APPLICATION NOTES

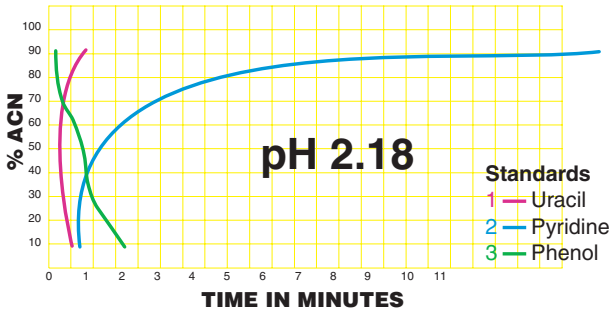
Cogent™ UDC Cholesterol™
with TYPE-C Silica™

HPLC
No. 1 of Series D

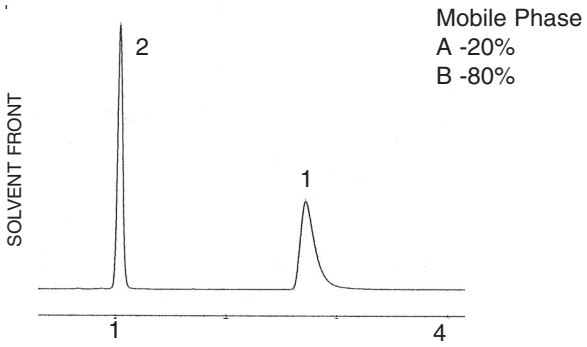
Using Aqueous Normal Phase *(ANP)* and Aqueous Reverse Phase *(ARP)* on One TYPE-C™ Based HPLC Column

Swap Peak Order… Can Your HPLC Column Do This?

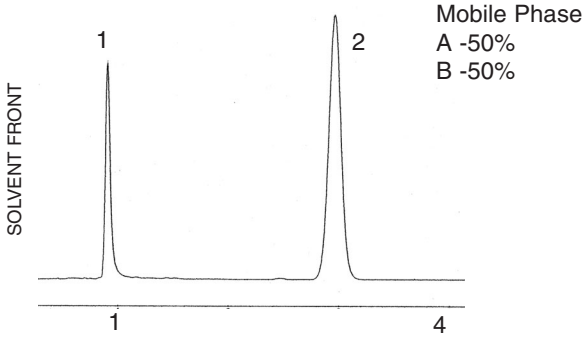
Retention Map



Chromatogram A:



Chromatogram B:



Peaks 1: Metformin Log P Minus 2.6
2: Glyburide Log P Plus 4.79

Method Conditions

Mobile Phase	**Chromatograms A & B** Solvent A: Aqueous (0.05% H_3P0_4) Solvent B: Acetonitrile
Column	Cogent UDC-Cholesterol™
Cat. No.	69069-75R
Dimensions	75 x 4.6mm id
Flow Rate	1.0 ml/min
Detection:	UV, 240nm

Retention Map:
Useful tool, for quickly developing methods in HPLC: Here, Phenol exhibits a typical reverse phase plot (ARP) while both Uracil and Pyridine are showing normal phase characteristics in aqueous conditions (ANP).

Discussion of Chromatograms

Chromatograms A & B
Peak 1 (Metformin) eluted with longer retention time as the concentration of Acetonitrile was increased. During the same run, **Peak 2** (Glyburide) elutes with shorter retention time as concentrations of Acetonitrile are increased.

Implications and Advantages
Metformin is a very polar pharmaceutical compound which, chromatographically, is very similar to Pyridine (see Retention Map above). Glyburide, a neutral pharmaceutical ingredient is often formulated with Metformin, which is so polar that it elutes on the solvent front on other C18, Cyano, Amino, Phenyl and F5 columns. To quantify these compounds, two runs with different methods were previously necessary.

Uses
By using one UDC-Cholesterol™ HPLC Column, you can isocratically achieve separation and get confirmation of your peaks with the column's orthogonal selectivity. Simply modify the mobile phase as shown here to save time and lab resources.

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