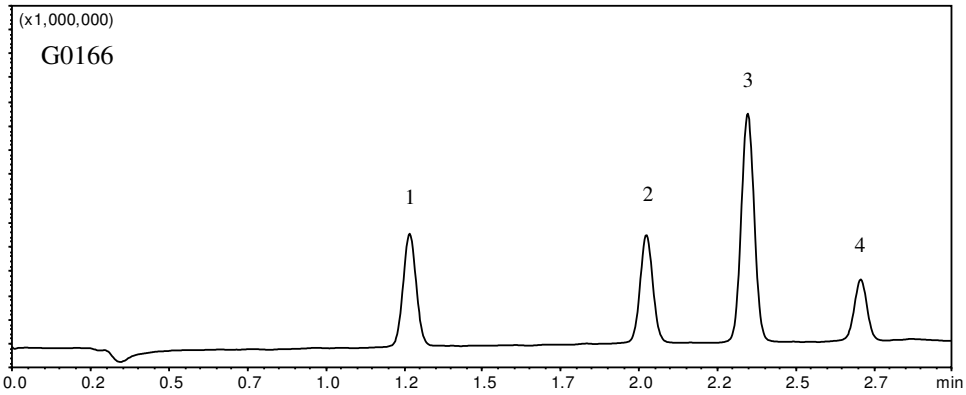
HALO | Fused-Core® Particle Technology

Application Note: 172-OP

LC-MS Separation of Fentanyl and Analogues in Synthetic Urine



Time, min.

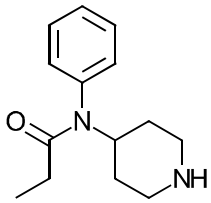
PEAK IDENTITIES:

1. Norfentanyl TIC/ 233
2. Acetyl Fentanyl TIC/ 323
3. Fentanyl TIC/ 337
4. Sufentanil TIC/ 387

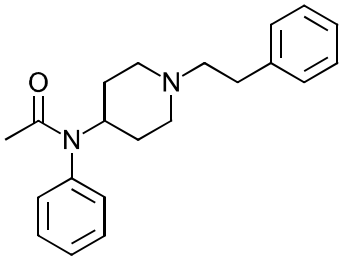
TEST CONDITIONS:

Column: HALO 90Å Biphenyl, 2.7 µm, 2.1 x 50mm
Part Number: 92812-411
Mobile Phase A: Water/ 0.1% Formic acid/ 10mM Ammonium formate
Mobile Phase B: Methanol/ 0.1% Formic acid/ 10mM Ammonium formate
Gradient: 40-90% B in 3 minutes
Flow Rate: 0.8 mL/min
Initial Pressure: 380 bar
Temperature: 30°C
Injection Volume: 0.5 µL
Sample Solvent: Surine Negative Urine
LC System: Shimadzu Nexera
MS: Shimadzu LCMS 2020 (single quadrupole
ESI: 4.5 kV
Heat Block: 300˚C
Nebulizing Gas Flow: 1.3 L/min

STRUCTURES:

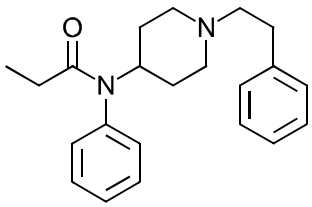


Norfentanyl

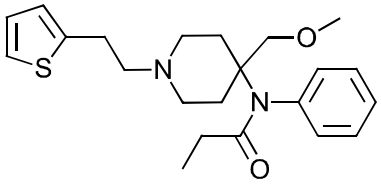


Acetyl Fentanyl

A mixture of fentanyl and some of its analogues spiked into synthetic urine are separated on a HALO Biphenyl column using LC-MS detection. These opioids are known to be much more potent than heroin and have become a significant contributor towards the opiate crisis in America.



Fentanyl



Sufentanil

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