

Supporting Information

Azacalixarene-Carbazole Conjugated Polymer Network (CPN) Ultrathin Films for Specific Cation Sensing

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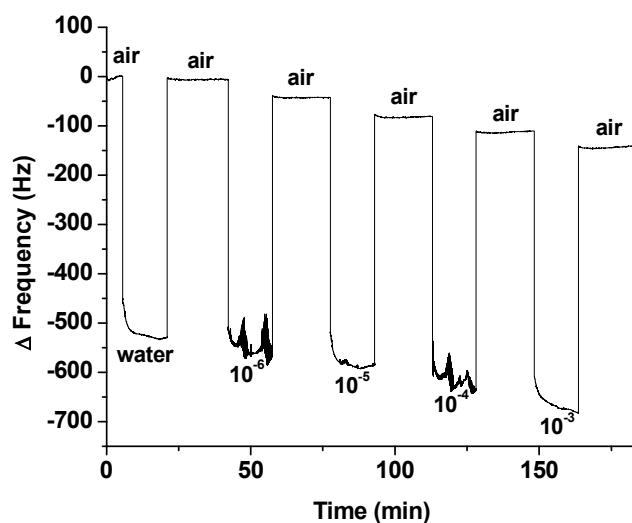


Figure S1. Sensor diagram studies by using QCM

Sensitivity and selectivity studies of PCC-CBz by using EC-SPR and SPR.

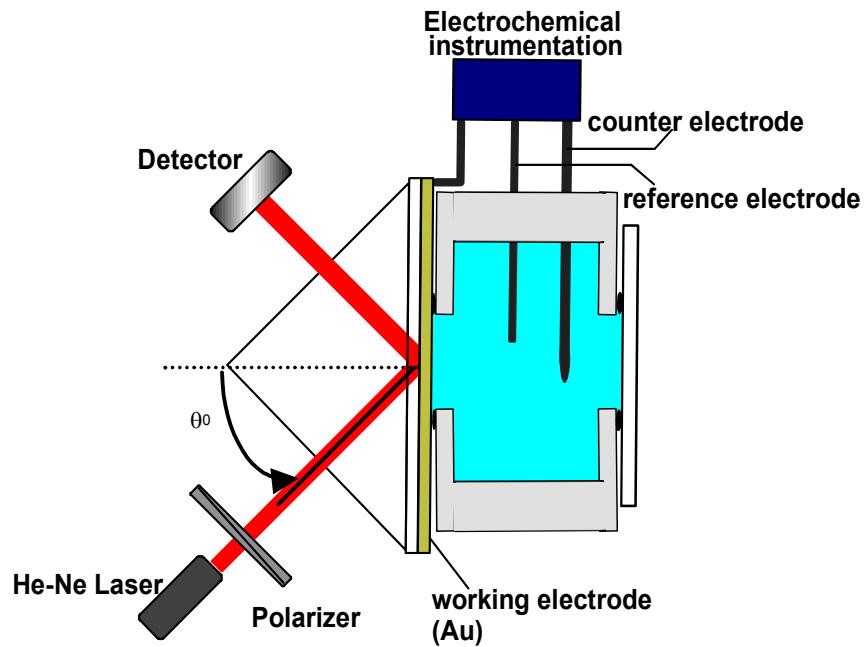


Figure S2. Sensor setup for *in situ* EC-SPR/SPR measurement.

