

Worklist: 3418

<u>LAB_CASE</u>	<u>ITEM</u>	<u>TASK_ID</u>	<u>DESCRIPTION</u>	
M2019-2092	1	150888	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-2094	1	150897	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-2155	2	151367	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-2223	1	151582	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-2231	3	151780	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1302	1	151480	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1366	1	150661	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1420	1	151483	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1420	3	151486	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1424	1	151173	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1425	1	151176	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1426	2	151180	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1447	1	151363	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1448	1	151370	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1463	1	151514	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1467	1	151645	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1487	1	151750	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1491	1	151760	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1496	1	151801	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1498	1	151811	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1499	1	151814	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1500	1	151817	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1510	1	151876	AM 25 Blood Multi-Drug Screen by LC-QQQ	

Worklist: 3418

5

<u>LAB CASE</u>	<u>ITEM</u>	<u>TASK ID</u>	<u>DESCRIPTION</u>
P2019-1511	1	151882	AM 25 Blood Multi-Drug Screen by LC-QQQ
P2019-1515	1	151933	AM 25 Blood Multi-Drug Screen by LC-QQQ



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

Extraction Date: 6/3/19
 Plate lot#: 0543908

Analyst: Sarah Pickle
 Plate Expiration: 11/28/19

Mobile phase A: 10mM Amm Form
 0.5M Ammonium Hydroxide

Mobile phase B: 0.1% Formic Acid in MeOH
 Ethyl Acetate LC Methanol

Blank Blood Lot: 445283-2
LCMS-QQQ ID: 069901

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. Pipette **250 µL blood (calibrated pipette)** in wells of analytical (standards) plate. **Pipette ID: #3**
- 3. Place on shaking incubator at ambient temp., 900 rpm for 15 minutes. *Shaker ID: 067105*
- 4. Pipette **250 µL of 0.5 M ammonium hydroxide** in wells of analytical plate.
- 5. Place on shaking incubator at ambient temp., 900 rpm for 15 minutes.
- 6. Transfer **300 µL of blood+base** 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 **900 µL ethyl acetate.**
- 10. Wait 5 minutes.
- 11. Apply positive pressure for approx. 10-15 seconds. *(12-15 PSI- Selector to the left).*
- 12. Add **900 µL ethyl acetate.**
- 13. Wait 5 minutes.
- 14. Apply positive pressure for approx. 10-15 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.
SPE Dry ID: 067103
- 16. Reconstitute in **100 µL 100% 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.
 Batch Name: MDS Worklist path: D:\MassHunter\Data\2019\AM 25\060419 MDS SP
- 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 5 or greater or 2-5 for discretionary range.
- 4. Did all QCs pass for each analyte? Y / N _____
- 5. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

COMMENTS: *Samples were extracted on 6/3/19 and ran on 6/4/19. The calibrator, negative control, and external control were reinjected to widen the maprotiline window. Did not evaluate lorazepam.*



Idaho State Police Forensic Services

5

AM #25 Blood Multi-Drug Screen by LCMS-QQQ

Methanol External Control Solution (Lot: 042719)

100 ul of 1mg/mL stock was added to each drug to 9600 ul of LC MeOH.

<i>Component</i>	<i>Source</i>	<i>Source Lot Number</i>	<i>Expiration Date</i>
Methanol (LCMS)	Fisher	184782	
Morphine	Cerilliant	FE08141515	November 2020
Metoprolol	Cerilliant	FN06091510	July 2020
Flunitrazepam	Cerilliant	FE08051602	August 2021
Trazodone	Cerilliant	FN12151403	January 2020
Prepared:	04/27/19		
Prepared By:	Tamara Salazar		
Expires:	01/31/2020		

Blood External Control Solution (Lot: WS042719)

100 ul of methanol external control solution was added to 9900 ul of blood.

Approximately 50ng/mL of each compound.

<i>Component</i>	<i>Source</i>	<i>Source Lot Number</i>
Negative Blood	Hemostat	445283-1
Methanol External Control Solution		042719
Prepared:	04/27/19	
Prepared by:	Tamara Salazar	
Expires:	01/31/2020	

AM #25 Multi-Drug Screen Results



CS

Batch results

D:\MassHunter\Data\2019\AM 25\060419 MDS SP\QuantResults\MDS.batch.bin

Calibration Last Update

6/7/2019 9:48:58 AM

Instrument

FALCO-LCMS (Property ID 069901)

Type

Sample

Acq. Method

am 25 all.m

Sample Position

P1-F12

Injection Volume

5

Acq. Date-Time

6/4/2019 9:45:13 AM

Sample Info.

