REVIEWED
By Anne Nord at 2:35 pm, Feb 08, 2022

2/7/2022

Pages 22-35 added 2/10/22 to add reextract data. 2/10/22

reviewed pgs 22-35 2/16/22

Worklist: 5568

	LAB_CASE	ITEM	ITEM_TYPE	DESCRIPTION
	M2021-5664	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
	M2022-0072	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
	M2022-0156	2	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
	M2022-0228	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
	M2022-0291	3	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
	M2022-0342	3	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
*	M2022-0450	2	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
	P2021-4253	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
	P2021-4253	2	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
	P2021-4261	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
*	P2022-0046	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
	P2022-0206	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
	P2022-0222	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
	P2022-0240	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
	P2022-0242	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
	P2022-0273	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
	P2022-0274	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
	P2022-0275	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
	P2022-0277	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
	P2022-0284	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
	P2022-0285	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ

*Case samples were not ran on AM 26 due to limited sample size.

Worklist: 5568

LAB_CASE	ITEM	ITEM_TYPE	DESCRIPTION
P2022-0300	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2022-0301	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2022-0308	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2022-0309	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2022-0320	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2022-0321	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2022-0329	1	BCK	AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ
P2022-0334	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: 02/07/2022 Analyst: Sarah Collins
Plate lot#: IDP-120-211015 Retest Date: 04/15/22

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 20L20725
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:

	1	2	3	4	5	6	7	8	9	10	11	12
A	IS + Cal. 1								p2022-0334-1	p2022-0285-1	p2022-0222-1*	m2022-0291-3
B	IS + Cal. 1								p2022-0329-1	p2022-0284-1	p2022-0206-1	m2022-0228-1
C									p2022-0321-1	p2022-0277-1	p2022-0046-1	m2022-0156-2
D									p2022-0320-1	p2022-0275-1	p2021-4261-1	m2022-0072-1
E									p2022-0309-1	p2022-0274-1	p2021-4253-2	m2021-5664-1
F									p2022-0308-1	p2022-0273-1	p2021-4253-1	negative blood
G									p2022-0301-1	p2022-0242-1	m2022-0450-2	IS + Cal. 1
H								p2022-0222-1	p2022-0300-1	p2022-0240-1	m2022-0342-3	IS + Cal. 1

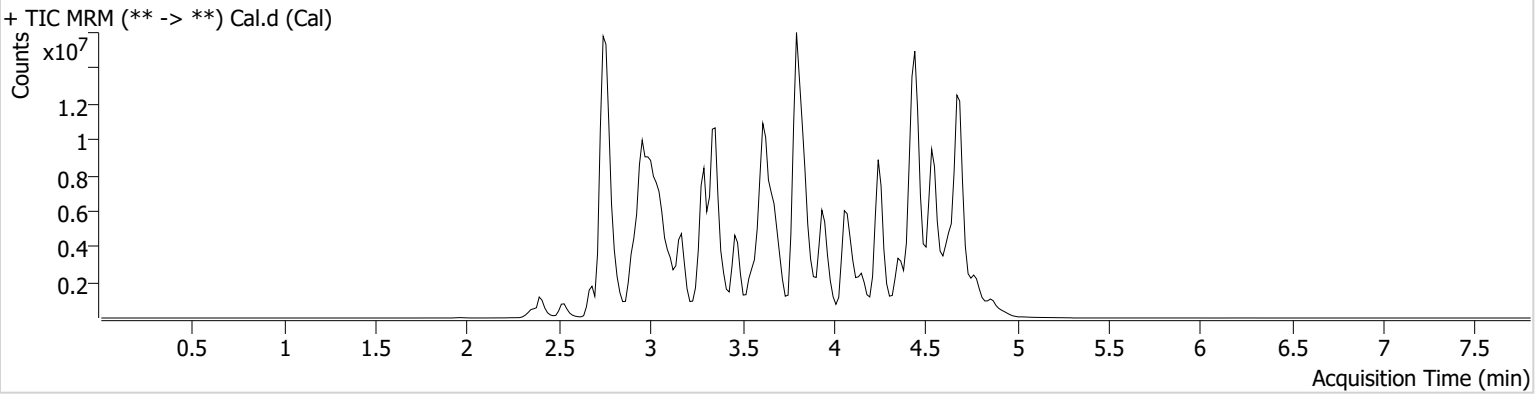
*Sample moved during analytical step 7 due to blood clot

AM #25 Multi-Drug Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\020722 AM 25 26 SC\QuantResults\am 25.batch.bin
Calibration Last Update 2/8/2022 9:12:48 AM

Instrument	Falco (069901)	**Data File**	Cal.d
Type	Cal	**Sample**	Cal
Acq. Method	AM 25 MDS.m	**Operator**	Sarah Collins
Sample Position	P6-H12	**Comment**	
Injection Volume	5		
Acq. Date-Time	2/7/2022 8:14:04 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
6-MAM	2.984	62896	59.39	28677.73	1777395	10.0000
7-aminoclonazepam	3.602	1477333	533.22	15824.81	6227559	10.0000
7-aminoflunitrazepam	3.802	2608309	779.59	648873.78	6227559	10.0000
Acetyl Fentanyl	3.998	56452	127.04	20680.80	26318457	10.0000
Acetyl Norfentanyl	2.932	312567	1321.98	586.09	26318457	10.0000
a-hydroxyalprazolam	4.536	360856	182.03	501.01	6227559	10.0000
alpha-hydroxymidazolam	4.611	2599087	136.42	1887.65	6227559	10.0000
Alpha-PHP	3.899	1602510	12082.13	8008.80	26318457	10.0000
alpha-PVP	3.623	2694151	4153.23	454.62	6538091	10.0000
Alprazolam	4.631	3349267	491.39	663.32	27906727	10.0000
Amitriptyline	4.482	73110	7.36	4.21 **Low**	245134	10.0000
Amphetamine	2.936	1787155	251.23	391.00	6538091	10.0000
Benzoylecgonine	3.402	336352	1140.98	146.29	670248	10.0000
Brompheniramine	4.076	15301	157.97	129.10	14244533	10.0000
Buprenorphine	4.944	154921	18181.65	7829.06	632479	10.0000
Bupropion	3.868	1816346	4726.26	411.64	7350638	10.0000
Carbamazepine	4.270	13058063	1412.13	1093.76	737788	10.0000
Carisoprodol	4.252	1920590	853915.90	131.02	10822790	10.0000
Chlordiazepoxide	4.771	1367029	1036.79	1162.45	27906727	10.0000
Chlorpheniramine	3.988	1161393	826.43	6.81	14244533	10.0000
Citalopram	4.106	626275	284.59	205119.41	14244533	10.0000
Clomipramine	4.692	92309	646.91	278.93	14244533	10.0000
Clonazepam	4.476	1563812	419.11	250334.80	27906727	10.0000
Clonazolam	4.396	1960069	1613129.22	672730.57	27906727	10.0000
Cocaethylene	3.830	3439633	2519505.24	955277.64	23344102	10.0000
Cocaine	3.631	3697441	2202404.57	567.34	23344102	10.0000
Codeine	2.897	430716	2523.15	747.91	10491932	10.0000
Cyclobenzaprine	4.390	124233	216.20	12.10	245134	10.0000
Desipramine	4.406	149585	165.49	59.34	245134	10.0000
Dextromethorphan	4.112	253942	3181.04	47.04	1356072	10.0000
Dextrorphan	3.405	1456113	9333.90	667696.00	1356072	10.0000
Diazepam	4.864	1191098	891.98	960.86	27906727	10.0000
Dihydrocodeine	2.789	1229762	655.94	692.47	10491932	10.0000
Diphenhydramine	4.067	1830337	630.00	222.91	14244533	10.0000

AM #25 Multi-Drug Screen Results

Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Doxepin	4.204	134572	111.64	7.66	3286215	10.0000
Doxylamine	3.680	6681135	397.80	4512.46	1356072	10.0000
EDDP	4.096	177793	41.68	1364.90	454557	10.0000
Estazolam	4.557	6956078	4840.81	1601.51	27906727	10.0000
Etizolam	4.642	343734	370236.91	610245.05	27906727	10.0000
Fentanyl	4.228	20968	11.87	4177.13	1488732	10.0000
Flualprazolam	4.505	1153280	595980.43	640412.60	27906727	10.0000
Flunitrazepam	4.585	2913787	596.42	1998823.28	27906727	10.0000
Fluoxetine	4.370	76445	86.08	54.75	158781	10.0000
Flurazepam	4.303	644850	932811.38	250.69	27906727	10.0000
Hydrocodone	3.095	1659794	1909.57	621.88	10491932	10.0000
Hydromorphone	2.534	1429297	441.15	433.64	455224	10.0000
Imipramine	4.435	251159	315.08	131.68	245134	10.0000
Ketamine	3.715	3500206	395.25	83.68	14121089	10.0000
Lamotrigine	3.651	233483	5567.73	14132.97	14244533	10.0000
Levamisole	3.040	2818082	438.54	118.73	23344102	10.0000
Levetiracetam	2.690	2077833	1597.20	1056.34	14244533	10.0000
Lorazepam	4.475	493285	185.24	187.73	27906727	10.0000
Maprotiline	4.482	63981	5.51	17.49	245134	10.0000
MDA	3.041	1666776	153.40	70.67	17929102	10.0000
MDEA	3.270	2497577	667.40	635.82	17929102	10.0000
MDMA	3.117	3434667	739.68	214.83	17929102	10.0000
Meperidine	3.652	1098639	144.16	127.67	1356072	10.0000
Meprobamate	3.701	1110842	363.89	89.39	10822790	10.0000
Methadone	4.416	704728	269.64	193.84	454557	10.0000
Methamphetamine	3.042	3535873	1538.28	54800.97	17929102	10.0000
Methocarbamol	3.606	495854	478.68	198.82	454557	10.0000
Methylphenidate	3.561	5305951	655.66	203.31	11962499	10.0000
Metoprolol	3.465	487547	159.14	102.14	1356072	10.0000
Midazolam	4.781	432827	440.41	324515.99	27906727	10.0000
Mirtazapine	4.159	880887	3441.89	5958.01	1356072	10.0000
Mitragynine	4.302	41863	24177.75	31400.43	1356072	10.0000
Morphine	2.367	391888	1967.58	235.15	455224	10.0000
Norbuprenorphine	3.871	11509	12635.66	2202.67	632479	10.0000
Nordiazepam	4.728	1738252	1403876.85	348.54	27906727	10.0000
Norfentanyl	3.361	5158670	1625.78	78.95	26318457	10.0000
Norhydrocodone	2.959	78695	85.48	34.37	455224	10.0000
Norketamine	3.838	752787	257.80	4319.11	14121089	10.0000
Normeperidine	3.638	622040	346.74	76.90	14244533	10.0000
Noroxycodone	2.911	1372861	1965.79	188.58	14121089	10.0000
Nortriptyline	4.452	29911	13711.47	7.70	245134	10.0000
O-desmethyl-tramadol	2.961	8585209	1245.11	284.76	14244533	10.0000
Olanzapine	3.923	38659	59711.08	13183.54	737788	10.0000
Oxazepam	4.541	2930349	602.97	165.03	12877017	10.0000
Oxycodone	2.986	3020268	649.23	614.63	14121089	10.0000
Oxymorphone	2.393	1459214	482.42	23496.13	455224	10.0000
Paroxetine	4.366	7257	16.56	1843.50	158781	10.0000
Phenazepam	4.672	2550141	643.65	1214.27	27906727	10.0000
Phencyclidine	3.945	1936757	138.55	591.57	1356072	10.0000
Phentermine	3.196	853549	106.04	37.32	11962499	10.0000
Phenytoin	4.161	1125605	3489.78	1694.50	737788	10.0000
Promethazine	4.403	242098	74.99	85.92	14244533	10.0000
Pseudoephedrine	2.767	49309279	1041.65	27419.57	17929102	10.0000
Quetiapine	4.640	875677	151505.80	202396.81	39228862	10.0000
Sertraline	4.601	31137	28498.64	33.79	158781	10.0000
Sufentanil	4.640	13305	8483.15	5.93	26318457	10.0000
Tapentadol	3.485	3912281	1076.12	575.35	14121089	10.0000
Temazepam	4.694	5319623	3416.44	127.81	27906727	10.0000
Tramadol	3.466	8005105	762.89	113.50	14244533	10.0000
Trazodone	4.824	729191	264.35	401.72	3286215	10.0000

