Electronic Supplementary Information

Durable and Robust Transparent Superhydrophobic Glass Surfaces Fabricated by Femtosecond Laser with Exceptional Water Repellency and Thermostability

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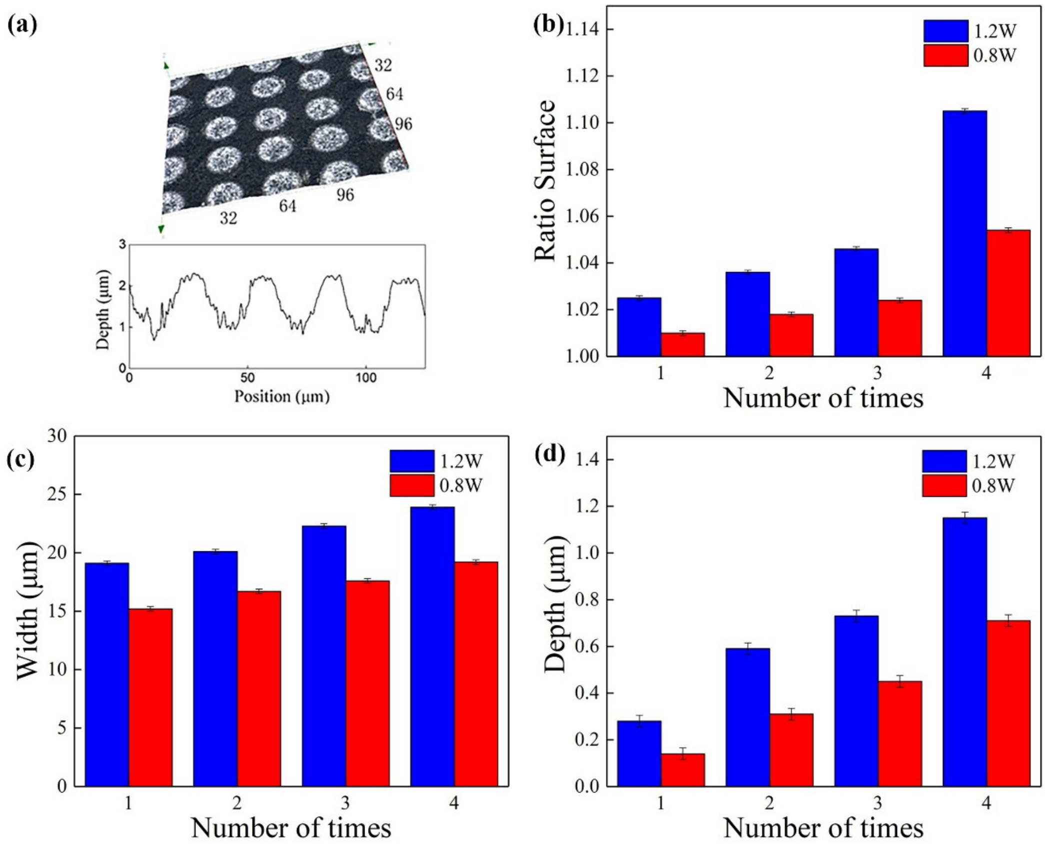

Fig. S-1 (a) Microstructure of optimal designed glass surface under a laser scanning confocal microscope and its 2D topography. (b) Changes of ratio surface of the ablated glass surface by variation of laser ablation times, the blue parts correspond to the using laser power of 1.2 W and the red parts correspond to laser power of 0.8 W. (c) Changes of diameter of the micropits by variation of laser ablation times. (d) Changes of depth of the micropits by variation of laser ablation times.

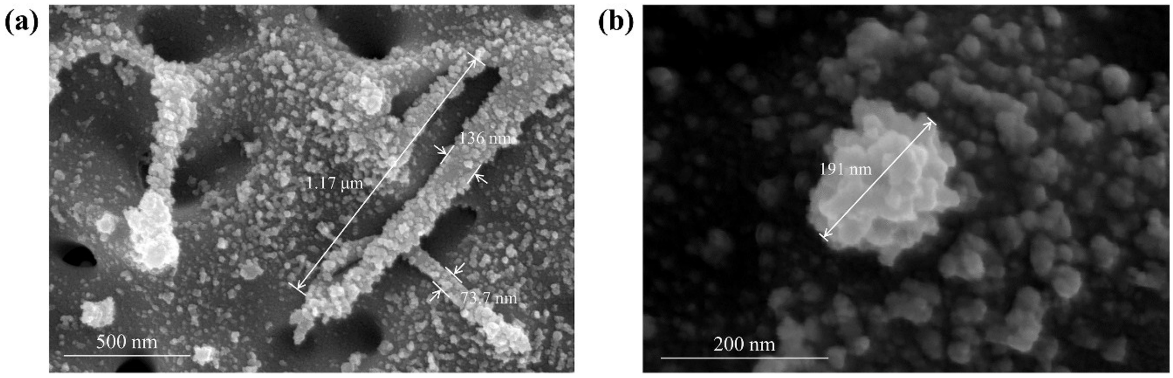

Fig. S-2 (a) SEM image of submicro-nano rods. (b) SEM image of nanoparticle.

