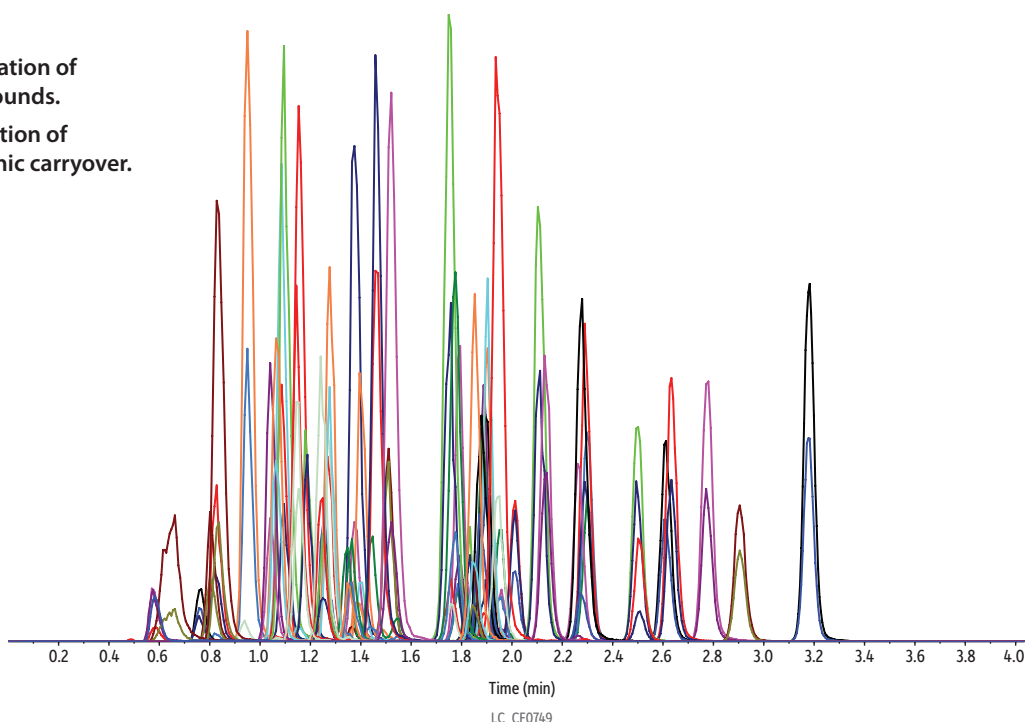


Antipsychotics and Antidepressants in Human Urine on Raptor Biphenyl by LC-MS/MS

- Effective separation of isobaric compounds.
- Effective reduction of chromatographic carryover.



