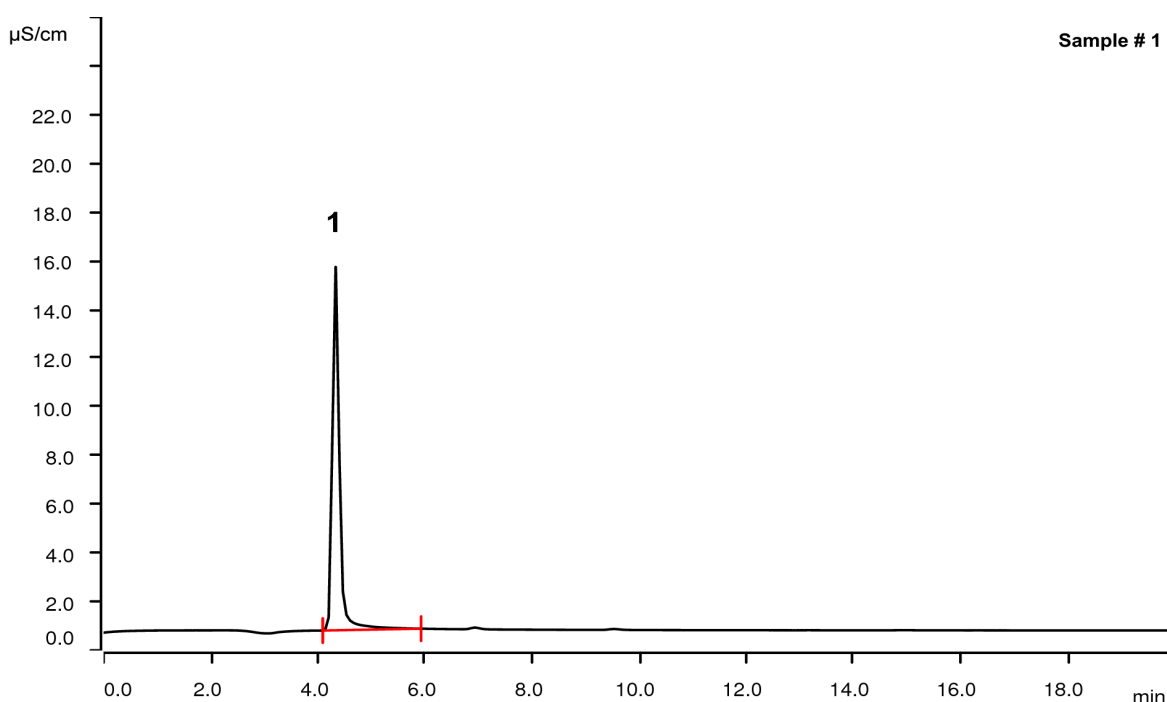


# Organic bound fluorine in Ezetimibe by Combustion Ion Chromatography



Ezetimibe is a cholesterol-reducing drug. It reduces the cholesterol resorption in the small intestine. The molecule holds two fluorophenyl groups. Applying Combustion IC the amount of fluorine in the drug is determined. To avoid an excessive introduction of fluoride into the system, Ezetimibe is dissolved in ethanol prior to the combustion.

## Results

	Concentration [%]	RSD [%] (N = 3)	Recovery [%] (based on theoretical amount)	Sample # (100 mg in 15 g ethanol)
1 Fluorine	8.8	2.8	94.5	1
Fluorine	8.4	0.6	90.4	2
Fluorine	8.7	0.4	94.0	3

## Sample

Three samples of Ezetimibe (API).

## Sample preparation

100 mg of API is dissolved in 15 g of methanol. 20 µL of this solution is analyzed by Combustion IC with flame sensor technology and intelligent Partial Loop Injection Technique.

## Columns

Metrosep A Supp 5 - 250/4.0	6.1006.530
Metrosep A Supp 5 Guard/4.0	6.1006.500
Metrosep A PCC 2 HC/4.0	6.1006.340
Metrosep I Trap 1 - 100/4.0	6.1014.200
Metrosep A Trap 1 - 100/4.0	6.1014.000

## Solutions CIC

<u>Eluent</u>	3.2 mmol/L sodium carbonate 1.0 mmol/L sodium hydrogen carbonate
Suppressor regenerant	100 mmol/L sulfuric acid
Rinsing solution	STREAM
Absorber solution	100 mg/L H <sub>2</sub> O <sub>2</sub>

## Parameters

Flow rate	0.7 mL/min
Injection volume (IC)	20 µL (MiPT)
P <sub>max</sub>	15 MPa
Recording time	20 min
Column temperature	30 °C

## Combustion parameters

Argon	100 mL/min
Oxygen	300 mL/min
Oven temperature	1050 °C
Post-combustion time	120 s
Initial volume of absorption solution	2.0 mL
Absorber solution feed	0.2 mL/min
Water inlet	0.2 mL/min
Post-combustion rinsing volume	1.0 mL

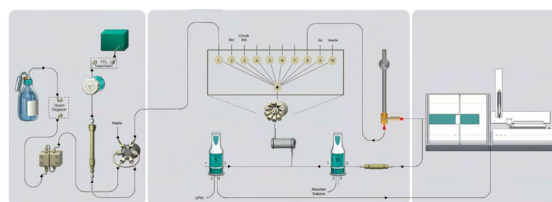
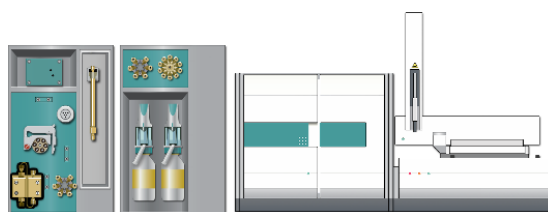
## Analysis

Conductivity after sequential suppression

## Instrumentation

930 Compact IC Flex Oven/SeS/PP/Deg	2.930.2560*
IC Conductivity Detector	2.850.9010*
MSM Rotor A	6.2832.000*
Adapter sleeve for Suppressor Vario	6.2842.020*
920 Absorber Module	2.920.0010*
Combustion Module (oven and ABD)	2.136.0700*
Autosampler MMS 5000	2.136.0800
Kit for liquid sampling	6.7303.000

\* available as 930 Metrohm Combustion IC (2.930.9010)



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