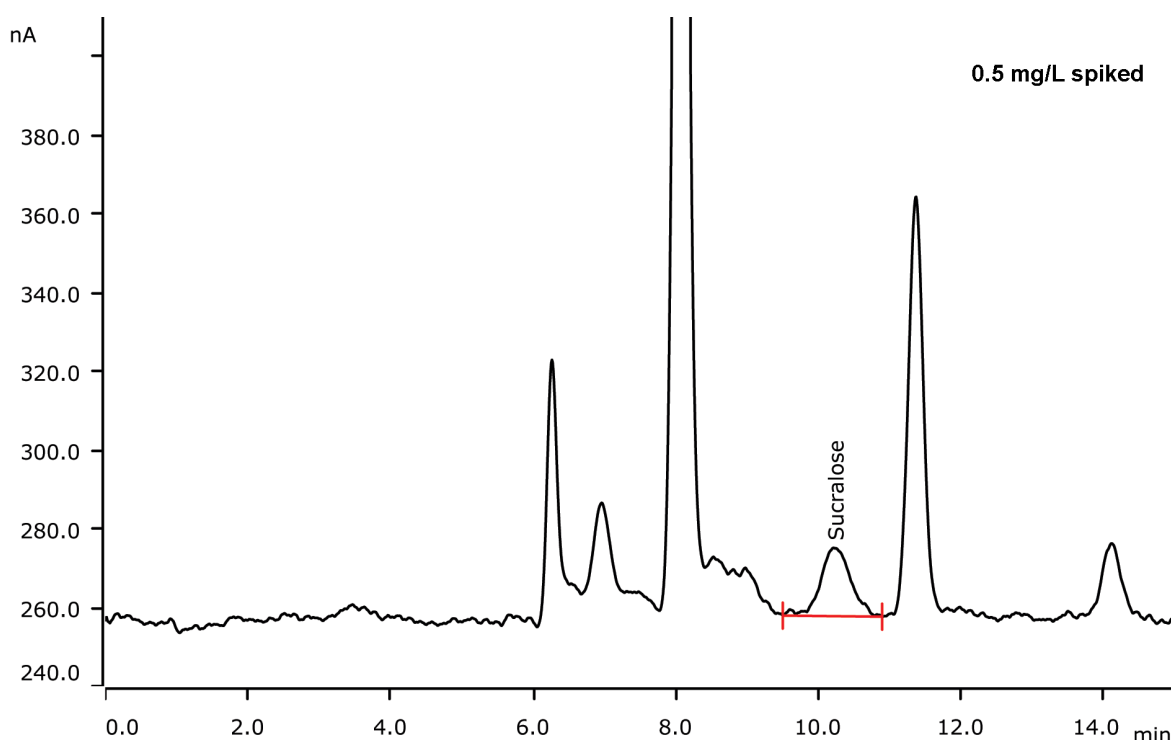


Sucralose in soft drink applying post-column addition of NaOH and subsequent PAD



Sucralose is an artificial, non-nutritive sweetener which is approx. 600 times sweeter than sucrose. It therefore is used in low-calorie soft drinks. Sucralose is determined in a soft drink applying ion-exclusion chromatography. To enable the pulsed amperometric detection, post-column addition of NaOH is required.

Results

| Compound | Soft drink [mg/L] | Soft drink spiked [mg/L] | Recovery [%] |
|-----------|-------------------|--------------------------|--------------|
| Sucralose | n.d. | 0.53 | 106 |

Results are given for diluted sample.

Sample

Soft drink

Sample preparation

Dilution 1:100 with ultrapure water.

Columns

| | |
|----------------------------------|------------|
| Metrosep Organic Acids - 250/7.8 | 6.1005.200 |
| Metrosep RP 2 Guard/3.5 | 6.1011.030 |

Solutions

| | |
|----------------------|-----------------------------|
| Eluent | 20 mmol/L sulfuric acid |
| Post-column addition | 300 mmol/L sodium hydroxide |

Parameters

| | |
|--------------------|------------|
| Flow rate | 0.6 mL/min |
| Injection volume | 20 µL |
| P _{max} | 7 MPa |
| Recording time | 15 min |
| Column temperature | 35 °C |

PAD Parameters

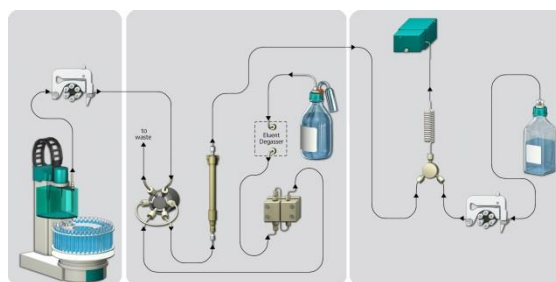
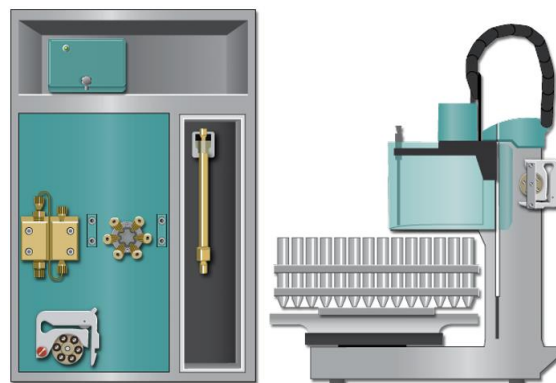
| | |
|---------------------|---------------|
| Cell | Wall-Jet cell |
| Working electrode | Gold |
| Reference electrode | Palladium |
| Spacer | 50 µm |
| Measuring potential | 0.05 V |
| Measuring duration | 100 ms |
| Cycle duration | 550 ms |
| Measuring range | 200 µA |
| Temperature | 35 °C |
| Mode | PAD |

Analysis

Pulsed amperometric detection

Instrumentation

| | |
|---|------------|
| 940 Professional IC Vario ONE/Prep 1 | 2.940.1110 |
| IC Amperometric Detector | 2.850.9110 |
| 858 Professional Sample Processor | 2.858.0020 |
| IC equipment Wall-Jet cell: Carb (Au, Pd) | 6.5337.010 |
| PCR Reactor | 6.2836.000 |



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