## Supplementary information: Fabrication of monolithic 3D micro-systems

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Fig. SI1. (A) Thickness of SU-8 (10) vs. exposure dose measured with a Dektak 6M profilometer. (B) Illuminating pattern used for the calibration. (C) SU-8 created with illuminating pattern in B. (D) Profile measured along the red line in C. (F) Profile measured along the blue line in C.



Fig. SI2. SU-8/S1818 structure, showing a 10:1 aspect ratio.



 Focus on the glass surface A by looking at the reflection of a illuminating pattern and register the position on the microscope focusing micro-metric screw.



2. Focus on the glass surface B by looking at the reflection of a illuminating pattern and register the position on the microscope focusing micrometric screw. Determine the **distance**  $d_{AB}$  in the microscope focusing screw.



 Focus on the glass surface A by looking at the reflection of a illuminating pattern (band pass filtered to prevent exposure) and registering the position on the microscope focusing micro-metric screw.



4. Rotate the micro-metric focussing screw the calibrated **distance**  $d_{AB}$  to focus on the B interface and switch the filter cube slider to the exposure cube.

Fig. SI3. Procedure used to focus the exposure pattern at the glass-photoresist interface. The micrometric focusing screw is calibrated with the distance  $d_{AB}$  corresponding to the glass slide thickness (steps 1 and 2). 3) The focal position at the free glass surface of a spin coated glass slide is determined using band pass filtered illumination to prevent the photoresist exposure. 4) The focusing screw is rotated in the calibrated distance  $d_{AB}$ , thus moving the focus to the glass-photoresist interface. The filter cube slider is switched to the exposure position.