

**Worklist: 3620**

<u>LAB_CASE</u>	<u>ITEM</u>	<u>TASK_ID</u>	<u>DESCRIPTION</u>	
M2019-2843	2	157887	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-2859	1	155561	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-2870	1	155610	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-3019	3	157712	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-3081	1	156684	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-3169	2	157881	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-3220	2	157400	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2193	1	157584	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2194	1	157587	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2196	1	157601	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2198	1	157607	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2211	1	157642	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2238	1	157878	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2240	1	157890	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2251	1	157994	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2256	1	158014	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2264	1	158121	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2265	1	158125	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2266	1	158128	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2267	1	158131	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2275	1	158193	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2288	1	158236	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2318	1	158749	AM 25 Blood Multi-Drug Screen by LC-QQQ	

**Worklist: 3620**



<u>LAB CASE</u>	<u>ITEM</u>	<u>TASK ID</u>	<u>DESCRIPTION</u>
P2019-2343	1	158974	AM 25 Blood Multi-Drug Screen by LC-QQQ
P2019-2343	2	158978	AM 25 Blood Multi-Drug Screen by LC-QQQ



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

Extraction Date: 8/22/19  
 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 SP Worklist path: D:\MassHunter\Data\2019\AM 25\082219 MDQ TS 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:



# Idaho State Police Forensic Services

## 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



**Batch results**

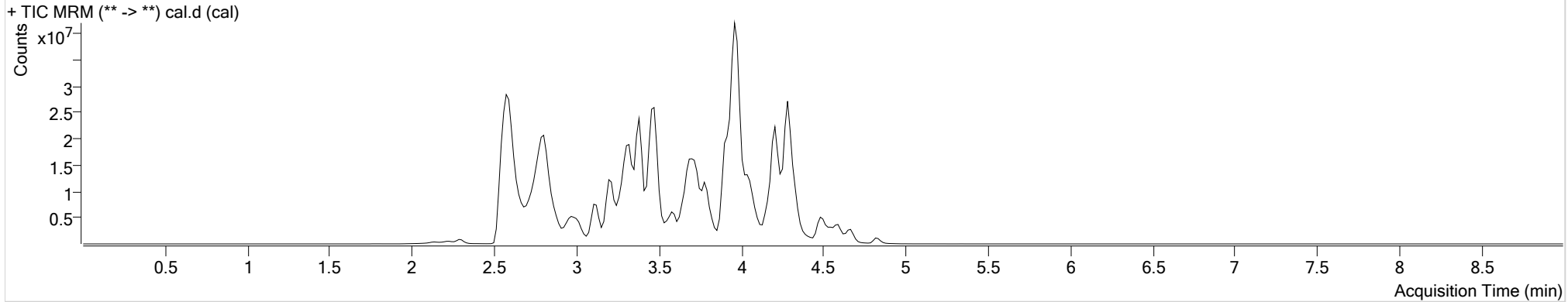
**Calibration Last Update**

D:\MassHunter\Data\2019\AM 25\082219 MDQ TS MDS SP\QuantResults\MDS SP.batch.bin  
8/29/2019 12:04:39 PM

**Instrument Type** Falco  
**Acq. Method** am 25 all.m  
**Sample Position** P2-H12  
**Injection Volume** 5  
**Acq. Date-Time** 8/22/2019 10:10:30 PM  
**Sample Info.**

