Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

Supporting Information

Post-imprinting Modification: Electrochemical and Scanning Electrochemical Microscopy Studies of Semi-Covalently Surface Imprinted Polymer

Jakub Kalecki[a], Maciej Cieplak[a], Zofia Iskierko[a], Joanna Piechowska[a], Wojciech Nogala[a], Francis D'Souza[b], Piyush Sindhu Sharma[a,*]

[a] *Institute of Physical Chemistry, Polish Academy of Sciences, Kasprzaka 44/52, 01-224 Warsaw, Poland*

[b] *Department of Chemistry, University of North Texas, 1155 Union Circle No. 305070, Denton, TX 76203-5017, United States*

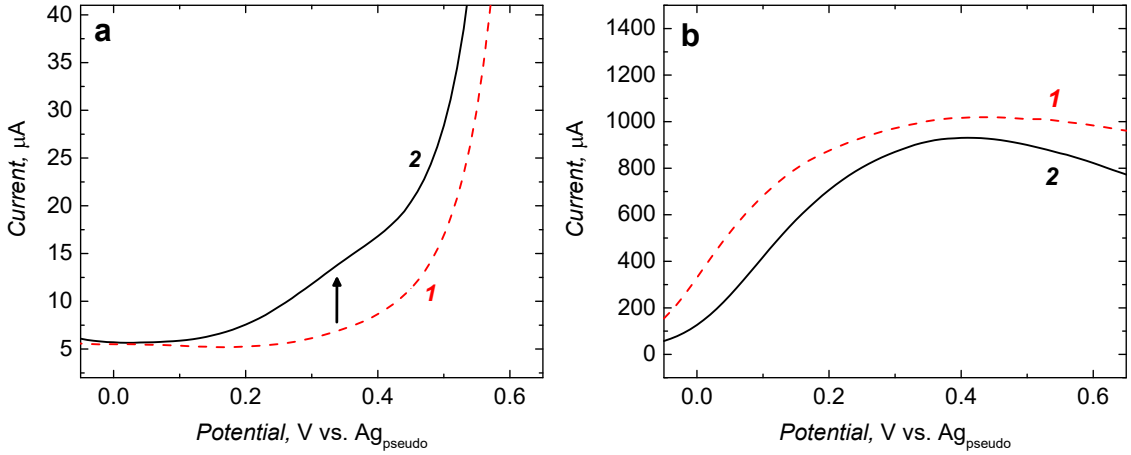

Figure S1. SWV measurement performed in 0.1 M $LiClO_4$/ACN for co-polymers of (a) 3,3'-bithiophene (**CR2**) and 2,2'-bithiophene-5-carbonyl chloride (**FM1**) and (b) 4*H*-cyclopenta[1,2-b:5,4-b']dithiophene (**CR4**) and 2,2'-bithiophene-5-carbonyl chloride (**FM1**) (*1*) before and (*2*) after covalently immobilized ferrocene modification. Measurement conditions include pulse height: 25 mV, pulse width: 50 ms, and step height: 10 mV.

