



Reversed Phase HPLC Separation of Cephalosporins on a Kinetex[®] 5 μm F5 Column

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Overview

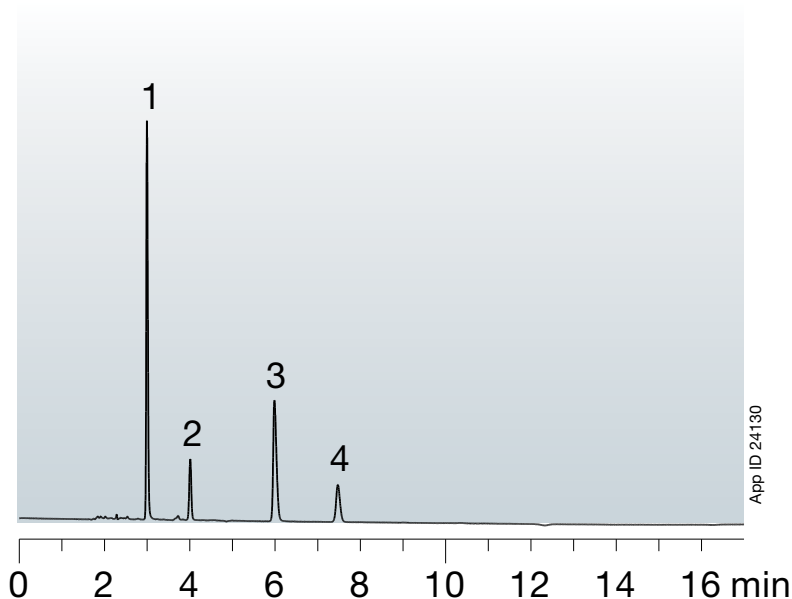
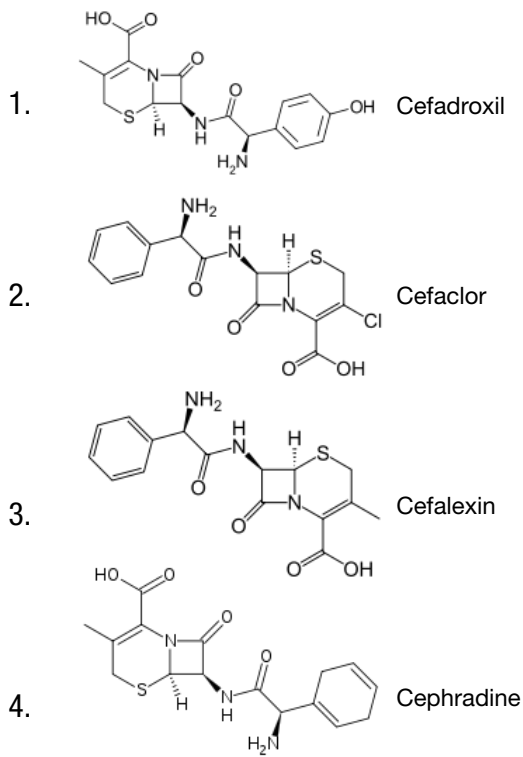
Cephalosporins are naturally occurring compounds derived from the fungus *Acremonium*. They were first discovered by an Italian pharmacologist named, Giuseppe Brotzu in 1945 and brought into the global market in 1964. Initially these compounds were thought to only be effective against gram-positive bacteria, though more recent developments in the production and isolation of these compounds have extended some efficacy in the activity against gram-negative bacteria as well. This characteristic makes these compounds particularly significant in the eradication of bacterial infections and diseases. With such emphasis on these medications, a fast, efficient, and robust analytical separation for the analysis of these compounds is vital. This application illustrates the use of the versatile Kinetex 5 μm F5 for the complete separation of all compounds. The core-shell 5 μm particle provides excellent HPLC efficiency at very low HPLC pressures, while the five retention mechanisms (hydrophobic, aromatic, electrostatic, planar, hydrogen bonding) associated with the pentafluorophenyl F5 phase deliver the excellent separation seen below.

LC Conditions

Column: Kinetex 5 μm F5
Dimensions: 150 x 4.6 mm
Part No.: 00F-4724-E0
Mobile Phase: 20 mM Potassium Phosphate pH 2.5/Acetonitrile (85:15)
Gradient:

Time (min)	% B
0	25
10	65

Injection Volume: 1 μL
Flow Rate: 1 mL/min
Temperature: 22 °C
Detection: UV @ 254 nm
Analytes: 1. Cefadroxil
2. Cefaclor
3. Cefalexin
4. Cephradine



APPLICATION

Kinetex[®] Ordering Information

5 µm Minibore Columns (mm)					SecurityGuard [™] ULTRA Cartridges [‡]
Phases	30 x 2.1	50 x 2.1	100 x 2.1	150 x 2.1	3/pk
F5	00A-4724-AN	00B-4724-AN	00D-4724-AN	00F-4724-AN	AJO-9322 for 2.1 mm ID

5 µm MidBore [™] Columns (mm)				SecurityGuard [™] ULTRA Cartridges [‡]
Phases	50 x 3.0	100 x 3.0	150 x 3.0	3/pk
F5	00B-4724-YO	00D-4724-YO	00F-4724-YO	AJO-9321 for 3.0 mm ID

5 µm Analytical Columns (mm)					SecurityGuard [™] ULTRA Cartridges [‡]
Phases	50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6	3/pk
F5	00B-4724-E0	00D-4724-E0	00F-4724-E0	00G-4724-E0	AJO-9320 for 4.6 mm ID

2.6 µm Minibore Columns (mm)					SecurityGuard [™] ULTRA Cartridges [‡]
Phases	30 x 2.1	50 x 2.1	100 x 2.1	150 x 2.1	3/pk
F5	00A-4723-AN	00B-4723-AN	00D-4723-AN	00F-4723-AN	AJO-9322 for 2.1 mm ID

2.6 µm MidBore [™] Columns (mm)				SecurityGuard [™] ULTRA Cartridges [‡]
Phases	50 x 3.0	100 x 3.0	150 x 3.0	3/pk
F5	00B-4723-YO	00D-4723-YO	00F-4723-YO	AJO-9321 for 3.0 mm ID

2.6 µm Analytical Columns (mm)				SecurityGuard [™] ULTRA Cartridges [‡]
Phases	50 x 4.6	100 x 4.6	150 x 4.6	3/pk
F5	00B-4723-E0	00D-4723-E0	00F-4723-E0	AJO-9320 for 4.6 mm ID

1.7 µm Minibore Columns (mm)				SecurityGuard [™] ULTRA Cartridges [‡]
Phases	50 x 2.1	100 x 2.1	150 x 2.1	3/pk
F5	00B-4722-AN	00D-4722-AN	00F-4722-AN	AJO-9322 for 2.1 mm ID

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If Kinetex analytical columns do not provide at least an equivalent separation as compared to a competing column of the same particle size, similar phase and dimensions, return the column with comparative data within 45 days for a FULL REFUND.

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