**Data File** cal.d  
**Sample** cal  
**Operator**  
**Comment**

**Sample Chromatogram**



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
6-MAM	2.753	28519	84.70	270.66	700593	10.0000
7-aminoclonazepam	3.536	347405	192.72	170800.91	1489085	10.0000
7-aminoflunitrazepam	3.765	1529728	1138.94	62.27	8043829	10.0000
Acetyl Fentanyl	3.655	292057	11476.99	75.53	19201943	10.0000
Acetyl Norfentanyl	2.763	214364	921.46	334.20	9983179	10.0000
a-hydroxyalprazolam	4.498	32630	59.80	∞	239642	10.0000
alpha-hydroxymidazolam	4.543	755257	252.32	2142.29	4714268	10.0000
alpha-PVP	3.389	4701294	58995.43	571.18	17778682	10.0000
Alprazolam	4.593	698580	1692.40	∞	1974956	10.0000
Amitriptyline	4.322	3497195	∞	480.21	6767314	10.0000
Amphetamine	2.751	2236481	∞	∞	5176312	10.0000
Benzoylcegonine	3.351	494736	74.94	186.34	2099746	10.0000
Buprenorphine	4.049	355111	140.74	63.27	1432033	10.0000
Bupropion	3.602	3114364	288626.40	9306.11	9467016	10.0000
Carbamazepine	4.218	3235865	∞	∞	17901612	10.0000
Carisoprodol	4.201	212997	87.68	48.77	1404708	10.0000
Chlordiazepoxide	4.687	226783	∞	∞	4712551	10.0000
Chlorpheniramine	3.827	21159	14.88	211.30	40601721	10.0000

# AM #25 Multi-Drug Screen Results



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Citalopram	3.992	1491459	8073.29	136.36	5668134	10.0000
Clonazepam	4.454	85865	86.55	17.12	150504	10.0000
Cocaine	3.442	4357183	184902.97	90419.18	18893504	10.0000
Codeine	2.636	243410	1714.70	697.53	909708	10.0000
Cyclobenzaprine	4.245	2358459	∞	212.58	6116320	10.0000
Desipramine	4.292	3627391	∞	3326.83	20009524	10.0000
Dextromethorphan	3.952	1045299	∞	67891.18	5151231	10.0000
Dextrorphan	3.278	2802403	59355.24	583.66	17188513	10.0000
Diazepam	4.841	415749	∞	883.03	1966858	10.0000
Dihydrocodeine	2.604	612171	69.39	54.61	3073775	10.0000
Diphenhydramine	3.923	8936336	∞	12503.86	40601721	10.0000
Doxepin	4.042	1814120	∞	43.28	11828700	10.0000
Doxylamine	3.476	10449835	∞	∞	34499601	10.0000
EDDP	3.966	5225494	2009270.76	752867.06	29021989	10.0000
Estazolam	4.519	1406510	1527.72	∞	3814757	10.0000
Etizolam	4.619	133684	52920.05	338560.04	3814757	10.0000
Fentanyl	3.899	261743	814.82	243.65	14341135	10.0000
Flunitrazepam	4.562	377905	182.80	141.71	76723	10.0000
Fluoxetine	4.255	2364750	∞	89776.86	9451256	10.0000
Flurazepam	4.005	1925602	1210998.93	60449.20	76723	10.0000
Hydrocodone	2.819	810478	∞	∞	4164279	10.0000
Hydromorphone	2.308	613452	∞	∞	2221863	10.0000
Imipramine	4.289	4368419	802927.88	∞	16299760	10.0000
Ketamine	3.219	3379391	7395.78	173.35	14160774	10.0000
Lamotrigine	3.401	224072	∞	145.64	10744516	10.0000
Levamisole	2.900	63571	14.00	8.99	18893504	10.0000
Lorazepam	4.423	8452	36.54	11.98	150504	10.0000
Maprotiline	4.322	3497195	∞	150.16	6767314	10.0000
MDA	2.886	1202158	1002.34	101.20	5342286	10.0000
MDEA	3.129	4287224	12481.59	4272.75	18261957	10.0000
MDMA	2.962	5198555	942925.60	∞	3145478	10.0000
Meperidine	3.463	2309249	124.84	∞	10744516	10.0000
Meprobamate	3.636	61720	62.89	20.73	282307	10.0000
Methadone	4.286	5334631	397077.05	∞	19749569	10.0000
Methamphetamine	2.857	4645133	∞	∞	21639030	10.0000
Methocarbamol	3.556	96296	297.41	118.98	10744516	10.0000
Methylphenidate	3.388	9137266	∞	46.92	35476400	10.0000
Metoprolol	3.323	671102	1594.58	2491.46	10744516	10.0000
Midazolam	4.590	459290	226056.70	353204.18	5367624	10.0000
Mirtazapine	3.569	2512243	∞	20185.34	10744516	10.0000
Mitragynine	4.035	294245	145772.03	9155.68	11828700	10.0000
Morphine	2.143	129713	∞	42.82	88401	10.0000
Norbuprenorphine	3.729	16072	39.68	52.74	94956	10.0000
Nordiazepam	4.691	121666	143.25	28.82	380318	10.0000

