Supplementary Material (ESI) for Lab on a Chip
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Rapid fabrication of microchannels using microscale plasma activated templating (μPLAT) generated water molds

Shih-hui Chao, Robert Carlson and Deirdre R. Meldrum

Modulized fabrication

μPLAT with multiple O_2 plasma exposure allows for modularized microstructure fabrication, a feature favorable for prototyping. Fig. S1a shows the patterns of the hand-cut cross-channel module and bifurcation module masks used in multiple exposures. Fig. S1b shows various configurations of the two microfluidic modules, and Fig. S1c shows photographs of products. We intentionally overlapped the exposure patterns at the large circular port for easy alignment. Because O_2 plasma exposures were done in a vacuum, the protection water layers often evaporated, resulting in lower yield rate (~25%) during the fabrication for devices in Fig. S1c.

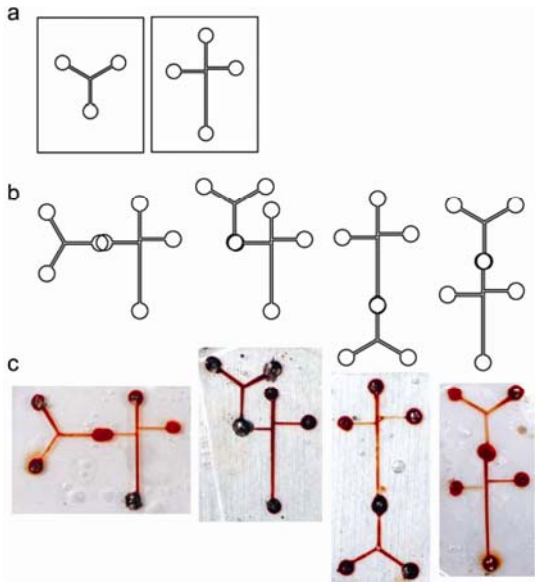

Fig. S1. (a) Mask patterns of two microfluidic modules. (b) Geometric combinations of the two modules. (c) Resulting channels filled with food coloring.