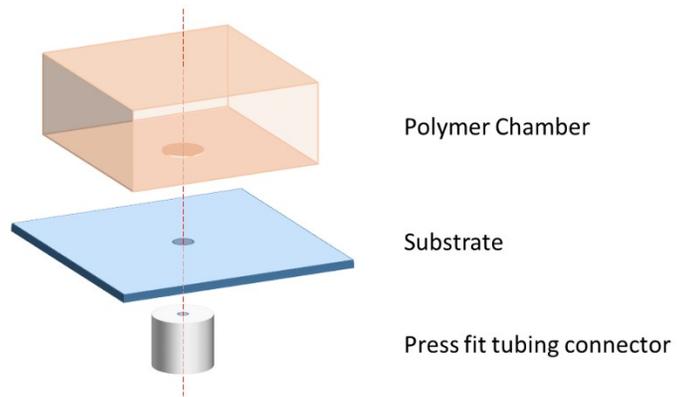


Electronic Supplementary Information

Plasma Free Reversible and Irreversible Microfluidic Bonding

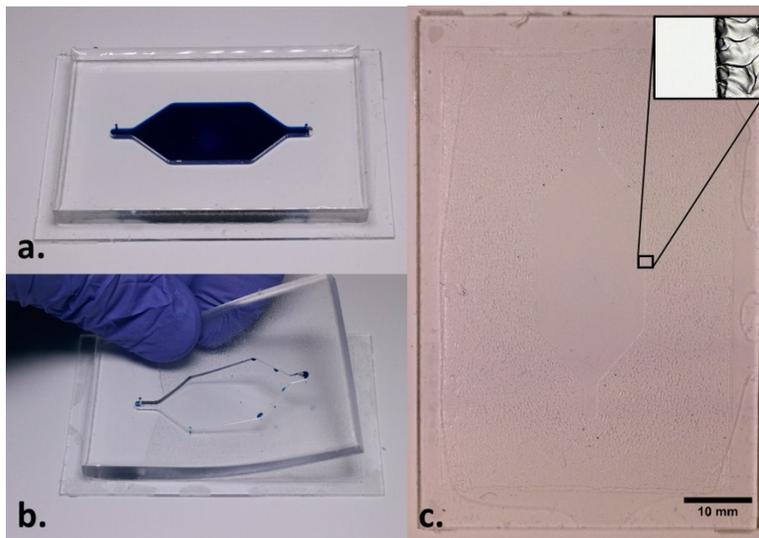
M. Chu, T. T. Nguyen, E. K. Lee, J. L. Morival and M. Khine



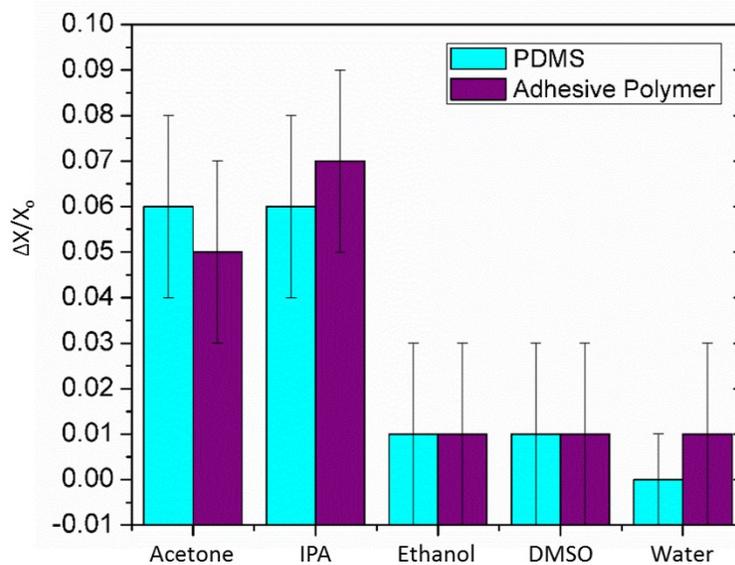
Supplemental Figure s1. Schematic of the pressure burst set up assembly. Inlet tubing goes through the press fit tubing connector

Trial	1	2	3
Burst Pressure	79 ± 5 kPa	76 ± 4 kPa	77 ± 3 kPa

Supplemental Table t1: Repeated burst pressure measurements for same set of adhesive polymer. There was no significance between each trial (<0.001)



Supplemental Figure s2. (a) Fluid chamber filled with blue dye. (b) Removal of the irreversibly sealed PDMS. (c) Top down view of the adhesive polymer substrate post removal. The inset image shows a magnified view of the cell chamber border between bonded and non-bonded areas. Removal of the PDMS chamber ripped the adhesive polymer layer (right side of the inset image) while leaving the substrate within the chamber intact (left side of the inset image).



Supplemental Figure s3. As described in the experimental section, the initial length of each side for each of the pieces was measured immediately upon submersion into the solvent. After a 24 hour period to allow the swelling to reach equilibrium, the length of each side was again measured. The difference between the two lengths was then normalized by the initial length in order to obtain a percent change in length for each respective solvent. The swelling of PDMS and the Adhesive Polymer was found to be statistically insignificant from each other for each solvent (Acetone: $p=.6311$, IPA: $p=.1509$, Ethanol: $p=.4849$, DMSO: $p=.8725$, Water: $p=.2154$). The graph of percent change is displayed above.