









REVIEWED

By Brittany Wylie at 5:31 pm, Jun 29, 2020



6/29/2020

Worklist: 4332

<u>LAB CASE</u>	<u>ITEM</u>	<u>ITEM TYPE</u>	<u>DESCRIPTION</u>	
C2020-0958	2	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
C2020-1050	3	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
C2020-1090	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2020-1098	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2020-1102	2	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
C2020-1104	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2020-1118	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
C2020-1153	4	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	



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

Extraction Date: 6/25/20
Plate lot#: 200303

Analyst: Anne Nord
Plate Expiration: 09-03-2020

Mobile phase A: 0.1% Formic Acid in LCMS Water MTBE
Mobile phase B: 0.1% Formic acid in Acetonitrile Hexane
LCMS Methanol

Blank Blood Lot: 20A52255 **Urine Blank:** 6920 **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 blood (calibrated pipette) 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
- 4. Case sample response for THC and OH-THC 3ng/mL (quantitative blood), Carboxy-THC: 5 ng/mL (qualitative only) will be reported. 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. Enter QCs into control charting.
- 7. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

COMMENTS:

THC-OH not evaluated for urine samples.



Toxicology AM method 27/26 external prep information

working solution 1 ug/ml in meoh C-THC, THC-OH, THC

Stock solution 1mg/ml 7.5 ul each THC, 100 ug/ml 150 ul C-THC, 75 ul THC-OH in 9767.5 ul meOH

Ppd 2/13/20 Exp: 8/13/20 lot 21320 by AMN

Drug	lot	expiration
C-THC	FE07171501	9/1/2020
THC-OH	FE07721601	7/1/2021
THC	FE001041701	3/1/2022

AM 27/26 blood control 100 ul working solution lot (91319) in 9900 ul blood lot (20A52255)

ppd 02/13/20 Exp 08/13/20 lot b81320 Concentration 7.5 ng/ml THC, THC-OH and 15 ng/ml C-THC by AMN

AM 27/26 urine control 400 ul working solution lot (21320) in 9600 ul urine lot (6920)

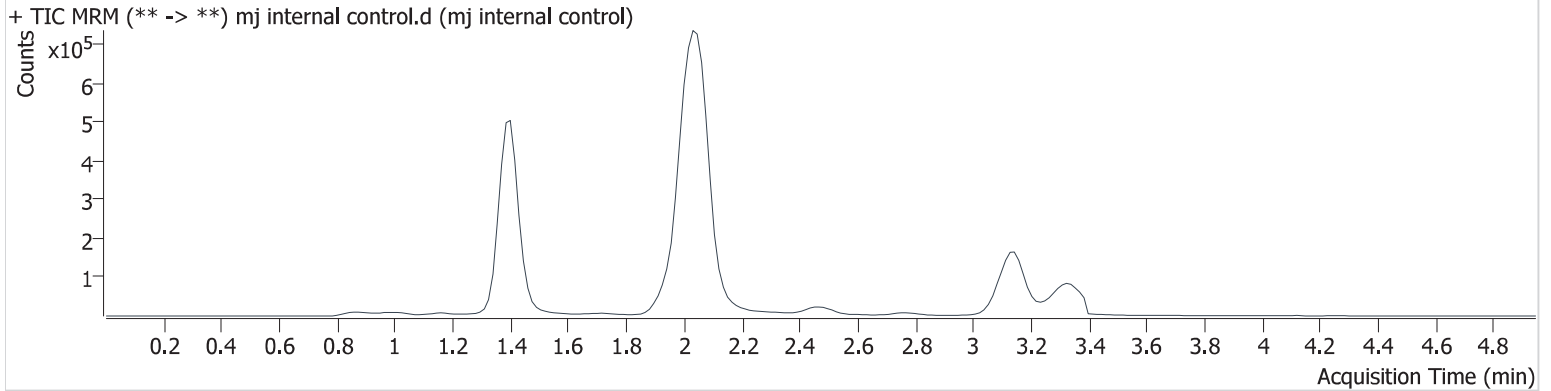
ppd 4/17/20 Exp 9120	lot u101720	Concentration 30 ng/ml THC, THC-OH and 60 ng/ml C-THC	by BAW	out of use
ppd 6/9/20 exp 8/13/20	lot 6920	Concentration 30 ng/ml THC, THC-OH and 60 ng/ml C-THC	by amn	6/8/2020

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2020 Data\am 27-28 6-25-20\QuantResults\cann.batch.bin
Calibration Last Update 6/29/2020 9:42:45 AM

Instrument	69679	Data File	mj internal control.d
Type	QC	Sample	mj internal control
Acq. Method	AM 27 THC quant.m	Operator	Anne Nord
Sample Position	P3-H1	Comment	
Injection Volume	10		
Acq. Date-Time	6/25/2020 1:44:55 PM		
Sample Info.			

