REVIEWED
By Tamara Salazar at 2:38 pm, Oct 02, 2020

10/1/2020

Worklist: 4549

LAB_CASE	ITEM	ITEM_TYPE	DESCRIPTION
M2020-3210	2	BCK	AM 27 Blood THC Quant by LC-QQQ
M2020-3290	3	BCK	AM 27 Blood THC Quant by LC-QQQ
M2020-3344	1	BCK	AM 27 Blood THC Quant by LC-QQQ
M2020-3409	4	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-2485	2	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-2531	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-2532	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-2642	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-2689	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-2697	3	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-2764	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-2766	1	BCK	AM 27 Blood THC Quant by LC-QQQ

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

Extraction Date: 09/29/20 Analyst: Sarah Pickle
Plate lot#: IDP-108-2-200723 Plate Expiration: 01/23/21

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: Hemostat 445283-4 **Column**: UCT Selectra DA 100 x 2.1mm 3um
LCMS-QQQ ID: 069901

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. Pipette **1000 µL blood (calibrated pipette)** in wells of analytical (standards) plate. **Pipette ID: 3382167**
☒ 3. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
☒ 4. Pipette **500 µL 0.1% formic acid in LCMS water** in wells of analytical plate.
☒ 5. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
☒ 6. Transfer **800 µL of blood+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 85-95 PSI- Selector to the right)***
☒ 8. Wait 5 minutes.
☒ 9. Add **2.25 mL MTBE. (*Add in 3 increments of 750 µL)***
☒ 10. Wait 5 minutes.
☒ 11. Apply positive pressure for approx. 15 seconds. ***(12-15 PSI- Selector to the left).***
☒ 12. Add **2.25 mL Hexane. (*Add in 3 increments of 750 µL)***
☒ 13. Wait 5 minutes.
☒ 14. Apply positive pressure for approx. 15 seconds. ***(12-15 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 **100 µL 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), Carboxy-THC: 5ng/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? Y / N
☒ 6 Enter QCs into control charting.
☒ 7 Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

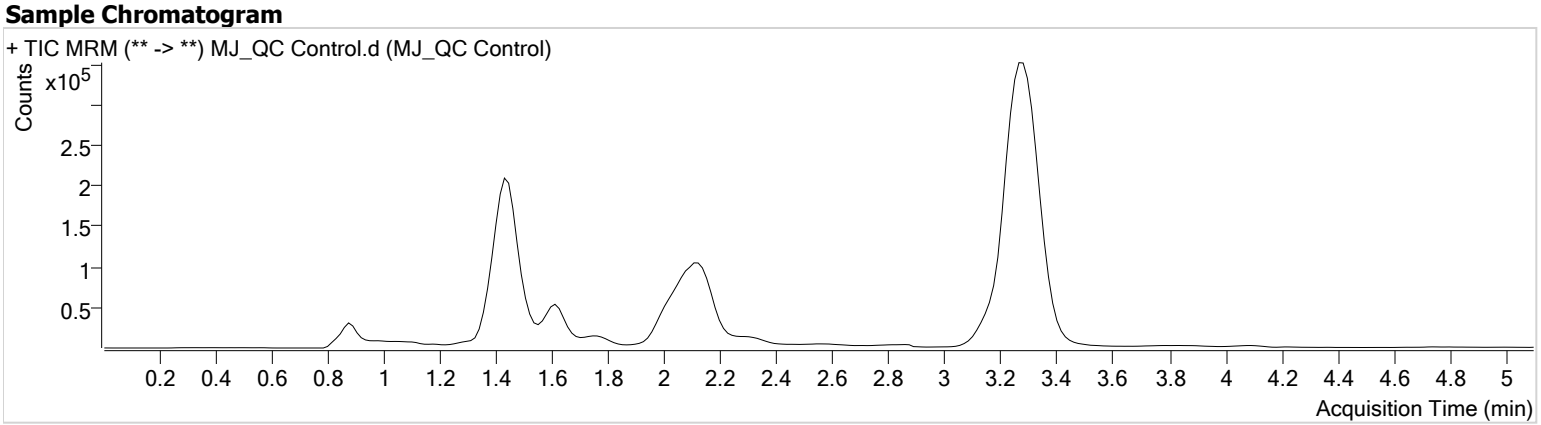
COMMENTS: *THC 3-100, THC-OH was not evaluated*

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\092920 AM 27 28 SP\QuantResults\AM 27.batch.bin
Calibration Last Update 9/30/2020 8:02:01 AM

Instrument	Falco	**Data File**	MJ_QC Control.d
Type	Sample	**Sample**	MJ_QC Control
Acq. Method	AM 27 THC quant.m	**Operator**	Sarah Pickle
Sample Position	P3-H1	**Comment**	
Injection Volume	10		
Acq. Date-Time	9/29/2020 2:06:34 PM		
Sample Info.			

