Electronic Supplementary Material (ESI) for Faraday Discussions.

Supplementary Material

Protein detection using Tunable Pores: Resistive Pulses and Current Rectification

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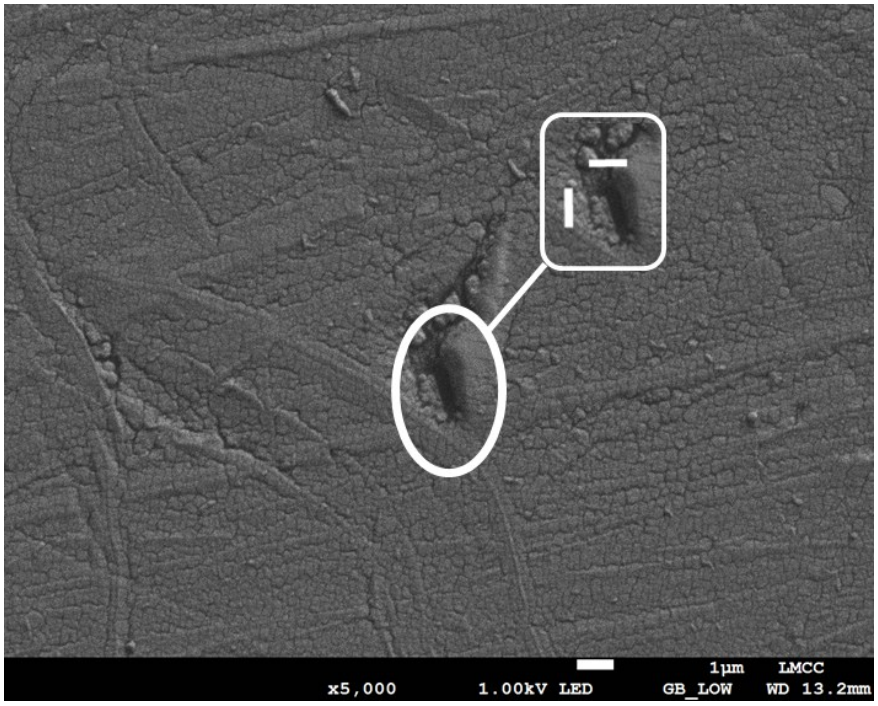

Figure S1. SEM image of a NP200 Tunable pore, small pore opening at 45 mm stretch, with an enlarged section of the pore area shown with 1 µm scale bars.

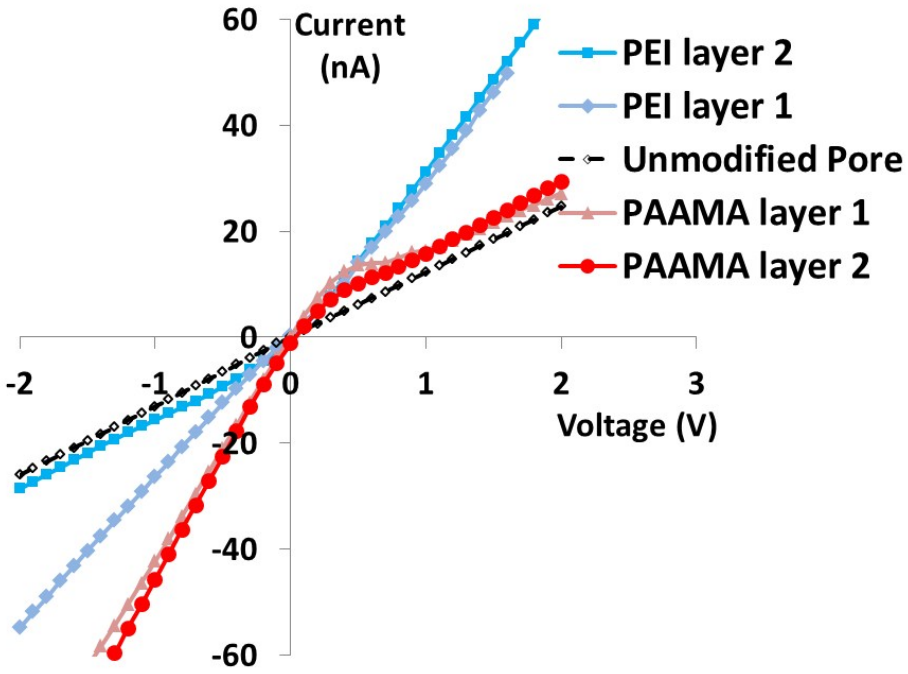

Figure s2. Current-Voltage curves for LMW PEI and PAAMA layers alongside a blank unmodified pore, All data obtained at 45 mm stretch, and 5 mM KCl solutions at pH 6.5