Sample Chromatogram



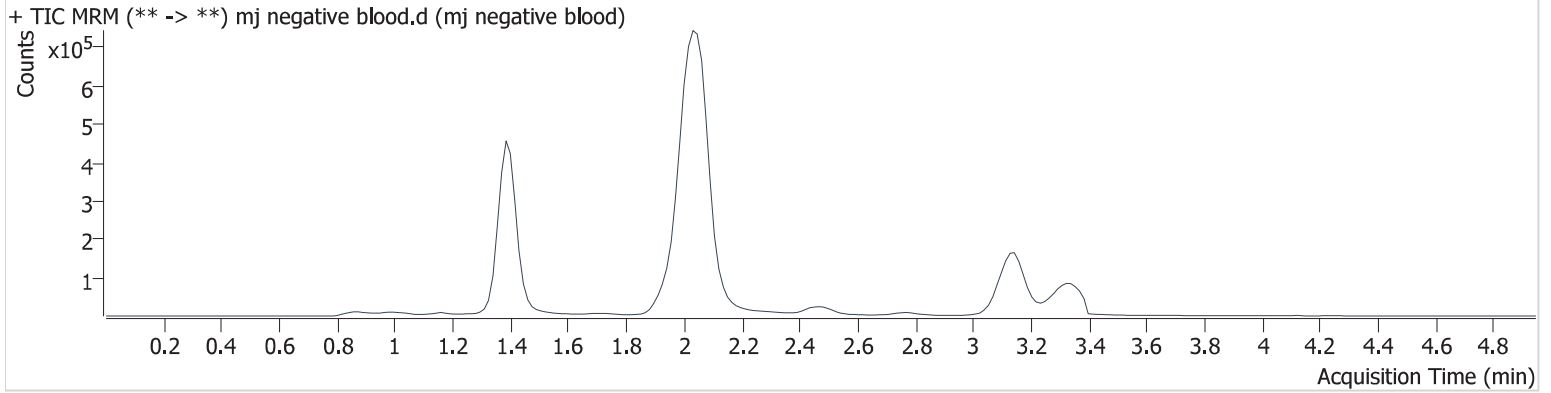
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.390	113033	∞	9.6	∞	1224147	5.029 ng/ml
THC-COOH	1.415	125669	706.5	37.2	53117.2	730997	14.441 ng/ml
THC	3.153	30203	∞	24.1	303.0	771982	4.329 ng/ml

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2020 Data\am 27-28 6-25-20\QuantResults\cann.batch.bin
Calibration Last Update 6/29/2020 9:42:45 AM

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-A2	Comment	
Injection Volume	10		
Acq. Date-Time	6/25/2020 1:52:37 PM		
Sample Info.			

