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Electrochemical sensing by surface-immobilized poly(ferrocenylsilane) grafts†

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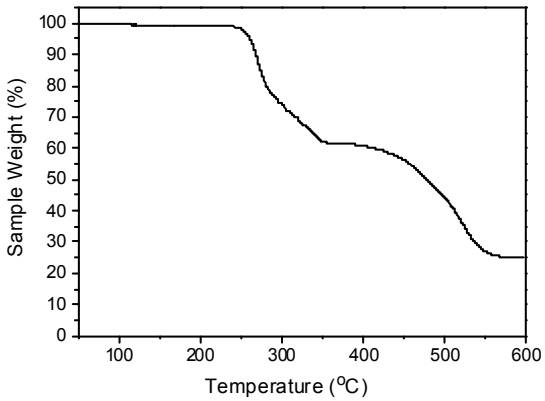

Fig S1. Thermogravimetric analysis of PFS **1**.

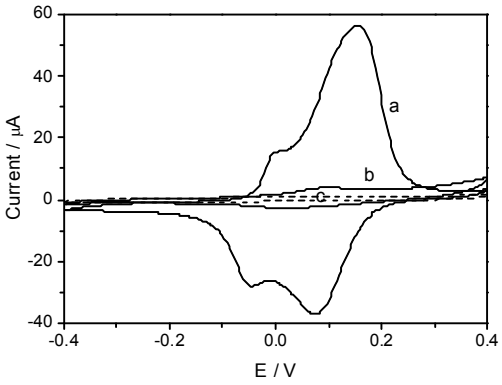

Fig S2. Cyclic voltammogram of a) PFS **1** covalently bound to an amine-terminated SAM on gold; b) PFMDS on the gold substrate with the cysteamine SAM; c) bare gold in 0.1 M $NaClO_4$ with Pt wires as the reference and counter electrode. All the substrates were soaked in THF overnight before measurements.

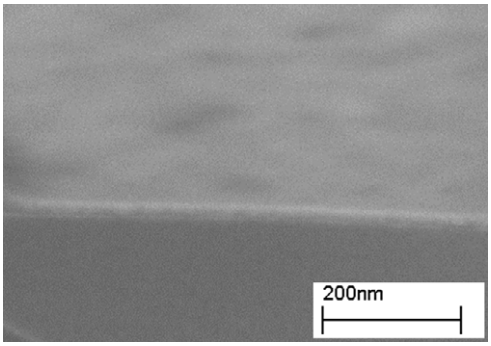

Fig S3. SEM image of the covalently anchored PFS film on silicon.

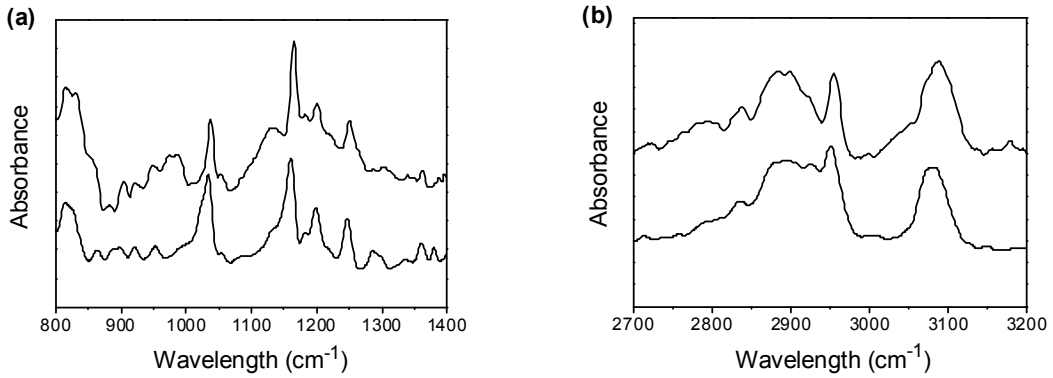

Fig S4. FTIR spectra of PFS **1** in bulk (bottom) and PFS brushes (top) on gold; (a) low energy region; (b) high energy region.

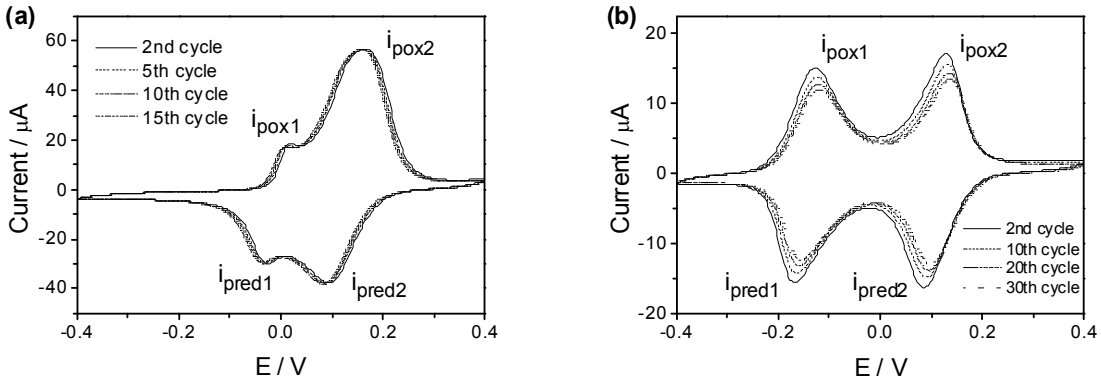

Fig S5. Cyclic voltammograms of PFS chains on gold at different scan rates, Pt reference and counter electrode. (a) In aqueous $NaClO_4$ (0.1 M); (b) in CH_2Cl_2 containing NBu_4PF_6 (0.1 M).

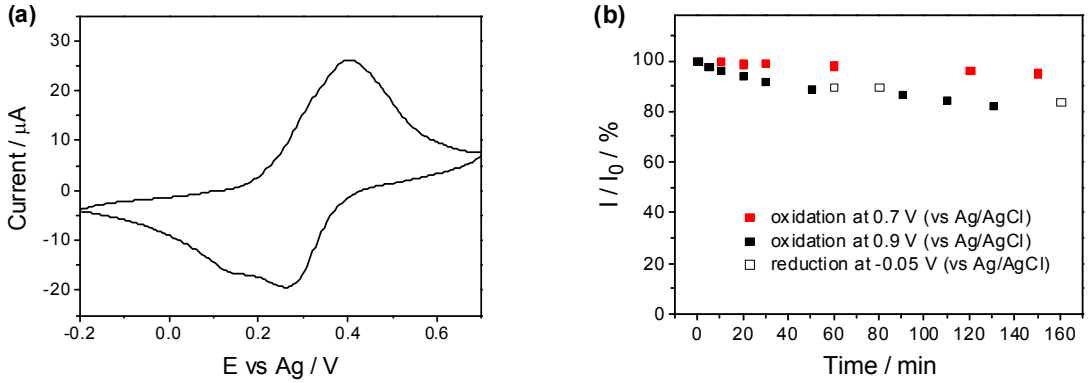

Fig S6. (a) Cyclic voltammogram and (b) remaining percentage of the CV current intensity in the oxidation process relative to time = 0 as a function of accumulated holding time at the specified potential. Experiments were carried out in aqueous $NaClO_4$ (0.1 M) using a Ag/AgCl reference electrode and a Pt counter electrode.