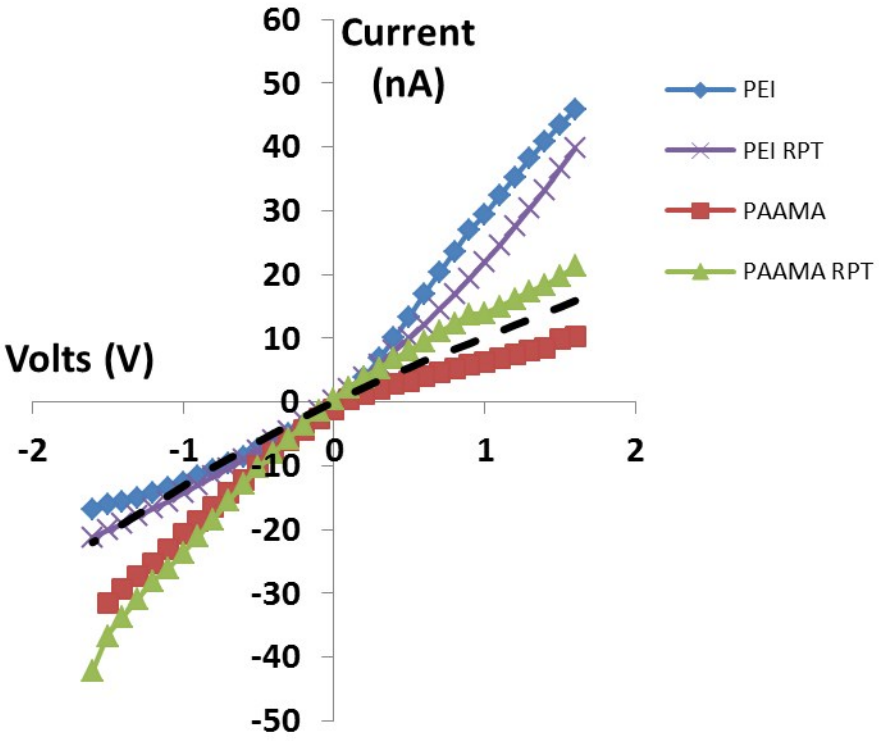

Figure S3. Current rectification curves for PEI (1.5 bi layers) and PAAMA 2 bilayers for the same pore coated twice. The effects of the first bilayer was reduced after 7 days, and a subsequent bilayer (RPT-DATA) was added. *Recorded at 5 mM KCl, 45 mm stretch*