Cal

AM #25 Multi-Drug Screen Results

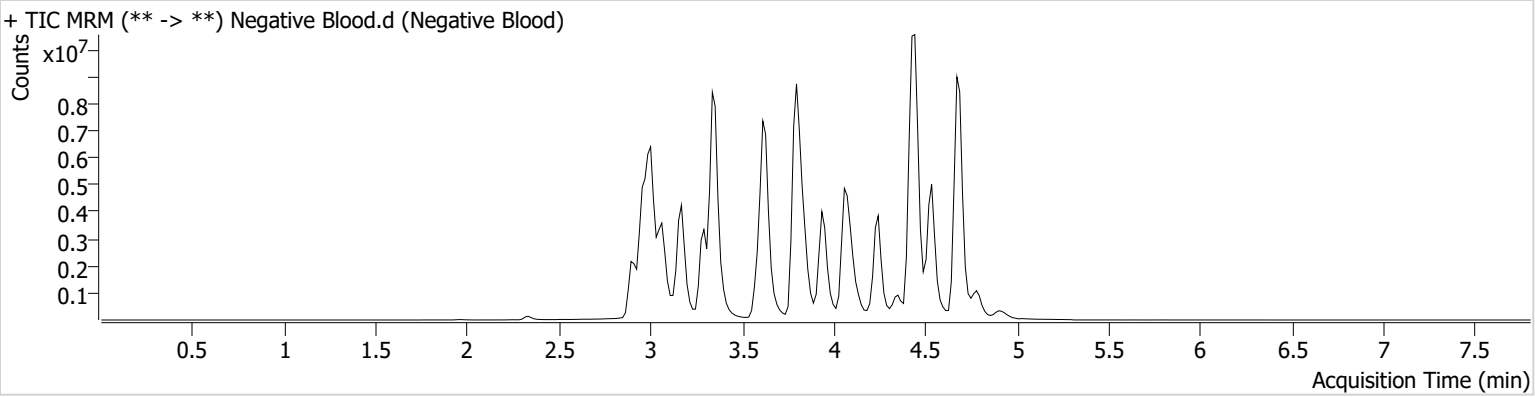
Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Venlafaxine	3.833	3859435	363.26	136.41	158781	10.0000
Zaleplon	4.356	3200025	17868.47	868.27	39228862	10.0000
Zolpidem	4.447	8510837	775.28	1471.48	39228862	10.0000
Zopiclone	4.348	627918	331400.17	219728.88	3030940	10.0000

AM #25 Multi-Drug Screen Results

Batch results	D:\MassHunter\Data\2022\AM 25-26\020722 AM 25 26 SC\QuantResults\am 25.batch.bin
Calibration Last Update	2/8/2022 9:12:48 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	P6-F12	**Comment**	
Injection Volume	5		
Acq. Date-Time	2/7/2022 8:22:39 PM		
Sample Info.			

Sample Chromatogram



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

Extraction Date: 02/07/2022
Plate lot#: IDP-108-3-211018

Analyst: Sarah Collins
Retest Date: 04/18/2022

Mobile phase A: ~~0.1% Formic Acid in LCMS Water~~ 10mM Ammonium Formate 01/27/2023
Blank Blood Lot: Lampire 20L20725
LCMS-QQQ ID: 069901

Mobile phase B: ~~0.1% Formic acid in Acetonitrile~~ 0.1% Formic Acid in Methanol 01/27/2023
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: Did not evaluate THC-OH due to potential interfering peak. M2022-0450-2 and P2022-0046-1 were not ran on analytical method 26 due to limited sample size.

	1	2	3	4	5	6
A	IS + Cal. 1	IS + QC_2	p2021-4253-1	p2022-0274-1*	p2022-0309-1	p2022-0321-1
B	IS + Cal. 2	negative blood	p2021-4253-2	p2022-0275-1	p2022-0320-1	p2022-0329-1
C	IS + Cal. 3	m2021-5664-1	p2021-4261-1	p2022-0277-1	p2022-0321-1*	p2022-0334-1
D	IS + Cal. 4	m2022-0072-1	p2022-0206-1	p2022-0284-1	p2022-0329-1*	
E	IS + Cal. 5	m2022-0156-2	p2022-0222-1*	p2022-0285-1	p2022-0334-1*	
F	IS + Cal. 6	m2022-0228-1	p2022-0240-1	p2022-0300-1	p2022-0222-1	
G	IS + Cal. 7	m2022-0291-3	p2022-0242-1	p2022-0301-1*	p2022-0274-1	
H	IS + QC_1 blood	m2022-0342-3	p2022-0273-1	p2022-0308-1	p2022-0301-1	

All wells to contain 100 µl of residual DMSO

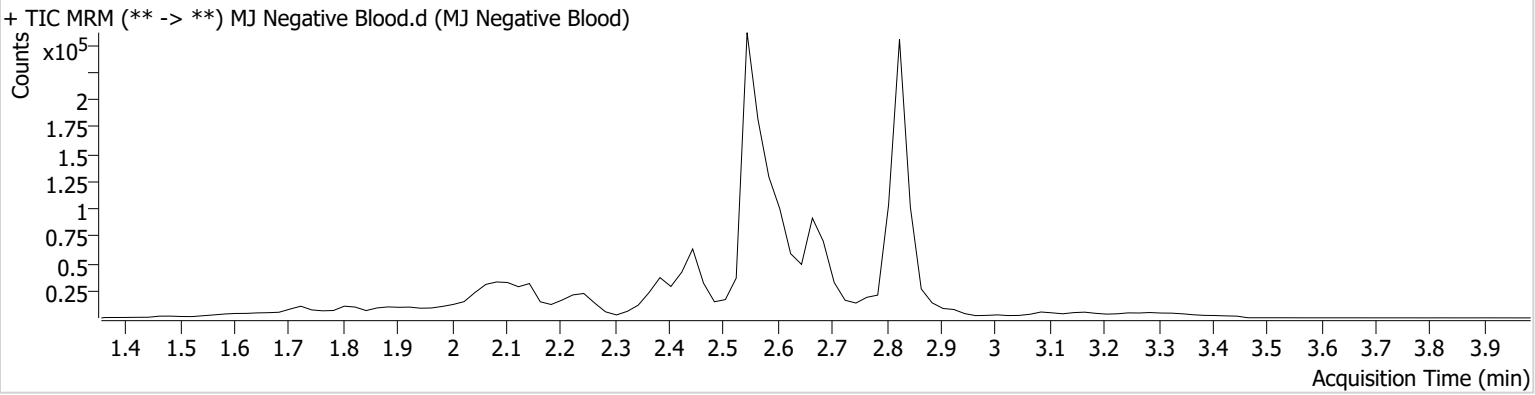
*Samples moved during analytical step 6 due to blood clot

AM #26 Cannabinoids Screen Results

Batch results	D:\MassHunter\Data\2022\AM 25-26\020722 AM 25 26 SC\QuantResults\am 26 printouts.batch.bin
Calibration Last Update	2/8/2022 10:23:50 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	P5-B2	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/7/2022 4:19:44 PM		
Sample Info.			

Sample Chromatogram

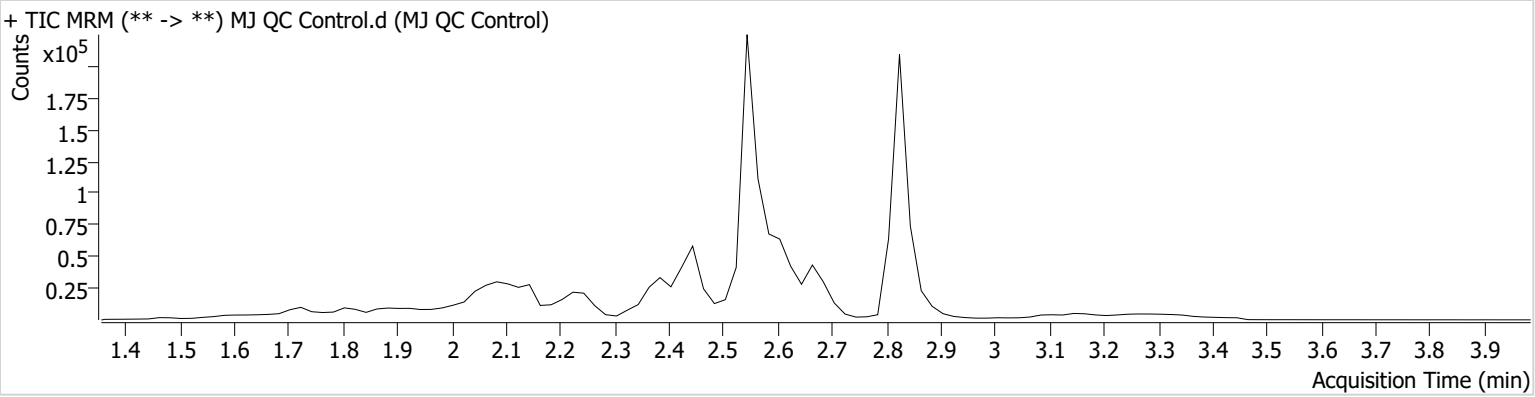


AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\020722 AM 25 26 SC\QuantResults\am 26 printouts.batch.bin
Calibration Last Update 2/8/2022 10:23:50 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	P5-H1	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/7/2022 4:06:34 PM		
Sample Info.			

