Molybdenum

Method: Mandelic acid in H_2SO_4, pH 3 – 3.5
Technique: Differential Pulse Voltammetry (DPV/a)

Start Potential (mV)	-100
End Potential (mV)	-900
Current range	2,048 µA
Scan Speed (mV/s)	20
Number of cycles	3
Delay before sweep (s)	5
Purge and stir time (s)	300
Stirring speed (rpm)	300
Drop Size (a.u.)	60

Molybdenum concentrated standard solution (1 g/l)
Dissolve 1.8402 g of $(NH_4)_6Mo_7O_{24}$ in 1 l of 0.5 M HNO_3 in a volumetric flask.
($MM_{(NH4)6Mo7O24}$ = 1235.86; MM_{Mo} = 95.94).

Supporting electrolyte
1- 96% H_2SO_4
2- 10% NaOH solution
3- 0.44 M mandelic acid solution
Dissolve 0.67 g of mandelic acid (MM = 152.15) in 10 ml of distilled water.
4- 0.5 M $NaClO_3$ solution
Dissolve 5.3 g of $NaClO_3$ (MM = 106.44) in 100 ml of distilled water.

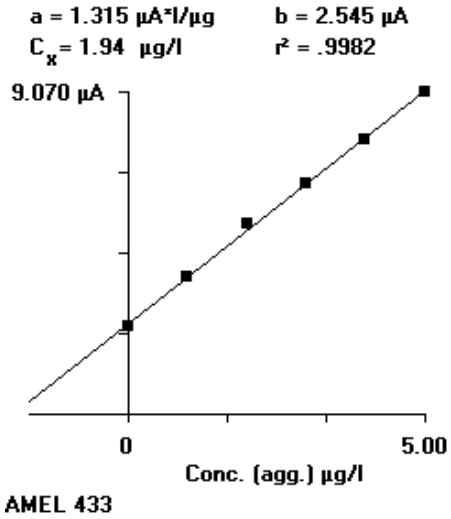
Procedure
Pour 10 ml of sample in the cell, add 50 µl of 96% H_2SO_4, 100 µl of mandelic acid solution and 1 ml of $NaClO_3$ solution. Adjust pH to 3 – 3.5 by using NaOH (adjust pH by using NaOH or H_2SO_4 avoid NH_3).

Working standard solution (10 µg/l)
Dilute 1: 100·000 the concentrated standard solution with distilled water. Prepare the solution at the moment of the analysis

Analytical Report

Analysis: Tap water

Sample Concentration = 1.94 µg/l



Volumes table

Solvent Volume	0 (ml)
Supporting Sol.	2.15 (ml)
Sample Volume	10 (ml)
Standard Conc.	100 (µg/l)

Height table

#	Peak Pot.	Height
0	-316.6	2.012 µA
1	-318	3.133 µA
2	-318	4.343 µA
3	-318.9	5.240 µA
4	-318	6.173 µA
5	-316.6	7.170 µA

Regression Data

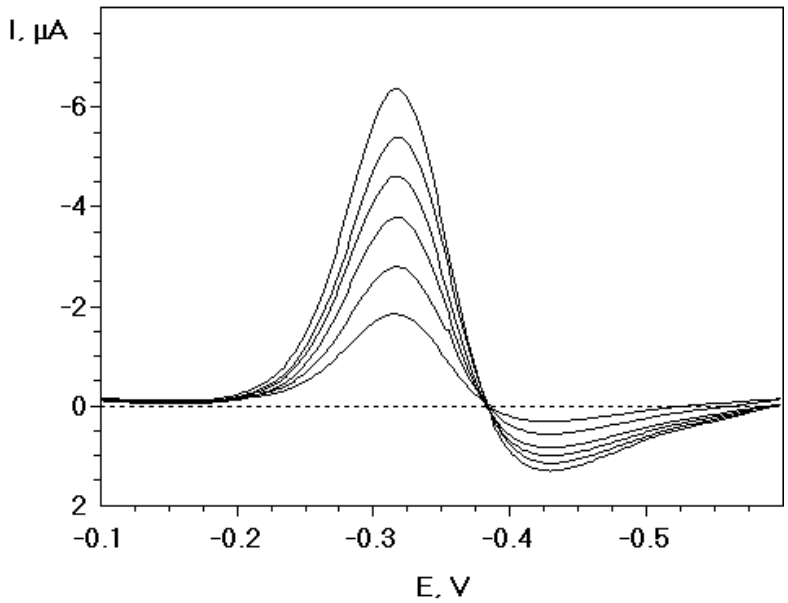
#	Add Conc.	Height x dilution
0	0 µg/l	2.445 µA
1	1.00	3.839 µA
2	2.00 "	5.365 µA
3	3.00 "	6.525 µA
4	4.00 "	7.748 µA
5	5.00 "	9.070 µA

y = ax + b

a = 1.315 µA*l/µg

b = 2.545 µA

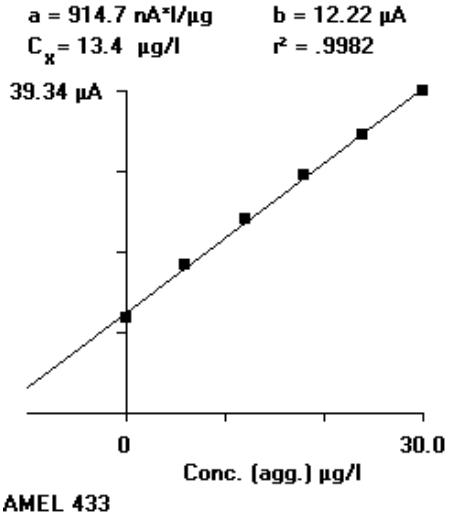
r^2= .9982



Analytical Report

Analysis: Sea water

Sample Concentration = 13.4 µg/l



Volumes table

Solvent Volume	0 (ml)
Supporting Sol.	1.75 (ml)
Sample Volume	10 (ml)
Standard Conc.	100 (µg/l)

Height table

#	Peak Pot.	Height
0	-219.1	9.875 µA
1	-219.1	14.58 µA
2	-219.1	18.28 µA
3	-221.5	21.40 µA
4	-221.5	24.05 µA
5	-222.3	26.67 µA

Regression Data

#	Add Conc.	Height x dilution
0	0 µg/l	11.60 µA
1	6.00 "	18.01 µA
2	12.0 "	23.67 µA
3	18.0 "	29.01 µA
4	24.0 "	34.03 µA
5	30.0 "	39.34 µA

y = ax + b

a = 914.7 nA*l/µg

b = 12.22 µA

r^2= .9982