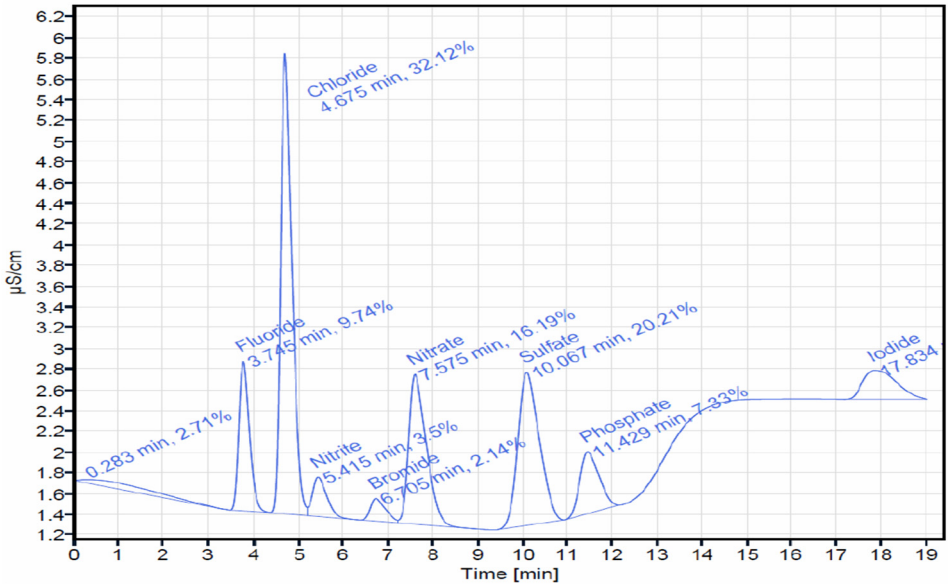
IC Application Note S–383

# Metrohm IC Driver for OpenLab CDS: Anions with Dose-in Gradient and Dosino Regeneration

## Working with Dosinos in OpenLab: Determination of anions applying a Dose-in Gradient, Dosino Regeneration, and full control by OpenLab CDS.




Anion chromatogram of eight anions while applying a Dose-in gradient, acquired by OpenLab CDS.

OpenLab CDS is the newest generation of chromatography data systems from Agilent. The Metrohm IC Driver 1.0 for OpenLab CDS implements Metrohm ion chromatographs in OpenLab CDS for full control and data acquisition. This application shows the use of a gradient (Dose-in Gradient) as well as Dosino Regeneration in OpenLab CDS. Fluoride, chloride, nitrite, bromide, nitrate, sulfate, phosphate, and iodide in a standard solution are separated and determined.

## Results

| | Anion | Result [mg/L] | | Anion | Result [mg/L] |
|---|---|---|---|---|---|
| 1 | Fluoride | 1.0 | 5 | Nitrate | 5.0 |
| 2 | Chloride | 5.0 | 6 | Sulfate | 5.0 |
| 3 | Nitrite | 1.0 | 7 | Phosphate | 5.0 |
| 4 | Bromide | 1.0 | 8 | Iodide | 5.0 |

Metrohm

## Sample

Standard solution

## Sample preparation

Direct injection

## Columns

| | |
|---|---|
| Metrosep A Supp 17 - 150/4.0 | 6.01032.420 |
| Metrosep A Supp 17 Guard/4.0 | 6.01032.500 |

## Solutions

| | |
|---|---|
| Eluent A | 5.0 mmol/L sodium carbonate<br>0.2 mmol/L sodium hydrogen carbonate |
| Eluent B (Dosino) | 50 mmol/L sodium carbonate<br>2.0 mmol/L sodium hydrogen carbonate |
| Regenerant | 100 mmol/L phosphoric acid |
| Rinsing | STREAM |

## Instrumentation

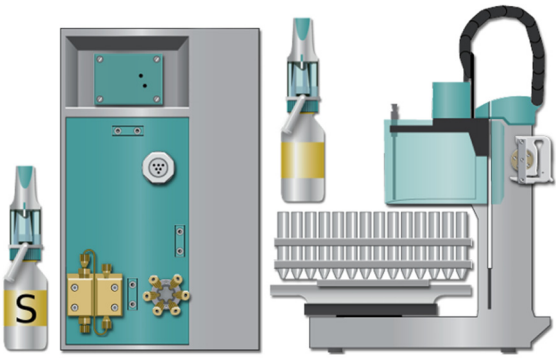
| | |
|---|---|
| 930 Compact IV Flex SeS/Deg | 2.930.1460 |
| IC Conductivity Detector | 2.850.9010 |
| 858 Professional Sample Processor | 2.858.0020 |
| 800 Dosino (gradient) | 2.800.0010 |
| 800 Dosino (MSM regeneration) | 2.800.0010 |
| MSM Rotor A | 6.2832.000 |
| Adapter sleeve for Suppressor Vario | 6.2842.020 |
| IC equipment: Dosino regeneration | 6.5330.190 |
| IC equipment: Additional eluent | 6.5330.090 |
| EMPTY sensor for 2 L bottles | 6.2769.110 |
| Metrohm IC Driver 1.0 for OpenLab CDS | 6.6080.100 |
| OpenLab CDS 2.4 (Agilent) | |

## Analysis

Conductivity detection after sequential suppression

## Parameters

| | |
|---|---|
| Flow rate | 0.7 mL/min |
| Injection volume | 20 µL |
| $P_{max}$ | 18 MPa |
| Column temperature | Ambient |
| Recording time | 19 min |




## Dose-in Gradient