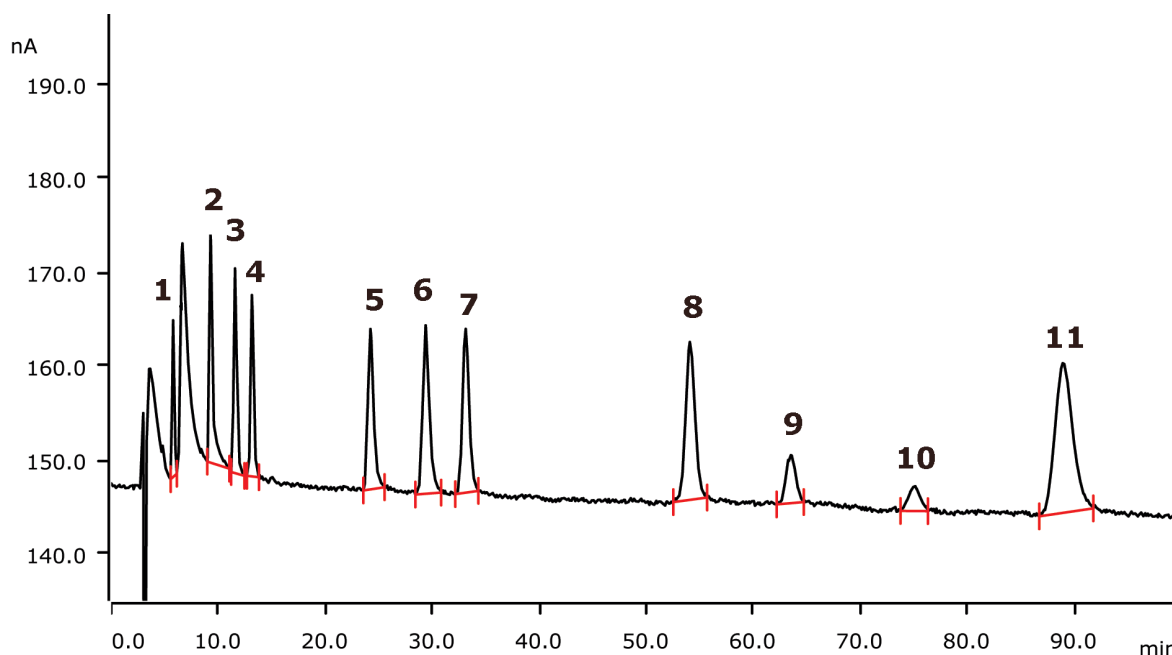


# Anhydrosugars besides sugar alcohols and sugars on a microbore column



Due to residential wood burning, concentrations of levoglucosan, mannosan, and galactosan are typically elevated during the winter months. By contrast, during the summer months, an increased contribution of primarily biological sugar components can be expected. For the analysis of the saccharidic tracers collected on air filters, an optimal separation and sensitivity is achieved on the Metrosep Carb 2 - 250/2.0 column applying pulsed amperometric detection.

## Results

Compound	Conc. [ $\mu\text{g/L}$ ]	Compound	Conc. [ $\mu\text{g/L}$ ]
1 Inositol	10.0	7 Galactosan	50.0
2 Arabitol	20.0	8 Rhamnose	100.0
3 Sorbitol	20.0	9 Glucose	150.0
4 Mannitol	20.0	10 Xylose	150.0
5 Levoglucosan	50.0	11 Sucrose	150.0
6 Mannosan	50.0		

## Sample

Standard solution

## Sample preparation

none

## Columns

Metrosep Carb 2 - 250/2.0	6.01090.230
Metrosep Carb 2 Guard/2.0	6.01090.600
Metrosep CO <sub>3</sub> Trap 1 - 100/4.0	6.1015.300

## Solutions

Eluent	10.0 mmol/L sodium hydroxide
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## Parameters

Flow rate	0.13 mL/min
Injection volume	20 µL
Recording time	100 min
Column temperature	45 °C

## PAD Parameters

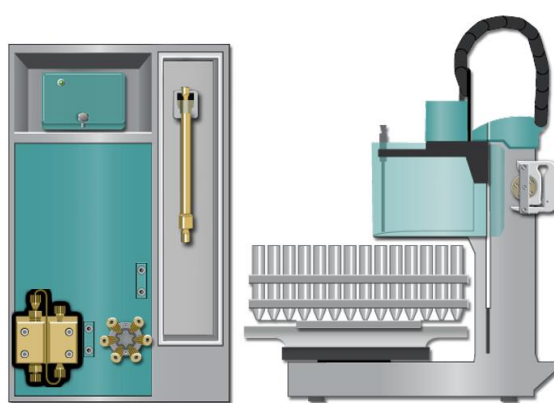
Cell	Wall-Jet cell
Working electrode	Gold (3 mm)
Reference electrode	Palladium
Spacer	50 µm
Measuring potential	50 mV
Meas. range	200 µA
Meas. duration	100 ms
Cycle duration	550 ms
Temperature	32 °C
Mode	PAD

## Analysis

Pulsed amperometric detection (flexIPAD)

## Instrumentation

930 Compact IC Flex Oven/Deg	2.930.2160
IC Amperometric Detector	2.850.9110
858 Professional Sample Processor	2.858.0020
IC equipment Wall-Jet cell: anion analysis (Au, Pd)	6.5337.010



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