REVIEWED
By Tamara Salazar at 1:48 pm, Aug 08, 2023

Worklist: 6456

LAB_CASE	ITEM	ITEM_TYPE	DESCRIPTION	
C2023-1429	2	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
C2023-1444	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2023-1449	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2023-1496	1	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
C2023-1546	1	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
C2023-1613	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2023-1657	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2023-1687	1	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
M2023-2977	3	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 7/31/23 Analyst: Anne Nord
Plate lot#: 230627 Plate re-test: 12/27/2023

Mobile phase A: 0.1% Formic Acid in LCMS Water **Mobile phase B:** 0.1% Formic acid in Acetonitrile
MTBE LCMS Methanol 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:
C2023-1546-1 and the end of the run blood control dried out and did not inject. Both samples were reconstituted and reinjected the next day.

	1	2	3	4	5	6
a	cal 1	Internal control urine	negative urine			
b	cal 2	negative blood	1429-2			
c	cal 3	1444-1	1496-1			
d	cal 4	1449-1	1546-1			
e	cal 5	1613-1	1687-1			
f	cal 6	1657-1				
g	cal 7					
h	Internal control (blood)	M2023-2977-3				

Plate position 3

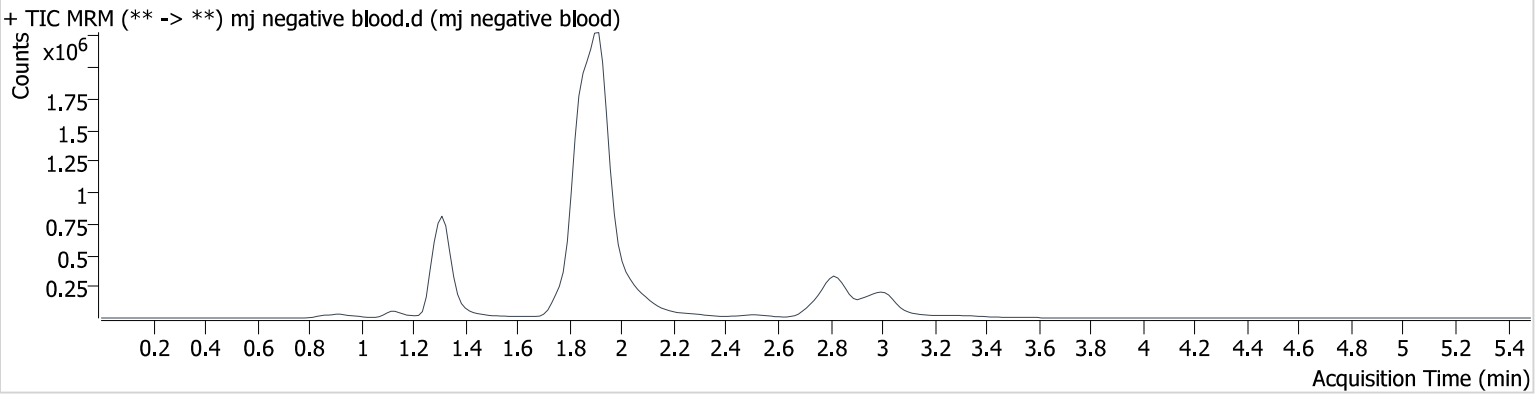
c2023-____-_

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2023\am 27-28\073123\QuantResults\cann.batch.bin
Calibration Last Update 8/1/2023 12:35:18 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	7/31/2023 8:48:57 PM		
Sample Info.			

Sample Chromatogram

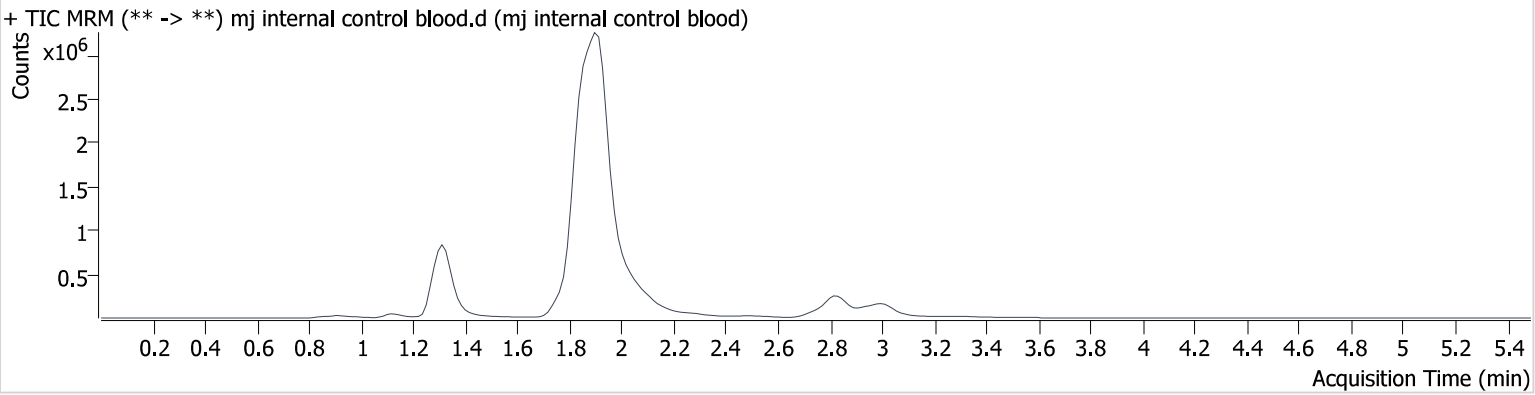


AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2023\am 27-28\073123\QuantResults\cann.batch.bin
Calibration Last Update 8/4/2023 8:06:44 AM

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	7/31/2023 8:42:23 PM		
Sample Info.			

