

1 **Cu(II) and Hg(II) detection under photo-assisted accumulation in open**
2 **circuit potential on polyazulene-EDTA like modified electrode**

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11 **Abstract**

12 The influence of UV light irradiation on the metal ions open-circuit accumulation process is
13 performed using a glassy carbon modified electrode with poly(2,2'-(ethan-1,2-diylbis(2-
14 (azulen-2-ylamino)-2-oxoethyl)azandiyl)diacetic acid (polyL). A correlation between the
15 semiconductive properties of polyL film and sensing properties is performed. The photo-
16 assisted metal ions open circuit accumulation led to simultaneous detection of Cu(II) and
17 Hg(II) which allowed a detection limit of 2 nM and 4 nM for Cu(II) and Hg(II), respectively.

18 **Keywords:** Photo-assisted accumulation; Metal ions; Electrochemical detection; Azulene-

19 EDTA like modified electrode

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