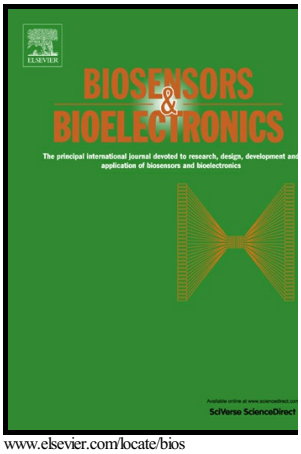

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Mixed hemi/ad-micelles coated magnetic nanoparticles for the entrapment of hemoglobin at the surface of a screen-printed carbon electrode and its direct electrochemistry and electrocatalysis

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Abstract

An efficient procedure for the physical entrapment of proteins within a biocompatible matrix and their immobilization on electrode surfaces is of utmost importance in the fabrication of biosensors. In this work, the magnetic entrapment of hemoglobin (Hb) at the surface of a screen-printed carbon electrode (SPCE), through mixed hemi/ad-micelles (MHAM) array of positively charged surfactant supported iron oxide magnetic nanoparticles (Mag-NPs), is reported. The Hb/MHAM@Mag-NPs biocomposite is captured at SPCE by a super magnet (Hb/MHAM@Mag-NPs/SPCE). To gain insight in the configuration of the mixed hemi/ad-