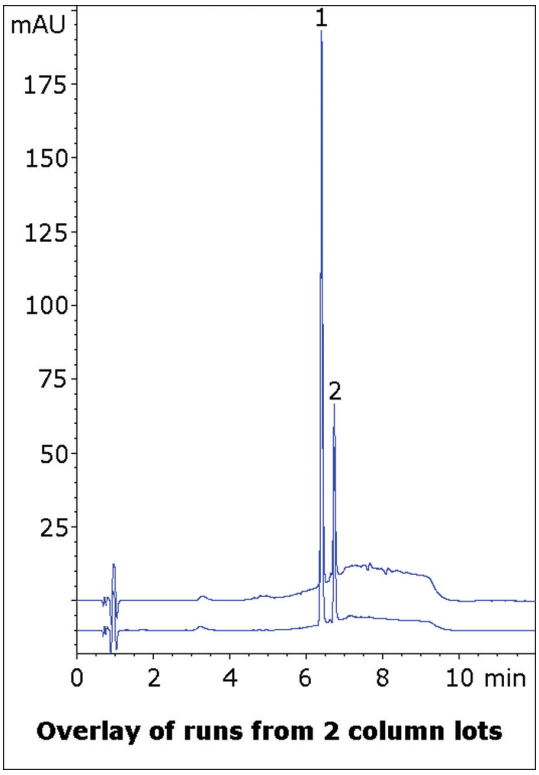
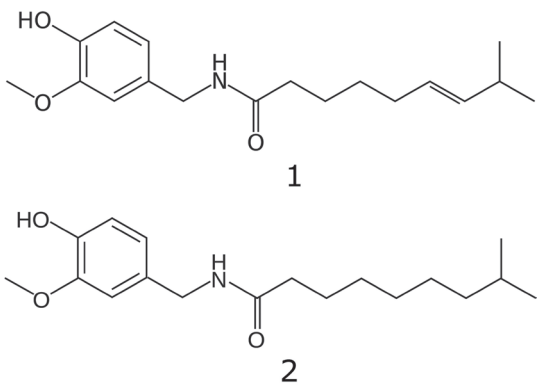
Capsaicin in Topical Solution

Separation of capsaicinoids



Overlay of runs from 2 column lots



Note: Capsaicin is the active ingredient in chili peppers and has many uses. It is commonly used in foods to add spiciness, but is also used in pepper spray. It is a highly potent irritant in mammals and pure capsaicin reference standards should be handled with care.

Method Conditions

Column: **Cogent Bidentate C18™**, 4µm, 100Å

Catalog No.: 40018-75P

Dimensions: 4.6 x 75 mm

Solvents: A: DI H_2O / 0.1% formic acid (v/v)
B: Acetonitrile / 0.1% formic acid (v/v)

Gradient:

time (min.)	%B
0	20
1	20
6	80
8	80
9	20

Post Time: 3 min

Injection vol.: 1µL

Flow rate: 1.0 mL/min

Detection: UV 280 nm

Sample: TopCare® solution containing 0.15% capsaicin was filtered with a 0.45µm nylon syringe filter (MicroSolv Tech Corp.). Peak identities were confirmed using individual USP reference standards.

Peaks: 1. Capsaicin
2. Dihydrocapsaicin

t_0: 0.9 min

Discussion

This formulation of capsaicin is used as a topically applied solution for arthritis pain relief. Separation is obtained between capsaicin and another capsaicinoid (dihydrocapsaicin). The method illustrates the ability of the Cogent Bidentate C18 column to resolve structurally similar capsaicinoids in a real formulation. Peak shapes and efficiencies are excellent for the two peaks. Furthermore, the method shows good stationary phase lot-tolot reproducibility as shown in the figure overlay.

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