3/21/2024

REVIEWED
By Britany Wylie at 1:22 pm, Mar 21, 2024

Worklist: 6735

LAB_CASE	ITEM	ITEM_TYPE	DESCRIPTION	
C2024-0383	1	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
C2024-0388	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2024-0426	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2024-0440	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2024-0446	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2024-0503	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2024-0504	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: 3/20/24
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: *Negative urine did not inject on 3/20/24, sample was reconstituted and injected 3/21/24*

	1	2	3	4	5	6
a	cal 1	Internal control urine	negative urine			
b	cal 2	negative blood	0383-1			
c	cal 3	0388-1				
d	cal 4	0426-1				
e	cal 5	0440-1				
f	cal 6	0446-1				
g	cal 7	0503-1				
h	Internal control (blood)	0504-1				

Plate position 3

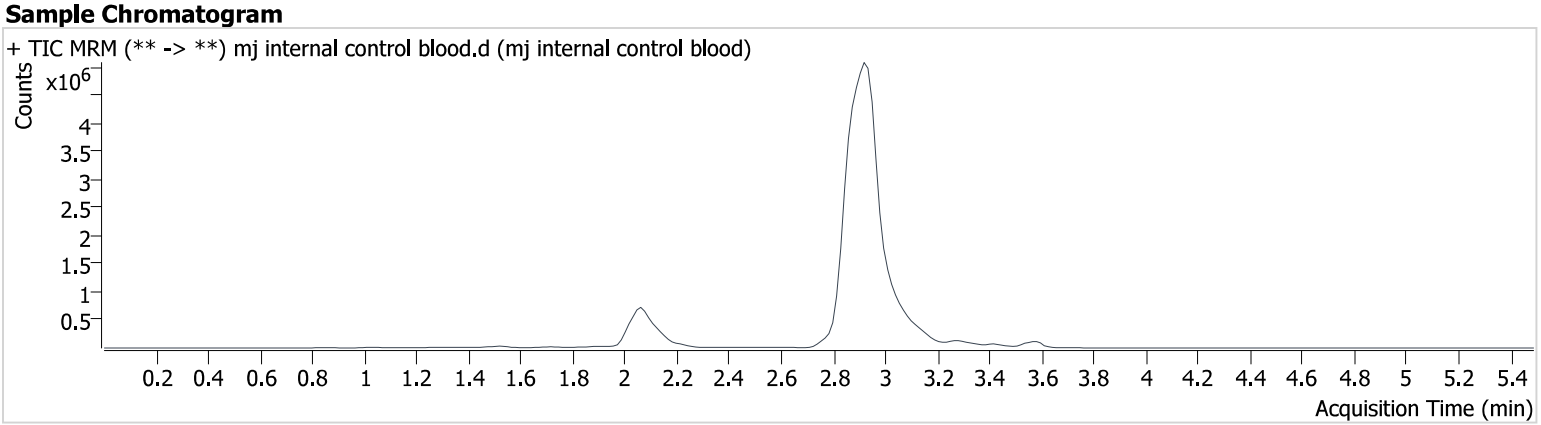
c2024-____-_

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\032024\QuantResults\am 27.batch.bin
Calibration Last Update 3/21/2024 10:19:39 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	3/20/2024 4:43:55 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	2.066	42704	403.8	907.72	∞	3019615	4.774 ng/ml
THC-COOH	2.122	61279	1859.2	289.95	152558.8	956111	13.714 ng/ml
THC	3.588	54355	∞	26.15	∞	379199	4.677 ng/ml

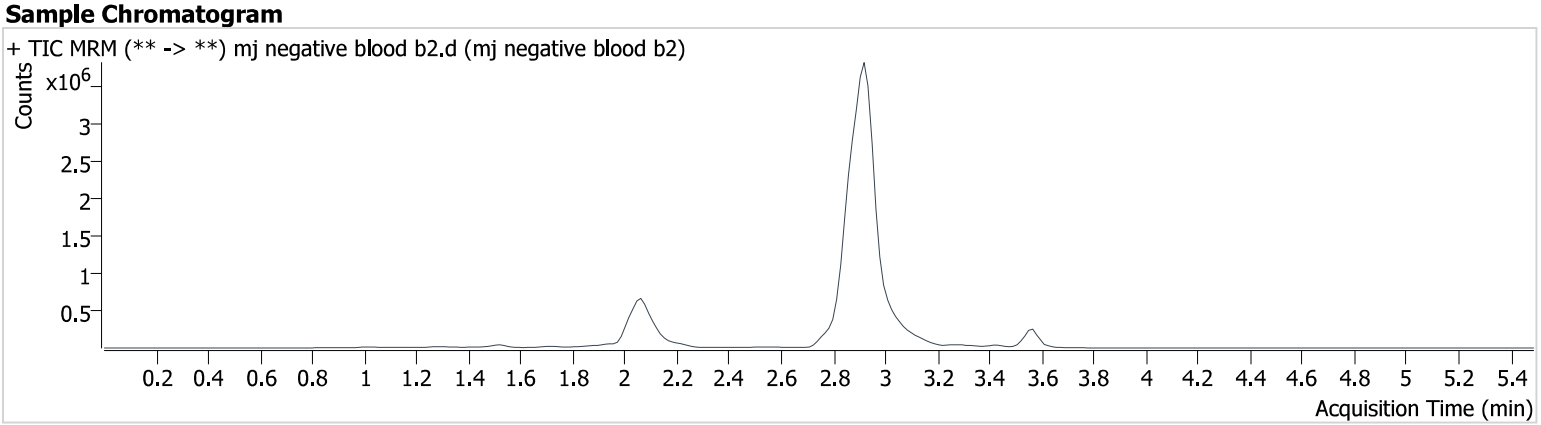
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\032024\QuantResults\am 27.batch.bin
Calibration Last Update 3/21/2024 10:19:39 AM

Instrument	69679	**Data File**	mj negative blood b2.d
Type	Sample	**Sample**	mj negative blood b2
Acq. Method	thc quant 50 50.m	**Operator**	Anne Nord
Sample Position	P3-B2	**Comment**	
Injection Volume	10		
Acq. Date-Time	3/20/2024 4:50:29 PM		
Sample Info.			