Sample Chromatogram



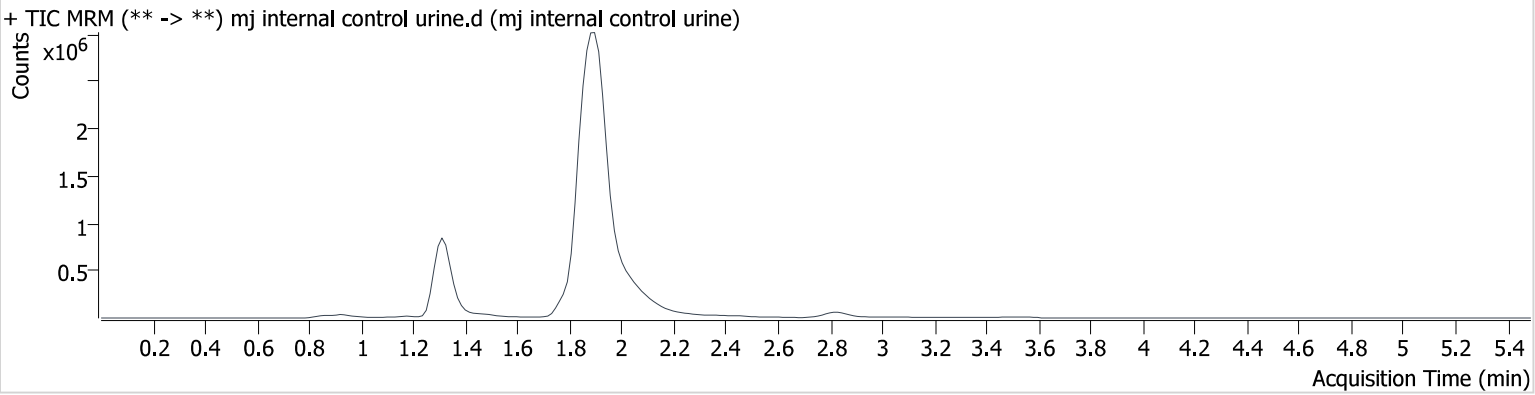
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.319	34881	∞	841.67	∞	2595345	4.409 ng/ml
THC-COOH	1.327	52433	∞	288.30	∞	704234	14.177 ng/ml
THC	2.839	29416	∞	373.83	∞	1060754	4.173 ng/ml

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2023\am 27-28\073123\QuantResults\cann.batch.bin
Calibration Last Update 8/4/2023 8:06:44 AM

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	7/31/2023 11:07:24 PM		
Sample Info.			

Sample Chromatogram



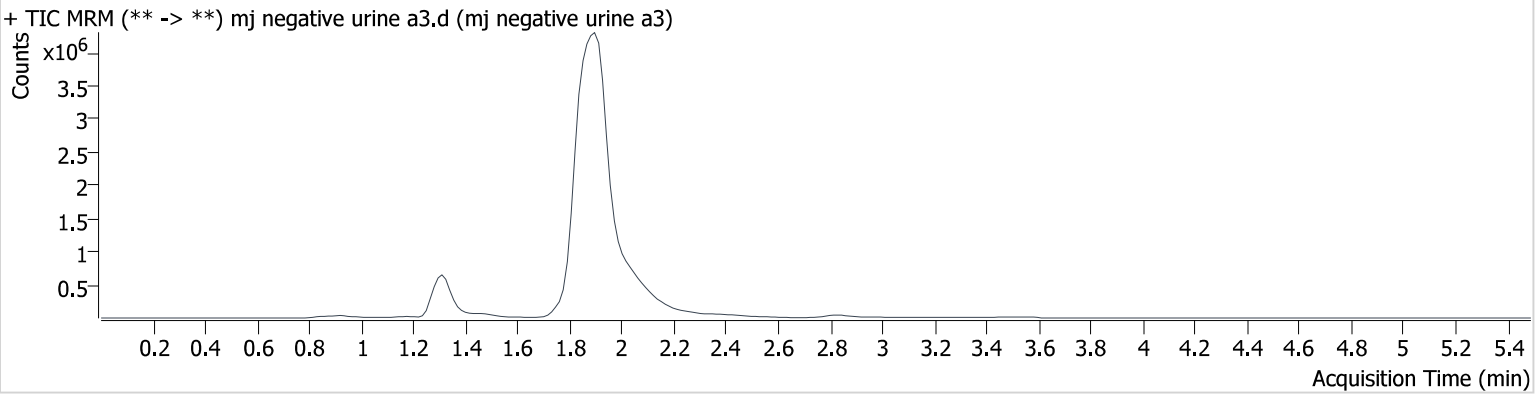
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.319	32079	278.8	785.11	∞	2533644	4.171 ng/ml
THC-COOH	1.342	44476	∞	313.62	∞	633981	13.441 ng/ml
THC	2.839	9873	492.8	363.99	2806.9	344626	4.296 ng/ml

AM #27 Cannabinoids

Batch results	D:\MassHunter\Data\2023\am 27-28\073123\QuantResults\cann.batch.bin
Calibration Last Update	8/1/2023 12:35:18 PM

Instrument	69679	**Data File**	mj negative urine a3.d
Type	Sample	**Sample**	mj negative urine a3
Acq. Method	AM 27 THC quant.m	**Operator**	Anne Nord
Sample Position	P3-A3	**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	7/31/2023 10:08:03 PM		
Sample Info.			

