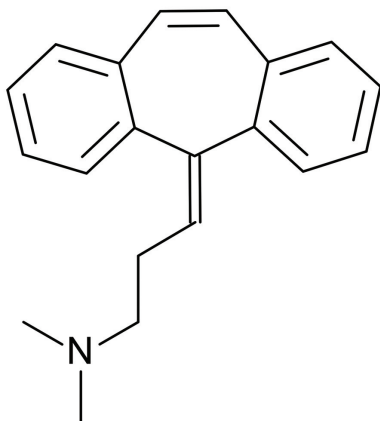
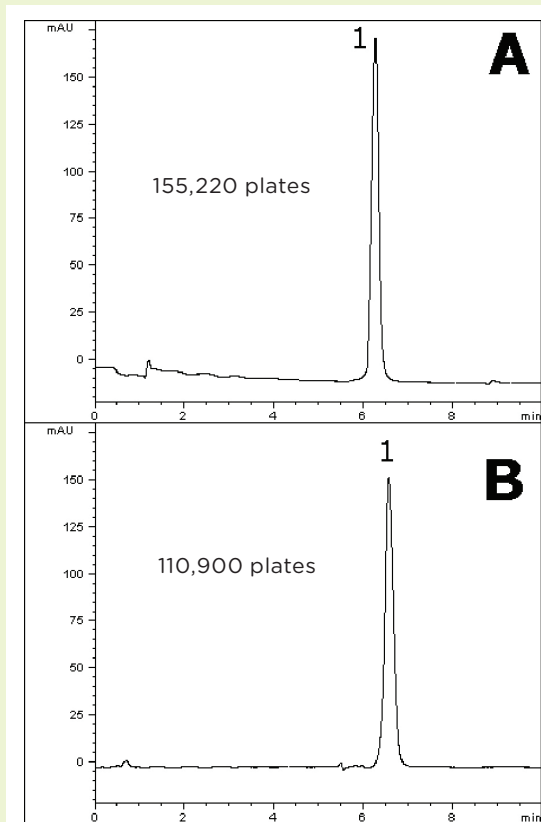


Method Transfer: Cyclobenzaprine

Increased efficiency: 4 μm to 2.0™



Sample: Cyclobenzaprine is used to relieve muscle spasms and accompanying acute pain caused by various musculoskeletal maladies. Brand names include Amrix®, Flexeril®, and Fexmid®.

Method Conditions

Column: Cogent Diamond Hydride 2.0™, 2.2μm, 120Å

Catalog No.: 70200-05P-2

Dimensions: 2.1 x 150 mm

Solvents: A: 90% DI H₂O / 10% acetonitrile / 0.1% formic acid (v/v)

B: Acetonitrile / 0.1% formic acid (v/v)

Gradient:	time (min.)	%B
	0	90
	0.5	90
	8	40
	9	90

Post time: 3 min

Flow rate: 0.3mL/min

Injection vol.: 1.0 μL

Peak: 1. Cyclobenzaprine

Detection: 230 nm

Sample: 10mg strength cyclobenzaprine tablet was ground and added to a 50 mL volumetric flask. A diluent of 80/20/0.1 acetonitrile/DI water/formic acid was added and the flask was sonicated 30 min. It was then diluted to mark, mixed, and filtered with a 0.45 μm nylon syringe filter (MicroSolv Tech Corp).

Discussion

The two chromatograms compare the retention and efficiency of a cyclobenzaprine peak using two types of Cogent Diamond Hydride columns. Figure A uses a near-UHPLC 2.2 μm phase while Figure B uses a standard 4 μm particle size column. The results show consistent retention between the two phases (about 5% difference). These method conditions can readily be transferred from the 4 μm column to the 2.0. The advantage of the 2.0 phase is the significantly higher efficiency.