

CONCEPT OF NEW AZULENE MODIFIED ELECTRODES FOR HEAVY METAL IONS ANALYSIS

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Electrochemical behaviour of several azulene-derivatives (**L**) has been investigated. Complexing polymer-coated electrodes have been synthesized by oxidative electropolymerization of **L** in acetonitrile solutions containing 0.1M tetrabutylammonium perchlorate. The films were characterized by cyclic voltammetry, differential pulse-voltammetry and scanning electron microscopy [1]. The complexing properties of **L** and these new polymer-coated electrode materials were investigated towards heavy metals leading to complexation of lead and cadmium metal cations inside the polymer film. The novel chelating chemically modified electrodes were used for the electrochemical detection of Pb(II) and Cd(II) ions by means of the chemical preconcentration–anodic stripping technique. The electrode material showed a particular selectivity towards lead ions, even in the presence of a large excess of other metal cations. Detection limits for lead(II) and cadmium(II) ions were in the range of nanomolar concentrations [2]. These modified electrodes have been used for the determination of lead in water samples.

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