



## SPEware uSPE (ultraSPE) Faster / Cleaner Sample Preparation

### Cocaine and Benzoylecgonine from Hair

For GC or GC-MS confirmations using:  
Trace-B 35mg.

#### 1. PREPARE SAMPLE

Weigh out 10 mg of hair. Add acetone or methylene chloride (1.5 mL) Rinse.  
Discard the solvent and allow hair to dry; Cut into small pieces  
Add 50 uL of deuterated internal standard to the calibrator and controls  
Add 1mL of 0.1 M HCl; cap and incubate at 55°C overnight  
Decant the acid; add 1 mL of 2 M acetic acid

Wash Trace-B column with 2ml methanol followed by 1ml H<sub>2</sub>O. Transfer the sample into the Trace column and flow through the column at a flow rate of 1.0-2.0ml/minute

#### 2. APPLY SAMPLE

Transfer the supernatant into the Trace-B column and flow through the column at 2-5 ml/min

#### 3 WASH COLUMN (All wash steps flow at 2-5 ml/minute)

1 ml DI H<sub>2</sub>O;  
1 ml 100 mM HCl  
Dry column (3 min at 20 psi N<sub>2</sub>)  
2 ml CH<sub>3</sub>OH;  
2ml Ethyl Acetate  
Dry column (3 min at 20 psi N<sub>2</sub>)

#### 4 ELUTE COCAINE AND BENZOYLECGONINE

1.0ml (80/18/2//Dichloromethane/IPA/NH<sub>4</sub>OH); collect eluate at 1mlmin<sup>-1</sup>  
NOTE: Prepare elution solvent daily.

#### 5. DRY ELUATE

Evaporate to dryness at 40 °C.

#### 6. DERIVATIZE

Add 100 ml hexane, 50ml HFIP, 50 ml PFPA  
React 10 minutes at 60°C. Remove from heat source to cool.  
Evaporate to dryness and reconstitute with 25ml ETOAC

#### 7. QUANTITATE

Inject 1 to 3 ul sample onto chromatograph.  
Monitor the following ions (GC/MS):

Cocaine: 182, 198, 303  
TMS-BE: 240, 256, 361

D3-Cocaine: 185, 201, 306  
TMS-D3-BE: 243, 259, 364