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

Sample Chromatogram



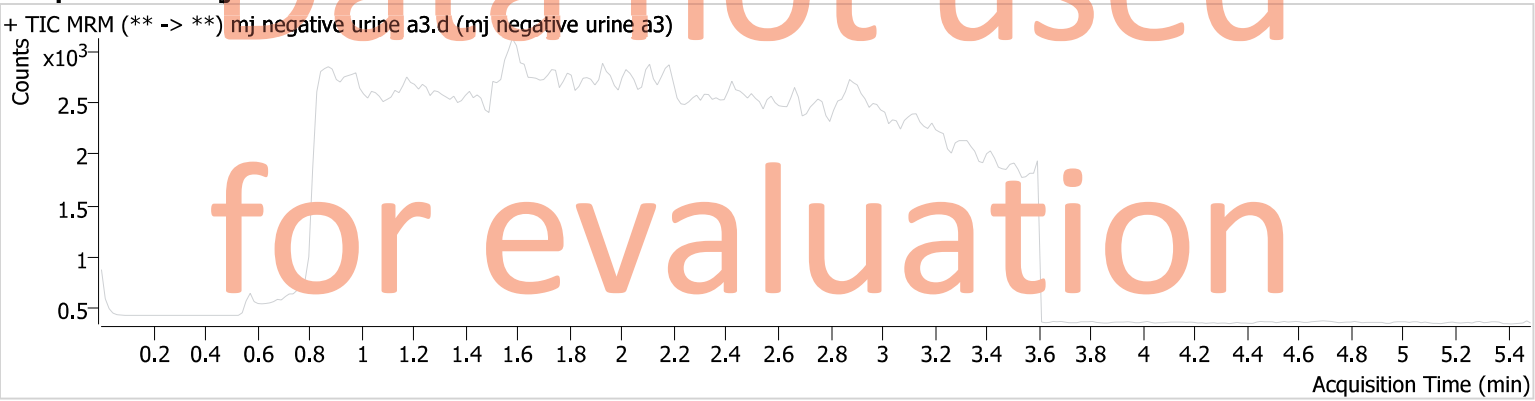
AM #27 Cannabinoids

Batch results	D:\MassHunter\Data\2024\am 27-28\032024\QuantResults\am 27.batch.bin
Calibration Last Update	3/21/2024 10:19:39 AM

Instrument	69679	**Data File**	mj negative urine a3.d
Type	Sample	**Sample**	mj negative urine a3
Acq. Method	thc quant 50 50.m	**Operator**	Anne Nord
Sample Position	P3-A3	**Comment**	
Injection Volume	10		
Acq. Date-Time	3/20/2024 6:22:50 PM		
Sample Info.			

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

Sample Chromatogram



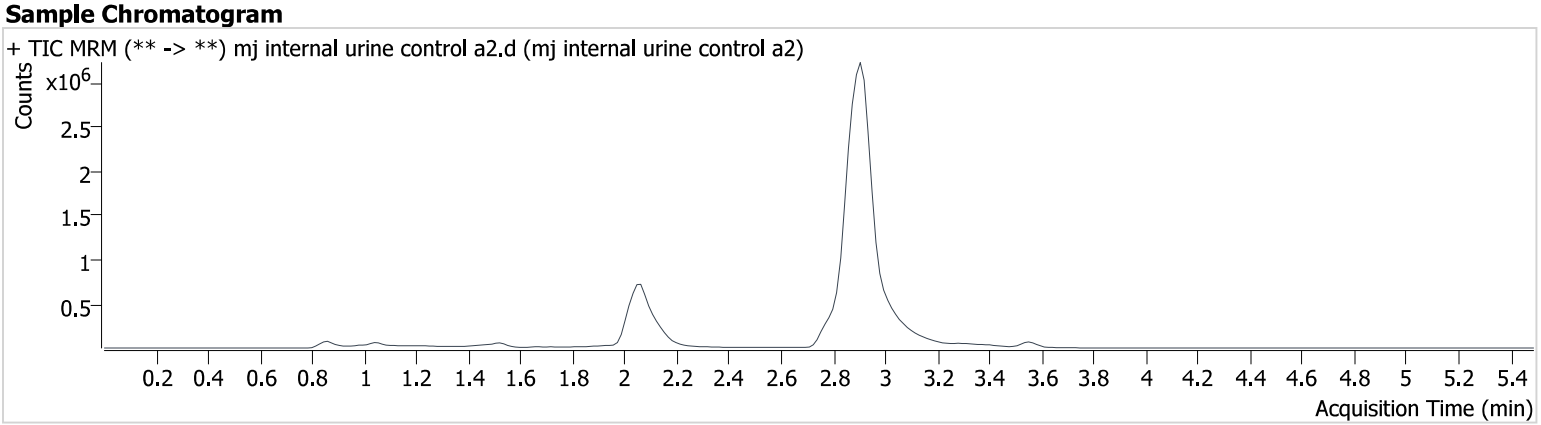
Did not inject sample was reconstituted and injected on 3/21/24 that sample will be evaluated

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\032024\QuantResults\am 27.batch.bin
Calibration Last Update 3/21/2024 10:19:39 AM

Instrument	69679	**Data File**	mj internal urine control a2.d
Type	Sample	**Sample**	mj internal urine control a2
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	3/20/2024 6:42:38 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	2.066	45074	∞	882.65	∞	3157611	4.814 ng/ml
THC-COOH	2.137	53996	150.6	311.63	155118.3	766734	14.938 ng/ml
THC	3.558	30373	527.7	25.13	∞	218110	4.557 ng/ml

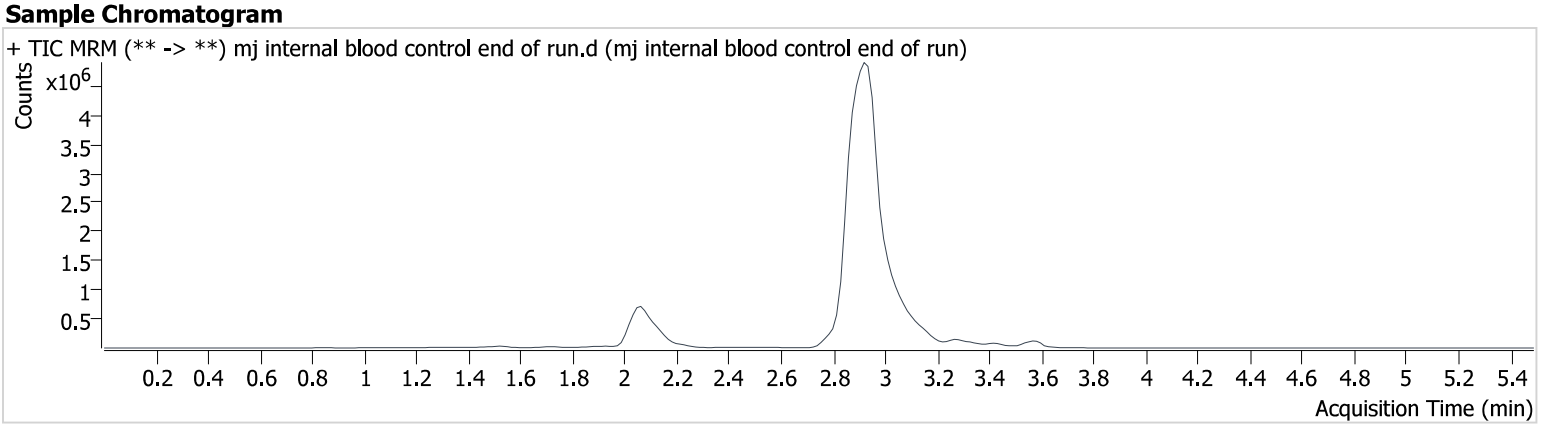
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\032024\QuantResults\am 27.batch.bin
Calibration Last Update 3/21/2024 10:19:39 AM

Instrument	69679	**Data File**	mj internal blood control end of run.d
Type	Sample	**Sample**	mj internal blood control end of run
Acq. Method	thc quant 50 50.m	**Operator**	Anne Nord
Sample Position	P3-H1	**Comment**	
Injection Volume	10		
Acq. Date-Time	3/20/2024 6:49:14 PM		
Sample Info.			