Sample Chromatogram

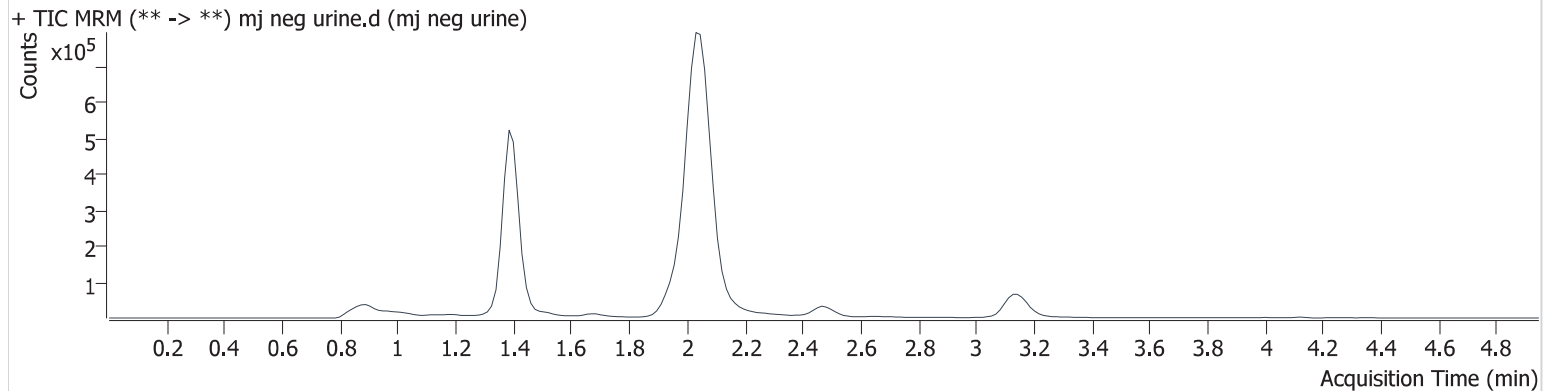


AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2020 Data\am 27-28 6-25-20\QuantResults\cann.batch.bin
Calibration Last Update 6/29/2020 9:42:45 AM

Instrument	69679	Data File	mj neg urine.d
Type	Sample	Sample	mj neg urine
Acq. Method	AM 27 THC quant.m	Operator	Anne Nord
Sample Position	P3-F2	Comment	
Injection Volume	10		
Acq. Date-Time	6/25/2020 3:17:55 PM		
Sample Info.			

Sample Chromatogram



AM #27 Cannabinoids

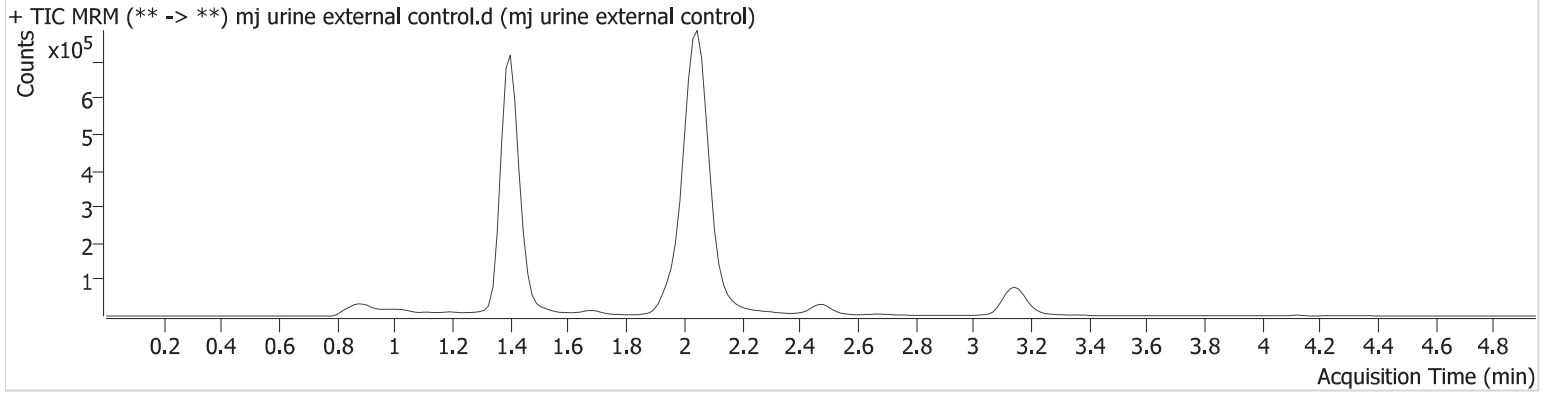
Batch results D:\MassHunter\Data\2020 Data\am 27-28 6-25-20\QuantResults\cann.batch.bin
Calibration Last Update 6/29/2020 9:42:45 AM



Instrument 69679
Type Sample
Acq. Method AM 27 THC quant.m
Sample Position P3-G2
Injection Volume 10
Acq. Date-Time 6/25/2020 3:33:18 PM
Sample Info.