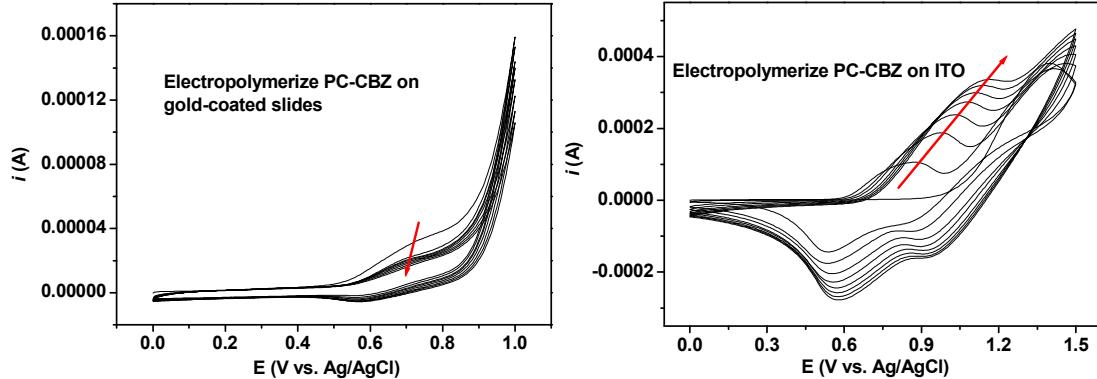


Figure S3. Cyclic voltammograms of electrochemical cross-linking/deposition of PC-CBz polymerization at a scan rate of 50 mv/s, 8 cycles: (a) deposited material on gold-coated slides, (b) deposited material on ITO substrates.

