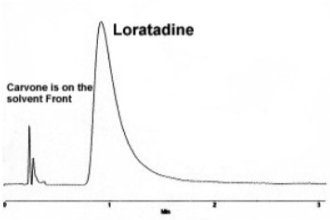
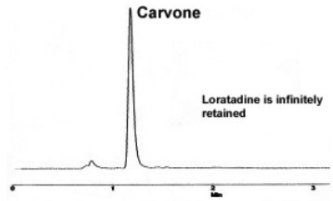
Advantage of Organic Normal Phase on C18

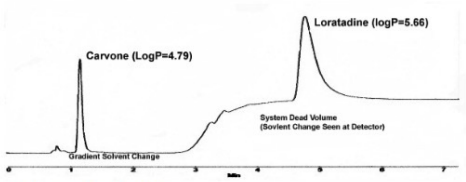
Prep up" in NP and "Check Purity" in RP on the Same Analytical Column



Chromatogram A
Hexane 75% THF 25%
Carvone is on the solvent front



Chromatogram B
Hexane 95% THF 5%
Loratadine is Infinitely Retained



Chromatogram C
Step One: 0-0.1 minutes Hexane 95%, THF 5%
Step Two: 0.1 -7.0 minutes Hexane 75% THF 25%

Notes:
Two compounds with similar polarity that can be resolved isocratically in reverse phase conditions are infinitely more separated on this column in normal phase conditions; without the characteristic hassles associated with silica and other "normal phase" columns that makes changing from NP to RP and back very easy. The separation shown in Chromatogram C offers the chromatographer capacity to load much more onto the column and therefore use, a 250mm x 4.6mm ID column to "Prep Up" these compounds that have similar polarity but different functionality. The ability to "Prep Up" and check purity on the same Cogent Bidentate C18 column offers time savings and ease of use and improved efficiency of your SOP.

Method Conditions

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

Catalog No.: 40018-75P

Dimensions: 4.6 x 75 mm

Mobile Phase: A: Hexane
B: THF

Flow rate: 1 mL/min

Detection: UV 255 nm

Discussion

Chromatogram A shows the retention of Loratadine in organic, normal phase in conditions where Carvone would be on the solvent front, and not retained at all.

Chromatogram B shows the retention of Carvone in organic, normal phase in conditions where Loratadine would be infinitely retained on the column.

Chromatogram C shows the retention and elution of Carvone in organic, normal phase in approximately one minute. Then due to the flexible nature of the Cogent Bidentate C18 column, a quick "step gradient" or change of mobile phase concentration produces conditions that allow Loratadine to elute in five minutes in the same run, on the same column. Peak shape could be further optimized but was outside of the scope this application note.

MANUFACTURED BY:
MICROSOLV TECHNOLOGY CORPORATION
9158 Industrial Blvd NE
Leland, NC 28451
p: 1.732.380.8900
f: 1.910.769.9435
customers@mtc-usa.com
www.Cogent-HPLC.com