Sample Chromatogram



	Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
*	~~THC-OH~~	~~1.468~~	~~163165~~	~~∞~~	~~7.8 Low~~	~~37.78~~	~~867255~~	~~4.9716~~	~~ng/ml~~
	THC-COOH	1.474	69847	127.06	55.7	∞	182186	15.4561	ng/ml
	THC	3.285	122459	421.34	27.5	∞	2987655	4.8363	ng/ml

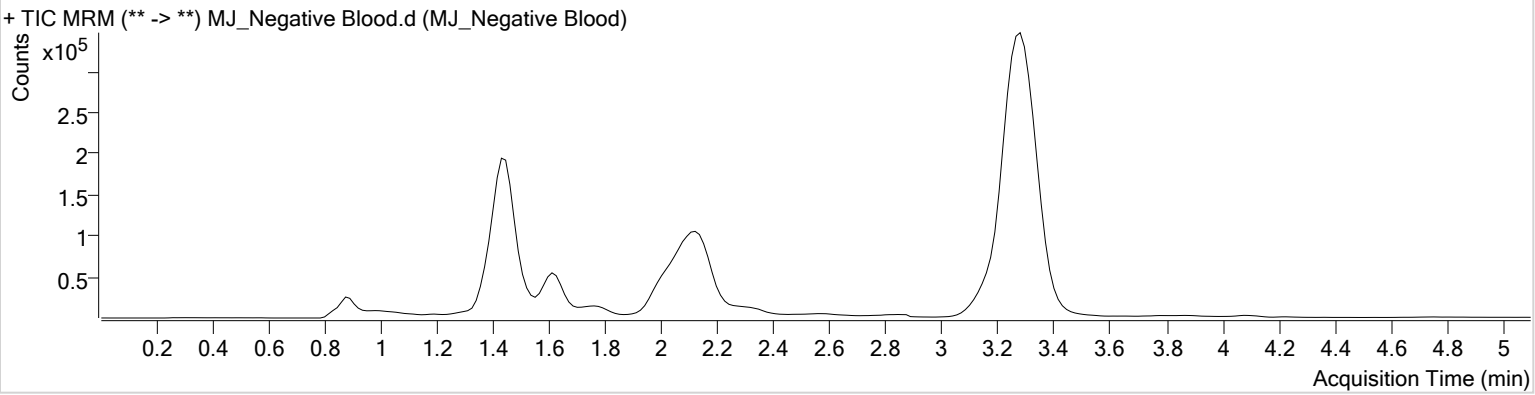
*Not evaluated

AM #27 Cannabinoid Quant. Results

Batch results	D:\MassHunter\Data\2020\AM 27-28\092920 AM 27 28 SP\QuantResults\AM 27.batch.bin
Calibration Last Update	9/30/2020 8:02:01 AM

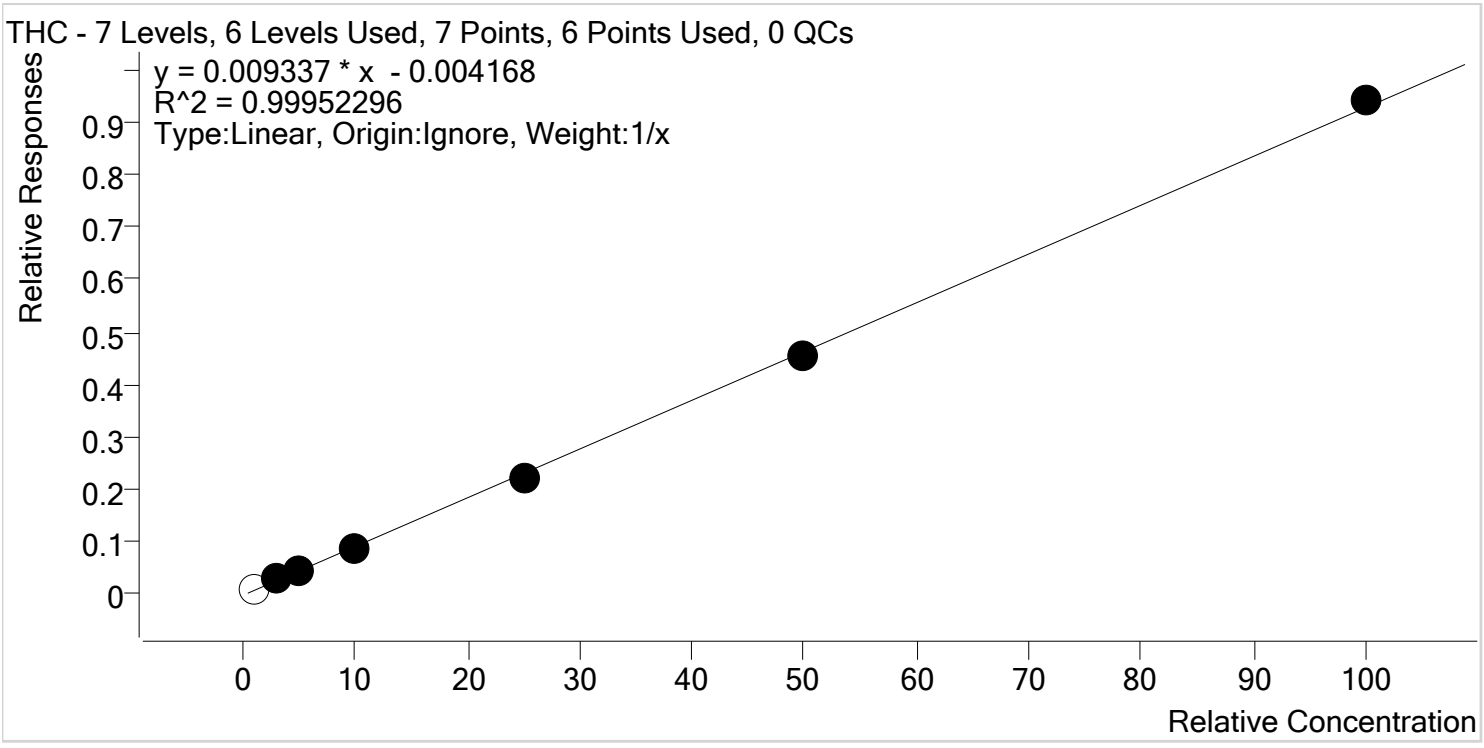
Instrument	Falco	**Data File**	MJ_Negative Blood.d
Type	Sample	**Sample**	MJ_Negative Blood
Acq. Method	AM 27 THC quant.m	**Operator**	Sarah Pickle
Sample Position	P3-A2	**Comment**	
Injection Volume	10		
Acq. Date-Time	9/29/2020 2:21:45 PM		
Sample Info.			