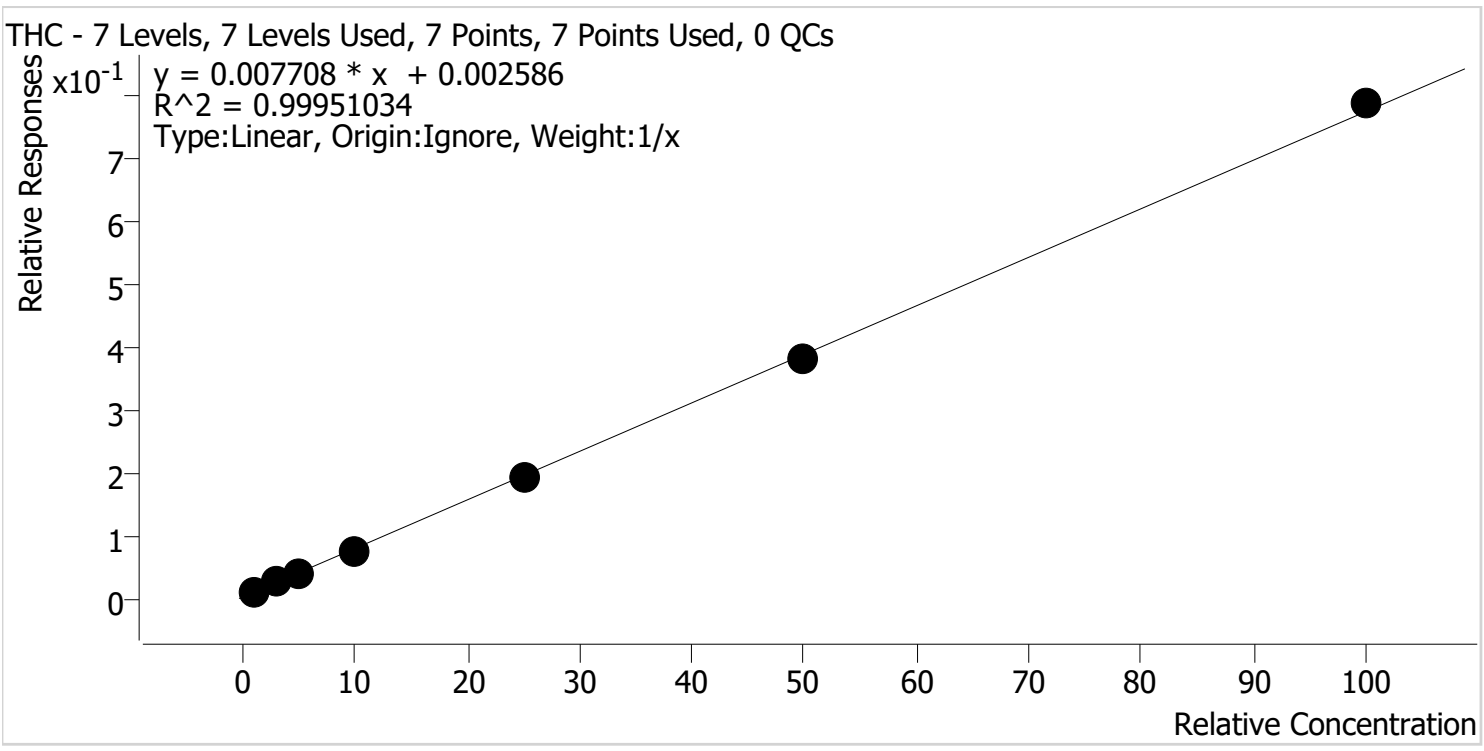
Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.	
THC	2.879	838	18938	5.4079	ng/ml
THC-COOH	2.627	12898	58905	17.3167	ng/ml

AM #26 Cannabinoids Screen Calibration Curve Report

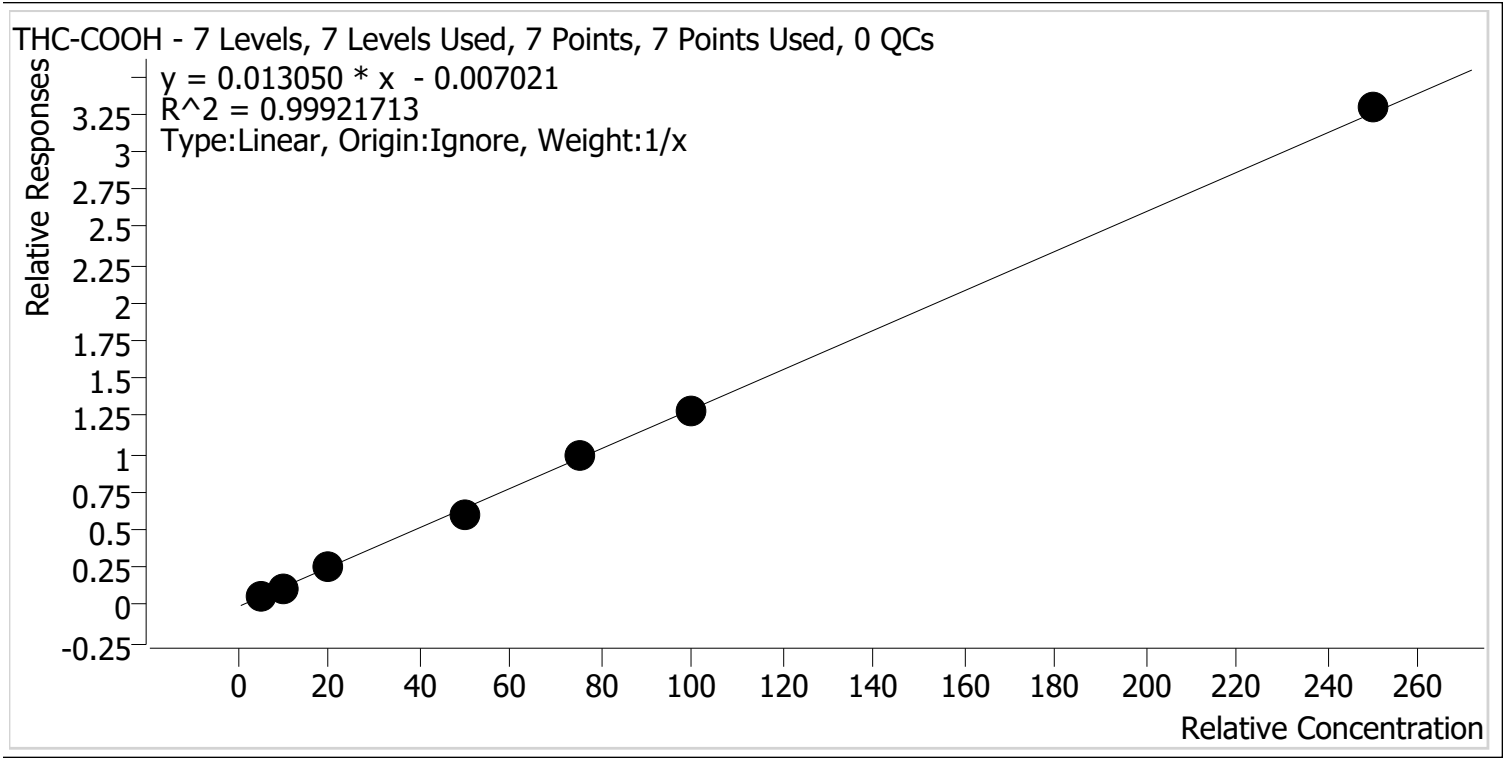
Batch results	D:\MassHunter\Data\2022\AM 25-26\020722 AM 25 26 SC\QuantResults\am 26 printouts.batch.bin
Last Cal. Update	2/8/2022 10:23 AM
Analyst Name	ISP\datastor
Analyte	THC
Internal Standard	THC-D3



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ Cal 1	1	✔	1.0	1.1	107.1
MJ Cal 2	2	✔	3.0	3.0	100.3
MJ Cal 3	3	✔	5.0	5.0	99.6
MJ Cal 4	4	✔	10.0	9.4	94.2
MJ Cal 5	5	✔	25.0	24.7	98.8
MJ Cal 6	6	✔	50.0	49.2	98.4
MJ Cal 7	7	✔	100.0	101.6	101.6

AM #26 Cannabinoids Screen Calibration Curve Report

Batch results	D:\MassHunter\Data\2022\AM 25-26\020722 AM 25 26 SC\QuantResults\am 26 printouts.batch.bin
Last Cal. Update	2/8/2022 10:23 AM
Analyst Name	ISP\datastor
Analyte	THC-COOH
Internal Standard	THC-COOH-D9



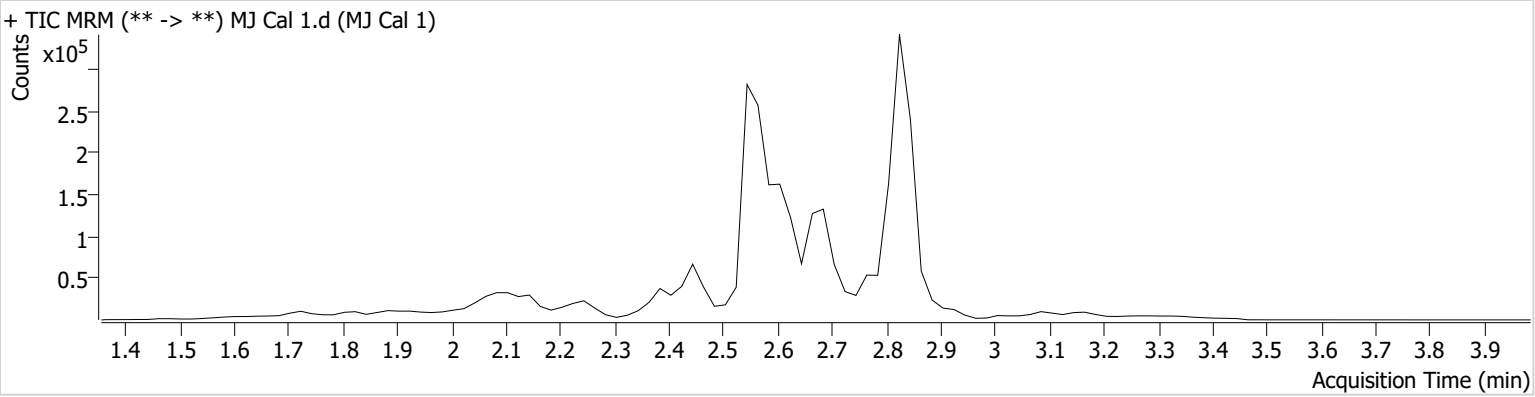
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ Cal 1	1	✔	5.0	5.5	110.6
MJ Cal 2	2	✔	10.0	9.5	95.3
MJ Cal 3	3	✔	20.0	19.6	97.8
MJ Cal 4	4	✔	50.0	47.1	94.2
MJ Cal 5	5	✔	75.0	76.1	101.4
MJ Cal 6	6	✔	100.0	99.5	99.5
MJ Cal 7	7	✔	250.0	252.7	101.1

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\020722 AM 25 26 SC\QuantResults\am 26 printouts.batch.bin
Calibration Last Update 2/8/2022 10:23:50 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	P5-A1	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/7/2022 3:20:28 PM		
Sample Info.			