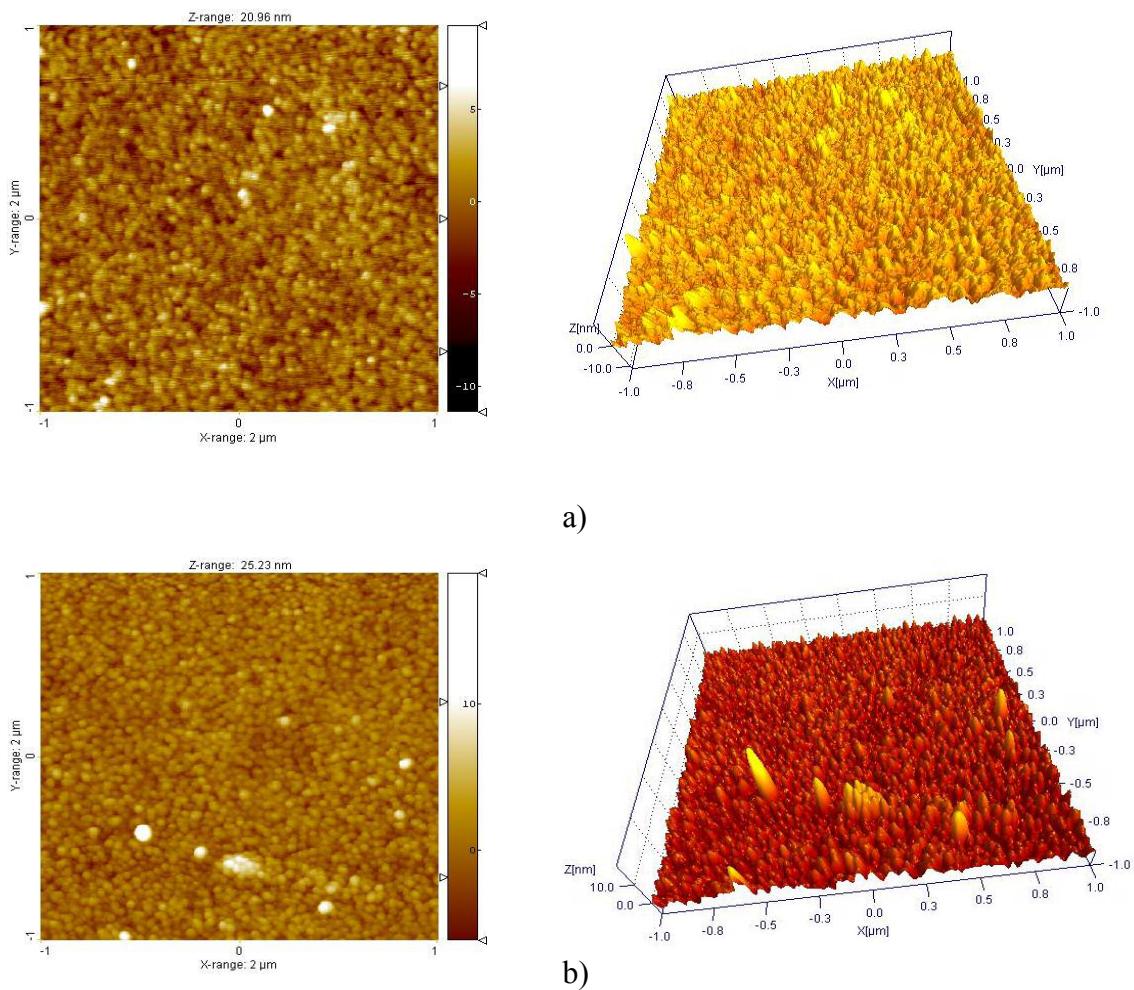


Figure S4. AFM images, the topological or height images (left) and three-dimentional topographic images (right): (a) bare gold, (b) after electropolymerized PPC-CBz electropolymerized at 50 mV/s (0 to 1.0), 8 cycles in TBAPF₆/CH₂Cl₂ electrolyte (WE, gold-coated slides; CE, Pt wire; RE, Ag/AgCl wire).