Sample Chromatogram



AM #27 Cannabinoids Quant. Calibration Curve Report

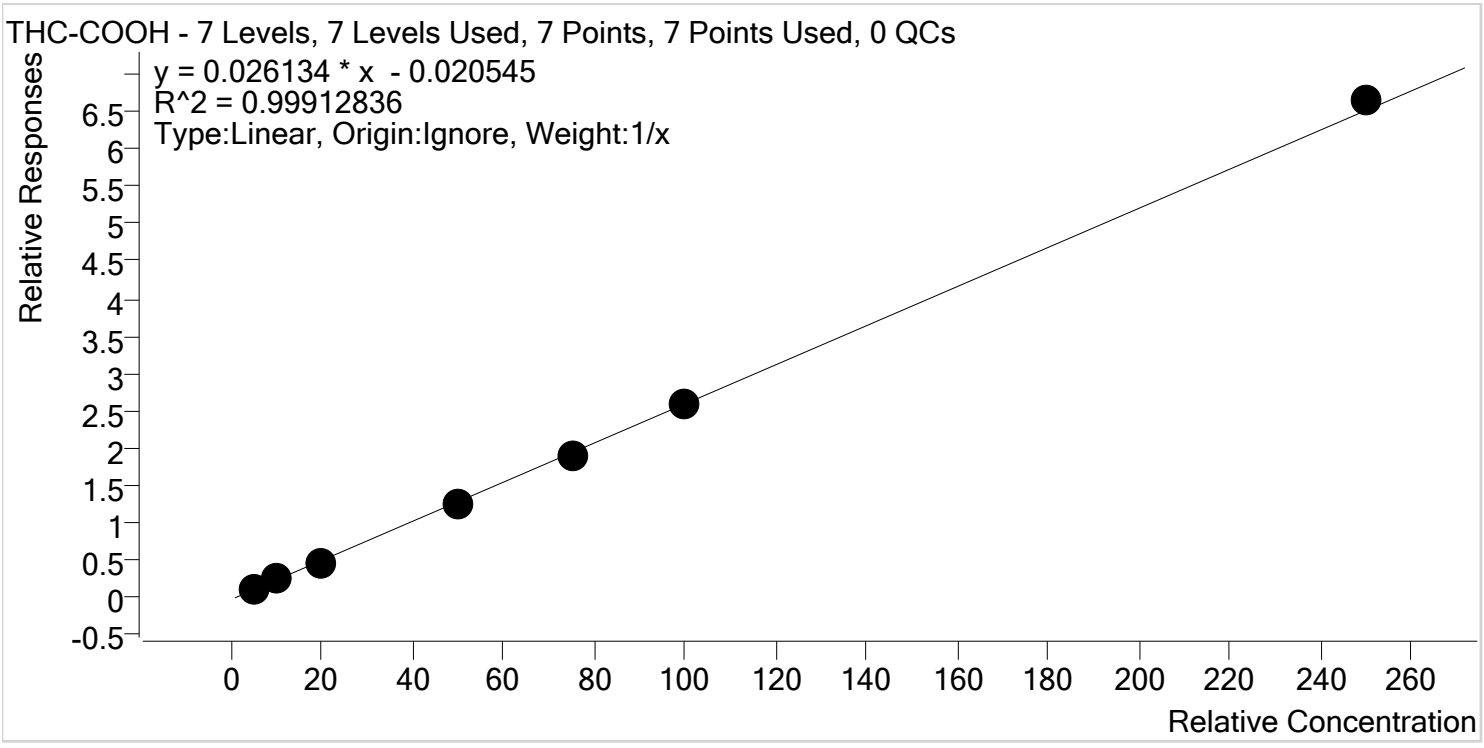
Batch results	D:\MassHunter\Data\2020\AM 27-28\092920 AM 27 28 SP\QuantResults\AM 27.batch.bin
Last Cal. Update	9/30/2020 8:02 AM
Analyst Name	ISP\datastor
Analyte	THC
Internal Standard	THC-D3



