













6/29/2023

Worklist: 6419

<u>LAB_CASE</u>	<u>ITEM</u>	<u>ITEM_TYPE</u>	<u>DESCRIPTION</u>	
C2023-1243	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2023-1265	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2023-1300	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2023-1319	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2023-1336	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2023-1338	2	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2023-1359	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2023-1368	1	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
C2023-1383	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2023-1390	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 6/28/23
Plate lot#: 230113

Analyst: Anne Nord
Plate re-test: 7/13/23

Mobile phase A: 0.1% Formic Acid in LCMS Water
MTBE

Mobile phase B: 0.1% Formic acid in Acetonitrile
Hexane

Blank Blood Lot: 23C57106 **Urine Blank:** 61423 **Column:** UCT Selectra DA 100 x 2.1mm 3um
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 1000µL (calibrated pipette) blood or 1000µL hydrolyzed urine Pipette ID: K52558G in wells of analytical (standards) plate.
- 3. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 4. Pipette 500µL 0.1% formic acid in water blood sample, 500 ul saturated phosphate buffer in urine in wells of analytical plate.
- 5. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 6. Transfer 800µL 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 2.25mL 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.
SPE Dry ID: 66819
- 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. SN > 10
- 4. Case sample response for THC 1ng/ml LOD 3ng/ml LOQ, OH-THC 3ng/mL LOD and LOQ, Carboxy-THC: 5 ng/mL (qualitative only). Samples with a THC or OH-THC response over 50 ng/mL will be reported out as greater than 50 ng/mL.
- 5. Did all QCs pass for each analyte? (if not is it describe in comments section)
- 6. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

COMMENTS: [Click here to enter text.](#)



	1	2	3	4	5	6
a	cal 1 SLE and injection plate	Internal control urine	1390-1			
b	cal 2	negative blood	1359-1			
c	cal 3	1243-1	1383-1			
d	cal 4	1265-1	negative urine			
e	Cal 5	1300-1	1368-1			
f	cal 6	1319-1				
g	cal 7	1336-1				
h	Internal control (blood)	1338-2				Cal 1 mixing plate

Plate position 3

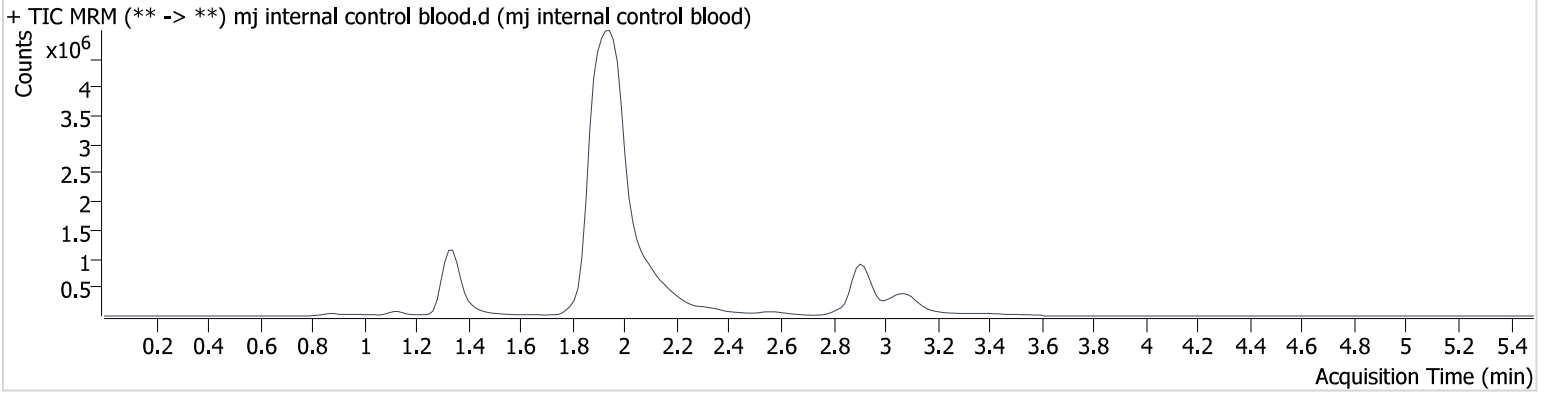
c2023-____-__

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2023\am 27-28\062823\QuantResults\cann.batch.bin
Calibration Last Update 6/29/2023 12:15:02 PM

Instrument	69679	Data File	mj internal control blood.d
Type	QC	Sample	mj internal control blood
Acq. Method	AM 27 THC quant.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	6/28/2023 8:54:53 PM		
Sample Info.			

