REVIEWED
By Anne Nord at 11:13 am, Oct 27, 2021

10/20/2021

Worklist: 5310

LAB_CASE	ITEM	ITEM_TYPE	DESCRIPTION
M2021-4181	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
M2021-4182	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
M2021-4216	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
M2021-4305	2	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
M2021-4378	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
M2021-4379	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
M2021-4380	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
M2021-4386	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
M2021-4450	7	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2021-3135	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2021-3257	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2021-3326	2	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2021-3329	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2021-3376	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2021-3386	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2021-3388	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2021-3390	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2021-3393	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2021-3398	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2021-3399	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2021-3440	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ

Worklist: 5310

LAB_CASE	ITEM	ITEM_TYPE	DESCRIPTION
P2021-3441	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2021-3445	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2021-3446	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2021-3447	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2021-3467	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2021-3481	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2021-3482	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2021-3483	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ

SC

AM# 25: Multi-Drug Screen in Blood and Urine by LC-MS/MS

Extraction Date: 10/20/21 Analyst: Sarah Collins
Plate lot#: IDP-120-210611 Retest Date: 12/11/21

Mobile phase A: 10mM Amm Form **Mobile phase B:** 0.1% Formic Acid in MeOH
Instant Buffer I Ethyl Acetate LC Methanol
Blank Blood Lot: Lampire 20L20724 **Column**: Phenomenex Phenyl Hexyl (4.6x50mm, 2.6um)
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. Urine Hydrolysis: In blank well, add 250µL urine, 40µL BG Turbo, and 100µL Instant Buffer I. Place on plate shaker for 5 minutes.
☒ 3. Using a calibrated pipette, pipette **250µL blood and urine** (if applicable) into wells of analytical (standards) plate. **Pipette ID: #16**
☒ 4. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
☒ 5. Pipette **250µL 0.5 M ammonium hydroxide** in wells of analytical plate.
☒ 6. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
☒ 7. Transfer **200-450µL of blood+base and urine+base (if applicable)** mixture to corresponding wells of SLE+ plate. Amount transferred: 300 uL
☒ 8. 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).***
☒ 9. Wait 5 minutes.
☒ 10. Add **900uL ethyl acetate.**
☒ 11. Wait 5 minutes.
☒ 12. Apply positive pressure for approx. 15 seconds. ***(10-15 PSI- Selector to the left).***
☒ 13. Add **900uL ethyl acetate.**
☒ 14. Wait 5 minutes.
☒ 15. Apply positive pressure for approx. 15 seconds. ***(10-15 PSI- Selector to the left).***
☒ 16. Remove plate containing eluate. Place on SPE Dry and evaporate to dryness at approx. 35°C. If run contains urine, add 50µL 1% HCl in MeOH to wells and place plate cover on plate before drying.
☒ 17. Reconstitute in **100µL 20% LC MeOH** and heat seal plate with foil. Place in autosampler and run worklist.

Post-Analytic

☒ 1. Open quantitation software and create a new quantitation batch.
☒ 2. Make necessary changes to integration limits
☒ 3. Evaluate samples, S/N of primary transition >5 and S/N of secondary transition >3 or evaluation of peak symmetry and resolution. Within +/- 2% or 0.1 min RT of administrative control. Calculated concentration of 5 or greater or 2-5 for discretionary range.
☒ 4. Did all QCs pass for each analyte? If no, describe issue in comments (below).
☒ 5. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

COMMENTS: Did not evaluate fluoxetine.

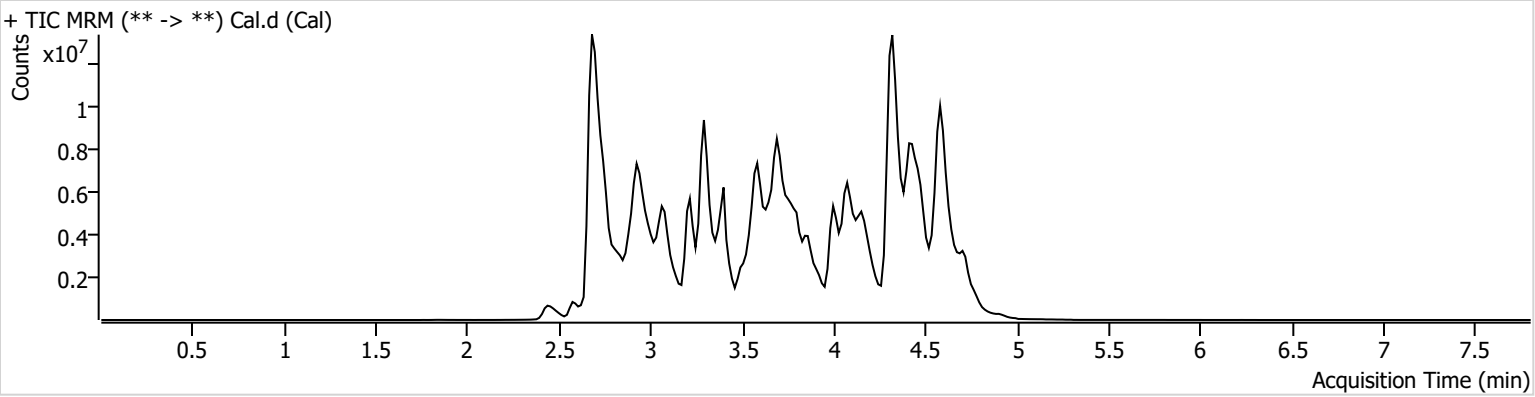
	1	2	3	4	5	6	7	8	9	10	11	12
A	IS + Cal. 1								p2021-3483-1	p2021-3440-1	p2021-3329-1	m2021-4378-1
B	IS + Cal. 1								p2021-3482-1	p2021-3399-1	p2021-3326-2	m2021-4305-2
C									p2021-3481-1	p2021-3398-1	p2021-3257-1	m2021-4216-1
D									p2021-3467-1	p2021-3393-1	p2021-3135-1	m2021-4182-1
E									p2021-3447-1	contaminated	m2021-4450-7	m2021-4181-1
F									p2021-3446-1	p2021-3388-1	m2021-4386-1	negative blood
G									p2021-3445-1	p2021-3386-1	m2021-4380-1	IS + Cal. 1
H								p2021-3390-1	p2021-3441-1	p2021-3376-1	m2021-4379-1	IS + Cal. 1

AM #25 Multi-Drug Screen Results

Batch results D:\MassHunter\Data\2021\AM 25-26\102021 AM 25 26 SC\QuantResults\AM 25.batch.bin
Calibration Last Update 10/21/2021 9:37:01 AM

Instrument	Falco (069901)	**Data File**	Cal.d
Type	Cal	**Sample**	Cal
Acq. Method	AM 25 MDS.m	**Operator**	Sarah Collins
Sample Position	P2-H12	**Comment**	
Injection Volume	5		
Acq. Date-Time	10/20/2021 10:12:06 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
6-MAM	2.953	48759	6357.67	16938.54	1497064	10.0000
7-aminoclonazepam	3.556	889664	492060.13	312671.79	5962250	10.0000
7-aminoflunitrazepam	3.771	2887073	737.80	408166.60	5962250	10.0000
Acetyl Fentanyl	3.891	39961	35.48	7695.85	29955285	10.0000
Acetyl Norfentanyl	2.886	381862	16510.60	17.37	29955285	10.0000
a-hydroxyalprazolam	4.444	376793	33.70	48246.02	5962250	10.0000
alpha-hydroxymidazolam	4.535	1195470	137.27	191.98	5962250	10.0000
Alpha-PHP	3.821	1859789	4157.94	629.42	29955285	10.0000
alpha-PVP	3.561	3271486	198.40	488.96	7125592	10.0000
Alprazolam	4.570	2730829	468.61	160.79	20511306	10.0000
Amitriptyline	4.420	198204	5.05	6.05	384503	10.0000
Amphetamine	2.844	1673299	504.20	455.05	7125592	10.0000
Benzoylecgonine	3.371	266339	192733.85	128.88	385813	10.0000
Brompheniramine	4.030	6764	19.64	39.38	16463161	10.0000
Buprenorphine	4.593	102160	854.79	7048.43	435744	10.0000
Bupropion	3.745	1882810	1768.41	375.27	7314062	10.0000
Carbamazepine	4.162	10202108	708.85	612.90	640739	10.0000
Carisoprodol	4.144	866892	38650.94	103.17	5104146	10.0000
Chlordiazepoxide	4.648	1173683	92.93	799.98	20511306	10.0000
Chlorpheniramine	3.926	1171891	2173.79	97.07	16463161	10.0000
Citalopram	4.029	799531	185.02	83.25	16463161	10.0000
Clomipramine	4.599	166377	64583.85	95.45	16463161	10.0000
Clonazepam	4.369	1870501	206.42	177.41	20511306	10.0000
Clonazolam	4.319	1482747	657634.89	158412.87	20511306	10.0000
Cocaethylene	3.784	3837061	2355.19	780727.90	17888685	10.0000
Cocaine	3.585	3413536	1522287.51	103.20	17888685	10.0000
Codeine	2.882	352897	5575.30	1476.80	9975053	10.0000
Cyclobenzaprine	4.344	155794	75.97	7.47	384503	10.0000
Desipramine	4.344	307529	45.66	33.16	384503	10.0000
Dextromethorphan	4.082	298841	211.69	20.04	1754991	10.0000
Dextrorphan	3.389	1416010	491666.94	103.95	1754991	10.0000
Diazepam	4.772	1695871	375.45	4682.83	20511306	10.0000
Dihydrocodeine	2.804	1139253	647.80	183.97	9975053	10.0000
Diphenhydramine	4.005	2140610	345.43	261.13	16463161	10.0000