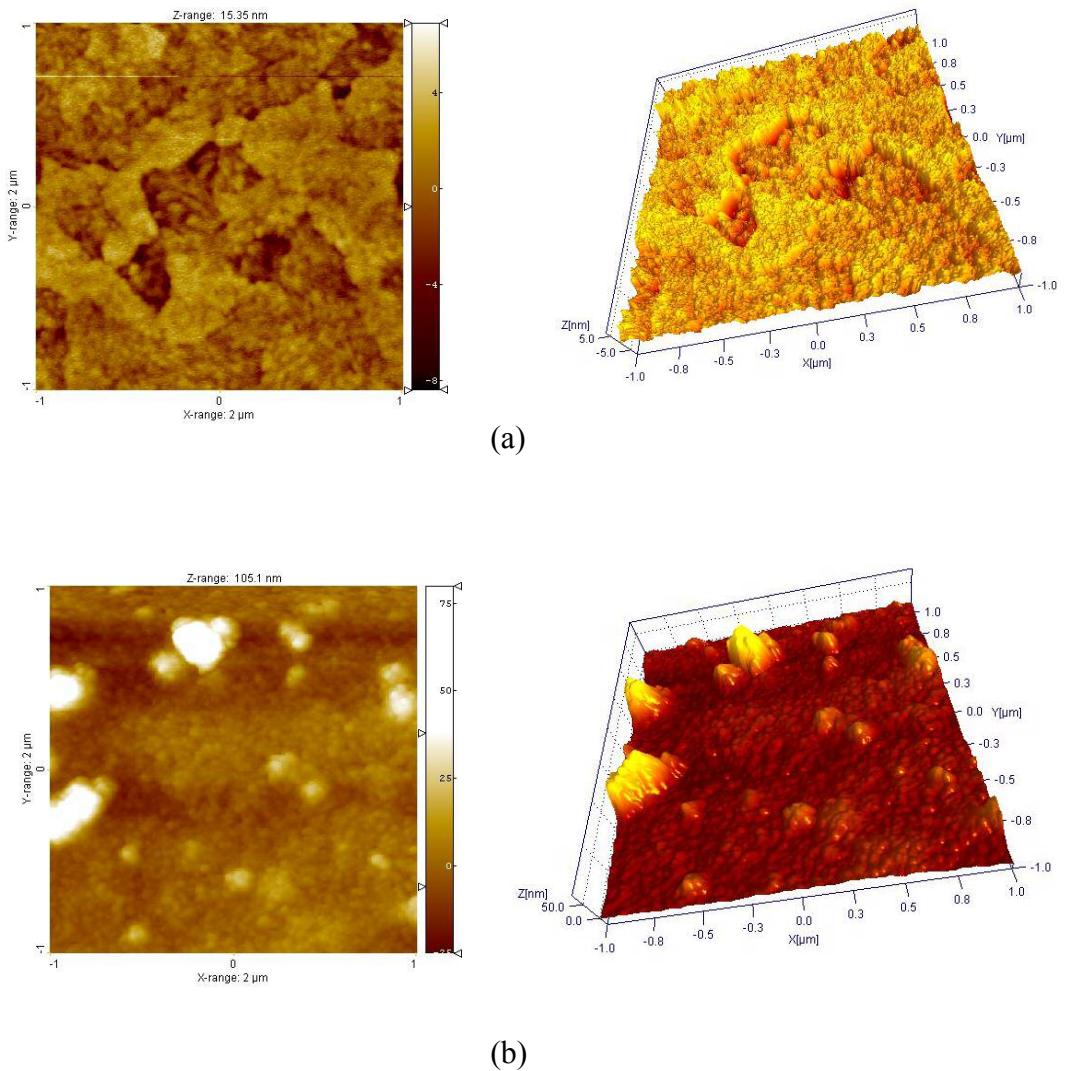
