Electronic Supplementary Material (ESI) for Lab on a Chip

Benchtop fabrication of microfluidic systems based on curable polymers with improved solvent compatibility

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Supplemental Information

Figure S1.

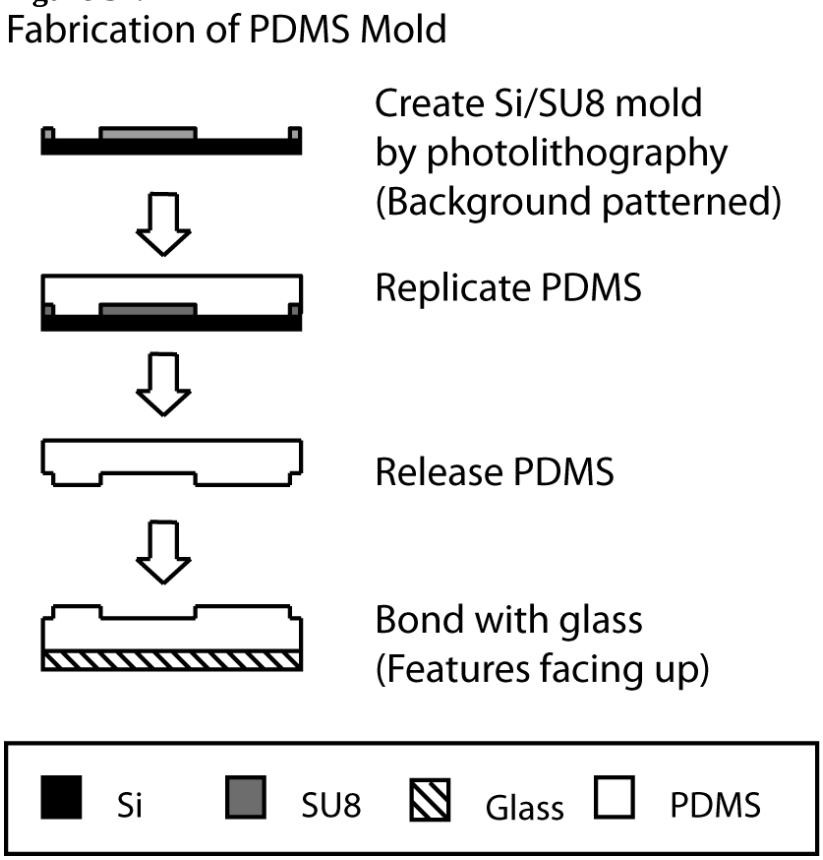

Figure S1. Fabrication of PDMS molds. The master on silicon wafer has background features patterned by photolithography. A single replication with PDMS produces positive features of microchannels that are subsequently used as a mold for various polymers. The PDMS was prepared ~1.5 mm thick (the height of channels was 50-200 μm). To maintain the flatness of the mold, the flat side of the replicated PDMS was sealed with a glass slide (Corning) via surface oxidation.

Figure S2.

