8/25/2020

REVIEWED
By Sarah Pickle at 11:57 am, Aug 27, 2020

Worklist: 4455

LAB_CASE	ITEM	ITEM_TYPE	DESCRIPTION
M2020-2857	1	BCK	AM 27 Blood THC Quant by LC-QQQ
M2020-2958	1	BCK	AM 27 Blood THC Quant by LC-QQQ
M2020-3055	2	BCK	AM 27 Blood THC Quant by LC-QQQ
M2020-3115	3	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-2109	2	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-2388	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-2403	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-2406	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-2418	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-2419	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-2422	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-2423	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-2424	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: 08/21/2020
Plate lot#: IDP-108-2-200303
Mobile phase A: 0.1% Formic Acid in LCMS Water
Blank Blood Lot: 445283-4
LCMS-QQQ ID: 069901

Analyst: Celena Shrum
Plate Expiration: 09/30/2020
Mobile phase B: 0.1% Formic acid in Acetonitrile
Column: UCT Selectra DA 100 x 2.1mm 3um

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. Using a calibrated pipette, add **1000µl blood (calibrated pipette)** into the appropriate wells of analytical (standards) plate. **Pipette ID: #42**
☒ 3. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
☒ 4. Pipette **500µL 0.1% formic acid in water blood sample** in wells of analytical plate.
☒ 5. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
☒ 6. Transfer **800µL 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 85-100 PSI- Selector to the right)*** Manifold ID: 067104
☒ 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: 067103*
☒ 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), 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? (if not, describe in comments section)
☒ 6 Enter QCs into control charting.
☒ 7 Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

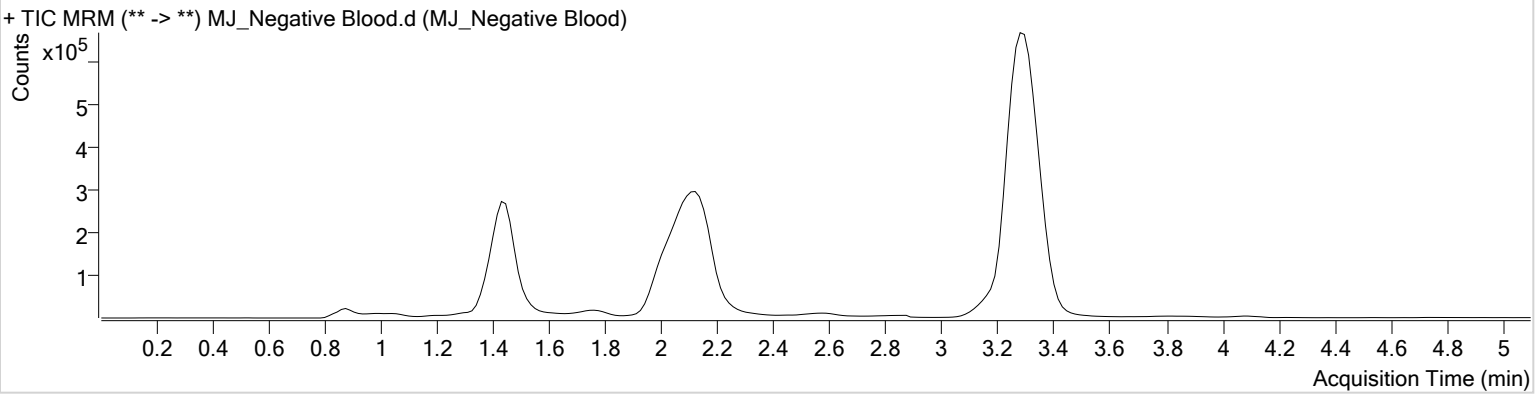
COMMENTS: THC curve range: 1-100, Carboxy-THC curve range: 5-250, THC-OH curve range: 5-100 (qualitative only)

AM #27 Cannabinoid Quant. Results

Batch results	D:\MassHunter\Data\2020\AM 27-28\AM 27-28 082120 CS\QuantResults\THCQ.batch.bin
Calibration Last Update	8/26/2020 7:05:54 AM

Instrument	Falco	**Data File**	MJ_Negative Blood.d
Type	Sample	**Sample**	MJ_Negative Blood
Acq. Method	AM 27 THC quant.m	**Operator**	Celena Shrum
Sample Position	P3-A2	**Comment**	
Injection Volume	10		
Acq. Date-Time	8/21/2020 5:17:11 PM		
Sample Info.			

