Electrochemical Determination of Cu(II) Ions Based on Ag/Pd Alloy for Water Quality Early Warning

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With a chemical and eco-friendly in situ reduction technique, an excellent Ag-Pd bimetallic nanoparticle (Ag-Pd)-based hybrid was successfully synthesized in this study. To determine copper(II) ions in water, this work employed differential pulse adsorptive stripping voltammetry (DPAdSV) and preconcentration methods. Furthermore, the sensor feasibility was studied with river and tap water as real specimens. The results revealed the potential of the proposed electrochemical sensor to be applied for the early testing of water quality based on its desirable behavior in Cu(II) determination in real specimens.

Keywords: Silver; Palladium; Alloy; Water quality; Electrochemical determination; Copper ions

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