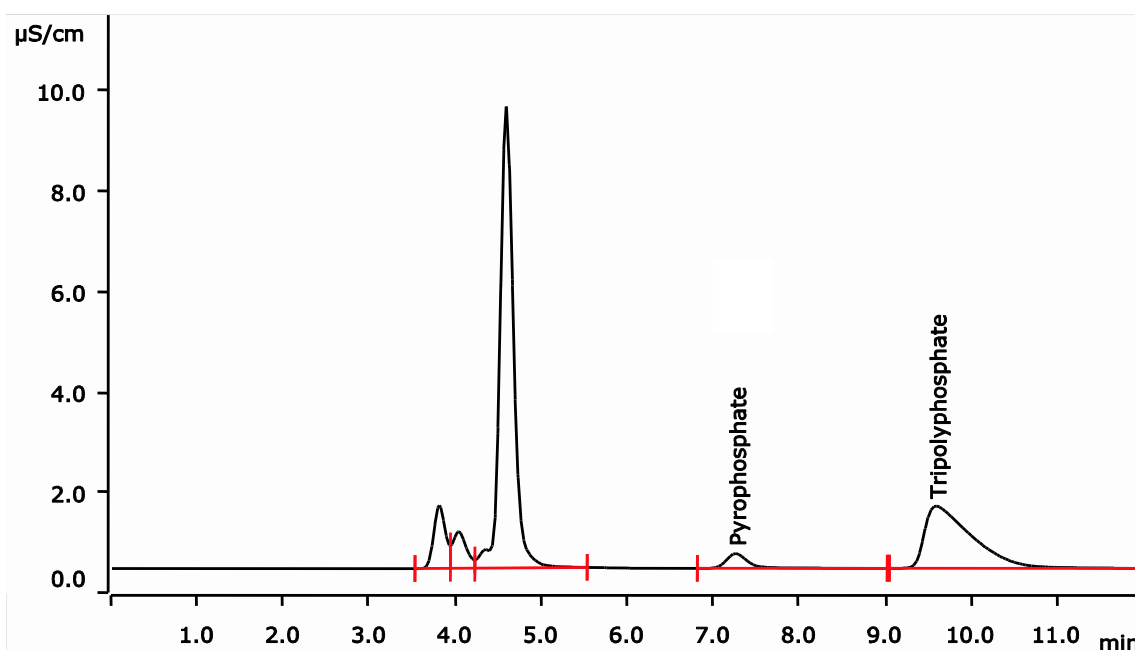


Phosphor species in whitening toothpaste



Whitening toothpaste often contains polyphosphates to remove stains. The analysis of these polyphosphates requires a high-pH hydroxide eluent. The high eluent concentration is suppressed by the high-capacity suppressor MSM-HC.

Results

Anion	[g/kg]	RSD (% , n = 9)
Pyrophosphate	4.6	1.9
Tripolyphosphate	26.7	1.5

Method description

Sample

Whitening toothpaste

Sample preparation

1.052 g of the toothpaste is dissolved in 104.6 g eluent using an ultrasonic bath.

4 mL of the dissolved toothpaste is diluted in a 100 mL glass flask with eluent.

The samples were manually filtered before injection.



Column

Metrosep A Supp 3 - 250/4.6	6.1005.320
Metrosep RP Guard 2/3.5	6.1011.030

Solutions

Eluent	25.0 mmol/L sodium hydroxide
Regenerant	100 mmol/L sulfuric acid
Rinsing solution	Ultrapure water

Instrumentation

850 Professional IC Anion – MSM-HC – MCS	2.850.2070
858 Professional Sample Processor – Pump	2.858.0020

Analysis

Suppressed conductivity

Parameters

Flow rate	1.0 mL/min
Injection volume	20 µL
P _{max}	20.0 MPa
Recording time	12 min
Column temperature	30 °C

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