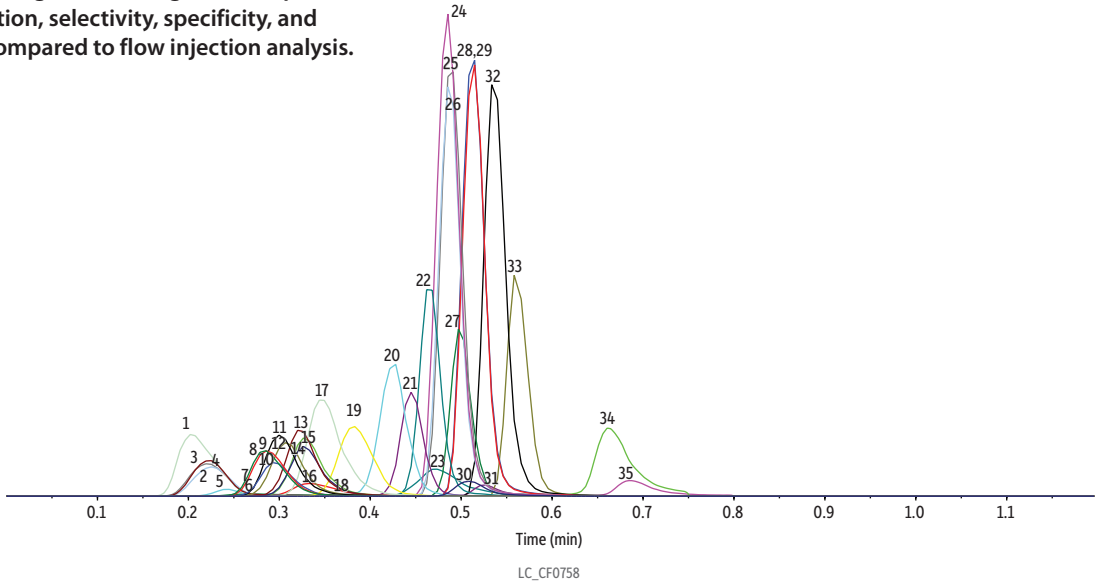
22 Acylcarnitines and 13 Amino Acids in Solvent on Raptor HILIC-Si EXP Guard Cartridge Column by LC-MS/MS

- **Fast, 1-min analysis of 22 acylcarnitines and 13 amino acids without derivatization.**
- **Raptor HILIC-Si guard cartridge column provides better retention, selectivity, specificity, and sensitivity compared to flow injection analysis.**



Peaks	t_R (min)	Precursor Ion	Product Ion
1. Phenylalanine	0.20	166.0	120.1
2. Leucine	0.21	132.1	86.0
3. Isoleucine	0.21	132.1	86.1
4. Tyrosine	0.22	182.1	91.0
5. Methionine	0.24	150.1	56.1
6. Valine	0.27	118.1	72.0
7. C20-Eicosanoyl-L-carnitine	0.27	456.4	85.1
8. C18-Stearoyl-L-carnitine	0.28	428.3	85.1
9. C18:1 Oleoyl-L-carnitine	0.29	426.4	85.1
10. C18:2 Linoleoyl-L-carnitine	0.30	424.3	85.1
11. C16-Palmitoyl-L-carnitine	0.30	400.3	85.1
12. C16:1 Palmitolelyl-L-carnitine	0.31	398.3	85.1
13. C14-Myristoyl-L-carnitine	0.32	372.3	85.1
14. C14:1 Tetradecenoyl-L-carnitine	0.33	370.3	85.1
15. C14:2-Tetradecadienoyl-L-carnitine	0.33	368.3	85.1
16. Proline	0.33	116.0	70.1
17. C12-Lauroyl-L-carnitine	0.35	344.3	85.1
18. Alanine	0.36	90.1	44.1
19. C10-Decanoyl-L-carnitine	0.38	316.3	85.1
20. C8-Octanoyl-L-carnitine	0.43	288.3	85.1
21. C7-Heptanoyl-L-carnitine	0.45	274.2	85.1
22. C6-Hexanoyl-L-carnitine	0.47	260.2	85.1
23. Glutamine	0.45	147.1	84.1
24. C5-Valeryl-L-carnitine	0.48	246.2	85.1
25. C5-Isovaleryl-L-carnitine	0.49	246.1	85.1
26. 2-Methylbutyryl-L-carnitine	0.49	246.2	85.1
27. C5:1-Tiglyl-L-carnitine	0.50	244.2	85.1
28. C4-Butyryl-L-carnitine	0.51	232.2	85.1
29. C4-Isobutyryl-L-carnitine	0.51	232.1	85.1
30. Citrulline	0.51	176.1	113.1
31. Glutamic acid	0.55	148.1	83.9
32. C3-Propionyl-L-carnitine	0.54	218.1	85.1
33. C2-Acetyl-L-carnitine	0.56	204.1	85.1
34. Arginine	0.66	175.2	70.1
35. Ornithine	0.69	133.1	70.1

Internal standard peaks not shown.

Column	Raptor HILIC-Si EXP guard cartridge column (cat.# 9310A0252)
Dimensions:	5 mm x 2.1 mm ID
Particle Size:	2.7 µm
Temp.:	45 °C
Standard/Sample	
Diluent:	85:15 Acetonitrile:water (v/v)
Conc.:	100 ng/mL
Inj. Vol.:	2 µL
Mobile Phase	
A:	30 mM Ammonium formate in water
B:	Acetonitrile

Time (min)	Flow (mL/min)	%A	%B
0.00	0.5	15	85
0.4	0.5	70	30
0.41	0.5	15	85
1.20	0.5	15	85

Detector	MS/MS
Ion Source:	Electrospray
Ion Mode:	ESI+
Instrument	4500
Sample Preparation	A 100 ng/mL standard mix of 22 acylcarnitines and 13 amino acids was prepared in 85:15 acetonitrile:water (v/v) that was fortified with known concentrations of stable isotope-labeled internal standards. The solution was vortexed at 3000 rpm for 10 seconds to mix, and then the supernatant was injected for LC-MS/MS analysis.