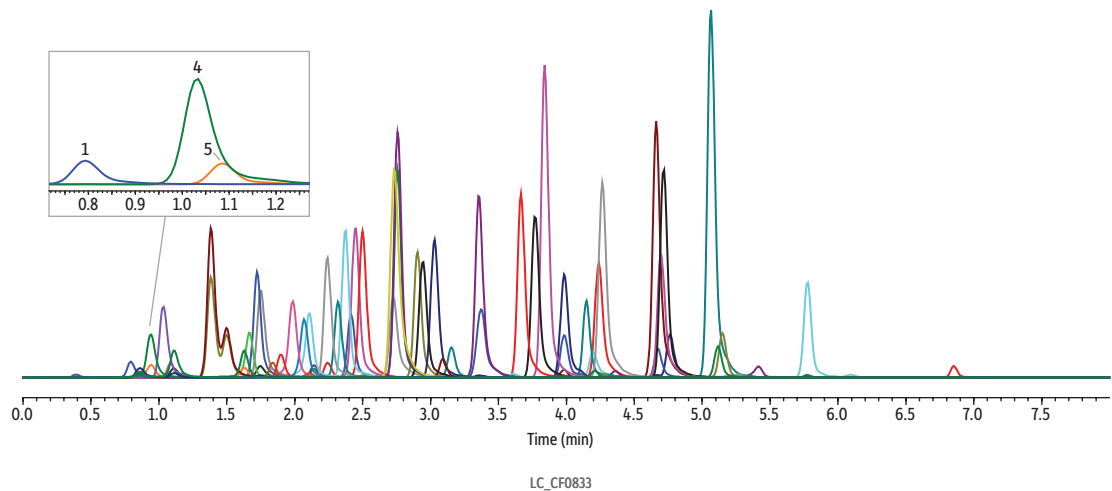


Method 1: 60 Drugs of Abuse in Urine on Raptor Biphenyl by LC-MS/MS



Column	Raptor Biphenyl (cat.# 9309A52)		
Dimensions:	50 mm x 2.1 mm ID		
Particle Size:	2.7 µm		
Pore Size:	90 Å		
Guard Column:	Raptor Biphenyl EXP guard column cartridge 5 mm, 2.1 mm ID, 2.7 µm (cat.# 9309A0252)		
Temp.:	45 °C		
Standard/Sample			
Diluent:	90:10 Water:methanol, both with 0.1% formic acid		
Conc.:	500 ng/mL		
Inj. Vol.:	5 µL		
Mobile Phase			
A:	Water, 0.1% formic acid		
B:	Methanol, 0.1% formic acid		
Time (min)	Flow (mL/min)	%A	%B
0.00	0.6	90	10
6.00	0.6	25	75
7.00	0.6	0	100
8.00	0.6	0	100
8.01	0.6	90	10
9.00	0.6	90	10
Max Pressure:	300 bar		
Detector	Shimadzu 8045 LC-MS/MS		
Ion Mode:	ESI+		
Mode:	MRM		
Instrument	Shimadzu Nexera X2		
Sample Preparation	Control urine (20 µL) was added to a 1.5 mL microcentrifuge tube along with 20 µL of a premade enzyme hydrolysis master mix. The sample was vortexed for 10 seconds and left to incubate at room temperature for 20 minutes. After the incubation, 260 µL of the diluent (water, 0.1 % formic acid:methanol, 0.1 % formic acid 90:10 [v/v]) was added. A 100 µL aliquot was added to a vial insert (cat.# 21776) in a 2.0 mL, amber, short-cap vial (cat.# 21142) and capped with a 9 mm short cap (cat.# 24497) and injected on the LC-MS/MS for analysis.		