Data File

negativeR.d

Sample

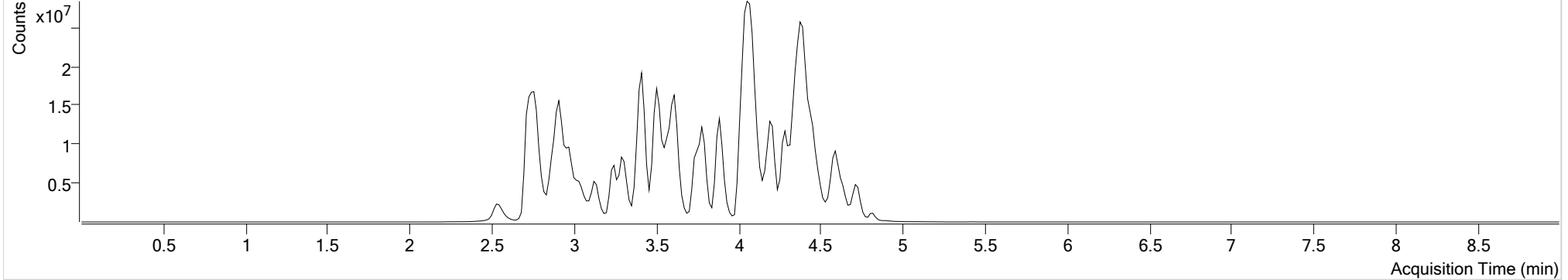
negativeR

Operator

Comment

Sample Chromatogram

+ TIC MRM (** -> **) negativeR.d (negativeR)



AM #25 Multi-Drug Screen Results

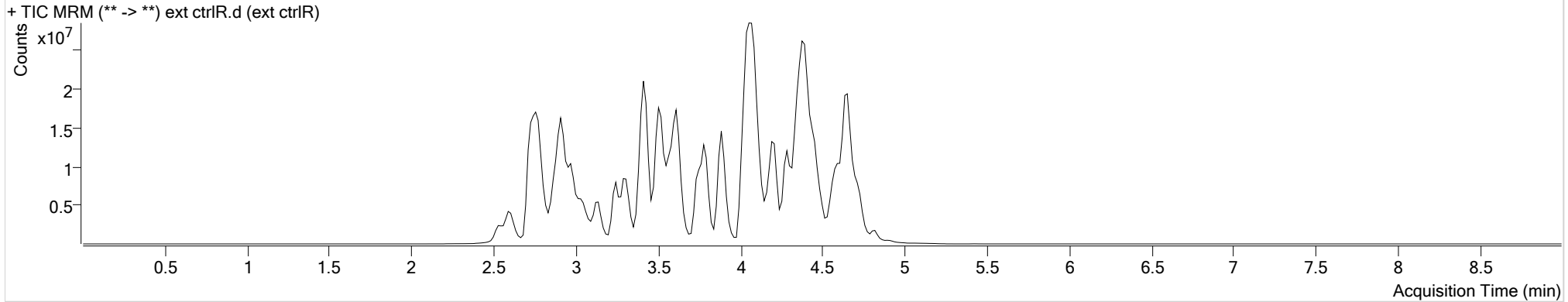


53

Batch results D:\MassHunter\Data\2019\AM 25\060419 MDS SP\QuantResults\MDS.batch.bin
Calibration Last Update 6/7/2019 9:48:58 AM

Instrument FALCO-LCMS (Property ID 069901) **Data File** ext ctrlR.d
Type Sample **Sample** ext ctrlR
Acq. Method am 25 all.m **Operator**
Sample Position P1-E12 **Comment**
Injection Volume 5
Acq. Date-Time 6/4/2019 9:54:41 AM
Sample Info.

Sample Chromatogram



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Flunitrazepam	4.562	5353678	6796.65	683.99	130504	98.2183
Metoprolol	3.431	4867621	6130.91	450899.98	10992397	69.9144
Morphine	2.593	4708152	76088.96	19613.58	456273	80.4007
Trazodone	4.649	40055944	∞	284183.82	18746841	80.5005

