

Electrochemical and characterization of Palladium-modified Polybithiophene electrode for the electrocatalysis detection of glucose

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Abstract. In this work we are interested to prepare composite materials by electropolymerization of bithiophene (BT) an indium tin oxide glass (ITO) electrode in acetonitrile containing lithium perchlorate as supporting electrolyte ($\text{CH}_3\text{CN}/\text{LiClO}_4 10^{-1} \text{ M}$), the incorporation of palladium particles (Pd) on the polybithiophene film was performed by the immersion of the modified electrode in a palladium solution. The characterization of polybithiophene-metal modified electrode obtained was carried out by cyclic voltammetry, electrochemical impedance spectroscopy and scanning electron microscopy (SEM). The electrochemical reactivity of the prepared modified electrode was tested towards the oxidation of glucose in 0.1 M NaOH solution using cyclic voltammetry.

Keywords: electrodeposition, composite materials, palladium, polybithiophene, glucose