Sample Chromatogram



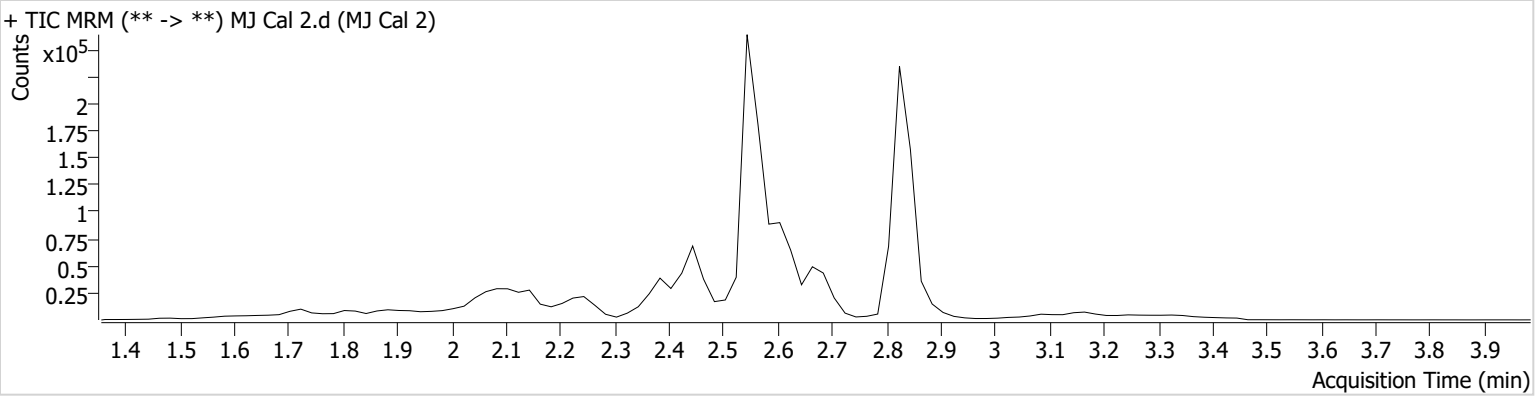
Name	RT	Resp.	ISTD Resp.	Final Conc.		
THC	2.879	449	41406	1.0708	ng/ml	**Low**
THC-COOH	2.627	12281	188420	5.5324	ng/ml	

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\020722 AM 25 26 SC\QuantResults\am 26 printouts.batch.bin
Calibration Last Update 2/8/2022 10:23:50 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	P5-B1	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/7/2022 3:27:12 PM		
Sample Info.			

Sample Chromatogram



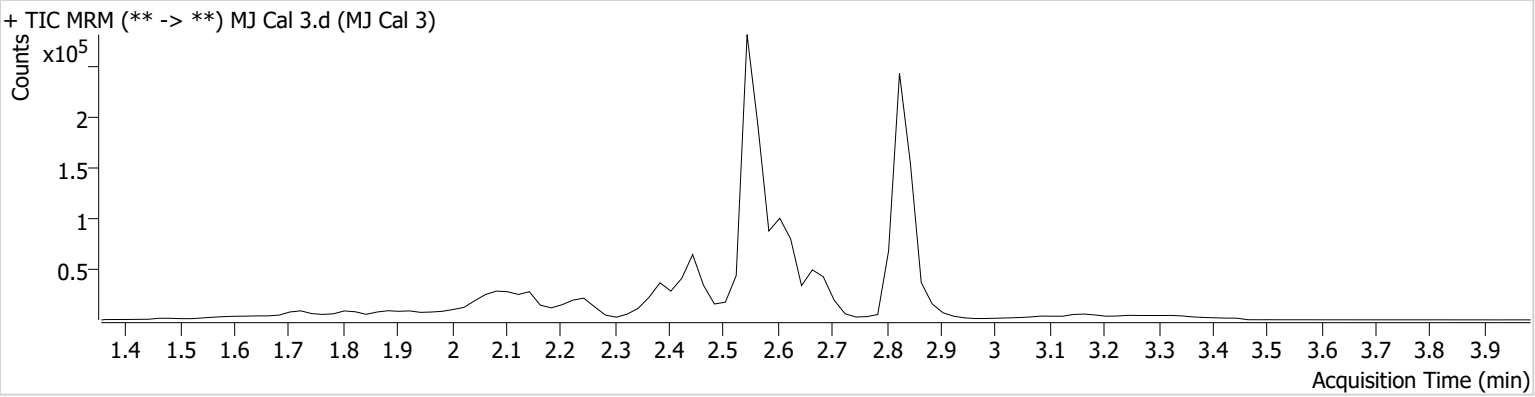
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	2.879	680	26372	3.0084 ng/ml
THC-COOH	2.627	12784	108882	9.5348 ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\020722 AM 25 26 SC\QuantResults\am 26 printouts.batch.bin
Calibration Last Update 2/8/2022 10:23:50 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	P5-C1	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/7/2022 3:33:45 PM		
Sample Info.			

Sample Chromatogram



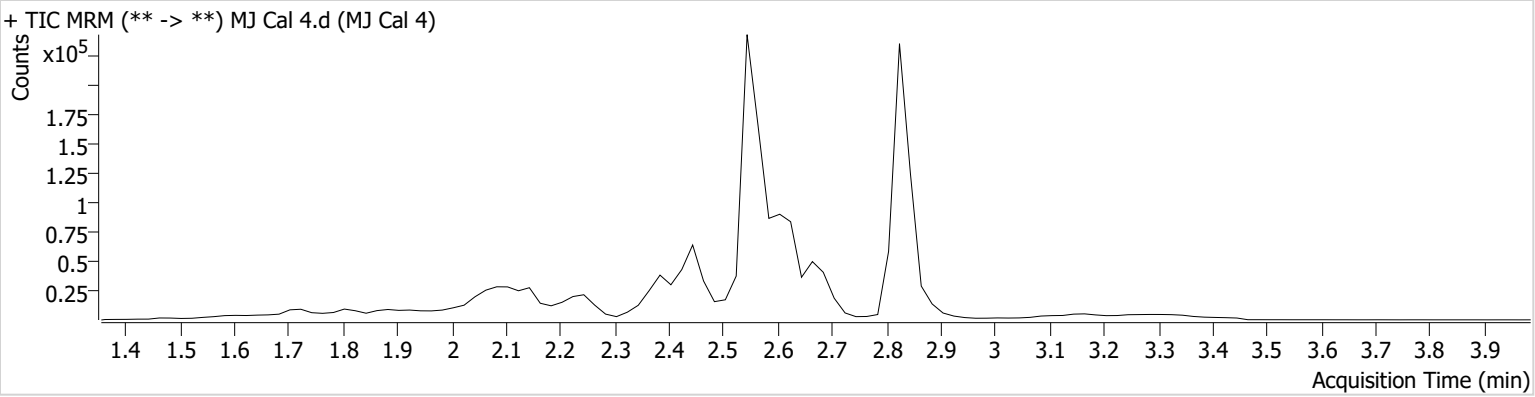
Name	RT	Resp.	ISTD Resp.	Final Conc.	
THC	2.879	1104	26957	4.9798	ng/ml
THC-COOH	2.627	27325	110062	19.5620	ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\020722 AM 25 26 SC\QuantResults\am 26 printouts.batch.bin
Calibration Last Update 2/8/2022 10:23:50 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	P5-D1	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/7/2022 3:40:19 PM		
Sample Info.			

Sample Chromatogram



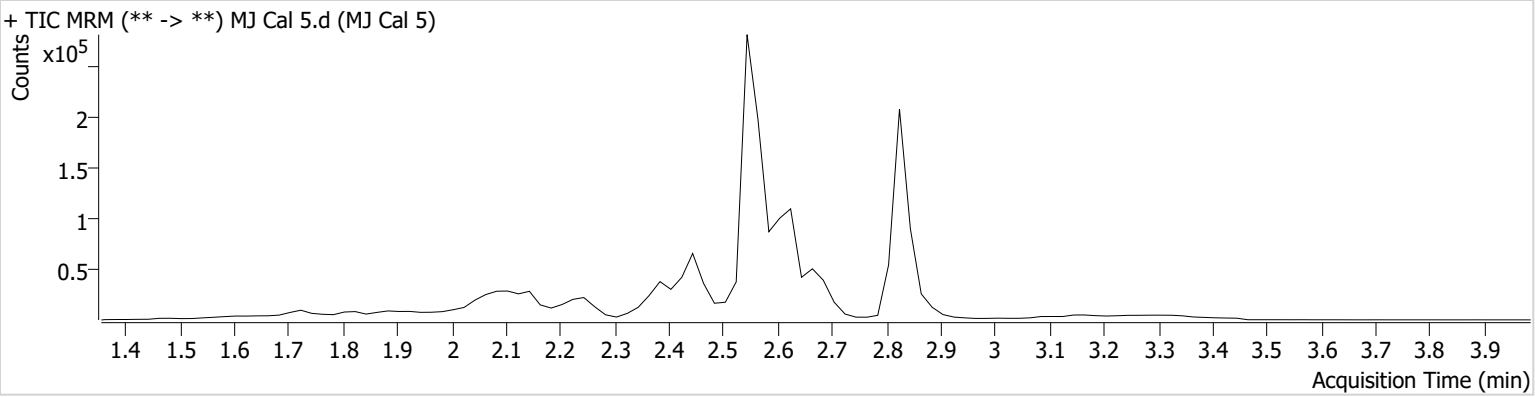
Name	RT	Resp.	ISTD Resp.	Final Conc.	
THC	2.879	1759	23380	9.4234	ng/ml
THC-COOH	2.627	40523	66692	47.0976	ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\020722 AM 25 26 SC\QuantResults\am 26 printouts.batch.bin
Calibration Last Update 2/8/2022 10:23:50 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	P5-E1	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/7/2022 3:46:54 PM		
Sample Info.			

