



# 8<sup>th</sup> Regional Symposium on Electrochemistry of South-East Europe

together with the

# 9<sup>th</sup> Kurt Schwabe Symposium

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## Metal ions detection under photo-accumulation on a poly(azulene-EDTA) like modified electrode

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Metal ions detection using modified electrodes usually involves an accumulation step performed under imposed potential or sorption of metal ions in open circuit, followed by metal ion reduction and stripping. Another approach involves metal ions deposition under photoirradiation and quantified by stripping voltammetry [1]. By using this method, the accumulation and reduction of metal ions on the electrode surface is accomplished in a single step. Furthermore, Ma et al. [2] propose that by matching the potential of metal ions to the energy levels of the conduction band of a semiconductor could improve the selectivity and sensitivity of electrode materials for heavy metal ion electrochemical detection.

Thus, here we present sensing properties of previously developed glassy carbon modified electrodes with poly(2,2'-(ethane-1,2-diylbis((2-(azulen-2-ylamino)-2-oxoethyl)azanediyl)diacetic acid, (polyL) [3, 4] to metal ions detection under photo-accumulation. A Mott Schottky study was also performed to assess polyL's semiconductor character and the impact of charge carrier density and flat band potential on photoreduction and electrode sensitivity.

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**Book of Abstracts**

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