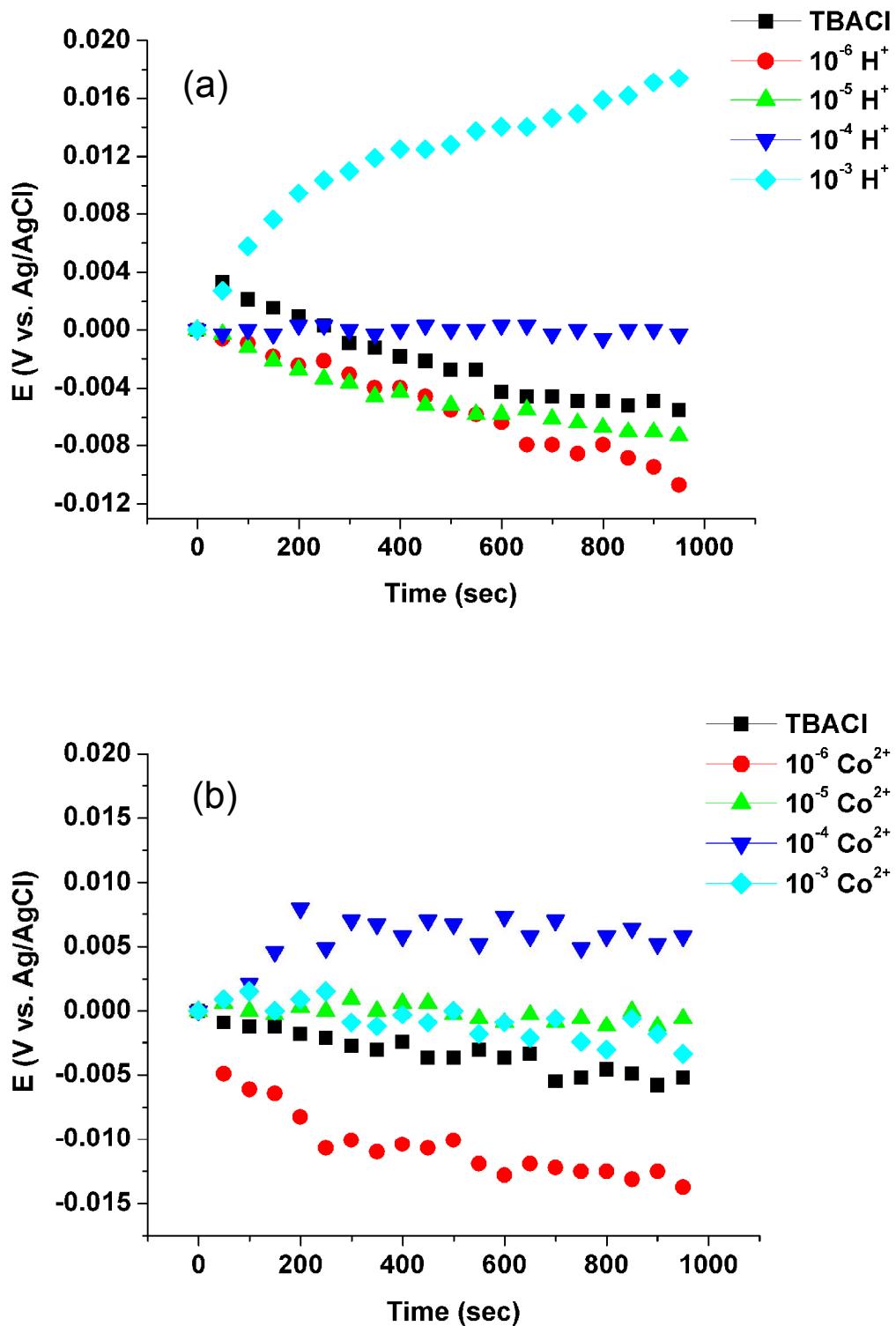
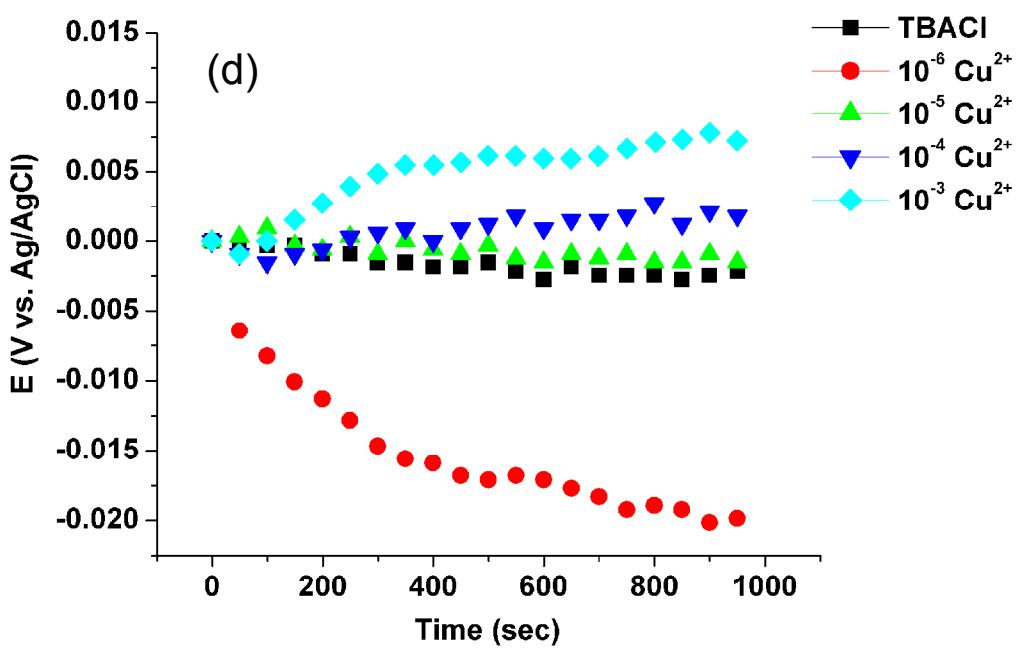
