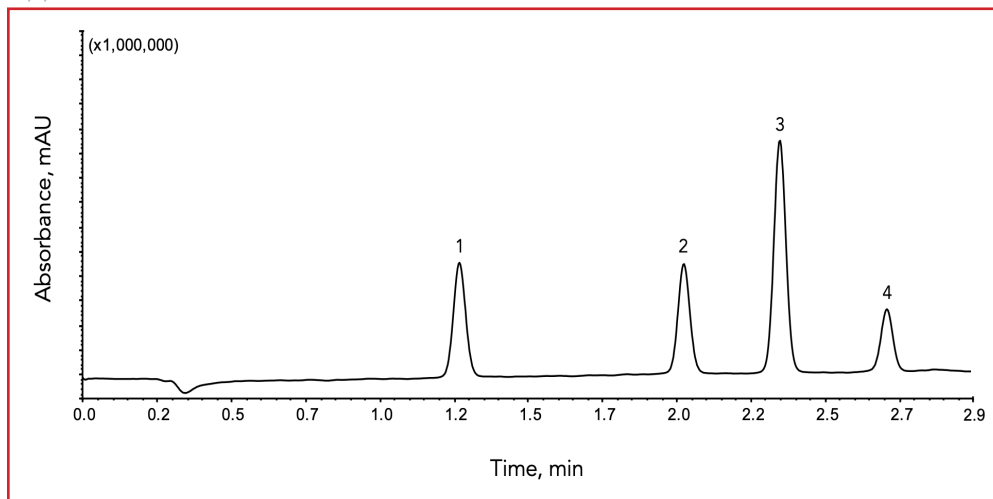




LC-MS Separation of Fentanyl and Analogues in Synthetic Urine

Application Note 172-OP



PEAK IDENTITIES:

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

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.

TEST CONDITIONS:

Column: HALO 90 Å Biphenyl, 2.7 µm,
2.1 x 50 mm

Part Number: 92812-411

Mobile Phase:

A: Water/0.1% formic acid/10mM
ammonium formate

B: Methanol/0.1% formic acid/10mM
ammonium formate

Gradient: 40-90% B in 3 min

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

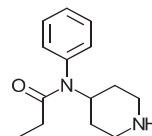
MS System: Shimadzu LCMS 2020 (single quadrupole)

ESI: 4.5 kV

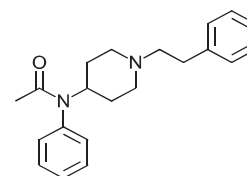
Heat Block: 300 °C

Nebulizing Gas Flow: 1.3 L/min

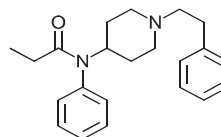
STRUCTURES:



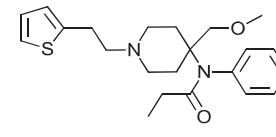
Norfentanyl



Acetyl Fentanyl



Fentanyl



Sufentanil

