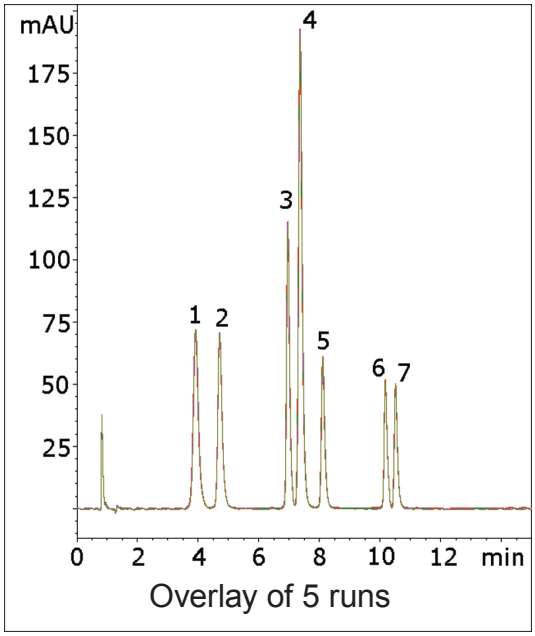
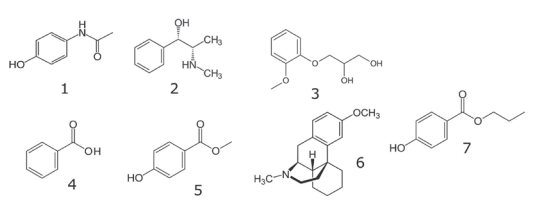
Cough Syrup Ingredients

Separation of antitussives, analgesics, decongestants, and preservatives





Note: Although cough medicines are widely used as over-the-counter cold remedies, the efficacy of some formulations has been shown to be no more effective than placebo.

Method Conditions

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

Catalog No.: 69020-7.5P

Dimensions: 4.6 x 75 mm

Mobile Phase: A: DI H_2O / 0.1% TFA (v/v)
B: Acetonitrile / 0.1% TFA (v/v)

Gradient:

time (min.)	%B
0	5
2	5
11	50
12	5

Post Time: 3 min

Injection vol.: 2µL

Flow rate: 1.0 mL/min

Detection: UV 210 nm (0-6 min), 230 nm (6-15 min)

Sample: **Stock Solution:** 1mg/mL solutions of each analyte were made using a 50/50 solvent A / solvent B diluent (v/v).
Working Solution: 0.1 mg/mL dilutions were made of the stock solutions and used for peak identity confirmations. A 0.1 mg/mL mixture of all the analytes was also made from the stock solutions.

Peaks: 1. Acetaminophen
2. Pseudoephedrine
3. Guaifenesin
4. Benzoic acid
5. Methyl paraben
6. Dextromethorphan
7. Propyl paraben

t_0: 0.min

Discussion

Cold and cough formulations may contain a number of components such as antitussives (dextromethorphan), decongestants (pseudoephedrine, guaifenesin), analgesics (acetaminophen), and preservatives (methyl paraben, propyl paraben, benzoic acid). The method illustrates not only excellent separation between a variety of these compounds, but also that symmetric peak shapes can be obtained in each case. Dextromethorphan in particular is often problematic in terms of tailing due to the tertiary amine. The method is also very reproducible, as the five run overlay demonstrates.

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