

Supplementary Materials

Integration of Ultra-Low Volume Pneumatic Microfluidics with a Three-Dimensional Electrode Network for On-Chip Biochemical Sensing

Saurabh Tomar, Charlotte Lasne, Sylvain Barraud, Thomas Ernst and Carlotta Guiducci

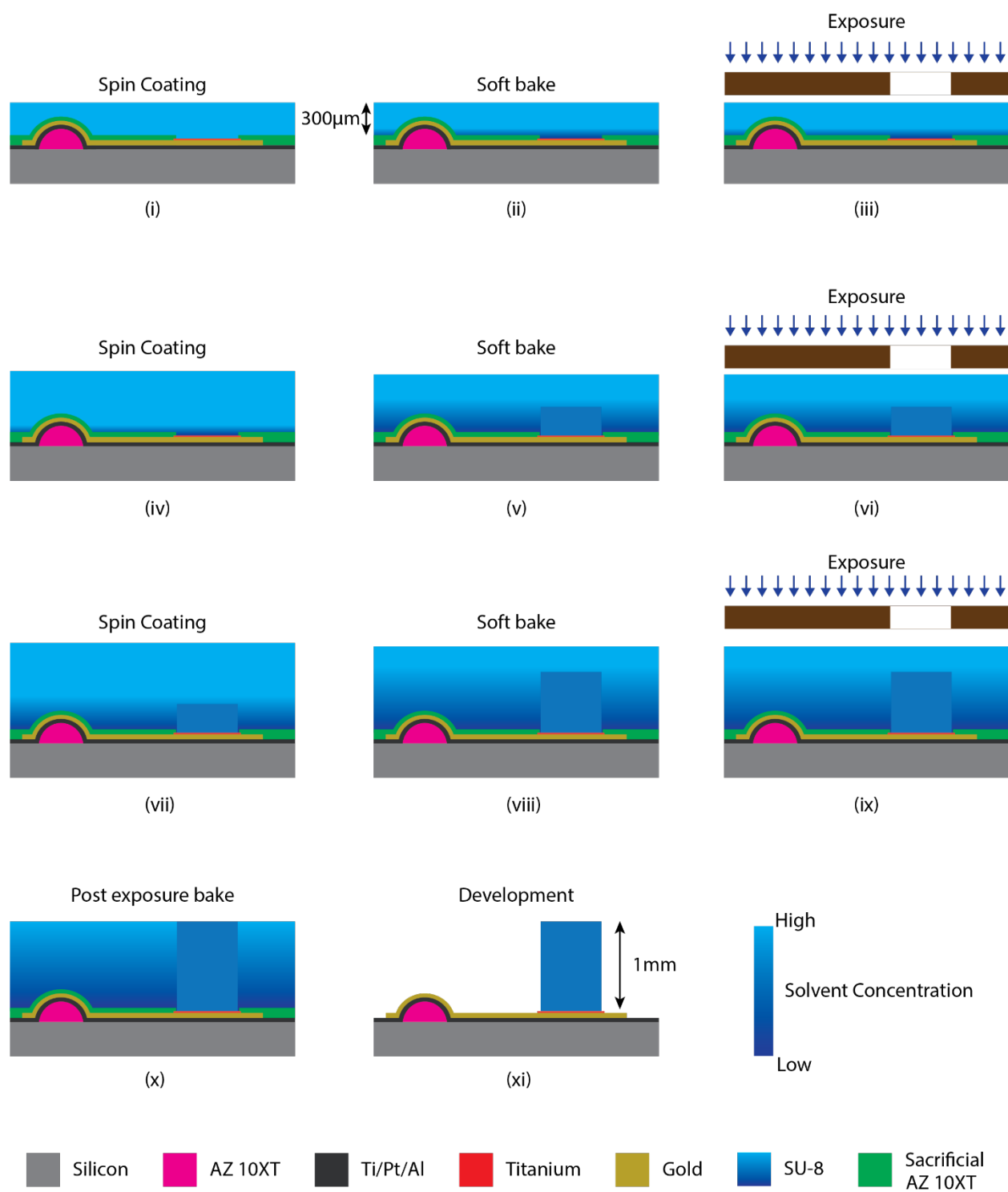
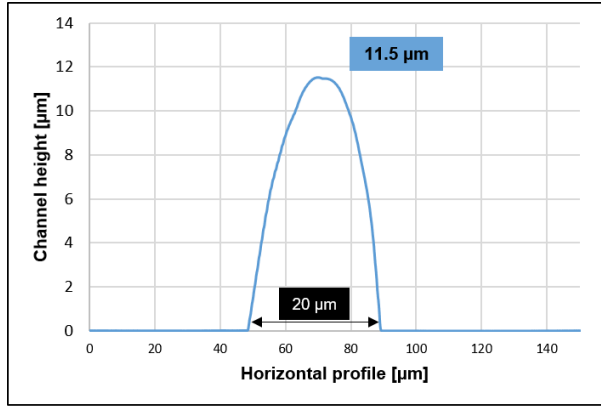
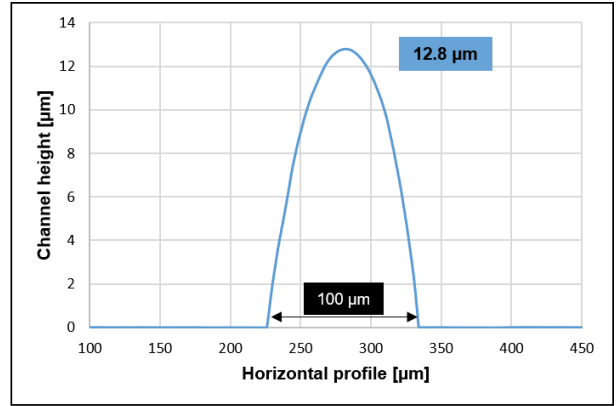


