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Electrochimical oxidation of glucose by Ni-Fe nanoparticiles dispersed on polyaniline thin films

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Abstract : In this work we describe the electrodeposition of Ni–Fe nanostructures on polyanilyne (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/polyanilyne-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 polyanilyne vibreuse nanotubes support.

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