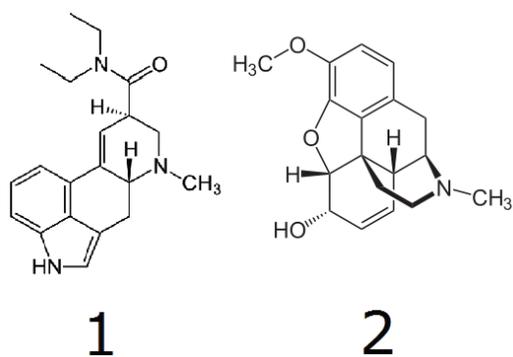
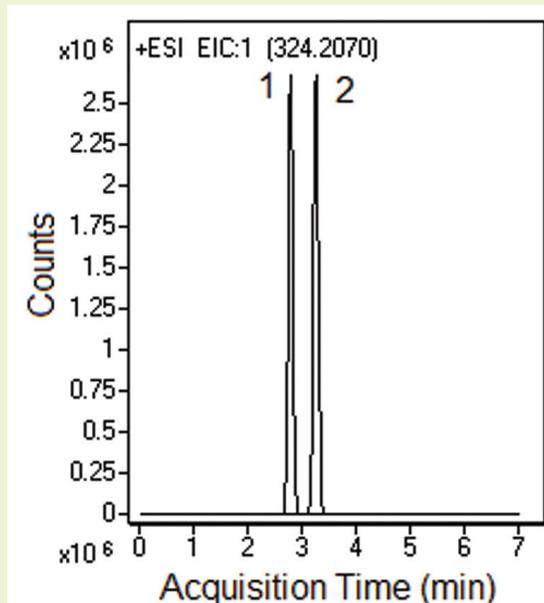


LSD and Codeine

LC-MS method for spiked urine sample



Note: Lysergic acid diethylamide (LSD) was synthesized by Swiss chemist Albert Hofmann while researching ergot alkaloid derivatives. It is highly potent and produces significant psychedelic effects when ingested. It is currently a Schedule I drug in the U.S. Codeine is an opiate used for analgesic, antitussive, and other effects. It may be obtained from over-the-counter formulations like cough syrup and therefore has potential for abuse.

Method Conditions

Column: **Cogent Diamond Hydride 2.0™**, 2.2 μ m, 120Å

Catalog No.: 70200-05P-2

Dimensions: 2.1 x 50 mm

Mobile Phase: A: DI H₂O / 0.1% formic acid
B: Acetone / 0.1% formic acid

Gradient:	time (min.)	%B
	0	85
	3	30
	5	30
	6	85

Injection vol.: 1 microL

Flow rate: 0.4 mL/min microL

Detection: ESI - POS - Agilent 6210 MSD TOF mass spectrometer

Samples: Urine spiked with 5ppm LSD and codeine standard solutions

Peaks: 1. LSD 324.207 m/z [M + H]⁺
2. Codeine 300.1594 m/z [M + H]⁺

Discussion

LSD and codeine may be present in urine samples and methods are needed for their detection in these matrices. The extracted ion chromatograms (EICs) for both analytes are shown in the figure and illustrate excellent chromatographic as well as mass spectral separation. The Cogent Diamond Hydride 2.0 column produces high efficiency for the two analyte peaks.