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# AM #25 Multi-Drug Screen Results



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Norfentanyl	3.220	4106640	4998218.22	14847.00	16283751	10.0000
Norhydrocodone	2.820	69778	182.94	22.61	869142	10.0000
Normeperidine	3.496	2197186	90605.00	46.69	6732805	10.0000
Noroxycodone	2.772	553131	38.73	144.66	1853155	10.0000
Nortriptyline	4.340	1802259	510238.23	∞	4397095	10.0000
O-desmethyl-tramadol	2.807	8922205	4667.60	26.13	38073590	10.0000
Olanzapine	3.150	1478577	2031.06	∞	41651	10.0000
Oxazepam	4.504	39769	13.00	14.51	253465	10.0000
Oxycodone	2.769	1542168	308.54	2181.92	6689367	10.0000
Oxymorphone	2.212	345291	∞	101.04	981477	10.0000
Paroxetine	4.268	253297	∞	38.19	7709287	10.0000
Phenazepam	4.634	112300	5.26	67019.80	609611	10.0000
Phencyclidine	3.801	5041931	350.26	390.12	20743411	10.0000
Phentermine	3.040	1070460	273.06	12.74	12721974	10.0000
Phenytoin	4.109	3670	1092.27	17.09	41651	10.0000
Promethazine	4.212	7044888	104910.06	12111.78	28860297	10.0000
Pseudoephedrine	2.582	43807172	20607.37	15823.88	121158989	10.0000
Quetiapine	4.174	3105699	1584657.37	∞	3928792	10.0000
Sertraline	4.486	1589039	∞	256.65	7709287	10.0000
Sufentanil	4.174	189637	1752.56	168.23	12034368	10.0000
Tapentadol	3.343	4476588	214.49	∞	21059176	10.0000
Temazepam	4.656	380463	∞	∞	1896745	10.0000
Tramadol	3.308	8706657	∞	694.66	33502758	10.0000
Trazodone	4.067	3792993	32657.78	1086432.12	14066266	10.0000
Venlafaxine	3.689	6281981	4635.34	141.90	27588152	10.0000
Zaleplon	4.349	628698	126.92	1908.09	1374897	10.0000
Zolpidem	3.732	6532975	932286.99	2471.02	30055693	10.0000
Zopiclone	3.653	67613	1133.45	11815.02	296439	10.0000

