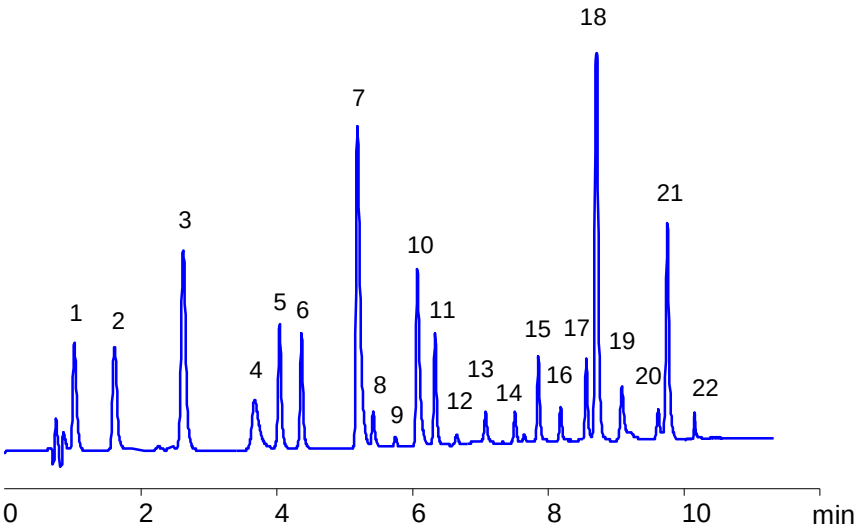
Fast and Versatile Mixed-Mode Approach for HPLC Separation of Basic, Acidic and Neutral Pesticides and Antibiotics in One Run

Column:	**Coresep 100**
Column size:	3.2x100 mm, 2.7 um, 90A
Mobile phase:	ACN/water/AmFm double gradient
Flow rate:	0.7 ml/min
Detection:	UV 275 nm (MS-compatible mobile phase)



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

Application Notes

Developing a versatile approach for the analysis of various compounds in one run can save a lot of time and money in method development. We have developed a short robust method for baseline separation of 22 acidic, basic and neutral herbicides and antibiotics in one run.

Compounds are separated and retained by combination of ion-exchange and reversed-phase mechanisms. Independent control of retention time for ionizable and non-ionizable compounds allows to change order of elution for compounds of different nature.

The method is fully compatible with mass spectrometry and demonstrates extremely sharp peaks due to double gradient and focusing effects observed in mixed-mode chromatography. Herbicides, pesticides, insecticides, antibiotics and drugs can be analyzed with this approach in various matrices (biofluids, waste waters, soil, etc.).

Coresep 100 mixed-mode column can be used for analysis of organic and inorganic substances. It is compatible with all detection techniques (UV, MS, RI, ELSD, CAD) and preparative chromatography.