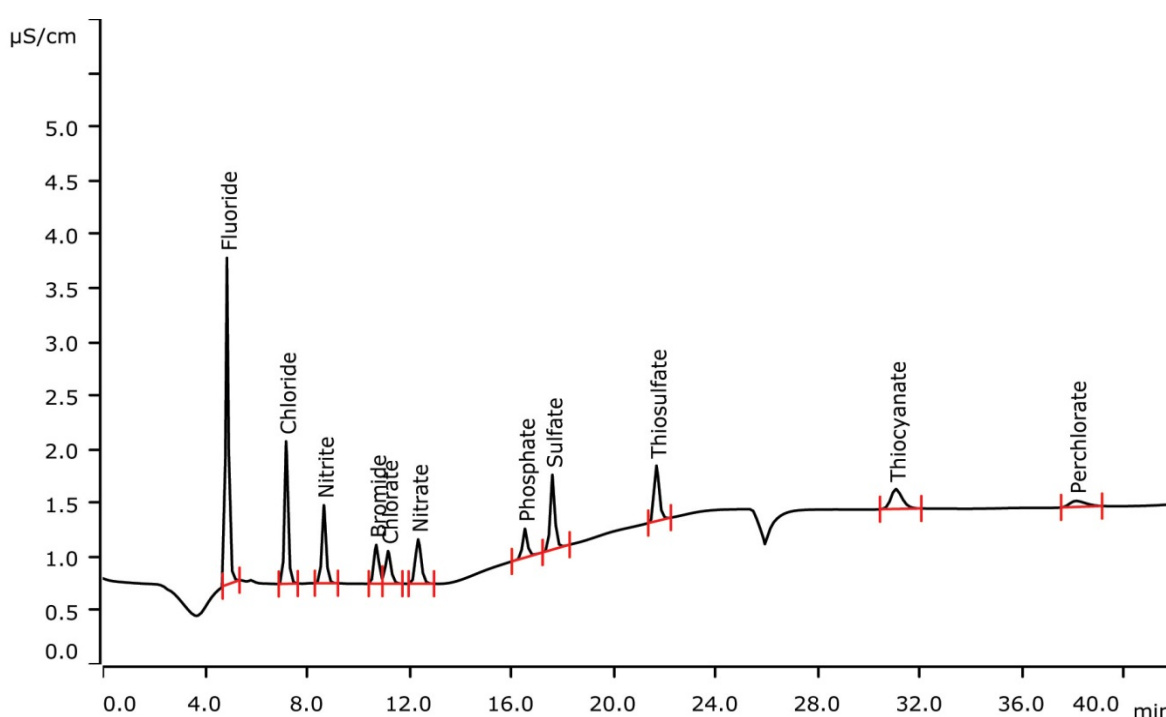


Chlorate, thiosulfate, thiocyanate, and perchlorate besides standard anions applying a Dose-in Gradient



The Dose-in Gradient setup extends a standard IC system to gradient capability. With isocratic elution, the determination of oxyhalides and sulfur-containing anions results in long run times. By only adding a 800 Dosino and a T-piece, the isocratic system becomes a binary gradient system. This is shown for the determination of standard anions plus chlorate, thiosulfate, thiocyanate, and perchlorate.

Results

Fluoride, chloride, nitrite, bromide, chlorate, nitrate, phosphate, sulfate, thiosulfate, thiocyanate, perchlorate

1.0 mg/L

Sample

Standard solution

Sample preparation

none

Columns

Metrosep A Supp 7 - 150/4.0	6.1006.620
Metrosep A Supp 4/5 Guard/4.0	6.1006.500

Solutions

Eluent A	Ultrapure water
<u>Eluent B</u>	20 mmol/L sodium carbonate
Suppressor regenerant	100 mmol/L sulfuric acid
Rinsing solution	Ultrapure water

Parameters

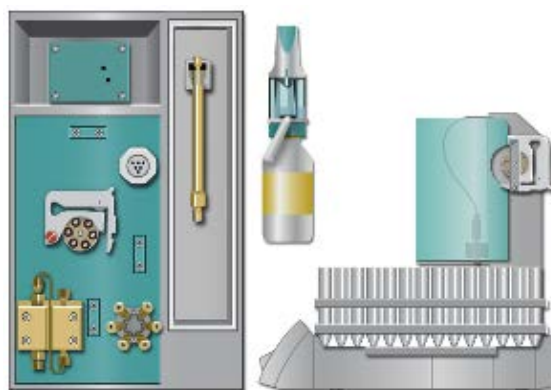
Flow rate	0.8 mL/min
Injection volume	20 µL
P _{max}	15 MPa
Recording time	42 min
Column temperature	55 °C

Analysis

Conductivity after Dose-in Gradient and subsequent sequential suppression

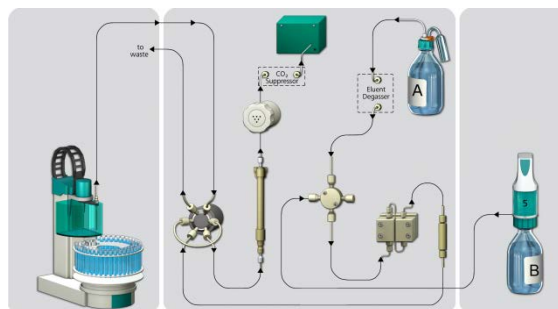
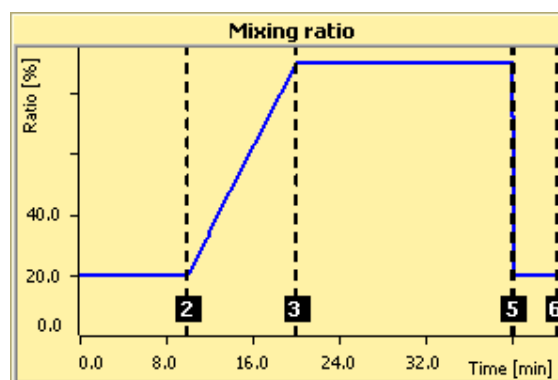
Instrumentation

881 Compact IC pro – Anion – MCS	2.881.0030
IC Conductivity Detector	2.850.9010
863 Compact Autosampler	2.863.0010
IC equipment for Dosino gradient	6.5330.050
800 Dosino	2.800.0010
Dosing unit 50 mL	6.3032.250



Gradient profile

Time	Ratio B [%]	Curve
Start	20.0	
10.0	20.0	Linear
20.0	90.0	Linear
40.0	90.0	Linear
40.1	20.0	Linear
44.2	20.0	Linear



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