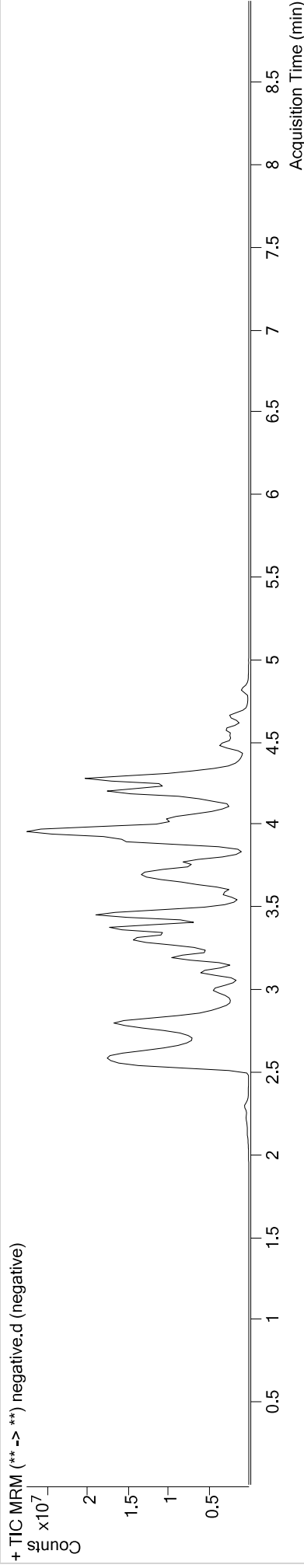


# AM #25 Multi-Drug Screen Results

**Batch results** D:\MassHunter\Data\2019\AM 25\0822219 MDQ TS MDS SP\QuantResults\MDS SP.batch.bin  
**Calibration Last Update** 8/27/2019 8:27:55 AM

<b>Instrument Type</b>	Falco Sample	<b>Data File</b>	negative.d
<b>Acq. Method</b>	am 25 all.m	<b>Sample Operator</b>	negative
<b>Sample Position</b>	P2-F12	<b>Comment</b>	
<b>Injection Volume</b>	5		
<b>Acq. Date-Time</b>	8/22/2019 10:20:09 PM		

### Sample Chromatogram



<b>Name</b>	Methamphetamine	<b>RT</b>	2.872	<b>Resp.</b>	517507	<b>S/N</b>	∞	<b>S/N</b>	123.93	<b>ISTD Resp.</b>	19133992	<b>Calc. Conc.</b>	1.2599 <5
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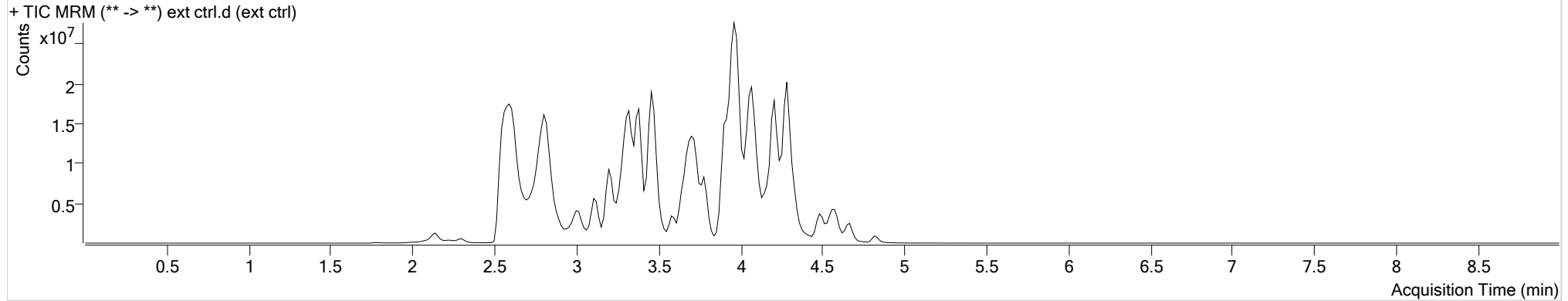
# AM #25 Multi-Drug Screen Results



**Batch results** D:\MassHunter\Data\2019\AM 25\082219 MDQ TS MDS SP\QuantResults\MDS SP.batch.bin  
**Calibration Last Update** 8/27/2019 8:27:55 AM

<b>Instrument</b>	Falco	<b>Data File</b>	ext ctrl.d
<b>Type</b>	Sample	<b>Sample</b>	ext ctrl
<b>Acq. Method</b>	am 25 all.m	<b>Operator</b>	
<b>Sample Position</b>	P2-E12	<b>Comment</b>	
<b>Injection Volume</b>	5		
<b>Acq. Date-Time</b>	8/22/2019 10:29:38 PM		
<b>Sample Info.</b>			

## Sample Chromatogram



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Flunitrazepam	4.562	3584940	1794019.24	1384067.52	68351	106.4841
Metoprolol	3.323	5441527	7199.12	29779.88	10730484	81.1895
Morphine	2.143	1416200	∞	∞	93149	103.6138
Trazodone	4.067	31461057	3115968.15	1436442.67	14113211	82.6693