Sample Chromatogram



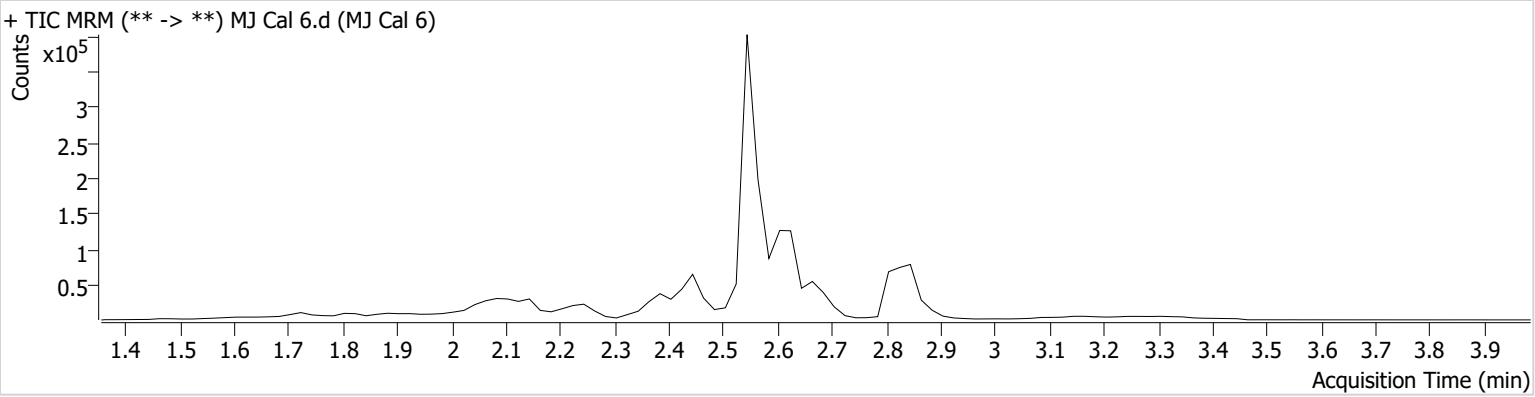
Name	RT	Resp.	ISTD Resp.	Final Conc.
THC	2.879	3805	19720	24.6964 ng/ml
THC-COOH	2.627	62948	63875	76.0530 ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\020722 AM 25 26 SC\QuantResults\am 26 printouts.batch.bin
Calibration Last Update 2/8/2022 10:23:50 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	P5-F1	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/7/2022 3:53:28 PM		
Sample Info.			

Sample Chromatogram



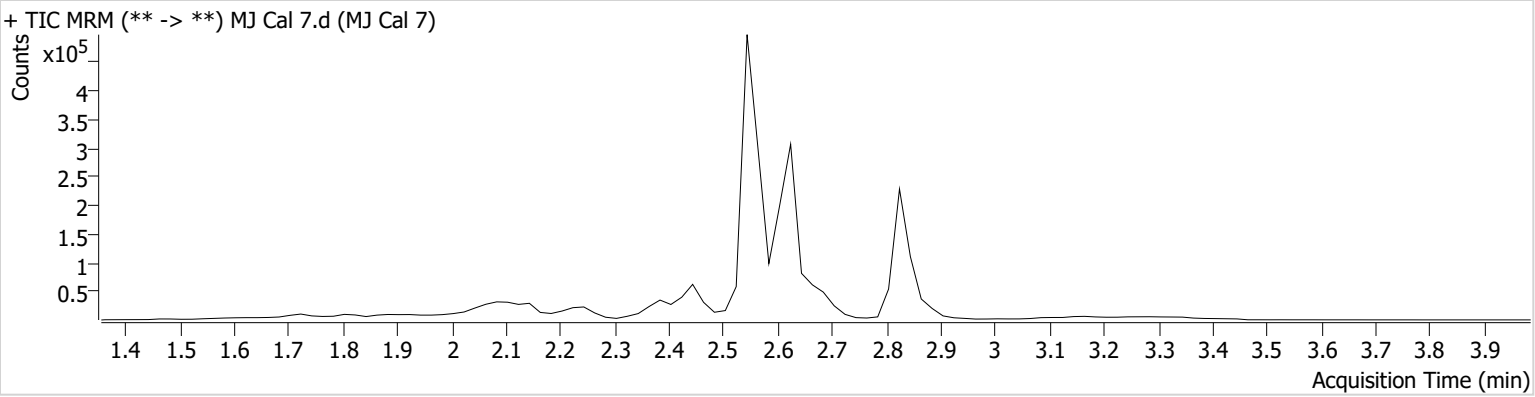
Name	RT	Resp.	ISTD Resp.	Final Conc.	
THC	2.879	7855	20573	49.2030	ng/ml
THC-COOH	2.627	84411	65354	99.5103	ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\020722 AM 25 26 SC\QuantResults\am 26 printouts.batch.bin
Calibration Last Update 2/8/2022 10:23:50 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	P5-G1	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/7/2022 4:00:01 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.	
THC	2.879	16521	21024	101.6183	ng/ml
THC-COOH	2.627	222005	67461	252.7098	ng/ml

SC

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

Extraction Date: 02/10/2022
Plate lot#: IDP-108-3-211018

Analyst: Sarah Collins
Retest Date: 04/18/2022

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 inconsistencies between the screen and confirmation run for P2022-0273-1, case sample was reextracted. Did not evaluate THC-OH due to accuracy.

	1	2	3	4	5	6
A	IS + Cal. 1	IS + QC_1				IS + QC_1 blood
B	IS + Cal. 2					IS + Cal. 7
C	IS + Cal. 3					IS + Cal. 6
D	IS + Cal. 4					IS + Cal. 5
E	IS + Cal. 5					IS + Cal. 4
F	IS + Cal. 6				p2022-0273-1	IS + Cal. 3
G	IS + Cal. 7				negative blood	IS + Cal. 2
H	IS + QC_1				IS + QC_1 urine	IS + Cal. 1

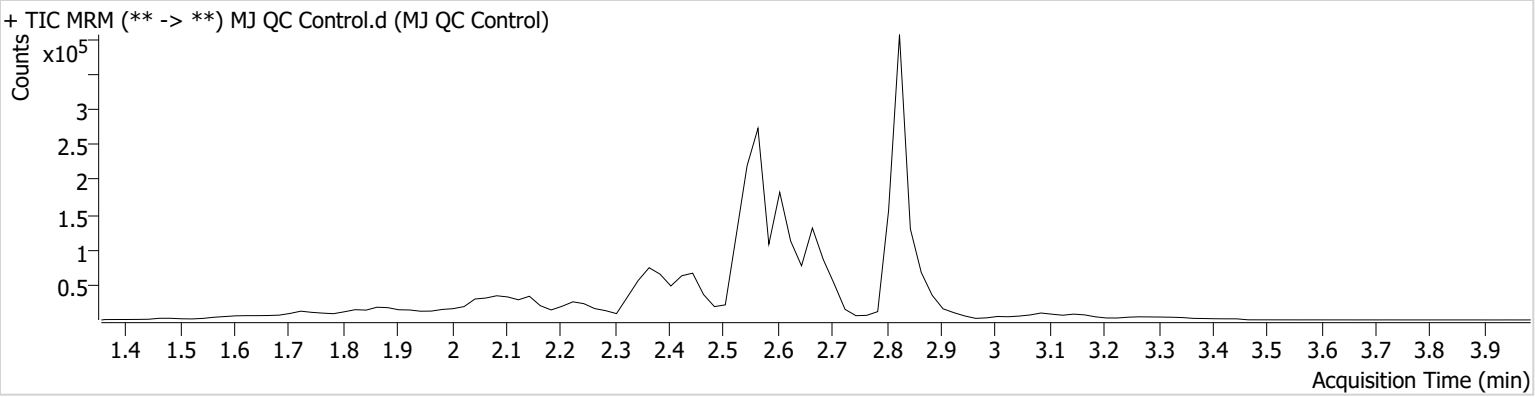
All wells to contain 100 µl of residual DMSO

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\021022 AM 26 SC\QuantResults\AM 26.batch.bin
Calibration Last Update 2/10/2022 10:59:04 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	P5-A6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/10/2022 10:19:04 AM		
Sample Info.			

Sample Chromatogram



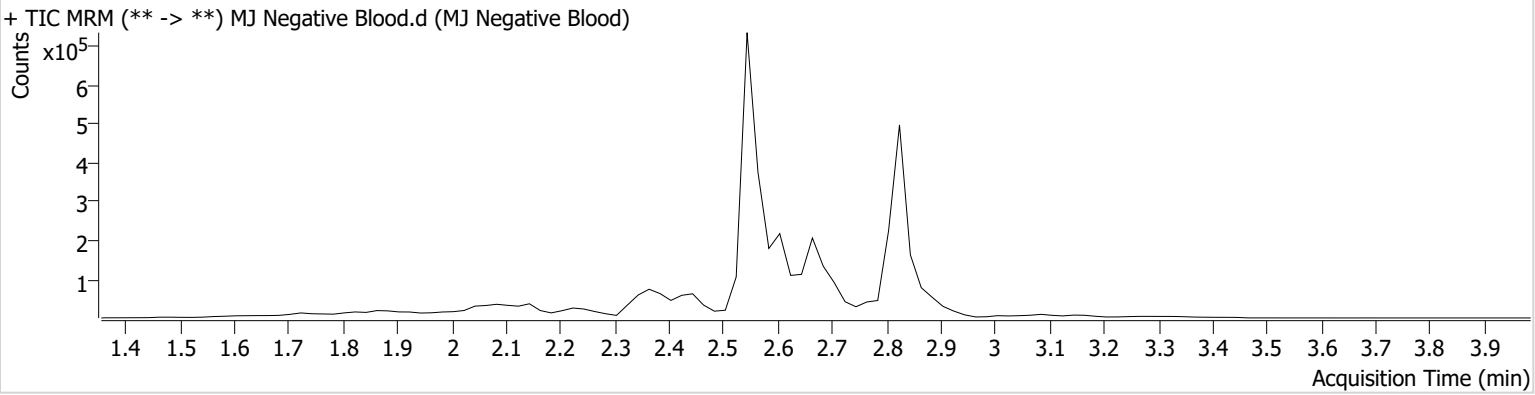
Name	RT	Resp.	ISTD Resp.	Final Conc.	
THC	2.879	2676	67836	5.1052	ng/ml
THC-COOH	2.607	57321	200784	20.0965	ng/ml
THC-OH	2.554	11554	567845	8.7949	ng/ml

