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Cyclic Voltammetric Reduction of 2, 4-Dihydroxy Acetophenone Semicarbazone and Thiosemicarbazone at Glassy Carbon Electrode

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ABSTRACT

Electrochemical reduction behavior of 2,4-dihydroxy acetophenone semicarbazone and thiosemicarbazone is studied on glassy carbon electrode in CH₃OH-Britton Robinson buffer at pH 3,5, 7, 9 and phosphate buffer (pH 5.8,8) using cyclic voltammetric technique. Single irreversible reduction wave is observed due to the reduction of semicarbazone and thiosemicarbazone moiety. The effect of change in pH, solvent, buffer, ligand and sweep rate is evaluated. The electrode process is found to be irreversible and diffusion controlled. Kinetic parameters are calculated from cyclic voltammetric measurements.

Keywords: 2,4-Dihydroxy acetophenone, Semicarbazone, Thiosemicarbazone, GC electrode, B-R buffer, Phosphate buffer and Cyclic voltammetry.
