Electronic Supplementary Material (ESI) for Soft Matter.

Supporting Information

Continuous assembly of supramolecular polyamine-phosphate networks on surfaces: preparation and permeability properties of nanofilms

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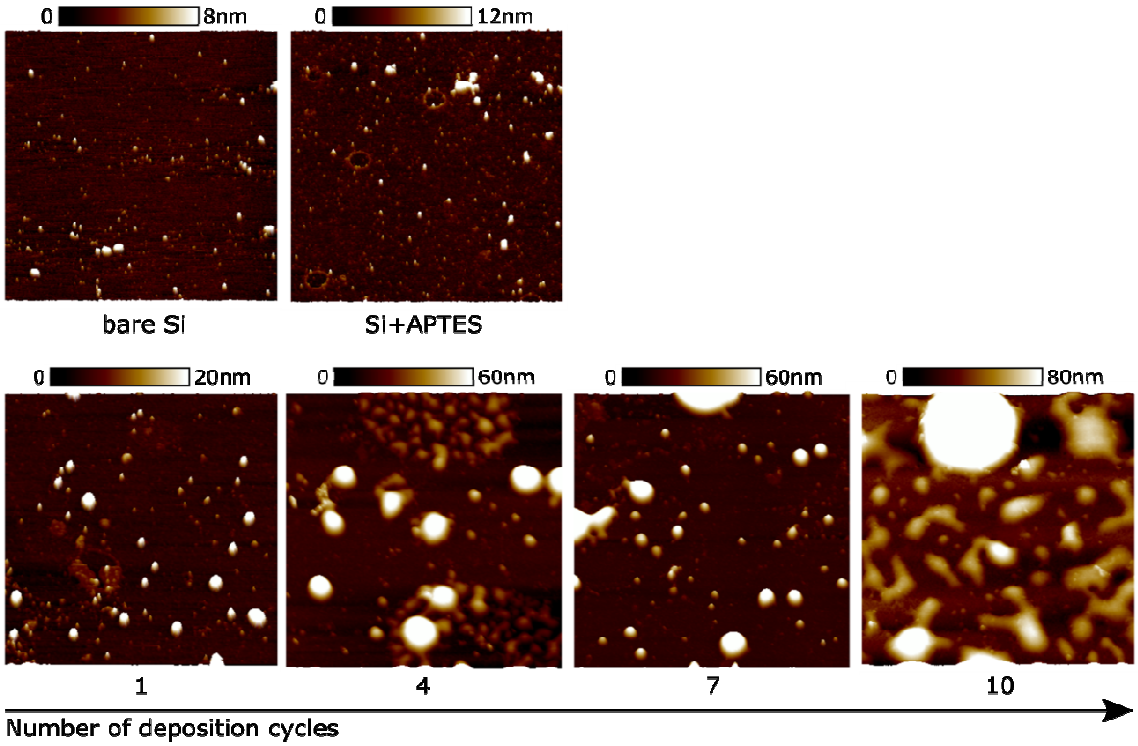

Figure S1. Tapping mode AFM height images of bare Si ((RMS roughness: 0.8 nm), APTES modified Si substrate (RMS roughness: 1.7 nm), and $(PAH/PI)_n$ for n=1 (RMS roughness: 4 nm), 4 (RMS roughness: 12 nm), 7 (RMS roughness: 14 nm) and 10 (RMS roughness: 37 nm) (0.05 mg mL^{-1} PAH/5 mM Pi). Imaging was performed in dry nitrogen ambient. Z scales indicated on each image, scan size $5\mu m^2$.

