

Supporting Information

**Femtosecond Laser-Produced Underwater “Superpolymphobic”
Nanorippled Surfaces: Repelling Liquid Polymers in Water for
Applications of Controlling Polymer Shape and Adhesion**

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Including Movie S1 and S2, and Figure S1~S4.

Movie S1. Process of a small water droplet spreading out on the laser-induced rough surface in air.

Movie S2. Process of an underwater liquid PDMS droplet being moved to contact and leave the rough stainless steel surface.

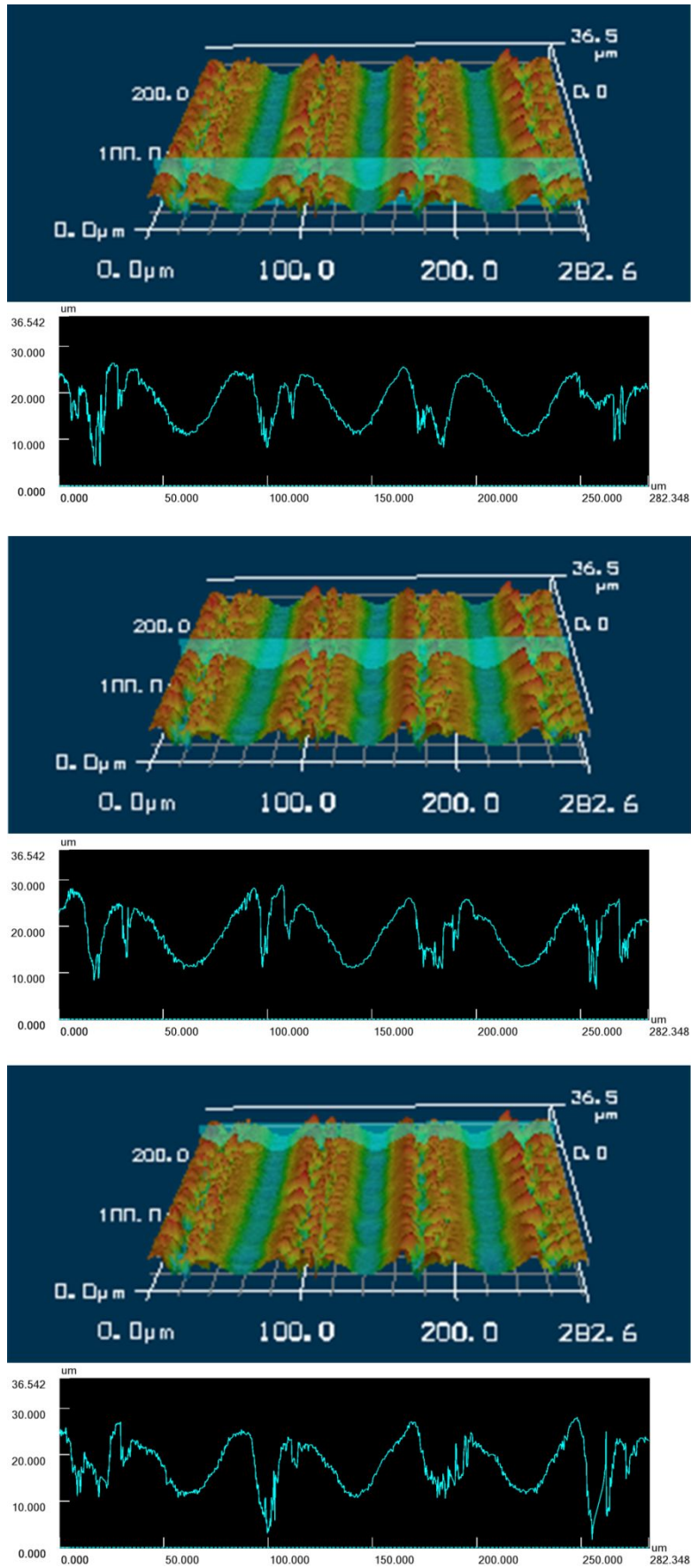


Figure S1. Cross-sectional profiles of the laser-induced microgrooves array at different location.

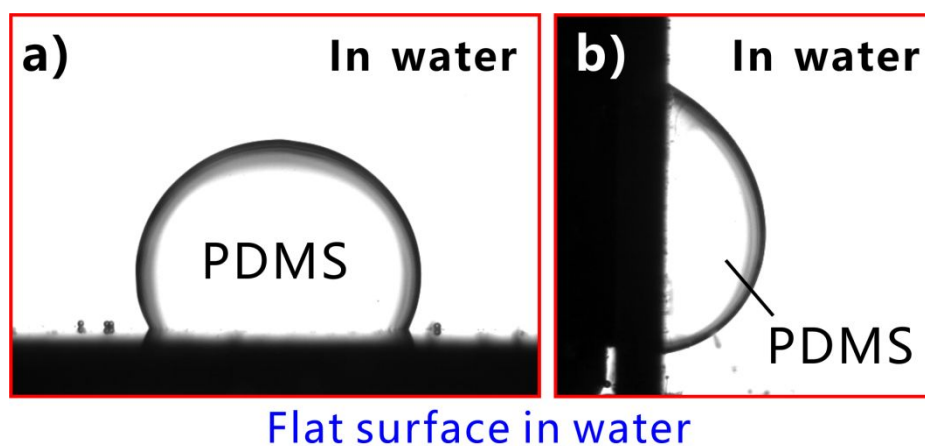


Figure S2. (a) Underwater PDMS liquid droplet on the flat stainless steel surface. (b) Underwater liquid PDMS droplet adhering to the flat stainless steel substrate.