Sample Chromatogram



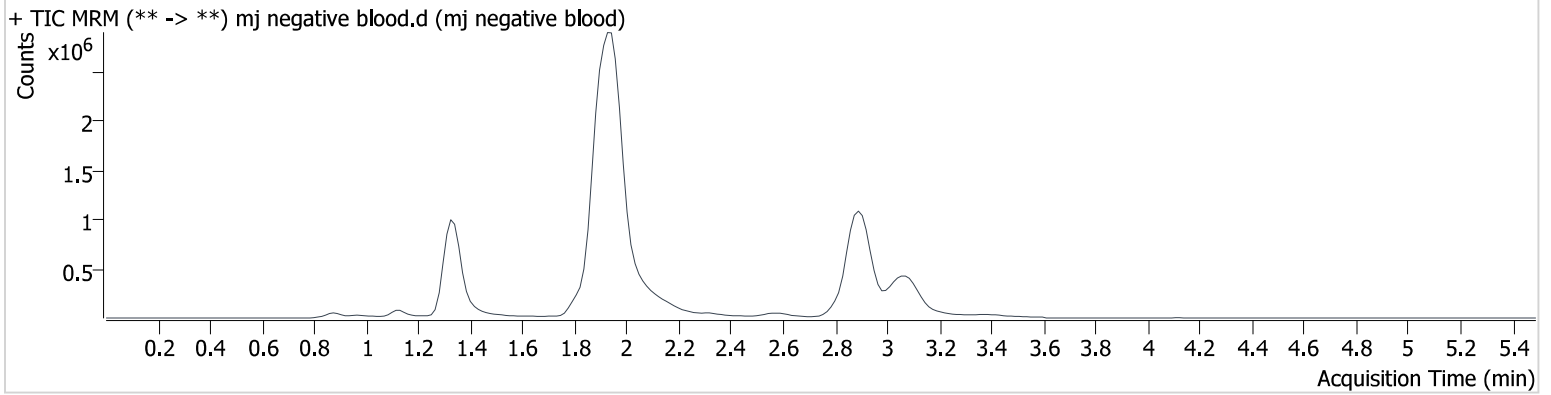
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.334	63761	∞	823.91	336.5	3292023	4.573 ng/ml
THC-COOH	1.358	79521	∞	271.50	∞	968464	15.413 ng/ml
THC	2.926	553390	1281315900 4447900.0	22.68	381.4	3849420	4.984 ng/ml

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2023\am 27-28\062823\QuantResults\cann.batch.bin
Calibration Last Update 6/29/2023 12:15:02 PM

Instrument	69679	Data File	mj negative blood.d
Type	Sample	Sample	mj negative blood
Acq. Method	AM 27 THC quant.m	Operator	Anne Nord
Sample Position	P3-B2	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	6/28/2023 9:01:28 PM		
Sample Info.			

Sample Chromatogram

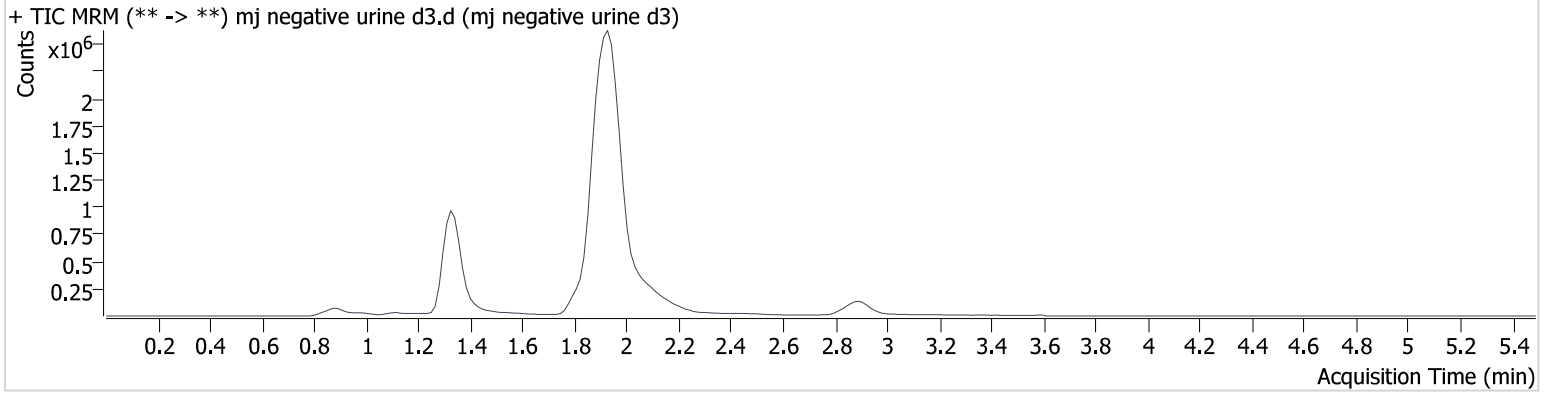


AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2023\am 27-28\062823\QuantResults\cann.batch.bin
Calibration Last Update 6/29/2023 12:15:02 PM

Instrument	69679	Data File	mj negative urine d3.d
Type	Sample	Sample	mj negative urine d3
Acq. Method	AM 27 THC quant.m	Operator	Anne Nord
Sample Position	P3-D3	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	6/28/2023 11:13:27 PM		
Sample Info.			

Sample Chromatogram

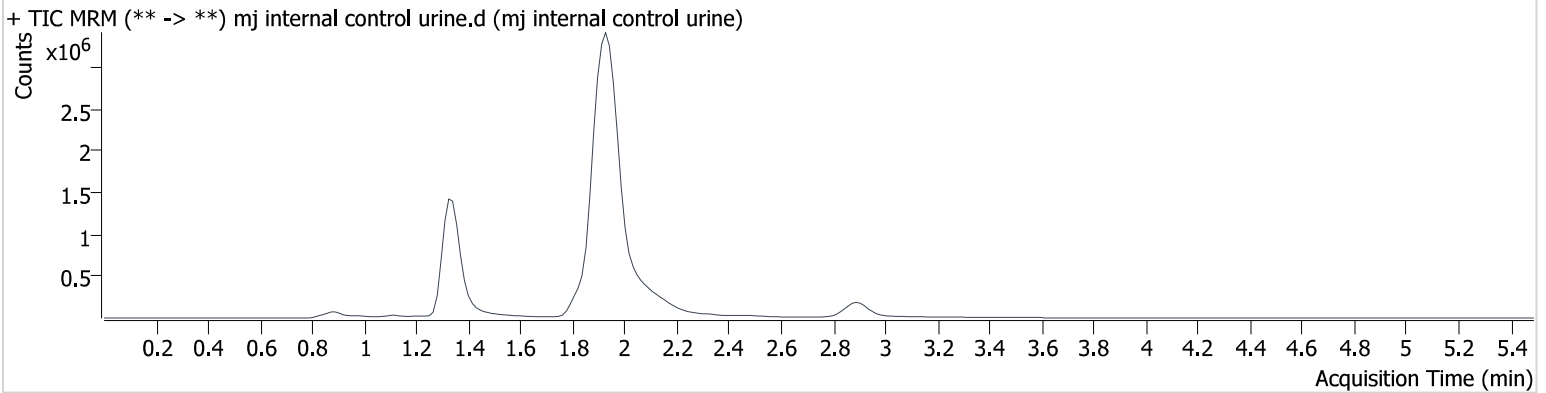


AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2023\am 27-28\062823\QuantResults\cann.batch.bin
Calibration Last Update 6/29/2023 12:15:02 PM

