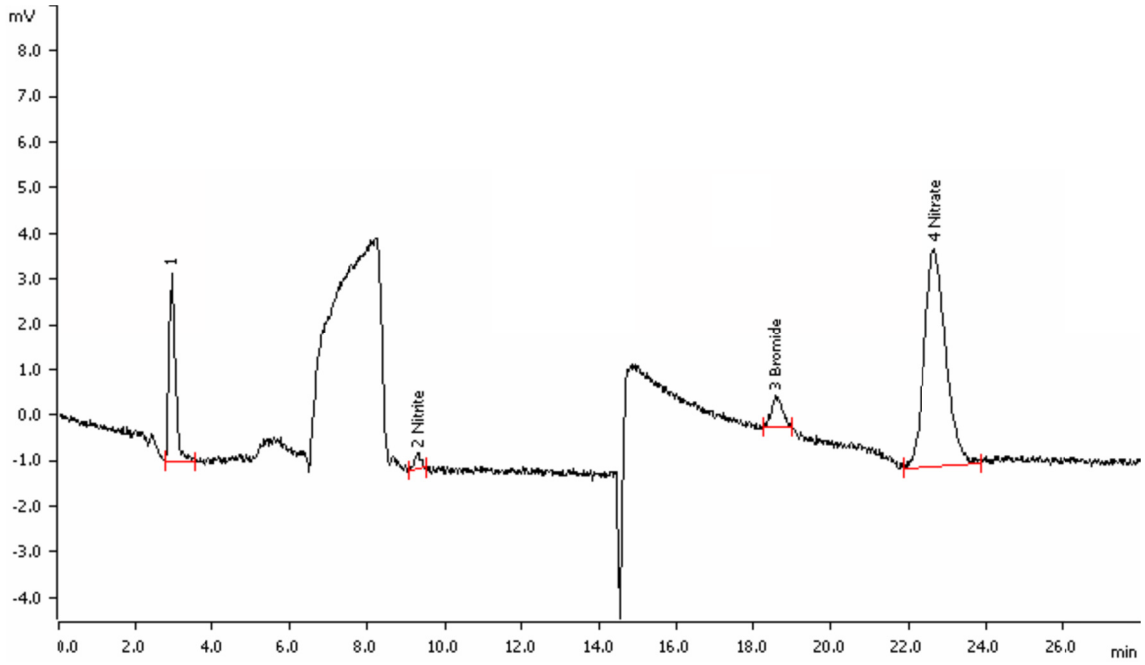
IC Application Note U–56

Nitrite, bromide and nitrate in artificial sea water applying direct UV/VIS detection



Seawater analysis with conductivity detection is difficult due to the high excess of chloride. Especially analyzing for nitrite and bromide, UV/VIS detection is preferred as chloride is not interfering with nitrite at 218 nm. This AN shows the determination of all three UV-absorbing anions in an artificial seawater.

Results

Peak number	Anion	mg/L
1	Injection peak	
2	Nitrite	0.08
3	Bromide	0.18
4	Nitrate	3.40

Metrohm

Method description

Sample

Artificial seawater

Sample preparation

Filtration through 0.2 µm, partial loop injection

Column

Metrosep A Supp 10 - 250/4.0	6.1020.030
Metrosep A Supp 10 Guard/4.0	6.1020.500

Solutions

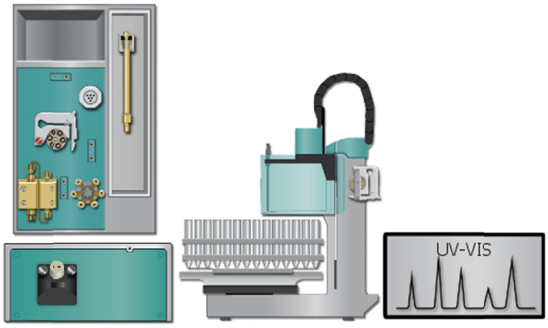
Eluent:	5.0 mmol/L sodium carbonate 5.0 mmol/L sodium hydrogen carbonate 2.5% acetone

Analysis

UV detection	218 nm

Parameters

Flow rate	1.0 mL/min
Injection volume	5 µL
P_{max}	20.0 MPa
Recording time	28 min
Column temperature	50 °C



Instrumentation

881 Compact IC pro – Anion – MCS	2.881.0030
887 Professional UV/VIS Detector	2.887.0010
858 Professional Sample Processor	2.858.0020

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Metrohm