Sample Chromatogram



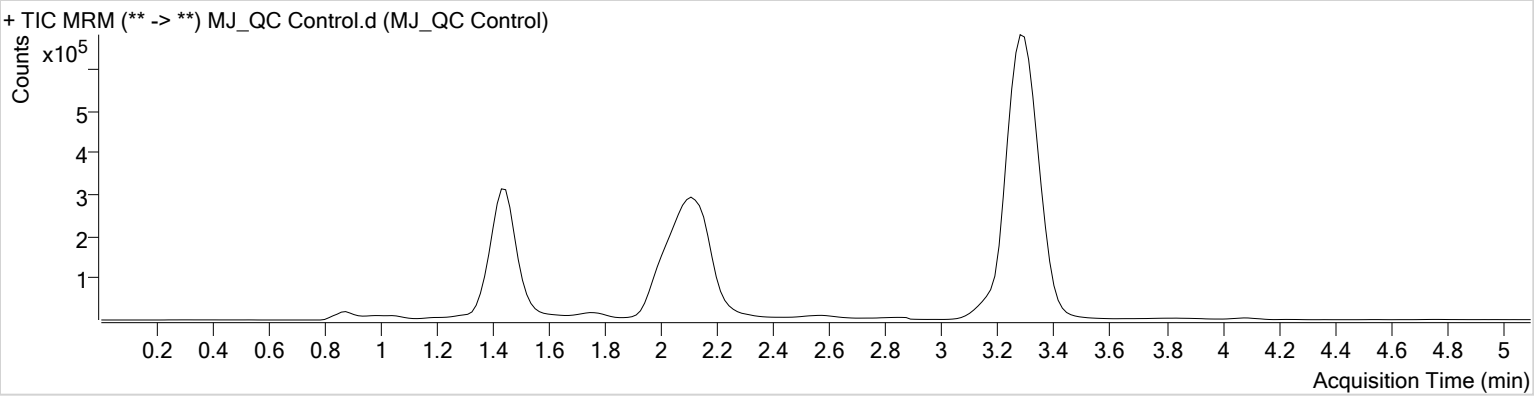
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.513	100527	∞	3.3 **Low**	19.32	1226663	0.4748	ng/ml **Low**

AM #27 Cannabinoid Quant. Results

Batch results	D:\MassHunter\Data\2020\AM 27-28\AM 27-28 082120 CS\QuantResults\THCQ.batch.bin
Calibration Last Update	8/26/2020 7:05:54 AM

Instrument	Falco	**Data File**	MJ_QC Control.d
Type	Sample	**Sample**	MJ_QC Control
Acq. Method	AM 27 THC quant.m	**Operator**	Celena Shrum
Sample Position	P3-H1	**Comment**	
Injection Volume	10		
Acq. Date-Time	8/21/2020 5:02:00 PM		
Sample Info.			

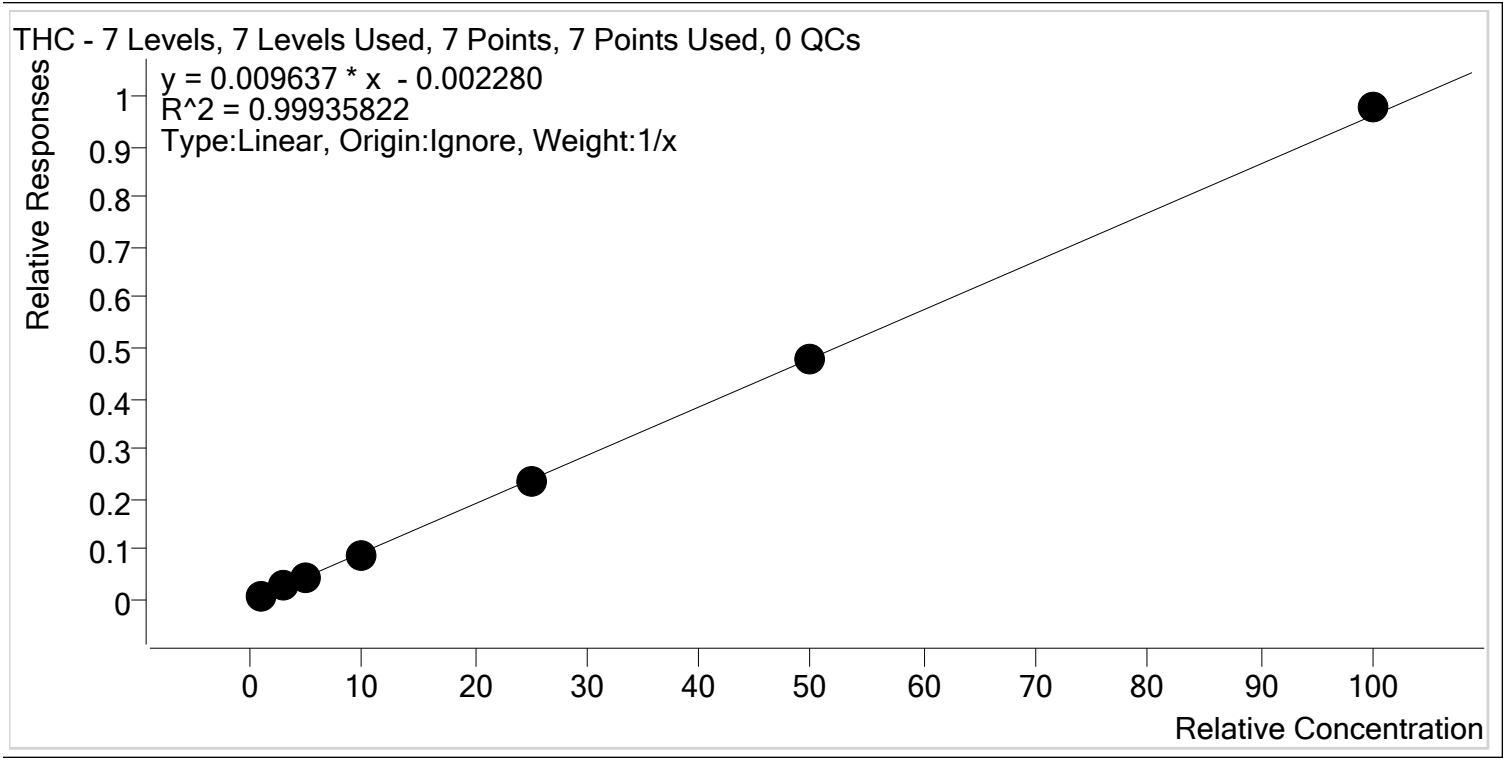
Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.474	132908	∞	57.0	433.82	356555	15.6918	ng/ml
THC-OH	1.453	188117	∞	9.1	∞	1220700	4.4899	ng/ml
THC	3.300	209329	267.72	29.7	901.08	5380145	4.2741	ng/ml

