VA Application Note No. V - 154

Title:	**Nitrilotriacetic acid (NTA) in a cyanidic gold bath**

Summary:	NTA in a cyanidic gold bath is determined as Bi-NTA complex by polarography. For standard addition a Bi-NTA standard solution is used.

Sample:	Cyanidic Au bath
Sample preparation:	Dilution 1:2000

Analysis of NTA

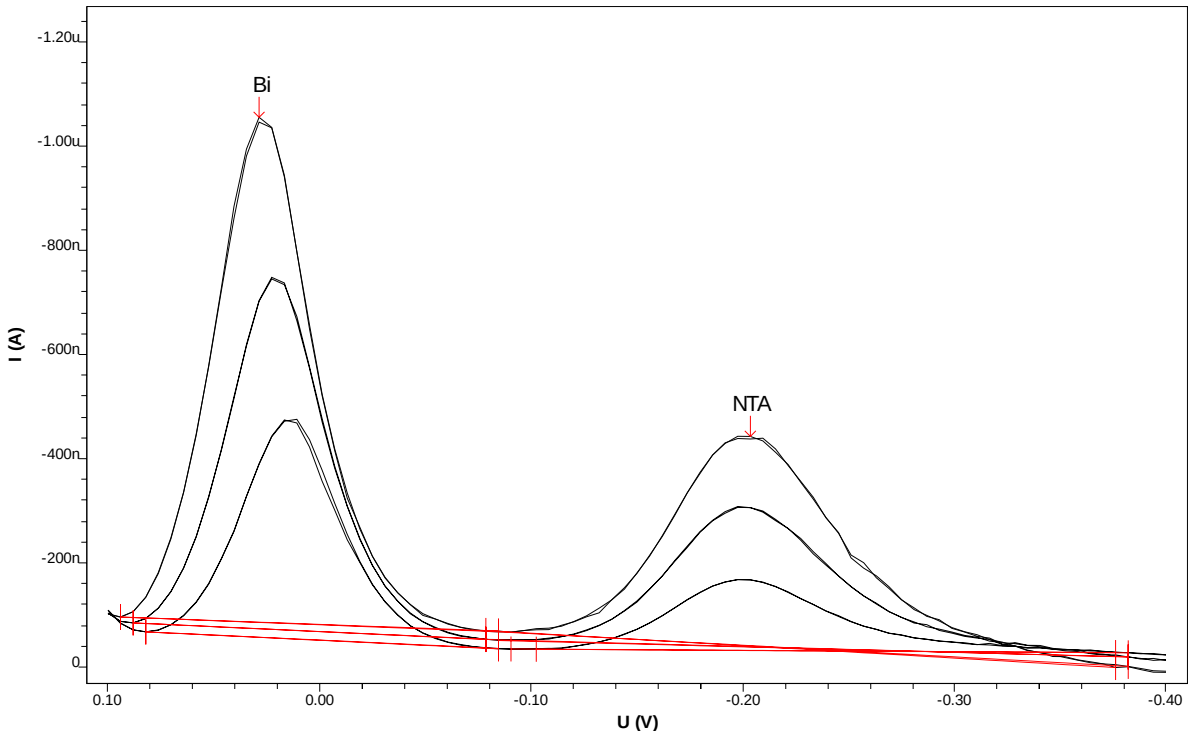
Supporting electrolyte	β(ascorbic acid) = 40 g/L	
Bi nitrate solution	$\beta(Bi^{3+})$ = 2 g/L	
Measuring solution	10 mL supporting electrolyte + 50 µL Bi nitrate solution + 100 µL diluted Au bath	
Working electrode (WE)	**MME** (Multi Mode Electrode)	6.1246.020
Auxiliary electrode (AE)	**Pt**	6.0343.000
Reference electrode (RE)	Reference system: Ag/AgCl/KCl (3 mol/L) Intermediate electrolyte: c(KCl) = 3 mol/L	6.0728.020 6.1245.010

Parameters

Working electrode	DME
Stirrer speed	2000 rpm
Mode	DP
Purge time	300 s
Equilibration time	10 s
Pulse amplitude	0.05 V
Start potential	0.1 V
End potential	-0.4 V
Voltage step	0.006 V
Voltage step time	0.6 s
Sweep rate	0.01 V/s
Peak potential Bi-NTA	-0.2 V

Results:	NTA
	410.4 g/L

Determination of NTA



NTA
c = 410.406 g/L
+/- 1.395 g/L (0.34%)