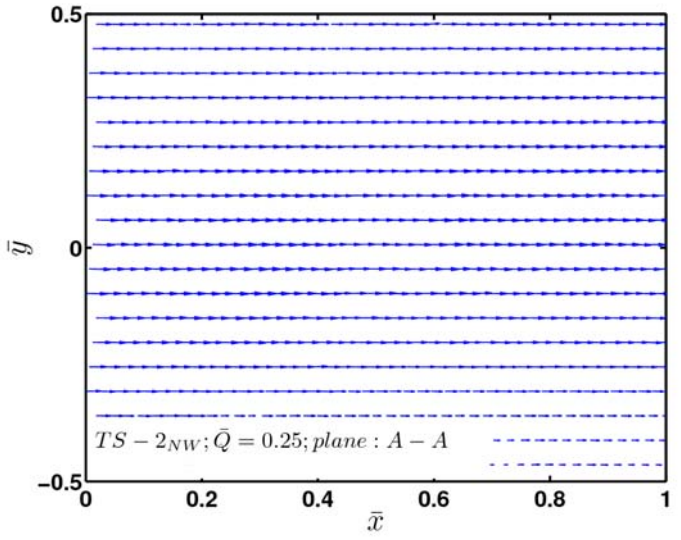
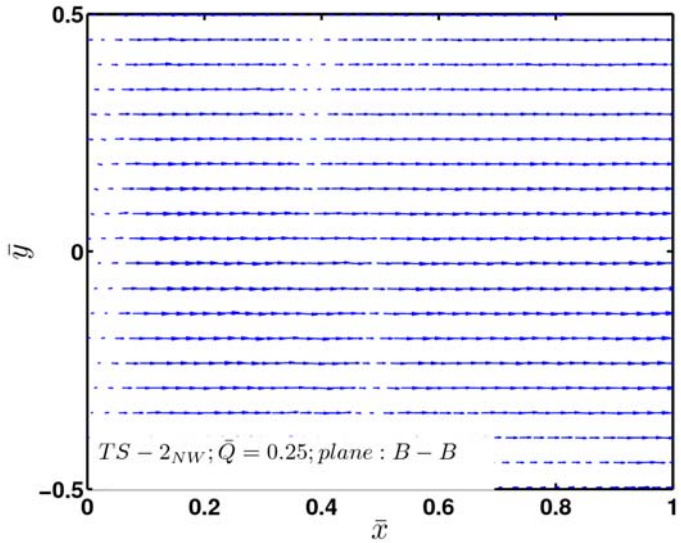
Electronic Supplementary Material (ESI) for Soft Matter.

Fig. S1 The robust, leak-proof microfluidic device created by mechanically integrating the PDMS lotus leaf replica with the PMMA microchannel.



(a)



(b)

Fig. S2 The velocity vector field for the flow through *TS-2*$_{NW}$, corresponding to $\bar{Q}=0.25$, **(a)** at the plane *A-A*, **(b)** at the plane *B-B*. These velocity vector fields clearly prove that the at $\bar{Q}=0.25$, while the flow through *TS-2*$_{BW}$ is completely erratic (see Fig. 7 (IIIb)); the flow through *TS-2*$_{NW}$ remains laminar and uni-axial.