AM #27 Cannabinoids Quant. Calibration Curve Report

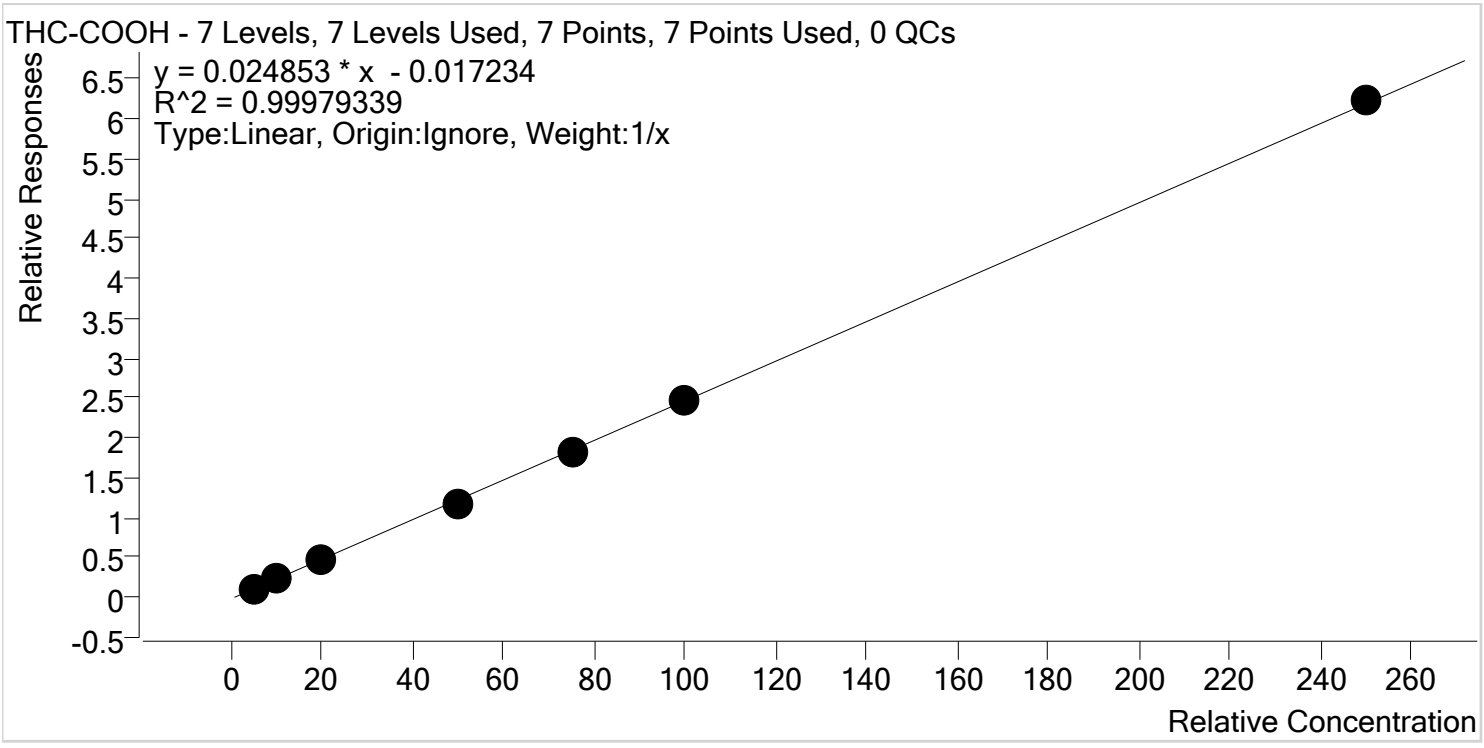
Batch results	D:\MassHunter\Data\2020\AM 27-28\AM 27-28 082120 CS\QuantResults\THCQ.batch.bin
Last Cal. Update	8/26/2020 7:05 AM
Analyst Name	ISP\datastor
Analyte	THC
Internal Standard	THC-D3



