VA Application Note No. V - 152

Title:	**Thallium in a cyanidic gold bath**

Summary:	The concentration of Tl in a cyanidic Au bath is determined by anodic stripping voltammety (ASV) without further addition of electrolyte.

Sample:	Electroless cyanidic Au bath
Sample preparation:	None

Analysis of Tl

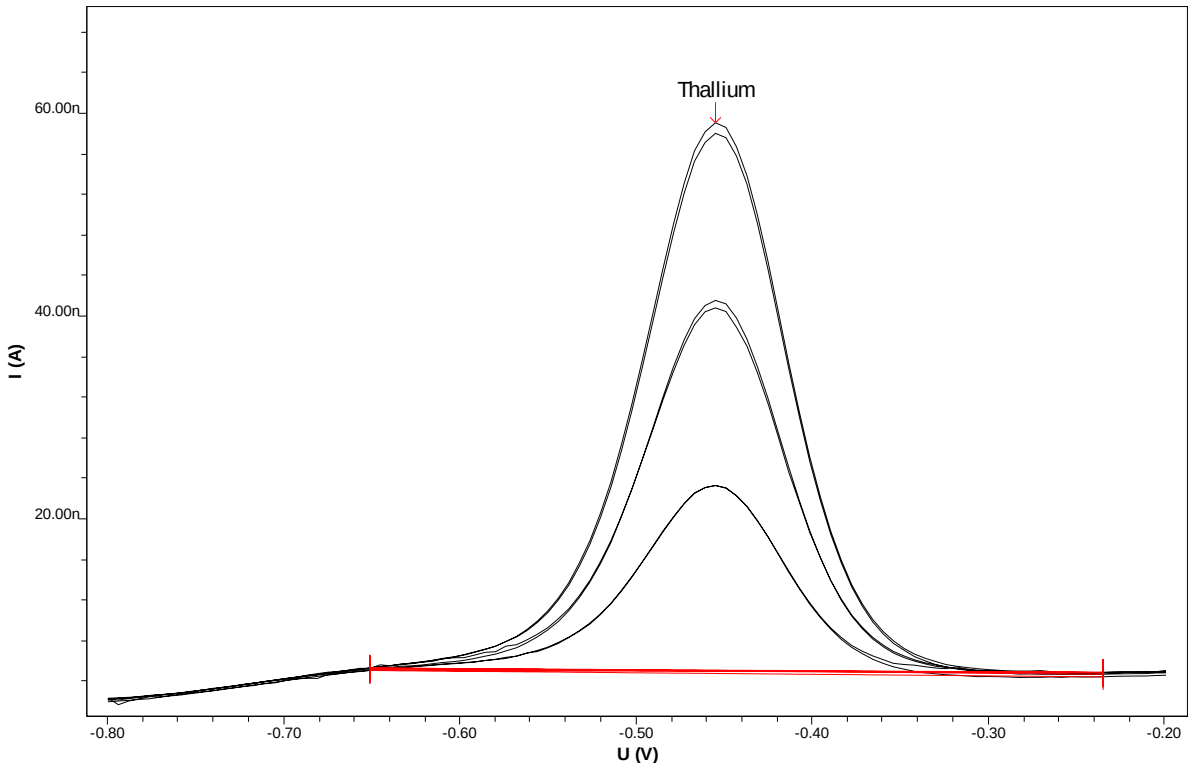
Electrolyte	None	
Measuring solution	10 mL ultrapure water + 0.1 mL Au bath	
Working electrode (WE)	**MME** (Multi Mode Electrode)	6.1246.020
Auxiliary electrode (AE)	**Pt**	6.0343.000
Reference electrode (RE)	Reference system: Ag/AgCl/KCl (3 mol/L) Intermediate electrolyte: c(KCl) = 3 mol/L	6.0728.020 6.1245.010

Parameters

Working electrode	HMDE
Stirrer speed	2000 rpm
Mode	DP
Purge time	300 s
Deposition potential	-0.8 V
Deposition time	30 s
Equilibration time	5 s
Pulse amplitude	0.05 V
Start potential	-0.8 V
End potential	-0.2 V
Voltage step	0.006 V
Voltage step time	0.4 s
Sweep rate	0.015 V/s
Peak potential Tl	-0.45 V

Results:	Tl
	5.3 mg/L

Determination of Tl



Thallium
c = 5.246 mg/L
+/- 0.057 mg/L (1.08%)