Supporting Information

for Small., DOI: 10.1002/smll.201500796

Arbitrary and Parallel Nanofabrication of 3D Metal Structures with Polymer Brush Resists

Chaojian Chen, Zhuang Xie, Xiaoling Wei, and Zijian Zheng*
Supporting Information

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Figure S1. (A) Effect of wet etching time on the height and roughness of a 200 nm Au film. Inset shows an AFM image of the Au film before wet etching. (B) Effect of plasma treatment on three patterned polymer brush ribbons with different heights of 48 nm, 40 nm and 25 nm, which were fabricated by DNL with line densities of 36 lines µm^{-1}, 30 lines µm^{-1} and 16 lines µm^{-1}. Inset shows the AFM image of the three PMMA brush before plasma treatment. It shows that the brush height decreases linearly with the plasma treatment time. The plasma etching speed is similar for PMMA brushes with different heights, which was determined as 14 nm min^{-1} by averaging the three slopes.
**Figure S2.** AFM topographies and cross-sectional profiles of (A) the 3D-patterned PMMA flower and (B) the corresponding 3D Au flower prepared by using the polymer brush flower as etching resist.

**Figure S3.** The grey-scale bitmap image for guiding the AFM scratching to prepare recessed 3D arrays. Black dots are scratching dots in the experiment.