Supplementary Material (ESI) for Lab on a Chip

Electronic Supplementary Information For

Direct Projection on Dry-film Photoresist (DP2): Do-it-yourself Three-dimensional Polymer Microfluidics

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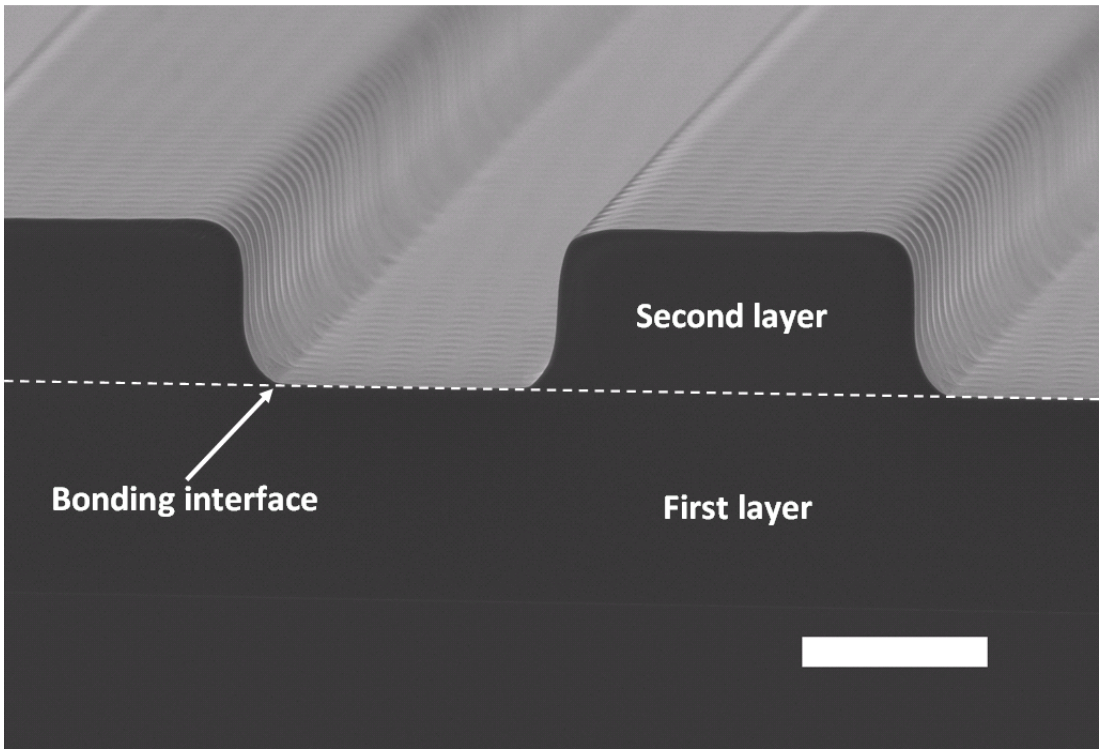
Optimized protocol for exposure and development of 10μm dry-film feature

The exposure energy measures 61mW/cm^2 at 405nm using a photo-intensity meter (Model 150, ABM Inc.) and the exposure time is 22 seconds. An air-brush (Model 150, Badger Air-brush Co.) is used to spray developer solution onto dry-film photoresist. The air-brush is connected to an Ar tank, and the gas pressure is adjusted to be 132kPa. 0.5% wt. Na_2CO_3 solution is used as developer as mentioned in the paper. During development, the air-brush is held at a distance of 1.5cm from the dry-film surface and the developer stream is kept perpendicular to the dry-film surface. The sample is developed for 40 seconds, followed by gentle de-ionized water rinse and Ar gas dry.

Close-up SEM picture of the bonding interface between dry-film layers



Scale bar shows 100μm