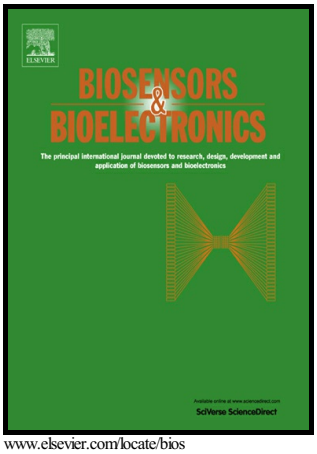

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Abstract

Molecularly imprinted polymer (MIP) nanofilms for transferrin (Trf) have been synthesized on gold surfaces by electro-polymerizing the functional monomer scopoletin in the presence of the protein target or around pre-adsorbed Trf. As determined by atomic force microscopy (AFM) the film thickness was comparable with the molecular dimension of the target. The target (re)binding properties of the electro-synthesized MIP films was evaluated by cyclic voltammetry (CV) and square wave voltammetry (SWV) through the target-binding induced permeability changes of the MIP nanofilms to the ferricyanide redox marker, as well as by surface plasmon resonance (SPR) and surface enhanced infrared absorption spectroscopy (SEIRAS) of the immobilized protein molecules. For Trf a linear concentration dependence in the lower micromolar range and an imprinting factor of ~5 was obtained by