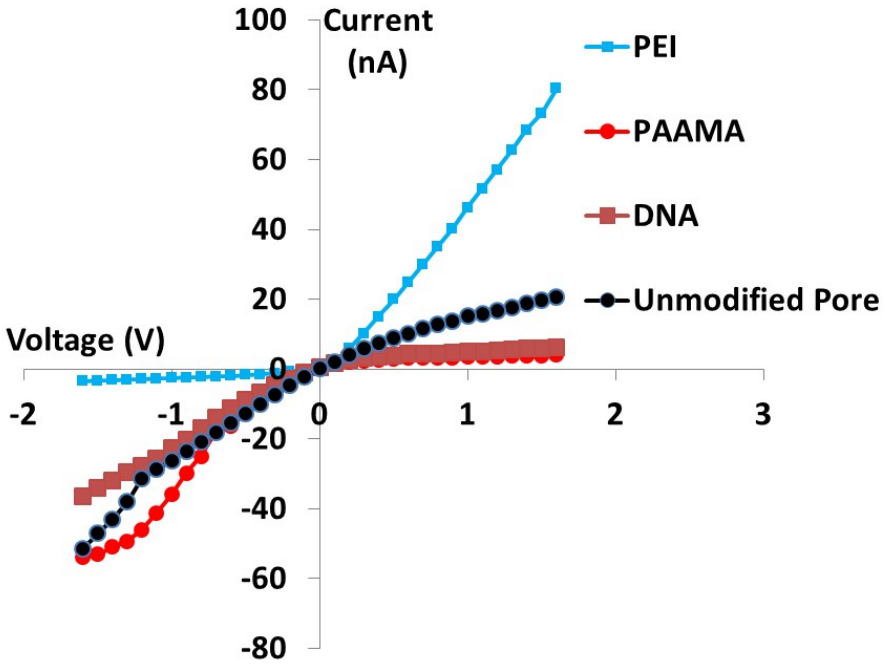

Figure S4 I-V curves for each layer in the DNA immobilisation on pore 1. Recorded at 5 mM KCl, 45 mm stretch.

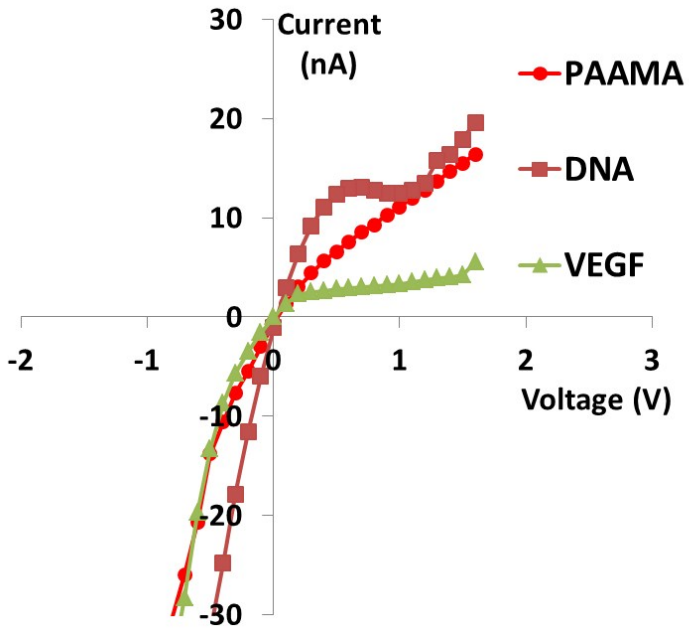

Figure s5) I-V curves for aptamer (DNA) and VEGF incubated pore. VEGF was 50 nM. KCl 5 mM

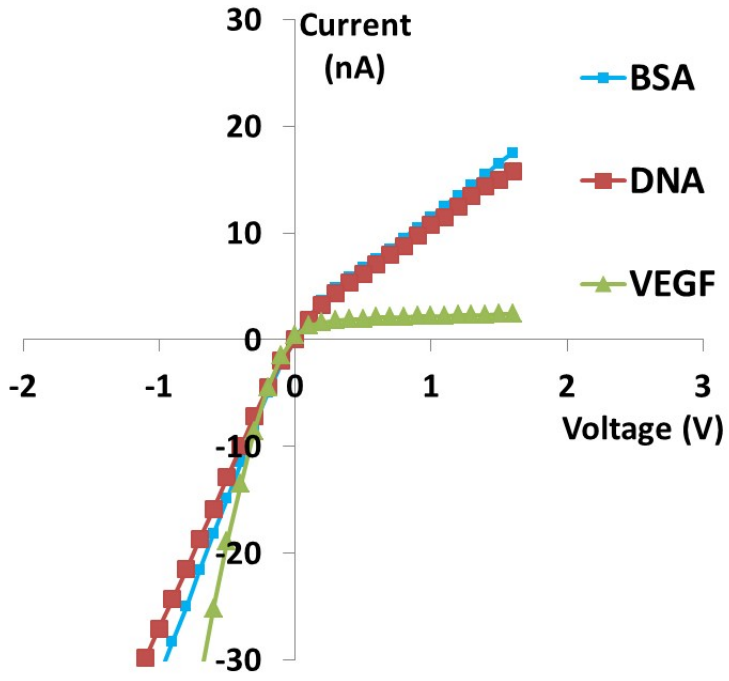

Figure s6) I-V curves for aptamer (DNA) and VEGF incubated pore. VEGF was 50 nM. KCl 5 mM, BSa = 50 nM