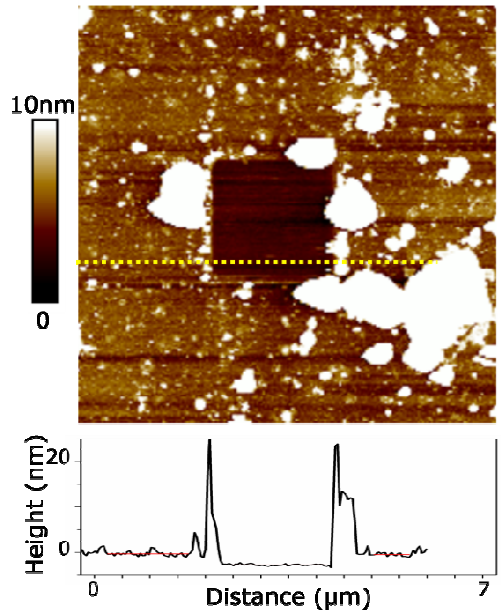

Figure S2. For the thickness measurement of the $(PAH/Pi)_1$ film formed from 0.05 mg mL^{-1} PAH, AFM scanning in contact mode at high forces was performed to remove all polymer and expose bare silicon. Sectional analysis of several profiles from a subsequent zoomed out tapping mode scan allowed the evaluation of a thickness of (2.4 ± 0.2) nm.

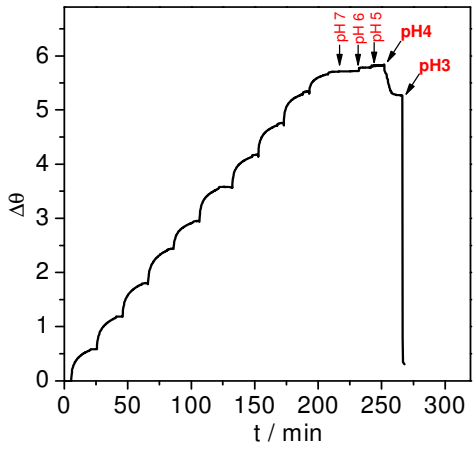

Figure S3. Change in the minimum reflectivity angle of the SPR scan (measured at λ = 785 nm) of the films $(PAH/Pi)_{10}$ coatings (0.2 mg mL^{-1} PAH/5 mM Pi) during the injection of Pi solutions at acid pH.

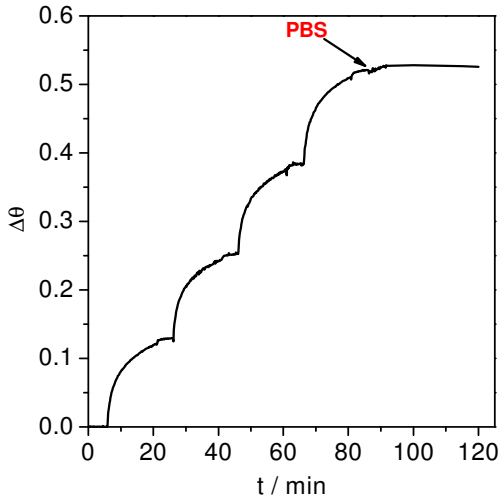

Figure S4. Change in the minimum reflectivity angle of the SPR scan (measured at $\lambda = 785$ nm) of the films $(PAH/Pi)_4$ coatings (0.05 mg mL^{-1} PAH/5 mM Pi) during the injection of PBS solution.

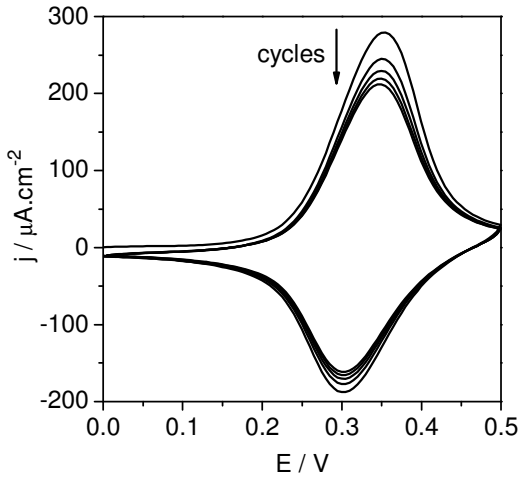

Figure S5. Cyclic voltammetries of $Fe(CN)_6^{3-}$ ions confined in the $(PAH/Pi)_5$ (0.2 mg mL^{-1} PAH/5 mM Pi) films in contact with PBS solution. Scan rate: 0.050 Vs^{-1}.