Supplementary Material (ESI) for Lab on a Chip

Tuneable hydrophoretic separation using elastic deformation of poly(dimethylsiloxane)

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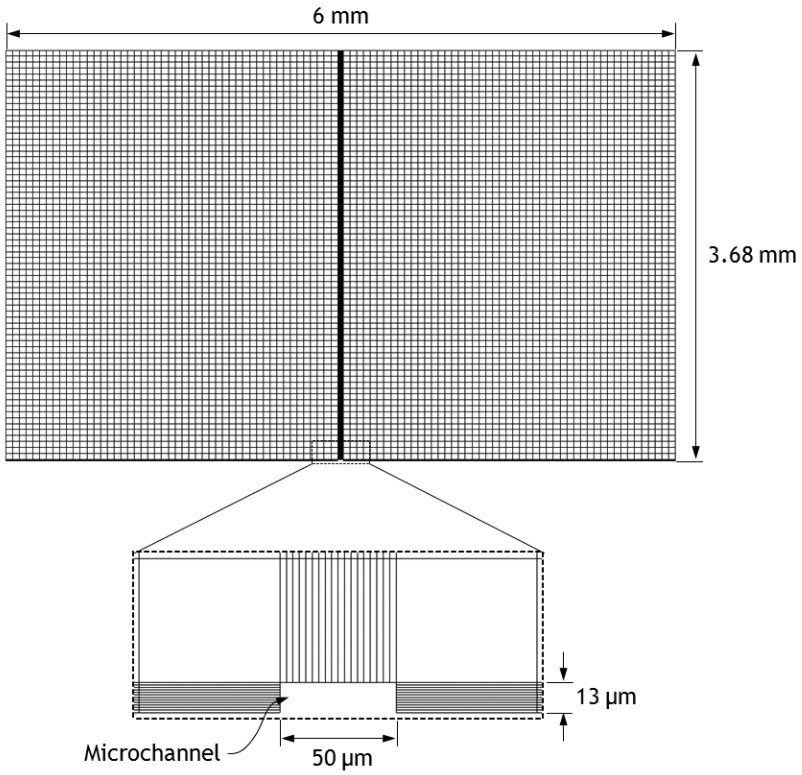

Fig. S1. 2D mesh for finite-element calculations of PDMS channel compression. The mesh as a PDMS device has thickness of 3.68 mm and width of 6 mm. The microchannel of 13 μm in height and 50 μm width is defined at the bottom of the 2D mesh. The right and left walls of the device are set as the free boundary condition. The bottom wall is set as the fixed boundary condition. As setting the constant displacement values for the top wall as the prescribed displacement boundary condition, we applied compressive forces to the mesh.

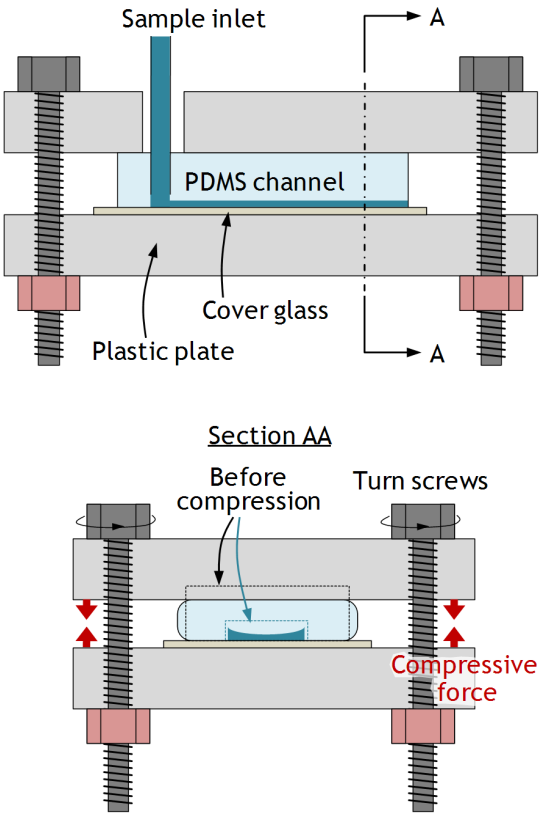

Fig. S2. Compression system with bolts and nuts to adjust the channel height. The elastomeric microfluidic device is compressed to change the cross-sectional size of the channel by fastening the bolts.