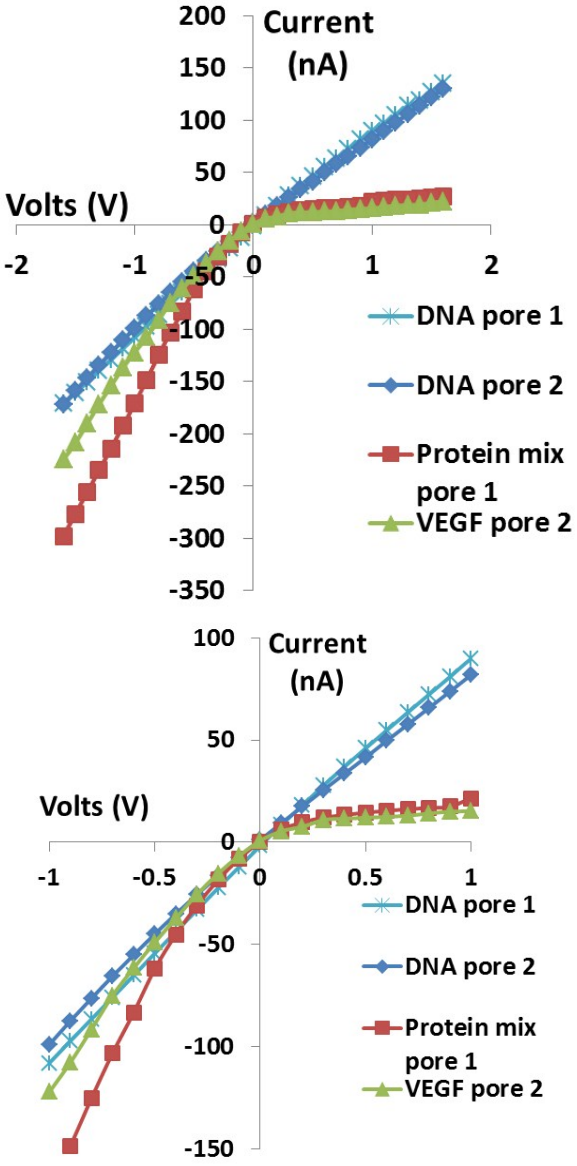

Figure s7 I-V Top - curves for one bilayer modified pores with the VEGF aptamer. One pore was incubated with 50 mM VEGF. The second pore with a VEGF, BSA, Fibrinogen and y-Globulin all at 50 mM. pH 6.5, 50 mM KCl. Bottom – enlarged section of the origin.

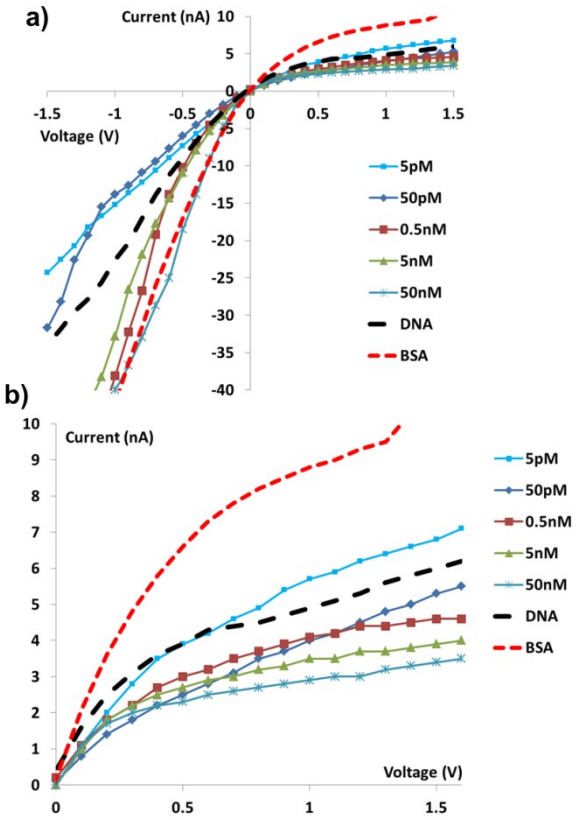

*Figure s8 a) Plot of rectification ratio versus VEGF concentration for a third pore. b) magnified section of the current between 0-1.6 V. KCl 5 mM**, pH 6.8**. Stretch 45 mm.*