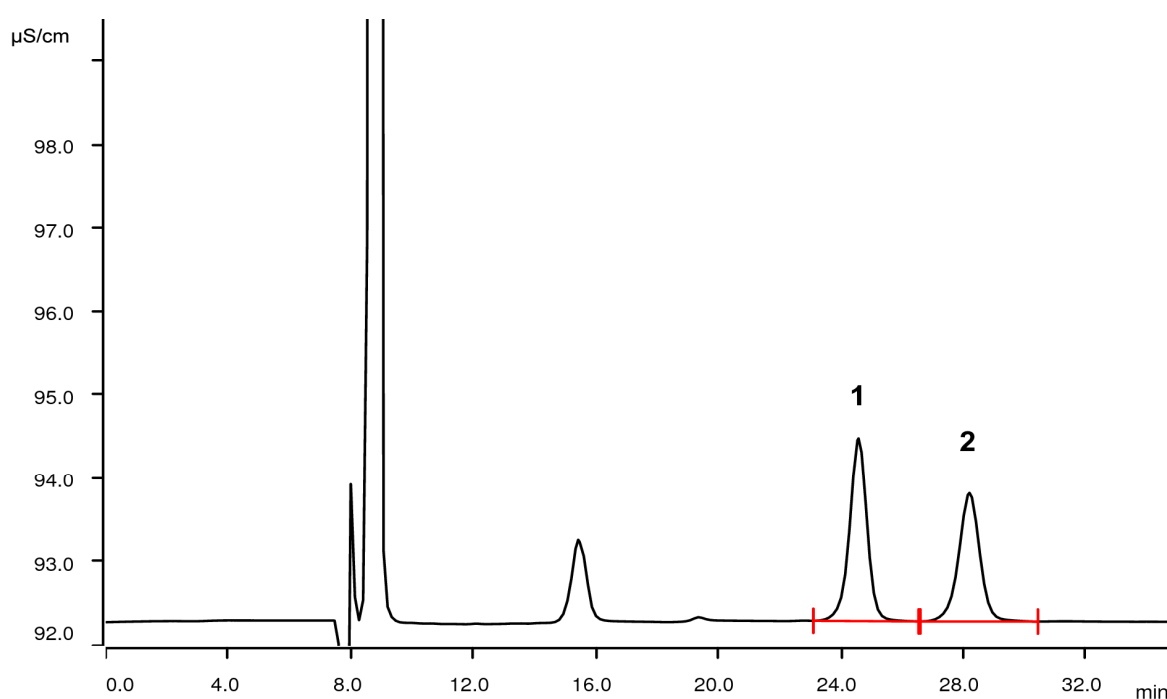


Sorbate and benzoate in flavored water applying ion-exclusion chromatography with inverse suppression



Sorbic acid and benzoic acid and their salts are used as food preservatives (E200, E201, E201, E203 and E210, E211, E212, E213 respectively). The content of such preservatives in flavored bottled water may easily be analyzed by ion exclusion chromatography. This method determines the concentration of the respective acid and does not allow differentiating between the counter cations. The determination of sorbic acids and benzoic acid is achieved by conductivity detection after inverse suppression.

Results

	Conc. [g/L]	RSD [%; n = 3]
1 Sorbate (calculated as potassium salt)	0.210	0.73
2 Benzoate (calculated as sodium salt)	0.149	0.78

Sample

Bottled water flavored with orange flavor

Sample preparation

None

Columns

Metrosep Organic Acids - 250/7.8	6.1005.200
Metrosep Organic Acids Guard/4.6	6.1005.250

Solutions

Eluent	0.5 mmol/L sulfuric acid 20% acetone
Suppressor regenerant	50 mmol/L lithium chloride
Rinsing solution	STREAM

Analysis

Conductivity detection after inverse suppression

Parameters

Flow rate	0.5 mL/min
Injection volume	10 μ L
P _{max}	7 MPa
Recording time	33 min
Column temperature	30 °C

Instrumentation

930 Compact IC Flex Oven/ChS/PP/Deg	2.930.2360
IC Conductivity Detector	2.850.9010
919 IC Autosampler plus	2.919.0020
MSM Rotor A	6.2832.000
Adapter sleeve for Suppressor Vario	6.2842.020