AM #25 Multi-Drug Screen Results

Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Doxepin	4.126	219152	42.14	17.90	5700628	10.0000
Doxylamine	3.649	6160307	4889.54	10587.20	1754991	10.0000
EDDP	4.080	686644	151.33	303.83	2158534	10.0000
Estazolam	4.479	5031239	520.65	299118.03	20511306	10.0000
Etizolam	4.611	295778	196345.96	309632.79	20511306	10.0000
Fentanyl	4.120	18076	5.16	1897.41	1873577	10.0000
Flualprazolam	4.444	676733	85935.64	174163.29	20511306	10.0000
Flunitrazepam	4.492	2543176	1223.22	244.34	20511306	10.0000
Fluoxetine	4.278	183777	191.51	1.45 **Low**	183268	10.0000
Flurazepam	4.195	542371	247.42	50.02	20511306	10.0000
Hydrocodone	3.080	1427686	704.93	225.77	9975053	10.0000
Hydromorphone	2.640	869952	274.99	548.75	210152	10.0000
Imipramine	4.373	375377	504.22	23.60	384503	10.0000
Ketamine	3.545	3042301	230.53	91.74	11147814	10.0000
Lamotrigine	3.559	256221	553.45	77379.73	16463161	10.0000
Levamisole	3.010	2757700	407.20	251.87	17888685	10.0000
Levetiracetam	2.584	1259352	313.52	877.18	16463161	10.0000
Lorazepam	4.368	600804	187.36	101.01	20511306	10.0000
Maprotiline	4.420	81992	7.23	60.02	384503	10.0000
MDA	2.980	982479	210.47	109.93	13130731	10.0000
MDEA	3.224	2055780	3230.96	712.16	13130731	10.0000
MDMA	3.071	2729064	1386082.93	171.70	13130731	10.0000
Meperidine	3.590	1193214	143.54	1024.12	1754991	10.0000
Meprobamate	3.593	308331	676.44	341.11	5104146	10.0000
Methadone	4.370	896917	133.58	251.84	2158534	10.0000
Methamphetamine	2.966	2518757	623.47	104.49	13130731	10.0000
Methocarbamol	3.514	593912	285.37	450266.97	2158534	10.0000
Methylphenidate	3.500	5366374	125.55	72.27	8113065	10.0000
Metoprolol	3.435	370112	111.48	145.62	1754991	10.0000
Midazolam	4.720	478220	198.84	43162.27	20511306	10.0000
Mirtazapine	4.020	1187885	210.71	517.84	1754991	10.0000
Mitragynine	4.210	64565	35326.11	51513.69	1754991	10.0000
Morphine	2.473	232612	994.85	922.18	210152	10.0000
Norbuprenorphine	3.825	7152	3187.39	8499.27	435744	10.0000
Nordiazepam	4.621	1123897	1114581.87	229.66	20511306	10.0000
Norfentanyl	3.315	4898967	238584.12	746.43	29955285	10.0000
Norhydrocodone	2.944	148171	116.20	64.19	210152	10.0000
Norketamine	3.623	562806	150.20	2009.62	11147814	10.0000
Normeperidine	3.577	942536	373.76	76.47	16463161	10.0000
Noroxycodone	2.881	1058341	∞	278.09	11147814	10.0000
Nortriptyline	4.391	89327	28.07	25.17	384503	10.0000
O-desmethyl-tramadol	2.900	6947075	5844.50	114.04	16463161	10.0000
Olanzapine	3.861	169502	27.15	15178.42	640739	10.0000
Oxazepam	4.434	2789488	260.69	1349.55	15105113	10.0000
Oxycodone	2.940	2785055	524.26	291.50	11147814	10.0000
Oxymorphone	2.438	1073745	67.56	35.48	210152	10.0000
Paroxetine	4.320	23656	6.56	19.98	183268	10.0000
Phenazepam	4.565	1883225	9507.45	1818.81	20511306	10.0000
Phencyclidine	3.930	2054793	932147.56	62.83	1754991	10.0000
Phentermine	3.104	570322	∞	15.49	8113065	10.0000
Phenytoin	4.052	1455053	468.04	342.27	640739	10.0000
Promethazine	4.327	409279	2989.02	16.52	16463161	10.0000
Pseudoephedrine	2.690	62758862	2009.53	911.21	13130731	10.0000
Quetiapine	4.456	1401373	410974.31	∞	50186655	10.0000
Sertraline	4.524	51093	176.90	34.32	183268	10.0000
Sufentanil	4.472	8362	7905.64	16.33	29955285	10.0000
Tapentadol	3.408	3199091	179.59	898.93	11147814	10.0000
Temazepam	4.602	3393515	252.93	32.44	20511306	10.0000
Tramadol	3.404	6051977	377.75	17.98	16463161	10.0000
Trazodone	4.610	1469076	500464.77	251169.71	5700628	10.0000

Cal

AM #25 Multi-Drug Screen Results

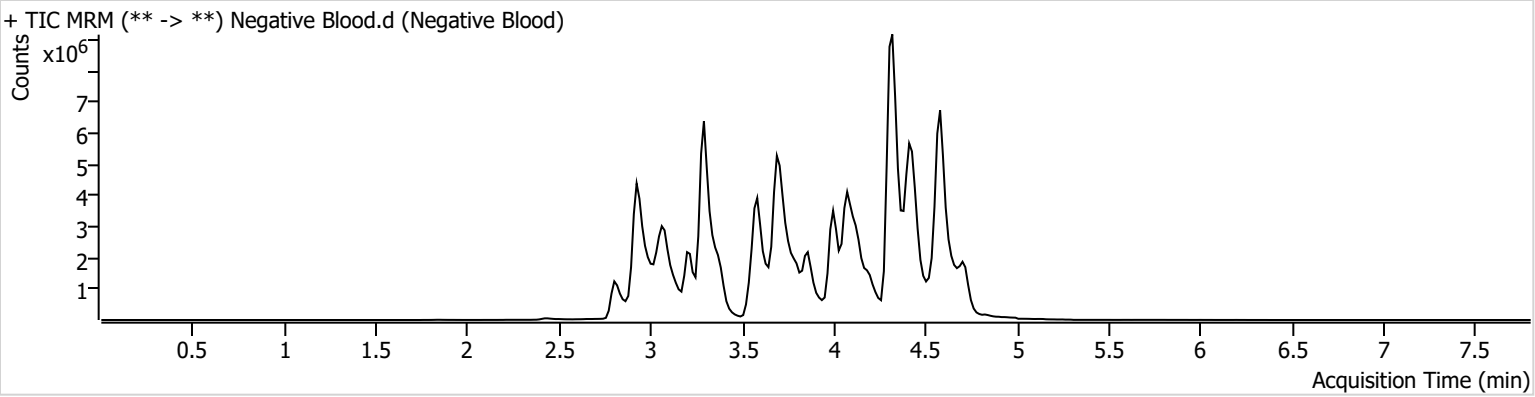
Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Venlafaxine	3.772	2759735	377.96	210.50	183268	10.0000
Zaleplon	4.310	3347217	404.31	197.47	50186655	10.0000
Zolpidem	4.325	8373615	2606446.13	1228.56	50186655	10.0000
Zopiclone	4.210	590394	150872.87	142277.97	2194806	10.0000

AM #25 Multi-Drug Screen Results

Batch results	D:\MassHunter\Data\2021\AM 25-26\102021 AM 25 26 SC\QuantResults\AM 25.batch.bin
Calibration Last Update	10/21/2021 9:37:01 AM

Instrument	Falco (069901)	**Data File**	Negative Blood.d
Type	Sample	**Sample**	Negative Blood
Acq. Method	AM 25 MDS.m	**Operator**	Sarah Collins
Sample Position	P2-F12	**Comment**	
Injection Volume	5		
Acq. Date-Time	10/20/2021 10:20:40 PM		
Sample Info.			

Sample Chromatogram



AM# 26: Screening of THC and Metabolites in Blood and Urine by LC-MS/MS

Extraction Date: 10/20/21
Plate lot#: IDP-108-2-210609
Analyst: Sarah Collins
Retest Date: 12/09/2021

Mobile phase A: ~~0.1% Formic Acid in LCMS Water~~ 10mM Ammonium Formate 01/27/2023
Mobile phase B: ~~0.1% Formic acid in Acetonitrile~~ 0.1% Formic Acid in Methanol 01/27/2023
Blank Blood Lot: Lampire 20L20724
Column: Phenomenex Phenyl Hexyl (4.6x50mm, 2.6um)
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. Urine hydrolysis: add 1.5mL urine to blank plate, add 250µl 1N KOH. Shake and incubate at 40 degrees for 15 minutes.
Using a calibrated pipette, add **1000µl blood and urine (if applicable) (calibrated pipette)** into the appropriate wells of analytical (standards) plate. **Pipette ID:** 3382167
☒ 3. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
☒ 4. Pipette **500µL 0.1% formic acid in water blood sample, 500 µL saturated phosphate buffer in urine** in wells of analytical plate.
☒ 5. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
☒ 6. Transfer **700-800µL of blood+acid or urine+acid** mixture to corresponding wells of SLE+ plate.
Amount transferred: 800 uL
☒ 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)
☒ 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.
☒ 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).
☒ 4. Case sample response for THC and OH-THC 3ng/mL (quantitative), Carboxy-THC: 10ng/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: Carboxy-THC only evaluated in this run.

	1	2	3	4	5	6
A	IS + Cal. 1	negative blood	m2021-4386-1	p2021-3388-1	p2021-3446-1*	
B	IS + Cal. 2	m2021-4181-1	m2021-4450-7	p2021-3390-1	p2021-3447-1	
C	IS + Cal. 3	m2021-4182-1	p2021-3135-1	p2021-3393-1	p2021-3467-1	
D	IS + Cal. 4	m2021-4216-1*	p2021-3257-1	p2021-3398-1	p2021-3481-1	
E	IS + Cal. 5	m2021-4305-2	p2021-3326-2	p2021-3399-1	p2021-3482-1	
F	IS + Cal. 6	m2021-4378-1	p2021-3329-1	p2021-3440-1	p2021-3483-1	
G	IS + Cal. 7	m2021-4379-1	p2021-3376-1	p2021-3441-1	m2021-4216-1	
H	IS + QC_1	m2021-4380-1	p2021-3386-1	p2021-3445-1	p2021-3446-1	

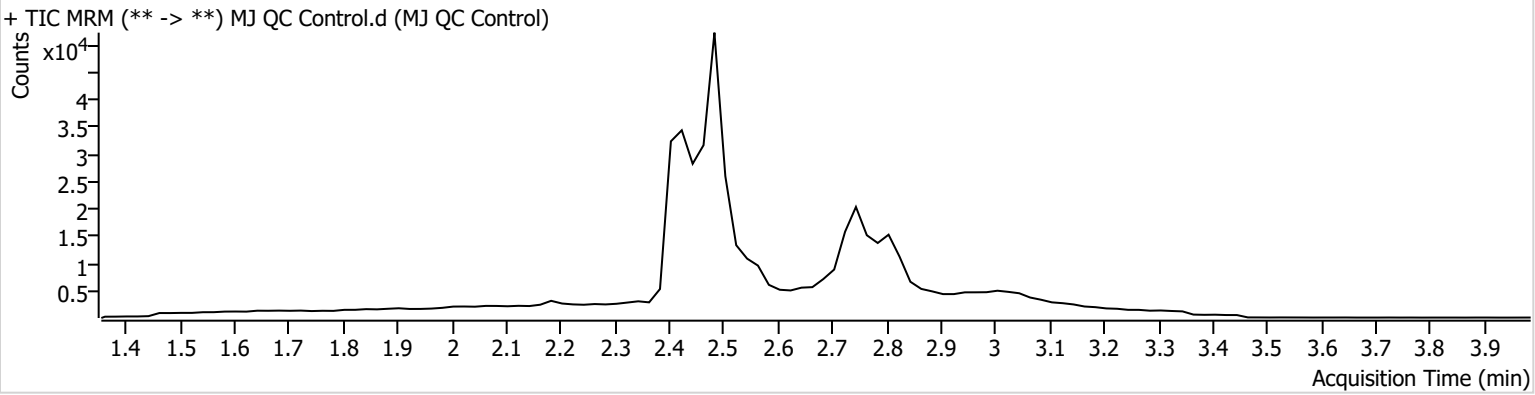
All wells to contain 100 µl of residual DMSO

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2021\AM 25-26\102021 AM 25 26 SC\QuantResults\AM 26 COOH only.batch.bin
Calibration Last Update 10/26/2021 4:12:13 PM

Instrument	Falco (069901)	**Data File**	MJ QC Control.d
Type	Sample	**Sample**	MJ QC Control
Acq. Method	AM 26 THCS.m	**Operator**	Sarah Collins
Sample Position	P1-H1	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/20/2021 5:52:17 PM		
Sample Info.			

