Electronic Supplementary Material (ESI) for Nanoscale.

Supplemental Information: Solid-state nanopores and nanopore arrays optimized for optical detection

Furat Sawafta, Bason Clancy, Autumn T. Carlsen, Martin Huber, and Adam R. Hall

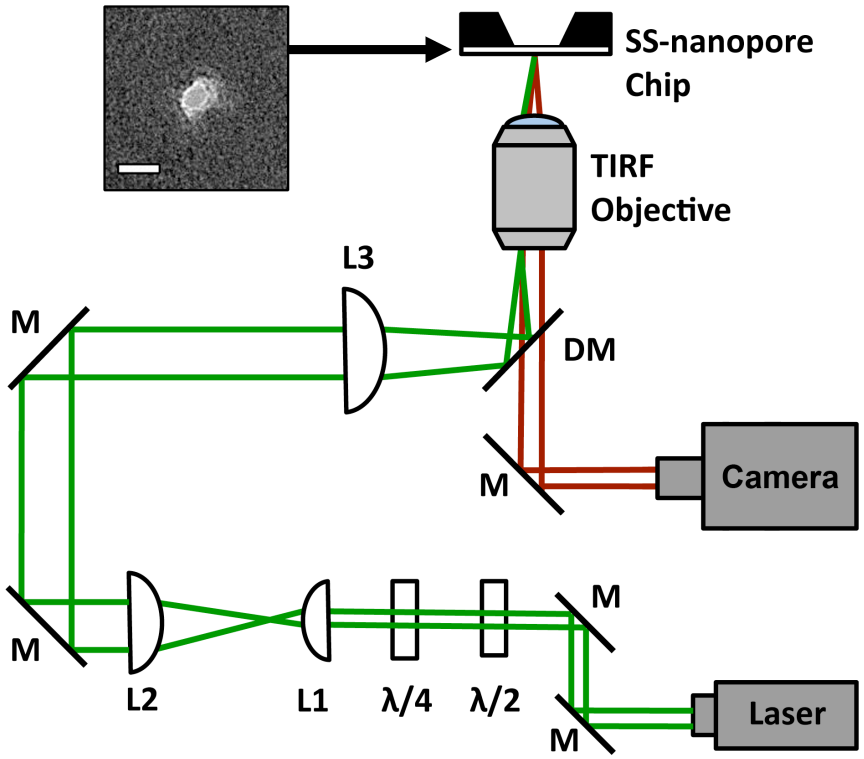

Figure S-1 Schematic of TIRF optical setup, indicating mirrors (M), lenses (L), dichroic mirror (DM), and half- (λ/2) and quarter (λ/4) waveplates. Lens 1-3 have focal distances of 25, 100, and 400 mm, respectively. Specifications for the laser, camera, dichroic mirror, and objective are provided in the Methods section of the main text. The inset (top) shows a transmission electron micrograph of a typical ~5 nm diameter nanopore formed with the same settings as used in the main text.

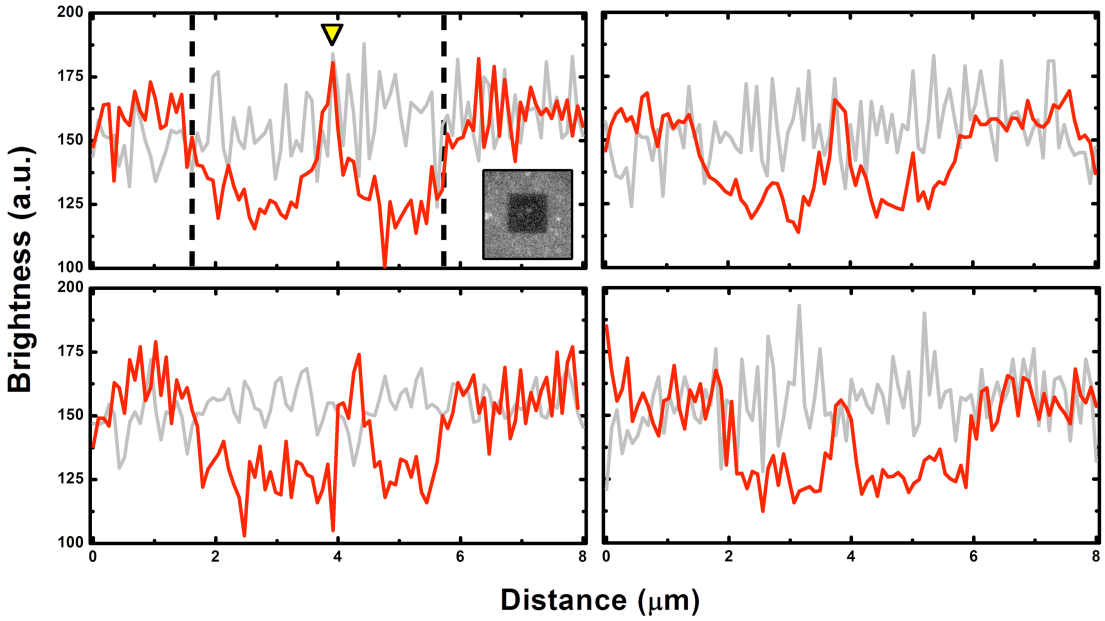

Figure S-2 Image brightness measured across the quenched SS-nanopore device shown in Fig. 2 from the main text (red) and across an untreated region of the membrane (grey) for four individual frames containing an optical translocation event. Traces demonstrate that the translocation signal is comparable to the unquenched SiN fluorescence. In the first panel, the dashed lines indicate the extents of the 4 μm quenched region and the yellow arrow indicates the nanopore position. The inset shows an example of a frame containing an optical translocation event (to the upper right of the center).