

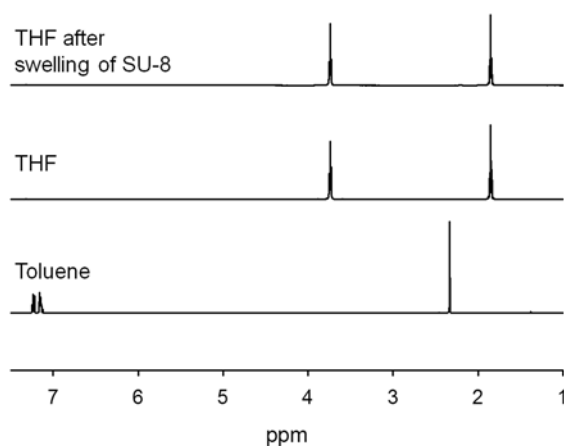
Supplementary Information

## Surface modification of 2D/3D SU-8 patterns with a swelling- deswelling method

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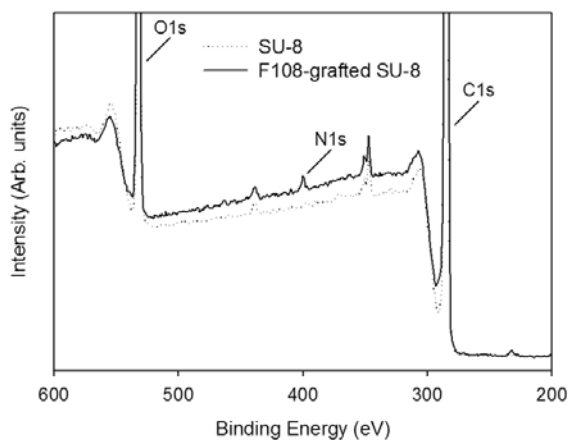
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**Figure S1.** NMR spectra of pure THF, toluene, and a THF sample taken after soaking an SU-8 film.

The complete removal of toluene from the SU-8 film during the swelling-deswelling process was confirmed by NMR (The <sup>1</sup>H NMR spectra were recorded using a DMX500MHz instrument, Bruker, with CDCl<sub>3</sub> as the solvent.). Complete removal of toluene may be important for biotechnology applications of this surface. The presence of toluene residue in the SU-8 film after the deswelling process was investigated by soaking the SU-8 film in tetrahydrofuran (THF), which is a good solvent for both SU-8 and toluene. If a toluene residue had been present, it would have been extracted into the THF during soaking. In Figure S1, the THF sample after soaking the SU-8 film clearly did not reveal a chemical shift ( $\delta$ , ppm) corresponding to toluene.



**Figure S2.** XPS survey spectra of a bare SU-8 surface and the F108-grafted SU-8.

X-ray photoelectron spectroscopy (XPS) was used to qualitatively characterize the grafting of F108 onto the SU-8 film. Because an ester group in the PEO or PPG groups of F108 overlapped with groups in the crosslinked epoxy groups of SU-8, they were difficult to distinguish. We used activated F108-containing PEG p-nitrophenyl carbonate end groups to achieve grafting. Figure S2 shows that the grafted SU-8 surface only showed an N(1s) peak attributed to NO<sub>2</sub> groups of the p-nitrophenyl carbonate. The intensity of the peak was relatively weak compared to the other C(1s) and O(1s) peaks due to the low density, but this confirmed the successful grafting of F108 onto the SU-8 film.