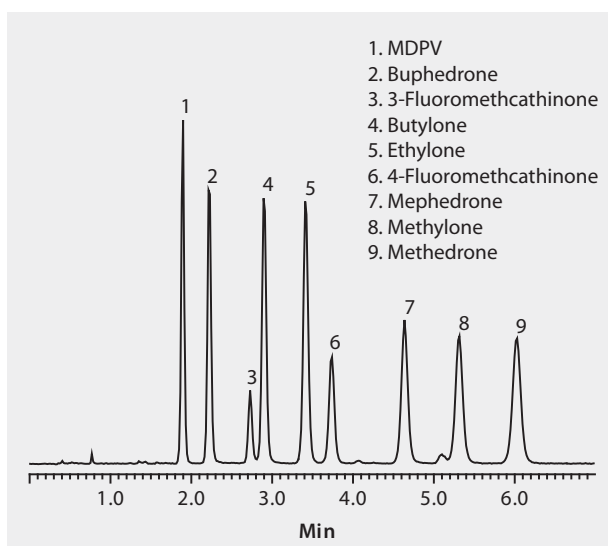


## LC/MS (TOF) Analysis of Illicit Bath Salts in Urine on Ascentis® Express 2.7 µm HILIC after Solid Phase Extraction (SPE) using Supel™-Select SCX

Bath salts are psychoactive designer drugs of the phenethylamine and cathinone families. Shown here is the rapid, sensitive LC/TOF-MS analysis of nine bath salts extracted from human urine using polymeric SPE on Supel-Select SCX and separated on an Ascentis Express HILIC column. Notice the lack of interfering peaks in the chromatogram demonstrating the effectiveness of the sample cleanup. Cerilliant CRMs were used to ensure reliable MS identification and quantification.

|                       |                                                                                                                                                                                                    |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| market focus          | Forensics and Toxicology                                                                                                                                                                           |
| sample/matrix         | urine samples spiked at 100 ng/mL with each target analyte (To ensure full ionization of the analytes, spiked samples were treated with formic acid to a final concentration of 0.1% formic acid.) |
| SPE tube/cartridge    | Supel-Select SCX, 30 mg/1 mL (54240-U)                                                                                                                                                             |
| condition             | 1 mL 1% formic acid acetonitrile then 1 mL water                                                                                                                                                   |
| sample addition       | 1 mL spiked water blank or urine                                                                                                                                                                   |
| washing               | 1 mL water, 1 mL 1% formic acid acetonitrile, 1 mL water                                                                                                                                           |
| elution               | 2 mL 10% ammonium hydroxide in acetonitrile                                                                                                                                                        |
| eluate post-treatment | thoroughly mix via vortex agitation, evaporate 1 mL aliquot to dryness, reconstitute in 100 µL water:methanol                                                                                      |
| column                | Ascentis Express HILIC, 10 cm x 2.1 mm I.D., 2.7 µm particles (53939-U)                                                                                                                            |
| mobile phase          | (A) 5 mM ammonium formate acetonitrile; (B) 5 mM ammonium formate water; (98:2, A:B); premixed                                                                                                     |
| flow rate             | 0.6 mL/min                                                                                                                                                                                         |
| pressure              | 1842 psi (127 bar)                                                                                                                                                                                 |
| column temp.          | 35 °C                                                                                                                                                                                              |
| detector              | MS, ESI(+), TIC, m/z 100-1000                                                                                                                                                                      |
| injection             | 1 µL                                                                                                                                                                                               |
| sample                | 200 µg/L ea. in acetonitrile                                                                                                                                                                       |
| Application No.       | G005796                                                                                                                                                                                            |



| Components                                                                              | Related Products                                                                                                           | Related Products                                                                        |
|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 3,4-Methylenedioxypyrovalerone HCl (MDPV) solution ( <a href="#">Cerilliant M-146</a> ) | accessory<br>Disposable Liners for Visiprep DL Manifolds (included with 57044 and 57265) ( <a href="#">Supelco 57059</a> ) | SPE tube or plate<br>Supel™-Select SCX SPE Tube ( <a href="#">Supelco 54240-U</a> )     |
| Buphedrone hydrochloride solution ( <a href="#">Cerilliant B-047</a> )                  | Visiprep™ SPE Vacuum Manifold ( <a href="#">Supelco 57265</a> )                                                            | standard                                                                                |
| 3-Fluoromethcathinone hydrochloride solution ( <a href="#">Cerilliant F-016</a> )       | Visiprep™ SPE Vacuum Manifold ( <a href="#">Supelco 57044</a> )                                                            | Buphedrone hydrochloride solution ( <a href="#">Cerilliant B-047</a> )                  |
| Butylone hydrochloride solution ( <a href="#">Cerilliant B-045</a> )                    | analytical column                                                                                                          | Butylone hydrochloride solution ( <a href="#">Cerilliant B-045</a> )                    |
| Ethylone hydrochloride ( <a href="#">Cerilliant E-071</a> )                             | Ascentis® Express HILIC, 2.7 Micron HPLC Column ( <a href="#">Supelco 53939-U</a> )                                        | Ethylone hydrochloride ( <a href="#">Cerilliant E-071</a> )                             |
| 4-Fluoromethcathinone hydrochloride solution ( <a href="#">Cerilliant F-015</a> )       | eluent                                                                                                                     | 3-Fluoromethcathinone hydrochloride solution ( <a href="#">Cerilliant F-016</a> )       |
| Mephedrone hydrochloride solution ( <a href="#">Cerilliant M-138</a> )                  | Acetonitrile ( <a href="#">Fluka 14261</a> )                                                                               | 4-Fluoromethcathinone hydrochloride solution ( <a href="#">Cerilliant F-015</a> )       |
| Methylone hydrochloride ( <a href="#">Cerilliant M-140</a> )                            | Ammonium formate ( <a href="#">Fluka 70221</a> )                                                                           | Mephedrone hydrochloride solution ( <a href="#">Cerilliant M-138</a> )                  |
| Methedrone hydrochloride solution ( <a href="#">Cerilliant M-147</a> )                  | Ammonium hydroxide solution ( <a href="#">Fluka 09857</a> )                                                                | Methedrone hydrochloride solution ( <a href="#">Cerilliant M-147</a> )                  |
|                                                                                         | Formic acid ( <a href="#">Fluka 56302</a> )                                                                                | 3,4-Methylenedioxypyrovalerone HCl (MDPV) solution ( <a href="#">Cerilliant M-146</a> ) |
|                                                                                         | Water ( <a href="#">Fluka 14263</a> )                                                                                      | Methylone hydrochloride ( <a href="#">Cerilliant M-140</a> )                            |