AM #26 Cannabinoids Screen Results

Batch results	D:\MassHunter\Data\2022\AM 25-26\021022 AM 26 SC\QuantResults\AM 26.batch.bin
Calibration Last Update	2/10/2022 10:59:04 AM

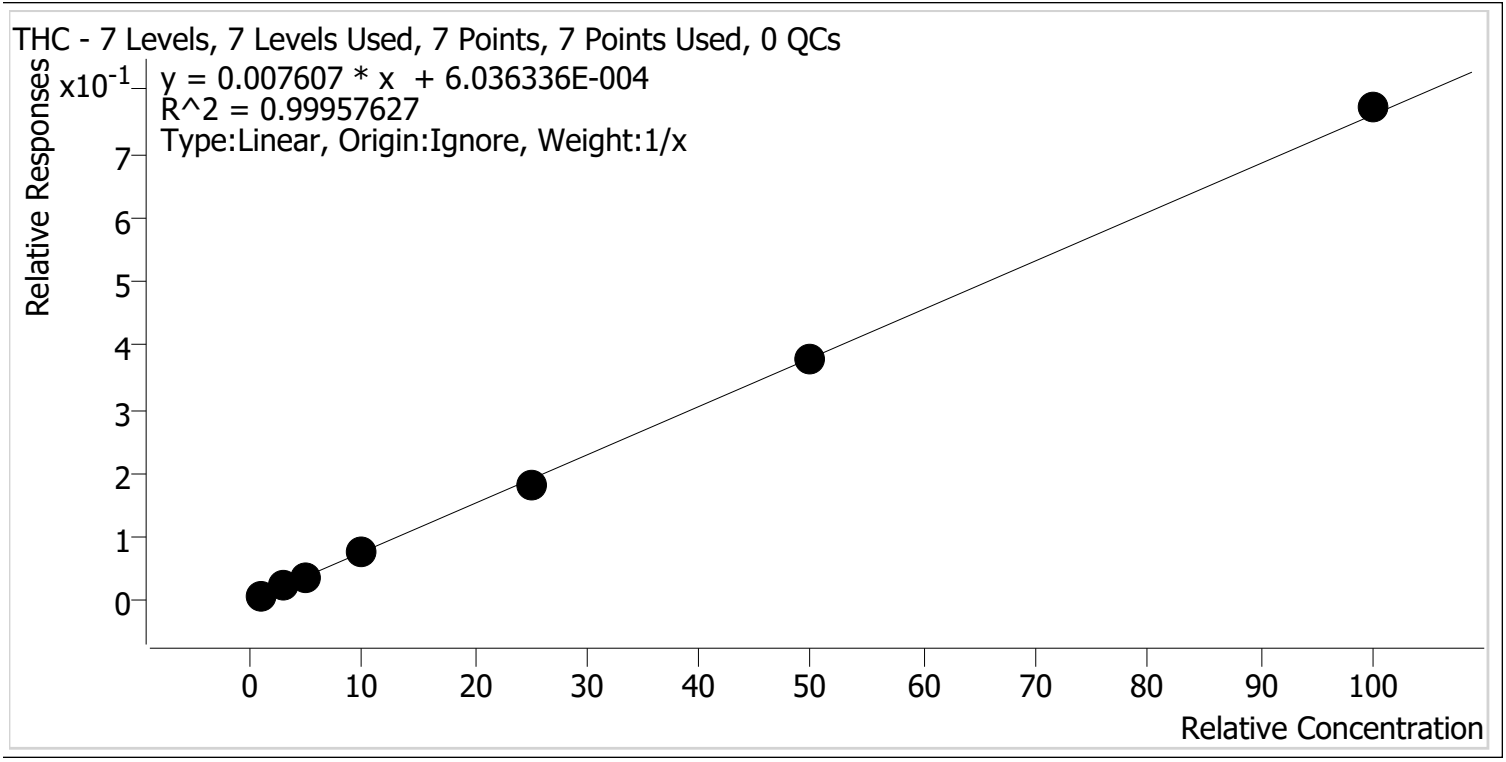
Instrument	Falco (069901)	**Data File**	MJ Negative Blood.d
Type	Sample	**Sample**	MJ Negative Blood
Acq. Method	AM 26 THCS.m	**Operator**	Sarah Collins
Sample Position	P5-G5	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/10/2022 10:32:15 AM		
Sample Info.			

Sample Chromatogram



AM #26 Cannabinoids Screen Calibration Curve Report

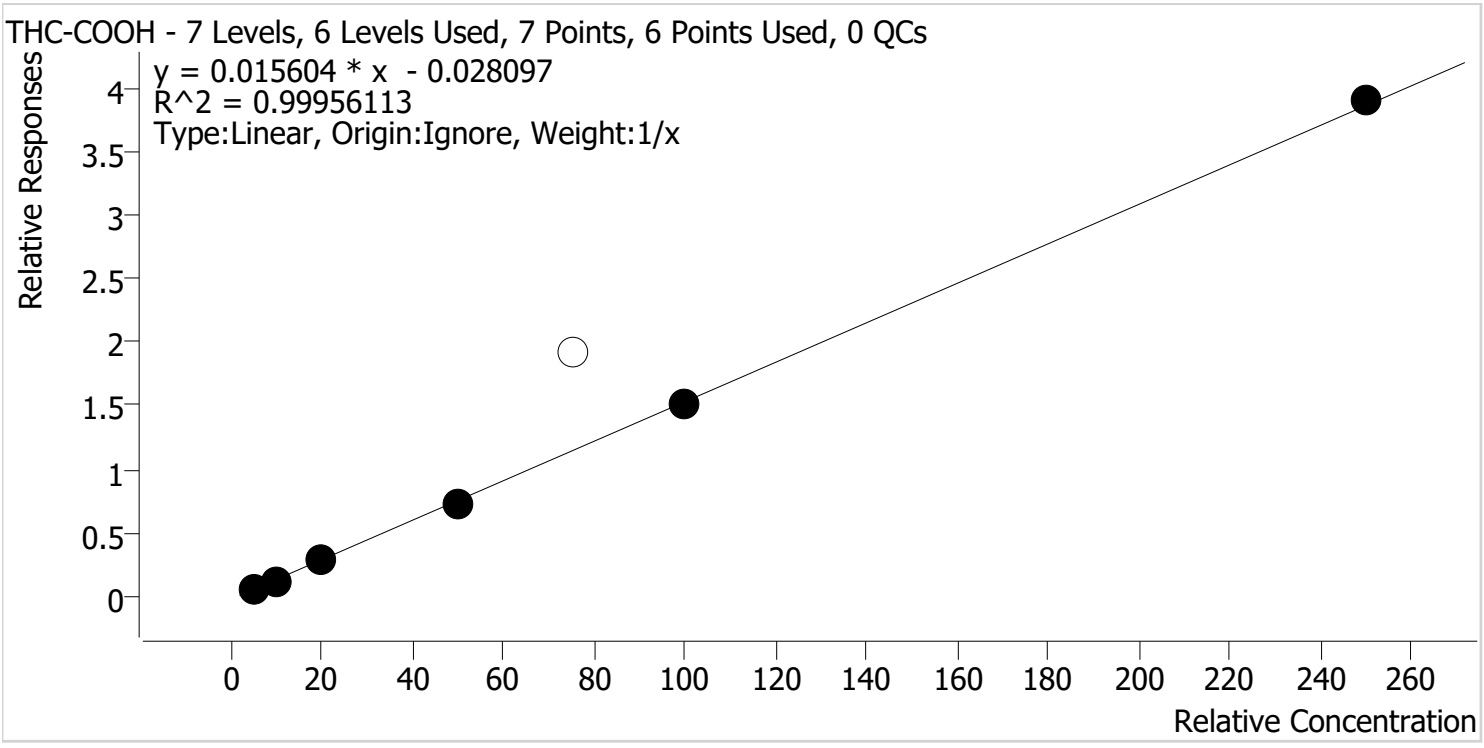
Batch results	D:\MassHunter\Data\2022\AM 25-26\021022 AM 26 SC\QuantResults\AM 26.batch.bin
Last Cal. Update	2/10/2022 10:59 AM
Analyst Name	ISP\datastor
Analyte	THC
Internal Standard	THC-D3



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ Cal 1	1	✔	1.0	1.0	103.9
MJ Cal 2	2	✔	3.0	3.1	103.3
MJ Cal 3	3	✔	5.0	4.9	97.4
MJ Cal 4	4	✔	10.0	9.8	98.4
MJ Cal 5	5	✔	25.0	24.1	96.3
MJ Cal 6	6	✔	50.0	49.6	99.2
MJ Cal 7	7	✔	100.0	101.5	101.5

AM #26 Cannabinoids Screen Calibration Curve Report

Batch results	D:\MassHunter\Data\2022\AM 25-26\021022 AM 26 SC\QuantResults\AM 26.batch.bin
Last Cal. Update	2/10/2022 10:59 AM
Analyst Name	ISP\datastor
Analyte	THC-COOH
Internal Standard	THC-COOH-D9