Peaks	tr (min)	Conc. (ng/mL)	Precursor Ion	Product Ion	Product Ion
1. Desmethylolanzapine	0.58	2500	299.1	256.1	198.0
2. Phenelzine sulfate	0.59	2500	137.2	105.1	77.1
3. Olanzapine	0.65	2500	313.2	256.1	198.1
4. Lamotrigine	0.76	2500	256.0	211.1	145.0
5. Molindone	0.81	2500	278.1	100.3	101.1
6. (+/-)-Hydroxybupropion	0.83	2500	256.0	130.2	166.0
7. 7-Hydroxyquetiapine	0.84	2500	400.3	269.0	208.0
8. Bupropion-D9 (IS)	0.94	200	249.2	130.9	-
9. Bupropion	0.95	2500	240.0	184.1	130.2
10. Venlafaxine	1.04	2500	278.4	260.4	121.2
11. Reduced haloperidol	1.07	2500	378.1	359.9	109.1
12. Milnacipran	1.09	2500	247.2	100.1	129.1
13. N-desmethylmirtazapine	1.10	2500	252.1	195.1	209.2
14. 9-Hydroxyrisperidone	1.15	2500	427.3	207.1	110.2
15. Mirtazapine	1.16	2500	266.1	195.1	72.1
16. N-desmethylclozapine	1.19	2500	313.0	192.1	270.0
17. Droperidol	1.24	2500	380.1	122.9	165.1
18. Clozapine	1.25	2500	328.2	271.1	193.1
19. Didemethyl citalopram	1.26	2500	297.1	109.1	261.9
20. N-desmethylcitalopram	1.27	2500	311.1	109.1	262.1
21. Escitalopram	1.28	2500	325.3	109.1	261.9
22. Fluvoxamine	1.35	2500	319.1	71.2	130.1
23. Haloperidol	1.36	2500	377.2	123.0	95.1
24. Norfluoxetine	1.37	2500	296.3	134.3	104.9
25. Isocarboxazid	1.38	2500	232.0	91.1	65.2
26. Fluoxetine	1.39	2500	310.1	148.0	115.1
27. Desmethyldoxepin	1.40	2500	266.1	107.1	115.0
28. Doxepin	1.45	2500	280.1	107.2	77.1
29. trazodone	1.46	2500	372.3	176.1	148.0
30. Oxcarbazepine	1.51	2500	253.1	180.0	208.1
31. Risperidone	1.52	2500	411.2	191.0	110.1
32. Quetiapine	1.75	2500	384.2	253.0	221.2
33. Asenapine	1.76	2500	286.2	165.1	229.1
34. Ziprasidone	1.78	2500	413.2	194.1	130.0
35. Protriptyline	1.79	2500	264.1	191.1	165.2
36. Desipramine	1.83	2500	267.1	72.1	193.1
37. Paroxetine	1.85	2500	330.2	192.2	70.1
38. Iloperidone	1.85	2500	427.1	261.1	96.1
39. Duloxetine	1.86	2500	298.1	188.2	154.1
40. Amoxapine	1.88	2500	314.2	271.0	193.1
41. Carbamazepine	1.89	2500	237.0	193.9	192.0
42. Maprotiline	1.90	2500	278.1	250.2	191.1
43. Imipramine	1.91	2500	281.1	86.2	58.1
44. Nortriptyline	1.95	2500	264.1	91.1	115.2
45. Loxapine	1.95	2500	328.1	271.1	193.0
46. Amitriptyline	2.01	2500	278.1	91.1	202.1

Peaks	tr (min)	Conc. (ng/mL)	Precursor Ion	Product Ion	Product Ion
47. Trimipramine	2.11	2500	295.2	100.2	58.2
48. Pimozide	2.13	2500	462.1	328.0	109.1
49. Chlorpromazine	2.26	2500	319.0	86.1	178.2
50. Dehydro aripiprazole	2.28	2500	446.2	285.0	98.1
51. Clomipramine	2.29	2500	315.3	86.0	58.0
52. Sertraline	2.30	2500	306.2	275.1	158.9
53. Fluphenazine	2.50	2500	438.3	171.1	143.2
54. Aripiprazole	2.51	2500	448.2	285.0	176.1
55. Perphenazine	2.61	2500	404.2	171.1	143.2
56. Trifluoperazine	2.63	2500	408.2	141.2	113.1
57. Prochlorperazine	2.78	2500	374.1	141.0	113.1
58. Thiothixene	2.91	2500	444.2	221.2	235.0
59. Thioridazine	3.18	2500	371.2	126.1	98.1

Column Raptor Biphenyl (cat.# 9309A5E)
Dimensions: 50 mm x 3.0 mm ID
Particle Size: 2.7 µm
Pore Size: 90 Å
Guard Column: Raptor Biphenyl EXP guard column cartridge 5 mm, 3.0 mm ID, 2.7 µm (cat.# 9309A0253)
Temp.: 30 °C
Standard/Sample
Conc.: 2500 ng/mL
Inj. Vol.: 2 µL
Mobile Phase
A: Water, 0.1% formic acid, 5 mM ammonium formate
B: Methanol, 0.1% formic acid, 5 mM ammonium formate

Time (min)	Flow (mL/min)	%A	%B
0.00	0.6	40	60
0.20	0.6	40	60
3.50	0.6	0	100
3.51	0.6	40	60
5.50	0.6	40	60

Detector MS/MS
Ion Mode: ESI+
Mode: MRM
Instrument UHPLC
Sample Preparation Drug-free human urine (BioIVT) was fortified with 58 analytes at 2500 ng/mL. Bupropion-D9 was used as the internal standard for quantification of all 58 compounds. The urine sample (50 µL) was mixed with 15 µL of IMCSzyme, 20 µL of reaction buffer, and 10 µL of internal standard solution (1 µg/mL in methanol). Hydrolysis was performed at 45°C (water bath) for 30 minutes, and then 400 µL of acetonitrile was added, vortexed to mix, and centrifuged at 4000 rpm for 10 minutes. The supernatant was diluted 2-fold with water and injected for analysis.