Sample Chromatogram



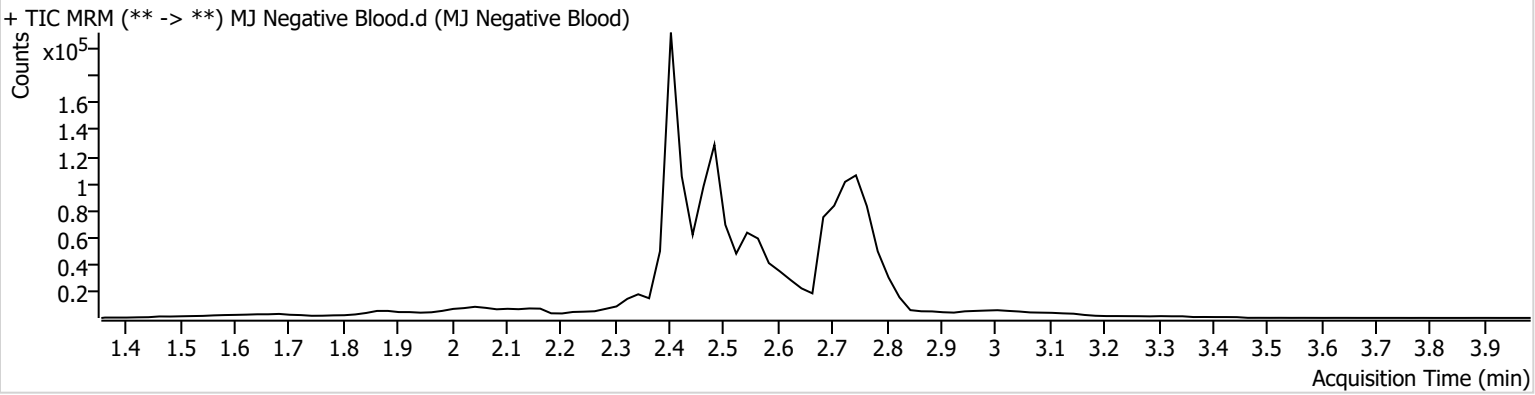
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	2.487	17045	50836	16.8309 ng/ml

AM #26 Cannabinoids Screen Results

Batch results	D:\MassHunter\Data\2021\AM 25-26\102021 AM 25 26 SC\QuantResults\AM 26 COOH only.batch.bin
Calibration Last Update	10/26/2021 4:12:13 PM

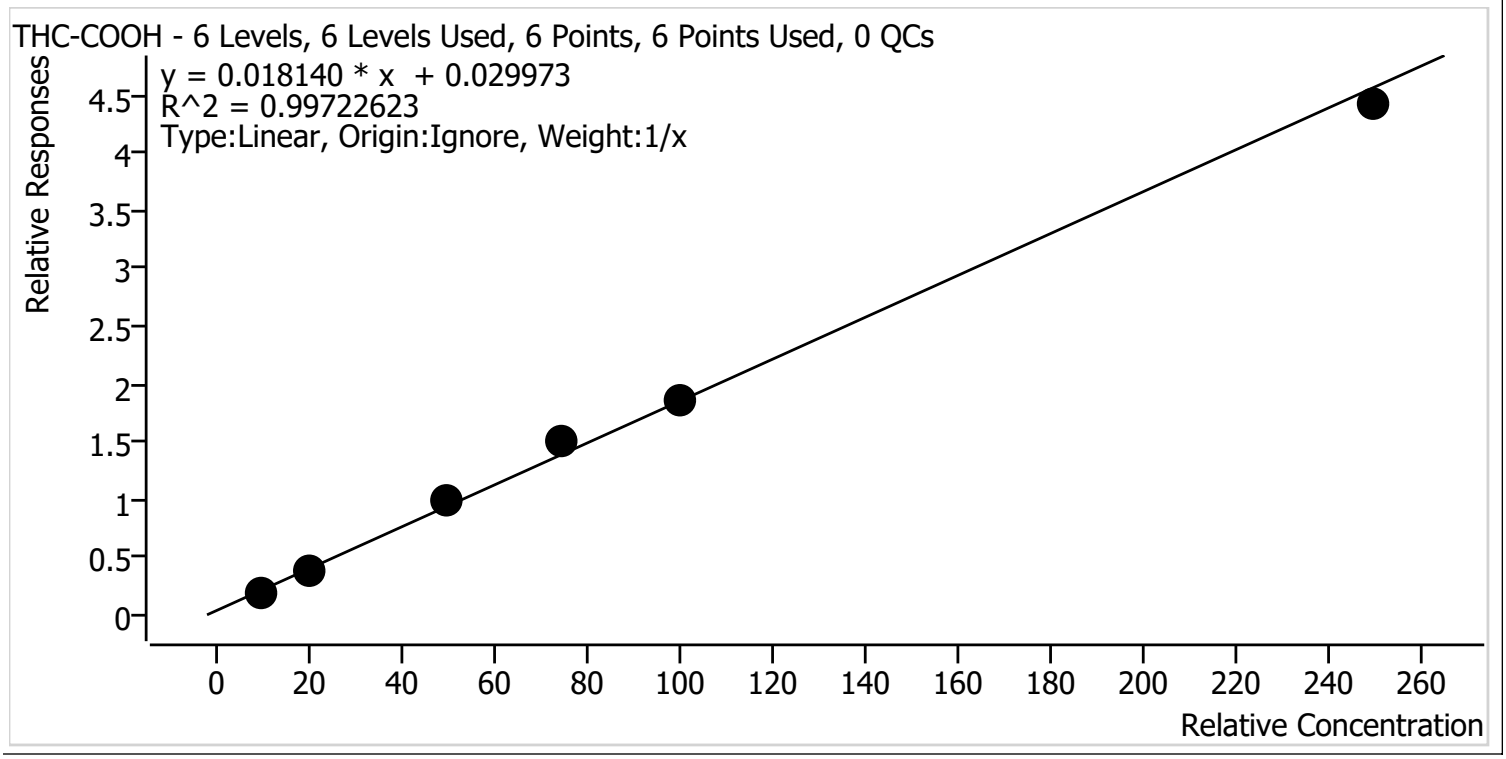
Instrument	Falco (069901)	**Data File**	MJ Negative Blood.d
Type	Sample	**Sample**	MJ Negative Blood
Acq. Method	AM 26 THCS.m	**Operator**	Sarah Collins
Sample Position	P1-A2	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/20/2021 6:05:24 PM		
Sample Info.			

Sample Chromatogram



AM #26 Cannabinoids Screen Calibration Curve Report

Batch results	D:\MassHunter\Data\2021\AM 25-26\102021 AM 25 26 SC\QuantResults\AM 26 COOH only.batch.bin
Last Cal. Update	10/26/2021 4:12 PM
Analyst Name	ISP\datastor
Analyte	THC-COOH
Internal Standard	THC-COOH-D9



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ Cal 2	2	✔	10.0	9.1	90.7
MJ Cal 3	3	✔	20.0	19.9	99.3
MJ Cal 4	4	✔	50.0	52.2	104.4
MJ Cal 5	5	✔	75.0	80.8	107.8
MJ Cal 6	6	✔	100.0	100.9	100.9
MJ Cal 7	7	✔	250.0	242.1	96.8

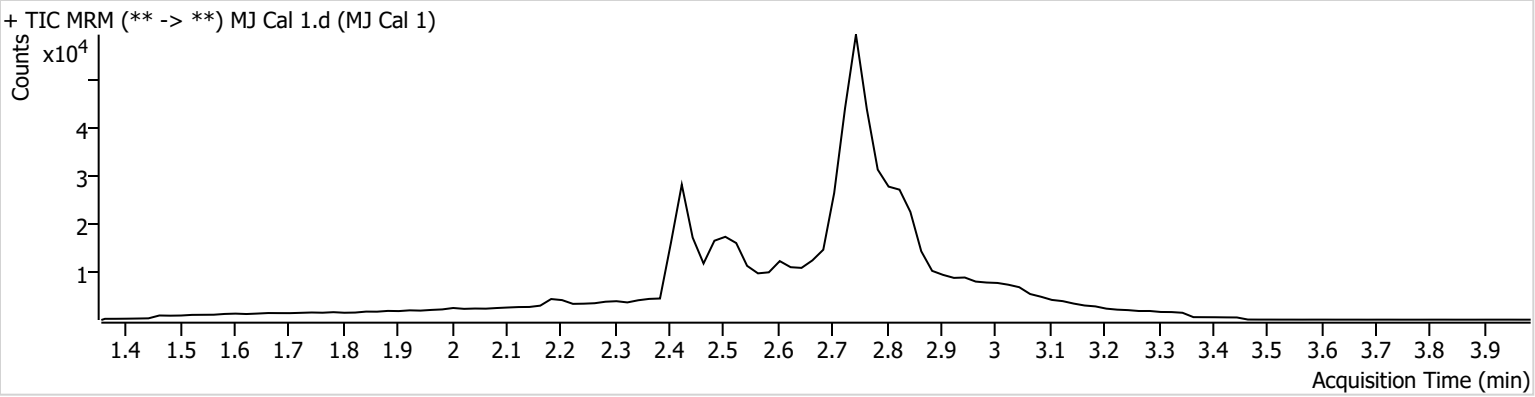
Generated at 4:13 PM on 10/26/2021

AM #26 Cannabinoids Screen Results

Batch results	D:\MassHunter\Data\2021\AM 25-26\102021 AM 25 26 SC\QuantResults\AM 26 COOH only.batch.bin
Calibration Last Update	10/26/2021 4:12:13 PM

Instrument	Falco (069901)	**Data File**	MJ Cal 1.d
Type	Cal	**Sample**	MJ Cal 1
Acq. Method	AM 26 THCS.m	**Operator**	Sarah Collins
Sample Position	P1-A1	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/20/2021 5:06:13 PM		
Sample Info.			

