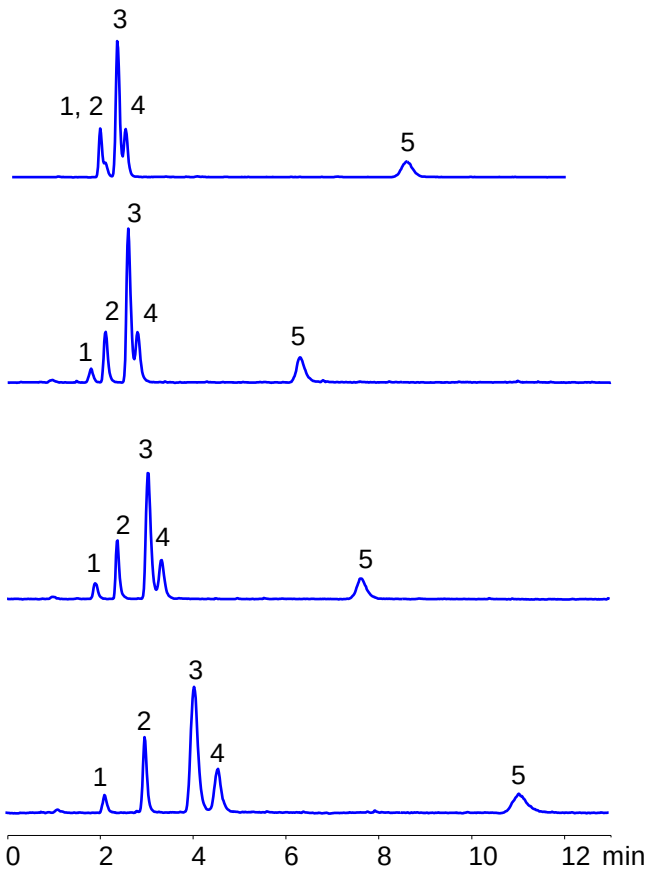
Analysis of Amino Acids in Mixed-Mode Chromatography - How to Tune Up Your Separation?



1. Chloride ion
2. Taurine
3. Threonine
4. Serine
5. Arginine

70% ACN with 30 mM AmFm pH 3

70% ACN with 60 mM AmAc pH 5

72% ACN with 56 mM AmAc pH 5

75% ACN with 50 mM AmAc pH 5

Column: Amaze TH
Dimensions: 3.0x100 mm, 3 um, 100A
Mobile phase: ACN/water/Ammonium buffer
Flow rate: 0.6 ml/min
Detection: ELSD, 45°C

Application Notes

What do you do when some of your peaks are co-eluting? Are you screening multiple reversed-phase or HILIC columns? How is this working for you? Too many columns? Too many experiments? Mixed-mode chromatography can help you to obtain a much better resolution between peaks since you are exploring multiple mechanisms of interaction. The amount of ACN, buffer pH, and buffer concentration can be used to control RP, HILIC, and ion-exchange mechanisms. You can change the ionization state of both the mixed-mode stationary phase and analyte. Amino acids are good examples of ionizable compounds which change hydrophilic/hydrophobic and basic/acidic properties based on the amount of ACN and buffer pH. Amino acids can exist in several different degree ionizable forms (acidic, basic, zwitterionic) which will determine what mechanisms are employed and which one is predominant. You can always find conditions to separate your co-eluting compounds. Learn more at www.helixchrom.com