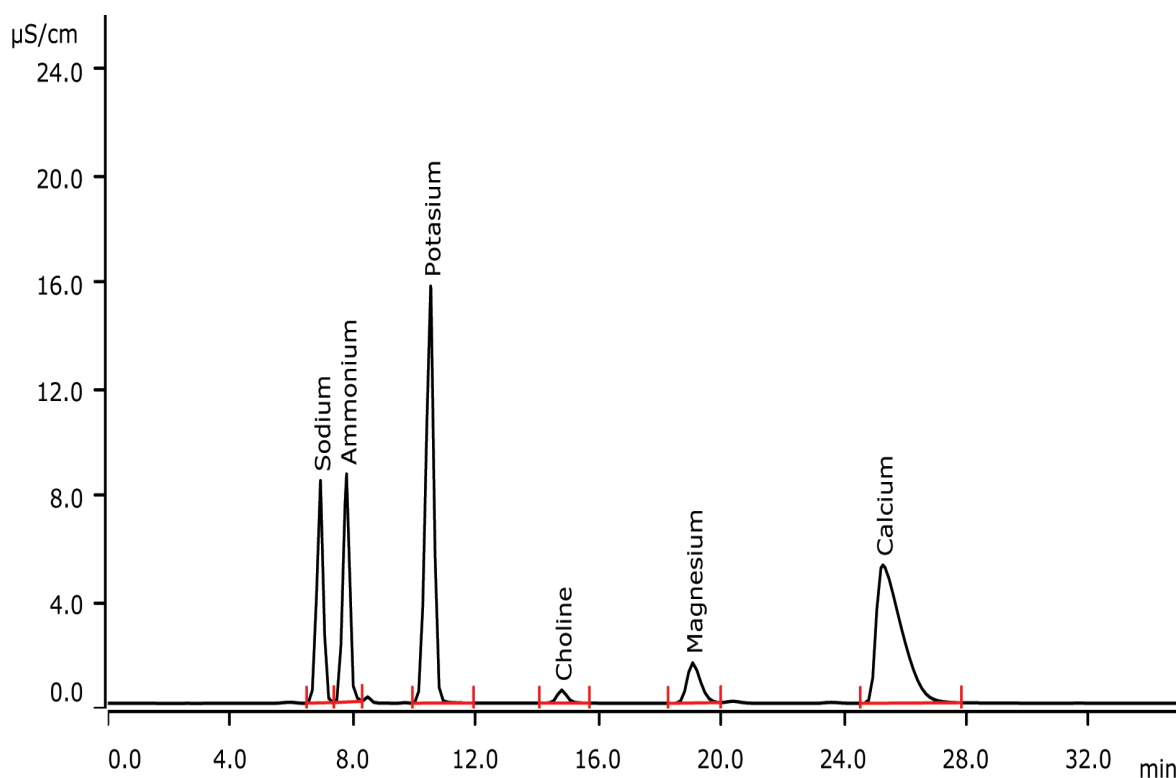


Determination of choline in baby milk powder



Choline is biologically important for the biosynthesis, e.g., of the neurotransmitter acetylcholine. Its concentration in baby milk powder is determined after microwave digestion. The separation is performed on a Metrosep C Supp 1 - 250/4.0 with subsequent conductivity detection after sequential suppression. Choline is well separated from standard cations.

Results

Cation	Concentration [mg/100 g]	Recovery [%]
Li^+ , Na^+ , NH_4^+ , K^+ , Mg^{2+} , Ca^{2+}	n.q.	-
Choline	83.3	115

Sample

Baby milk powder

Sample preparation

Microwave digestion according to AOAC Official Method 2012.20

Columns

Metrosep C Supp 1 - 250/4.0	6.1052.430
Metrosep C Supp 1 Guard/4.0	6.1052.500

Solutions

Eluent	4.0 mmol/L nitric acid 50 µg/L rubidium
Suppressor regenerant	70 mmol/L sodium carbonate 70 mmol/L sodium hydrogen carbonate
Rinsing solution	STREAM
Digestion solution	1.5 mol/L hydrochloric acid

Analysis

Conductivity detection after sequential suppression

Instrumentation

930 Compact IC Flex Oven/SeS/Deg	2.930.2460
IC Conductivity Detector	2.850.9010
858 Professional Sample Processor	2.858.0020
800 Dosino	2.800.0020
MSM-HC Rotor C	6.2842.200
IC equipment: Dosino regeneration	6.5330.190

Parameters

Flow rate	1.0 mL/min
Injection volume	20 µL
P _{max}	15 MPa
Recording time	30 min
Column temperature	40 °C



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