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ_Cal 1	1	✔	1.0	1.1	113.9
MJ_Cal 2	2	✔	3.0	2.9	97.8
MJ_Cal 3	3	✔	5.0	4.8	95.4
MJ_Cal 4	4	✔	10.0	9.4	93.7
MJ_Cal 5	5	✔	25.0	24.6	98.4
MJ_Cal 6	6	✔	50.0	49.6	99.2
MJ_Cal 7	7	✔	100.0	101.6	101.6

AM #27 Cannabinoids Quant. Calibration Curve Report

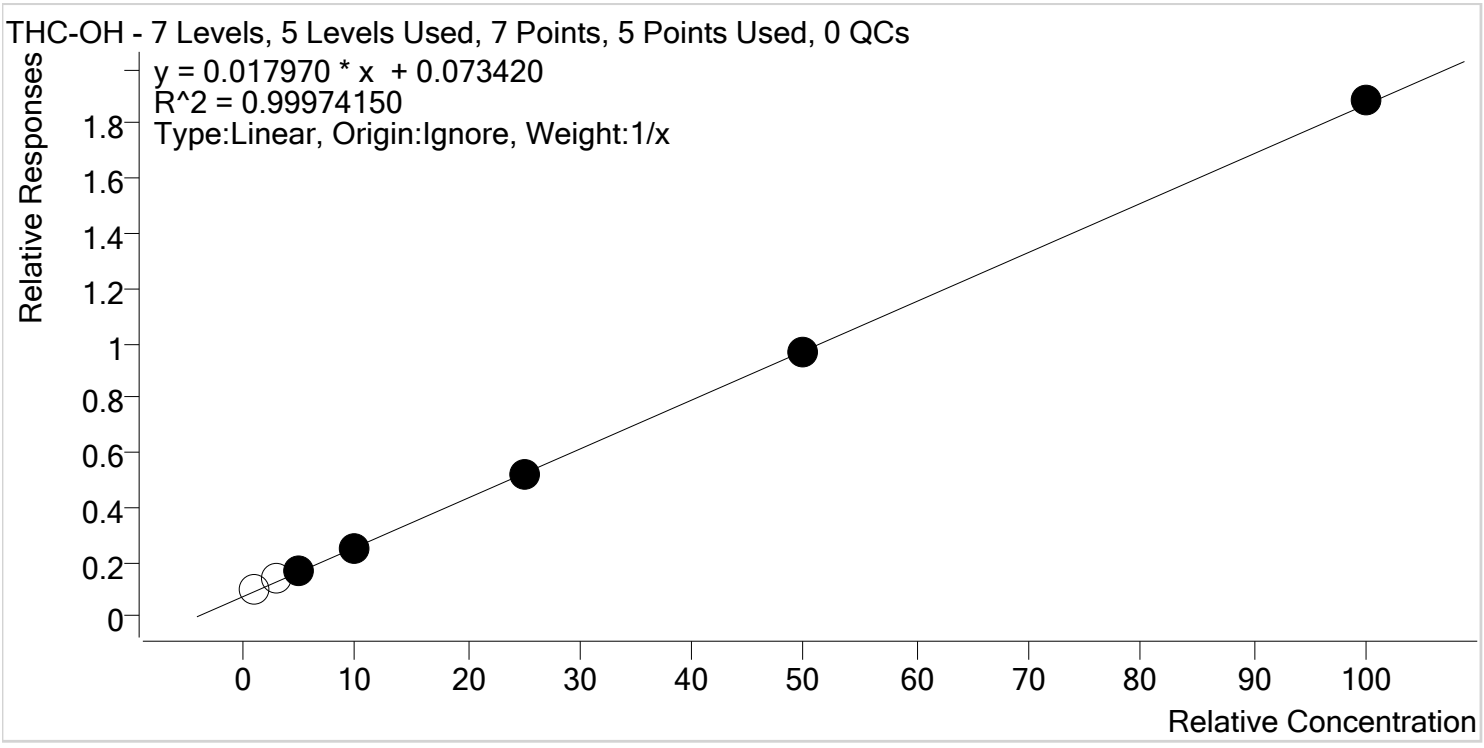
Batch results	D:\MassHunter\Data\2020\AM 27-28\AM 27-28 082120 CS\QuantResults\THCQ.batch.bin
Last Cal. Update	8/26/2020 7:05 AM
Analyst Name	ISP\datastor
Analyte	THC-COOH
Internal Standard	THC-COOH-D9



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ_Cal 1	1	✔	5.0	5.1	101.1
MJ_Cal 2	2	✔	10.0	10.0	100.0
MJ_Cal 3	3	✔	20.0	20.4	102.2
MJ_Cal 4	4	✔	50.0	48.4	96.8
MJ_Cal 5	5	✔	75.0	74.3	99.0
MJ_Cal 6	6	✔	100.0	100.3	100.3
MJ_Cal 7	7	✔	250.0	251.6	100.6

AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results	D:\MassHunter\Data\2020\AM 27-28\AM 27-28 082120 CS\QuantResults\THCQ.batch.bin
Last Cal. Update	8/26/2020 7:05 AM
Analyst Name	ISP\datastor
Analyte	THC-OH
Internal Standard	THC-OH-D3



