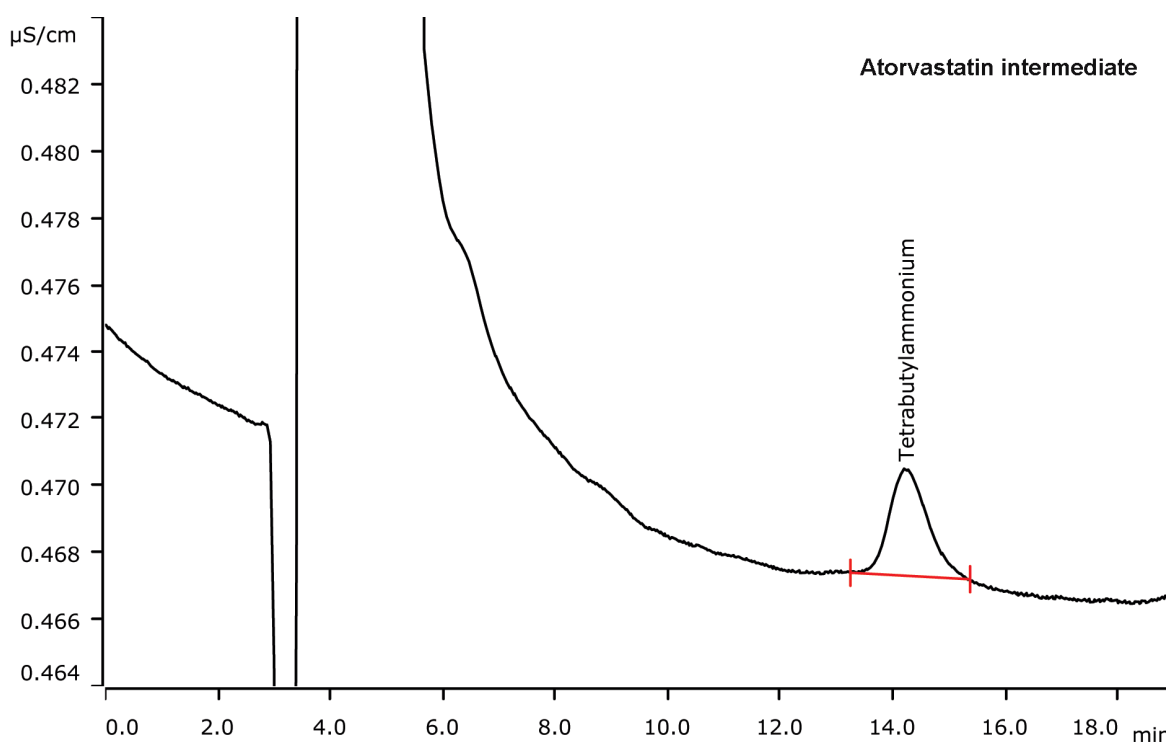


Determination of tetrabutylammonium in atorvastatin applying sequential suppression



Atorvastatin is one of the most prominent cholesterol-lowering drugs.. It is accompanied by trace-levels of tetrabutylammonium (TBA). Therefore, its concentration needs to be regularly controlled. The tetrabutylammonium cation is determined on a Metrosep C Supp 1 - 250/4.0 column with conductivity detection after sequential suppression.

Results

Cation	Concentration [mg/kg]	Recovery [%]
TBA in intermediate	16.8	-
TBA in drug	5.4	99.0

Sample

Atorvastatin drug and intermediate

Sample preparation

100 mg sample dissolved in 2 mL acetonitrile, diluted to 10 mL with ultrapure water, and injected after filtration (0.2 µm)

Columns

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

Solutions

Eluent	10 mmol/L nitric acid 50 µg/L Rubidium 25% acetonitrile
Suppressor regenerant	70 mmol/L sodium carbonate 70 mmol/L sodium hydrogen carbonate
Rinsing solution	Ultrapure water

Analysis

Conductivity detection after sequential suppression

Instrumentation

940 Professional IC Vario ONE/SeS/PP	2.940.1500
IC Conductivity Detector	2.850.9010
858 Professional Sample Processor	2.858.0020
MSM-HC Rotor C	6.2842.200

Parameters

Flow rate	1.0 mL/min
Injection volume	100 µL
P _{max}	15 MPa
Recording time	19 min
Column temperature	40 °C