Instrument	69679	Data File	mj internal control urine.d
Type	Sample	Sample	mj internal control urine
Acq. Method	AM 27 THC quant.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	6/28/2023 11:33:15 PM		
Sample Info.			

Sample Chromatogram



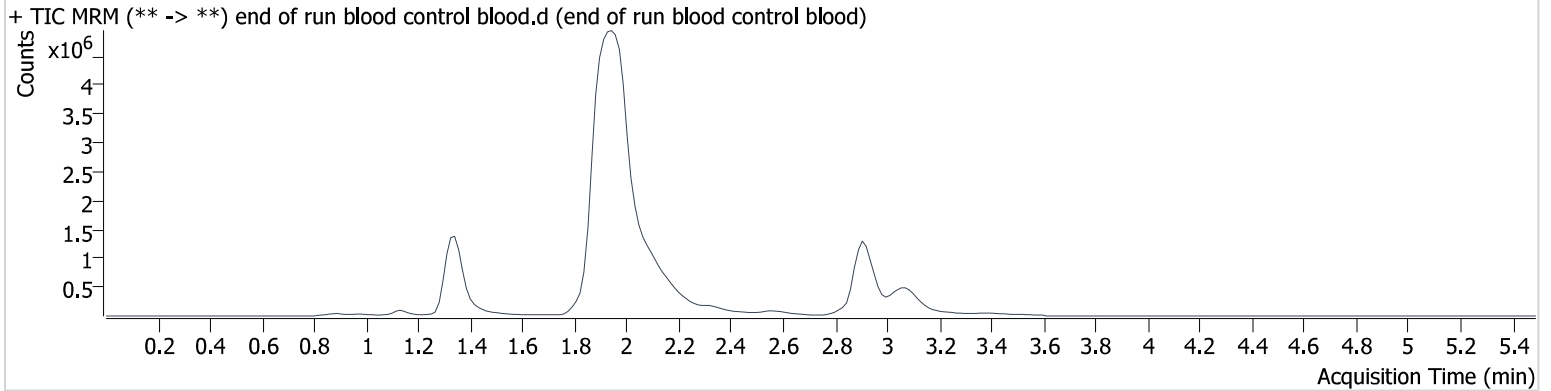
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.334	73580	1427.0	876.21	∞	4303535	4.088 ng/ml
THC-COOH	1.358	70925	∞	293.26	∞	922272	14.557 ng/ml
THC	2.911	142212	1113.0	23.95	285.5	1069698	4.647 ng/ml

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2023\am 27-28\062823\QuantResults\cann.batch.bin
Calibration Last Update 6/29/2023 12:15:02 PM

Instrument	69679	Data File	end of run blood control blood.d
Type	Sample	Sample	end of run blood control blood
Acq. Method	AM 27 THC quant.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	6/28/2023 11:39:51 PM		
Sample Info.			

Sample Chromatogram



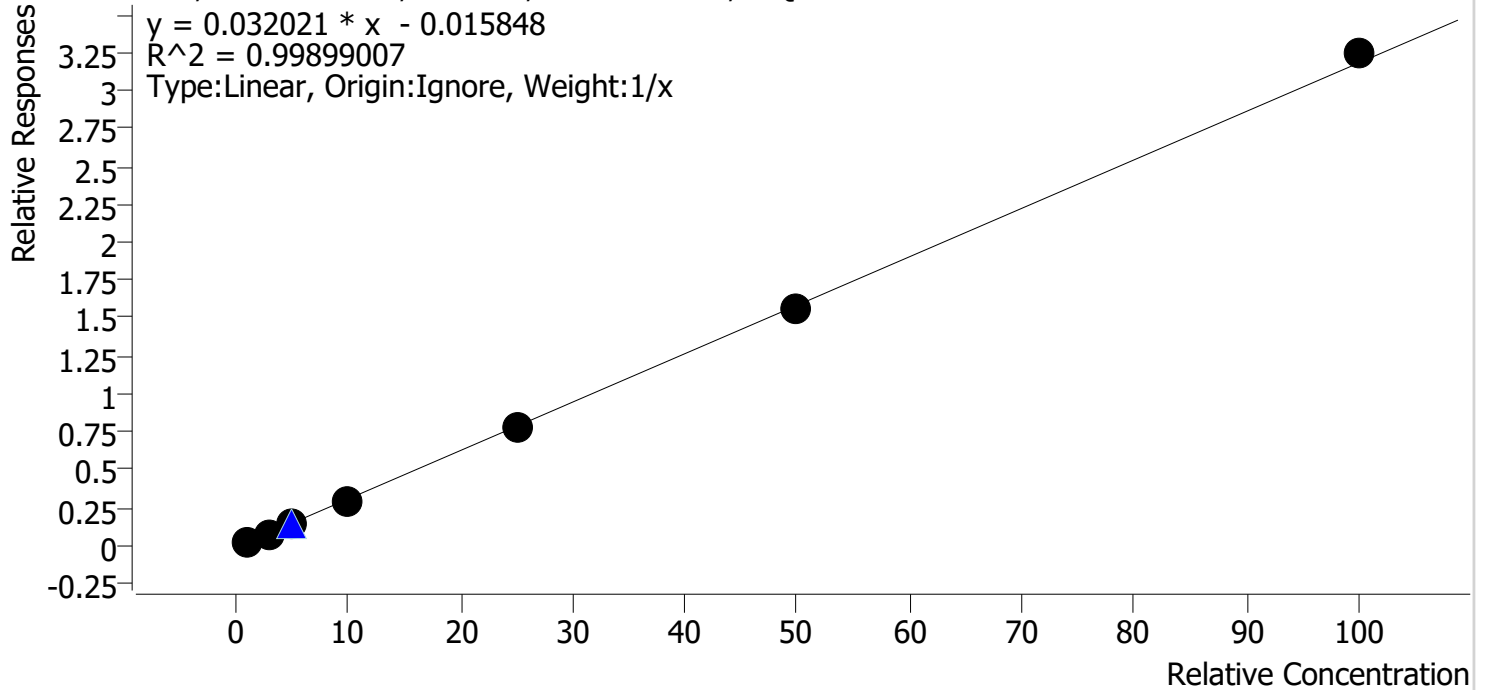
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.334	63998	∞	921.35	∞	3813996	4.020 ng/ml
THC-COOH	1.358	94032	∞	277.98	∞	1127079	15.629 ng/ml
THC	2.926	851223	∞	23.78	6905.3	5464335	5.360 ng/ml