Data File mj urine external control.d
Sample mj urine external control
Operator Anne Nord
Comment

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.390	399245	∞	65.8 High	∞	1417063	15.215 ng/ml
THC-COOH	1.415	245319	3385.8	34.9	1892.7	563265	35.789 ng/ml
THC	3.168	53073	∞	24.6	337.0	414139	13.318 ng/ml

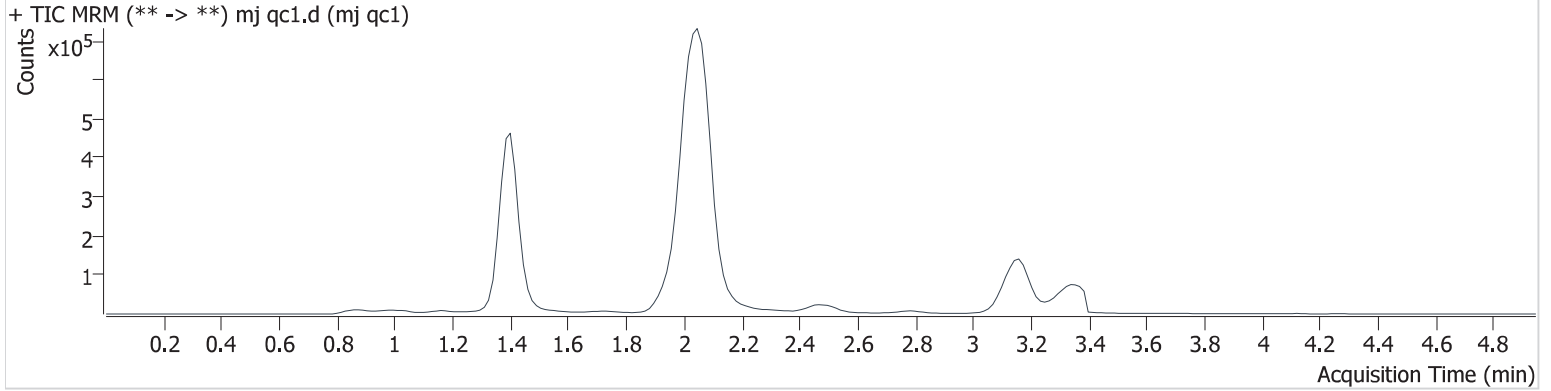
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2020 Data\am 27-28 6-25-20\QuantResults\cann.batch.bin
Calibration Last Update 6/29/2020 9:42:45 AM

Instrument	69679	Data File	mj qc1.d
Type	Cal	Sample	mj qc1
Acq. Method	AM 27 THC quant.m	Operator	Anne Nord
Sample Position	P3-A1	Comment	
Injection Volume	10		
Acq. Date-Time	6/25/2020 12:50:51 PM		

Sample Info.

Sample Chromatogram



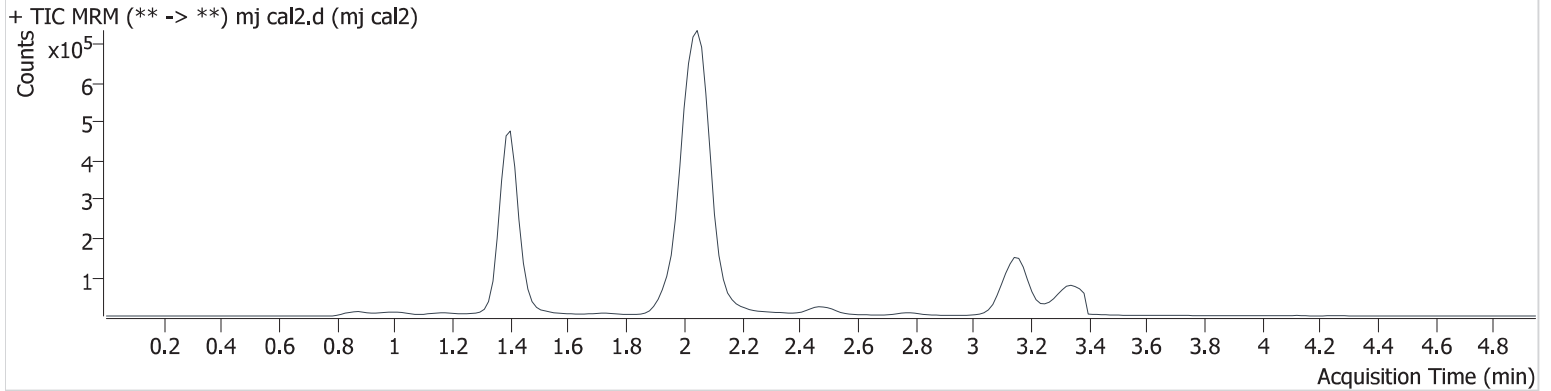
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.405	22429	∞	12.5	∞	1289663	0.998 ng/ml	Low
THC-COOH	1.415	41744	4156.5	38.0	208.0	734528	5.122 ng/ml	Low
THC	3.183	5887	178.3	26.0	60.7	690941	1.240 ng/ml	Low