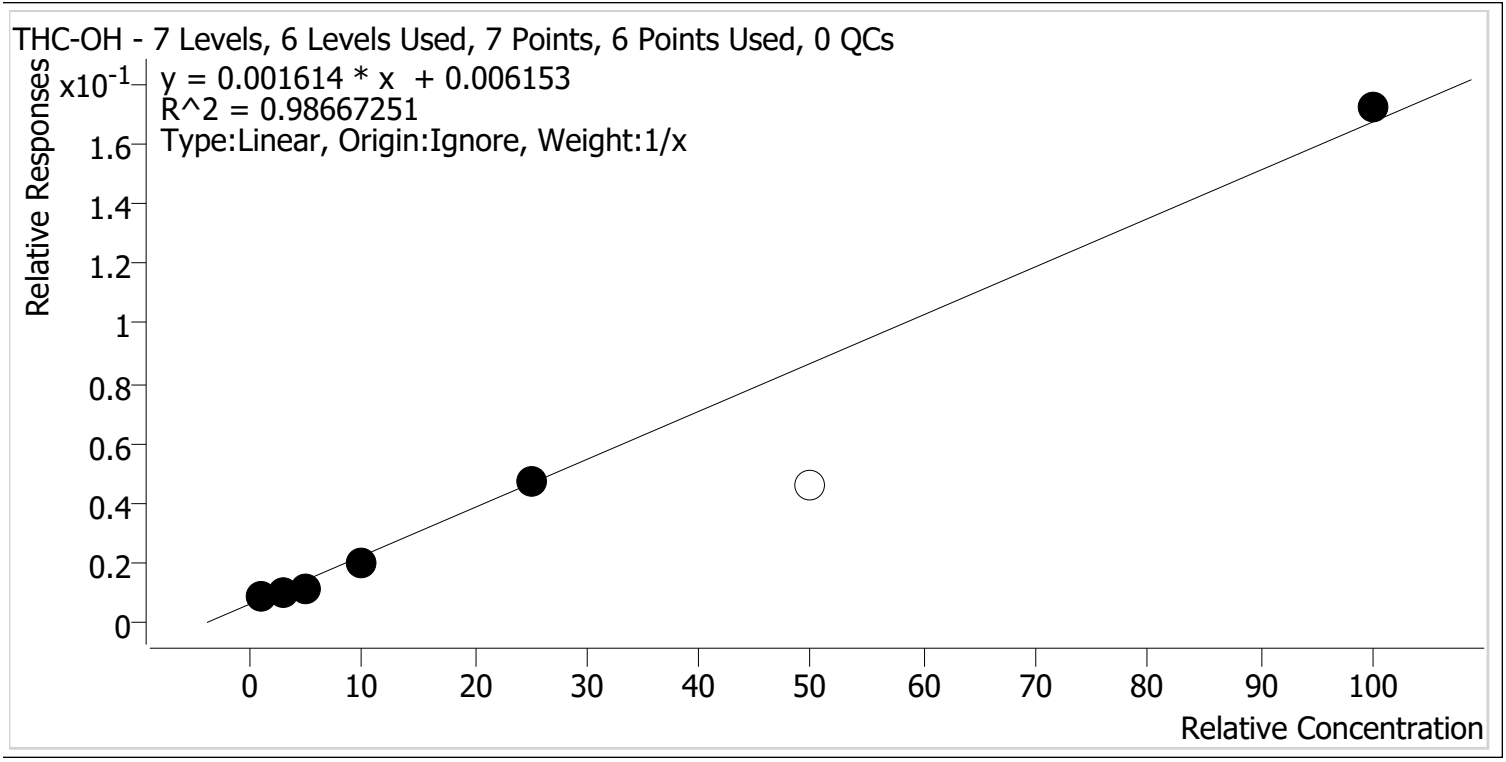


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ Cal 1	1	✔	5.0	5.2	104.3
MJ Cal 2	2	✔	10.0	9.5	94.8
MJ Cal 3	3	✔	20.0	20.8	103.9
MJ Cal 4	4	✔	50.0	48.9	97.8
MJ Cal 5	5	✗	75.0	125.7	167.6
MJ Cal 6	6	✔	100.0	98.1	98.1
MJ Cal 7	7	✔	250.0	252.5	101.0

Cal 5 dropped due to accuracy

AM #26 Cannabinoids Screen Calibration Curve Report

Batch results	D:\MassHunter\Data\2022\AM 25-26\021022 AM 26 SC\QuantResults\AM 26.batch.bin
Last Cal. Update	2/10/2022 10:59 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	1.7	174.2
MJ Cal 2	2	✔	3.0	2.0	67.9
MJ Cal 3	3	✔	5.0	3.4	67.1
MJ Cal 4	4	✔	10.0	8.7	87.1
MJ Cal 5	5	✔	25.0	25.2	100.8
MJ Cal 6	6	✗	50.0	24.7	49.3
MJ Cal 7	7	✔	100.0	103.0	103.0

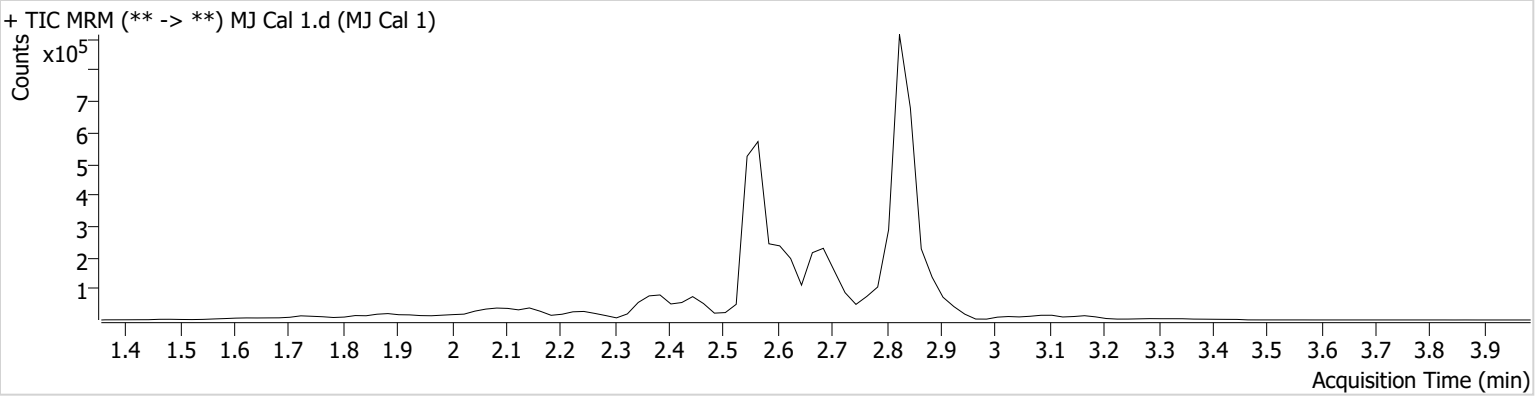
Did not evaluate due to accuracy

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\021022 AM 26 SC\QuantResults\AM 26.batch.bin
Calibration Last Update 2/10/2022 10:59:04 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	P5-H6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/10/2022 9:32:49 AM		
Sample Info.			

Sample Chromatogram



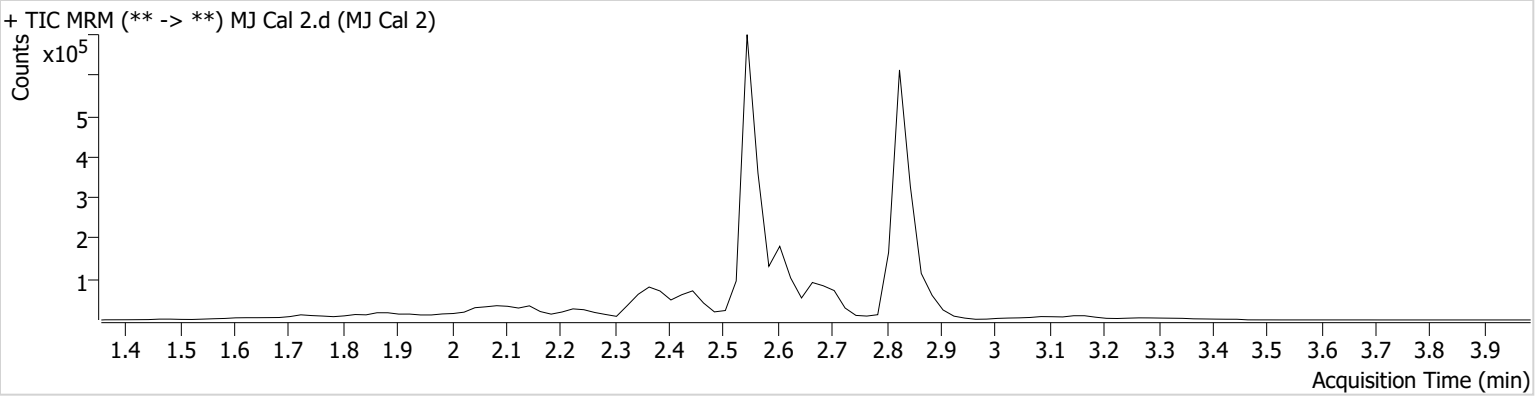
Name	RT	Resp.	ISTD Resp.	Final Conc.		
THC	2.879	1333	156663	1.0394	ng/ml	**Low**
THC-COOH	2.627	15147	284123	5.2172	ng/ml	
THC-OH	2.594	10850	1210439	1.7415	ng/ml	**Low**

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\021022 AM 26 SC\QuantResults\AM 26.batch.bin
Calibration Last Update 2/10/2022 10:59:04 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	P5-G6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/10/2022 9:39:35 AM		
Sample Info.			

Sample Chromatogram



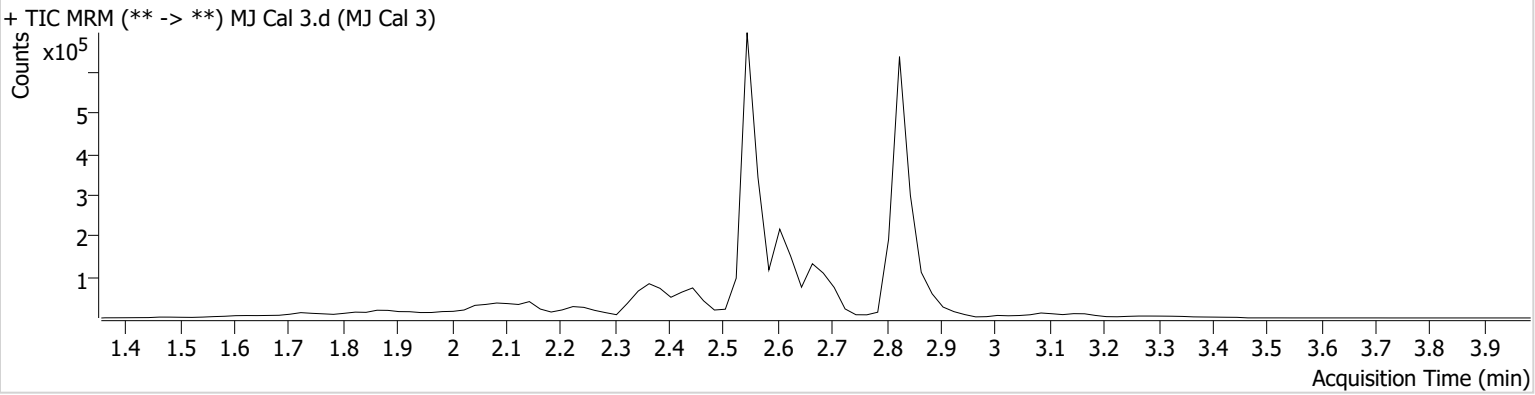
Name	RT	Resp.	ISTD Resp.	Final Conc.		
THC	2.879	2219	91763	3.0989	ng/ml	
THC-COOH	2.607	28910	241183	9.4826	ng/ml	
THC-OH	2.554	10778	1141749	2.0366	ng/ml	**Low**

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\021022 AM 26 SC\QuantResults\AM 26.batch.bin
Calibration Last Update 2/10/2022 10:59:04 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	P5-F6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/10/2022 9:46:10 AM		
Sample Info.			

