

















*AM 7 central data available upon request. -TS 7/9/2019 TS

Worklist: 3528

<u>LAB CASE</u>	<u>ITEM</u>	<u>TASK ID</u>	<u>DESCRIPTION</u>	
M2019-2627	1	153948	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-2700	1	154481	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-2723	1	154625	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-2724	1	154629	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-2751	1	155006	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-2883	2	155796	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-2982	3	156342	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-2991	5	156339	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1781	2	154420	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1789	1	154449	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1793	1	154463	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1793	2	154467	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1860	1	154702	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1896	1	155150	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1897	1	156188	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1929	1	155697	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1938	1	155717	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1940	1	155728	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1943	1	155733	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1956	1	155793	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1959	1	155868	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1988	1	155946	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1991	1	155994	AM 25 Blood Multi-Drug Screen by LC-QQQ	

TS

Worklist: 3528

<u>LAB CASE</u>	<u>ITEM</u>	<u>TASK_ID</u>	<u>DESCRIPTION</u>
P2019-2009	1	156180	AM 25 Blood Multi-Drug Screen by LC-QQQ
P2019-2020	1	156371	AM 25 Blood Multi-Drug Screen by LC-QQQ



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

Extraction Date: 07/08/19
Plate lot#: 0543908

Analyst: Tamara Salazar
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: Hemostat 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.
- 3. Create worklist

Analytic:

- 1. Remove standards, plate, controls, and samples from cold storage. Allow to reach room temperature.
- 2. Pipette **250µL blood (calibrated pipette) Pipette ID: 3** in wells of analytical (standards) plate.
- 3. Place on shaking incubator at ambient temp., 900rpm for 15 minutes. *Shaker ID: 067105*
- 4. Pipette **250µL 00.5M ammonium hydroxide** in wells of analytical plate.
- 5. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 6. Transfer **300µL 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 **900uL ethyl acetate**.
- 10. Wait 5 minutes.
- 11. Apply positive pressure for approx. 15 seconds. *(10-15 PSI- Selector to the left)*.
- 12. Add **900uL ethyl acetate**.
- 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% 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 TS
Worklist path: D:\MassHunter\Data\2019\AM 25\070819 wk1st 3528 MDS TS
- 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:



Idaho State Police Forensic Services

15

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	

TS

AM #25 Multi-Drug Screen Results

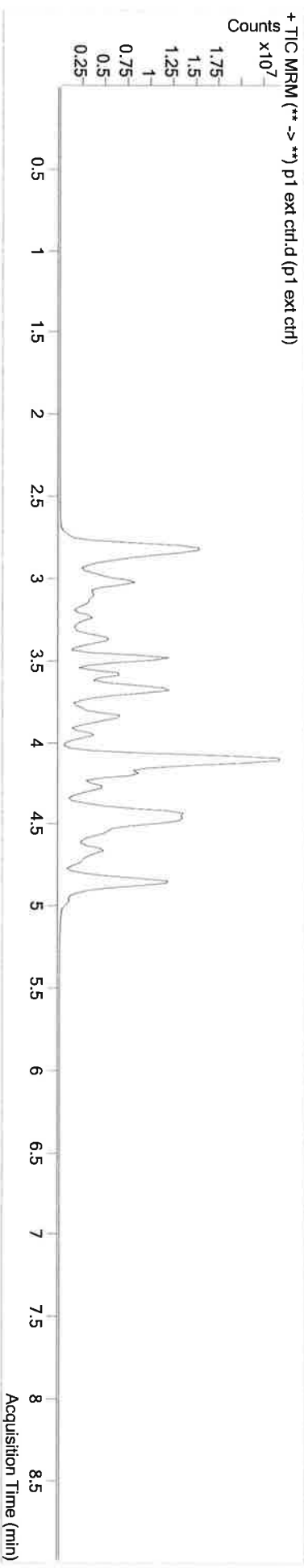


Batch results
Calibration Last Update: 7/9/2019 2:11:11 PM
D:\MassHunter\Data\2019\AM 25\070819 wk1st 3528 MDS TS\QuantResults\MDS TS_batch.bin

Instrument: Falco
Type: Sample
Acq. Method: am 25 all.m
Sample Position: P1-F6
Injection Volume: 5
Acq. Date-Time: 7/8/2019 12:54:08 PM
Sample Info.

