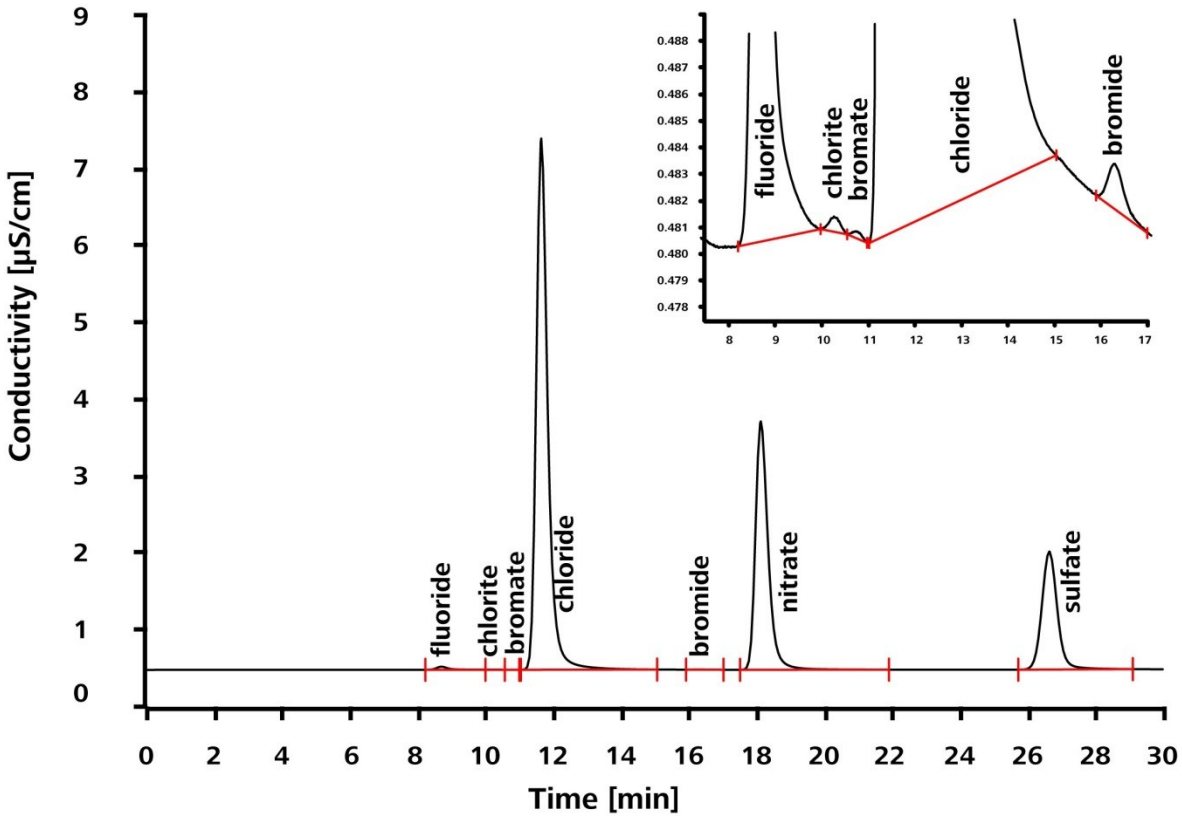
IC Application Note S–333

Chlorite and bromate in drinking water on a microbore column



The determination of disinfection byproducts is crucial for drinking water manufacturers. Here, the determination of chlorite and bromate besides the standard anions is shown. To reduce the eluent consumption, the separation ocurrs on the microbore column Metrosep A Supp 5 - 250/2.0 followed by conductivity detection after sequential suppression.

Results

Tap water spiked	Concentration [mg/L]	Anion	Concentration [mg/L]
Fluoride	0.053	Bromide	0.008
Chlorite	0.05*)	Nitrate	8.82
Bromate	0.05*)	Sulfate	5.21
Chloride	9.19		

*) spiked

Metrohm

Sample

Drinking water (tap water)

Sample preparation

None

Columns

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

Solutions

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 sequential suppression

Parameters

Flow rate	0.18 mL/min
Injection volume	5 µL
P_{max}	20 MPa
Recording time	30 min
Column temperature	25 °C

Instrumentation

940 Professional IC Vario ONE/SeS/PP	2.940.1500
IC Conductivity Detector	2.850.9010
858 Professional Sample Processor	2.858.0020
MSM-LC Rotor A	6.2844.000
Adaptor sleeve for Suppressor Vario	6.2842.020