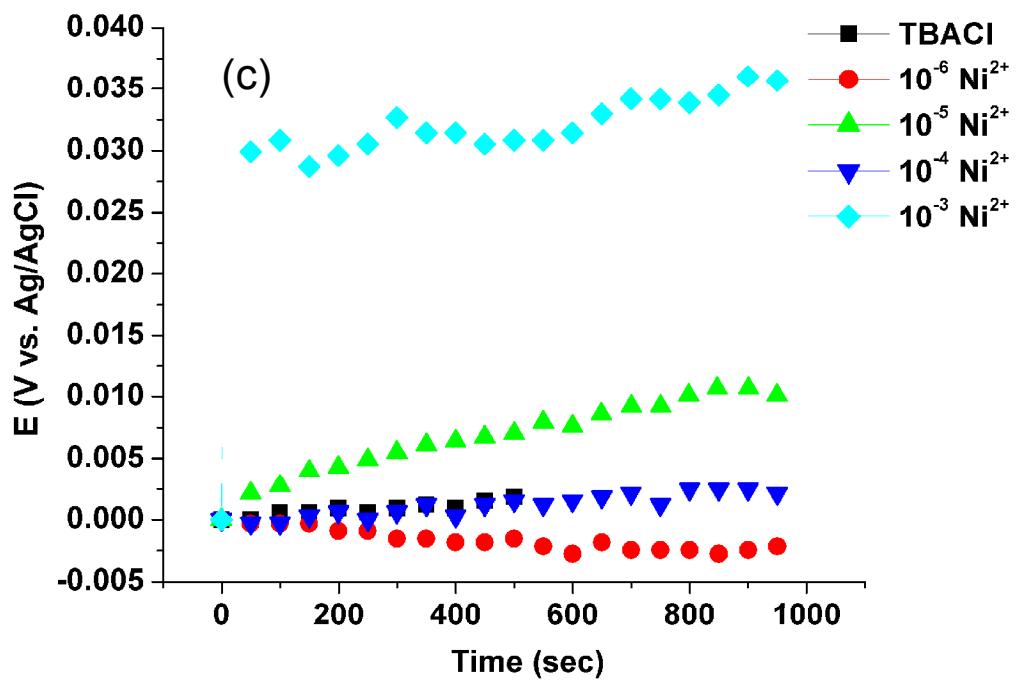