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

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	2.066	43988	∞	831.86	∞	2899019	5.088 ng/ml
THC-COOH	2.122	65935	311.4	282.12	143.6	974095	14.409 ng/ml
THC	3.573	58897	∞	26.63	129.9	394877	4.848 ng/ml

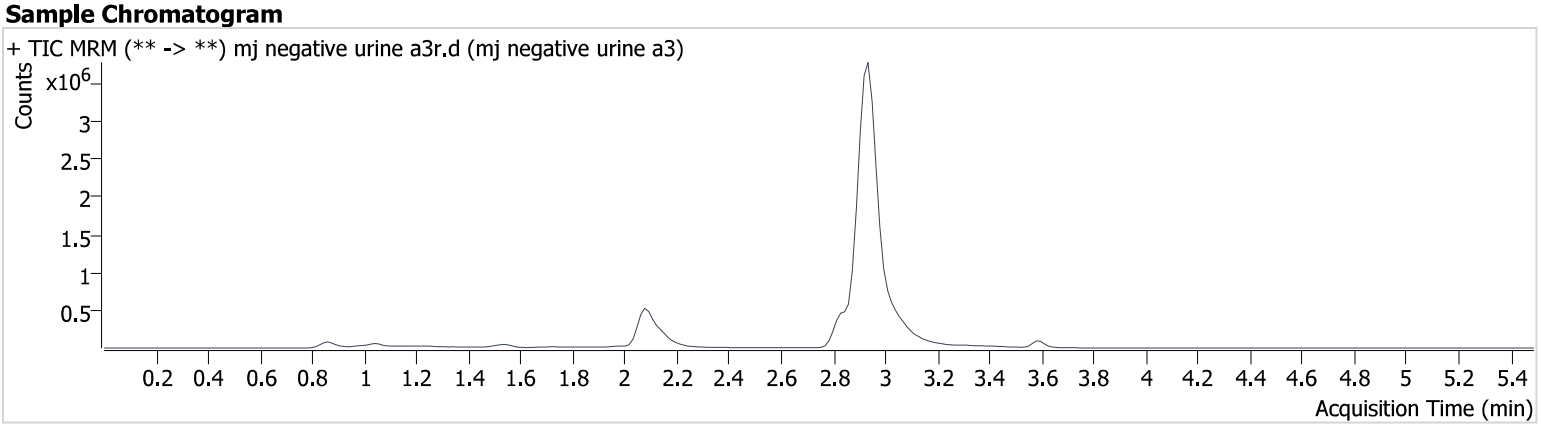
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\032024\QuantResults\am 27.batch.bin
Calibration Last Update 3/21/2024 10:19:39 AM

Instrument	69679	**Data File**	mj negative urine a3r.d
Type	Sample	**Sample**	mj negative urine a3
Acq. Method	thc quant 50 50.m	**Operator**	Anne Nord
Sample Position	P3-A3	**Comment**	
Injection Volume	10		
Acq. Date-Time	3/21/2024 9:48:56 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



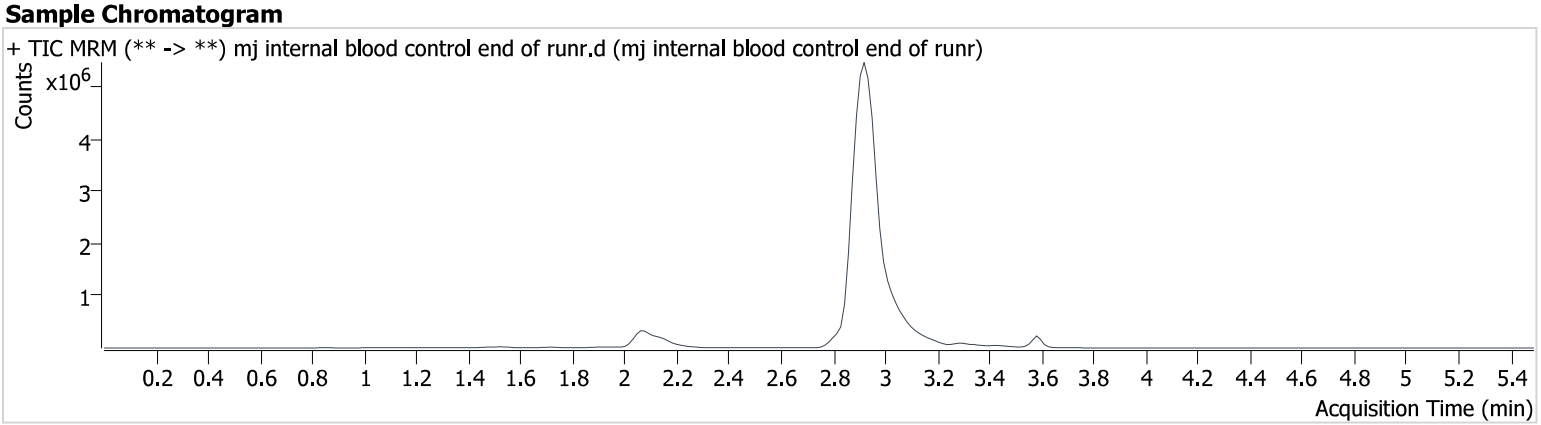
This sample was reconstituted and run 3/21/24

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\032024\QuantResults\am 27.batch.bin
Calibration Last Update 3/21/2024 10:19:39 AM

Instrument	69679	**Data File**	mj internal blood control end of runr.d
Type	Sample	**Sample**	mj internal blood control end of runr
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	3/21/2024 9:55:42 AM		
Sample Info.			