Sample Chromatogram



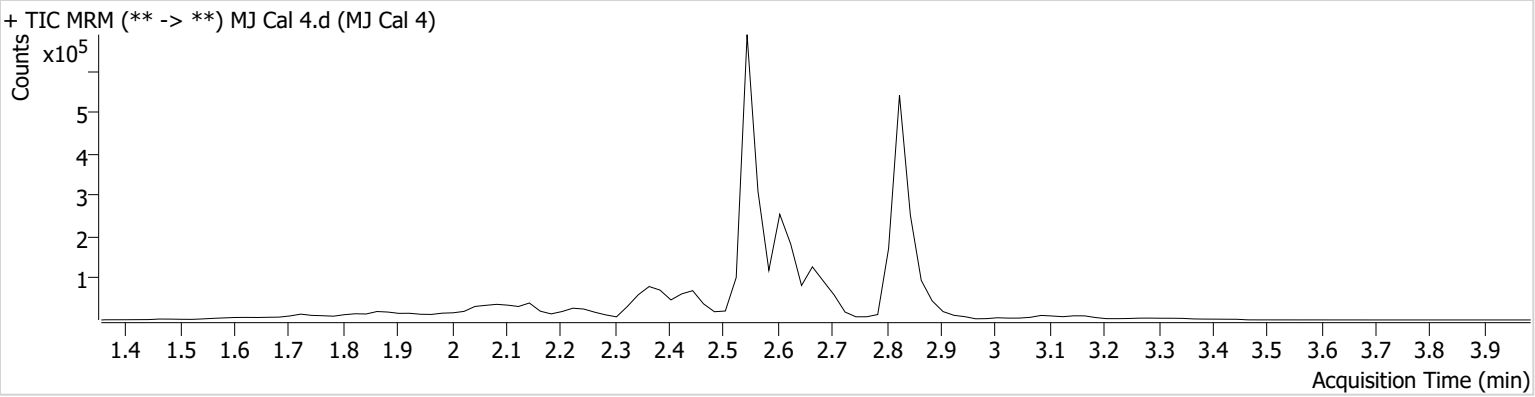
Name	RT	Resp.	ISTD Resp.	Final Conc.	
THC	2.879	3450	91635	4.8695	ng/ml
THC-COOH	2.607	74919	252994	20.7787	ng/ml
THC-OH	2.554	12894	1114807	3.3538	ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\021022 AM 26 SC\QuantResults\AM 26.batch.bin
Calibration Last Update 2/10/2022 10:59:04 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	P5-E6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/10/2022 9:52:44 AM		
Sample Info.			

Sample Chromatogram



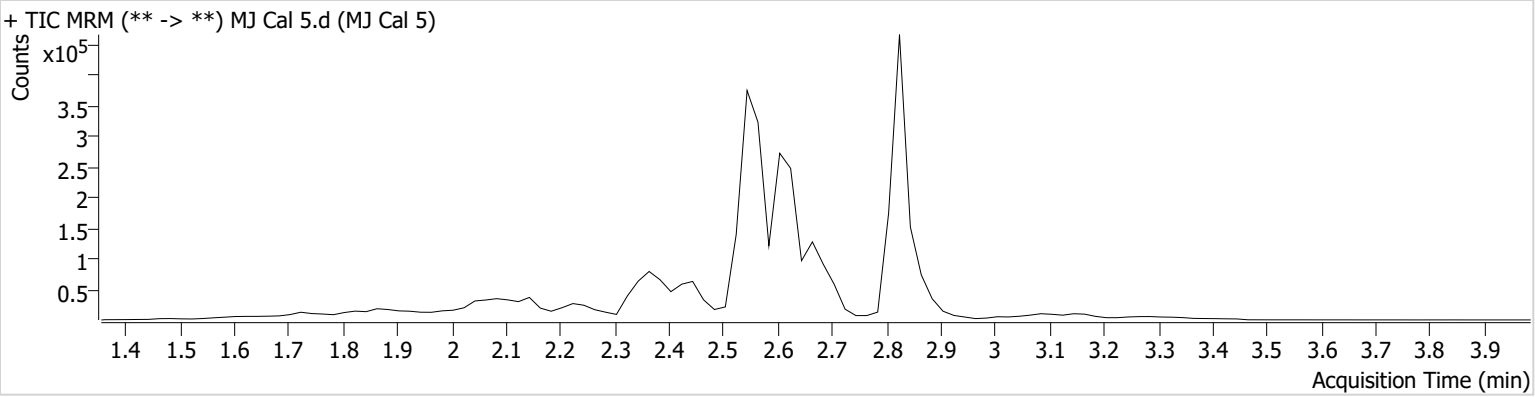
Name	RT	Resp.	ISTD Resp.	Final Conc.	
THC	2.879	5815	77077	9.8384	ng/ml
THC-COOH	2.607	138131	187938	48.9036	ng/ml
THC-OH	2.554	21293	1053502	8.7109	ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\021022 AM 26 SC\QuantResults\AM 26.batch.bin
Calibration Last Update 2/10/2022 10:59:04 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	P5-D6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/10/2022 9:59:17 AM		
Sample Info.			

Sample Chromatogram



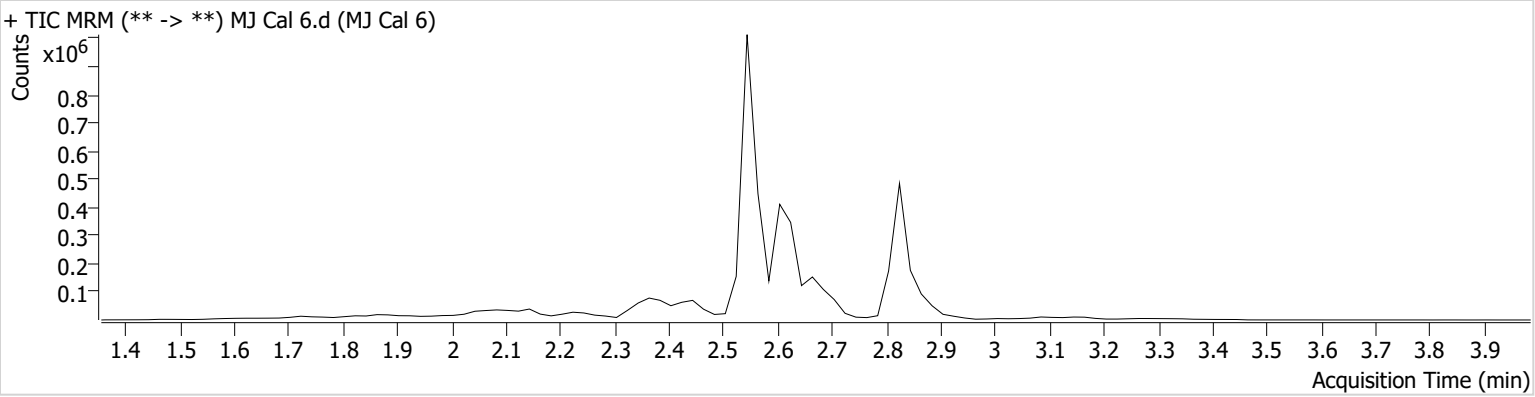
Name	RT	Resp.	ISTD Resp.	Final Conc.	
THC	2.879	11348	61727	24.0857	ng/ml
THC-COOH	2.607	219633	113625	125.6795	ng/ml
THC-OH	2.574	25305	540330	25.2058	ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\021022 AM 26 SC\QuantResults\AM 26.batch.bin
Calibration Last Update 2/10/2022 10:59:04 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	P5-C6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/10/2022 10:05:53 AM		
Sample Info.			

Sample Chromatogram



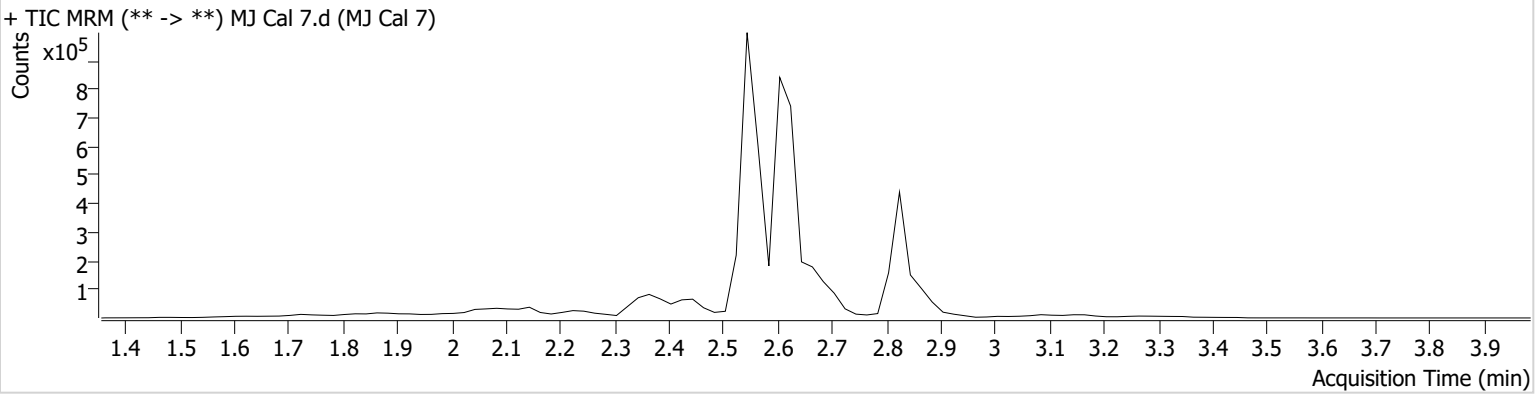
Name	RT	Resp.	ISTD Resp.	Final Conc.	
THC	2.879	27597	73053	49.5778	ng/ml
THC-COOH	2.607	301699	200702	98.1382	ng/ml
THC-OH	2.574	49992	1087595	24.6683	ng/ml

AM #26 Cannabinoids Screen Results

Batch results D:\MassHunter\Data\2022\AM 25-26\021022 AM 26 SC\QuantResults\AM 26.batch.bin
Calibration Last Update 2/10/2022 10:59:04 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	P5-B6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/10/2022 10:12:28 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	ISTD Resp.	Final Conc.	
THC	2.879	52526	67979	101.4903	ng/ml
THC-COOH	2.607	759693	194219	252.4797	ng/ml
THC-OH	2.574	98712	572880	102.9513	ng/ml