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ_Cal 1	1	✗	1.0	1.4	137.0
MJ_Cal 2	2	✔	3.0	3.2	105.8
MJ_Cal 3	3	✔	5.0	5.0	100.4
MJ_Cal 4	4	✔	10.0	9.6	96.2
MJ_Cal 5	5	✔	25.0	24.3	97.4
MJ_Cal 6	6	✔	50.0	49.5	98.9
MJ_Cal 7	7	✔	100.0	101.4	101.4

AM #27 Cannabinoids Quant. Calibration Curve Report

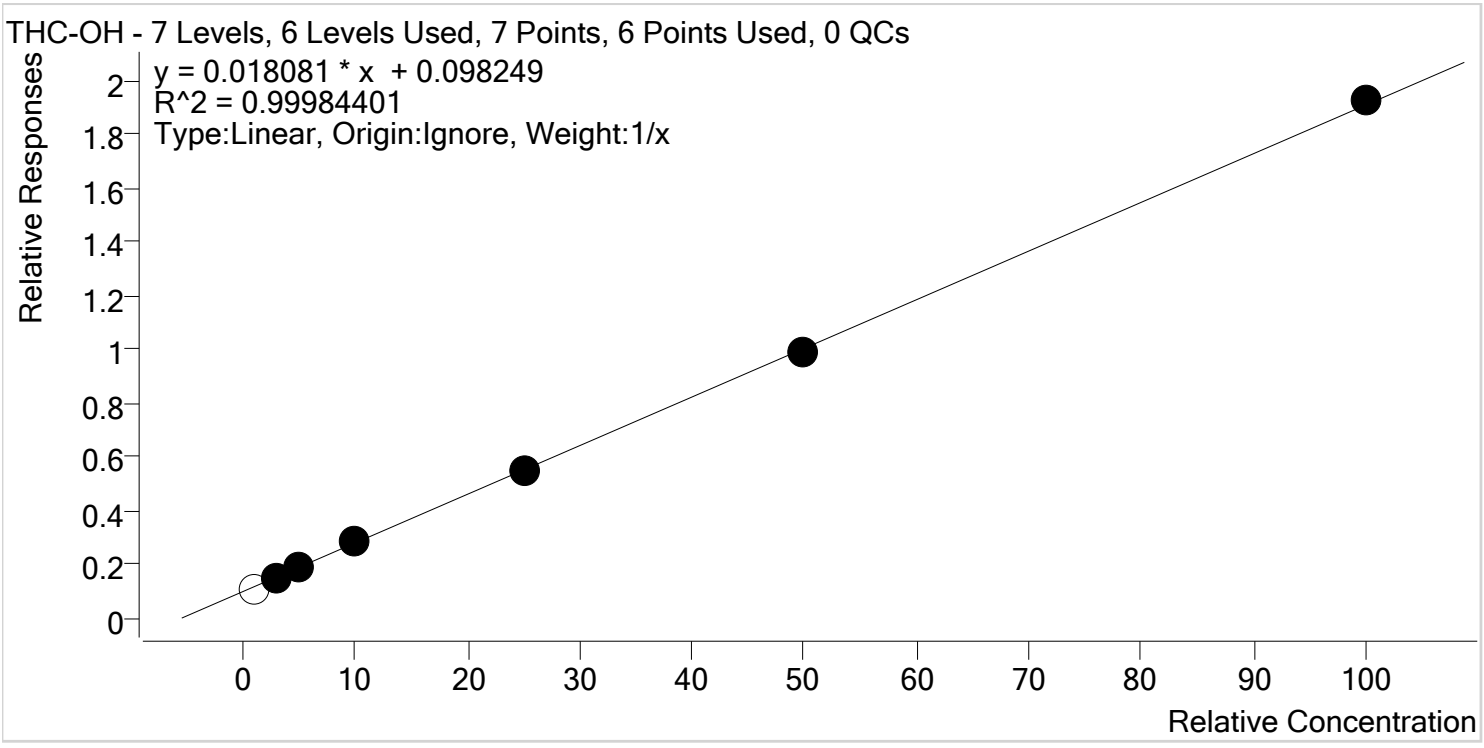
Batch results	D:\MassHunter\Data\2020\AM 27-28\092920 AM 27 28 SP\QuantResults\AM 27.batch.bin
Last Cal. Update	9/30/2020 8:02 AM
Analyst Name	ISP\datastor
Analyte	THC-COOH
Internal Standard	THC-COOH-D9



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ_Cal 1	1	✔	5.0	5.5	109.4
MJ_Cal 2	2	✔	10.0	10.0	99.7
MJ_Cal 3	3	✔	20.0	19.3	96.6
MJ_Cal 4	4	✔	50.0	47.9	95.8
MJ_Cal 5	5	✔	75.0	72.5	96.7
MJ_Cal 6	6	✔	100.0	99.8	99.8
MJ_Cal 7	7	✔	250.0	255.0	102.0

AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results	D:\MassHunter\Data\2020\AM 27-28\092920 AM 27 28 SP\QuantResults\AM 27.batch.bin
Last Cal. Update	9/30/2020 8:02 AM
Analyst Name	ISP\datastor
Analyte	THC-OH
Internal Standard	THC-OH-D3