Sample Chromatogram

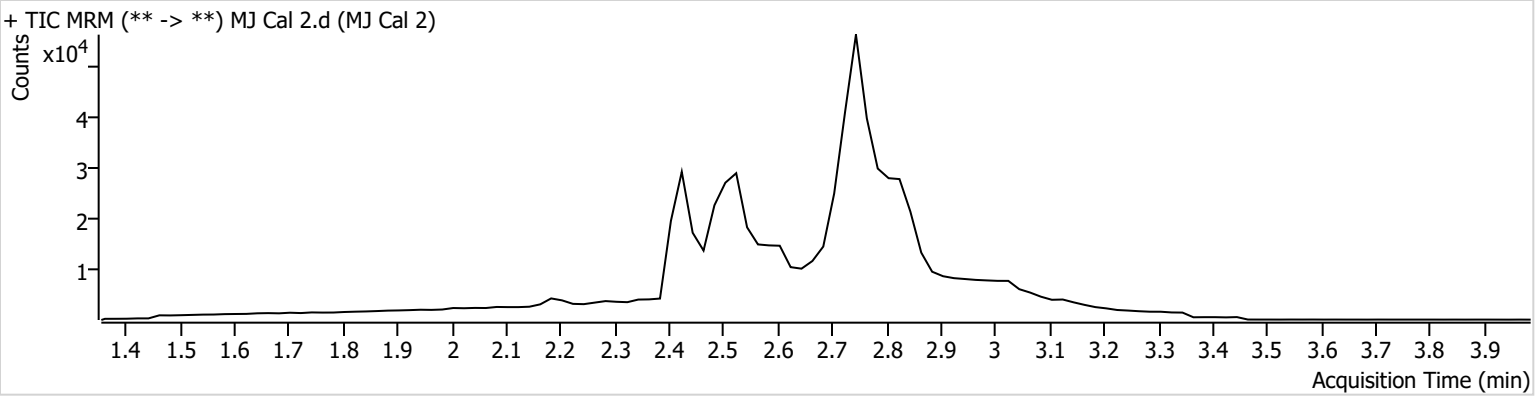


AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2021\AM 25-26\102021 AM 25 26 SC\QuantResults\AM 26 COOH only.batch.bin
Calibration Last Update 10/26/2021 4:12:13 PM

Instrument	Falco (069901)	**Data File**	MJ Cal 2.d
Type	Cal	**Sample**	MJ Cal 2
Acq. Method	AM 26 THCS.m	**Operator**	Sarah Collins
Sample Position	P1-B1	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/20/2021 5:12:56 PM		
Sample Info.			

Sample Chromatogram



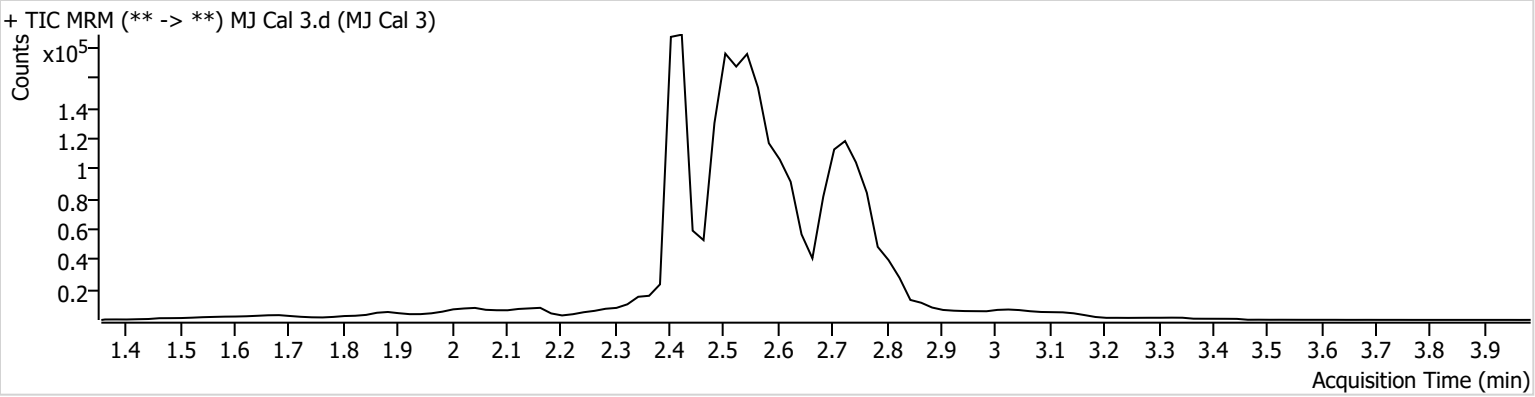
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	2.507	6880	35361	9.0729 ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2021\AM 25-26\102021 AM 25 26 SC\QuantResults\AM 26 COOH only.batch.bin
Calibration Last Update 10/26/2021 4:12:13 PM

Instrument	Falco (069901)	**Data File**	MJ Cal 3.d
Type	Cal	**Sample**	MJ Cal 3
Acq. Method	AM 26 THCS.m	**Operator**	Sarah Collins
Sample Position	P1-C1	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/20/2021 5:19:29 PM		
Sample Info.			

Sample Chromatogram



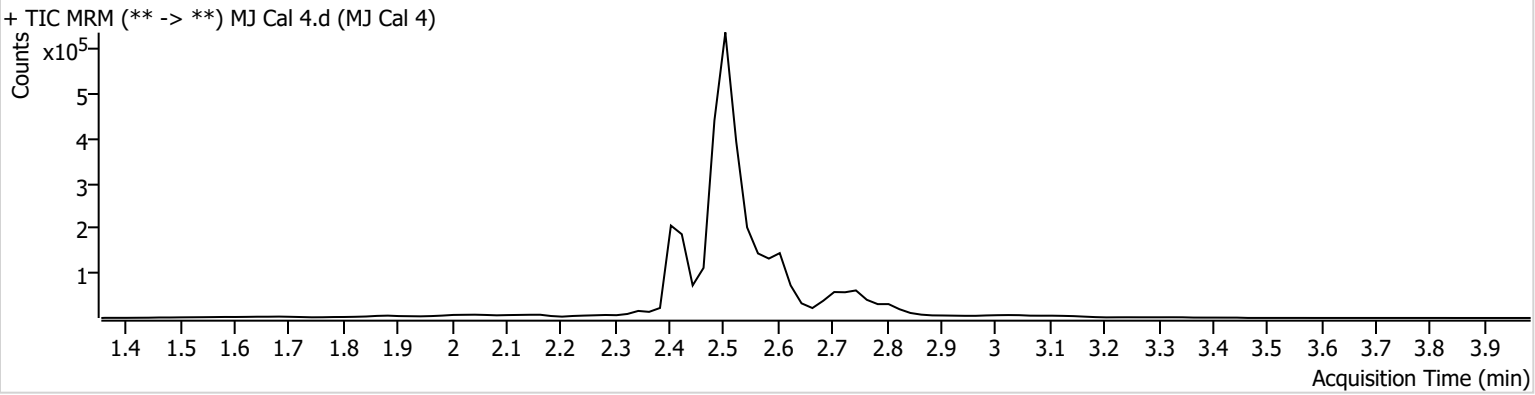
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	2.507	100087	256459	19.8612 ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2021\AM 25-26\102021 AM 25 26 SC\QuantResults\AM 26 COOH only.batch.bin
Calibration Last Update 10/26/2021 4:12:13 PM

Instrument	Falco (069901)	**Data File**	MJ Cal 4.d
Type	Cal	**Sample**	MJ Cal 4
Acq. Method	AM 26 THCS.m	**Operator**	Sarah Collins
Sample Position	P1-D1	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/20/2021 5:26:03 PM		
Sample Info.			

Sample Chromatogram



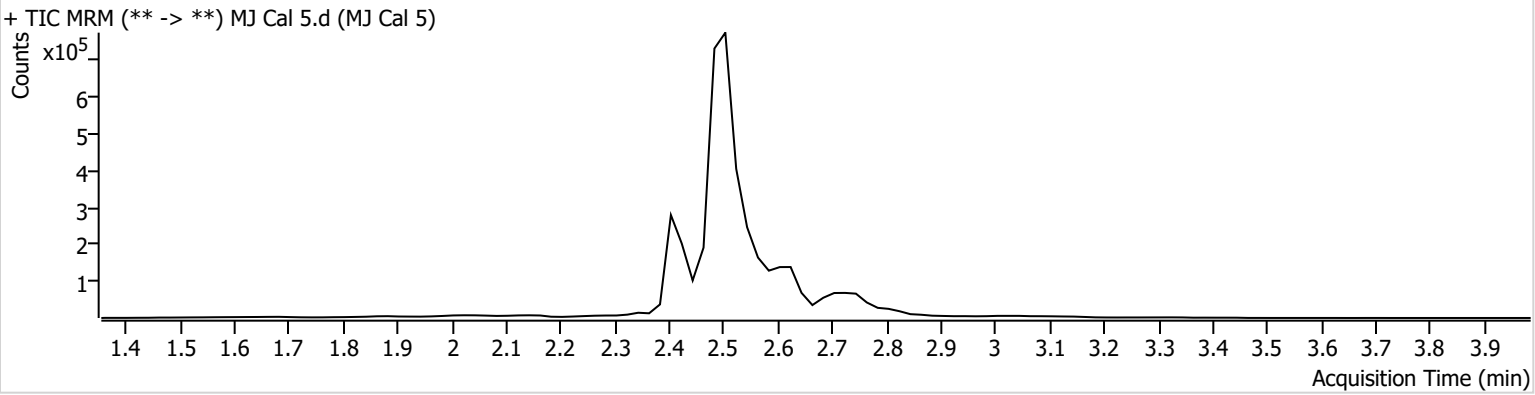
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	2.507	516900	528980	52.2142 ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2021\AM 25-26\102021 AM 25 26 SC\QuantResults\AM 26 COOH only.batch.bin
Calibration Last Update 10/26/2021 4:12:13 PM

Instrument	Falco (069901)	**Data File**	MJ Cal 5.d
Type	Cal	**Sample**	MJ Cal 5
Acq. Method	AM 26 THCS.m	**Operator**	Sarah Collins
Sample Position	P1-E1	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/20/2021 5:32:37 PM		
Sample Info.			

Sample Chromatogram



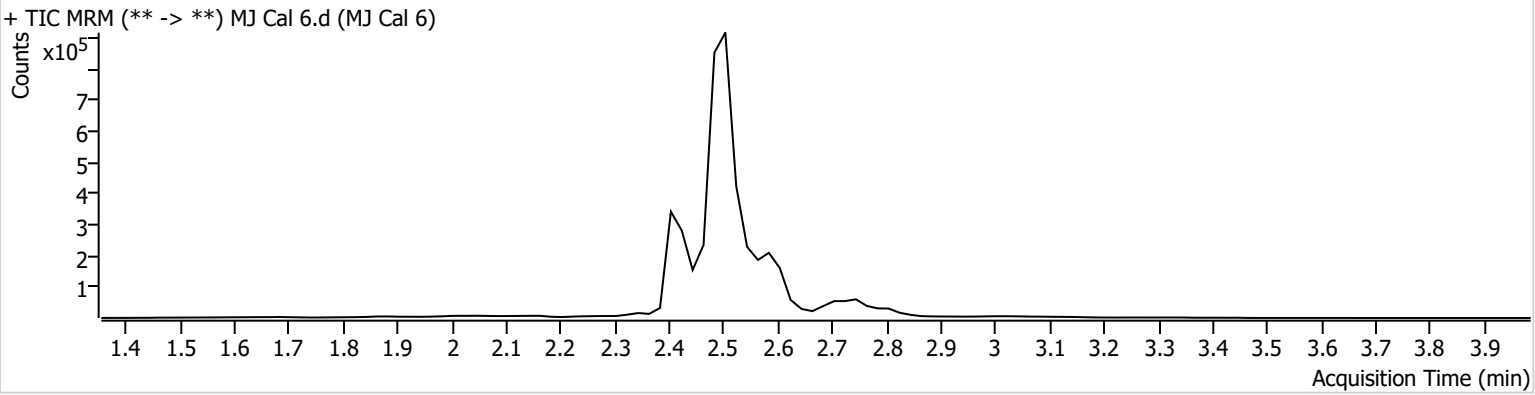
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	2.507	791890	529196	80.8374 ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2021\AM 25-26\102021 AM 25 26 SC\QuantResults\AM 26 COOH only.batch.bin
Calibration Last Update 10/26/2021 4:12:13 PM

Instrument	Falco (069901)	**Data File**	MJ Cal 6.d
Type	Cal	**Sample**	MJ Cal 6
Acq. Method	AM 26 THCS.m	**Operator**	Sarah Collins
Sample Position	P1-F1	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/20/2021 5:39:10 PM		
Sample Info.			