Compound Calibration Report



Batch results D:\MassHunter\Data\2023\am 27-28\062823\QuantResults\cann.batch.bin
Last Cal. Update 6/29/2023 12:15 PM
Analyst Name ISP\datastor
Analyte THC **Internal Standard** THC-d3

THC - 7 Levels, 7 Levels Used, 7 Points, 7 Points Used, 1 QCs



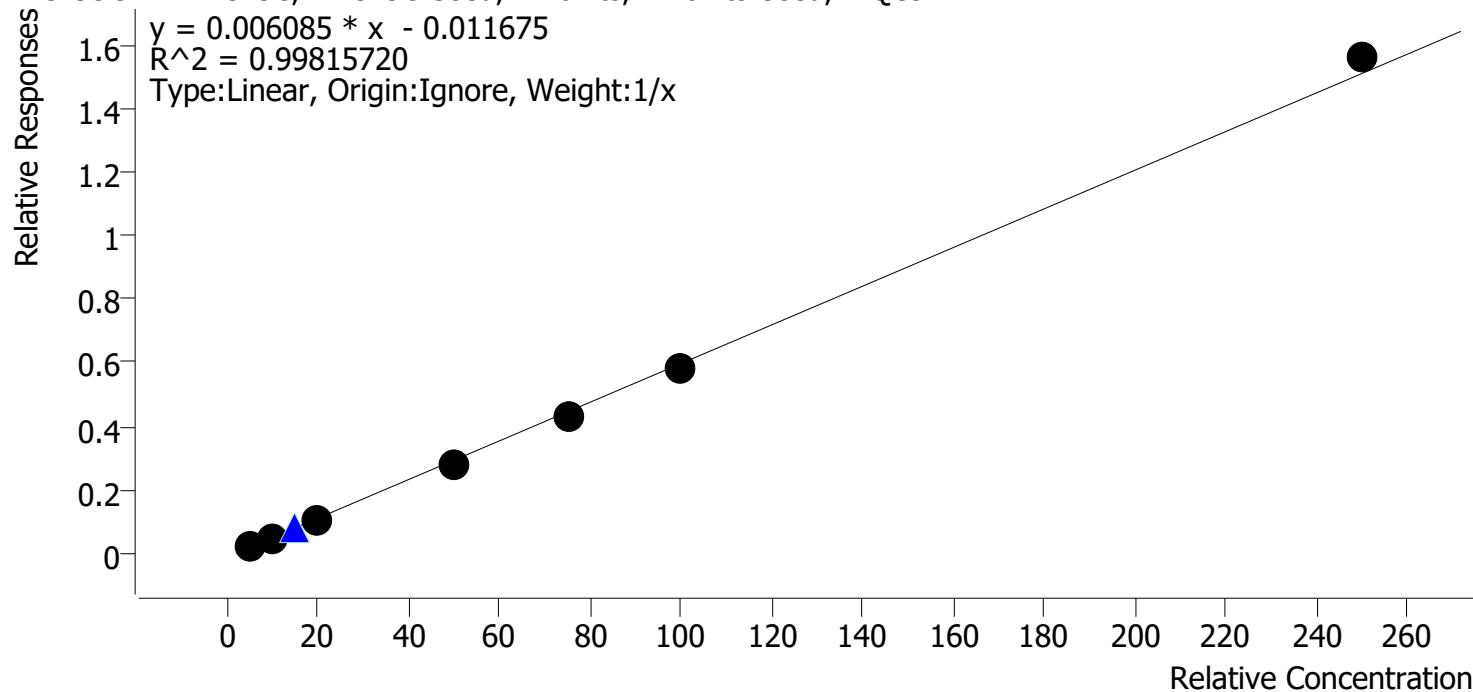
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
mj cal 1	1	✓	1.0	1.2	118.6
mj cal 2	2	✓	3.0	2.9	97.9
mj cal 3	3	✓	5.0	4.5	90.5
mj cal 4	4	✓	10.0	9.4	94.1
mj cal 5	5	✓	25.0	24.4	97.7
mj cal 6	6	✓	50.0	49.6	99.2
mj cal 7	7	✓	100.0	101.9	101.9

Compound Calibration Report



Batch results D:\MassHunter\Data\2023\am 27-28\062823\QuantResults\cann.batch.bin
Last Cal. Update 6/29/2023 12:15 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, 1 QCs