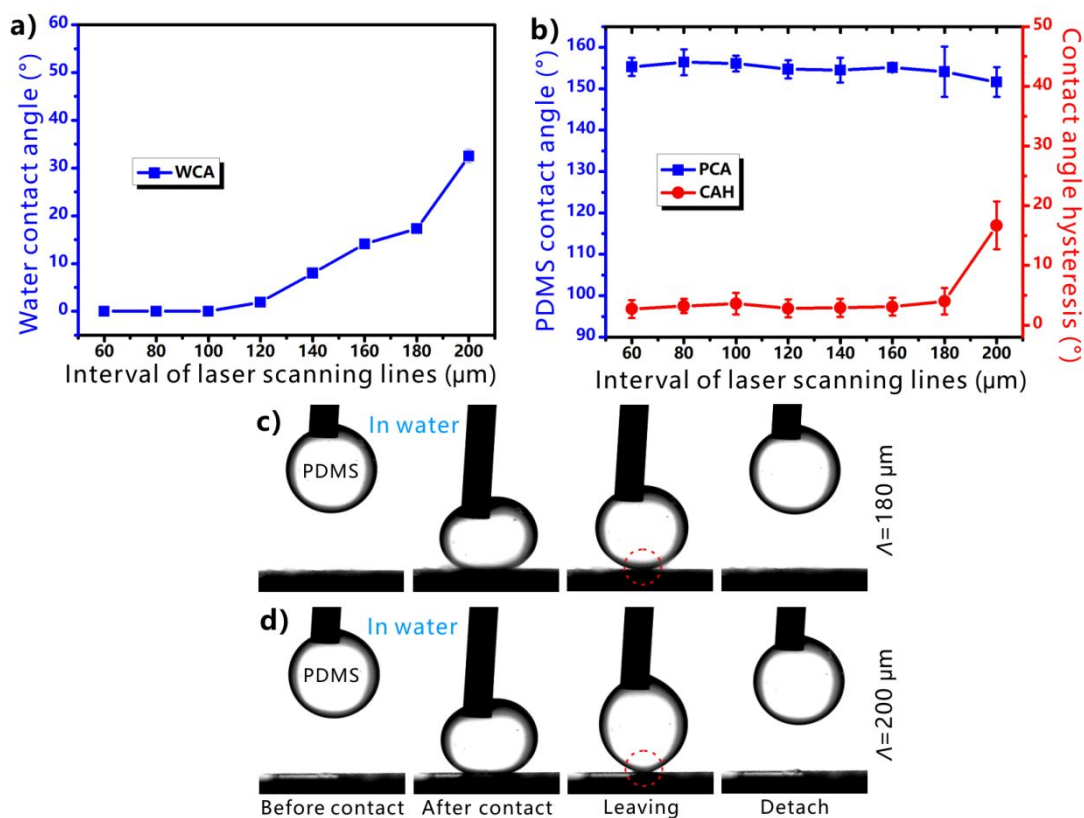


Figure S3. Influence of the adopted interval of the laser scanning lines on the wettability of the laser-ablated stainless steel surfaces. (a) Water wettability. (b) Wettability of a liquid PDMS droplet on the sample surfaces in water. (c,d) Process of an underwater PDMS droplet being moved to contact and leave the rough stainless steel surfaces: (c) $\Lambda = 180 \mu\text{m}$ and (d) $\Lambda = 200 \mu\text{m}$.

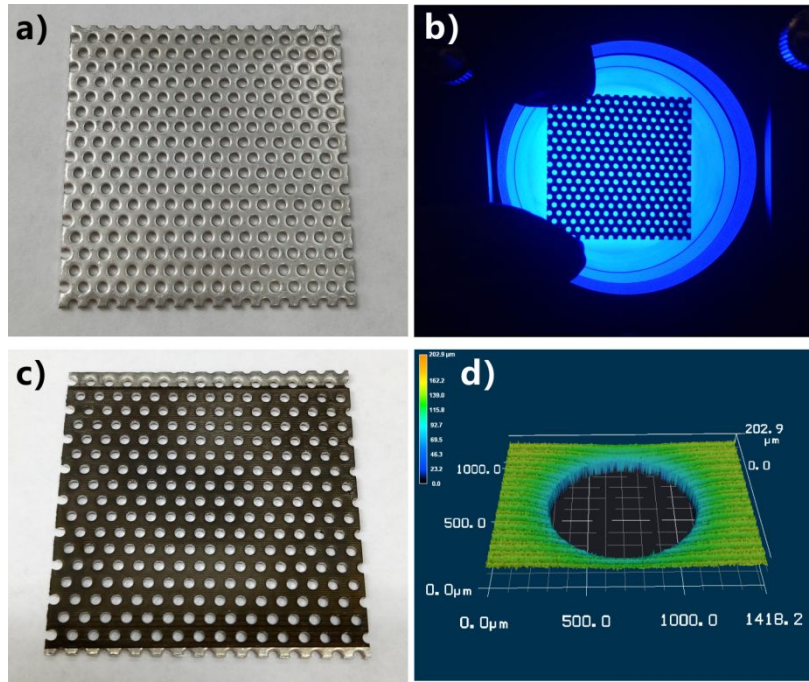


Figure S4. Images of the porous stainless steel sheet before and after femtosecond laser ablation. (a) Photograph of an original porous sheet. (b) Transmission photograph of an original porous illuminated by a backlight. (c) Photograph of a laser-ablated porous sheet. The color of the laser-ablated area becomes black. (d) 3D profile of a single microhole on the laser-ablated stainless steel sheet.