Sample Chromatogram



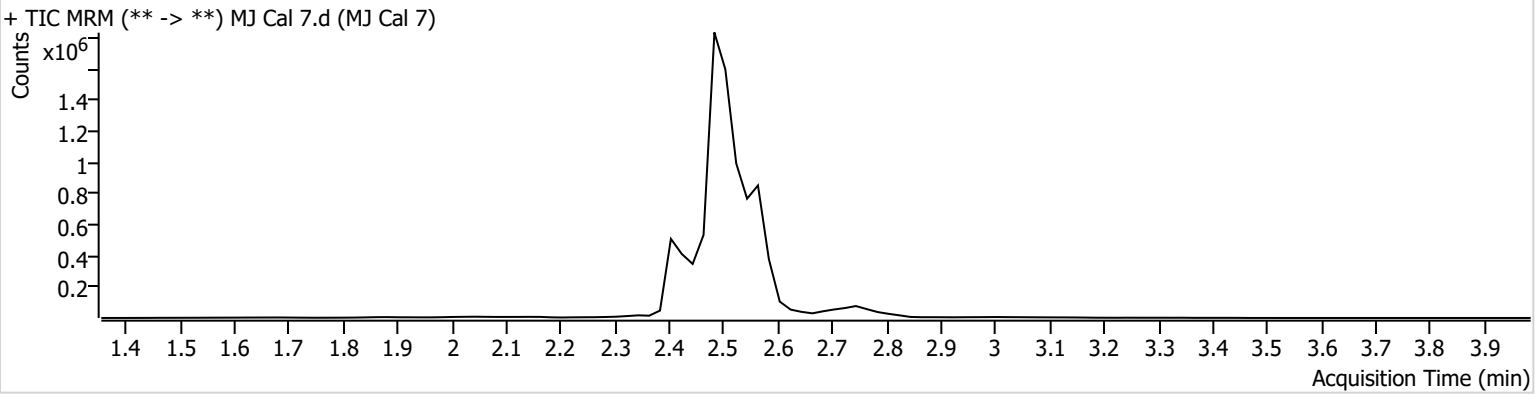
Name	RT	Resp.	ISTD Resp.	Final Conc.	
THC-COOH	2.507	928870	499235	100.9131	ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2021\AM 25-26\102021 AM 25 26 SC\QuantResults\AM 26 COOH only.batch.bin
Calibration Last Update 10/26/2021 4:12:13 PM

Instrument	Falco (069901)	**Data File**	MJ Cal 7.d
Type	Cal	**Sample**	MJ Cal 7
Acq. Method	AM 26 THCS.m	**Operator**	Sarah Collins
Sample Position	P1-G1	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/20/2021 5:45:43 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.
THC-COOH	2.507	2530381	572250	242.1012 ng/ml

SC

AM# 26: Screening of THC and Metabolites in Blood and Urine by LC-MS/MS

Extraction Date: 10/27/21
Plate lot#: IDP-108-2-210609

Analyst: Sarah Collins
Retest Date: 12/09/2021

Mobile phase A: 0.1% Formic Acid in LCMS Water
Blank Blood Lot: Lampire 20L20725
LCMS-QQQ ID: 069901

Mobile phase B: 0.1% Formic acid in Acetonitrile
Column: Phenomenex Phenyl Hexyl (4.6x50mm, 2.6um)

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 1.5mL urine to blank plate, add 250µl 1N KOH. Shake and incubate at 40 degrees for 15 minutes.
Using a calibrated pipette, add **1000µl blood and urine (if applicable) (calibrated pipette)** into the appropriate wells of analytical (standards) plate. **Pipette ID:** 3382167
☒ 3. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
☒ 4. Pipette **500µL 0.1% formic acid in water blood sample, 500 µL saturated phosphate buffer in urine** in wells of analytical plate.
☒ 5. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
☒ 6. Transfer **700-800µL of blood+acid or urine+acid** mixture to corresponding wells of SLE+ plate.
Amount transferred: 800 uL
☒ 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)
☒ 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.
☒ 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).
☒ 4. Case sample response for THC and OH-THC 3ng/mL (quantitative), Carboxy-THC: 10ng/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: Due to low internal standard responses in P2021-3399-1, P2021-3440-1, P2021-3441-1, and P2021-3467-1 these samples were re-extracted and ran on 10/27/21.

Analytical plate map

	1	2	3	4	5	6
A	IS + Cal. 1					IS + QC_1
B	IS + Cal. 2					IS + Cal. 7
C	IS + Cal. 3					IS + Cal. 6
D	IS + Cal. 4				p2021-3467-1	IS + Cal. 5
E	IS + Cal. 5				p2021-3441-1	IS + Cal. 4
F	IS + Cal. 6				p2021-3440-1	IS + Cal. 3
G	IS + Cal. 7				p2021-3399-1	IS + Cal. 2
H	IS + QC_1				negative blood	IS + Cal. 1

All wells to contain 100 µl of residual DMSO

SLE and catcher plate layout

	1	2	3	4	5	6
A		IS + QC_1				
B		IS + Cal. 7				
C		IS + Cal. 6				
D	p2021-3467-1	IS + Cal. 5				
E	p2021-3441-1	IS + Cal. 4				
F	p2021-3440-1	IS + Cal. 3				
G	p2021-3399-1	IS + Cal. 2				
H	negative blood	IS + Cal. 1				

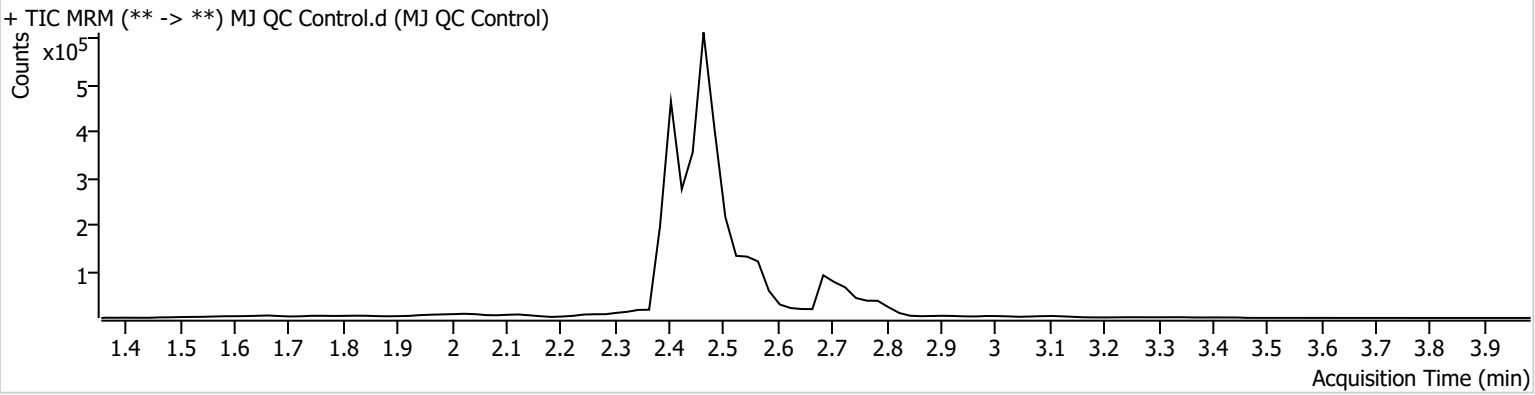
All wells to contain 100 µl of residual DMSO

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2021\AM 25-26\102721 AM 26 SC\QuantResults\AM 26.batch.bin
Calibration Last Update 10/27/2021 11:45:03 AM

Instrument	Falco (069901)	**Data File**	MJ QC Control.d
Type	Sample	**Sample**	MJ QC Control
Acq. Method	AM 26 THCS.m	**Operator**	Sarah Collins
Sample Position	P1-A2	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/27/2021 10:55:56 AM		
Sample Info.			

Sample Chromatogram



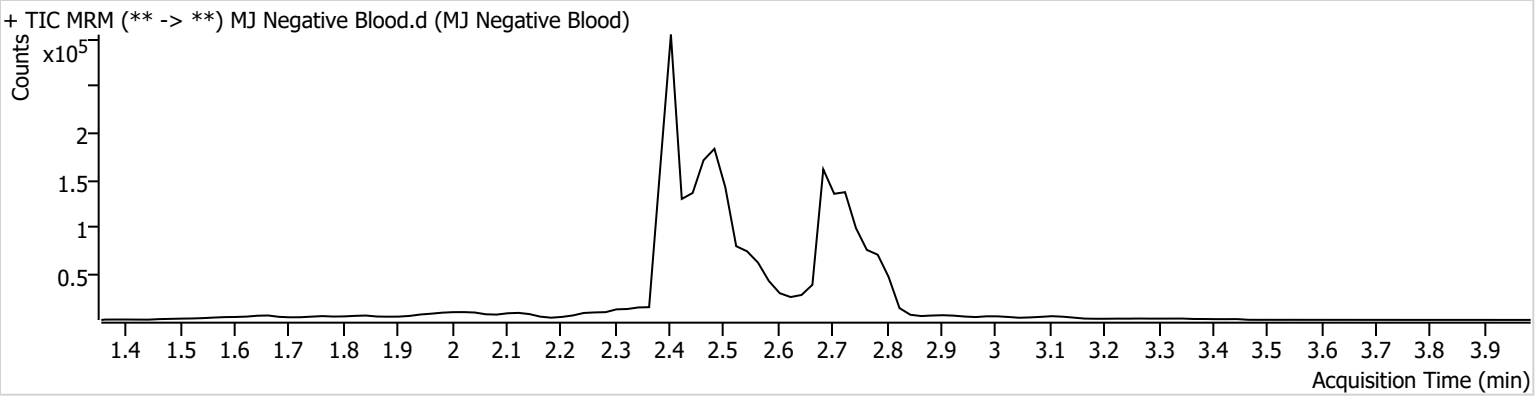
Name	RT	Resp.	ISTD Resp.	Final Conc.	
THC	2.739	1301	29906	4.9934	ng/ml
THC-COOH	2.467	234579	1076579	13.6424	ng/ml
THC-OH	2.414	14487	1505930	4.6498	ng/ml