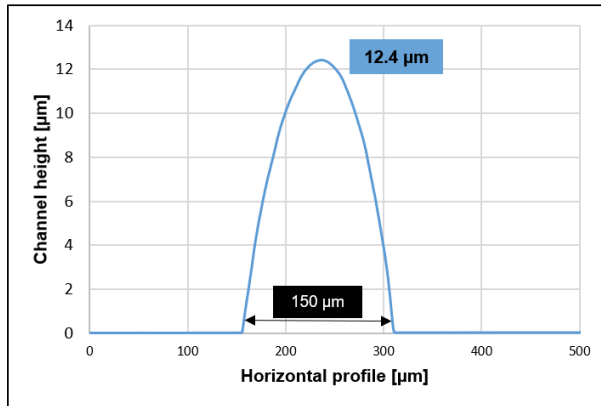
Figure S1. Process flow steps for multi-layer SU-8 lithography.



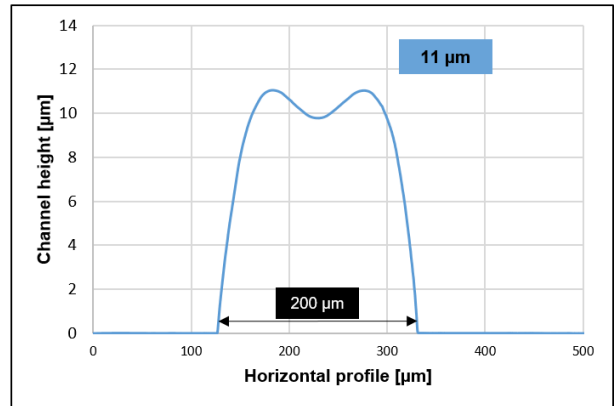
(a)



(b)