Data File: p1 ext ctrl.d
Sample Operator: p1 ext ctrl
Comment

Sample Chromatogram



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Flunitrazepam	4.562	2852391	12434.81	12352.34	65447	82.8197
Metoprolol	3.507	2962991	20109.51	288994.20	6487890	91.5878
Morphine	2.896	2249893	∞	∞	123480	70.2275
Trazodone	4.862	24487659	∞	∞	10436646	86.8798

TS

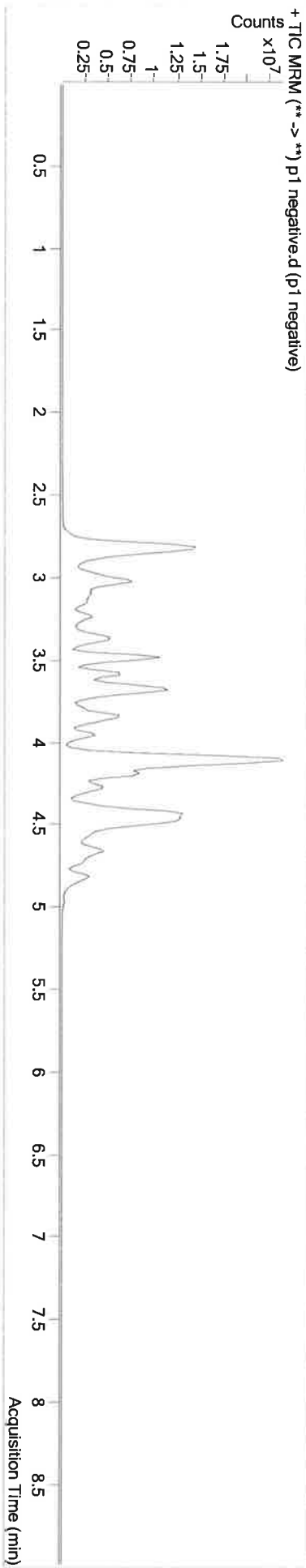
AM #25 Multi-Drug Screen Results



Batch results Calibration Last Update: D:\MassHunter\Data\2019\AM 25\070819 wk1st 3528 MDS TS\QuantResults\MDS TS.batch.bin
7/9/2019 2:11:11 PM

Instrument Type	Falco	Data File	p1 negative.d
Acq. Method	am 25 all.m	Sample Operator	p1 negative
Sample Position	P1-E6	Comment	
Injection Volume	5		
Acq. Date-Time	7/8/2019 12:44:39 PM		
Sample Info.			

Sample Chromatogram



15

AM #25 Multi-Drug Screen Results

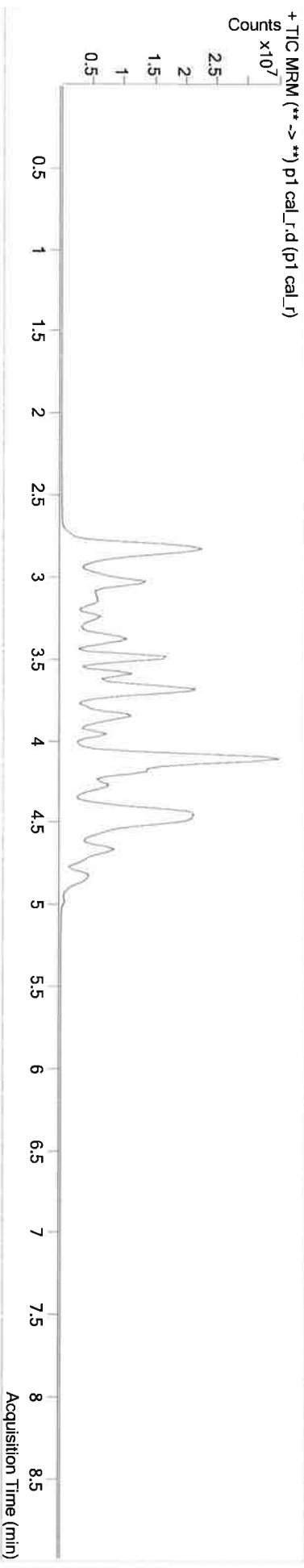


Batch results Calibration Last Update D:\MassHunter\Data\2019\AM 25\070819 wk1st 3528 MDS TS\QuantResults\MDS TS_batch.bin
7/9/2019 3:40:53 PM

Instrument Type Falco
Acq. Method Cal
Sample Position am 25 all.m
Injection Volume P1-B1
Acq. Date-Time 7/8/2019 5:29:24 PM
Sample Info.

