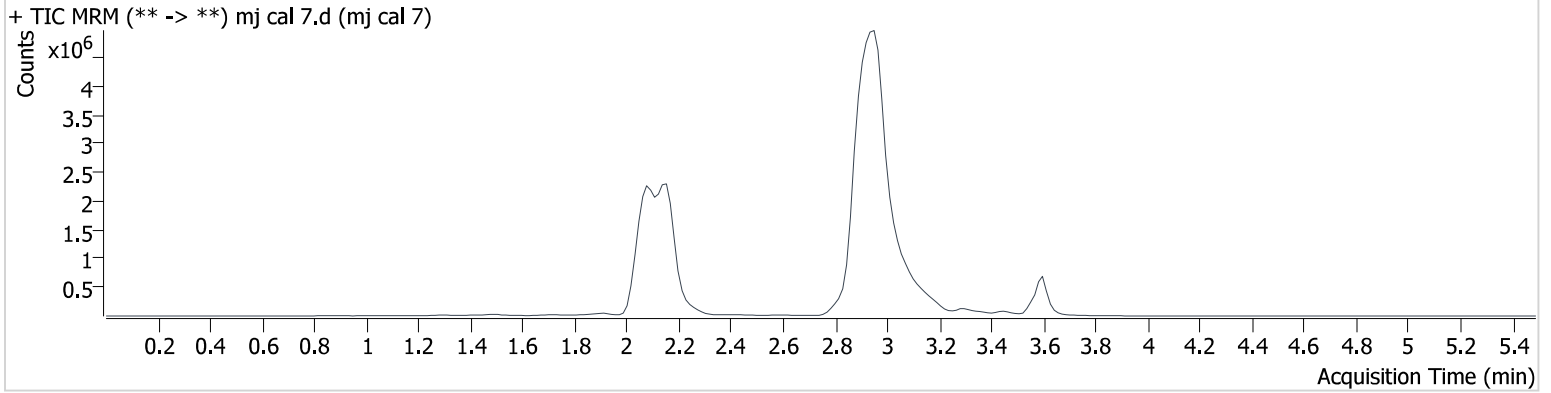
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\020124\QuantResults\am 27.batch.bin
Calibration Last Update 2/5/2024 8:59:05 AM

Instrument 69679
Type Cal
Acq. Method thc quant 50 50.m
Sample Position P3-G1
Injection Volume 10
Acq. Date-Time 2/2/2024 12:36:12 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	2.081	893970	∞	806.42	∞	2816943	100.845 ng/ml
THC-COOH	2.152	1236225	1548.6	266.10	2267.6	972675	252.070 ng/ml
THC	3.603	1403403	22783.2	27.54	∞	413082	103.724 ng/ml