Sample Chromatogram

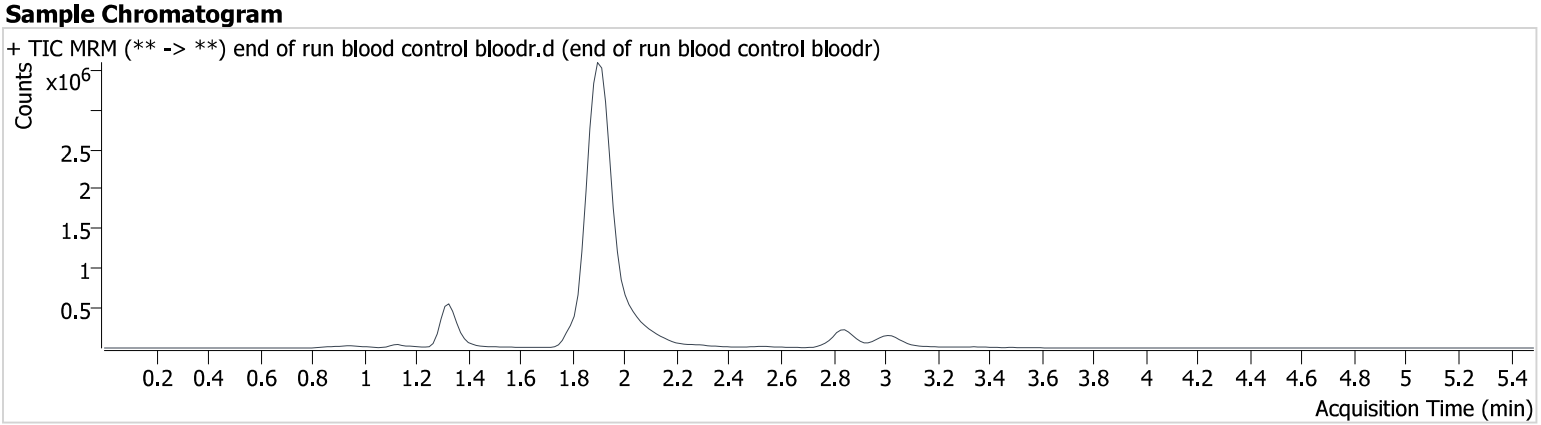


AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2023\am 27-28\073123\QuantResults\cann.batch.bin
Calibration Last Update 8/4/2023 8:06:44 AM

Instrument	69679	**Data File**	end of run blood control bloodr.d
Type	Sample	**Sample**	end of run blood control bloodr
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	8/1/2023 11:36:17 AM		
Sample Info.			

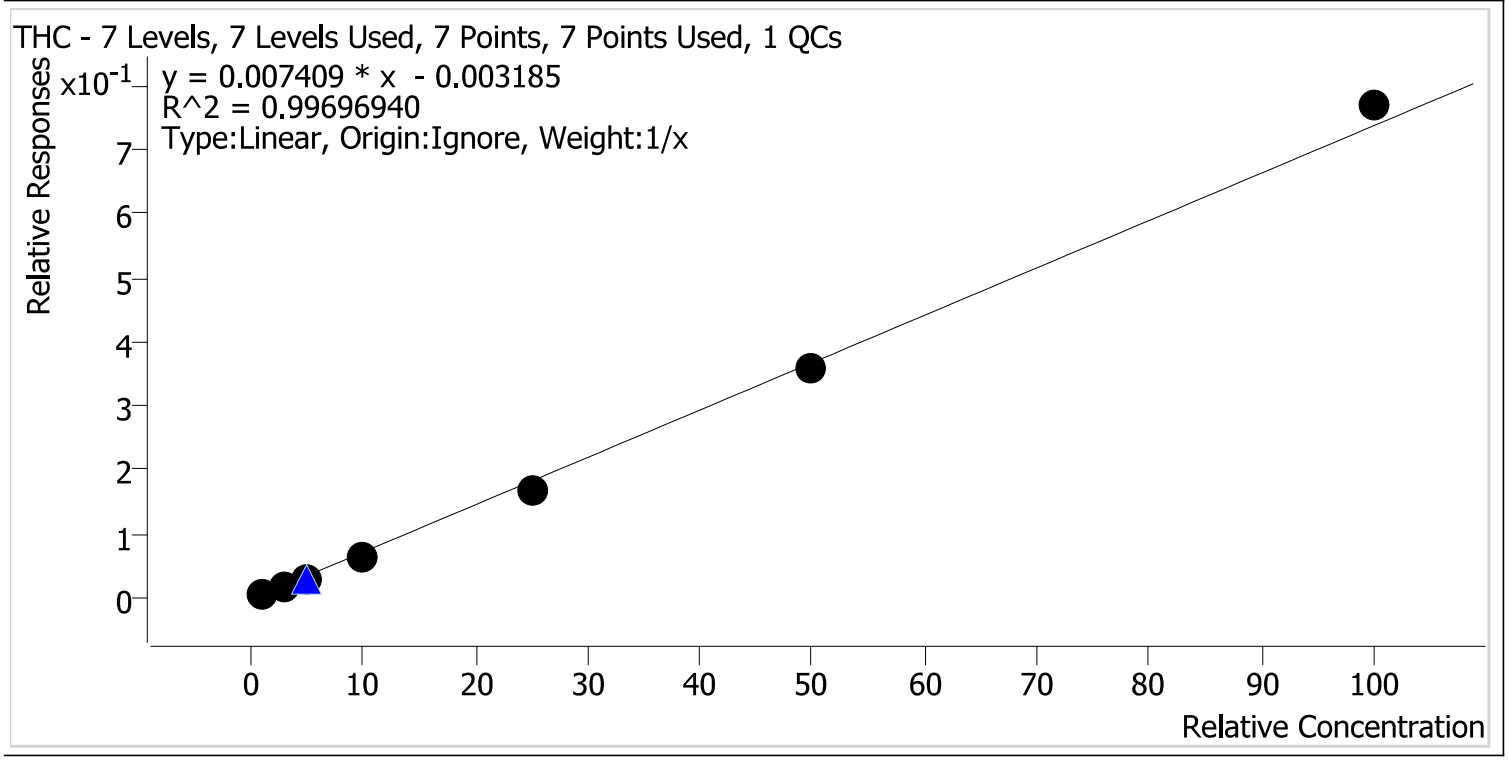
Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.319	18721	173.5	873.00	177014 074175 818.0	1405968	4.371 ng/ml
THC-COOH	1.342	31479	∞	286.52	∞	434549	13.833 ng/ml
THC	2.869	20334	174.0	377.93	1431.2	731528	4.181 ng/ml