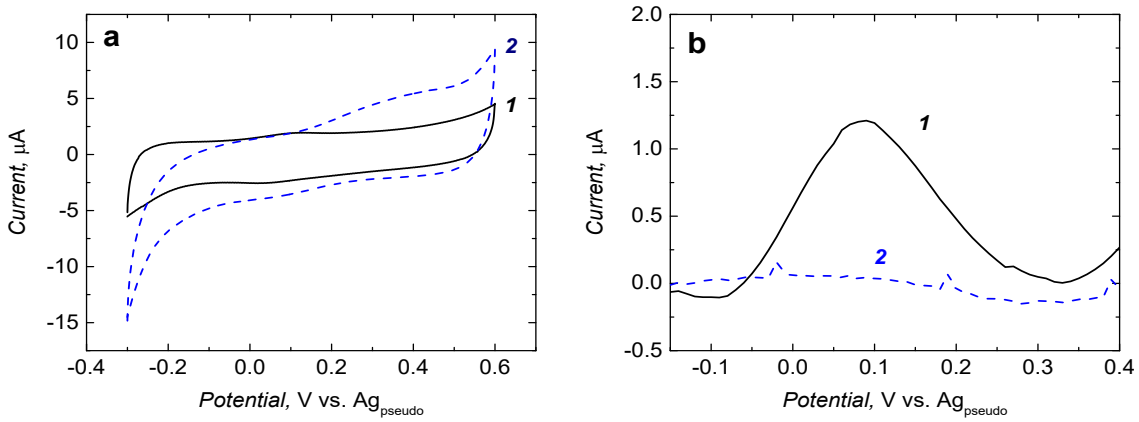

Figure S2. (a) Cyclic voltammetry and (b) square wave voltammetry measurements of BSA post-imprinted modified electrode. Semi-covalent surface imprinted polymers were prepared with (*1*) **FM2** and **CR2** (*2*) **FM1** and **CR3** combinations. Electrolyte: 0.5 mM H_2SO_4, CV: 50 mV/s, SWV: pulse height: 25 mV, pulse width: 50 ms, step height: 10 mV.

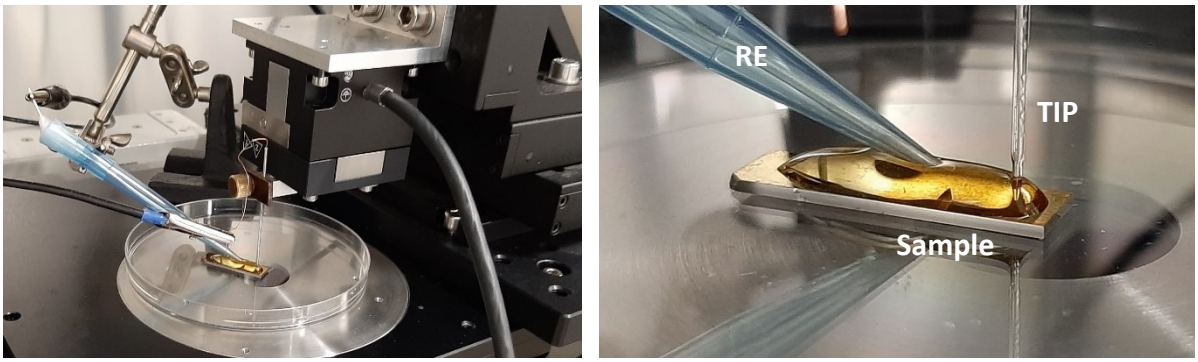

Figure S3. SECM measurement setup for polymer surface characterization. RE – Ag pseudo reference and counter electrode, TIP – platinum microelectrode (ca. 25 μm diameter), Sample - post-imprinting polymer modified electrode or NIP polymer.

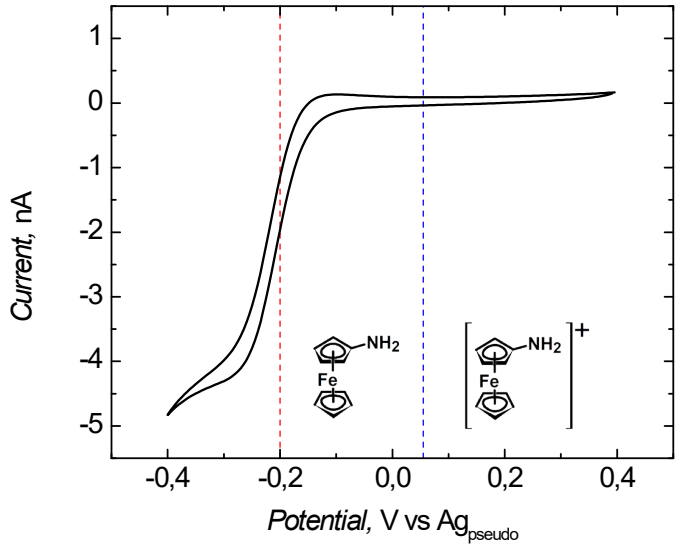

Figure S4. Voltammogram recorded on the SECM Pt probe tip in the bulk electrolyte, containing 1 mM $Ru(NH_3)_6Cl_3$ mediator in 0.1 M KCl. Redox potentials of $Ru(NH_3)_6^{3+}$ (red dotted line) and aminoferrocene (blue dotted line) are marked. The potential scan rate was 50 mV/s.