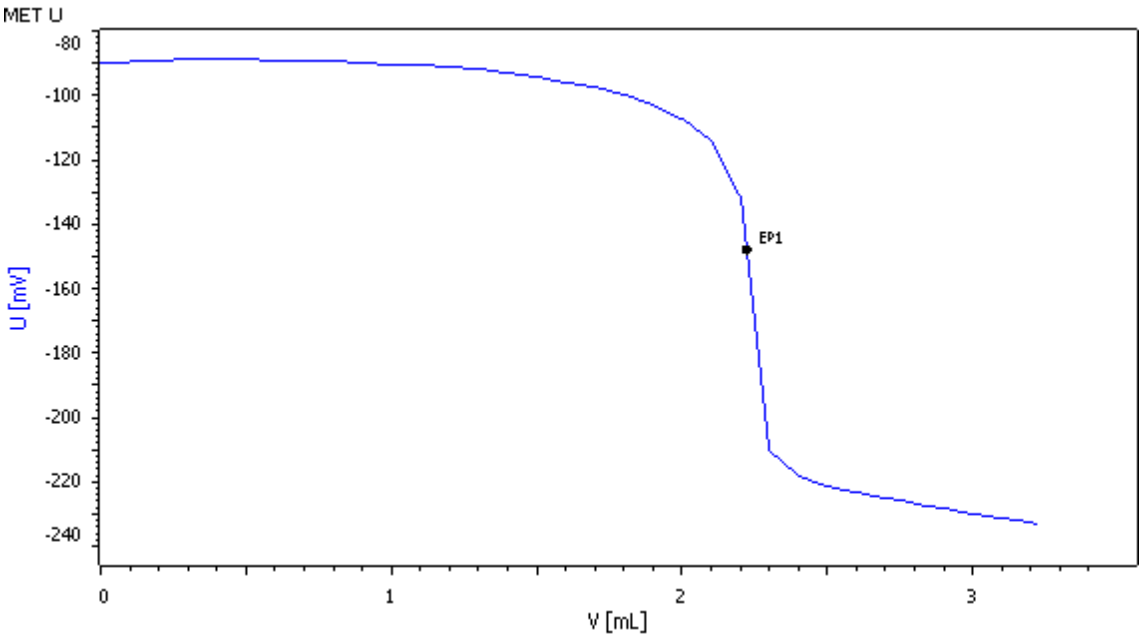
Titration Application Note T-108

Fully automated determination of zinc(II) in aqueous solution



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

Metrohm

Method description

Sample

Aqueous zinc(II) solution

Sample preparation

No sample preparation is necessary.

MATi 07	
Ion-selective electrode, Cu	6.0502.140
LL ISE Reference	6.0750.100

Solutions

EDTA titrant	c(Na_2EDTA) = 0.1 mol/L in H_2O If possible, this solution should be bought from a supplier
Auxiliary solution	c($Cu(NH_4)_2$EDTA) = 0.1 mol/L in H_2O If possible, this solution should be bought from a supplier
Ammonia buffer	54 g NH_4Cl and 350 mL w(NH_3) = 25% are dissolved in dist. water and filled up to 1 L.

Analysis

Sample solution (5 mL) is added to titration beaker and diluted with ca. 50 mL distilled water. Buffer solution (5 mL) and 1 mL $Cu(NH_4)_2$EDTA solution are added. Then, the solution is titrated with c(Na_2EDTA) = 0.1 mol/L in H_2O past the first equivalence point.

Parameters

Mode	MET U
Pause	30 s
Stirrer speed	8
Volume. increment	100 µL
Signal drift	50 mV/min
Max. waiting time	26 s
Stop EP	1
EP criterion	5 mV
EP recognition	greatest

Results

Mean in g/L	RSD (%)
1.500 (n = 4)	0.05