AM #26 Cannabinoids Screen Results

Batch results	D:\MassHunter\Data\2021\AM 25-26\102721 AM 26 SC\QuantResults\AM 26.batch.bin
Calibration Last Update	10/27/2021 11:45:03 AM

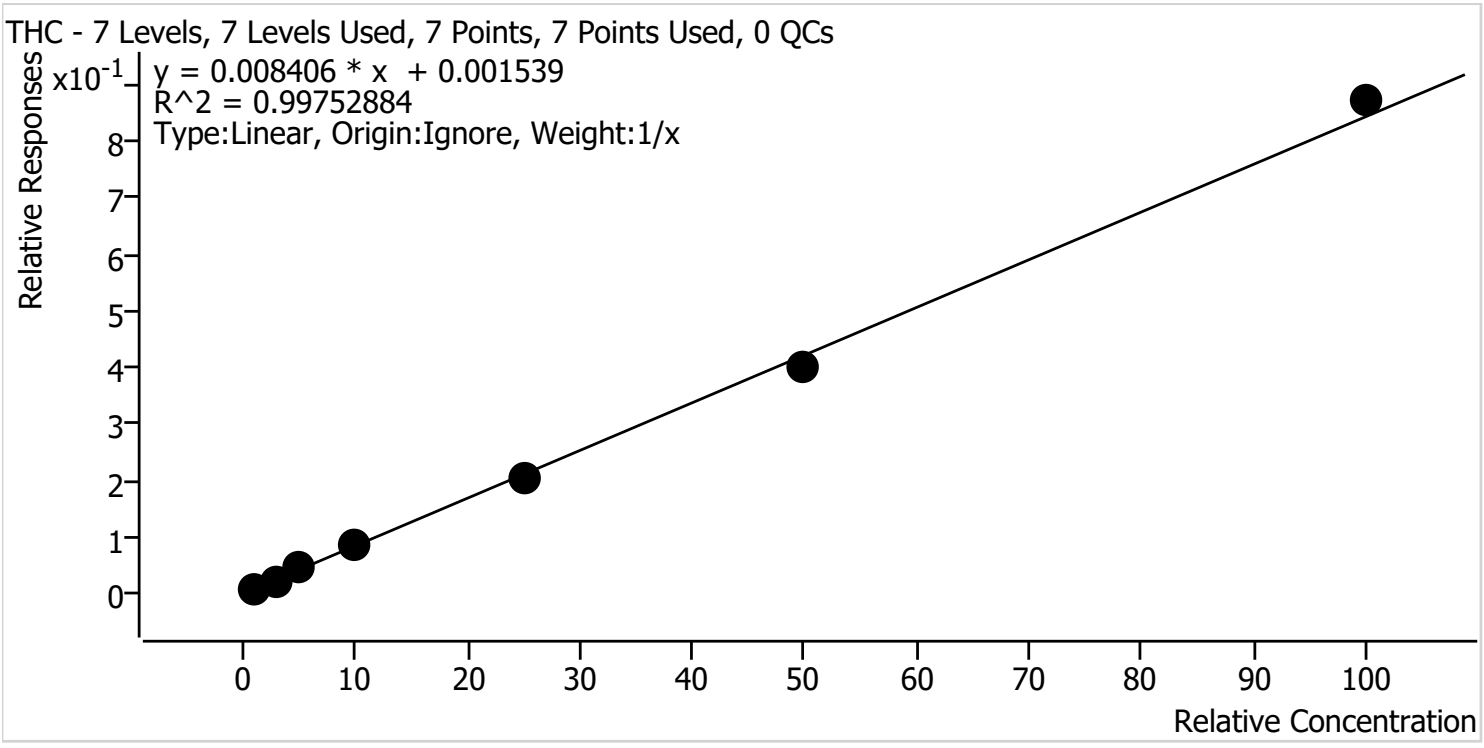
Instrument	Falco (069901)	**Data File**	MJ Negative Blood.d
Type	Sample	**Sample**	MJ Negative Blood
Acq. Method	AM 26 THCS.m	**Operator**	Sarah Collins
Sample Position	P1-H1	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/27/2021 11:09:06 AM		
Sample Info.			

Sample Chromatogram



AM #26 Cannabinoids Screen Calibration Curve Report

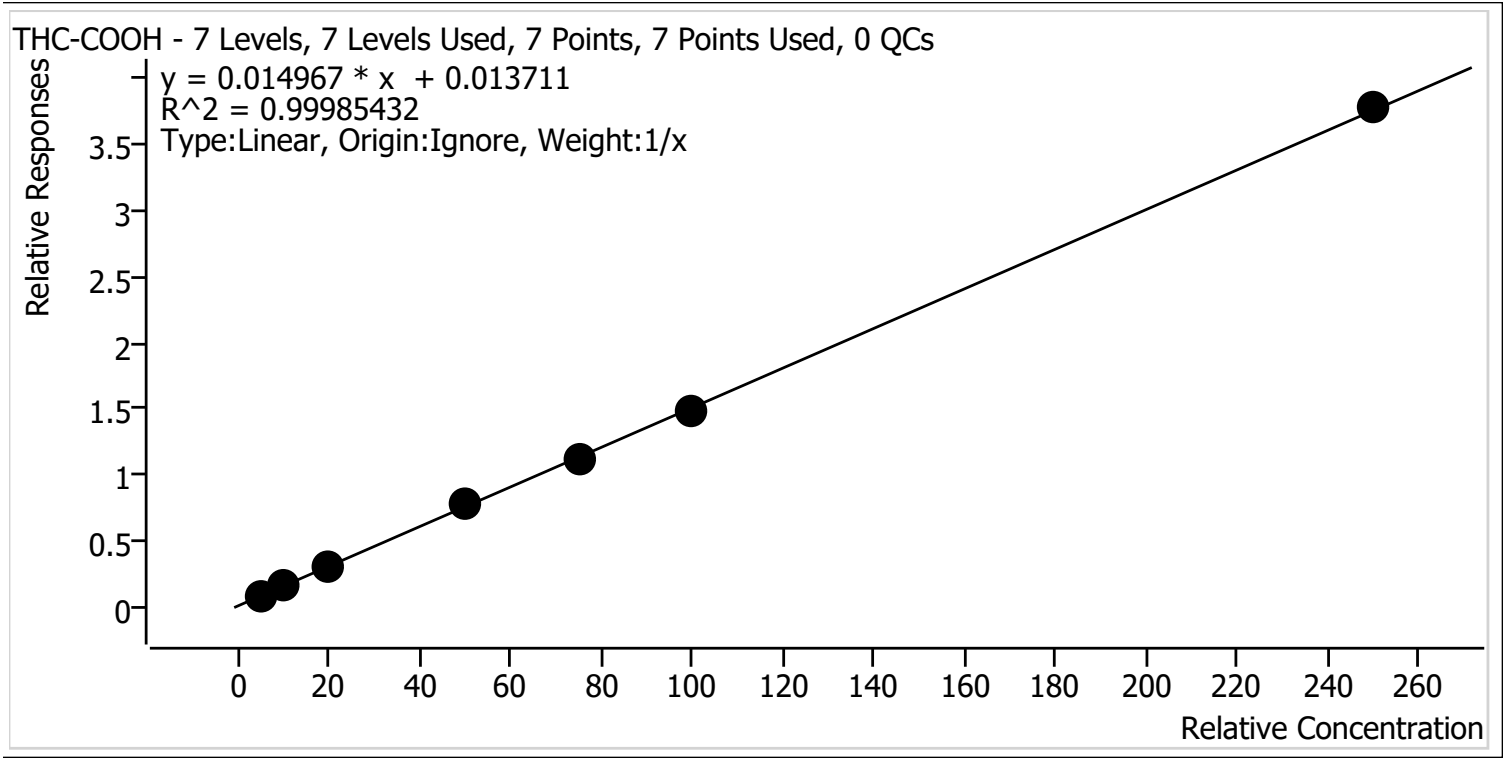
Batch results	D:\MassHunter\Data\2021\AM 25-26\102721 AM 26 SC\QuantResults\AM 26.batch.bin
Last Cal. Update	10/27/2021 11:45 AM
Analyst Name	ISP\datastor
Analyte	THC
Internal Standard	THC-D3



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ Cal 1	1	✔	1.0	1.0	103.1
MJ Cal 2	2	✔	3.0	2.7	90.3
MJ Cal 3	3	✔	5.0	5.6	112.7
MJ Cal 4	4	✔	10.0	10.0	99.6
MJ Cal 5	5	✔	25.0	24.1	96.5
MJ Cal 6	6	✔	50.0	47.2	94.4
MJ Cal 7	7	✔	100.0	103.3	103.3

AM #26 Cannabinoids Screen Calibration Curve Report

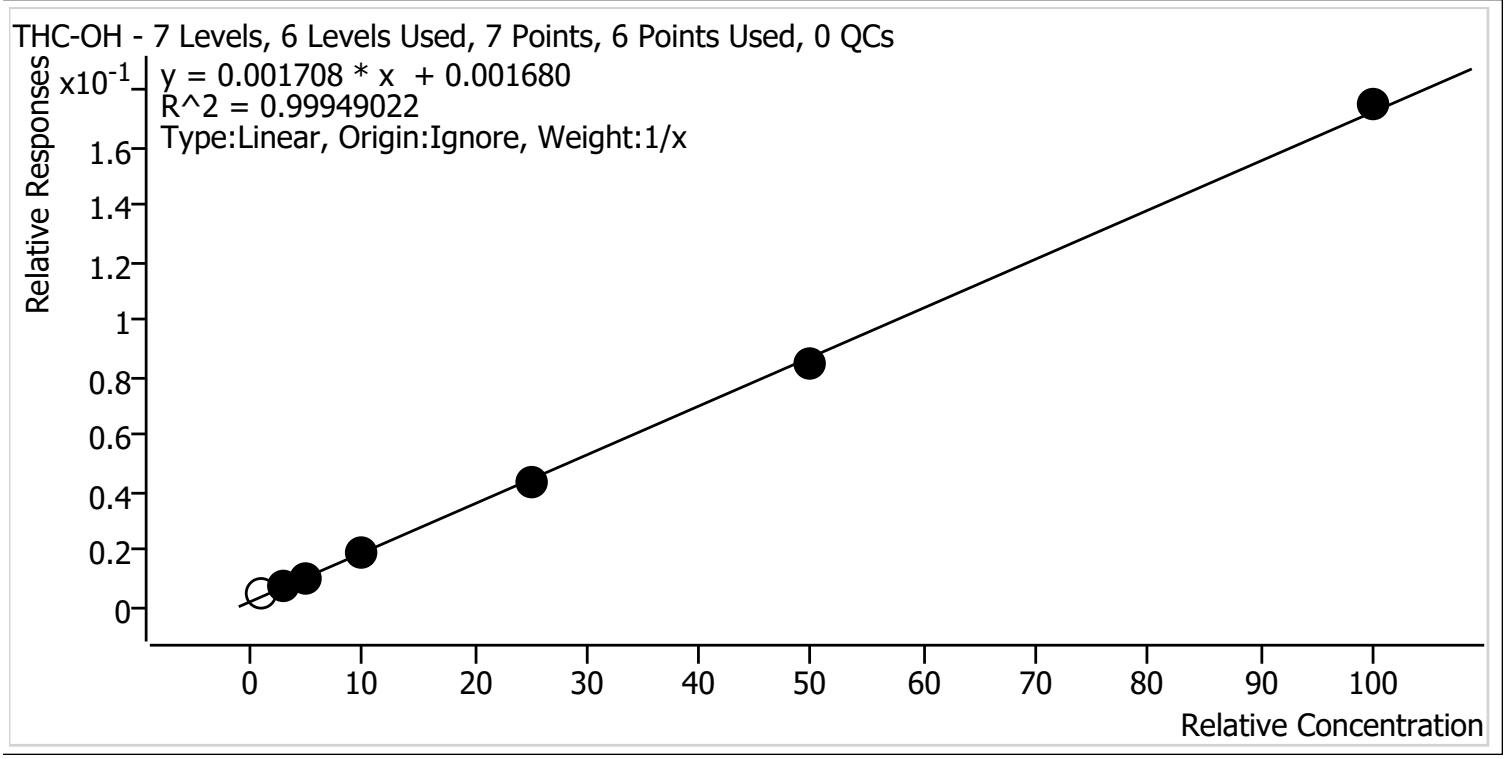
Batch results	D:\MassHunter\Data\2021\AM 25-26\102721 AM 26 SC\QuantResults\AM 26.batch.bin
Last Cal. Update	10/27/2021 11:45 AM
Analyst Name	ISP\datastor
Analyte	THC-COOH
Internal Standard	THC-COOH-D9