Compound Calibration Report

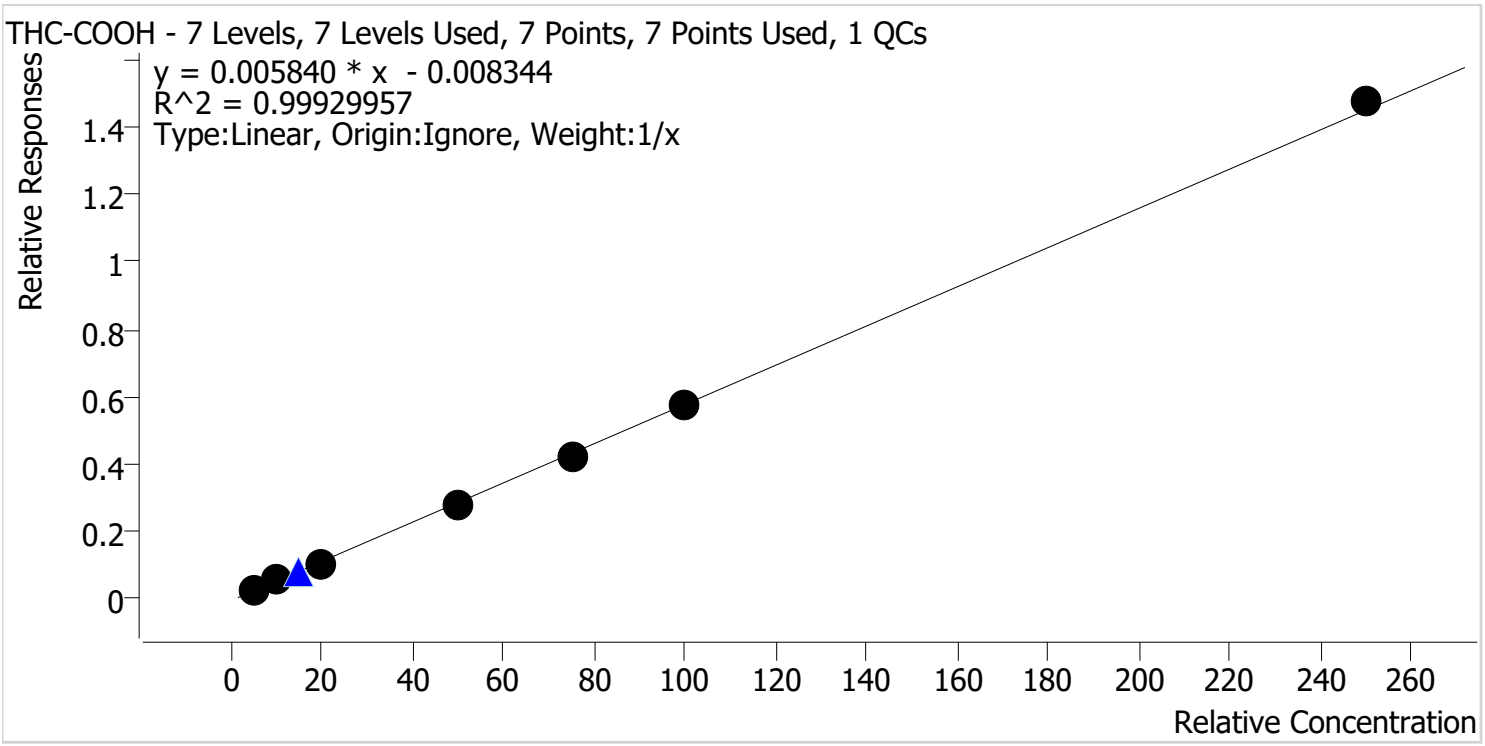
Batch results	D:\MassHunter\Data\2023\am 27-28\073123\QuantResults\cann.batch.bin
Last Cal. Update	8/4/2023 8:06 AM
Analyst Name	ISP\datastor
Analyte	THC
Internal Standard	THC-d3



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
mj cal 1	1	✓	1.0	1.2	123.2
mj cal 2	2	✓	3.0	3.0	99.6
mj cal 3	3	✓	5.0	4.6	91.7
mj cal 4	4	✓	10.0	9.1	90.9
mj cal 5	5	✓	25.0	23.3	93.3
mj cal 6	6	✓	50.0	48.6	97.1
mj cal 7	7	✓	100.0	104.2	104.2