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2020 Data\am 27-28 6-25-20\QuantResults\cann.batch.bin
Calibration Last Update 6/29/2020 9:42:45 AM

Instrument	69679	Data File	mj cal2.d
Type	Cal	Sample	mj cal2
Acq. Method	AM 27 THC quant.m	Operator	Anne Nord
Sample Position	P3-B1	Comment	
Injection Volume	10		
Acq. Date-Time	6/25/2020 12:58:36 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.390	64443	∞	11.5	∞	1238447	2.861 ng/ml	Low
THC-COOH	1.415	85214	125.7	33.8	274.1	710354	10.234 ng/ml	
THC	3.183	17392	582.9	25.0	∞	720650	2.816 ng/ml	Low

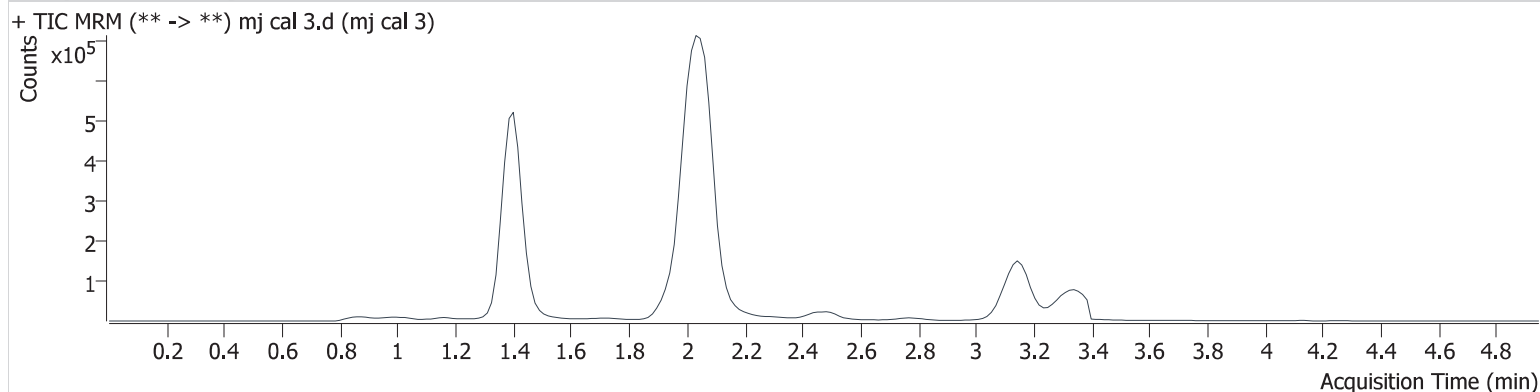
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2020 Data\am 27-28 6-25-20\QuantResults\cann.batch.bin
Calibration Last Update 6/29/2020 9:42:45 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	
Injection Volume	10		
Acq. Date-Time	6/25/2020 1:06:20 PM		

Sample Info.

Sample Chromatogram



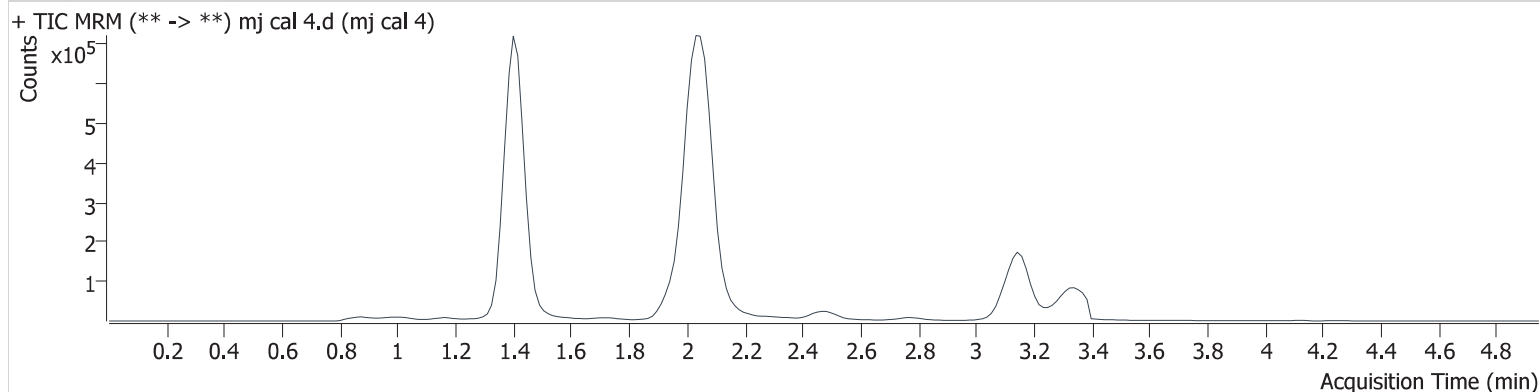
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.390	112834	∞	9.7	∞	1215485	5.055 ng/ml
THC-COOH	1.415	166576	982.2	37.5	379.1	727557	19.060 ng/ml
THC	3.168	29674	∞	25.0	139.6	702656	4.643 ng/ml

