

VA Application Note No. V - 97

Title: Chromium in sulfuric acid

Summary: Cr(VI) is determined with DTPA at pH 6.2 with adsorptive stripping voltammetry (AdSV) at the HMDE.

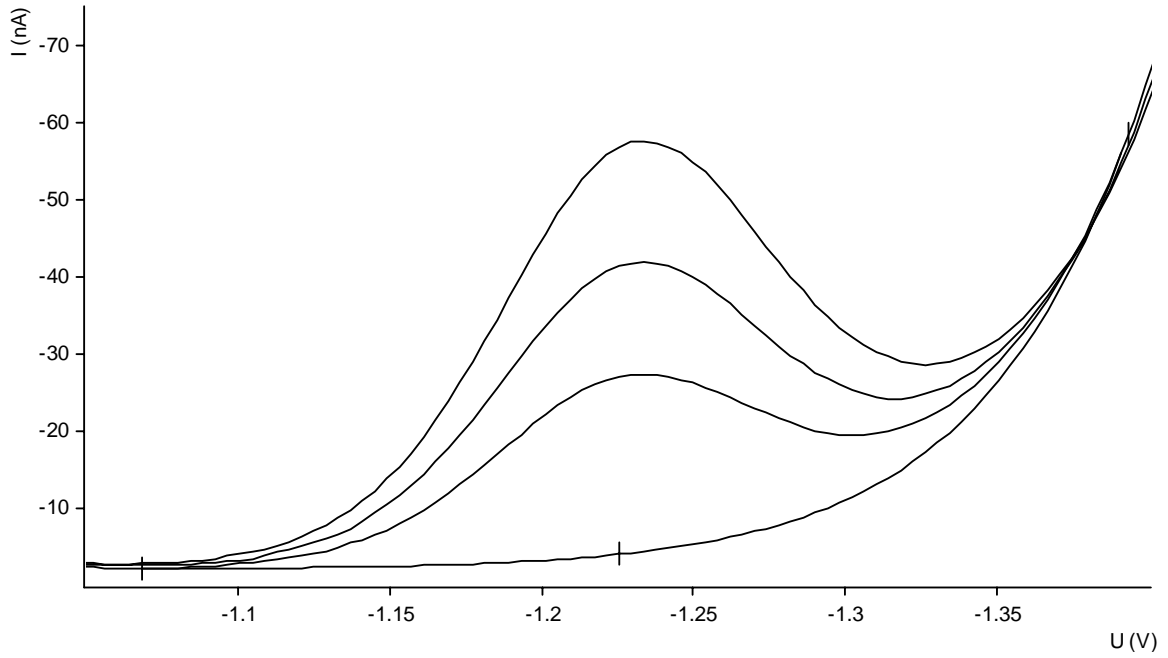
Sample: sulfuric acid (w(H₂SO₄) = 20%)
Sample preparation: none

Analysis of Cr		
Electrolyte	c(sodium acetate) = 0.2 mol/L c(DTPA) = 0.05 mol/L (Titriplex V) c (NaNO ₃) = 2.5 mol/L	
Measuring solution	10 mL ultrapure water + 2.5 mL electrolyte + 0.5 mL sulfuric acid sample Adjust pH to 6.2 ± 0.1	
Working electrode (WE)	MME (Multi Mode Electrode) 6.1246.020	
Auxiliary electrode (AE)	Pt: 6.0343.000	
Reference electrode (RE)	Ag/AgCl/KCl (3 mol/L): 6.0728.020 + 6.1245.010	
Parameters	Working electrode	HMDE
	Stirrer speed	2000 rpm
	Mode	DP
	Purge time	300 s
	Deposition potential	no deposition
	Deposition time	0
	Equilibration time	5 s
	Pulse amplitude	50 mV
	Start potential	-1000 mV
	End potential	-1450 mV
	Voltage step	6 mV
	Voltage step time	0.3 s
	Sweep rate	20 mV/s
	Peak potential Cr	-1230 mV

Results:	Cr(VI) 16 µg/L
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Determination of Cr

Substance: CrVI VR(*1)



Standard addition curve: CrVI