Figure S5. AFM images, the 2D topological or height images (left) and 3D topographic images (right): (a) bare ITO, (b) after electropolymerization of PC-CBz at 50 mV/s (0 to 1.5), 8 cycles in TBAPF₆/CH₂Cl₂ electrolyte (WE, ITO; CE, Pt wire; RE, Ag/AgCl wire)





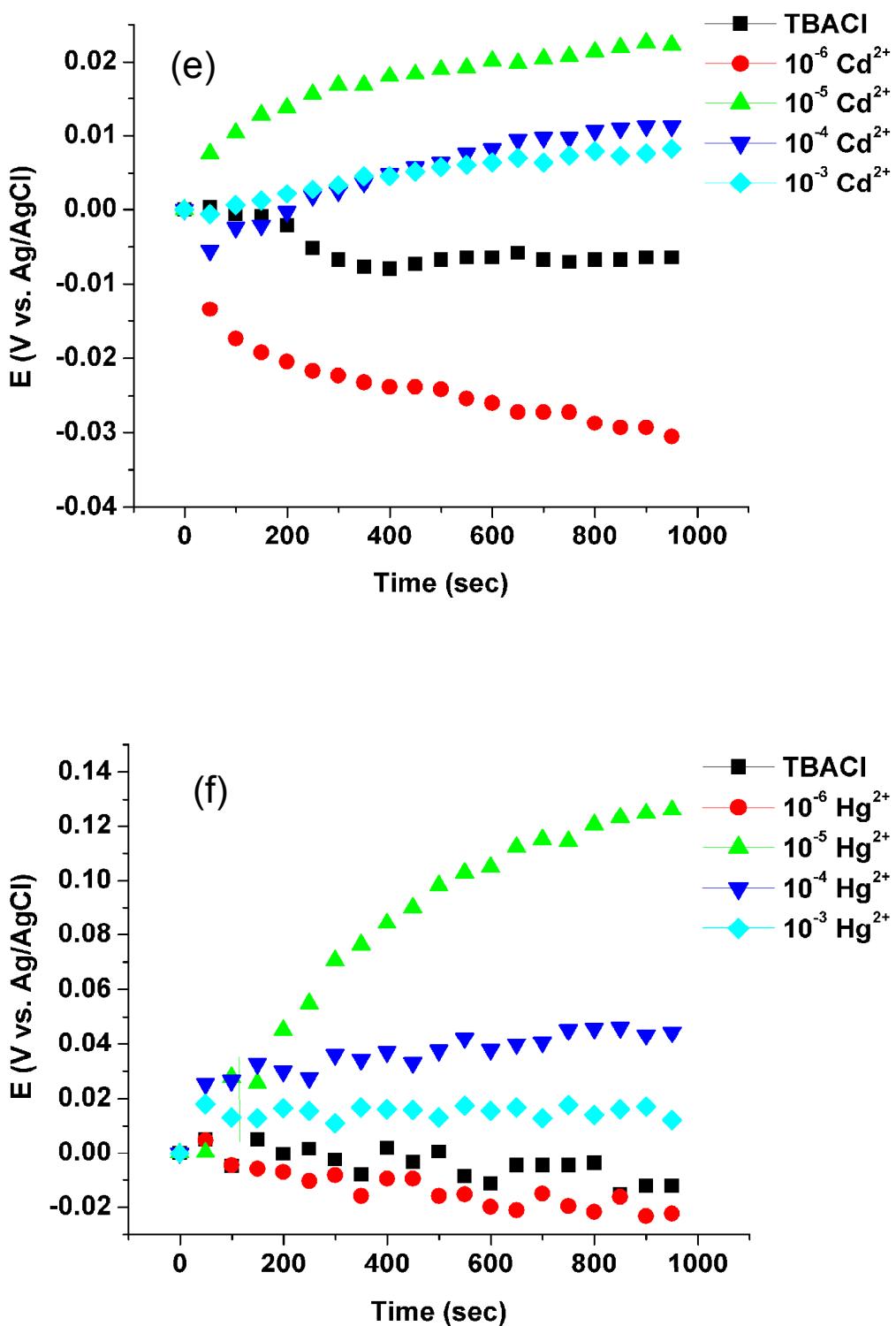
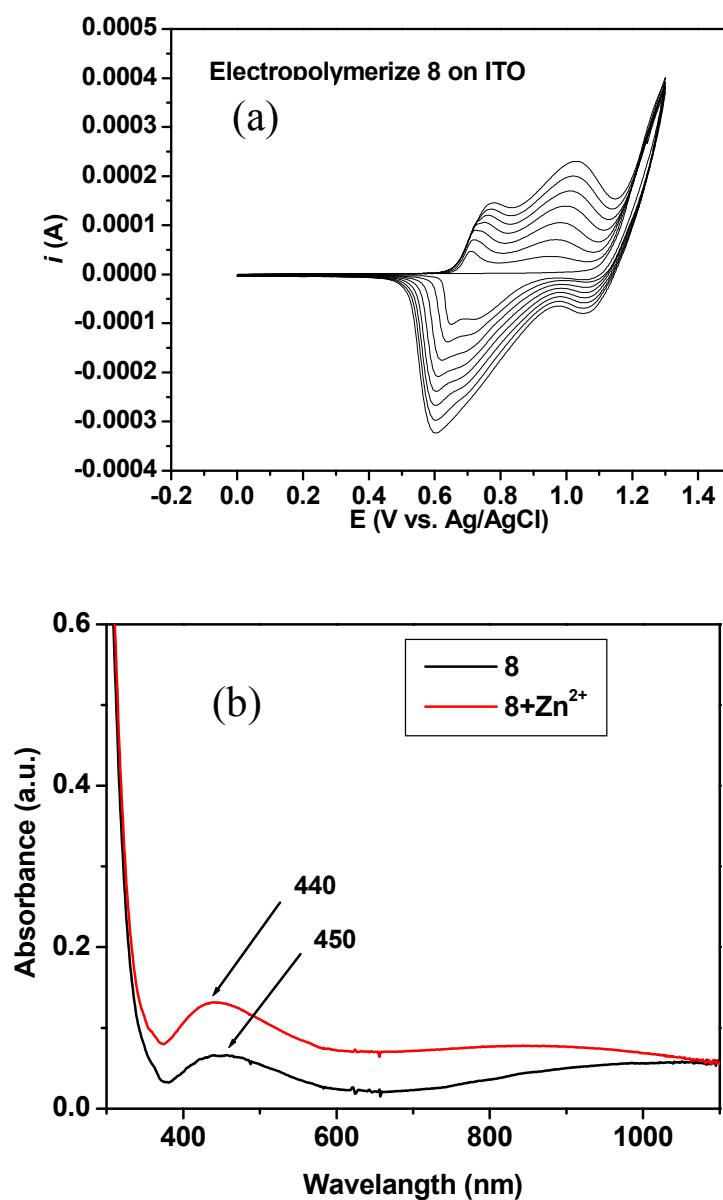


