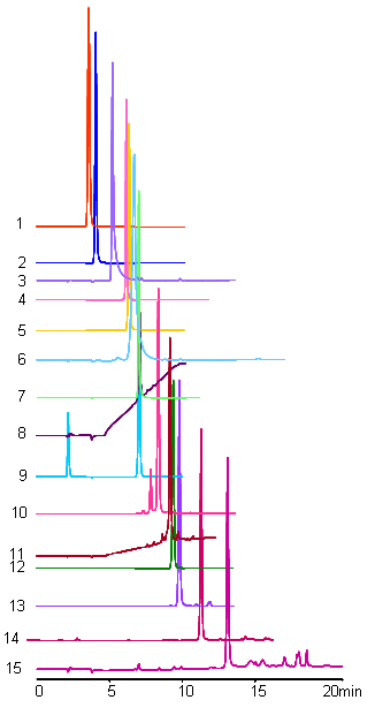
Separation of Antibiotics in Mixed-mode chromatography



Column: **Obelisc R**
Size: 4.6 x 150 mm
Mobile phase: MeCN gradient 0% to 25% in 6 min, then to70% for 14 min, Formic acid gradient from 0.05% to 0.3% in 6 min, then 0.3% for 14 min
Flow: 1.0 mL/min
Detection: UV 270 nm

1. Sulphanilamide
2. Sulphaguanidine
3. Oxytetracycline
4. Marbofloxacin
5. Sulphadiazine
6. Chlortetracycline
7. Nofloxacin
8. Spiramycin
9. Cefalonium
10. Tylosin
11. Josamycin
12. Sulphamethoxazole
13. Dapsone
14. Sulphaquinoxalline
15. Flumequine

A complex mixture of sulphonamide, macrolide, tetracycline and fluoroquinolone antibiotics were separated in one run using mixed-mode chromatography with LC/MS -compatible conditions. All compounds are separated based on reversed-phase and/or ion-exchange mechanism. Method can be used for analysis of various classes of antibiotics and related impurities in different sample matrices (blood, urine, soil, waste water).

SIELC has developed the Obelisc™ columns, which are mixed-mode and utilize Liquid Separation Cell technology (LiSC™). These cost-effective columns are the first of their kind to be commercially available and can replace multiple HPLC columns, including reversed-phase (RP), AQ-type reversed-phase, polar-embedded group RP columns, normal-phase, cation-exchange, anion-exchange, ion-exclusion, and HILIC (Hydrophilic Interaction Liquid Chromatography) columns. By controlling just three orthogonal method parameters - buffer concentration, buffer pH, and organic modifier concentration - users can adjust the column properties with pinpoint precision to separate complex mixtures.

Method Parameters

Column	Obelisc R, 2.1×150 mm, 5 µm, 100 Å
Mobile Phase	Gradient MeCN – 0-25%, 6 min, 25-70% 14 min
Buffer	Gradient Formic Acid – 0.05%-0.3%, 10 min, 14 min hold
Flow Rate	1.0 mL/min
Detection	UV, 270 nm

Quelle: https://sielc.com/Separation%20of%20Antibiotics%20in%20Mixed-mode%20chromatography