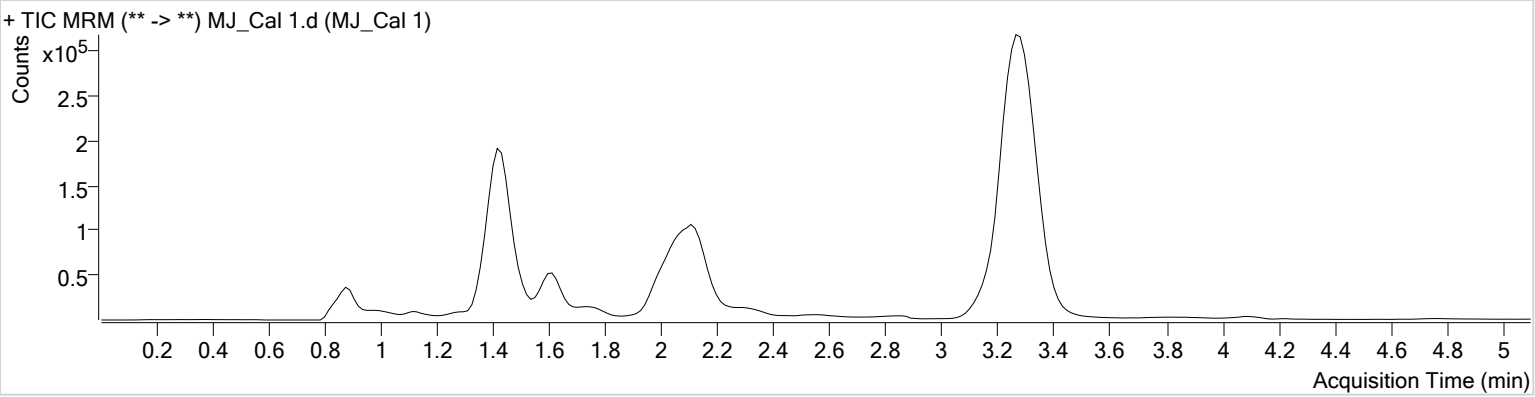
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ_Cal 1	1	✗	1.0	0.6	60.0
MJ_Cal 2	2	✔	3.0	3.0	100.5
MJ_Cal 3	3	✔	5.0	5.0	100.5
MJ_Cal 4	4	✔	10.0	10.0	100.2
MJ_Cal 5	5	✔	25.0	24.9	99.6
MJ_Cal 6	6	✔	50.0	49.2	98.3
MJ_Cal 7	7	✔	100.0	100.9	100.9

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\092920 AM 27 28 SP\QuantResults\AM 27.batch.bin
Calibration Last Update 9/30/2020 8:02:01 AM

Instrument	Falco	**Data File**	MJ_Cal 1.d
Type	Cal	**Sample**	MJ_Cal 1
Acq. Method	AM 27 THC quant.m	**Operator**	Sarah Pickle
Sample Position	P3-A1	**Comment**	
Injection Volume	10		
Acq. Date-Time	9/29/2020 1:05:39 PM		
Sample Info.			

Sample Chromatogram



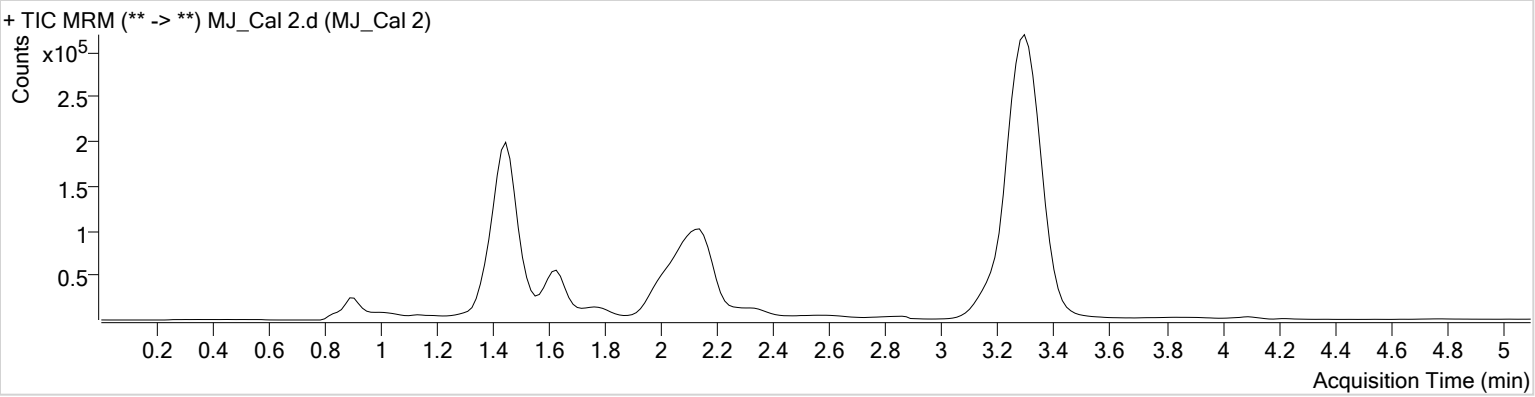
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.483	95932	∞	4.5 **Low**	10.55	879370	0.5997	ng/ml **Low**
THC-COOH	1.459	22153	36.29	55.4	∞	181013	5.4692	ng/ml
THC	3.285	25016	200.65	33.5	4.19 **Low**	2899727	1.3703	ng/ml **Low**

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\092920 AM 27 28 SP\QuantResults\AM 27.batch.bin
Calibration Last Update 9/30/2020 8:02:01 AM

Instrument	Falco	**Data File**	MJ_Cal 2.d
Type	Cal	**Sample**	MJ_Cal 2
Acq. Method	AM 27 THC quant.m	**Operator**	Sarah Pickle
Sample Position	P3-B1	**Comment**	
Injection Volume	10		
Acq. Date-Time	9/29/2020 1:13:23 PM		
Sample Info.			