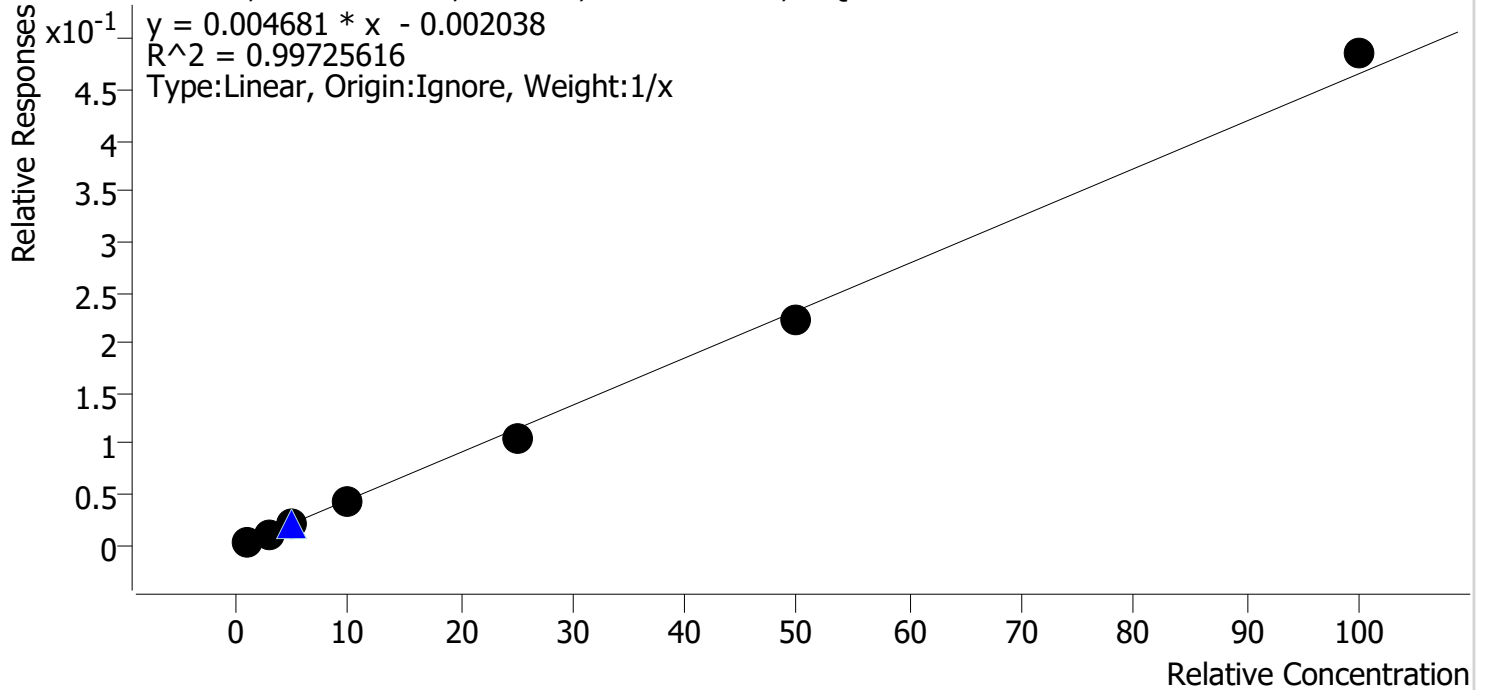
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
mj cal 1	1	✓	5.0	5.7	114.2
mj cal 2	2	✓	10.0	9.9	99.5
mj cal 3	3	✓	20.0	18.7	93.7
mj cal 4	4	✓	50.0	47.7	95.4
mj cal 5	5	✓	75.0	72.7	97.0
mj cal 6	6	✓	100.0	97.0	97.0
mj cal 7	7	✓	250.0	258.2	103.3

Compound Calibration Report



Batch results D:\MassHunter\Data\2023\am 27-28\062823\QuantResults\cann.batch.bin
Last Cal. Update 6/29/2023 12:15 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, 1 QCs



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
mj cal 1	1	✓	1.0	1.2	116.7
mj cal 2	2	✓	3.0	3.0	99.3
mj cal 3	3	✓	5.0	4.7	94.4
mj cal 4	4	✓	10.0	9.7	96.8
mj cal 5	5	✓	25.0	23.0	92.1
mj cal 6	6	✓	50.0	48.2	96.4
mj cal 7	7	✓	100.0	104.2	104.2

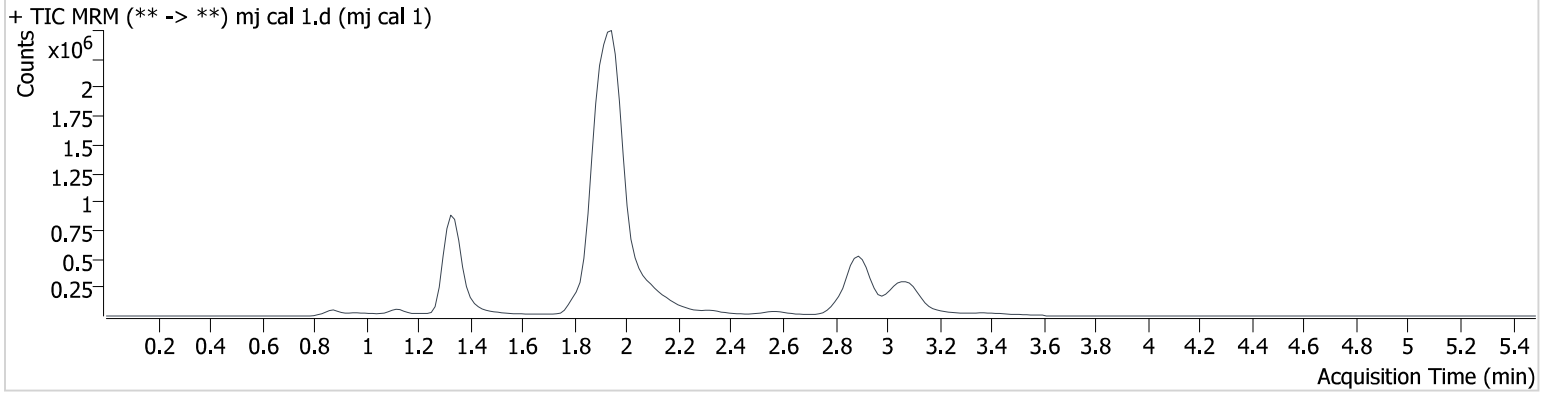
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2023\am 27-28\062823\QuantResults\cann.batch.bin
Calibration Last Update 6/29/2023 12:15:02 PM