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2020 Data\am 27-28 6-25-20\QuantResults\cann.batch.bin
Calibration Last Update 6/29/2020 9:42:45 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	
Injection Volume	10		
Acq. Date-Time	6/25/2020 1:14:04 PM		

Sample Chromatogram



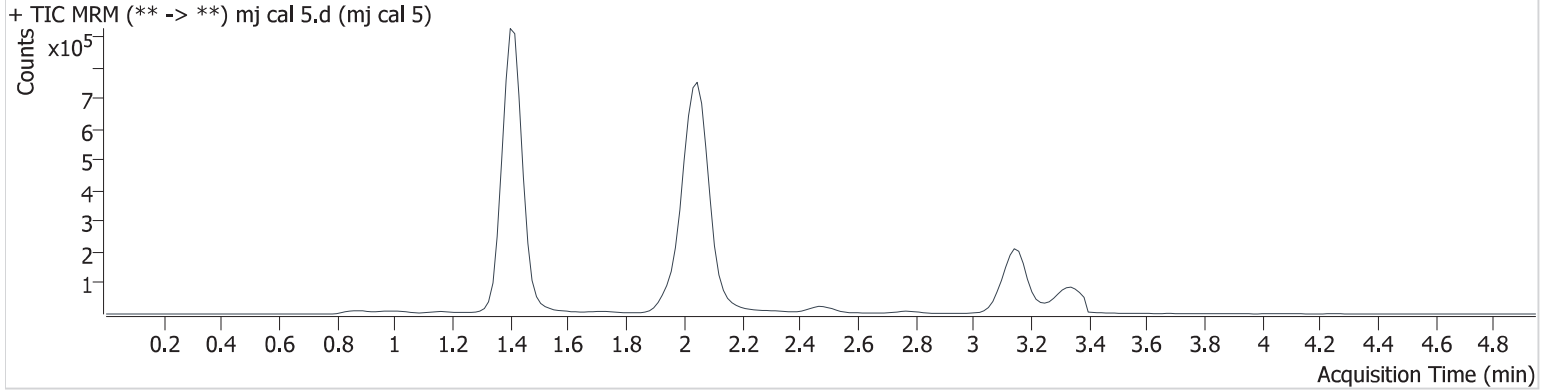
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.390	243365	∞	9.9	∞	1248926	10.542 ng/ml
THC-COOH	1.415	442116	1585.1	37.7	4939.6	716036	50.522 ng/ml
THC	3.168	65006	∞	25.2	15082 44898 3324.9	754133	9.082 ng/ml

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2020 Data\am 27-28 6-25-20\QuantResults\cann.batch.bin
Calibration Last Update 6/29/2020 9:42:45 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	
Injection Volume	10		
Acq. Date-Time	6/25/2020 1:21:46 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.390	561567	∞	11.4	∞	1228787	24.641 ng/ml
THC-COOH	1.415	652100	1990.4	38.1	8745.3	716791	74.193 ng/ml
THC	3.168	188021	∞	24.2	10110.8	797392	24.186 ng/ml

