**Simultaneous Voltammetric Analysis of Lead, Copper and Mercury Ions by Carbon Paste Electrode Based on 1-(3-Aminopropyl) Imidazole Modified Polymer**

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**SUPPLEMENTARY INFORMATION**





Suppl. 1. FTIR spectrum of CSPS-API resin before (a) and after (b) Pb2+ accumulation.



 c

EDS Spot 1 4

EDS Spot 4

 b



 d

Suppl. 2. a) SEM image of MCPE2 electrode after Pb2+ accumulation. b) EDS spectrum of graphitic zone (spot 4), c) EDS spectrum of CSPS-API zone (spot 1) and d) elemental map of MCPE2 surface.

Suppl. 3. The effect of pH on the stripping peak currents. Pb2+: 100 gL-1, Cu2+: 200 gL-1, Hg2+: 100 gL-1. Preconcentration time: 2 min, scan rate: 200 mVs-1.

Suppl. 4. The effect of scan rate on stripping peak currents of lead, copper and mercury. Pb2+: 40 gL-1, Cu2+: 200 gL-1, Hg2+: 100 gL-1. Preconcentration time: 2 min.



a



b



c

Suppl. 5. SWAS voltammograms of a) Pb2+ (gL-1): 20, 40, 60, 100, 200, 300, 500, 600, 700, 800; b) Cu2+ (gL-1): 40, 60, 80, 100, 200, 300, 400, 500, 600, 800 and c) Hg2+ (gL-1): 20,100,200,300,400,600. Supporting electrolyte: 0.5 M HCl, preconcentration time: 2 min, scan rate: 100 mVs-1.



Suppl. 6. SWAS voltammograms of 200 fold diluted and 50, 100 and 150 gL-1 Cu2+ standard added ground and waste water pollution standard solution sample. Preconcentration time: 4 min, scan rate: 100 mVs-1.