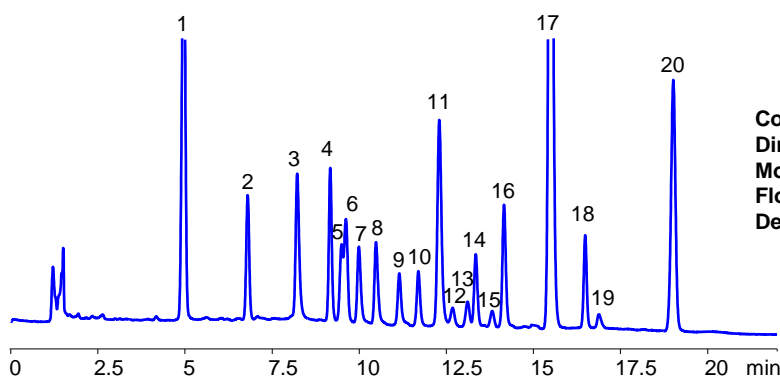


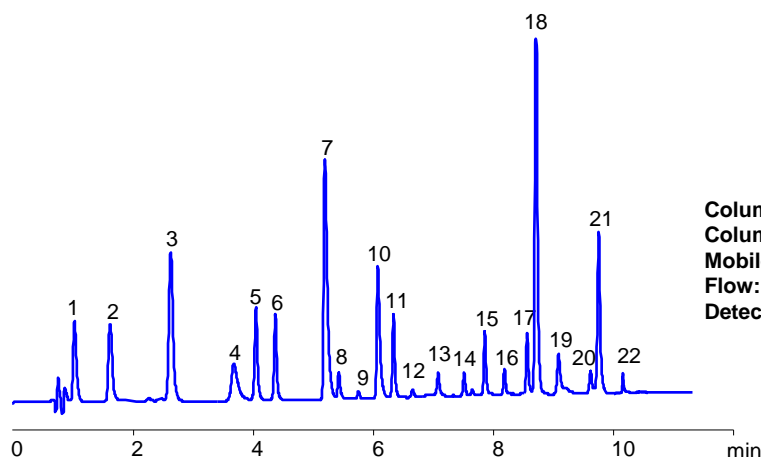
How to Achieve Better HPLC Separations



Column: Coresep SB
Dimensions: 4.6x150 mm
Mobile phase: ACN/water/acid
Flow: 1 ml/min
Detection: 220 nm

1. Dalapon
2. Unknown 1
3. Unknown 2
4. 2,4-DB
5. Dinoseb
6. MCPP
7. MCPA
8. Unknown 3
9. Dichlorprop
10. 2,4-D
11. Picloram
12. Dicamba
13. Silvex
14. Unknown 4
15. Unknown 5
16. 2,4,5-T
17. 3,5-DCBA
18. Unknown 6
19. Unknown 7
20. Pentachlorophenol

Fig. 1 HPLC Analysis of Acidic Herbicides in Reversed-Phase Anion-Exchange modes



Column: Coresep 100
Column size: 3.0 x 100 mm
Mobile Phase: ACN/Water/AmFm
Flow: 0.7 mL/min
Detection: UV 275 nm

1. Clopyralid
2. Sulfadiazine
3. Sulfamethazine
4. Cefepime
5. Metribuzin
6. Bromacil
7. 2,4-D
8. MCPA
9. Thiachlorid
10. 2,4,5-T
11. Diphenamid
12. Captan
13. 2,4-DB
14. Triadimephon
15. Azinfos Ethyl
16. Diazinon
17. Chlorpyrifos Methyl
18. Phoxim
19. Teramisol
20. Benfluralin
21. Dicofol
22. Hexachlorobenzene

Fig. 2 HPLC Analysis of Herbicides and Antibiotics in Reversed-Phase, Cation-Exchange and Anion-Exclusion Modes

Application Notes

Analysis of complex mixtures might be a challenging task when compounds are similar in ionic and hydrophobic/hydrophilic properties. Mixed-mode chromatography is exploring small differences in properties of analytes to achieve a much better resolution of all your peaks. No matter if you have two peaks or 20 peaks, the unique selectivity of mixed-mode will allow you to achieve robust separations. Here are two examples for analysis of herbicides. In the first one, we received a mixture of 13 herbicides but discovered that we have 20 peaks. Why? Because we explored small differences in hydrophobic and ionic (in this case anion-exchange properties) properties to achieve your separations. In the second application, you can see how compounds of different natures can be separated in mixed-mode chromatography. Like some heavyweight fighters, mixed-mode chromatography is the best "pound-for-pound" or peak-for-peak alternative in your method development. Become a better "fighter" by learning mixed-mode chromatography at www.helixchrom.com