Instrument 69679
Type Cal
Acq. Method AM 27 THC quant.m
Sample Position P3-A1
Injection Volume 10
Acq. Date-Time 6/28/2023 8:08:40 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	1.334	10393	125.7	816.46	∞	3032533	1.167 ng/ml	Low
THC-COOH	1.358	17726	∞	291.34	∞	768465	5.709 ng/ml	
THC	2.911	52405	1088.6	29.12	∞	2367399	1.186 ng/ml	

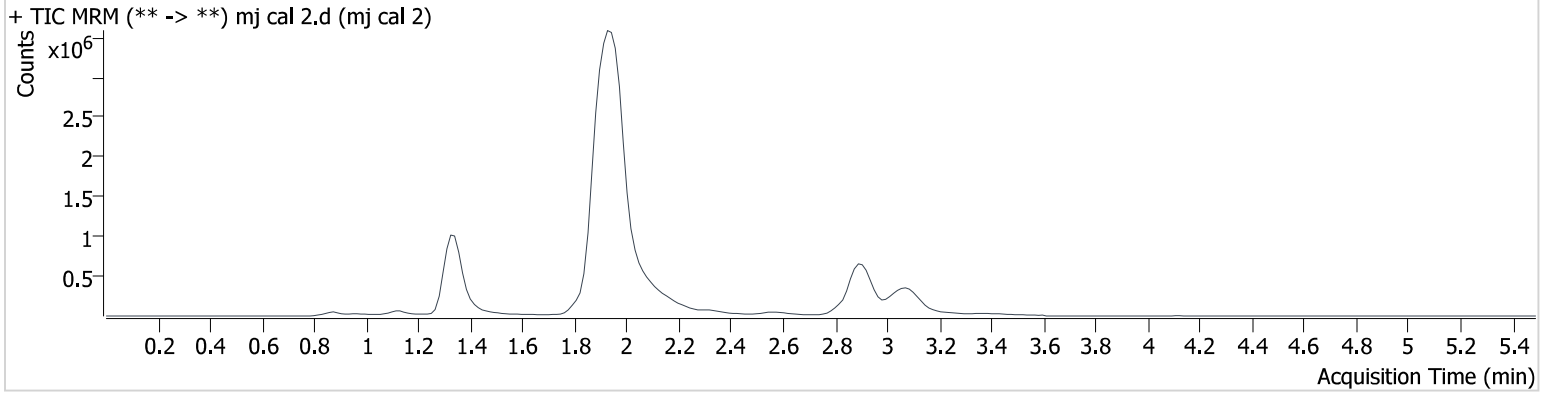
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2023\am 27-28\062823\QuantResults\cann.batch.bin
Calibration Last Update 6/29/2023 12:15:02 PM

Instrument 69679
Type Cal
Acq. Method AM 27 THC quant.m
Sample Position P3-B1
Injection Volume 10
Acq. Date-Time 6/28/2023 8:15:24 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	1.334	37305	∞	813.26	∞	3133181	2.979 ng/ml	Low
THC-COOH	1.358	41542	∞	284.90	∞	850554	9.945 ng/ml	
THC	2.926	227759	∞	23.48	381.0	2913037	2.937 ng/ml	

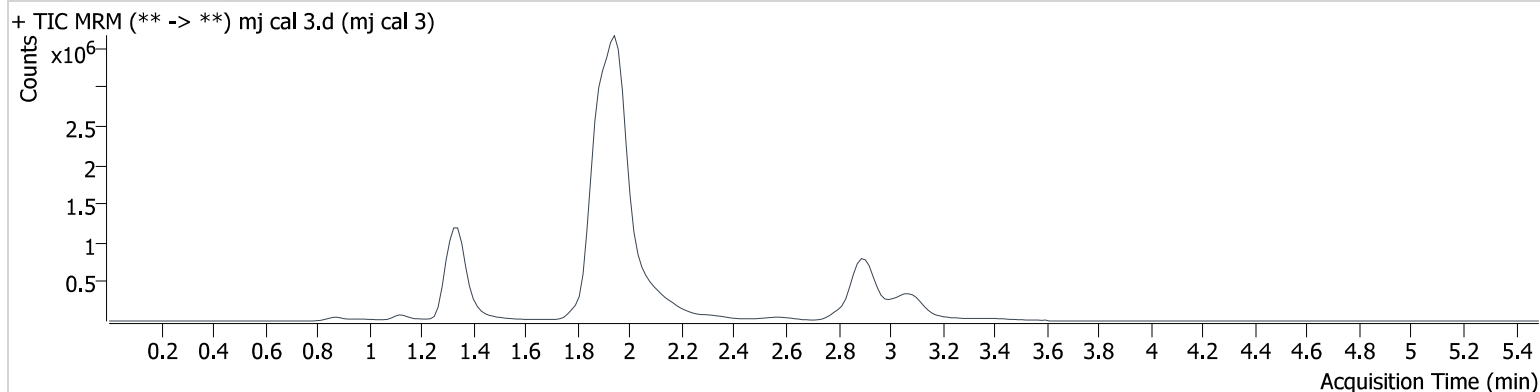
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2023\am 27-28\062823\QuantResults\cann.batch.bin
Calibration Last Update 6/29/2023 12:15:02 PM