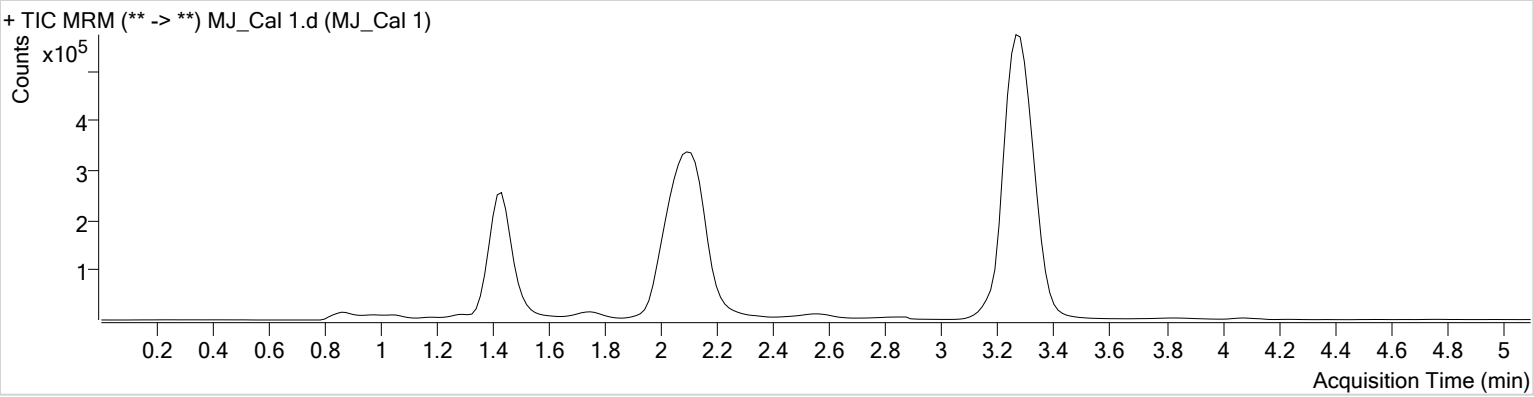
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ_Cal 1	1	✗	1.0	1.6	163.1
MJ_Cal 2	2	✗	3.0	3.4	113.2
MJ_Cal 3	3	✔	5.0	5.2	104.2
MJ_Cal 4	4	✔	10.0	9.7	97.0
MJ_Cal 5	5	✔	25.0	24.7	98.9
MJ_Cal 6	6	✔	50.0	49.6	99.1
MJ_Cal 7	7	✔	100.0	100.8	100.8

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\AM 27-28 082120 CS\QuantResults\THCQ.batch.bin
Calibration Last Update 8/26/2020 7:05:54 AM

Instrument	Falco	**Data File**	MJ_Cal 1.d
Type	Cal	**Sample**	MJ_Cal 1
Acq. Method	AM 27 THC quant.m	**Operator**	Celena Shrum
Sample Position	P3-G3	**Comment**	
Injection Volume	10		
Acq. Date-Time	8/21/2020 4:01:12 PM		
Sample Info.			

Sample Chromatogram



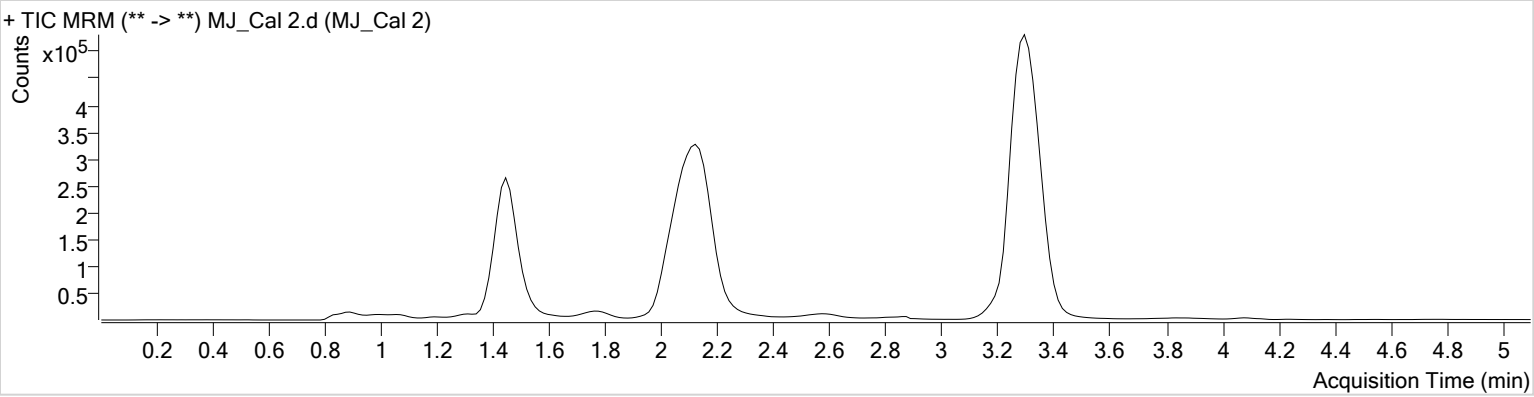
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.459	34926	∞	57.1	∞	322264	5.0542	ng/ml
THC-OH	1.483	100758	∞	4.8 **Low**	21.73	980823	1.6309	ng/ml **Low**
THC	3.285	37600	95.36	32.8	∞	4322394	1.1393	ng/ml **Low**

