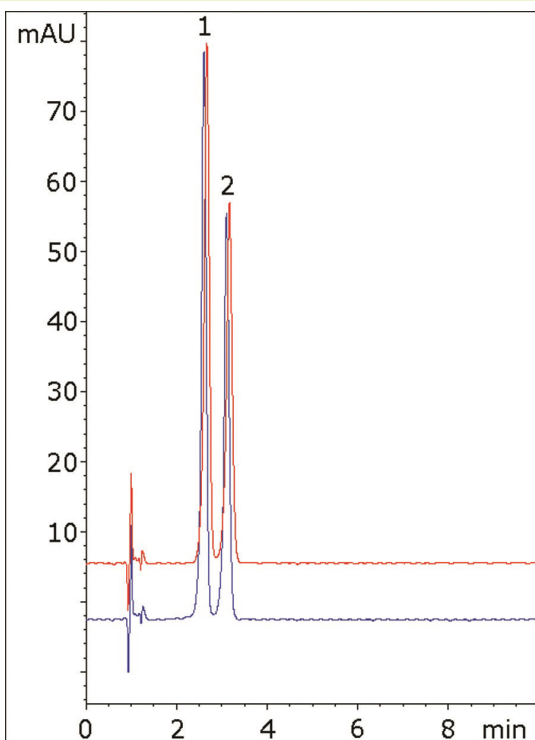
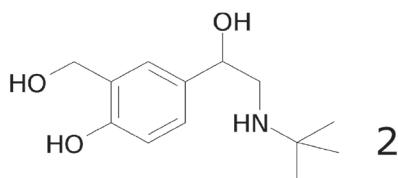
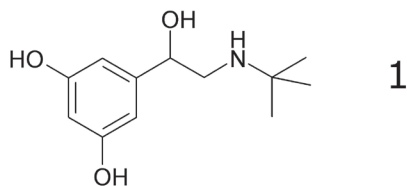


Terbutaline and Salbutamol

Separation of β_2 -adrenergic receptor agonists



Overlay of runs from 2 column lots



Note: Salbutamol and terbutaline are β_2 -adrenergic receptor agonists used for treatment of asthma and pulmonary diseases. Salbutamol is available under the trade name Ventolin®. Trade names for terbutaline include Brethine®, Bricanyl®, and Brethaire®.

Method Conditions

Column: Cogent Diamond Hydride™, 4 μ m, 100Å

Catalog No.: 70000-7.5P

Dimensions: 4.6 x 75 mm

Mobile Phase: 5% DI H₂O / 95% acetonitrile / 0.1% trifluoroacetic acid (v/v)

Injection vol.: 2 μ L

Flow rate: 1.0 mL/min

Detection: UV 220 nm

Sample: 0.1 mg/mL terbutaline and salbutamol reference standards in diluent of 50/50/0.1 DI H₂O / acetonitrile / trifluoroacetic acid (v/v).

Peaks: 1. Terbutaline
2. Salbutamol

t₀: 0.9 min

Discussion

This method shows how two structurally similar compounds can be readily separated with the Cogent Diamond Hydride column. This is an important characteristic in many types of HPLC methods since typical separations often involve impurities, degradants, metabolites, and other groups of compounds that have subtle structural differences. These two compounds for instance were found to co-elute using reversed phase approaches.

The method shown here is simple and the isocratic mobile phase is easy to prepare. Baseline resolution is obtained for the two compounds. Furthermore, the stationary phase reproducibility is good, as shown in the figure which uses columns from two lots.