Sample Chromatogram



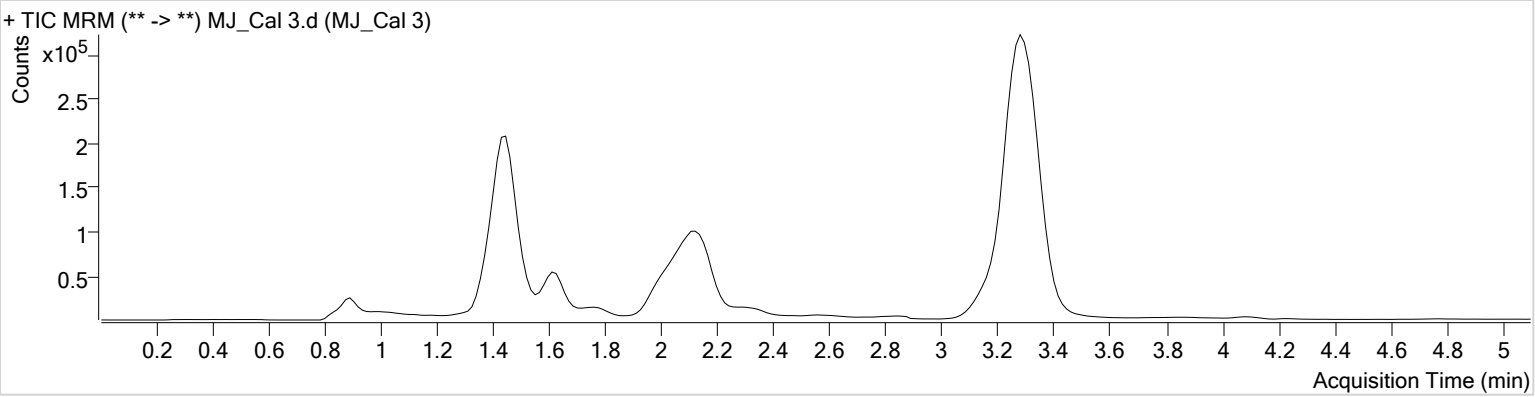
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.498 **High**	136207	∞	6.9 **Low**	∞	891515	3.0160	ng/ml
THC-COOH	1.474	44248	28.45	58.1	∞	184284	9.9737	ng/ml
THC	3.300	70876	204.69	29.8	∞	2782964	3.1740	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\092920 AM 27 28 SP\QuantResults\AM 27.batch.bin
Calibration Last Update 9/30/2020 8:02:01 AM

Instrument	Falco	**Data File**	MJ_Cal 3.d
Type	Cal	**Sample**	MJ_Cal 3
Acq. Method	AM 27 THC quant.m	**Operator**	Sarah Pickle
Sample Position	P3-C1	**Comment**	
Injection Volume	10		
Acq. Date-Time	9/29/2020 1:20:59 PM		
Sample Info.			

Sample Chromatogram



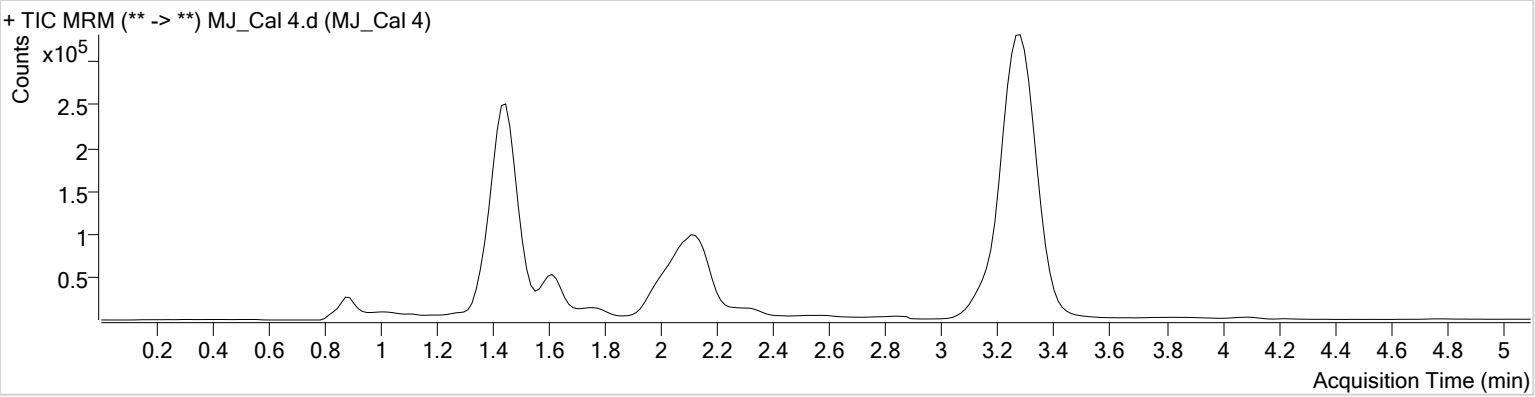
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.468	164663	∞	8.1	47.09	870880	5.0234	ng/ml
THC-COOH	1.474	87710	347.90	59.0	623.68	181179	19.3101	ng/ml
THC	3.300	118495	170.36	26.9	39.88	2775812	5.0183	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\092920 AM 27 28 SP\QuantResults\AM 27.batch.bin
Calibration Last Update 9/30/2020 8:02:01 AM

