

AdSV Determination of Sb(III) at a Hanging Mercury Drop Electrode Applying a Gallocyanine Ligand

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A sensitive and selective method for the determination of Sb(III) by adsorptive stripping voltammetry (AdSV) at a hanging mercury electrode using gallocyanine (7-dimethylamino-4-hydroxy-3-oxophenoxazine-1-carboxylic acid) ligand has been described. The optimum conditions for Sb(III) determination are the following: ammonia buffer pH 8.3; gallocyanine / Sb(III) molar ratio 10; accumulation potential: -0.4 V vs saturated Ag/AgCl; accumulation time: up to 4 min. The stripping peak of Sb(III) was recorded at about $-(0.67-0.68)$ V. Detection limit equalled to $0.25 \mu\text{g L}^{-1}$ Sb(III) at 4 min accumulation time and RSD was in the range 5–6%. Sb(V), copper, bismuth, lead, and cadmium ions did not interfere in the determination.