

Supplementary Materials

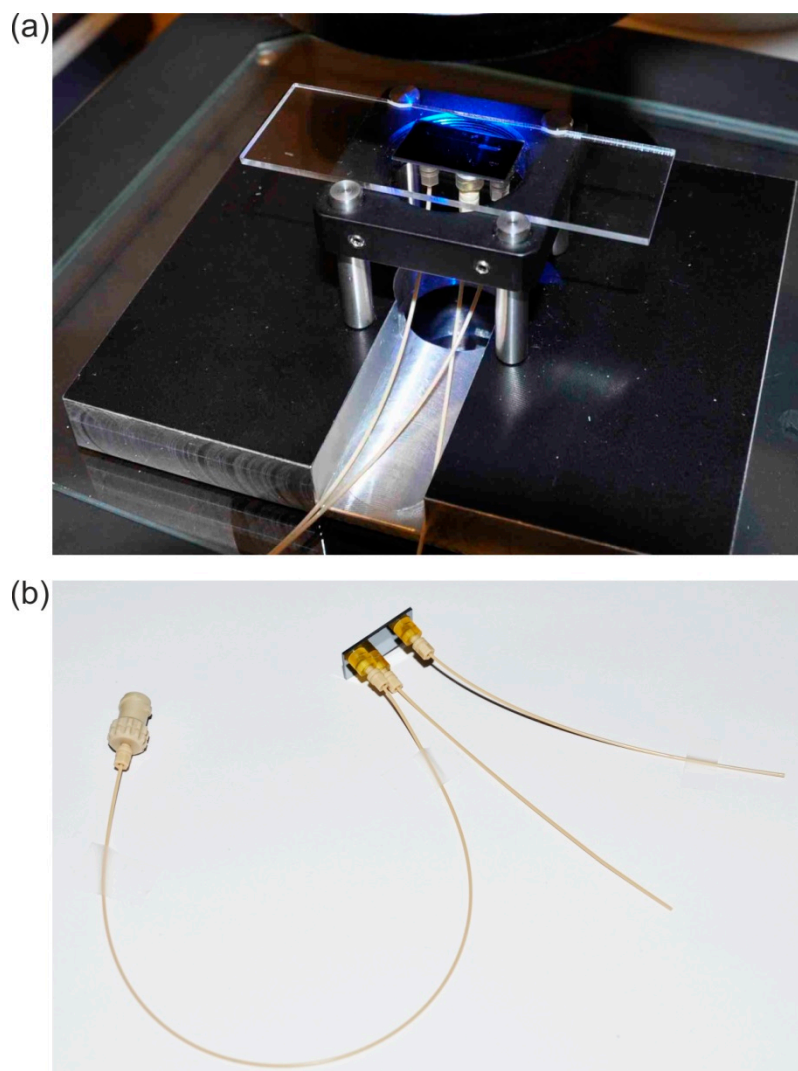


Figure S1. (a) Experimental setup showing the microfluidic chip mounted under the microscope; (b) world-to-chip interface: Bonded port connectors (Labsmith CapTite, Virum, Denmark) glued onto the backside of the silicon device, screwed-in one-piece fittings (Labsmith CapTite) connect the PEEK tubing with bonded port connector and Luer-Lock™ adapter (Labsmith CapTite).

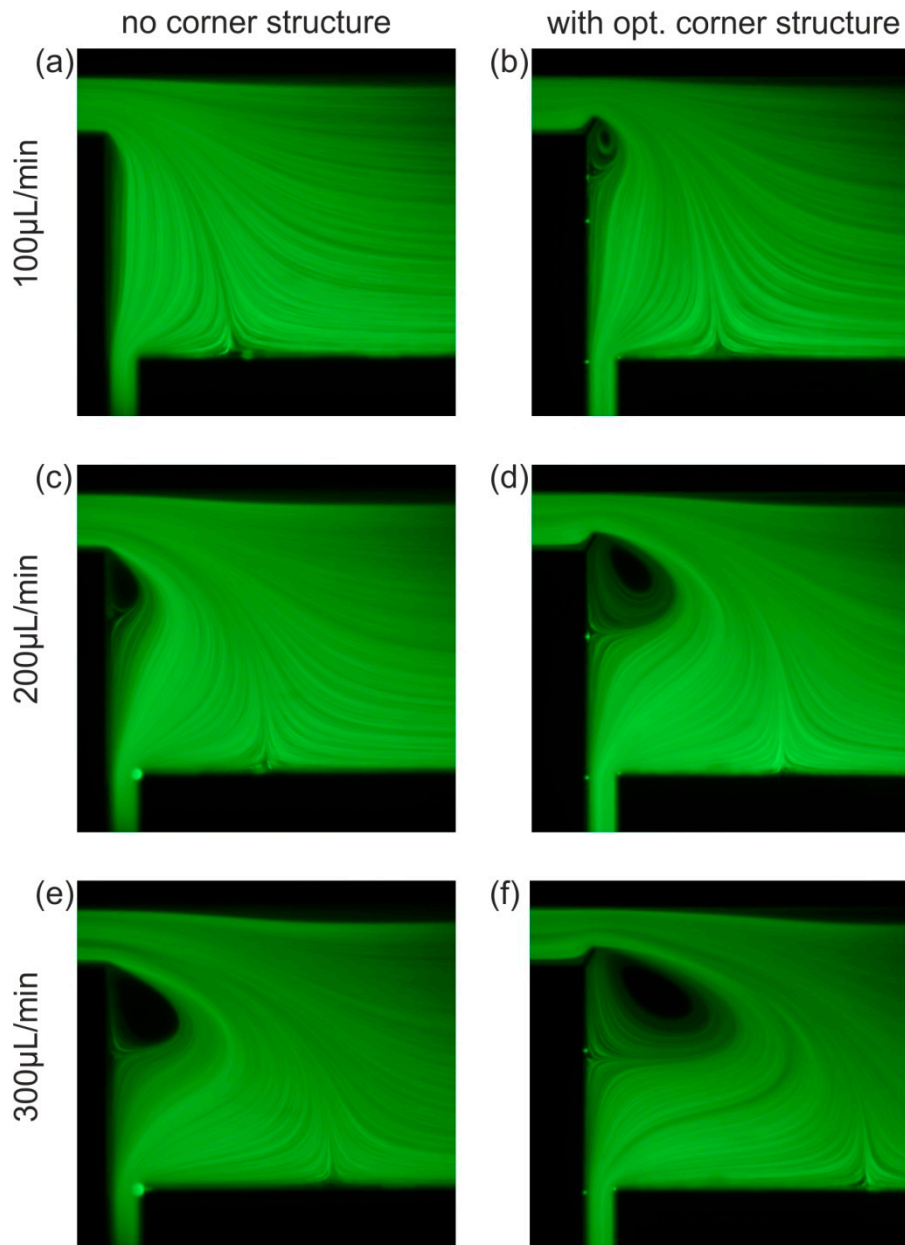


Figure S2. Comparison of fluorescent particle streamline micrographs at (a,b) 100 $\mu\text{L}/\text{min}$, (c,d) 200 $\mu\text{L}/\text{min}$, (e,f) 300 $\mu\text{L}/\text{min}$. The left column shows a plain backward-facing step channel (step height $h = 400 \mu\text{m}$), whereas the right column shows a sudden expansion channel featuring the optimized corner structure (step height $h = 400 \mu\text{m}$, $\alpha = -30^\circ$).