

# Sensitive Electrodes of Azulene-Based Complexing Polymer Films for Heavy Metal Ions Detection

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## Abstract

Electrochemical sensors are important to detect the excess of toxic heavy metals, like lead and cadmium in the liquid medium [1]. Sensitive electrodes of azulene-based complexing polymer films were made by using the method of electrochemical deposition on carbon vitreous. The electrochemical characterization and polymerization were performed in a three electrode cell on glassy carbon disk working electrodes with a platinum wire counter electrode and Ag| 10<sup>-2</sup> M Ag<sup>+</sup> in CH<sub>3</sub>CN + 0.1 M TBAP as reference electrode, according to similar procedures [2]. The characterization was done by cyclic voltammetry (CV) and differential pulse voltammetry (DPV). The support of samples was vitreous carbon disk (ø 6 mm diameter), that were deposited thin films by electropolymerization, with potential and charges for EPC as variables. Different azulene-thiourea-like monomers were tested. Investigation and morphological characterization of samples were performed using Scanning Electron Microscope (SEM) and dispersive X-ray spectrometer in energy (EDS).

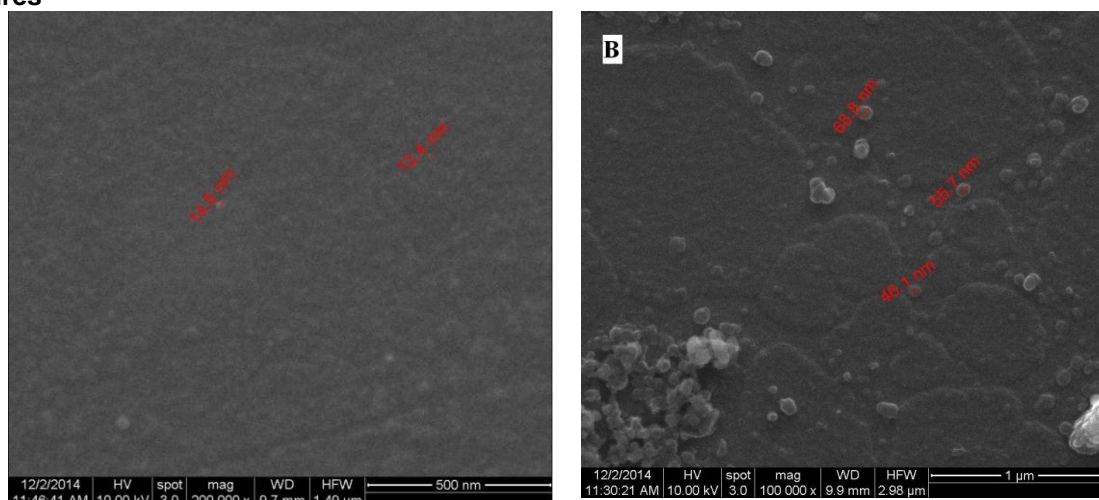
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## References

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## Figures



a) +1.45 V potential and 3.32 mC charge

b) +1 V potential and 1.61 mC charge

Fig. SEM images for chemically modified electrodes functionalized by CPE