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ Cal 1	1	✔	5.0	5.1	101.2
MJ Cal 2	2	✔	10.0	10.0	99.7
MJ Cal 3	3	✔	20.0	19.9	99.4
MJ Cal 4	4	✔	50.0	50.9	101.8
MJ Cal 5	5	✔	75.0	73.9	98.6
MJ Cal 6	6	✔	100.0	98.8	98.8
MJ Cal 7	7	✔	250.0	251.5	100.6

AM #26 Cannabinoids Screen Calibration Curve Report

Batch results	D:\MassHunter\Data\2021\AM 25-26\102721 AM 26 SC\QuantResults\AM 26.batch.bin
Last Cal. Update	10/27/2021 11:45 AM
Analyst Name	ISP\datastor
Analyte	THC-OH
Internal Standard	THC-OH-D3



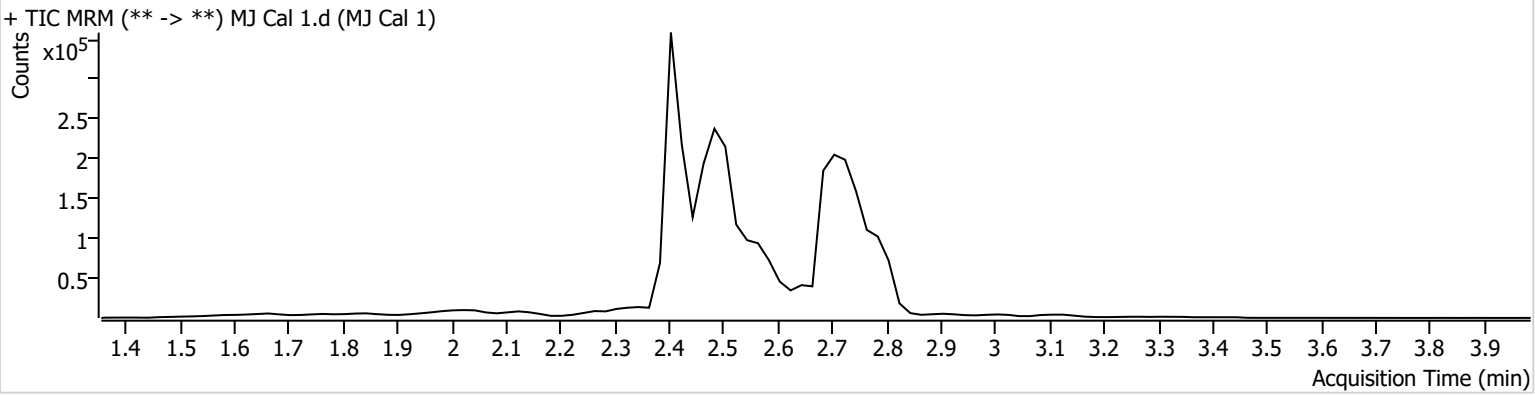
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ Cal 1	1	✗	1.0	1.9	187.5
MJ Cal 2	2	✔	3.0	3.2	105.5
MJ Cal 3	3	✔	5.0	4.8	96.5
MJ Cal 4	4	✔	10.0	10.1	100.9
MJ Cal 5	5	✔	25.0	24.4	97.5
MJ Cal 6	6	✔	50.0	49.0	98.1
MJ Cal 7	7	✔	100.0	101.5	101.5

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2021\AM 25-26\102721 AM 26 SC\QuantResults\AM 26.batch.bin
Calibration Last Update 10/27/2021 11:45:03 AM

Instrument	Falco (069901)	**Data File**	MJ Cal 1.d
Type	Cal	**Sample**	MJ Cal 1
Acq. Method	AM 26 THCS.m	**Operator**	Sarah Collins
Sample Position	P1-H2	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/27/2021 10:09:54 AM		
Sample Info.			

Sample Chromatogram



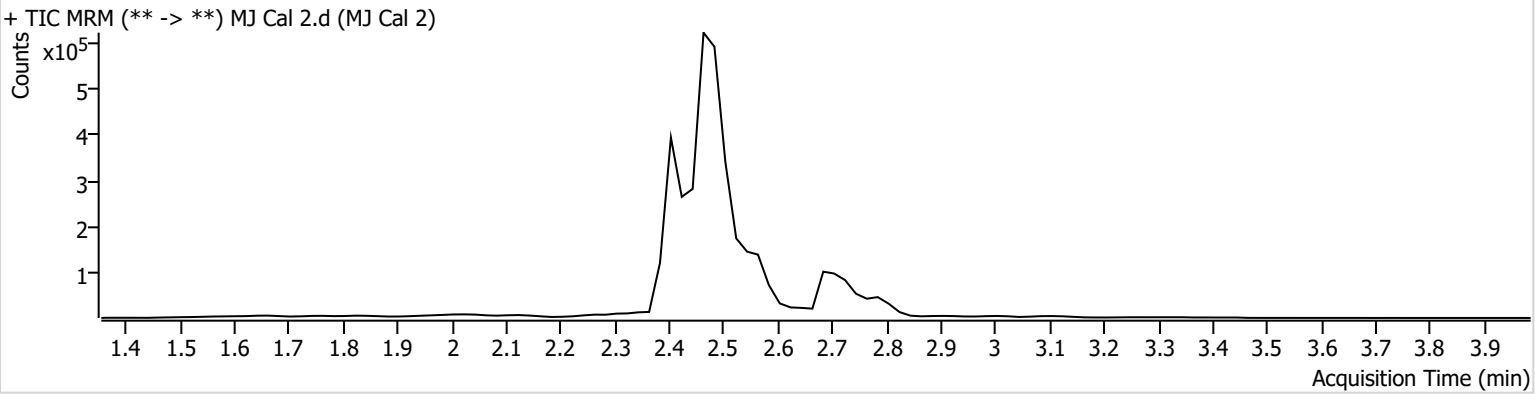
Name	RT	Resp.	ISTD Resp.	Final Conc.		
THC	2.739	1035	101420	1.0314	ng/ml	**Low**
THC-COOH	2.487	26539	296841	5.0575	ng/ml	
THC-OH	2.474	6468	1325026	1.8748	ng/ml	**Low**

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2021\AM 25-26\102721 AM 26 SC\QuantResults\AM 26.batch.bin
Calibration Last Update 10/27/2021 11:45:03 AM

Instrument	Falco (069901)	**Data File**	MJ Cal 2.d
Type	Cal	**Sample**	MJ Cal 2
Acq. Method	AM 26 THCS.m	**Operator**	Sarah Collins
Sample Position	P1-G2	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/27/2021 10:16:37 AM		
Sample Info.			

Sample Chromatogram



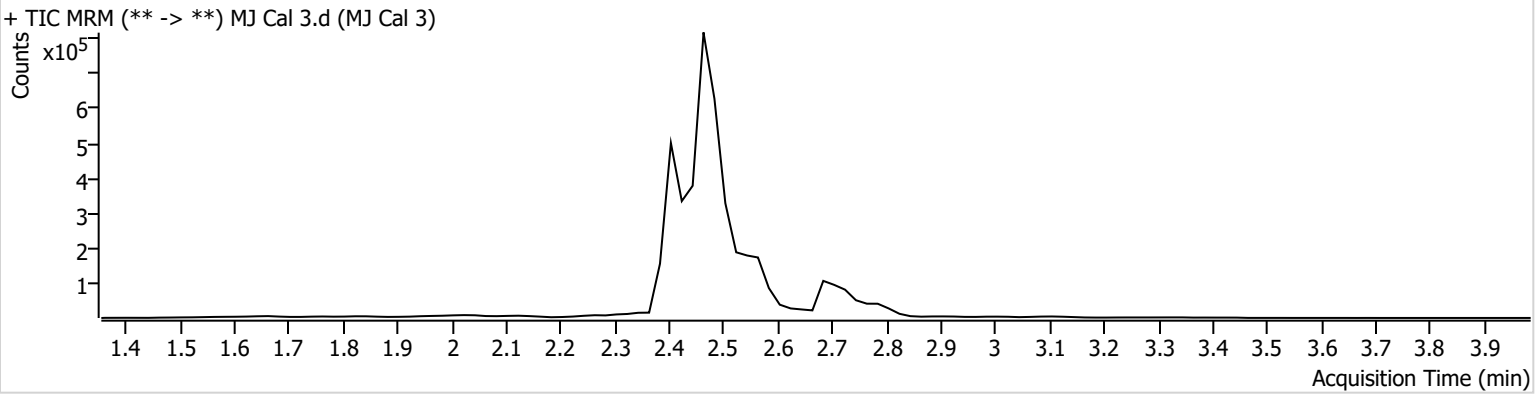
Name	RT	Resp.	ISTD Resp.	Final Conc.		
THC	2.739	969	39859	2.7084	ng/ml	**Low**
THC-COOH	2.467	186536	1144824	9.9706	ng/ml	
THC-OH	2.474	12063	1703057	3.1642	ng/ml	

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2021\AM 25-26\102721 AM 26 SC\QuantResults\AM 26.batch.bin
Calibration Last Update 10/27/2021 11:45:03 AM

Instrument	Falco (069901)	**Data File**	MJ Cal 3.d
Type	Cal	**Sample**	MJ Cal 3
Acq. Method	AM 26 THCS.m	**Operator**	Sarah Collins
Sample Position	P1-F2	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/27/2021 10:23:10 AM		
Sample Info.			

