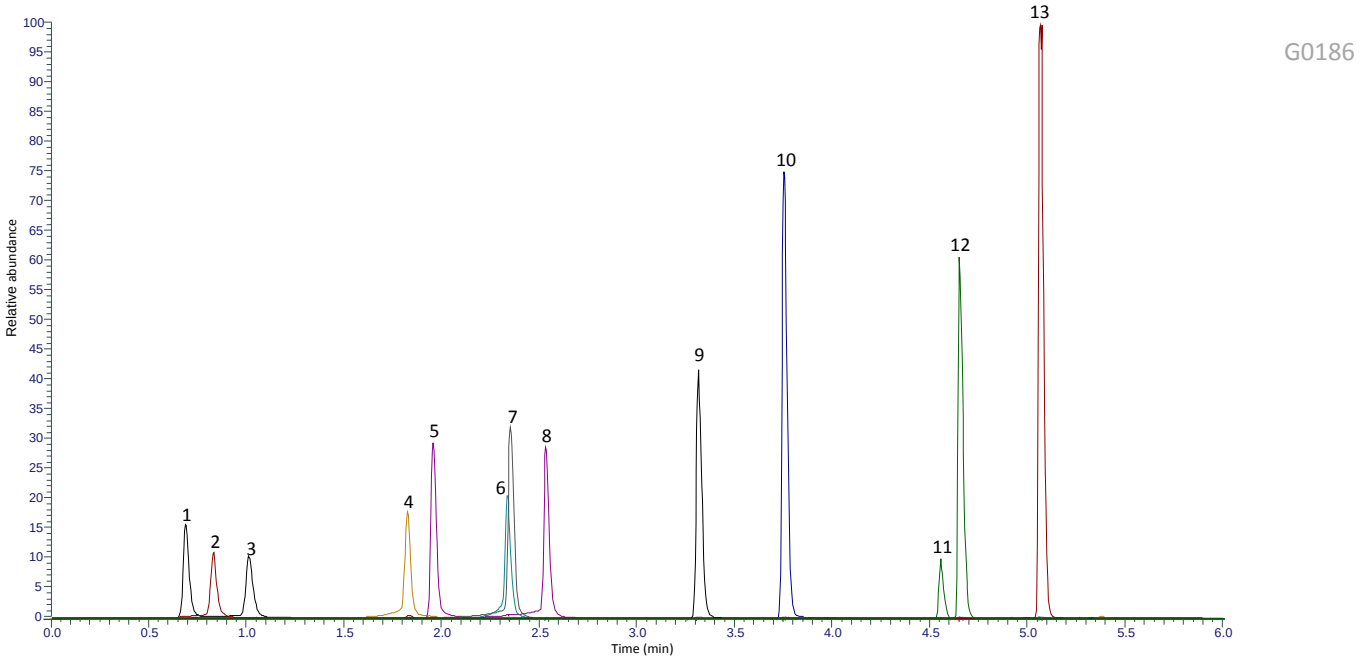
HALO® | Fused-Core® Particle Technology

Application Note: 192-OP

LC-MS Separation of Pain Management Opiates on HALO® 2 µm Biphenyl



TEST CONDITIONS:

Columns: HALO 90 Å Biphenyl, 2 µm, 2.1 x 100mm
Part Number: 91812-611
Mobile Phase A: Water/0.1% Formic acid
Mobile Phase B: Acetonitrile/0.1% Formic acid
Gradient:

Time	%B
0.0	10
2.22	20
5.00	60
5.50	60
5.51	10
6.50	END

Flow Rate: 0.4 mL/min
Initial Pressure: 325 bar
Temperature: 40 °C
Injection Volume: 1 µL
Sample Solvent: 95/5 water/acetonitrile
LC System: Shimadzu Nexera X2
Detection: +ESI MS

PEAK IDENTITIES:

1. Morphine (m/z 286)
2. Oxymorphone (m/z 302)
3. Hydromorphone (m/z 286)
4. Naloxone (m/z 328)
5. Codeine (m/z 300)
6. Naltrexone (m/z 342)
7. Oxycodone (m/z 316)
8. Hydrocodone (m/z 300)
9. cis-Tramadol (m/z 264)
10. Meperidine (m/z 248)
11. Fentanyl (m/z 337)
12. Buprenorphine (m/z 468)
13. (+/-) - Methadone (m/z 310)

The 2 µm HALO Biphenyl is an ideal choice for high throughput analysis of drug panels, in which isobaric species separation is needed. Note the resolution between codeine and hydrocodone, (peaks 1 and 3, respectively) and morphine and hydromorphone (peaks 5 and 8, respectively).

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