Data File p1 cal_r.d
Sample Operator p1 cal_r
Comment

Sample Chromatogram



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
6-MAM	3.332	51776	227.55	110.03	1285338	10.0000
7-aminoclonazepam	3.551	175289	∞	457.43	733071	10.0000
7-aminoflunitrazepam	3.750	676515	2085.08	478.44	3169097	10.0000
Acetyl Fentanyl	4.085	235754	194.84	1442.28	15158449	10.0000
Acetyl Norfentanyl	3.006	206065	64.41	146.46	10267710	10.0000
a-hydroxyalprazolam	4.483	20607	29.96	25.26	127491	10.0000
alpha-hydroxymidazolam	4.574	320876	364.01	9783.04	2322640	10.0000
alpha-PVP	4.574	2509766	∞	1692.58	10325883	10.0000
Alprazolam	4.593	658713	150.49	∞	2022791	10.0000
Amitriptyline	4.567	2258178	∞	74.99	5729062	10.0000
Amphetamine	3.056	1059878	1366.44	∞	2836606	10.0000
Benzoylcegonine	3.336	613178	862.81	537.83	2865068	10.0000
Buprenorphine	4.921	327802	2165.68	500.56	1307555	10.0000
Bupropion	3.925	2695480	∞	∞	9623422	10.0000
Carbamazepine	4.203	3529707	∞	∞	17286749	10.0000
Carisoprodol	4.201	494659	∞	237.34	2320806	10.0000
Chlordiazepoxide	4.717	142638	167.66	52.65	3944745	10.0000
Chlorpheniramine	4.028	22634	10.81	∞	21562461	10.0000

15

AM #25 Multi-Drug Screen Results



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Citalopram	4.161	1878553	4097.09	∞	8062943	10.0000
Clonazepam	4.439	56572	∞	∞	116432	10.0000
Cocaine	3.687	3671114	236489.50	1814.43	17505213	10.0000
Codeine	3.320	414080	815.23	∞	1859692	10.0000
Cyclobenzaprine	4.476	2250161	21605.97	83.60	7924722	10.0000
Desipramine	4.477	2514514	∞	1051.44	13732275	10.0000
Dextromethorphan	4.184	1761841	7190.72	11762.60	8297860	10.0000
Dextroproprian	3.493	1804815	1701.62	46917.94	9814104	10.0000
Diazepam	4.826	399846	323.32	810.93	1833036	10.0000
Dihydrocodeine	3.121	895151	688.73	837.52	4853955	10.0000
Diphenhydramine	4.093	3370513	∞	∞	21562461	10.0000
Doxepin	4.290	1648087	∞	∞	9035986	10.0000
Doxylamine	3.705	7836913	384604.27	3605.32	30469210	10.0000
EDDP	4.121	3341424	∞	∞	18057952	10.0000
Estazolam	4.503	735785	731.74	410.20	1746790	10.0000
Etizolam	4.604	114673	3722.34	7842.70	1746790	10.0000
Fentanyl	4.298	239668	41.75	61973.67	11466912	10.0000
Flunitrazepam	4.546	314567	1500.23	342.09	59776	10.0000
Fluoxetine	4.394	2469285	944.32	349.01	10299542	10.0000
Flurazepam	4.342	2030717	11623.27	119205.57	59776	10.0000
Hydrocodone	3.428	880928	∞	∞	4539131	10.0000
Hydromorphone	3.048	775489	42.72	∞	3173729	10.0000
Imipramine	4.520	4433034	35816.52	∞	13862481	10.0000
Ketamine	3.833	2109926	6146.05	182.51	10231237	10.0000
Lamotrigine	3.631	163743	711.09	482.33	8035760	10.0000
Levamisole	3.406	2142722	8574.47	984.10	17505213	10.0000
Lorazepam	4.407	7621	23.63	5.28	116432	10.0000
Maprotiline	4.567	2679040	∞	976.24	5729062	10.0000
MDA	3.176	1585045	1484.44	984.07	6966849	10.0000
MDEA	3.374	3262451	∞	∞	14817464	10.0000
MDMA	3.268	3524447	64846.25	792.74	2201893	10.0000
Meperidine	3.724	1859794	4318.72	2537.47	8035760	10.0000
Meprobamate	3.636	180805	263.50	190.29	864236	10.0000
Methadone	4.455	4869139	6168.49	2804.23	21599554	10.0000
Methamphetamine	3.162	2236119	8.08	∞	7922017	10.0000
Methocarbamol	3.540	129089	489.27	8.85	8035760	10.0000
Methylphenidate	3.603	6332752	∞	8112.93	27117941	10.0000
Metoprolol	3.507	400697	2750.47	290555.40	8035760	10.0000
Micazolam	4.742	483631	2306.91	∞	5663666	10.0000
Mirtazapine	4.246	2104066	∞	∞	8035760	10.0000
Mirtagynine	4.357	460503	13071.43	51253.03	9035986	10.0000
Morphine	2.896	384712	289.46	256.59	148278	10.0000
Nordiprenorphine	3.958	24773	7255.17	33.58	127474	10.0000
Nordiazepam	4.676	107880	6699.45	177.56	337048	10.0000

