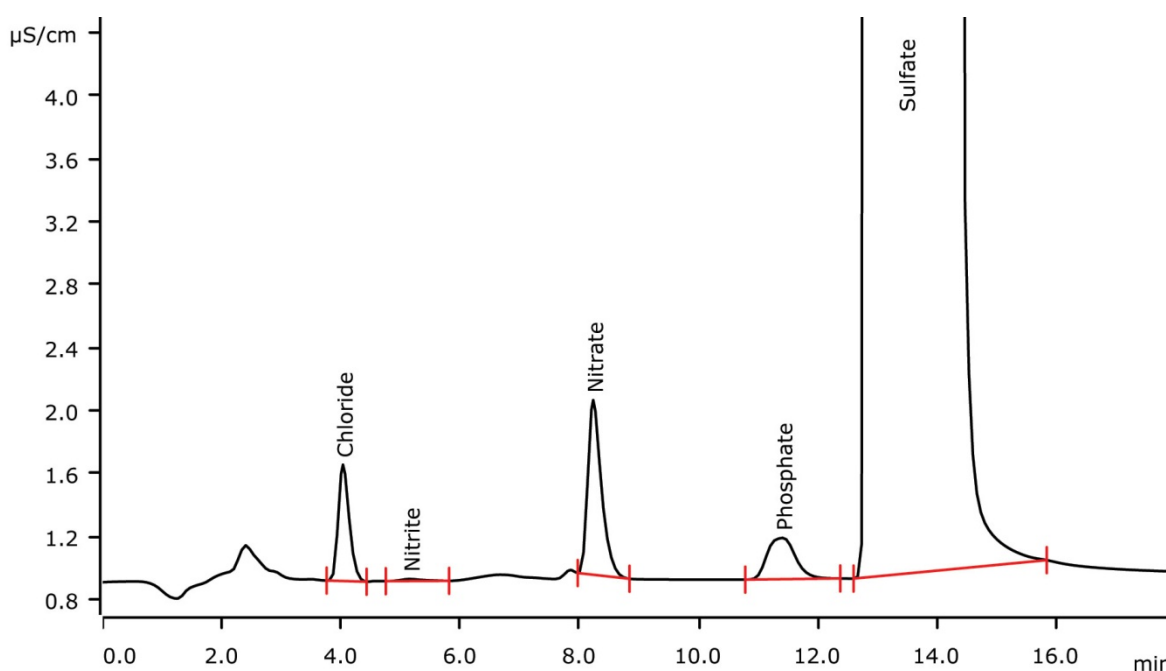# Halogens in a highly viscous petrochemical sample applying Combustion IC

Determination of chloride and sulfate (not quantified) in a highly viscous petrochemical sample applying sample combustion followed by anion chromatography with conductivity detection after sequential suppression. The sample has a particularly high sulfate content.

Results

	Mean (injected) [mg/L]	Mean (in sample) [mg/kg]
Chloride	0.28	36.5
Nitrite	n.q.	
Nitrate	n.q.	
Phosphate (internal standard)	1.00	
Sulfate	n.q.	

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Sample

Viscous oil

Sample preparation

Combustion

Columns

Metrosep A Supp 5 - 150/4.0	6.1006.520
Metrosep A Supp 4/5 Guard/4.0	6.1006.500

Solutions

Eluent	3.2 mmol/L sodium carbonate
	1.0 mmol/L sodium hydrogen carbonate
Suppressor regenerant	100 mmol/L sulfuric acid
Rinsing solution	Ultrapure water
Absorbtion solution	300 mg/L hydrogen peroxide 1.0 mg/L phosphate

Analysis

Conductivity after sequential suppression

Parameters

Flow rate	0.7 mL/min
Injection volume	100 µL
P_{max}	15 MPa
Recording time	18 min
Column temperature	30 °C

Combustion parameters

Oven temperature	
Inlet/outlet	900/1000 °C
Absorption solution	5.0 mL

Instrumentation

881 Compact IC pro – Anion – MCS	2.881.0030
IC Conductivity Detector	2.850.9010
Remote box	6.2148.010
Mitsubishi AQF-100	*
Mitsubishi ABC-100	*
Mitsubishi WS-100	*
Mitsubishi GA-100	*

 * from local Mitsubishi distributor / not shown in system graphic below

Ω Metrohm