Electrochemical Determination of Ascorbic Acid Based on Hydrothermal Synthesized ZnO Nanoparticles

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In this work, ZnO nanoparticles (NPs) were prepared through an easy one-pot hydrothermal method. After synthesis, the obtained ZnO NPs were successfully adopted for surface modification of a glassy carbon electrode (GCE). The GCE modified with ZnO NPs was utilized to detect ascorbic acid (AA) in a sensitive and selective way. The biosensor revealed a linear correlation with AA concentration in the range of 1-800 μM , with a limit of detection of 0.312 μM ($\text{S/N} = 3$). The presented AA sensor manifested outstanding stability and repeatability and an anti-interference nature.

Keywords: ZnO; Hydrothermal synthesis; Electrochemical; Ascorbic acid; Sensor

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