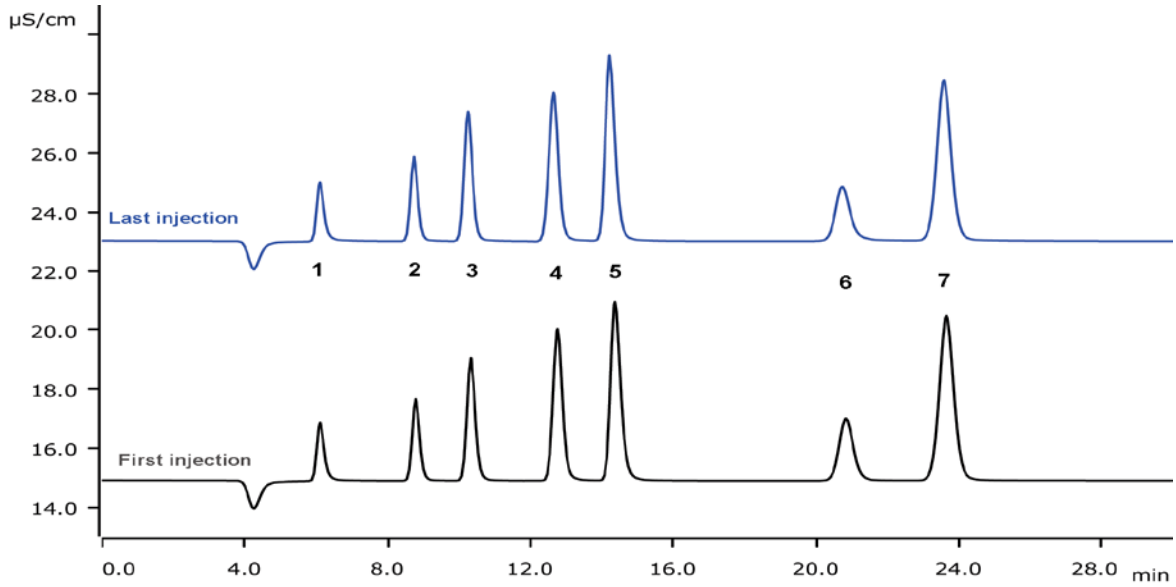
IC Application Note S–332

Column stability of Metrosep A Supp 5 - 250/2.0 applying Inline Ultrafiltration and Inline Eluent Preparation



The stability of the microbore version of the Metrosep A Supp 5 - 250/2.0 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 12 weeks with a total of 2650 injections. The excellent data reproducibility underlines the very stable column performance.

Results

	Anion	Concentration [mg/L]		Anion	Concentration [mg/L]
1	Fluoride	1	5	Nitrate	10
2	Chloride	2	6	Phosphate	10
3	Nitrite	5	7	Sulfate	10
4	Bromide	10			

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Sample

Standard solution, tap water

Sample preparation

Inline Ultrafiltration

Columns

Metrosep A Supp 5 - 250/2.0	6.1006.230
Metrosep A Supp 5 Guard/2.0	6.1006.600

Solutions

Eluent concentrate	64 mmol/L sodium carbonate 20 mmol/L sodium hydrogen carbonate
Eluent	3.2 mmol/L sodium carbonate 1.0 mmol/L sodium hydrogen carbonate
Suppressor regenerant	100 mmol/L sulfuric acid
Rinsing solution	STREAM

Analysis

Conductivity detection after chemical suppression

Parameters

Flow rate	0.18 mL/min
Injection volume (MiPT)	10 µL
P_{max}	20 MPa
Recording time	30 min
Column temperature	30 °C

Instrumentation

940 Professional IC Vario ONE/ChS/PP	2.940.1300
IC Conductivity Detector	2.850.9010
941 Eluent Production Module	2.941.0010
942 Extension Module Vario LQH	2.942.0070
ELGA PURELAB® Flex 6	
MSM-LC Rotor A	6.2844.000
Adaptor sleeve Suppressor Vario	6.2842.020
IC equipment: Inline Ultrafiltration	6.5330.110

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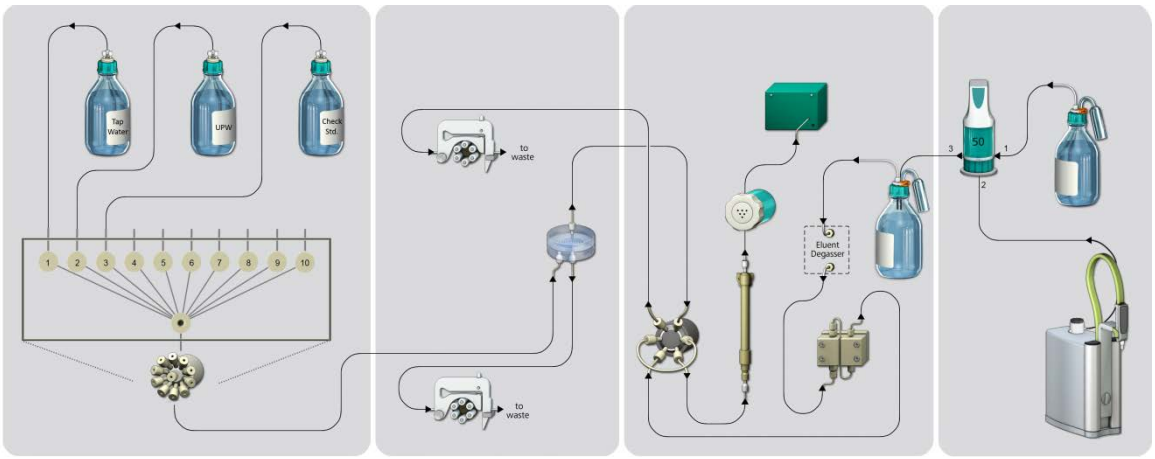
Flow chart



The samples were injected through port 1, the check standard was injected through port 3, standards for calibration were injected through port 4 and ultrapure water was supplied through port 2 of the 10-port selector valve of the 942 Extension Module Vario LQH.