Sample Chromatogram

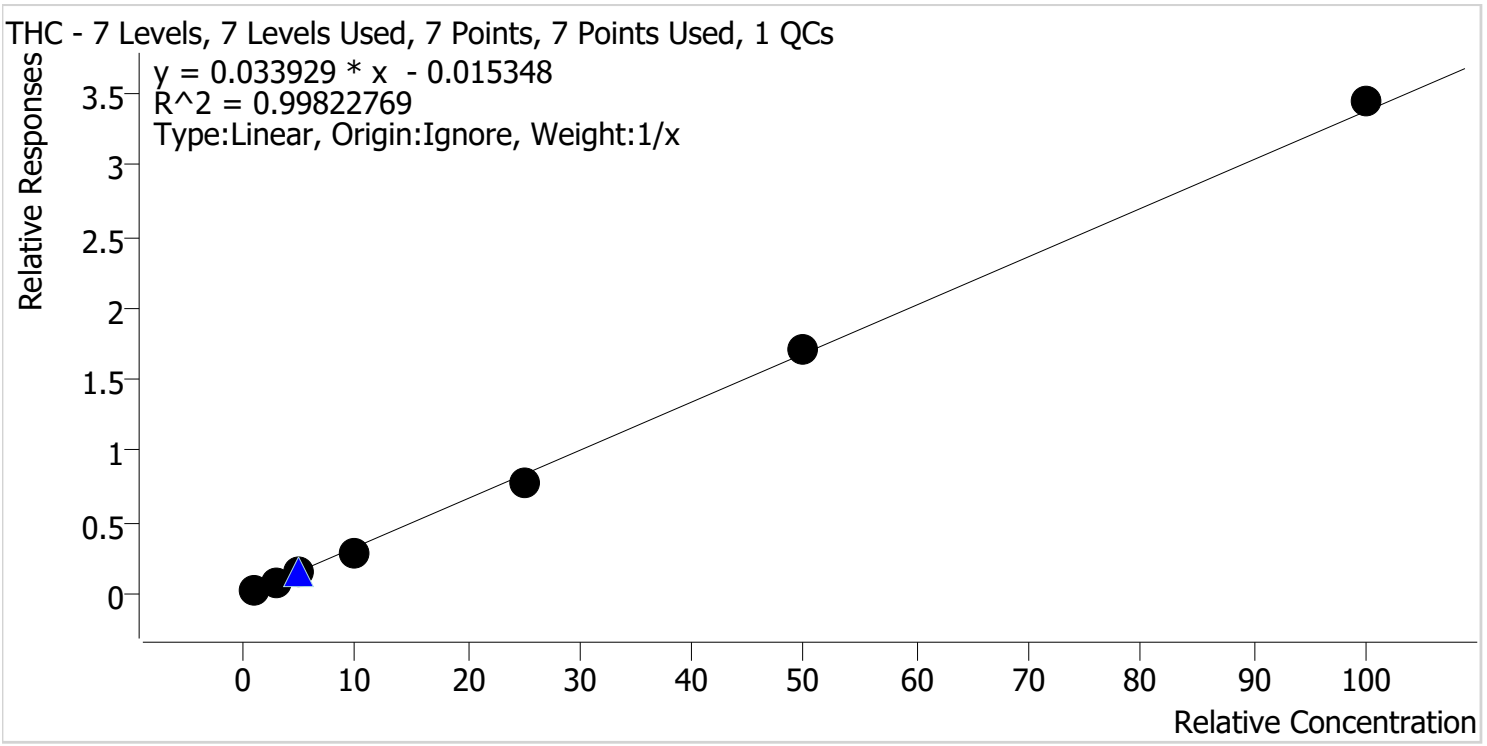


Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	2.066	19088	102.8	849.65	∞	1244933	5.136 ng/ml
THC-COOH	2.152	34276	1775.3	283.62	149591.2	500566	14.561 ng/ml
THC	3.588	65492	4596.1	23.91	171.0	418095	5.069 ng/ml

Reconstituted and run 3/21/24

Compound Calibration Report

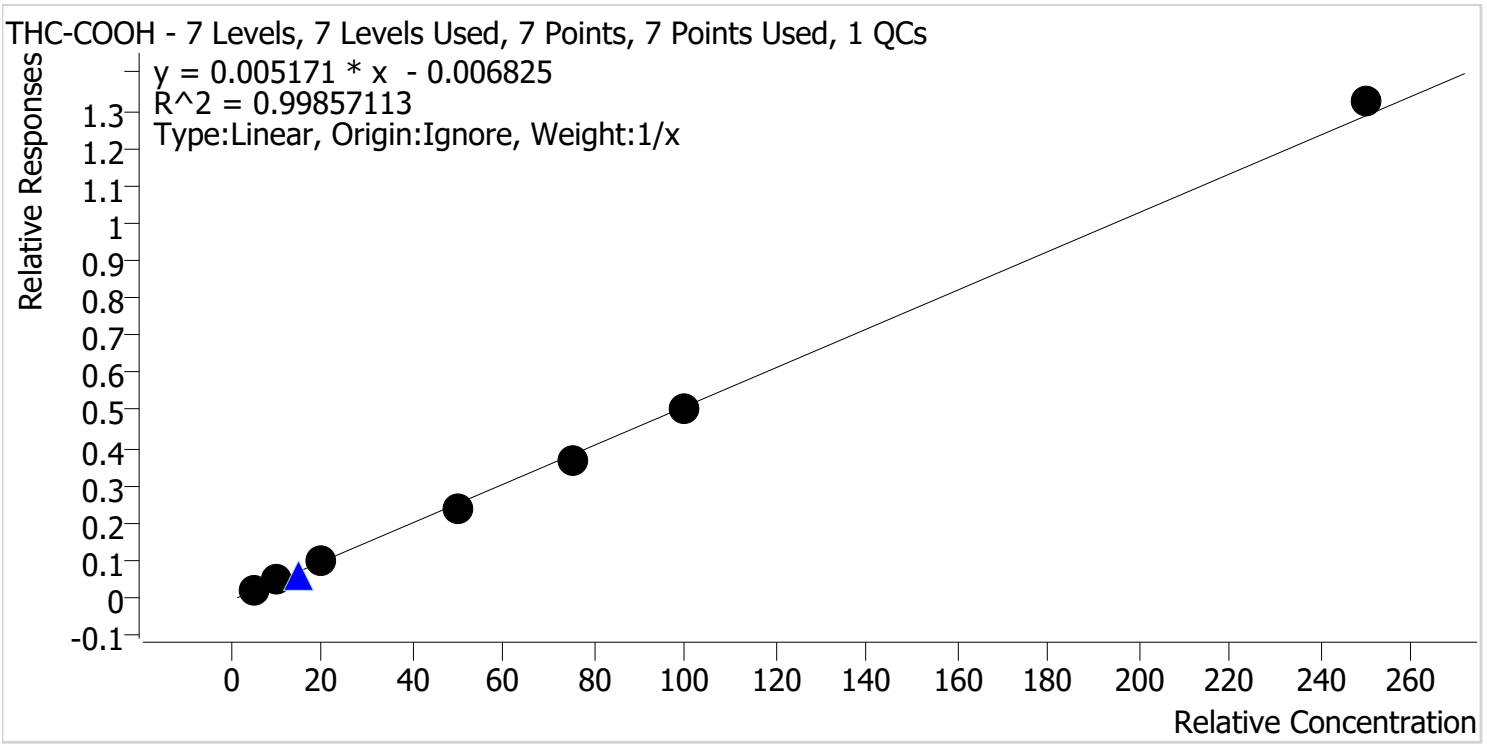
Batch results	D:\MassHunter\Data\2024\am 27-28\032024\QuantResults\am 27.batch.bin
Last Cal. Update	3/21/2024 10:19 AM
Analyst Name	ISP\datastor
Analyte	THC
Internal Standard	THC-d3