Instrument 69679
Type Cal
Acq. Method AM 27 THC quant.m
Sample Position P3-C1
Injection Volume 10
Acq. Date-Time 6/28/2023 8:22:00 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	1.334	72855	∞	831.71	∞	3632248	4.720 ng/ml
THC-COOH	1.358	102353	∞	271.02	∞	999389	18.750 ng/ml
THC	2.926	483179	∞	24.38	561.0	3742175	4.527 ng/ml

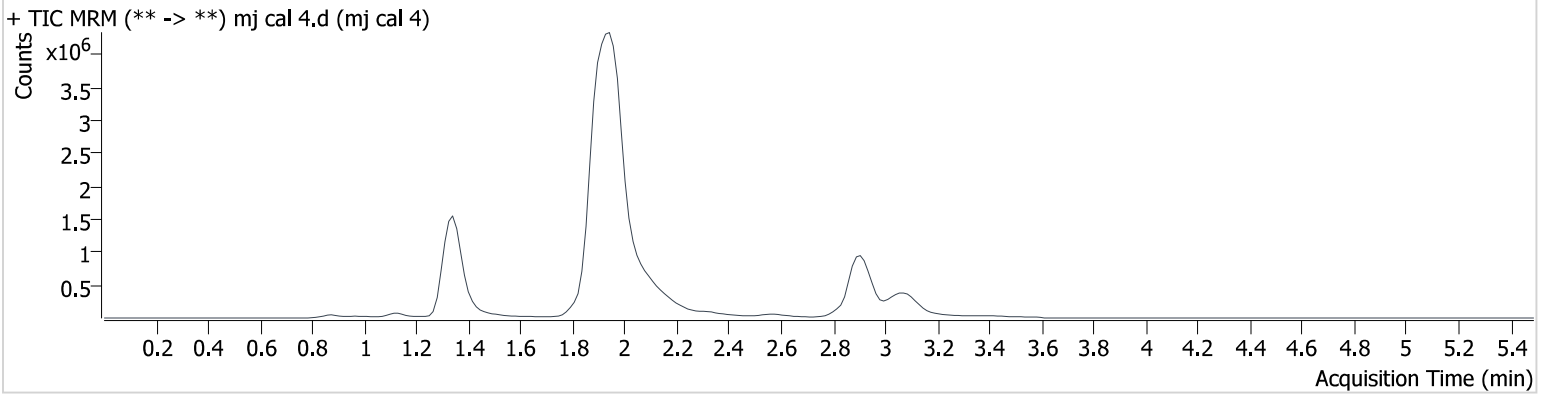
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2023\am 27-28\062823\QuantResults\cann.batch.bin
Calibration Last Update 6/29/2023 12:15:02 PM

Instrument 69679
Type Cal
Acq. Method AM 27 THC quant.m
Sample Position P3-D1
Injection Volume 10
Acq. Date-Time 6/28/2023 8:28:35 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	1.334	144110	∞	813.65	211840 167397 407.0	3328942	9.683 ng/ml
THC-COOH	1.358	258069	∞	268.63	∞	926798	47.679 ng/ml
THC	2.911	1047345	30437.6	23.49	∞	3669132	9.409 ng/ml

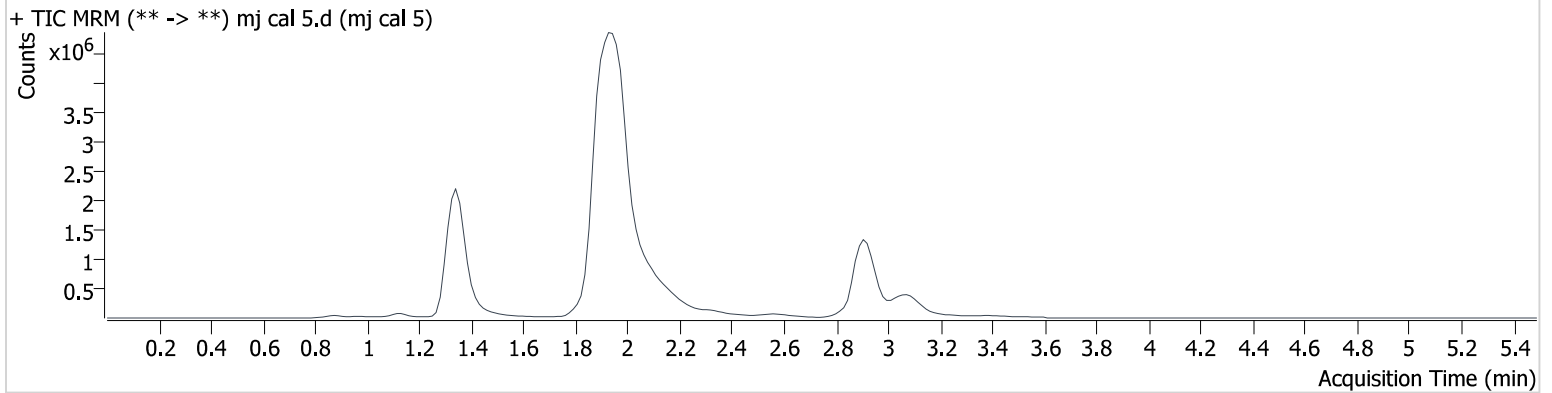
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2023\am 27-28\062823\QuantResults\cann.batch.bin
Calibration Last Update 6/29/2023 12:15:02 PM