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\AM 27-28 082120 CS\QuantResults\THCQ.batch.bin
Calibration Last Update 8/26/2020 7:05:54 AM

Instrument	Falco	**Data File**	MJ_Cal 2.d
Type	Cal	**Sample**	MJ_Cal 2
Acq. Method	AM 27 THC quant.m	**Operator**	Celena Shrum
Sample Position	P3-H3	**Comment**	
Injection Volume	10		
Acq. Date-Time	8/21/2020 4:08:56 PM		
Sample Info.			

Sample Chromatogram



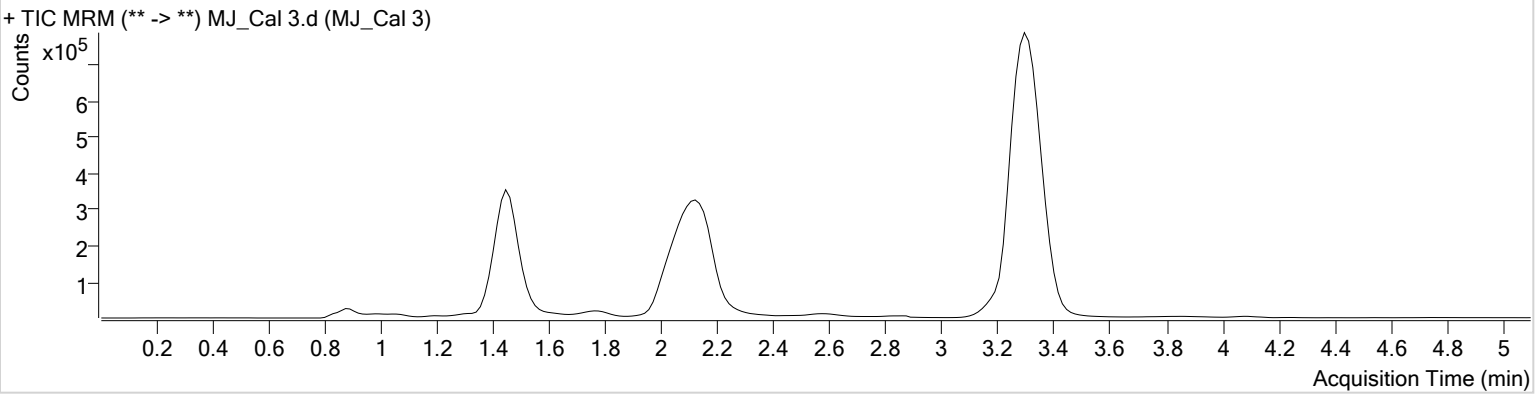
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.474	71661	∞	59.4	∞	309898	9.9977	ng/ml
THC-OH	1.498	125213	∞	7.0 **Low**	49.46	931149	3.3974	ng/ml
THC	3.300	100472	500.53	31.0	241.52	3867061	2.9327	ng/ml **Low**

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\AM 27-28 082120 CS\QuantResults\THCQ.batch.bin
Calibration Last Update 8/26/2020 7:05:54 AM

Instrument	Falco	**Data File**	MJ_Cal 3.d
Type	Cal	**Sample**	MJ_Cal 3
Acq. Method	AM 27 THC quant.m	**Operator**	Celena Shrum
Sample Position	P3-C1	**Comment**	
Injection Volume	10		
Acq. Date-Time	8/21/2020 4:16:31 PM		
Sample Info.			

Sample Chromatogram



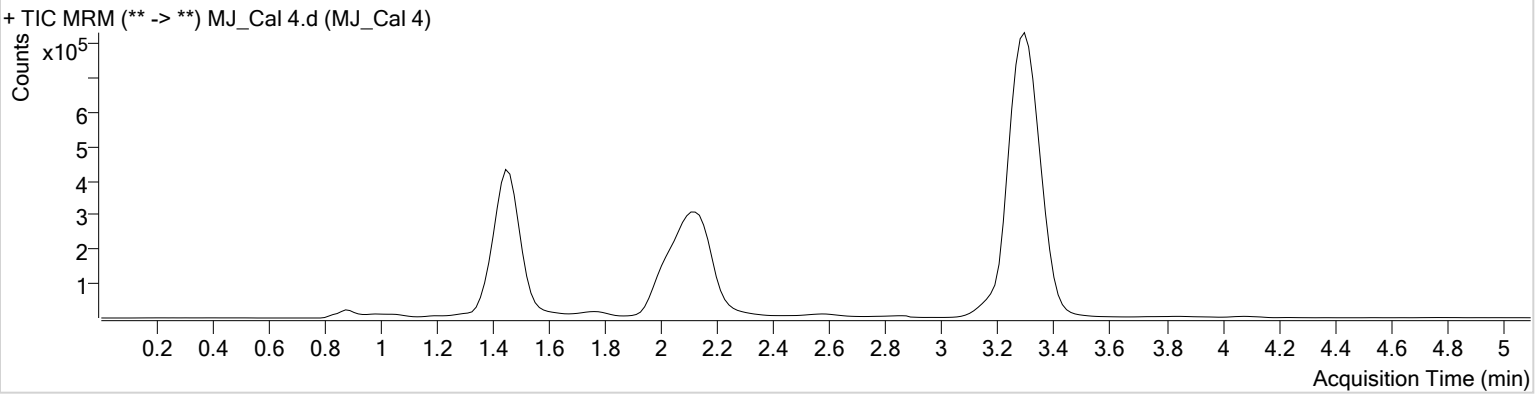
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.474	175597	∞	56.9	∞	357725	20.4443	ng/ml
THC-OH	1.468	208175	∞	8.9	100.58	1246039	5.2113	ng/ml
THC	3.315	257772	653.16	28.5	∞	5900906	4.7697	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\AM 27-28 082120 CS\QuantResults\THCQ.batch.bin
Calibration Last Update 8/26/2020 7:05:54 AM

