## Supplementary Information

The "diabolo effect" was first demonstrated for various lithography processes using the standard AZ4562 photoresist. After exposition using the "stepper" techniques, triangular patterns were obtained with focus depths ranging from 0 to -25 microns (figure S1).

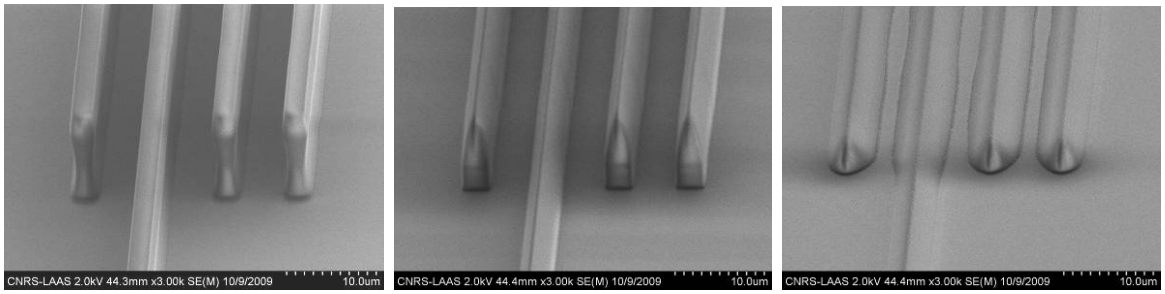


**Figure S1.** SEM pictures of the “diabolo effect” obtained for the AZ4562 photoresist with different focus depths: 0µm (left), -10µm (center), -25µm (right).

After optimizing the exposure dose $d_{exp}$ and the focus depth $d_f$ parameters, microchannels with various widths, i.e. ranging from 5 to 20 microns (figure S2) as well as networks of microchannels at the wafer scale (figure S3) were successfully fabricated into 50µm-thick SU8-layer.

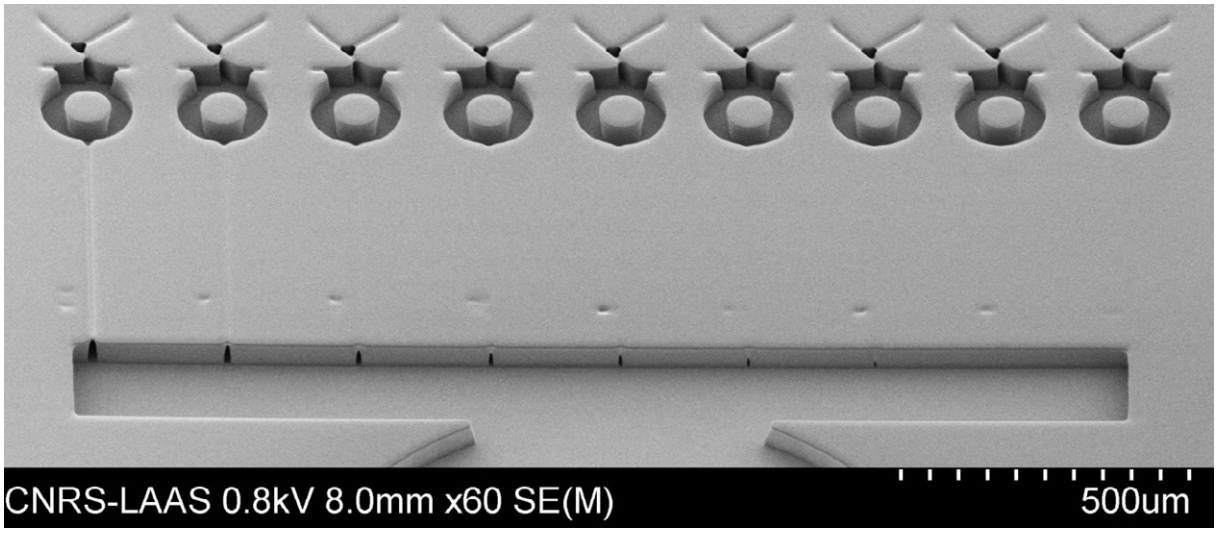


**Figure S2.** SEM picture of different microchannels (width range: 1 – 20µm) with appropriate photolithographic parameters (SU-8 thickness: 100µm)

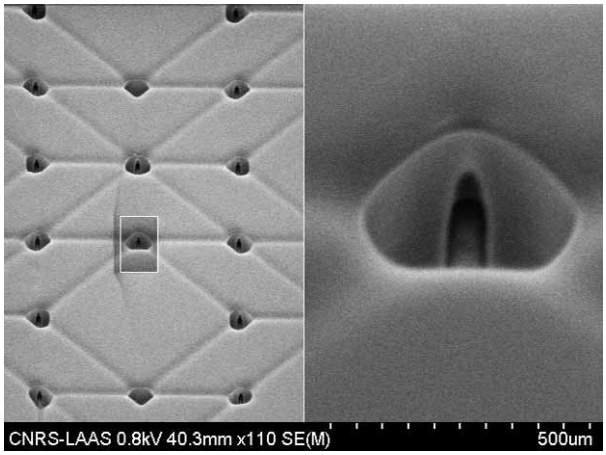


**Figure S3.** SEM pictures of SU-8 microchannels network and zoom on one filling tank