Instrument	Falco	**Data File**	MJ_Cal 4.d
Type	Cal	**Sample**	MJ_Cal 4
Acq. Method	AM 27 THC quant.m	**Operator**	Sarah Pickle
Sample Position	P3-D1	**Comment**	
Injection Volume	10		
Acq. Date-Time	9/29/2020 1:28:36 PM		
Sample Info.			

Sample Chromatogram



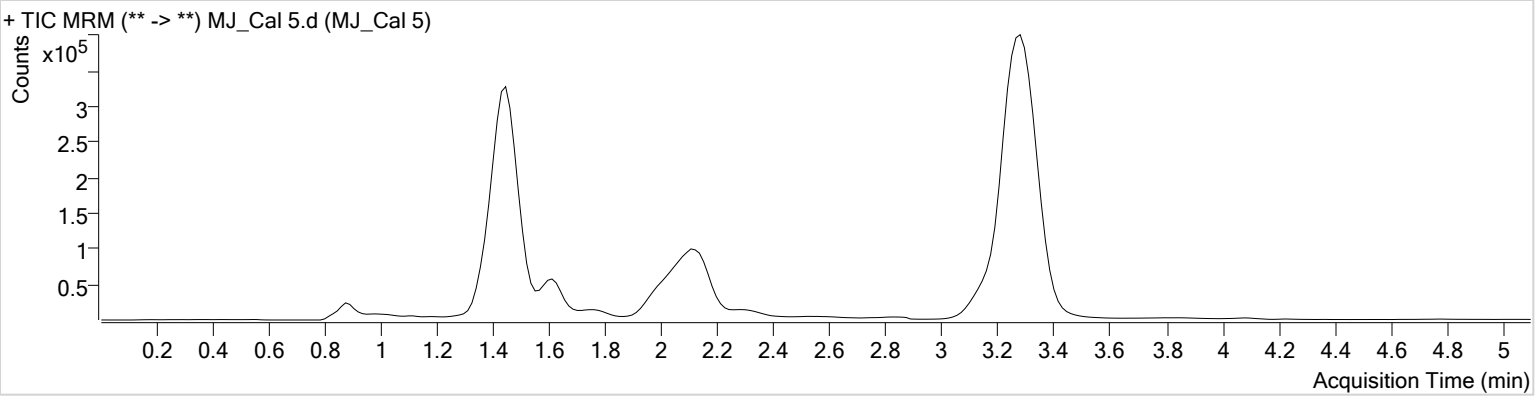
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.453	244261	∞	9.4	145.65	874051	10.0223	ng/ml
THC-COOH	1.474	222663	∞	57.9	∞	180810	47.9077	ng/ml
THC	3.285	235680	871.89	28.5	∞	2752830	9.6157	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\092920 AM 27 28 SP\QuantResults\AM 27.batch.bin
Calibration Last Update 9/30/2020 8:02:01 AM

Instrument	Falco	**Data File**	MJ_Cal 5.d
Type	Cal	**Sample**	MJ_Cal 5
Acq. Method	AM 27 THC quant.m	**Operator**	Sarah Pickle
Sample Position	P3-E1	**Comment**	
Injection Volume	10		
Acq. Date-Time	9/29/2020 1:36:12 PM		
Sample Info.			