Instrument 69679
Type Cal
Acq. Method AM 27 THC quant.m
Sample Position P3-E1
Injection Volume 10
Acq. Date-Time 6/28/2023 8:35:09 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	1.334	350708	4411.6	884.57	∞	3316863	23.023 ng/ml
THC-COOH	1.358	410278	∞	262.65	∞	951911	72.750 ng/ml
THC	2.926	2807274	4379734946 412490.0	24.44	4206.3	3662485	24.432 ng/ml

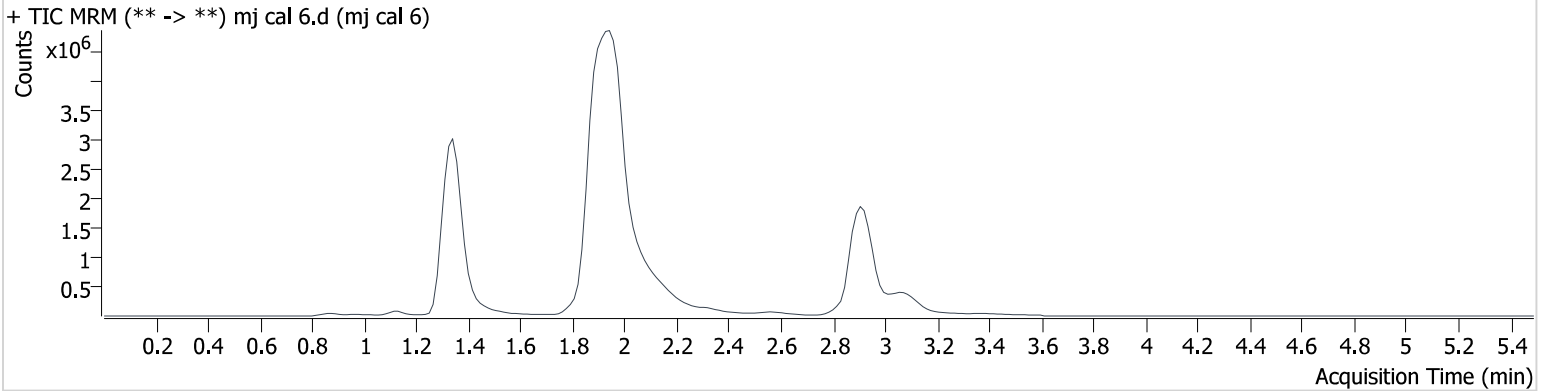
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2023\am 27-28\062823\QuantResults\cann.batch.bin
Calibration Last Update 6/29/2023 12:15:02 PM

Instrument 69679
Type Cal
Acq. Method AM 27 THC quant.m
Sample Position P3-F1
Injection Volume 10
Acq. Date-Time 6/28/2023 8:41:45 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	1.334	743559	58560.7	865.01	∞	3326072	48.193 ng/ml
THC-COOH	1.358	547068	∞	263.37	∞	945777	96.978 ng/ml
THC	2.926	5740984	5280763391 962350.0	24.87	82490. 6	3649478	49.621 ng/ml

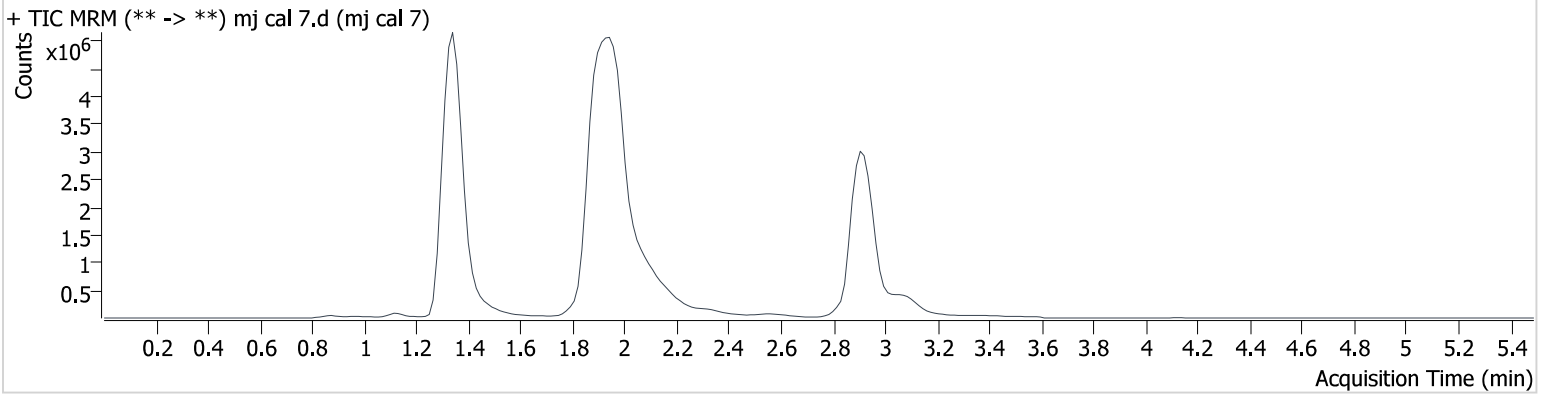
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2023\am 27-28\062823\QuantResults\cann.batch.bin
Calibration Last Update 6/29/2023 12:15:02 PM

Instrument 69679
Type Cal
Acq. Method AM 27 THC quant.m
Sample Position P3-G1
Injection Volume 10
Acq. Date-Time 6/28/2023 8:48:19 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	1.334	1565749	∞	807.59	∞	3222522	104.233 ng/ml
THC-COOH	1.358	1304350	∞	258.33	∞	836447	258.189 ng/ml
THC	2.911	11564492	∞	24.88	8671.0	3561891	101.888 ng/ml