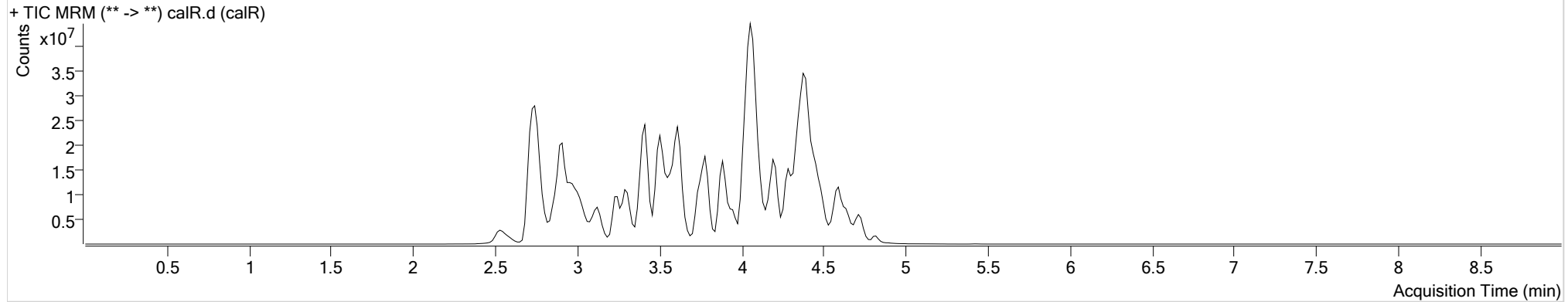
AM #25 Multi-Drug Screen Results



Batch results D:\MassHunter\Data\2019\AM 25\060419 MDS SP\QuantResults\MDS.batch.bin
Calibration Last Update 6/7/2019 9:48:58 AM

Instrument FALCO-LCMS (Property ID 069901) **Data File** calR.d
Type Cal **Sample** calR
Acq. Method am 25 all.m **Operator**
Sample Position P1-H12 **Comment**
Injection Volume 5
Acq. Date-Time 6/4/2019 9:35:34 AM
Sample Info.

Sample Chromatogram



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
6-MAM	2.966	43205	186.18	5143.71	1184627	10.0000
7-aminoclonazepam	3.536	213843	127.99	565.72	1132435	10.0000
7-aminoflunitrazepam	3.751	1674736	265.30	180.84	9576886	10.0000
Acetyl Fentanyl	3.886	357438	705.73	29488.58	23554439	10.0000
Acetyl Norfentanyl	2.884	254088	1841.88	399.12	12995260	10.0000
a-hydroxyalprazolam	4.499	57773	56.23	∞	330812	10.0000
alpha-hydroxymidazolam	4.575	571258	702.59	2797.57	4555698	10.0000
alpha-PVP	3.543	3400115	∞	2840.63	15778489	10.0000
Alprazolam	4.594	1065931	555.05	1138.33	3502770	10.0000
Amitriptyline	4.460	3232062	∞	∞	7334832	10.0000
Amphetamine	2.904	2317526	3309.80	∞	5892587	10.0000
Benzoylcegonine	3.336	1024635	2073.04	1568.20	4646978	10.0000
Buprenorphine	4.602	369237	172529.83	4360.54	2494823	10.0000
Bupropion	3.772	4201317	20882.83	184.78	16351813	10.0000
Carbamazepine	4.218	4527512	2331.00	2109.71	23050416	10.0000
Carisoprodol	4.201	635632	43750.15	123.04	3447800	10.0000
Chlordiazepoxide	4.717	243829	187.52	24.87	5580841	10.0000
Chlorpheniramine	3.953	30012	1524.60	141.22	36541586	10.0000