Sample Chromatogram



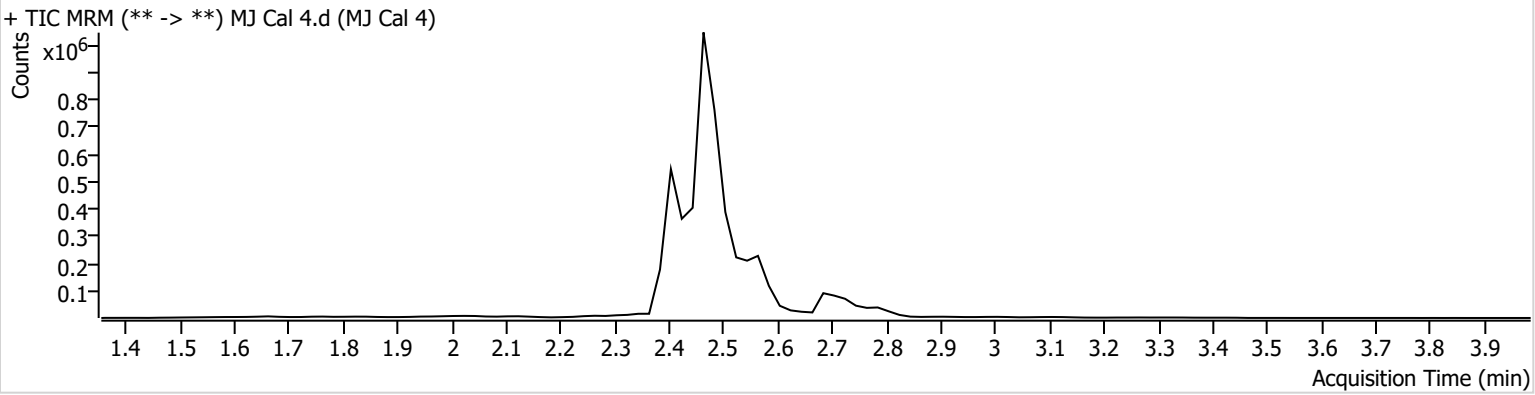
Name	RT	Resp.	ISTD Resp.	Final Conc.	
THC	2.739	1834	37481	5.6362	ng/ml
THC-COOH	2.467	389995	1253002	19.8799	ng/ml
THC-OH	2.414	16863	1700320	4.8242	ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2021\AM 25-26\102721 AM 26 SC\QuantResults\AM 26.batch.bin
Calibration Last Update 10/27/2021 11:45:03 AM

Instrument	Falco (069901)	**Data File**	MJ Cal 4.d
Type	Cal	**Sample**	MJ Cal 4
Acq. Method	AM 26 THCS.m	**Operator**	Sarah Collins
Sample Position	P1-E2	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/27/2021 10:29:44 AM		
Sample Info.			

Sample Chromatogram



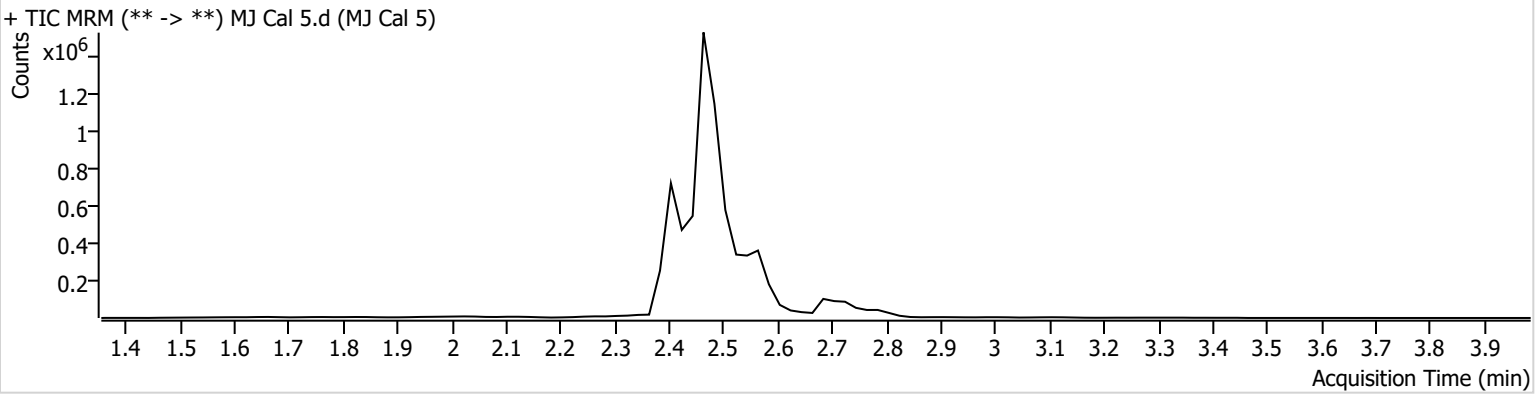
Name	RT	Resp.	ISTD Resp.	Final Conc.	
THC	2.739	2885	33828	9.9619	ng/ml
THC-COOH	2.467	801780	1033908	50.8976	ng/ml
THC-OH	2.414	30962	1636816	10.0937	ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2021\AM 25-26\102721 AM 26 SC\QuantResults\AM 26.batch.bin
Calibration Last Update 10/27/2021 11:45:03 AM

Instrument	Falco (069901)	**Data File**	MJ Cal 5.d
Type	Cal	**Sample**	MJ Cal 5
Acq. Method	AM 26 THCS.m	**Operator**	Sarah Collins
Sample Position	P1-D2	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/27/2021 10:36:17 AM		
Sample Info.			

Sample Chromatogram



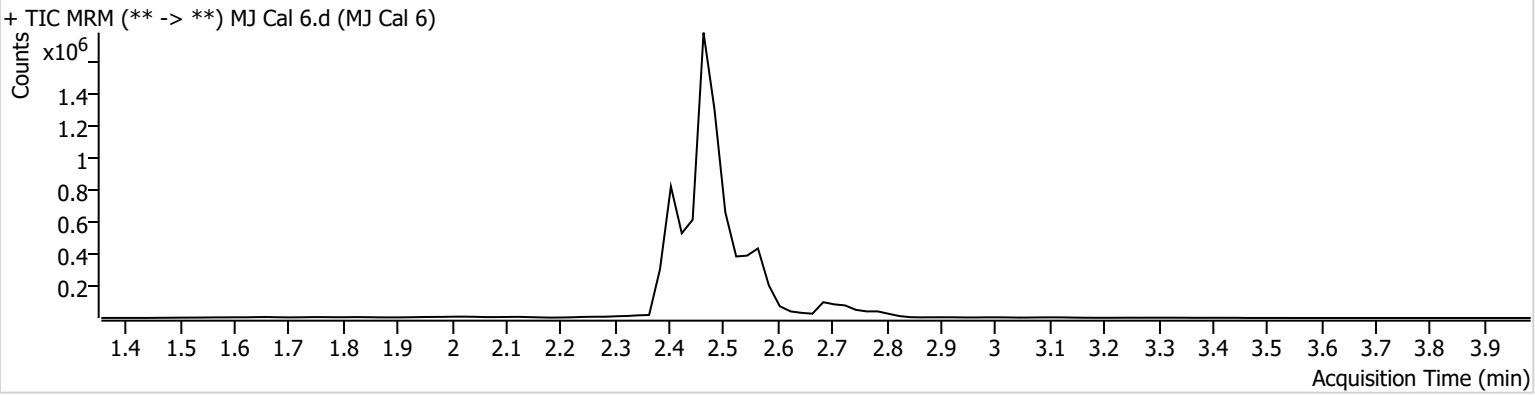
Name	RT	Resp.	ISTD Resp.	Final Conc.	
THC	2.739	9276	45393	24.1258	ng/ml
THC-COOH	2.467	1395924	1246217	73.9247	ng/ml
THC-OH	2.414	84322	1946455	24.3857	ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2021\AM 25-26\102721 AM 26 SC\QuantResults\AM 26.batch.bin
Calibration Last Update 10/27/2021 11:45:03 AM

Instrument	Falco (069901)	**Data File**	MJ Cal 6.d
Type	Cal	**Sample**	MJ Cal 6
Acq. Method	AM 26 THCS.m	**Operator**	Sarah Collins
Sample Position	P1-C2	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/27/2021 10:42:50 AM		
Sample Info.			

Sample Chromatogram



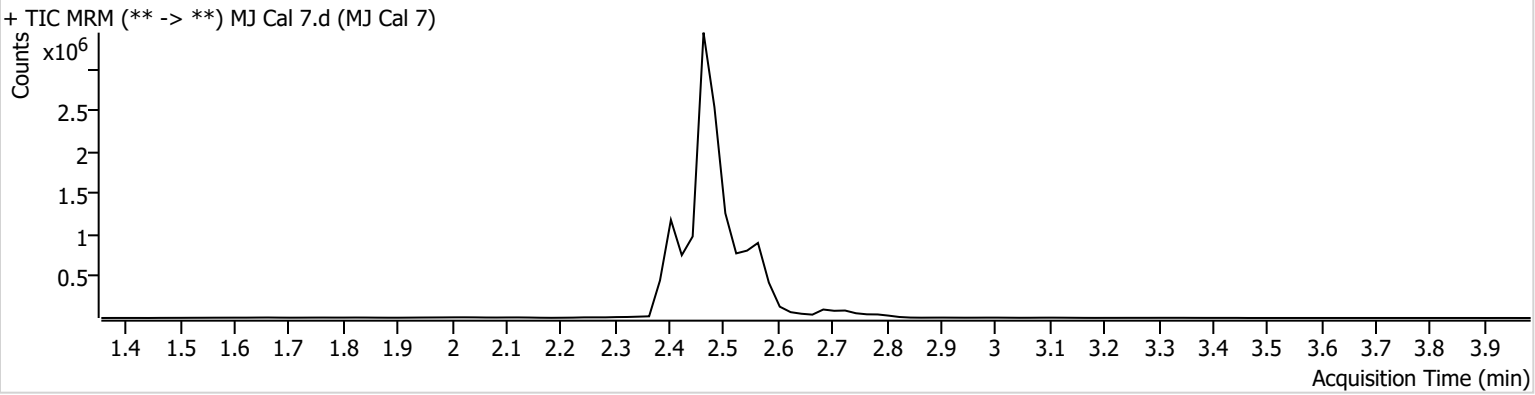
Name	RT	Resp.	ISTD Resp.	Final Conc.	
THC	2.739	12241	30731	47.1987	ng/ml
THC-COOH	2.467	1730076	1159331	98.7916	ng/ml
THC-OH	2.414	152646	1787261	49.0328	ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2021\AM 25-26\102721 AM 26 SC\QuantResults\AM 26.batch.bin
Calibration Last Update 10/27/2021 11:45:03 AM

Instrument	Falco (069901)	**Data File**	MJ Cal 7.d
Type	Cal	**Sample**	MJ Cal 7
Acq. Method	AM 26 THCS.m	**Operator**	Sarah Collins
Sample Position	P1-B2	**Comment**	
Injection Volume	10		
Acq. Date-Time	10/27/2021 10:49:23 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.	
THC	2.739	31069	35701	103.3377	ng/ml
THC-COOH	2.467	4124590	1091873	251.4781	ng/ml
THC-OH	2.414	306776	1753007	101.4995	ng/ml