Reduced Graphene/Polydopamine-Supported Au@Pt/Au Nanoparticles for Electrochemical Detection of Acetaminophen

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In this work, we report an efficient electrochemical sensor made from reduced graphene/polydopamine supported Au@Pt/Au (GN/PDA/Au@Pt/Au) nanoparticles for detection of acetaminophen (ACOP). The electrochemical reaction mechanism is investigated using cyclic voltammetry (CV). The Electrocatalytic activity is monitored under varying pH. The ACOP is detected under the optimal condition. A linear range from 1 to 300 μM is achieved with a limit of detection of 0.31 μM . The fabricated sensor show satisfactory results in commercial tablets.

Keywords: graphene; polydopamine; Au; Pt; electrochemical sensor; acetaminophen

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