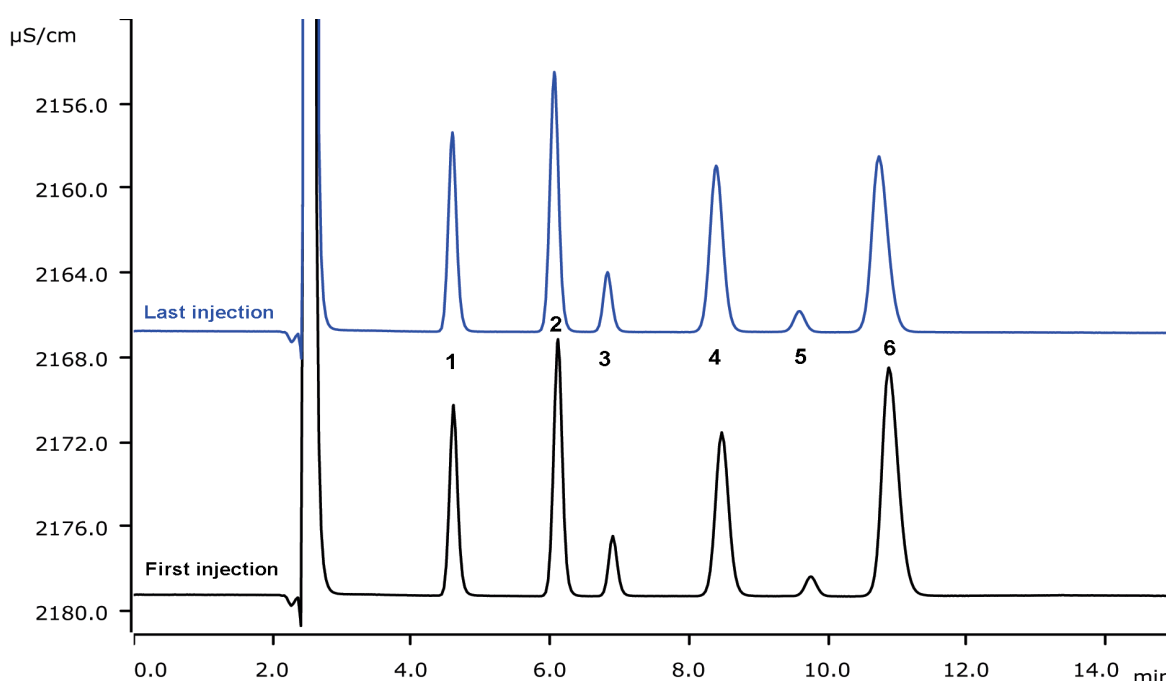


Column stability of Metrosep C 6 - 250/4.0 after Inline Ultrafiltration and Inline Eluent Preparation



The stability of the Metrosep C 6 - 250/4.0 has been tested under lab conditions. For six consecutive days, two series of injections were done – 9 × tap water, 3 × check standard, 6 × tap water –; on the 7th day, the system was shut down. The instrument was running for over 10 weeks with a total of 2150 injections. The excellent data reproducibility underlines the very stable column performance.

Results

Anion	Concentration [mg/L]	Anion	Concentration [mg/L]
1 Lithium	2.0	4 Magnesium	5.0
2 Sodium	10.0	5 Potassium	2.0
3 Ammonium	2.0	6 Calcium	10.0

Reproducibility of QC injections

n = 135	RSD [%]		
	Retention time	Theor. plates	Recovery
Lithium	0.2	4.9	2.8
Sodium	0.4	3.8	5.8
Ammonium	0.4	3.2	1.6
Magnesium	0.4	3.1	2.4
Potassium	0.7	2.4	2.8
Calcium	0.6	2.0	5.5

Sample

Standard solution, tap water

Sample preparation

Inline Ultrafiltration

Columns

Metrosep C 6 - 250/4.0	6.1051.430
Metrosep C 4 Guard/4.0	6.1050.500

Solutions

Eluent concentrate	145 mmol/L nitric acid
Eluent	7.25 mmol/L nitric acid

Analysis

Direct conductivity detection

Parameters

Flow rate	0.9 mL/min
Injection volume (MiPT)	20 µL
P _{max}	20 MPa
Recording time	15 min
Column temperature	30 °C

Instrumentation

940 Professional IC Vario ONE	2.940.1100
IC Conductivity Detector	2.850.9010
858 Professional Sample Processor	2.858.0020
941 Eluent Production Module	2.941.0010
ELGA PURELAB® Flex 6	
IC equipment: Inline Ultrafiltration	6.5330.110



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