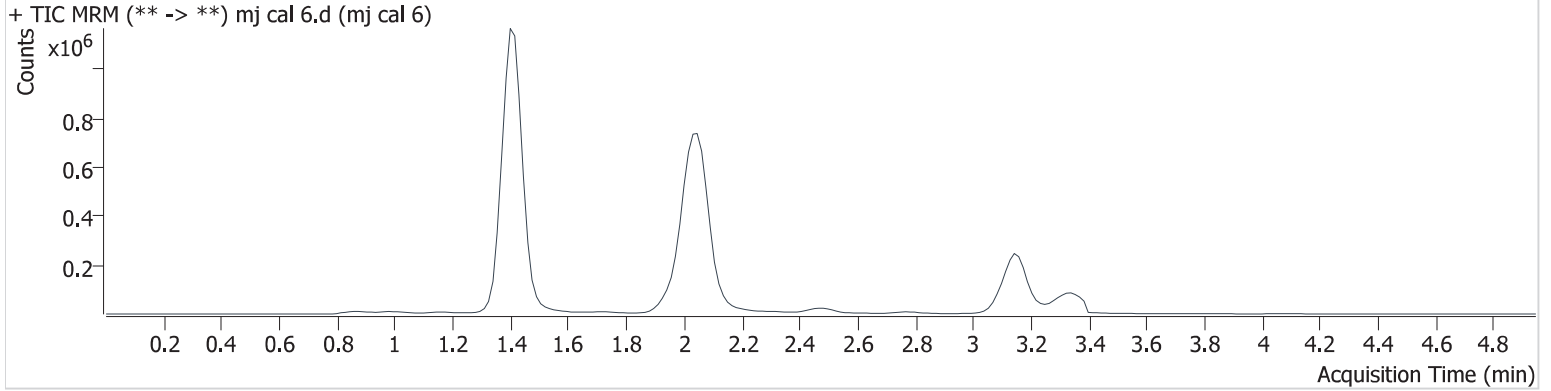
AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2020 Data\am 27-28 6-25-20\QuantResults\cann.batch.bin
Calibration Last Update 6/29/2020 9:42:45 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	
Injection Volume	10		
Acq. Date-Time	6/25/2020 1:29:29 PM		

Sample Info.

Sample Chromatogram



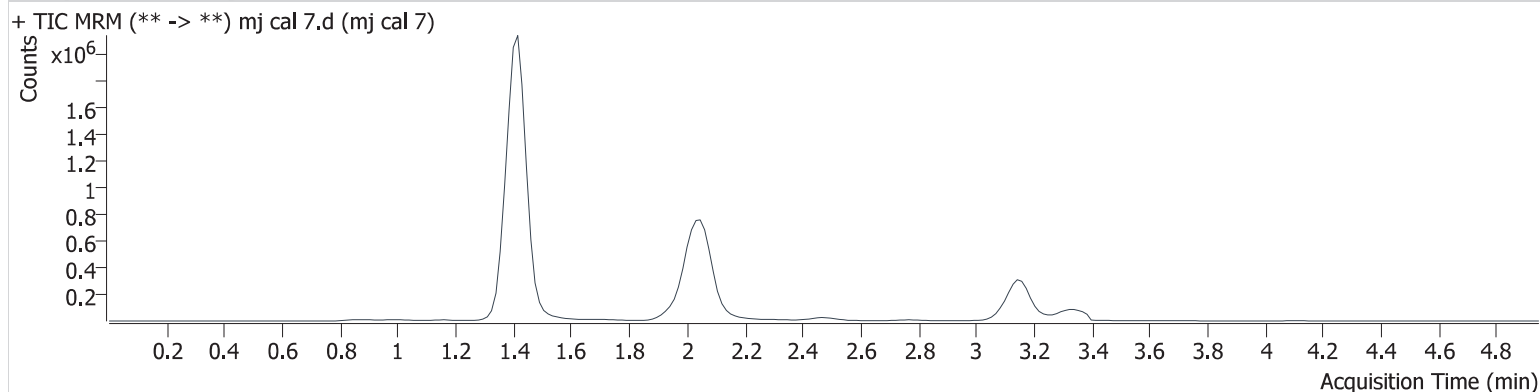
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.390	1144322	∞	11.6	∞	1236442	49.837 ng/ml
THC-COOH	1.415	852540	1005.5	38.1	981.5	698565	99.351 ng/ml
THC	3.168	375663	∞	24.1	∞	768828	49.713 ng/ml

AM #27 Cannabinoids

Batch results D:\MassHunter\Data\2020 Data\am 27-28 6-25-20\QuantResults\cann.batch.bin
Calibration Last Update 6/29/2020 9:42:45 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	6/25/2020 1:37:13 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.390	2234890	∞	11.9	∞	1201932	100.065 ng/ml
THC-COOH	1.415	2037286	4078.8	38.9	3603.7	657306	251.519 ng/ml
THC	3.168	736859	∞	24.6	∞	729812	102.320 ng/ml