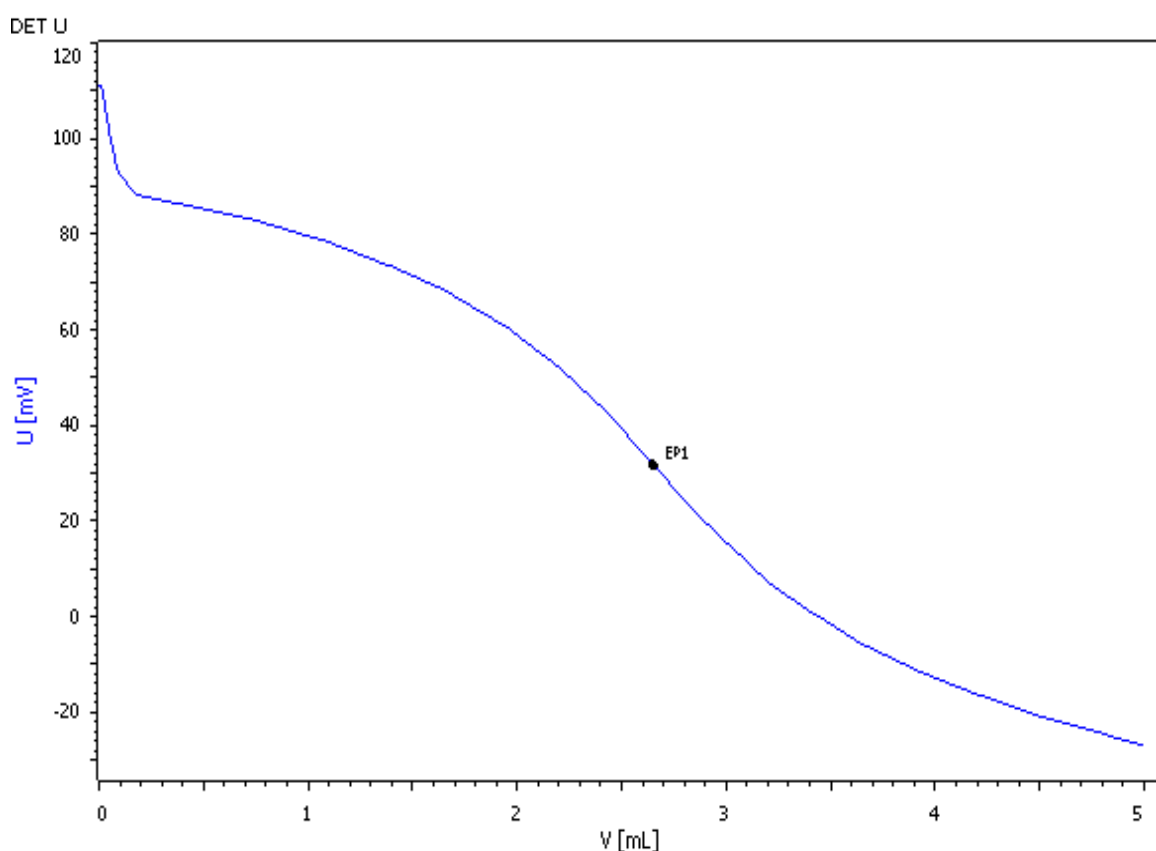


Fully automated determination of chloride in tap water



The automated system determines the chloride content in all kind of water samples. The high degree of automation (e.g., automated acid addition, as well as automated titer determination) minimizes errors and guarantees an outstanding reproducibility.

Method description

Sample

Herisau tap water

Sample preparation

There was no specific sample preparation required.

Electrodes

iAg-Titrode	6.0470.300
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Solutions

Titrant	$c(\text{AgNO}_3) = 0.01 \text{ mol/L}$, if possible this solution should be bought from a supplier.
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Acidifying solution	$c(\text{HNO}_3) = 2 \text{ mol/L}$
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Analysis

Titer

Place at least 3 beakers for the titer determination on the sample rack. Once the series is started, 0.5 mL KCl standard and 5 mL $c(\text{HNO}_3) = 2 \text{ mol/L}$ are automatically added. Approx. 60 mL dist. water are added by rinsing pump and mixed. Then, the solution is titrated with $c(\text{AgNO}_3) = 0.01 \text{ mol/L}$ using iAg-Titrode with Ag_2S coating.

Sample

Pipette 100 mL sample into a titration beaker and place it on the rack. Once the series is started 5 mL $c(\text{HNO}_3) = 2 \text{ mol/L}$ are automatically added to the sample and mixed. Then titrate with $c(\text{AgNO}_3) = 0.01 \text{ mol/L}$ using iAg-Titrode with Ag_2S coating.

Parameters

Mode	DET U
Meas. point density	4
Min. increment	10 μL
Max. increment	off mL
Signal drift	50 mV/min
Max. waiting time	26 s
EP criterion	5
EP recognition	all

Instrumentation

814 USB Sample Processor (1T/0P)	2.814.0030
Sample rack 12 \times 250 mL	6.2041.310
Sample beaker glass 250 mL	6.1432.320
Marco titration head 6 \times NS14/3 \times NS6	6.1458.010
802 Stirrer incl. propeller	2.802.0020
843 Pump Station Peristaltic	2.843.150
905 Titrand	2.905.0010
iConnect with 3m cable	6.9921.223
iAg-Titrode	6.0470.300
800 Dosino (3 \times)	2.800.0010
2 mL Dosing unit (for KCl addition)	6.3032.120
5 mL Dosing unit (for HNO_3 addition)	6.3032.150
10 mL Dosing unit (for titrant)	6.3032.210
Brown glass bottle GL45 1L	6.1608.023
Controller cable	6.2151.000

Results

Parameter	Mean (n = 10)	Rel. standard deviation in %
Titer	0.9961	0.32
Chloride	9.32 mg/L	0.57