Figure S6. Potentiometric profiles of PCC-CBz on ITO in aqueous solution in different concentration of cations at 0 V: a) H^+ , b) Ni^{2+} , c) Cd^{2+} , d) Co^{2+} , e) Cu^{2+} , f) Hg^{2+} .



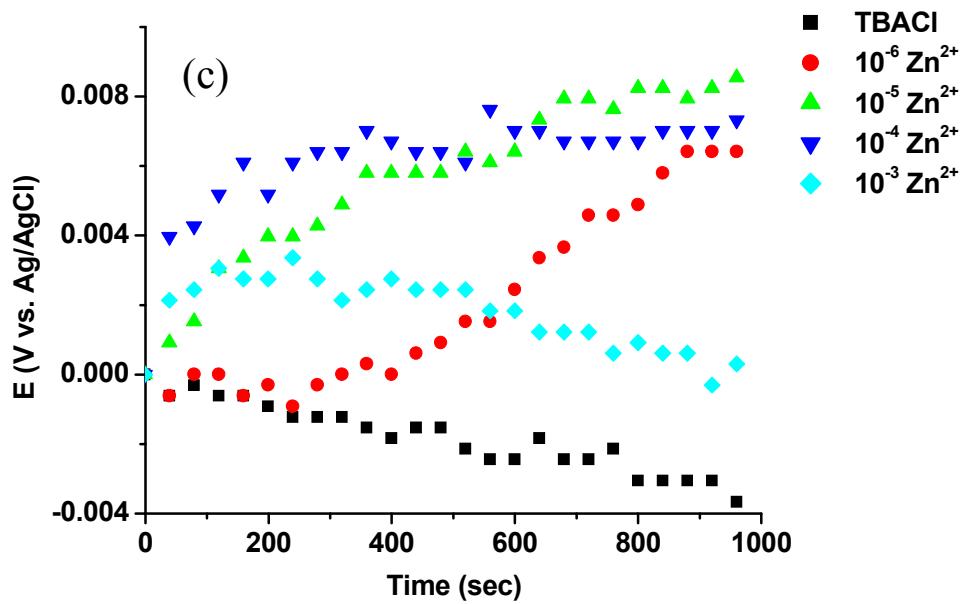


Figure S7. a) Cyclic voltammograms electrochemical cross-linking/deposition of **8** polymerization at a scan rate of 50 mv/s, 8 cycle deposited material on ITO substrates. b) The UV-Vis absorption spectrum of **8** films before and after addition of Zn^{2+} cations 10^{-3} M on ITO substrates c) Potentiometric profiles of **8** on ITO in aqueous solution in different concentration of Zn^{2+} at 0 V.