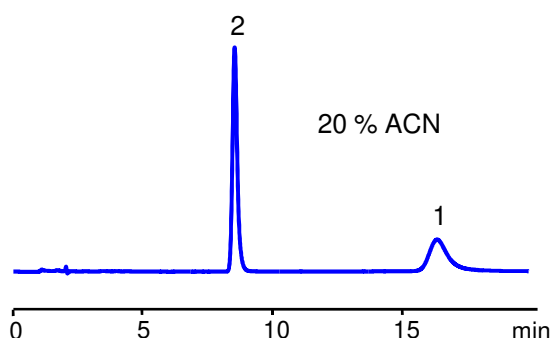
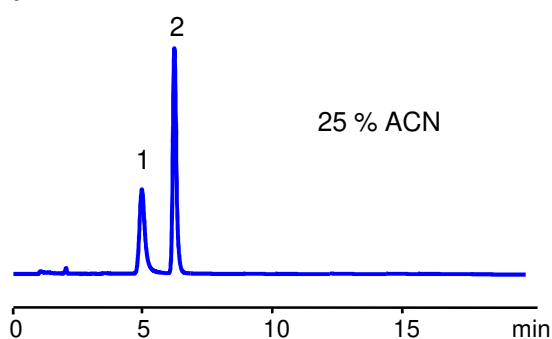
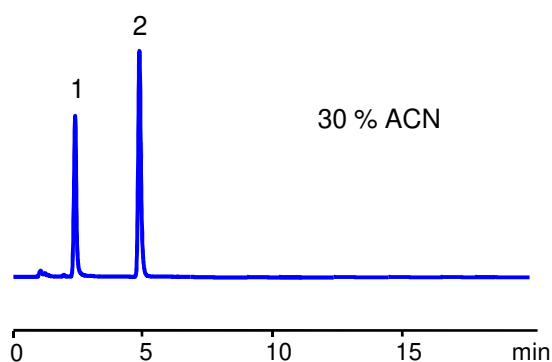


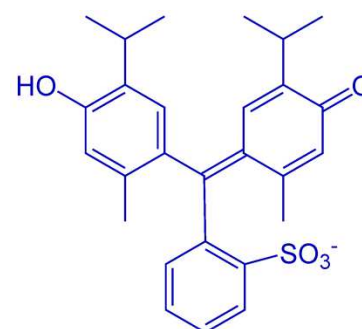
Cool Applications

"Making Tough LC Applications Look Cool"

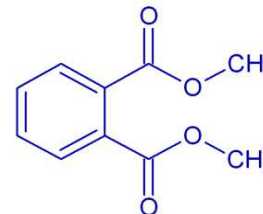
UNUSUAL RETENTION OF ACIDIC DYES ON MIXED-MODE COLUMN



1. Thymol blue



2. Dimethyl phthalate



Column:	Primesep 100
Part number:	100-46.250.0510
Column size:	4.6 x 150 mm, 5 μm
Mobile phase:	ACN/H ₂ O Formic Acid -0.1%
Flow rate:	1.0 ml/min
Detection:	UV 270 nm

Application Comments

The Primesep 100 column has a ligand with embedded negatively charged functional groups attached to a hydrophobic alkyl chain. This column provides hydrophobic and ion-exchange interaction with positively charged hydrophobic analytes.

Negatively charged analytes can be also retained on this column by the hydrophobic mechanism, however they show unusual retention characteristics due to repulsion charge effect. Thus the Thymol Blue molecule is retained at 20% ACN, but it is not well retained at 30% ACN. At the same time, neutral molecules are losing retention gradually on this column with an increase of ACN concentration as expected on a reverse phase column. This phenomenon opens up the opportunity to change the selectivity of the separation when the mixture of neutral and acidic compounds is analyzed.