

Supplementary Information for

200 mm Wafer-Scale Fabrication of Polydimethylsiloxane Fluidic Devices for Fluorescence Imaging of Single DNA Molecules

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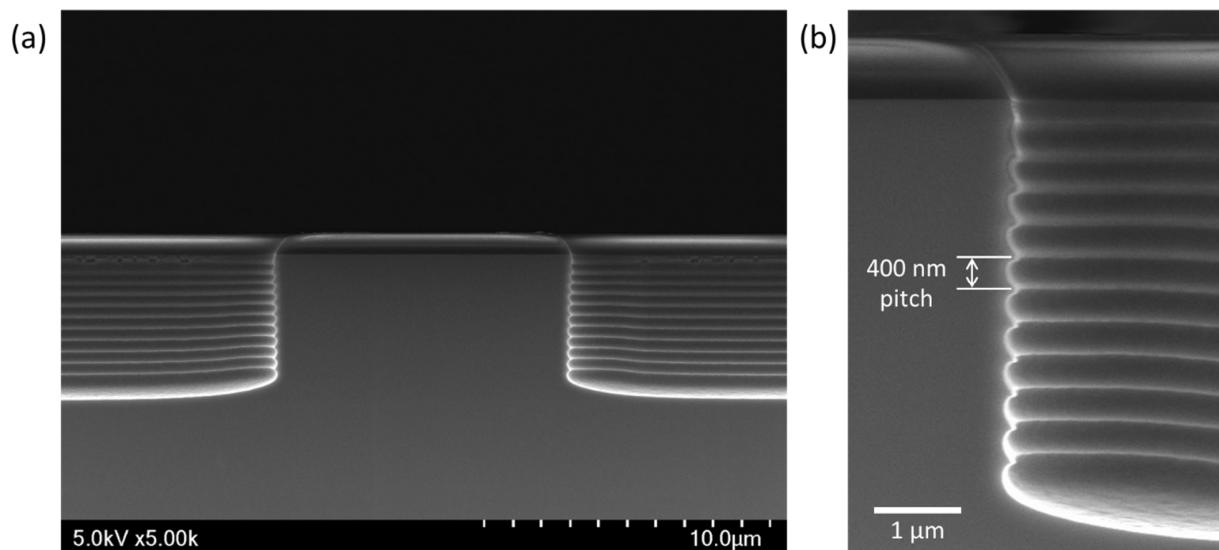


Figure S1. (a) Cross-sectional SEM image of silicon mold structure showing the nanoscallop sidewall geometry. (b) In the magnified SEM image, the pitch of the nanoscallop is measured as ~400 nm.

Supplementary Movie S1.

A movie consisting of three panels (fluorescence image, differential interference contrast (DIC) image, and the image both combined) shows the motions of single polystyrene particles flowing through the fabricated PDMS microchannels. Fluorescence image (left panel) and DIC image (middle panel) are obtained at the same time from two different photomultipliers (PMT) tube detectors. Both fluorescence and DIC images are overlapped and displayed at the right panel. A comparison between fluorescence and DIC images enables us to identify the motions of single polystyrene particles more clearly. Among many particles in the background, one visible particle is flowing from the right side to the left side horizontally in the center of the channel. The image scanning speed is 0.625 second per frame.

Supplementary Movie S2.

A movie shows YOYO1-tagged 48.5 kilobase pair (kbp) λ -DNA molecules flowing inside the fabricated PDMS microchannels. The flowing direction of the DNA molecules is upward. The image scanning speed is 2.5 second per frame.