Compound Calibration Report

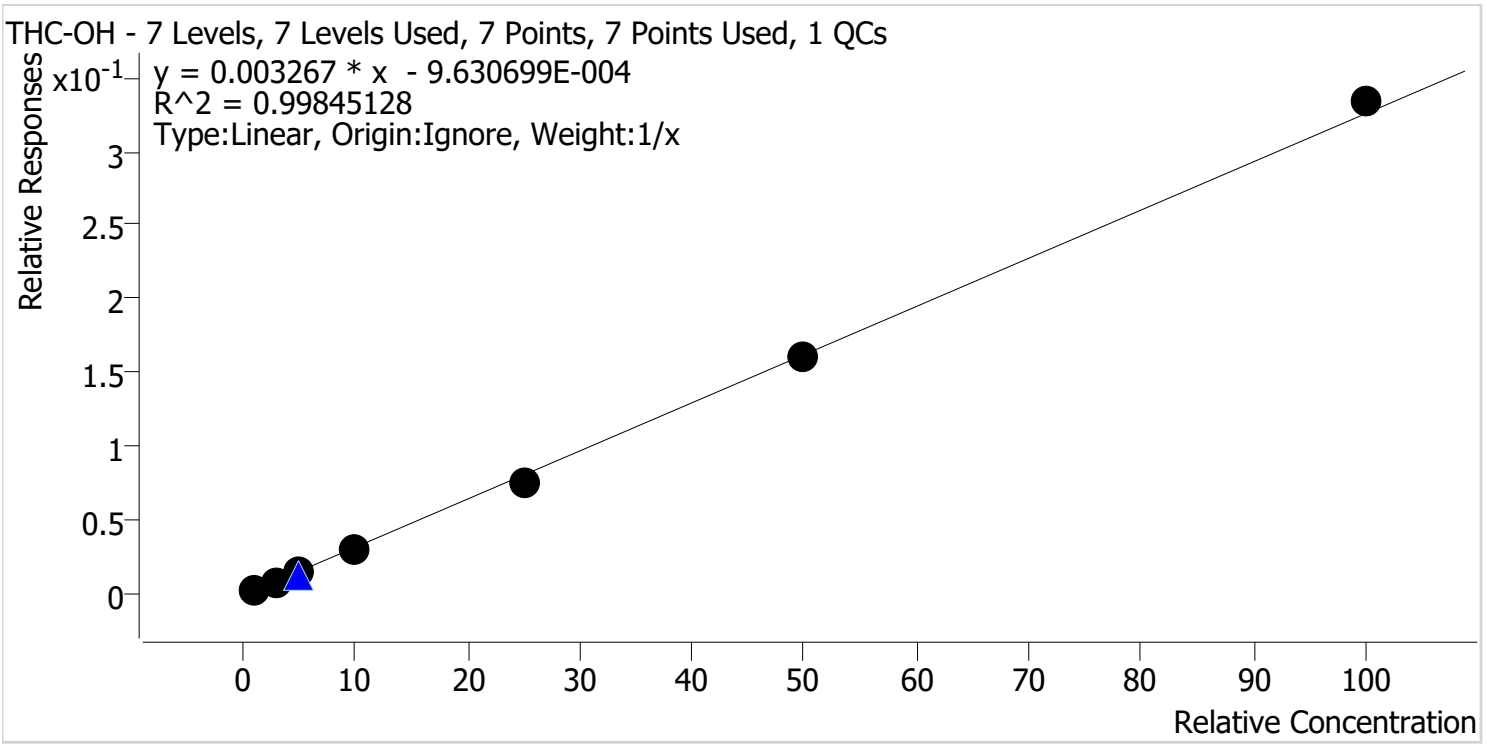
Batch results	D:\MassHunter\Data\2023\am 27-28\073123\QuantResults\cann.batch.bin
Last Cal. Update	8/1/2023 12:35 PM
Analyst Name	ISP\datastor
Analyte	THC-COOH
Internal Standard	THC-COOH-d9



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
mj cal 1	1	✔	5.0	5.5	109.6
mj cal 2	2	✔	10.0	10.0	100.2
mj cal 3	3	✔	20.0	18.8	93.9
mj cal 4	4	✔	50.0	48.7	97.4
mj cal 5	5	✔	75.0	73.3	97.7
mj cal 6	6	✔	100.0	99.3	99.3
mj cal 7	7	✔	250.0	254.4	101.7

Compound Calibration Report

Batch results	D:\MassHunter\Data\2023\am 27-28\073123\QuantResults\cann.batch.bin
Last Cal. Update	8/1/2023 12:35 PM
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	121.2
mj cal 2	2	✔	3.0	2.9	96.7
mj cal 3	3	✔	5.0	4.6	92.2
mj cal 4	4	✔	10.0	9.3	93.1
mj cal 5	5	✔	25.0	23.7	94.8
mj cal 6	6	✔	50.0	49.8	99.6
mj cal 7	7	✔	100.0	102.5	102.5

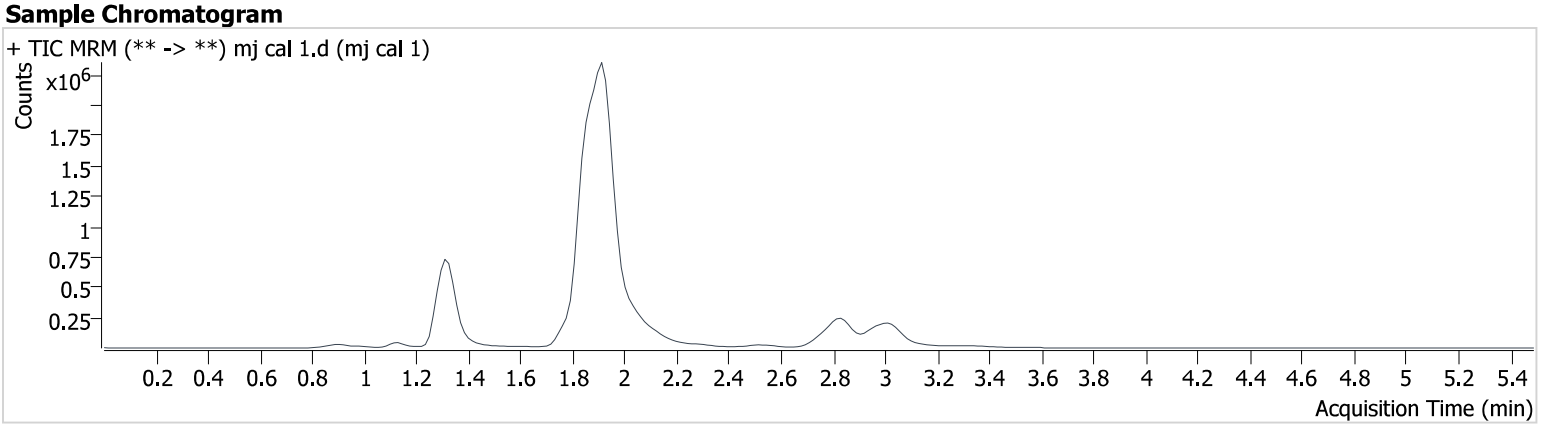
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2023\am 27-28\073123\QuantResults\cann.batch.bin
Calibration Last Update 8/4/2023 8:06:44 AM