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
mj cal 1	1	✔	1.0	1.2	122.9
mj cal 2	2	✔	3.0	2.8	92.6
mj cal 3	3	✔	5.0	4.8	96.2
mj cal 4	4	✔	10.0	9.1	91.1
mj cal 5	5	✔	25.0	23.5	94.0
mj cal 6	6	✔	50.0	50.6	101.2
mj cal 7	7	✔	100.0	102.0	102.0

Compound Calibration Report

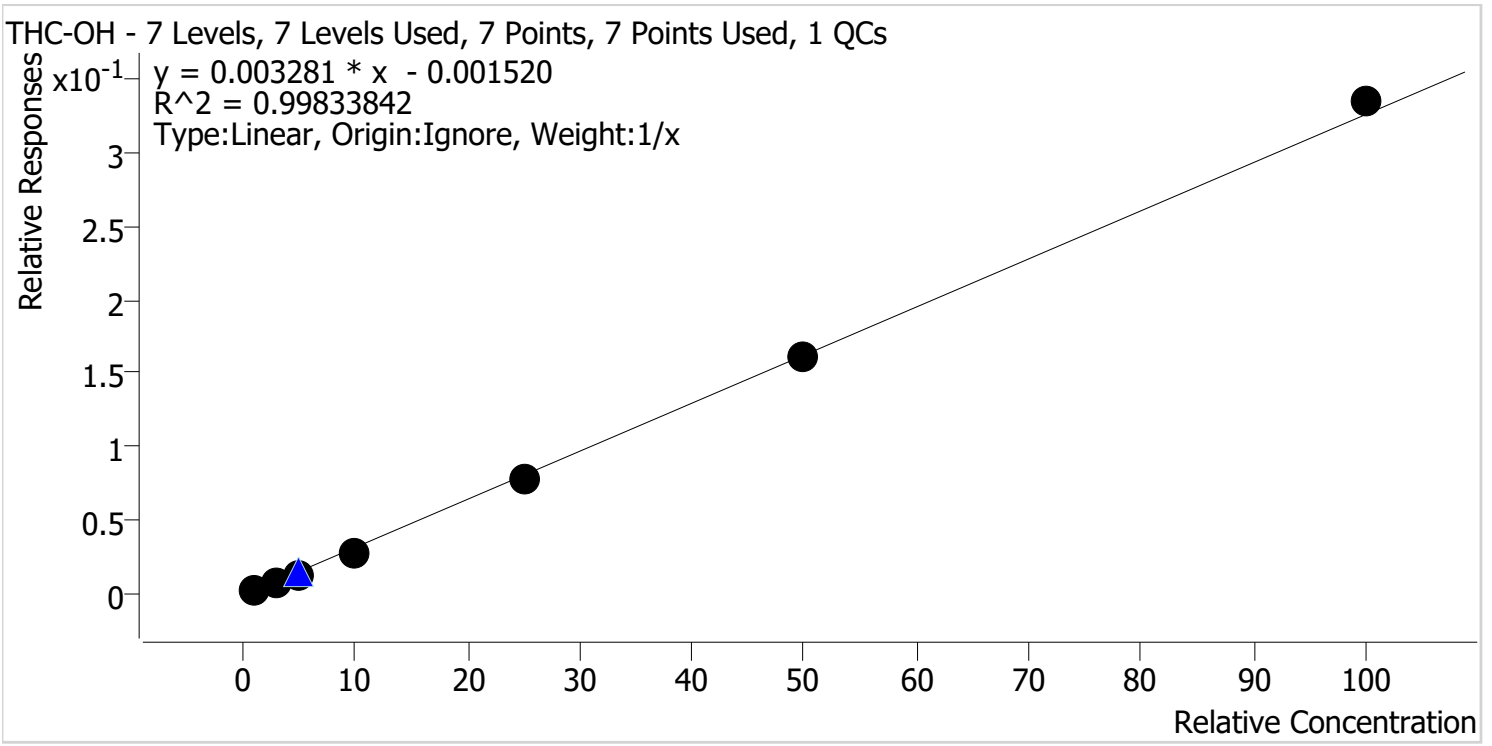
Batch results	D:\MassHunter\Data\2024\am 27-28\032024\QuantResults\am 27.batch.bin
Last Cal. Update	3/21/2024 10:19 AM
Analyst Name	ISP\datastor
Analyte	THC-COOH
Internal Standard	THC-COOH-d9



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
mj cal 1	1	✔	5.0	5.5	109.5
mj cal 2	2	✔	10.0	10.1	100.5
mj cal 3	3	✔	20.0	19.5	97.6
mj cal 4	4	✔	50.0	48.0	96.1
mj cal 5	5	✔	75.0	71.3	95.1
mj cal 6	6	✔	100.0	98.3	98.3
mj cal 7	7	✔	250.0	257.3	102.9

Compound Calibration Report

Batch results	D:\MassHunter\Data\2024\am 27-28\032024\QuantResults\am 27.batch.bin
Last Cal. Update	3/21/2024 10:19 AM
Analyst Name	ISP\datastor
Analyte	THC-OH
Internal Standard	THC-OH-d3



