

Electrochemical oxidation of glucose by Ni-Fe nanoparticles dispersed on polyaniline thin films

D. Lakhdari, A. Guittoum, O. Belgherbi, N. Benbrahim

Abstract : In this work we describe the electrodeposition of Ni-Fe nanostructures on polyaniline (PAni) as templates. The conditions and parameters influence in the morphology and electrochemical activity of the electrodeposited Ni-Fe nanoparticles. The electrocatalytic properties of Ni-Fe/polyaniline-modified electrode toward the glucose oxidation were analyzed via cyclic voltammetry and amperometry. The studies showed that Ni-Fe /PAni electrode displayed the highest electrocatalytic activity, attributed to the high density of Ni-Fe nanoparticles deposited on the polyaniline vibreuse nanotubes support.

Keywords : Ni-Fe nanoparticles, glucose, Polyaniline, cyclic voltammetry, Electrocatalytic Oxidation