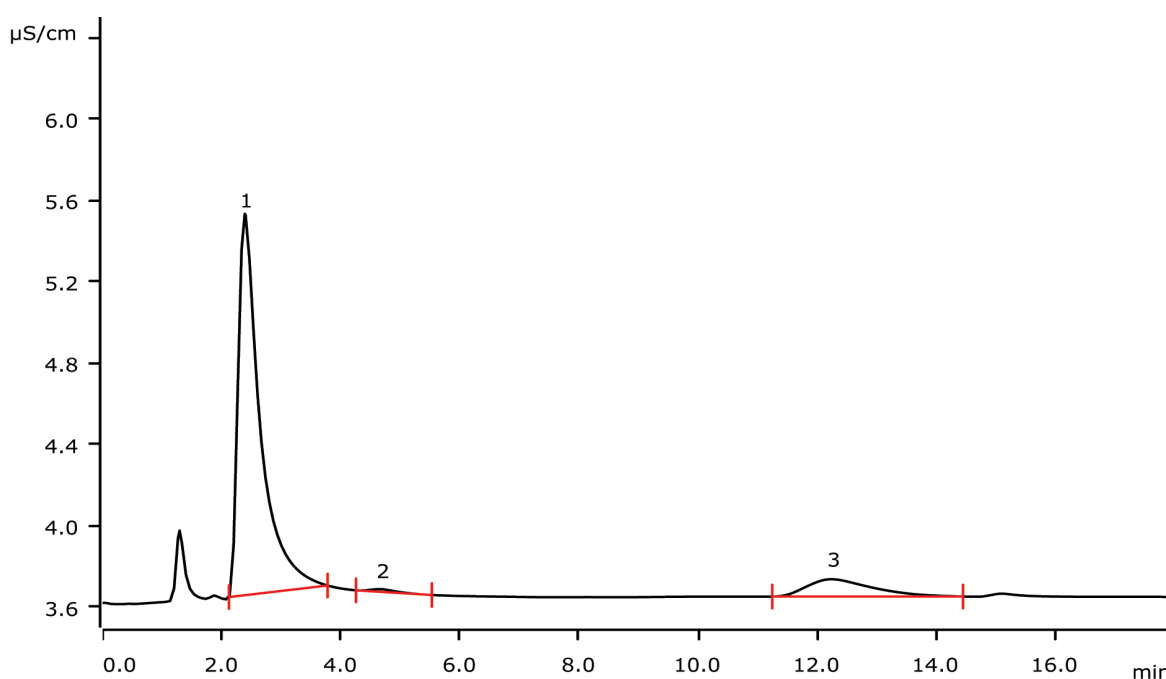


Terephthalate, isophthalate, and 5-sulfoisophthalate on Metrosep A Supp 15 - 50/4.0 applying Inline Partial-Loop Technique



Aromatic dicarboxylic acids such as terephthalic (TPA), isophthalic (IPA), and 5-sulfoisophthalic acid (SIPA) are important monomers for producing polyesters and alkyd resins. The monomer ratio is crucial for the polymerization process. The separation of the late-eluting components is achieved within 15 min on a short Metrosep A Supp 15 - 50/4.0 column applying a high eluent concentration and a high flow rate.

Results

Anion		Concentration [g/L]
1	Terephthalate	1.69
2	Isophthalate	<0.1
3	5-sulfoisophthalate	0.3

Sample

Polymerization samples in 50 mmol/L NaOH

Sample preparation

Standard solutions are made up in 50 mmol/L NaOH. Samples are diluted 1 : 50 in 50 mmol/L NaOH and injected applying intelligent Partial Loop Injection Technique (MiPT).

Columns

Metrosep A Supp 15 - 50/4.0	6.1030.450
Metrosep A Supp 15 Guard/4.0	6.1030.500

Solutions

Eluent	30 mmol/L sodium hydroxide
Suppressor regenerant	300 mmol/L sulfuric acid
Rinsing solution	STREAM

Analysis

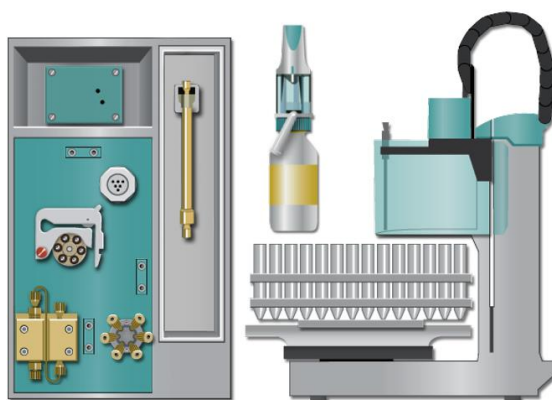
Conductivity detection after sequential suppression

Parameters

Flow rate	1.5 mL/min
Injection volume (MiPT)	4 µL
P _{max}	15 MPa
Recording time	15 min
Column temperature	45 °C

Instrumentation

930 Compact IC Flex Oven/SeS/PP/Deg	2.930.2560
IC Conductivity Detector	2.850.9010
858 Professional Sample Processor	2.858.0010
800 Dosino	2.800.0010
MSM Rotor A	6.2832.000
Adaptor sleeve for Suppressor Vario	6.2842.020
IC equipment: MiPT	6.5330.180



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