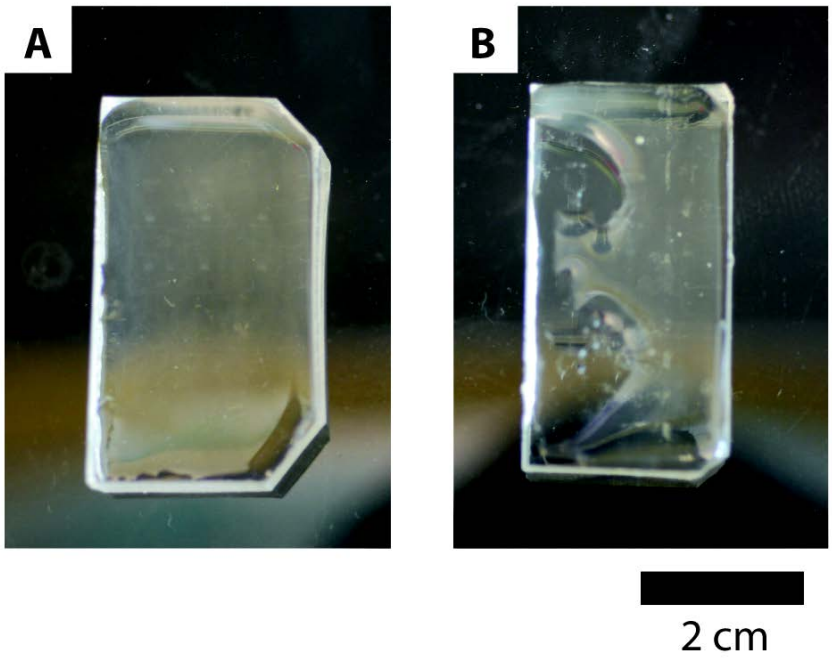

Figure S2. Replication of liquid prepolymer on PDMS molds. Treatment of the surface of PDMS molds with a 1 % solution of poly(vinylalcohol) (PVA) ensured the wetting of the PDMS surface with liquid prepolymers used for replication. The photographs show replications of SU-8 2005 after application and prebaking of the prepolymer on **A)** a PVA-treated PDMS mold and **B)** an untreated PDMS mold. With untreated molds, the prepolymers were partially shed from the surface of PDMS.

Figure S3.

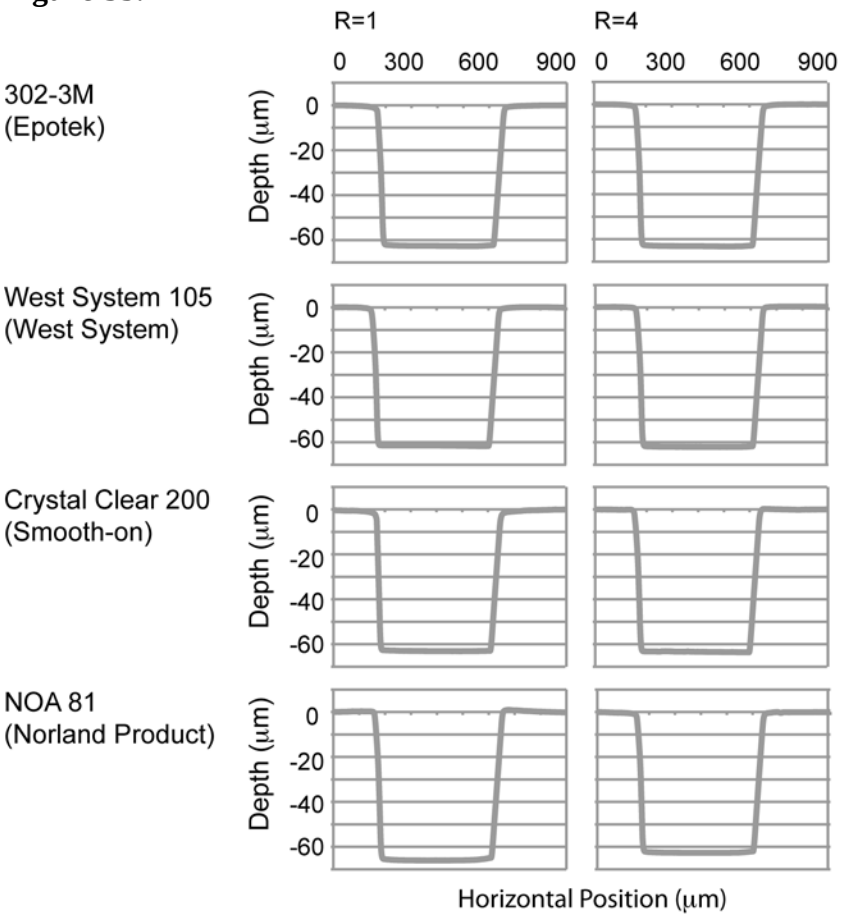

Figure S3. Cross-sectional profiles of replicated channels after multiple use of PDMS molds. Cross-sectional profiles of channels replicated using the same PDMS mold after the initial (R=1, left column), and the fourth (R=4, right column) are shown. Multiple molding did not cause changes in the cross-sectional profile of the PDMS mold for the polymers we tested.