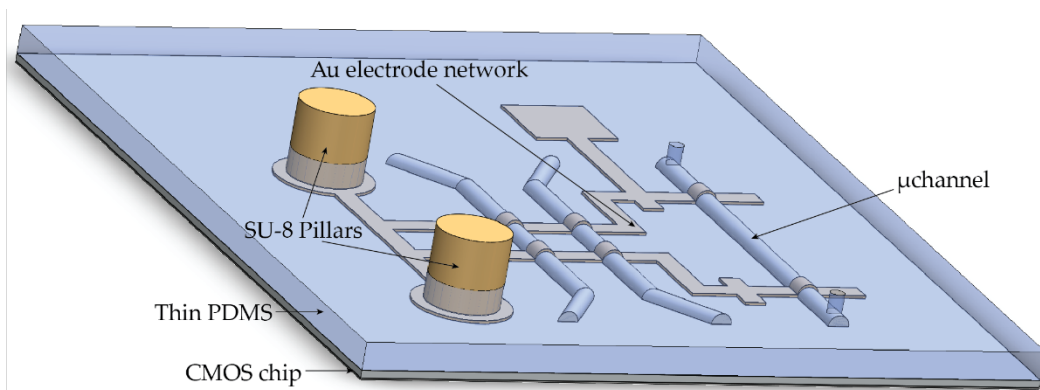


(c)



(d)

Figure S2. Height and cross-section profile after reflow of the microfluidic mold for different width: (a) 20 μm ; (b) 100 μm ; (c) 150 μm ; (d) 200 μm . "Cat's ear" profile for seen for mold width larger than 150 μm .



(a)

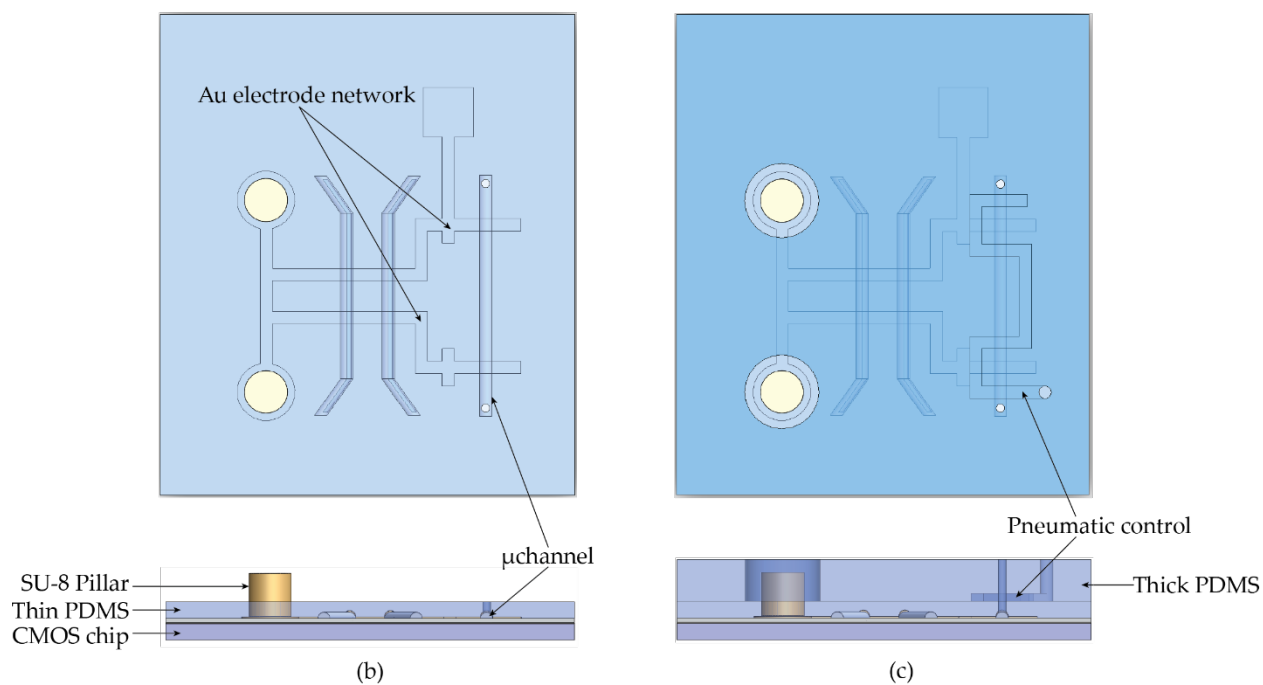


Figure S3: (a) 3D schematic of microfluidic module mounted on the CMOS chip. Thick PDMS is not shown for sake of clarity. (b) Top view and side view of the microfluidic module without the thick PDMS layer. (c) Top and side view of the microfluidic module with thick PDMS containing the pneumatic valves.