Electrochemical Detection of As(III) Ions in Hot Spring Water Based on a SiO₂-Au Nanocomposite

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In this report, a SiO₂-Au nanohybrid was prepared for the detection of As(III) ions using an electrochemical strategy. The morphology and properties of the SiO₂-Au nanohybrid were characterized and analyzed via multiple techniques. Under optimized conditions, this nanohybrid material was utilized in the detection of As(III) in hot spring water samples collected from a tourist destination. The results suggested that an electrochemical sensor for the detection of As(III) could be used as a tool for the environmental protection of this tourist destination.

Keywords: As(III) ions; mesoporous silica; Gold; Electrochemical determination; Environmental protection

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