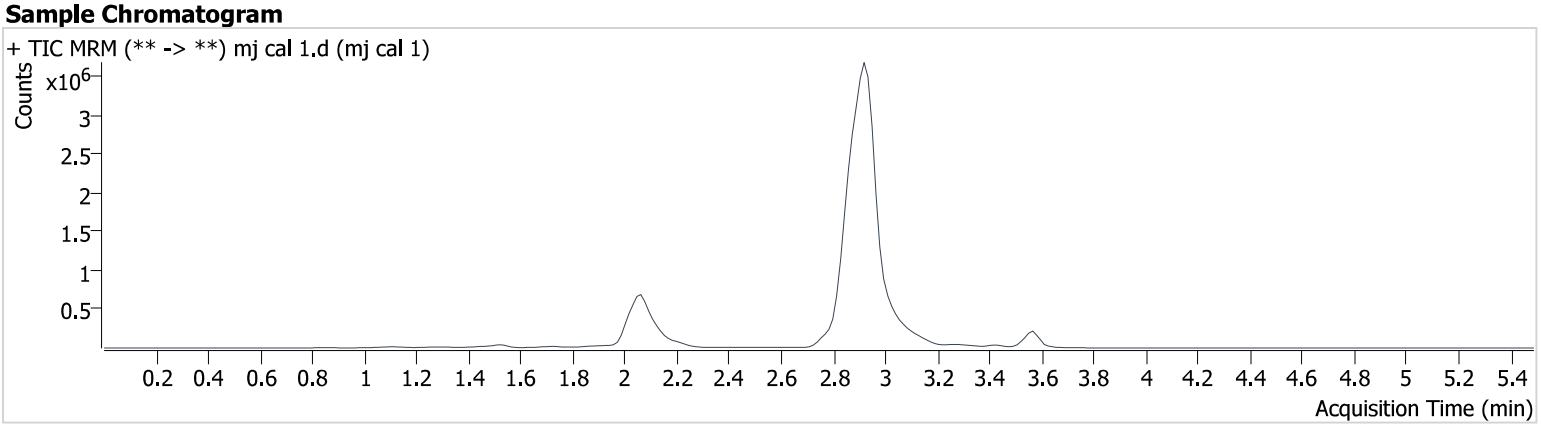
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
mj cal 1	1	✔	1.0	1.2	122.4
mj cal 2	2	✔	3.0	2.9	97.4
mj cal 3	3	✔	5.0	4.5	90.9
mj cal 4	4	✔	10.0	9.1	91.2
mj cal 5	5	✔	25.0	24.2	96.8
mj cal 6	6	✔	50.0	49.3	98.7
mj cal 7	7	✔	100.0	102.6	102.6

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\032024\QuantResults\am 27.batch.bin
Calibration Last Update 3/21/2024 10:19:39 AM

Instrument	69679	**Data File**	mj cal 1.d
Type	Cal	**Sample**	mj cal 1
Acq. Method	thc quant 50 50.m	**Operator**	Anne Nord
Sample Position	P3-A1	**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	3/20/2024 3:57:39 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	2.051	8228	∞	801.40	∞	3298164	1.224 ng/ml	Low
THC-COOH	2.137	20770	101.0	315.42	35.3	966870	5.474 ng/ml	
THC	3.573	17399	∞	22.28	∞	659976	1.229 ng/ml	

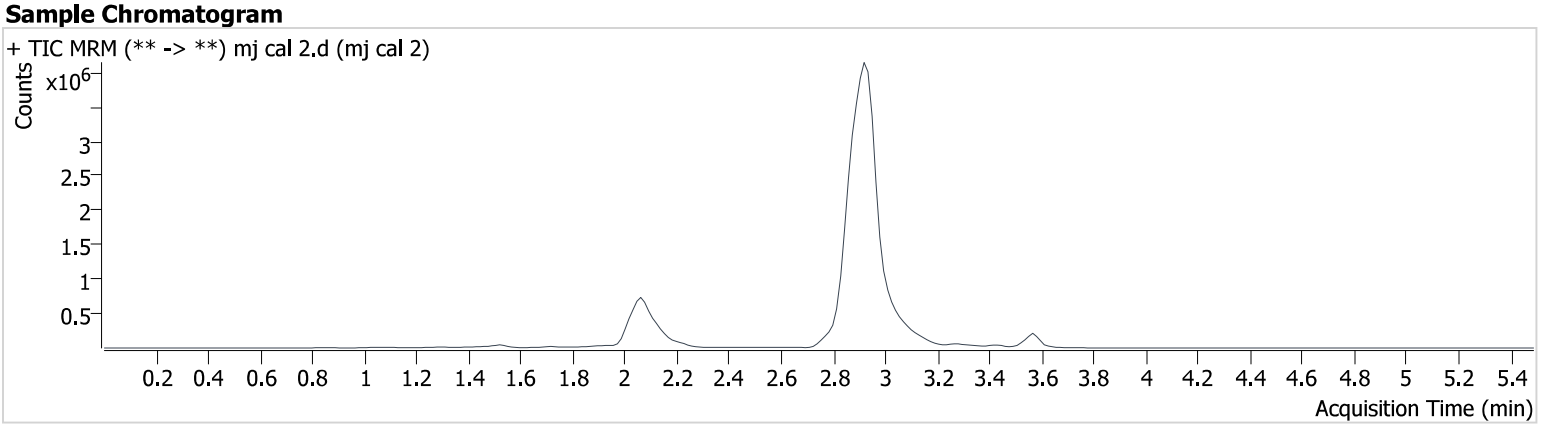
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\032024\QuantResults\am 27.batch.bin
Calibration Last Update 3/21/2024 10:19:39 AM

Instrument	69679	**Data File**	mj cal 2.d
Type	Cal	**Sample**	mj cal 2
Acq. Method	thc quant 50 50.m	**Operator**	Anne Nord
Sample Position	P3-B1	**Comment**	
Injection Volume	10		
Acq. Date-Time	3/20/2024 4:04:25 PM		
Sample Info.			

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

Sample Chromatogram



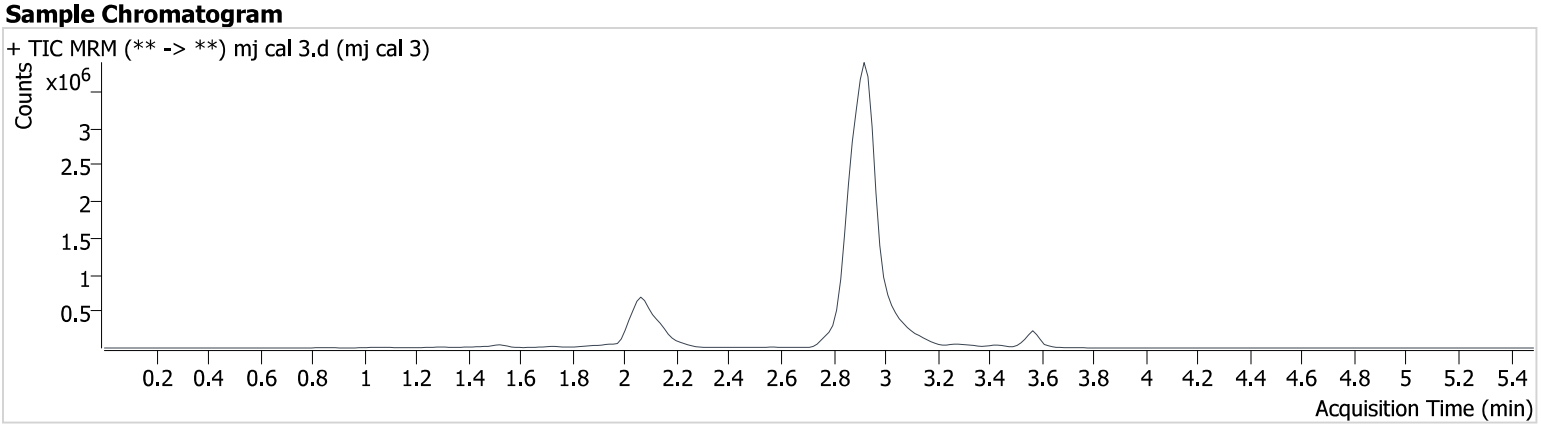
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	2.066	25850	∞	830.10	∞	3204003	2.922 ng/ml	Low
THC-COOH	2.137	45427	72588.8	292.76	133.8	1006150	10.051 ng/ml	
THC	3.573	46490	1569.6	24.81	∞	588906	2.779 ng/ml	