Instrument	69679	**Data File**	mj cal 1.d
Type	Cal	**Sample**	mj cal 1
Acq. Method	AM 27 THC quant.m	**Operator**	Anne Nord
Sample Position	P3-A1	**Comment**	
Injection Volume	10		
Acq. Date-Time	7/31/2023 7:49:35 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	1.334	8054	96.3	753.19	∞	2688062	1.212 ng/ml	Low
THC-COOH	1.342	14666	65.5	285.45	∞	619819	5.480 ng/ml	
THC	2.854	5865	51.6	390.17	∞	986792	1.232 ng/ml	

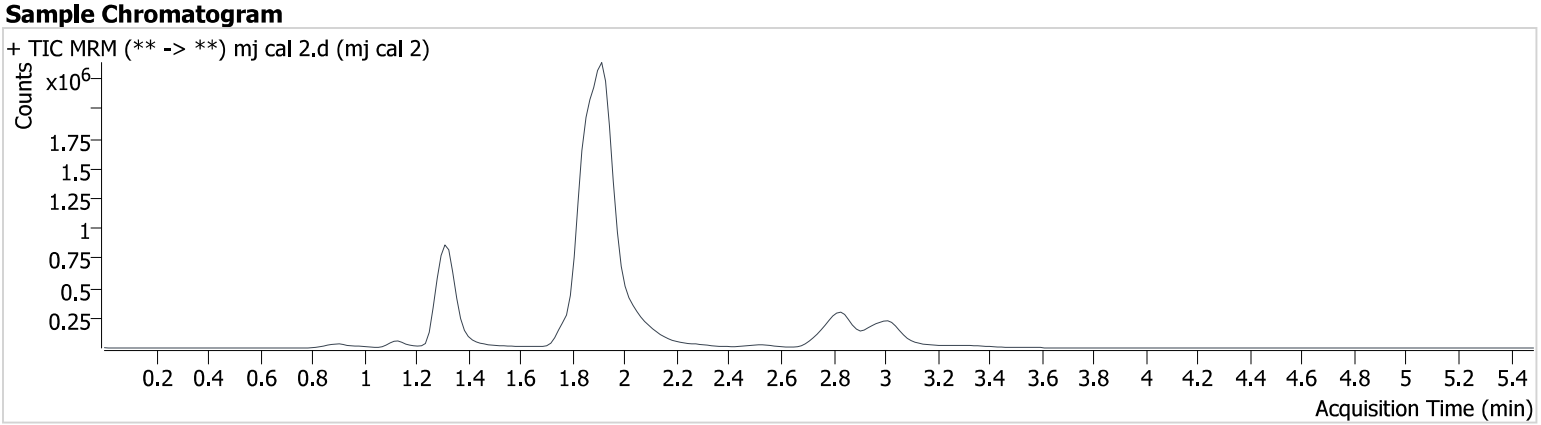
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2023\am 27-28\073123\QuantResults\cann.batch.bin
Calibration Last Update 8/4/2023 8:06:44 AM

Instrument	69679	**Data File**	mj cal 2.d
Type	Cal	**Sample**	mj cal 2
Acq. Method	AM 27 THC quant.m	**Operator**	Anne Nord
Sample Position	P3-B1	**Comment**	
Injection Volume	10		
Acq. Date-Time	7/31/2023 7:56:19 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



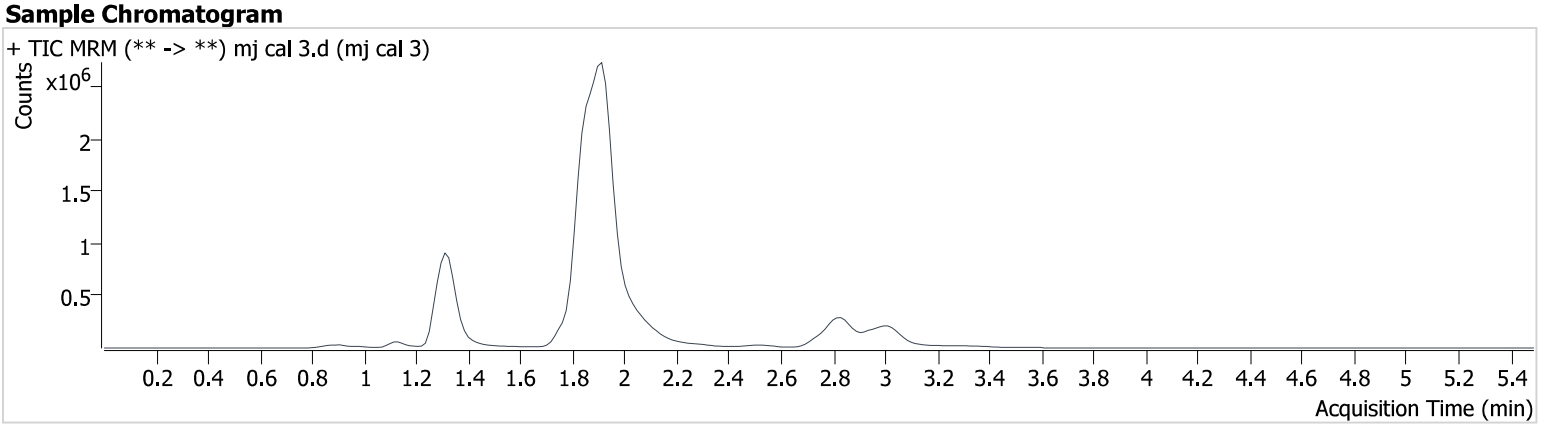
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.319	25386	705.3	824.19	∞	2982449	2.900 ng/ml	Low
THC-COOH	1.342	36026	∞	279.98	∞	718021	10.020 ng/ml	
THC	2.854	24345	213.3	381.73	∞	1284354	2.988 ng/ml	

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2023\am 27-28\073123\QuantResults\cann.batch.bin
Calibration Last Update 8/4/2023 8:06:44 AM

Instrument	69679	**Data File**	mj cal 3.d
Type	Cal	**Sample**	mj cal 3
Acq. Method	AM 27 THC quant.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	7/31/2023 8:02:53 PM		
Sample Info.			

