Controlling Nanopore Size, Shape and Stability

Supporting Information

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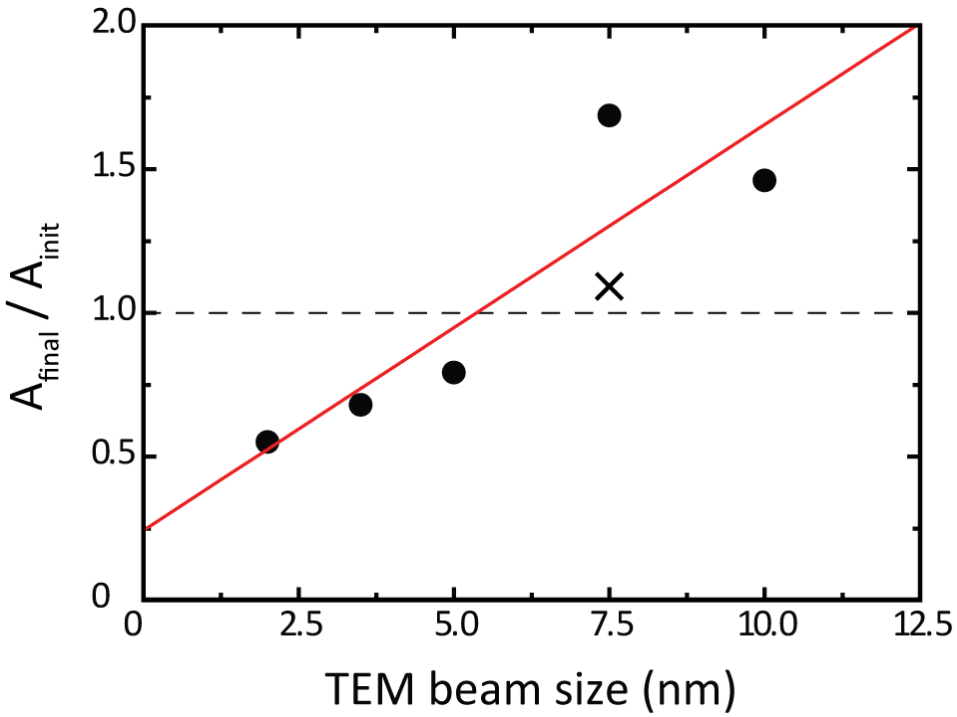

Figure S1: Nanopore stability versus TEM beam size for small beam sizes. Graph of the change in nanopore area as a function of the TEM beam size, after the pores were placed in ionic solution for 1 hr under an applied bias voltage of 100 mV. The change in area is defined as the final nanopore (cross-sectional) area divided by the initial area. In this experiment 5 pores of 5 nm (initial) diameter were drilled in a single membrane using TEM beam sizes of 2 nm, 3.5 nm, 5 nm, 7.5 nm and 10 nm FWHM. The red line is a linear fit to the data. The crossing point at zero area change (5.4 ± 0.1 nm) implies that the optimal beam size for stability is indeed similar to the pore size. The area of the pores drilled with beams smaller than the initial pore size is found to decrease. For comparison, we have also added the average value for the 7.5 nm beam size from Figure **3** (denoted by **x**).