Sample Chromatogram



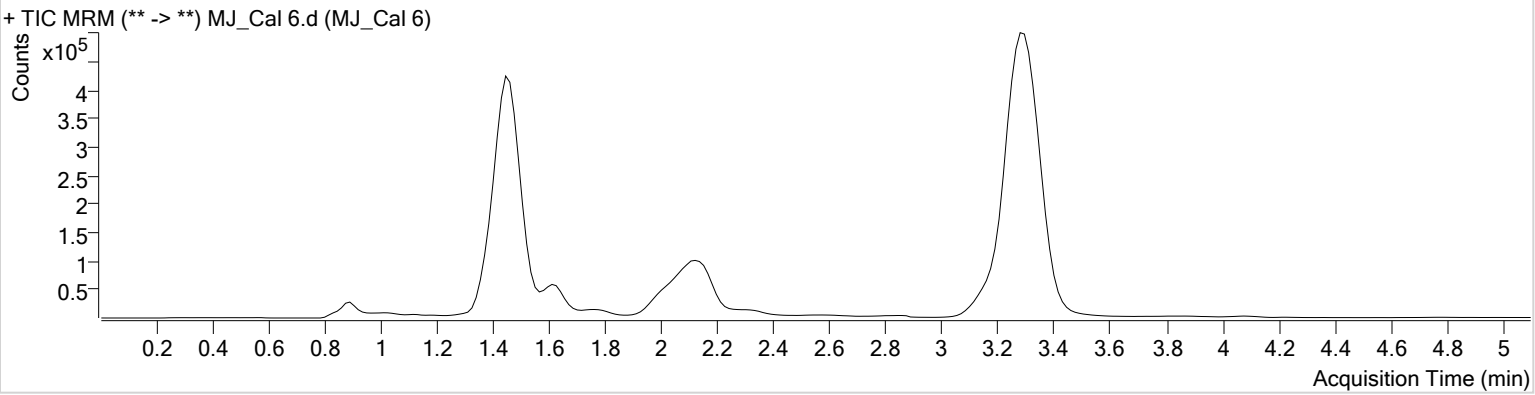
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.438	492265	∞	11.6	∞	897905	24.8877	ng/ml
THC-COOH	1.474	346821	∞	59.2	∞	184978	72.5290	ng/ml
THC	3.285	642603	∞	26.5	∞	2879861	24.3445	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\092920 AM 27 28 SP\QuantResults\AM 27.batch.bin
Calibration Last Update 9/30/2020 8:02:01 AM

Instrument	Falco	**Data File**	MJ_Cal 6.d
Type	Cal	**Sample**	MJ_Cal 6
Acq. Method	AM 27 THC quant.m	**Operator**	Sarah Pickle
Sample Position	P3-F1	**Comment**	
Injection Volume	10		
Acq. Date-Time	9/29/2020 1:43:47 PM		
Sample Info.			

Sample Chromatogram



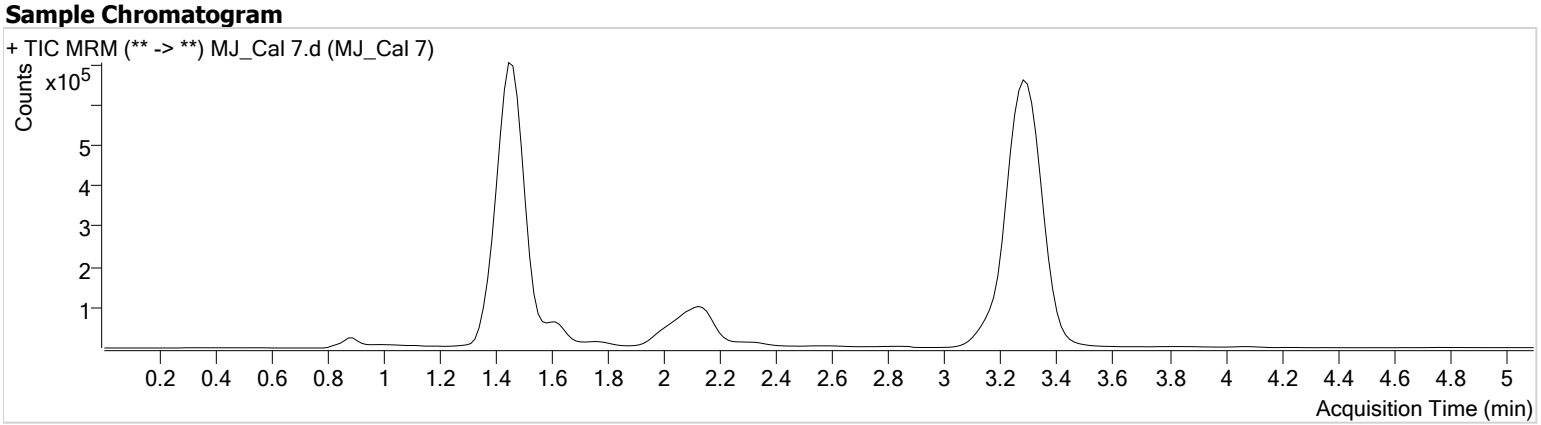
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.453	878992	∞	12.0 **High**	543.64	890267	49.1731	ng/ml
THC-COOH	1.474	465469	∞	59.5	3510.13	179869	99.8074	ng/ml
THC	3.300	1319650	4194.94	25.0	261.13	2884158	49.4504	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\092920 AM 27 28 SP\QuantResults\AM 27.batch.bin
Calibration Last Update 9/30/2020 8:02:01 AM

Instrument	Falco	**Data File**	MJ_Cal 7.d
Type	Cal	**Sample**	MJ_Cal 7
Acq. Method	AM 27 THC quant.m	**Operator**	Sarah Pickle
Sample Position	P3-G1	**Comment**	
Injection Volume	10		
Acq. Date-Time	9/29/2020 1:51:22 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.438	1616324	∞	12.0 **High**	∞	840876	100.8775	ng/ml
THC-COOH	1.474	1121598	∞	59.8	6822.06	168821	255.0029	ng/ml
THC	3.300	2613510	21740.72	25.1	5103.37	2772721	101.3971	ng/ml