Sample Chromatogram



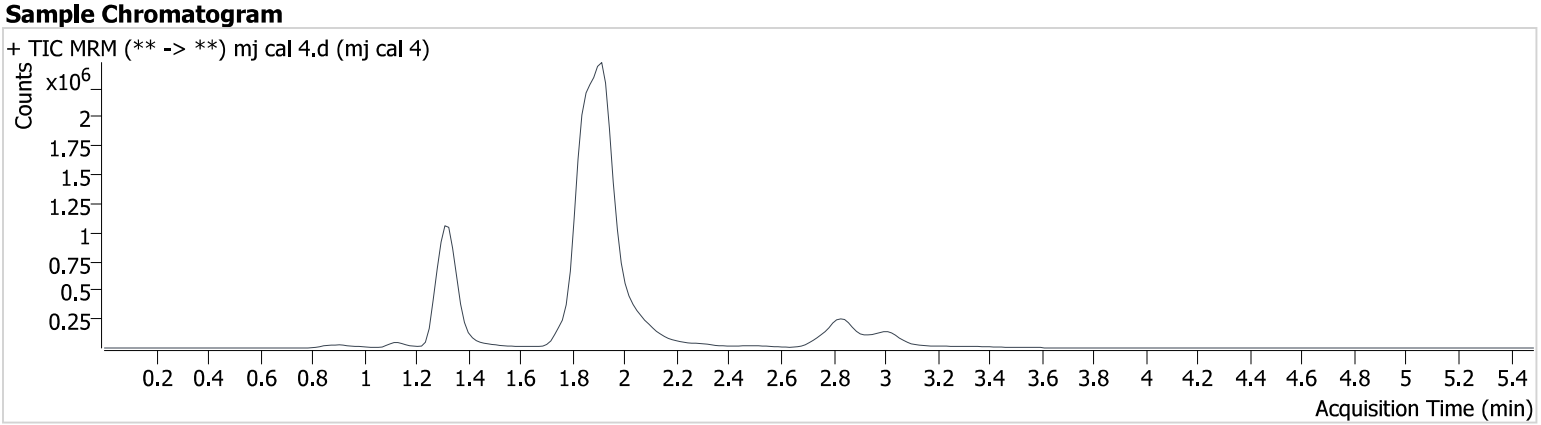
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.319	40193	∞	880.93	∞	2852678	4.608 ng/ml
THC-COOH	1.342	72656	∞	283.61	∞	716625	18.789 ng/ml
THC	2.839	37279	685.6	401.80	∞	1211339	4.583 ng/ml

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2023\am 27-28\073123\QuantResults\cann.batch.bin
Calibration Last Update 8/4/2023 8:06:44 AM

Instrument	69679	**Data File**	mj cal 4.d
Type	Cal	**Sample**	mj cal 4
Acq. Method	AM 27 THC quant.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	7/31/2023 8:09:27 PM		
Sample Info.			

Sample Chromatogram



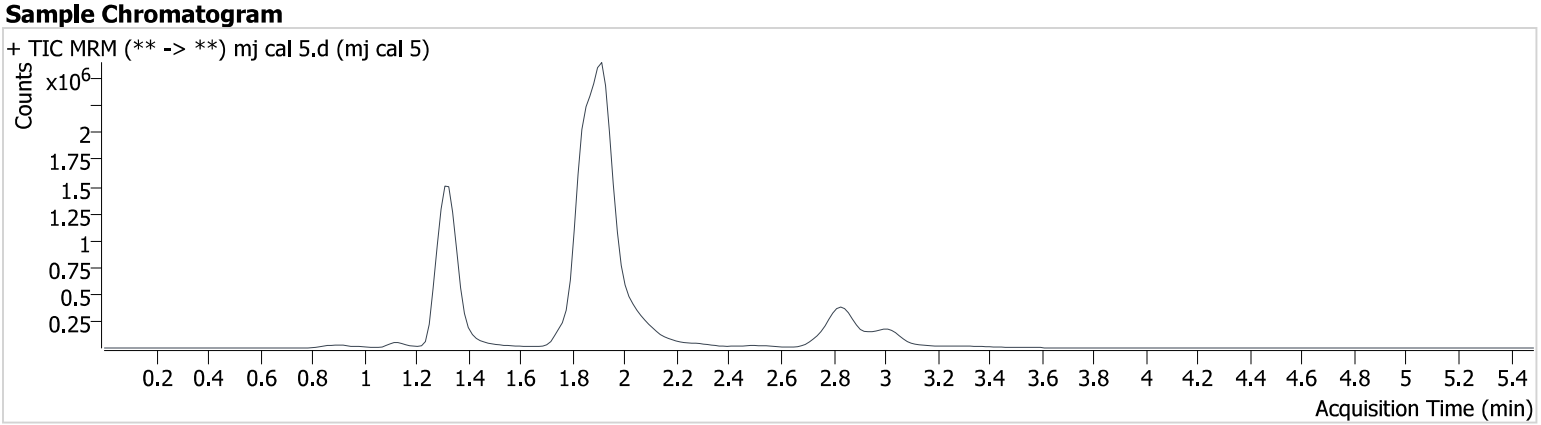
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.319	77408	∞	856.00	∞	2628687	9.309 ng/ml
THC-COOH	1.342	194815	∞	273.61	∞	705547	48.709 ng/ml
THC	2.854	66255	∞	403.93	∞	1032706	9.089 ng/ml

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2023\am 27-28\073123\QuantResults\cann.batch.bin
Calibration Last Update 8/4/2023 8:06:44 AM

Instrument	69679	**Data File**	mj cal 5.d
Type	Cal	**Sample**	mj cal 5
Acq. Method	AM 27 THC quant.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	7/31/2023 8:16:03 PM		
Sample Info.			

