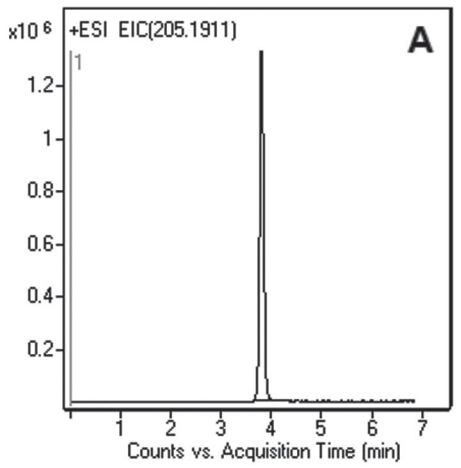
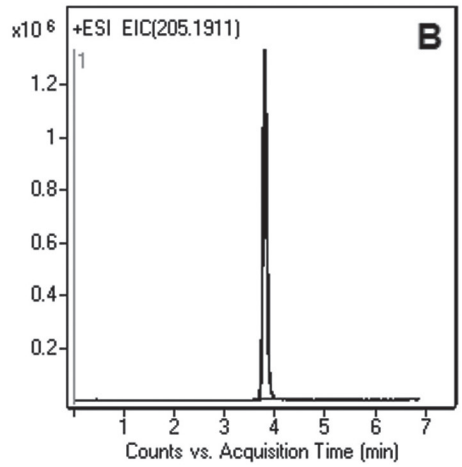
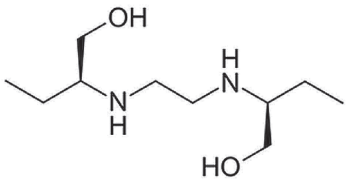
Ethambutol in Drug Products

Retention of hydrophilic analyte







Ethambutol

Note: Ethambutol is a medication used to treat tuberculosis. Trade names of the formulation include Myambutol® and Servambutol®.

Method Conditions

Column: **Cogent Phenyl Hydride™**, 4µm, 100Å

Catalog No.: 69020-05P-2

Dimensions: 2.1 x 50 mm

Mobile Phase: A: DI H_2O / 0.1% formic acid (v/v)
B: 97% acetonitrile / 3% DI H_2O / 0.1% formic acid (v/v)

Gradient:

time (min.)	%B
0	95
1	95
3	20
5	20
6	95

Post Time: 3 min

Injection vol.: 1µL

Flow rate: 0.4 mL/min

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

Sample: The contents of 20 capsules were ground using a mortar and pestle. A portion equivalent to 4–5 mg of ethambutol was transferred into a 50 mL vol flask with 20 mL of DI H_2O and was sonicated 15 min. Next, 20 mL of methanol was added and sonicated for 5 min. The flask was adjusted to volume with DI H_2O and mixed well. The solution was filtered using a 0.45µm nylon filter (MicroSolv Tech Corp.). 5µL of the filtered solution was added to 10 mL of a 50% solvent A/50% solvent B (v/v) mixture.

Peak: Ethambutol 205.1911 m/z $(M+H)^+$

t_0: 0.9 min

Discussion

The main advantage of this method for analysis of ethambutol tablets is that existing protocols involve tedious sample cleanup procedures. The omission of these cleanup steps in this method saves both analysis time and solvents. In addition, the analysis is less prone to analyst-dependent variations from performing the sample cleanup steps. Excellent retention and peak shape were obtained for the analyte, as well as excellent run-to-run precision with a %RSD of less than 0.2.

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