Peaks	tr (min)	Precursor	Product 1	Product 2
1. Pregabalin	0.80	160.1	142.1	55.0
2. Morphine	0.85	285.9	152.0	165.1
3. Oxymorphone	0.95	302.0	284.1	227.0
4. Amphetamine	1.03	135.9	91.1	65.1
5. Gabapentin	1.09	172.1	154.1	136.9
6. Hydromorphone	1.11	286.2	185.1	157.0
7. Methamphetamine	1.38	150.1	91.2	119.0
8. Phentermine	1.50	150.1	91.2	133.2
9. Noroxycodone	1.63	301.9	227.0	197.1
10. Naloxone	1.66	327.9	310.1	212.1
11. O-Desmethyltramadol	1.72	250.1	58.1	-
12. Norhydrocodone	1.75	285.9	199.1	128.1
13. MDMA	1.75	194.1	162.9	134.9
14. Codeine	1.84	300.1	165.1	215.0
15. 6-Acetylmorphine	1.89	328.0	165.1	211.1
16. Oxycodone	1.97	315.9	298.1	241.1
17. Naltrexone	2.06	342.1	324.1	267.1
18. Hydrocodone	2.10	300.1	199.1	171.1
19. Desmethylenlafaxine	2.14	264.0	58.1	107.0
20. 6-B-Naltrexol	2.23	344.0	326.1	308.2
21. Ritalinic acid	2.32	220.1	84.1	55.9
22. N-Desmethyltapentadol	2.37	208.1	107.0	121.0
23. Norketamine	2.41	223.9	125.0	89.2
24. Hydroxybupropion	2.44	256.1	238.0	138.9
25. Norfentanyl	2.49	233.1	84.0	55.1
26. 4'-Hydroxy nitazene	2.73	369.1	100.2	72.0
27. 7-Hydroxyquetiapine	2.73	399.9	269.0	208.0
28. Tramadol	2.75	264.1	58.0	-
29. Normeperidine	2.91	233.9	160.1	56.0
30. Benzoyllecgonine	2.95	290.1	168.1	77.0
31. Zolpidem phenyl-4-carboxylic acid	3.03	337.9	265.1	219.2
32. Meprobamate	3.08	219.1	158.1	55.0
33. 7-Aminoclonazepam	3.15	286.0	121.1	249.9
34. Venlafaxine	3.36	278.0	260.2	121.0
35. Mirtazapine	3.37	266.1	195.1	106.9
36. Norbuprenorphine	3.61	414.0	101.1	222.9
37. LSD	3.67	324.1	223.1	208.1
38. 9-Hydroxyrisperidone	3.77	427.1	207.1	110.0
39. Acetyl fentanyl	3.84	322.9	188.2	105.0
40. Citalopram	3.98	324.9	109.1	233.8
41. Desmethyldoxepin	3.99	266.0	115.0	107.0
42. Trazodone	4.14	372.1	176.1	148.0
43. Haloperidol	4.20	376.9	123.1	95.0
44. Dextromethorphan	4.21	272.0	215.1	171.1
45. PCP	4.25	244.2	86.1	159.2
46. Fentanyl	4.26	337.0	188.0	105.1
47. Norfluoxetine	4.27	296.0	134.0	29.9
48. Buprenorphine	4.37	468.2	55.0	396.1
49. EDDP	4.66	278.1	234.1	249.1
50. Nortriptyline	4.68	264.1	91.2	115.0
51. Cyclobenzaprine	4.69	276.0	215.0	189.1
52. Sufentanil	4.72	387.0	238.0	110.9
53. Amitriptyline	4.77	278.0	202.1	91.2
54. Methadone	5.05	310.0	265.1	105.0
55. Lorazepam	5.12	320.8	275.0	302.9
56. Oxazepam	5.15	287.0	241.0	268.5
57. Dehydro aripiprazole	5.27	446.0	285.1	98.1
58. α -hydroxyalprazolam	5.41	325.0	297.0	216.0
59. Temazepam	5.78	301.0	255.0	282.5
60. Δ^9 -THC-COOH	6.85	345.1	327.0	299.2