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\032024\QuantResults\am 27.batch.bin
Calibration Last Update 3/21/2024 10:19:39 AM

Instrument	69679	**Data File**	mj cal 3.d
Type	Cal	**Sample**	mj cal 3
Acq. Method	thc quant 50 50.m	**Operator**	Anne Nord
Sample Position	P3-C1	**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	3/20/2024 4:11:01 PM		
Sample Info.			

Sample Chromatogram



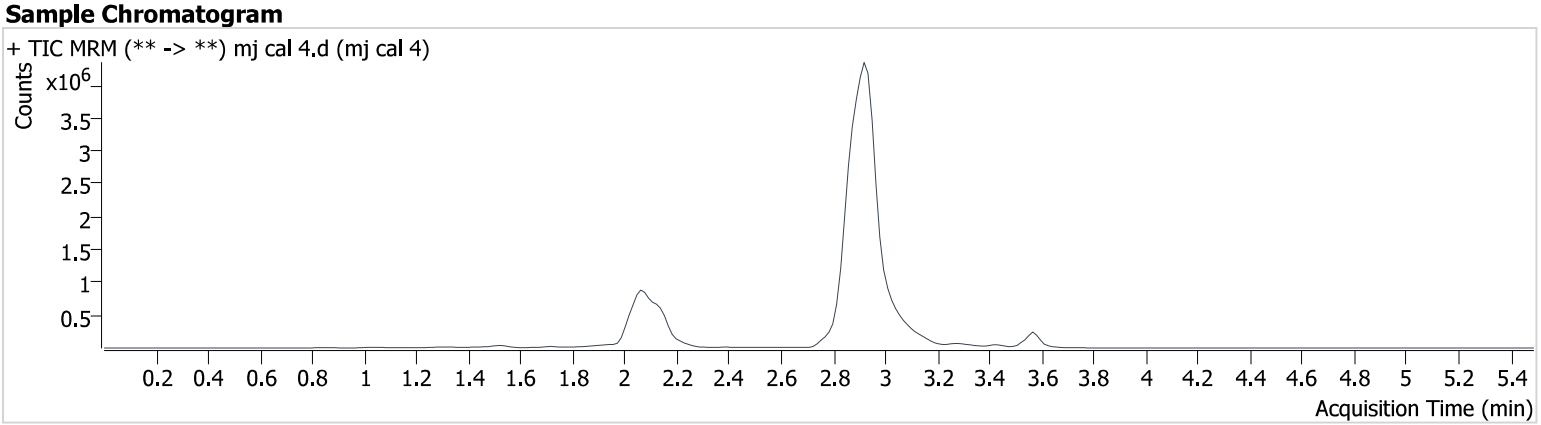
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	2.066	38067	2059.2	977.39	∞	2843615	4.543 ng/ml
THC-COOH	2.137	86204	141677.5	285.55	309.0	915791	19.522 ng/ml
THC	3.573	85417	1766.4	24.64	∞	577645	4.811 ng/ml

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\032024\QuantResults\am 27.batch.bin
Calibration Last Update 3/21/2024 10:19:39 AM

Instrument	69679	**Data File**	mj cal 4.d
Type	Cal	**Sample**	mj cal 4
Acq. Method	thc quant 50 50.m	**Operator**	Anne Nord
Sample Position	P3-D1	**Comment**	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods
Injection Volume	10		
Acq. Date-Time	3/20/2024 4:17:37 PM		
Sample Info.			

Sample Chromatogram



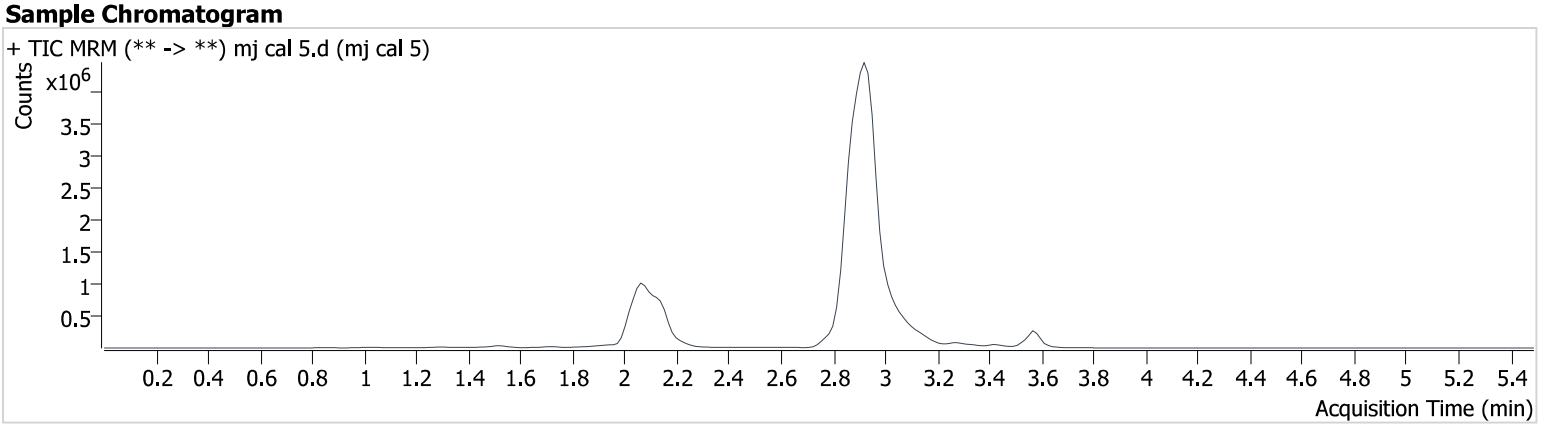
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	2.066	91304	10808.9	922.65	∞	3212977	9.124 ng/ml
THC-COOH	2.137	247215	22288.6	278.98	1708.2	1023340	48.035 ng/ml
THC	3.573	164283	∞	25.94	905.3	559530	9.106 ng/ml

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\032024\QuantResults\am 27.batch.bin
Calibration Last Update 3/21/2024 10:19:39 AM

Instrument	69679	**Data File**	mj cal 5.d
Type	Cal	**Sample**	mj cal 5
Acq. Method	thc quant 50 50.m	**Operator**	Anne Nord
Sample Position	P3-E1	**Comment**	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods
Injection Volume	10		
Acq. Date-Time	3/20/2024 4:24:11 PM		
Sample Info.			