15

AM #25 Multi-Drug Screen Results



Name	RT	Resp.	S/N	S/N	S/N	ISTD Resp.	Calc. Conc.
Norfentanyl	3.404	2827429	∞	1545.79	∞	12266795	10.0000
Norhydrocodone	3.169	76143	74.28	5.40	∞	1339541	10.0000
Normeperidine	3.665	1214773	5248.98	∞	∞	4638449	10.0000
Noroxycodone	3.076	747540	∞	∞	∞	2540824	10.0000
Nortriptyline	4.524	1092522	∞	∞	∞	2932093	10.0000
O-desmethyl-tramadol	3.050	6253098	34678.82	113.95	∞	28112591	10.0000
Olanzapine	4.163	657898	281.65	192.46	∞	35842	10.0000
Oxazepam	4.488	33340	42.01	7.18	∞	164227	10.0000
Oxycodone	3.287	1577693	∞	∞	∞	6866032	10.0000
Oxymorphone	2.787	1142777	∞	∞	∞	6199269	10.0000
Paroxetine	4.482	162006	626.45	355.33	∞	6158481	10.0000
Phenazepam	4.619	162771	1879.50	3461.23	∞	648228	10.0000
Phencyclidine	3.985	3516783	342.42	97.60	∞	16258086	10.0000
Phentermine	3.269	571899	∞	∞	∞	5718373	10.0000
Phenytoln	4.093	1881	9.78	∞	∞	35842	10.0000
Promethazine	4.504	5232308	5535.84	4676.55	∞	22416165	10.0000
Pseudoephedrine	2.841	26414685	8877.84	∞	∞	101049263	10.0000
Quetiapine	4.648	3066227	1215489.16	85315.29	∞	4161106	10.0000
Sepraline	4.686	1279042	299.68	260.12	∞	6158481	10.0000
Sufentanil	4.663	257431	278.53	12747.31	∞	12937038	10.0000
Tapentadol	3.512	2821246	∞	3281.05	∞	13108269	10.0000
Temazepam	4.641	498053	∞	75.23	∞	2332125	10.0000
Tramadol	3.507	5184833	54122.38	∞	∞	24917399	10.0000
Trazodone	4.862	3631839	138391.06	7678.97	∞	13448042	10.0000
Venlafaxine	3.858	5027591	9228.28	1483.72	∞	23005191	10.0000
Zaleplon	4.318	461907	2233.00	810.84	∞	1341665	10.0000
Zolpidem	4.440	5053527	2147.68	2838.06	∞	24285383	10.0000
Zopiclone	4.403	158825	1095.30	41151.35	∞	751731	10.0000