AM #25 Multi-Drug Screen Results



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Citalopram	4.085	2008452	1716.28	26498.89	8501519	10.0000
Clonazepam	4.439	72326	76.95	748.88	141034	10.0000
Cocaine	3.565	4728653	420394.07	170.72	22853350	10.0000
Codeine	2.879	327629	∞	671.81	1873592	10.0000
Cyclobenzaprine	4.369	2902564	∞	214.95	11413204	10.0000
Desipramine	4.401	4155279	1821.52	∞	23014010	10.0000
Dextromethorphan	4.092	1688296	2103.92	3169.88	7827859	10.0000
Dextrorphan	3.386	2765125	167527.90	127667.09	16100019	10.0000
Diazepam	4.825	552979	402.53	876.95	2826745	10.0000
Dihydrocodeine	2.787	1173199	∞	∞	5567290	10.0000
Diphenhydramine	4.031	8114824	46773.57	27464.12	36541586	10.0000
Doxepin	4.183	2185442	47.25	∞	13242083	10.0000
Doxylamine	3.630	11318386	∞	58821.15	40248858	10.0000
EDDP	4.059	5806418	6354.55	3383.40	31011340	10.0000
Estazolam	4.504	2118486	3396.78	2204.77	5156851	10.0000
Etizolam	4.604	187197	58096.10	1616.96	5156851	10.0000
Fentanyl	4.114	335607	248.39	119.03	15523931	10.0000
Flunitrazepam	4.547	607404	2013.16	272.47	145426	10.0000
Fluoxetine	4.333	3870823	228.30	143436.56	17805412	10.0000
Flurazepam	4.189	2662336	1593263.30	2881.93	145426	10.0000
Hydrocodone	3.061	1174709	45.91	135.61	7170784	10.0000
Hydromorphone	2.699	313574	127.30	206.29	3206667	10.0000
Imipramine	4.413	5959759	∞	∞	20016289	10.0000
Ketamine	3.542	2018105	1512.19	224.06	10400495	10.0000
Lamotrigine	3.601	129509	120.05	413.17	10043090	10.0000
Levamisole	3.008	2935792	1053718.31	1617.75	22853350	10.0000
Lorazepam	4.423	10666	∞	1.67 Low	141034	10.0000
Maprotiline	4.460	3226234	55.85	∞	7334832	10.0000
MDA	3.039	1525680	769.41	788.46	7364137	10.0000
MDEA	3.252	5213377	1932.70	21407.76	23529341	10.0000
MDMA	3.115	4964329	13546.86	685.40	3237977	10.0000
Meperidine	3.602	2184288	4463.30	3151.66	10043090	10.0000
Meprobamate	3.636	294077	47411.89	82.12	1177462	10.0000
Methadone	4.379	7293669	842753.79	∞	30653565	10.0000
Methamphetamine	3.009	5159678	32.26	∞	21130261	10.0000
Methocarbamol	3.541	97465	226.70	19.57	10043090	10.0000
Methylphenidate	3.512	9044647	∞	14.43	36467248	10.0000
Metoprolol	3.431	636099	319.23	3729.11	10043090	10.0000
Midazolam	4.727	713839	827.33	∞	8784514	10.0000
Mirtazapine	3.953	2949981	84.48	5288.18	10043090	10.0000
Mitragynine	4.219	543499	189553.84	646290.29	13242083	10.0000
Morphine	2.593	625659	842.37	5830.73	487498	10.0000
Norbuprenorphine	3.851	31656	15292.37	17472.92	182978	10.0000
Nordiazepam	4.676	212277	409.00	52.33	682300	10.0000

Did not evaluate

AM #25 Multi-Drug Screen Results



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Norfentanyl	3.312	5109363	12797.56	1545.27	21098141	10.0000
Norhydrocodone	2.957	56673	75.00	∞	1380363	10.0000
Normeperidine	3.604	1394761	186.31	240.34	4868493	10.0000
Noroxycodone	2.909	752410	∞	296.18	3203335	10.0000
Nortriptyline	4.447	1697391	8167.30	∞	4613426	10.0000
O-desmethyl-tramadol	2.913	7953280	28158.32	64.03	34993024	10.0000
Olanzapine	3.994	435763	7185.63	148.18	39371	10.0000
Oxazepam	4.489	90546	32.47	24.67	415073	10.0000
Oxycodone	2.952	2107578	1497.86	∞	9703298	10.0000
Oxymorphone	2.544	2263602	783.63	210.87	8031320	10.0000
Paroxetine	4.391	301879	108.31	1470.78	8301514	10.0000
Phenazepam	4.634	231038	83.76	∞	982808	10.0000
Phencyclidine	3.910	5059740	17192.58	1032.67	23857111	10.0000
Phentermine	3.147	1196622	209.70	28.74	12687895	10.0000
Phenytoin	4.109	11314	9.91	8.87	39371	10.0000
Promethazine	4.367	6909706	∞	∞	32144968	10.0000
Pseudoephedrine	2.749	37038257	15020.29	13377.05	93291253	10.0000
Quetiapine	4.481	4516629	163555.02	281272.65	5371074	10.0000
Sertraline	4.595	1673542	∞	6812.46	8301514	10.0000
Sufentanil	4.465	324920	120154.84	10489.85	17005343	10.0000
Tapentadol	3.436	4710072	234.18	395.59	21418201	10.0000
Temazepam	4.656	893264	∞	42.18	4057263	10.0000
Tramadol	3.416	7655165	941.07	182.20	33761334	10.0000
Trazodone	4.649	4787872	8484.05	∞	18038573	10.0000
Venlafaxine	3.782	7290321	331.91	∞	32360296	10.0000
Zaleplon	4.319	771973	318.37	3405.28	2567611	10.0000
Zolpidem	4.302	7996591	16685.97	∞	36108277	10.0000
Zopiclone	4.189	381305	81962.18	59155.55	1755758	10.0000