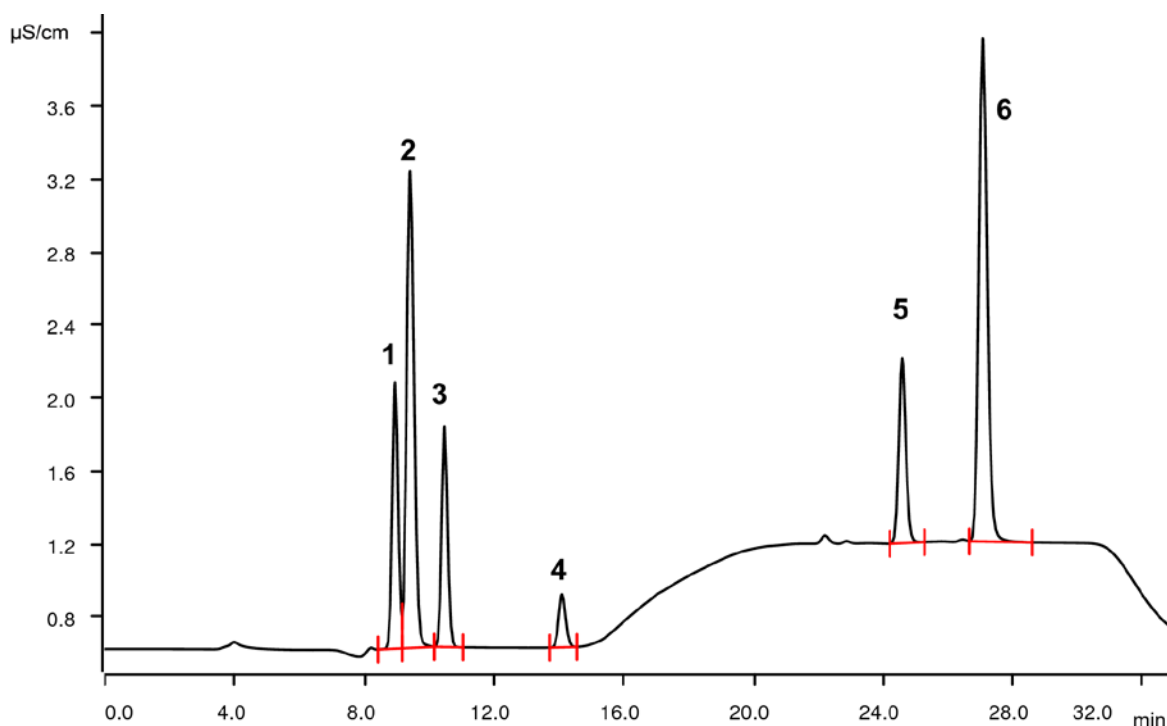


Anions in N,N-dimethylglycine sodium salt applying a Dose-in Gradient



N,N-dimethylglycine is an amino acid derivative found in plants and animals. The respective sodium salt is available as nutritional supplement. In this context it is expected to have athletic performance enhancer effects and acts against fatigue. It is also accepted as a poultry feed addition. The determination is performed applying a Dose-in Gradient with subsequent conductivity detection after sequential suppression. To enhance the selectivity of the separation, a combination of a Metrosep A Supp 7 - 250/4.0 and a Metrosep A Supp 16 Guard/4.0 was used.

Results

| Sample | Concentration [mg/L] | Sample | Concentration [mg/L] |
|-------------|----------------------|------------|----------------------|
| 1 Glycolate | 336.6 | 4 Chloride | 45.6 |
| 2 Acetate | 780.0 | 5 Sulfate | 166.3 |
| 3 Formate | 161.5 | 6 Oxalate | 502.1 |

Sample

Dilution 1:100 with ultrapure water

Sample preparation

Metrohm Inline Ultrafiltration prior to injection.

Columns

| | |
|------------------------------|------------|
| Metrosep A Supp 7 - 250/4.0 | 6.1006.630 |
| Metrosep A Supp 16 Guard/4.0 | 6.1031.500 |

Solutions

| | |
|--------------------------------------|--|
| Eluent A (Inline Eluent Preparation) | 1.8 mmol/L sodium carbonate 0.56 mmol/L sodium hydrogen carbonate |
| Eluent B (eluent concentrate) | 32.0 mmol/L sodium carbonate 10 mmol/L sodium hydrogen carbonate |
| Suppressor regenerant | 250 mmol/L sulfuric acid |
| Rinsing solution | STREAM |

Analysis

Conductivity detection after sequential suppression

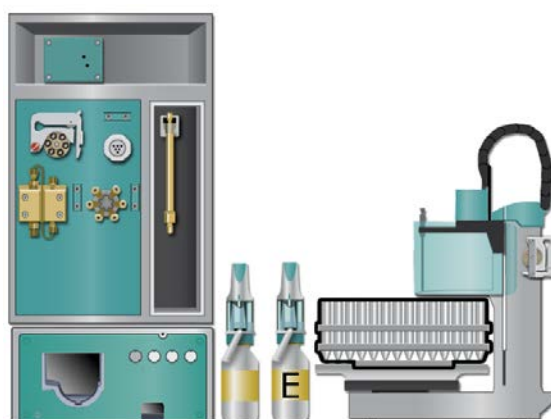
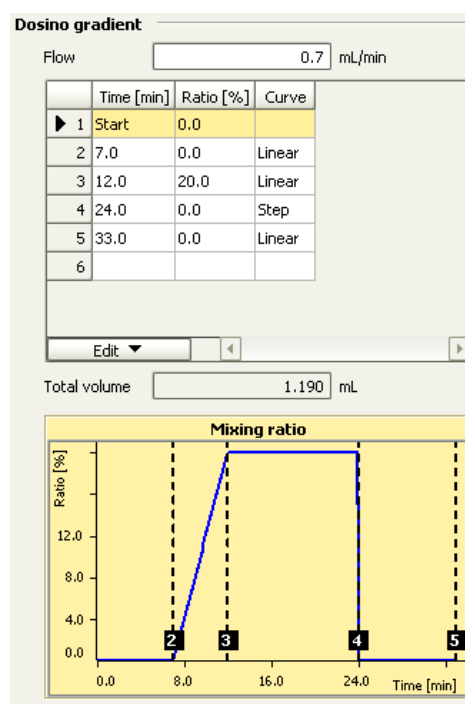
Instrumentation

| | |
|---------------------------------------|------------|
| 940 Professional IC ONE/SeS/PP | 2.940.1500 |
| IC Conductivity Detector | 2.850.9010 |
| 858 Professional Sample Processor | 2.858.0020 |
| 941 Eluent Preparation Module | 2.941.0010 |
| 800 Dosino | 2.800.0010 |
| IC equipment: Inline Ultrafiltration | 6.5330.110 |
| IC equipment: Dose-in Gradient Anions | 6.5330.150 |
| MSM Rotor A | 6.2832.000 |
| Adapter sleeve for Suppressor Vario | 6.2842.020 |

Parameters

| | |
|--------------------|------------|
| Flow rate | 0.7 mL/min |
| Injection volume | 20 µL |
| P _{max} | 15 MPa |
| Recording time | 33 min |
| Column temperature | 45 °C |

Gradient parameters



www.metrohm.com

 **Metrohm**