Instrument	Falco	**Data File**	MJ_Cal 4.d
Type	Cal	**Sample**	MJ_Cal 4
Acq. Method	AM 27 THC quant.m	**Operator**	Celena Shrum
Sample Position	P3-D1	**Comment**	
Injection Volume	10		
Acq. Date-Time	8/21/2020 4:24:06 PM		
Sample Info.			

Sample Chromatogram



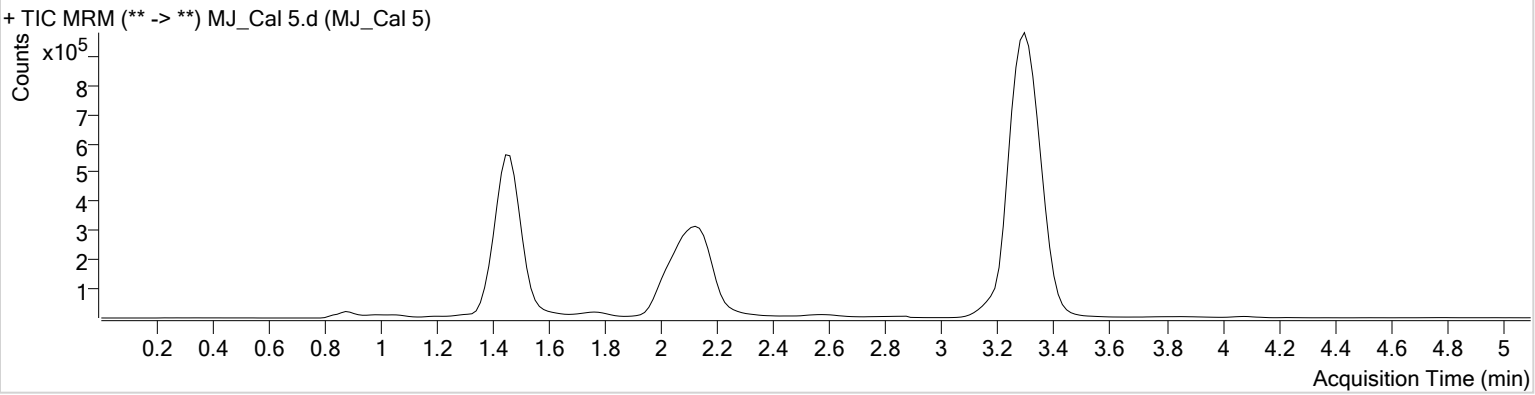
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.474	440885	∞	61.0	∞	371920	48.3910	ng/ml
THC-OH	1.453	321234	∞	10.0	∞	1297003	9.6968	ng/ml
THC	3.300	535274	∞	25.1	261.56	6078723	9.3743	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\AM 27-28 082120 CS\QuantResults\THCQ.batch.bin
Calibration Last Update 8/26/2020 7:05:54 AM

Instrument	Falco	**Data File**	MJ_Cal 5.d
Type	Cal	**Sample**	MJ_Cal 5
Acq. Method	AM 27 THC quant.m	**Operator**	Celena Shrum
Sample Position	P3-E1	**Comment**	
Injection Volume	10		
Acq. Date-Time	8/21/2020 4:31:40 PM		
Sample Info.			

