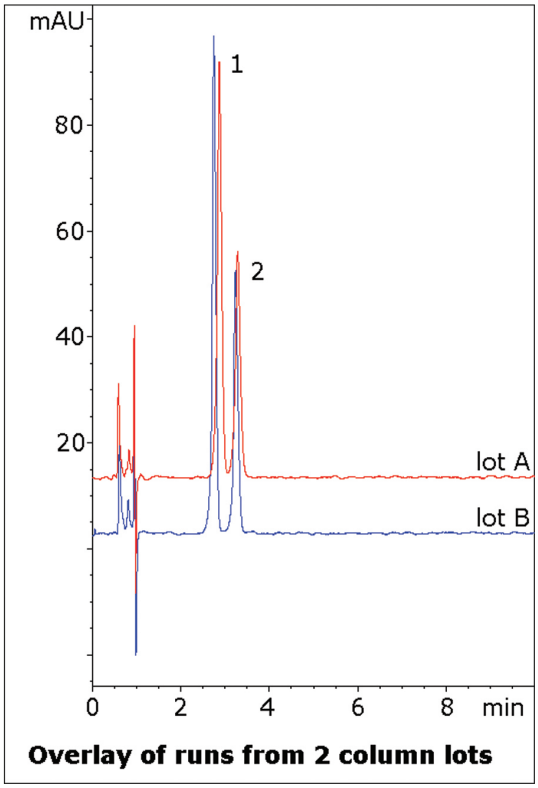
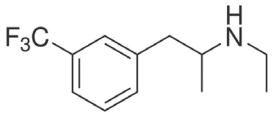
Fenfluramine and Phentermine

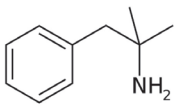
Isocratic assay for anti-obesity combination formulation



Overlay of runs from 2 column lots



1



2

Note: Fenfluramine and Phentermine are two phenylethylamines that were once sold as an antiobesity medication. Fenfluramine however was shown to produce serious side effects of pulmonary hypertension and heart valve problems. Phentermine does not produce these side effects.

Method Conditions

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

Catalog No.: 70000-7.5P

Dimensions: 4.6 x 75 mm

Mobile Phase: 25% DI H_2O / 75% acetonitrile / 0.1% formic acid (v/v)

Injection vol.: 1µL

Flow rate: 1.0 mL/min

Detection: UV 210 nm

Sample: 30mg strength Ionamin® capsule contents were added to a 25mL volumetric flask. A portion of mobile phase diluent was added and the flask was sonicated 10 min. It was then diluted to mark, mixed, and filtered with a 0.45µm nylon syringe filter (MicroSolv Tech Corp.). 20mg strength Pondimin® tablet was ground and added to another 25mL volumetric flask. A filtrate was obtained in the same manner as with Ionamin®, and the two filtrates were mixed 1:1. Individual extracts were used for peak identity confirmation.

Peak: 1. Fenfluramine
2. Phentermine

t_0: 0.9 min

Discussion

This method illustrates the potential of the Cogent Diamond Hydride column for separating similar compounds in the phenylethylamine class of compounds. These two compounds in particular were once used as APIs in the same formulation. The data shows how phenylethylamines can be easily retained and separated with this column. Furthermore, the mobile phase is LC-MS compatible and easy to prepare.

Data from two lots is shown to illustrate the reproducibility of the stationary phase production.

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