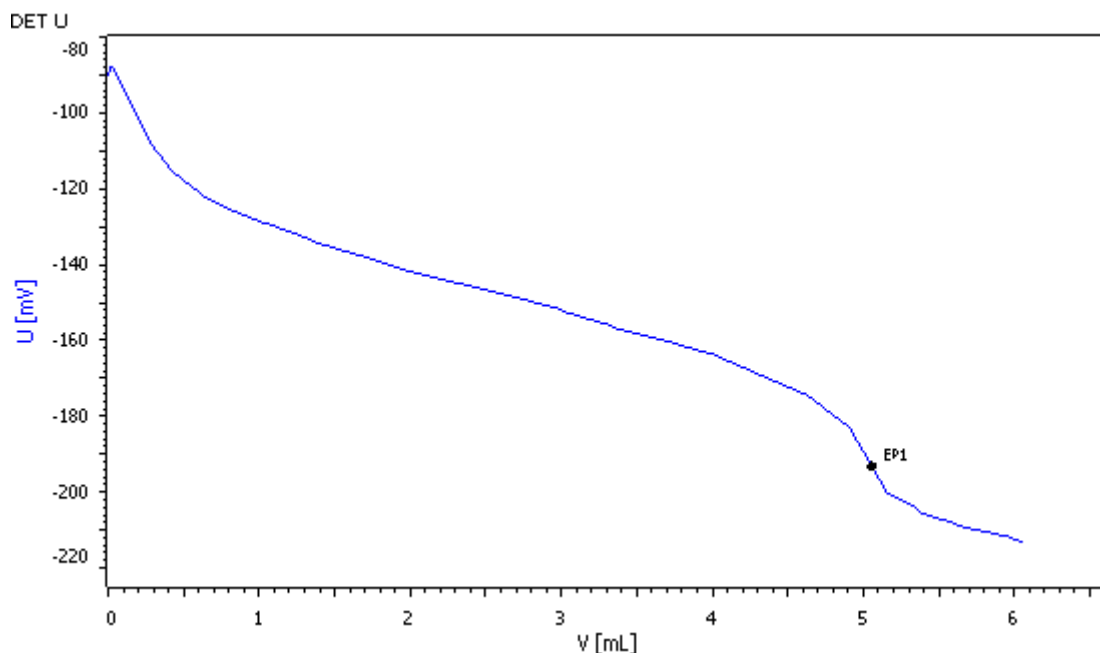


# Fully automated determination of barium in aqueous solution



This Application Note describes the fully automated complexometric determination of barium in aqueous solutions with a copper ion-selective electrode and the MATi 07 system.

# Method description

## Sample

Barium-containing aqueous solution

EP recognition	greatest
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## Sample preparation

No sample preparation is necessary

## Results

Mean in g/L	RSD in %
13.92 (n = 3)	1.31

## Configuration

MATi 07

Ion-selective electrode, Cu	6.0502.140
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LL ISE Reference	6.0750.100
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## Solutions

EDTA titrant	$c(\text{Na}_2\text{EDTA}) = 0.1 \text{ mol/L}$ in $\text{H}_2\text{O}$ If possible this solution should be bought from a supplier
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Auxiliary solution	$c(\text{Cu}(\text{NH}_4)_2\text{EDTA}) = 0.1 \text{ mol/L}$ in $\text{H}_2\text{O}$ If possible this solution should be bought from a supplier
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Ammonia buffer	54 g $\text{NH}_4\text{Cl}$ and 350 mL $w(\text{NH}_3) = 25\%$ are dissolved in dist. water and filled up to 1 L.
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## Analysis

Add 5 mL sample to ca. 50 mL distilled water in a titration beaker. Then, 1 mL  $\text{Cu}(\text{NH}_4)_2\text{EDTA}$  solution and 5 mL buffer solution are added. The solution is then titrated with  $c(\text{Na}_2\text{EDTA}) = 0.1 \text{ mol/L}$  in  $\text{H}_2\text{O}$  past the first equivalence point.

## Parameters

Mode	DET U
Pause	30 s
Stirrer speed	8
Volume. increment	100 $\mu\text{L}$
Signal drift	50 mV/min
Max. waiting time	26 s
Stop EP	1
EP criterion	5 mV

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