Sample Chromatogram



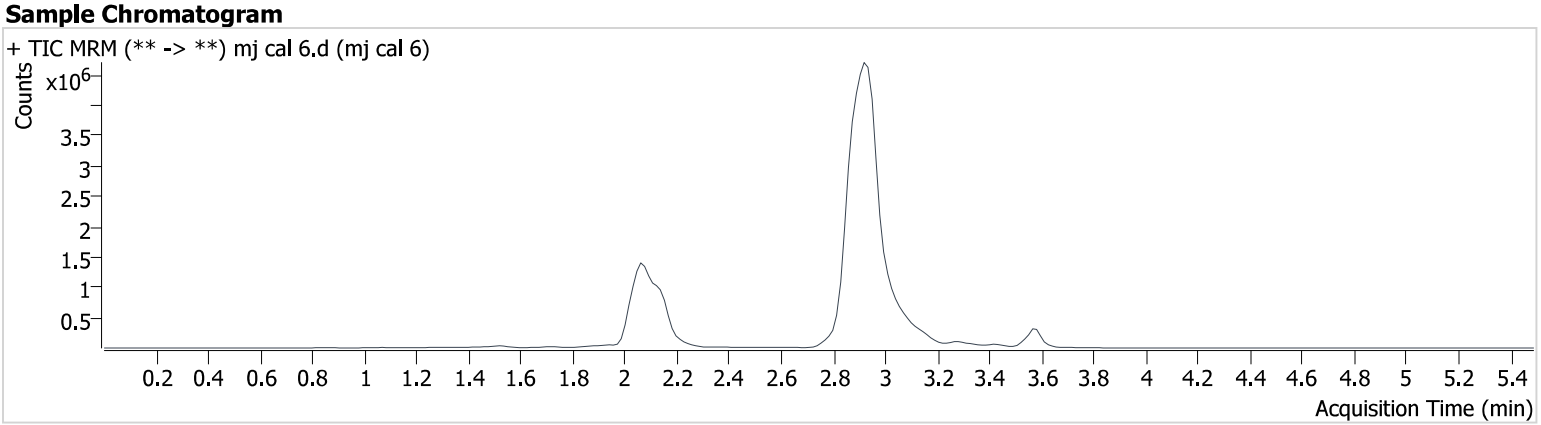
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	2.066	215465	3143.8	864.63	∞	2767299	24.193 ng/ml
THC-COOH	2.137	330319	460468.3	275.58	1148.9	912603	71.313 ng/ml
THC	3.573	349902	∞	24.98	472.2	447616	23.492 ng/ml

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\032024\QuantResults\am 27.batch.bin
Calibration Last Update 3/21/2024 10:19:39 AM

Instrument	69679	**Data File**	mj cal 6.d
Type	Cal	**Sample**	mj cal 6
Acq. Method	thc quant 50 50.m	**Operator**	Anne Nord
Sample Position	P3-F1	**Comment**	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods
Injection Volume	10		
Acq. Date-Time	3/20/2024 4:30:47 PM		
Sample Info.			

Sample Chromatogram



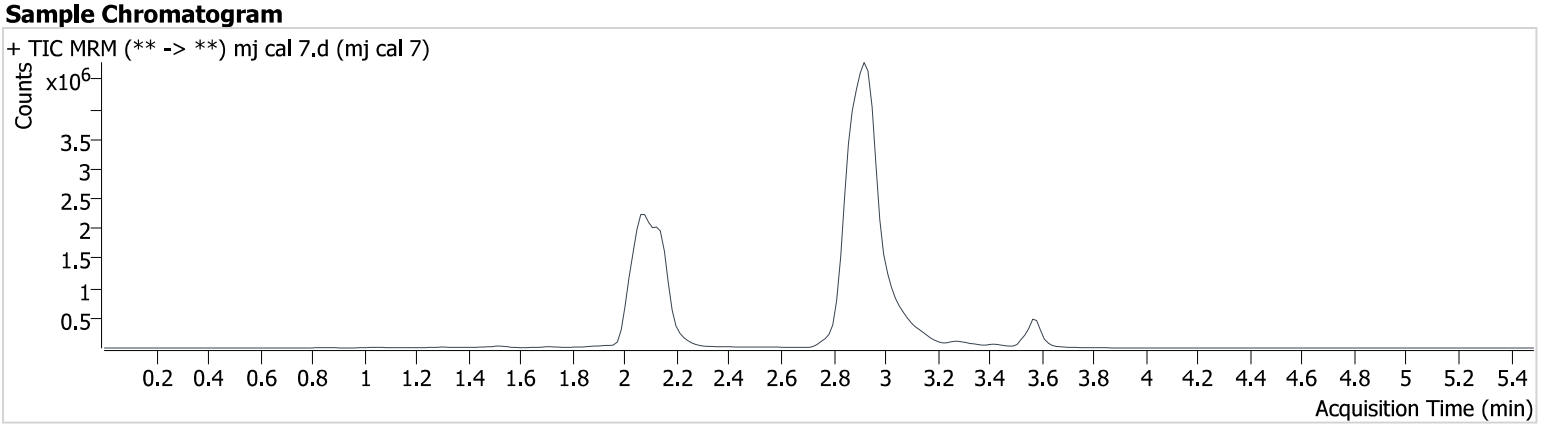
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	2.066	428656	4885.6	830.72	∞	2672469	49.348 ng/ml
THC-COOH	2.137	429517	821689.3	275.34	140333 5.1	856064	98.344 ng/ml
THC	3.573	636228	52429.3	24.70	1673.3	373846	50.611 ng/ml

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2024\am 27-28\032024\QuantResults\am 27.batch.bin
Calibration Last Update 3/21/2024 10:19:39 AM

Instrument	69679	**Data File**	mj cal 7.d
Type	Cal	**Sample**	mj cal 7
Acq. Method	thc quant 50 50.m	**Operator**	Anne Nord
Sample Position	P3-G1	**Comment**	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods
Injection Volume	10		
Acq. Date-Time	3/20/2024 4:37:21 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	2.066	880579	∞	833.79	∞	2626440	102.646 ng/ml
THC-COOH	2.137	1083963	5395.8	270.25	570181.5	818993	257.261 ng/ml
THC	3.573	1182458	∞	26.03	∞	343290	101.972 ng/ml