Sample Chromatogram



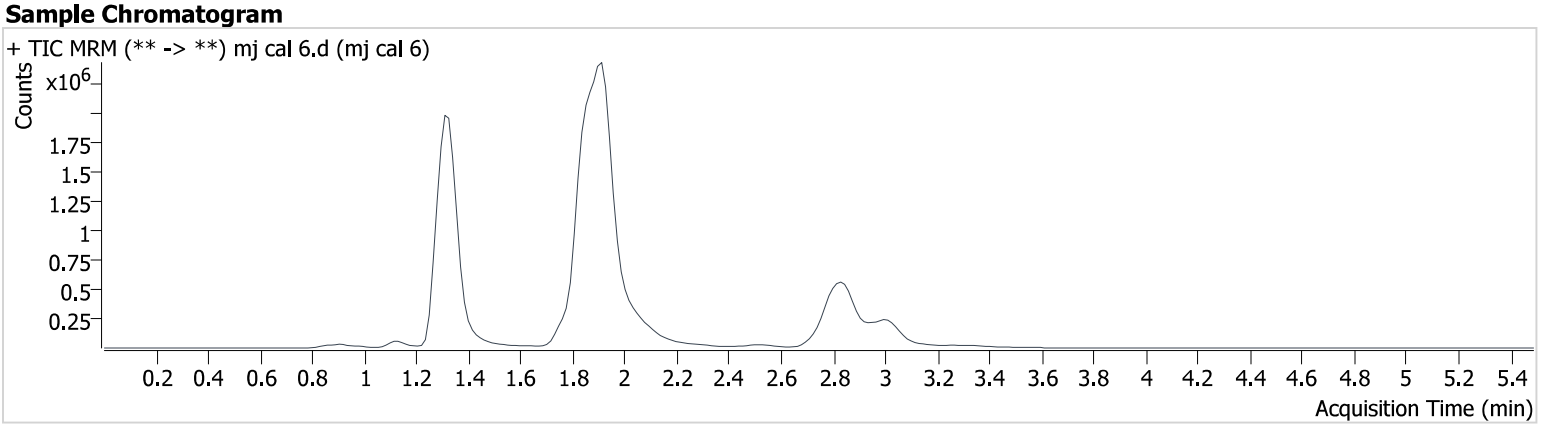
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.319	219554	∞	860.16	∞	2872853	23.690 ng/ml
THC-COOH	1.342	315308	∞	271.35	∞	751113	73.310 ng/ml
THC	2.854	205165	∞	402.74	∞	1209344	23.326 ng/ml

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2023\am 27-28\073123\QuantResults\cann.batch.bin
Calibration Last Update 8/4/2023 8:06:44 AM

Instrument	69679	**Data File**	mj cal 6.d
Type	Cal	**Sample**	mj cal 6
Acq. Method	AM 27 THC quant.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	7/31/2023 8:22:39 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.319	458758	∞	832.06	∞	2835574	49.822 ng/ml
THC-COOH	1.342	390113	∞	270.68	∞	682249	99.340 ng/ml
THC	2.839	464073	∞	395.77	∞	1301134	48.567 ng/ml

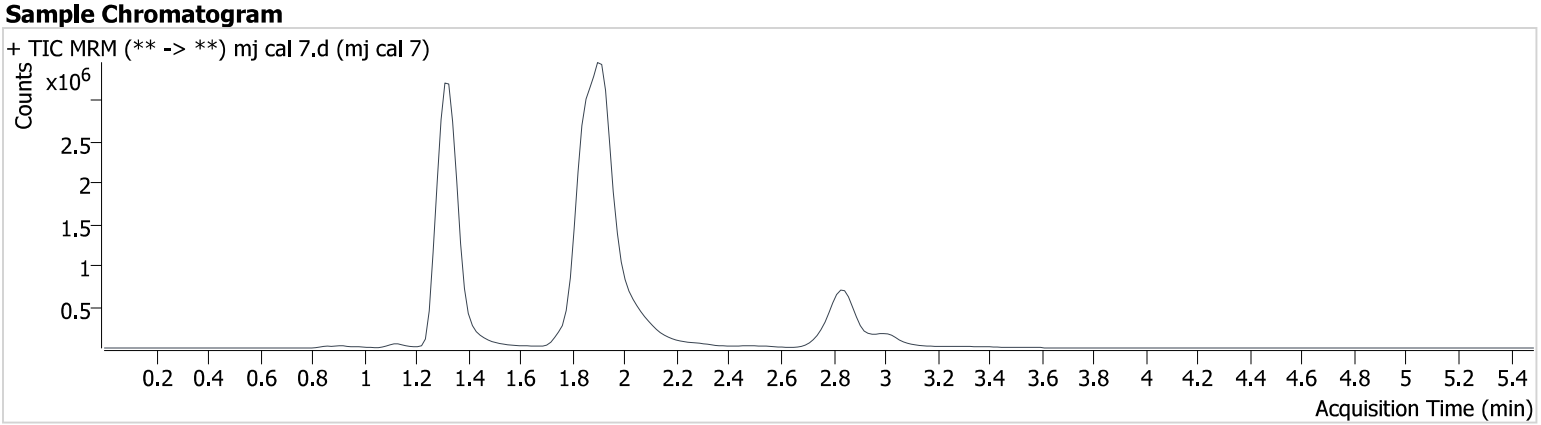
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2023\am 27-28\073123\QuantResults\cann.batch.bin
Calibration Last Update 8/4/2023 8:06:44 AM

Instrument	69679	**Data File**	mj cal 7.d
Type	Cal	**Sample**	mj cal 7
Acq. Method	AM 27 THC quant.m	**Operator**	Anne Nord
Sample Position	P3-G1	**Comment**	
Injection Volume	10		
Acq. Date-Time	7/31/2023 8:29:13 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	1.319	856601	16882.0	824.48	∞	2566784	102.458 ng/ml
THC-COOH	1.342	929718	∞	266.42	∞	629429	254.352 ng/ml
THC	2.839	758086	∞	392.40	∞	985838	104.214 ng/ml