Sample Chromatogram



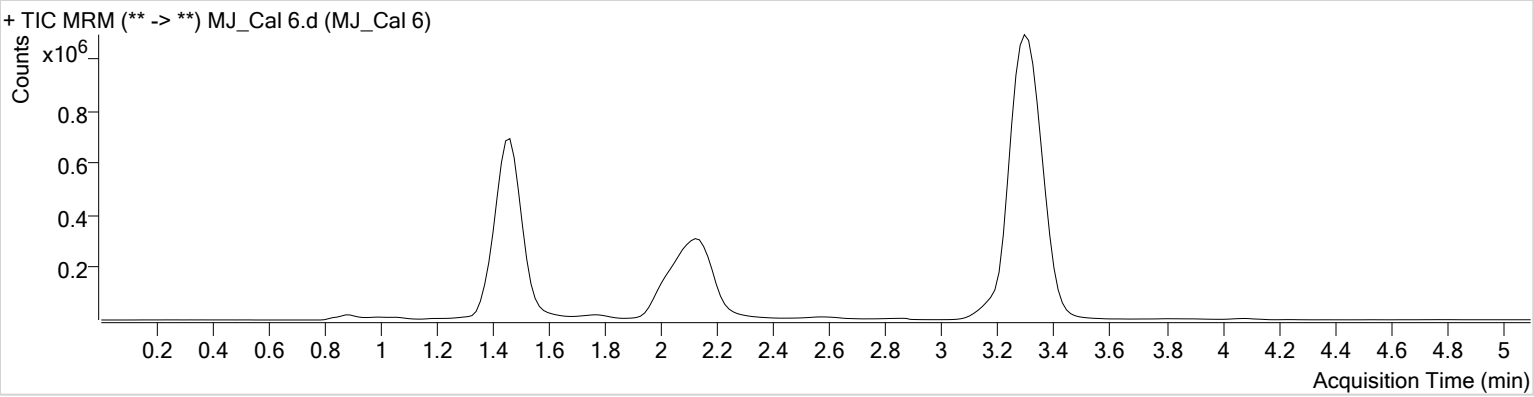
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.474	667245	∞	61.3	∞	364906	74.2673	ng/ml
THC-OH	1.453	676001	∞	11.7	∞	1306113	24.7155	ng/ml
THC	3.300	1430255	3037.90	25.8	1929.89	6090614	24.6048	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\AM 27-28 082120 CS\QuantResults\THCQ.batch.bin
Calibration Last Update 8/26/2020 7:05:54 AM

Instrument	Falco	**Data File**	MJ_Cal 6.d
Type	Cal	**Sample**	MJ_Cal 6
Acq. Method	AM 27 THC quant.m	**Operator**	Celena Shrum
Sample Position	P3-F1	**Comment**	
Injection Volume	10		
Acq. Date-Time	8/21/2020 4:39:14 PM		
Sample Info.			

Sample Chromatogram



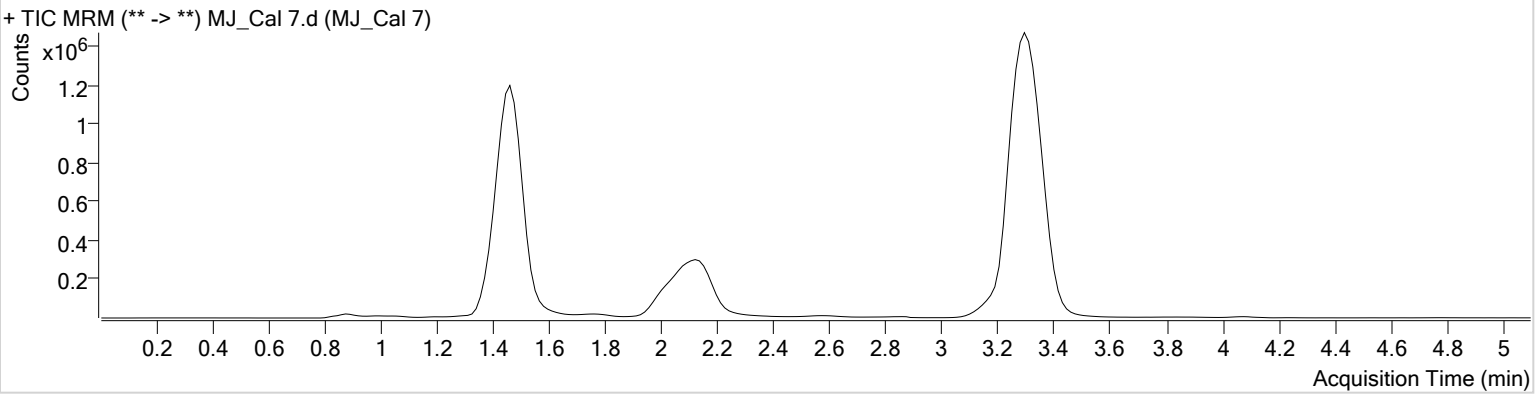
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.474	870235	∞	60.1	∞	351566	100.2911	ng/ml
THC-OH	1.453	1238962	∞	11.8	756.67	1285014	49.5673	ng/ml
THC	3.315	2711682	16785.04	25.8	1752.48	5702918	49.5782	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\AM 27-28 082120 CS\QuantResults\THCQ.batch.bin
Calibration Last Update 8/26/2020 7:05:54 AM

Instrument	Falco	**Data File**	MJ_Cal 7.d
Type	Cal	**Sample**	MJ_Cal 7
Acq. Method	AM 27 THC quant.m	**Operator**	Celena Shrum
Sample Position	P3-G1	**Comment**	
Injection Volume	10		
Acq. Date-Time	8/21/2020 4:46:49 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.474	2056865	∞	61.3	∞	329908	251.5544	ng/ml
THC-OH	1.453	2325730	∞	13.0	10496.34	1233811	100.8091	ng/ml
THC	3.300	5375300	∞	26.2	∞	5502864	101.6010	ng/ml