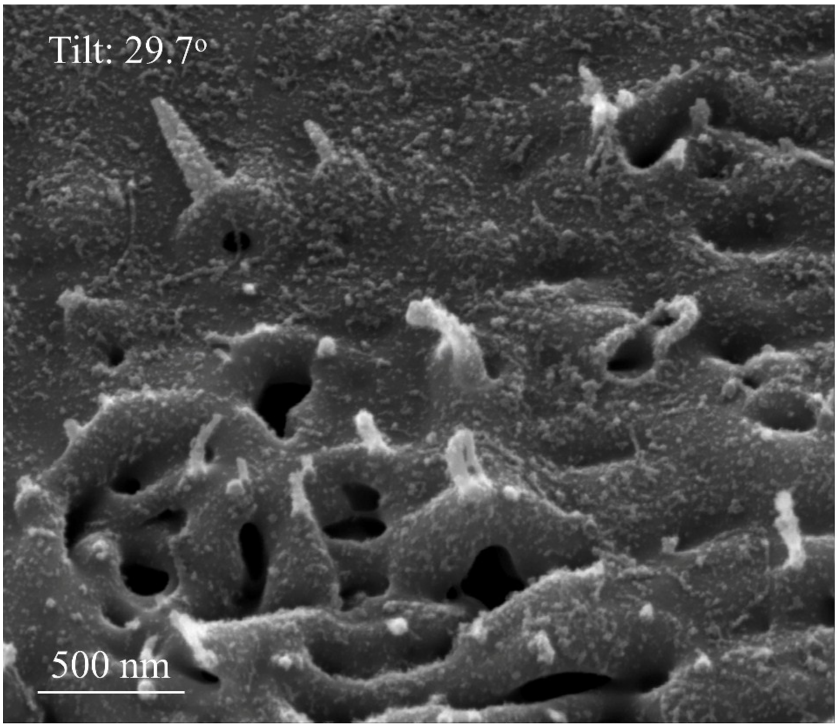

Fig. S-3 SEM image of the side-view of the texture inside the micropit with type-3 laser treatment.

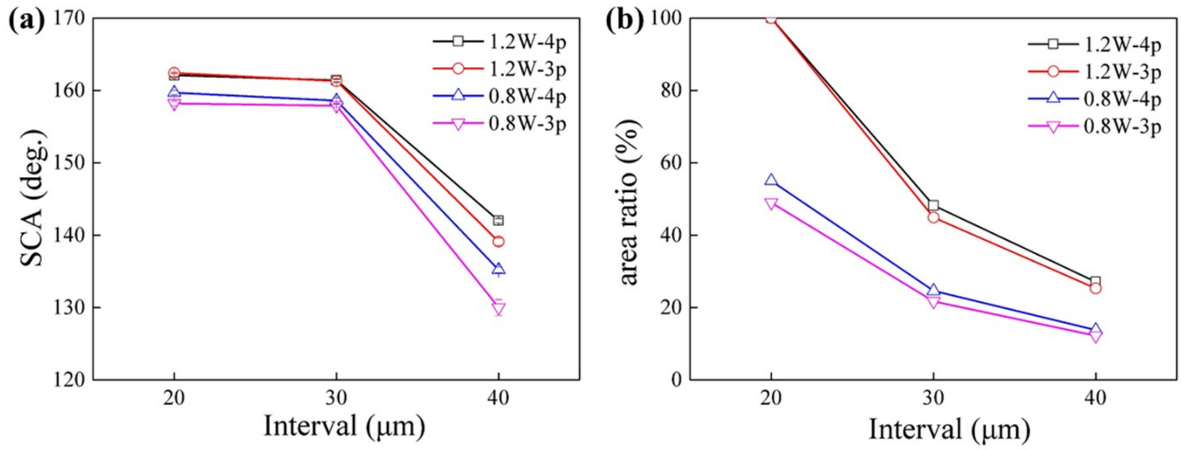

Fig. S-4 (a) Changes of SCA by variation of interval between micro-pit array. (b) Changes of processed area ratio by variation of interval between micro-pit arrays.

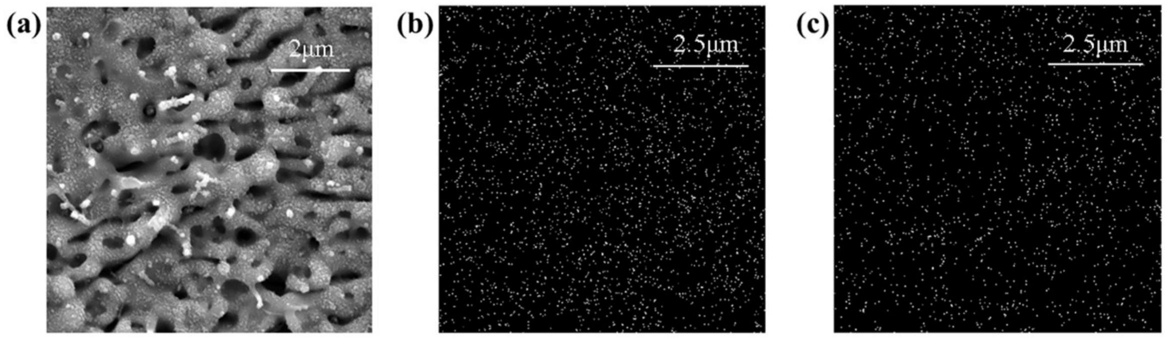

Fig. S-5 (a) SEM image of microstructure in the micropit after 9 kg water impinging test. (b) EDS element mapping of fluorine before water drop impact test. (c) EDS element mapping of fluorine after 9 kg water impinging test.

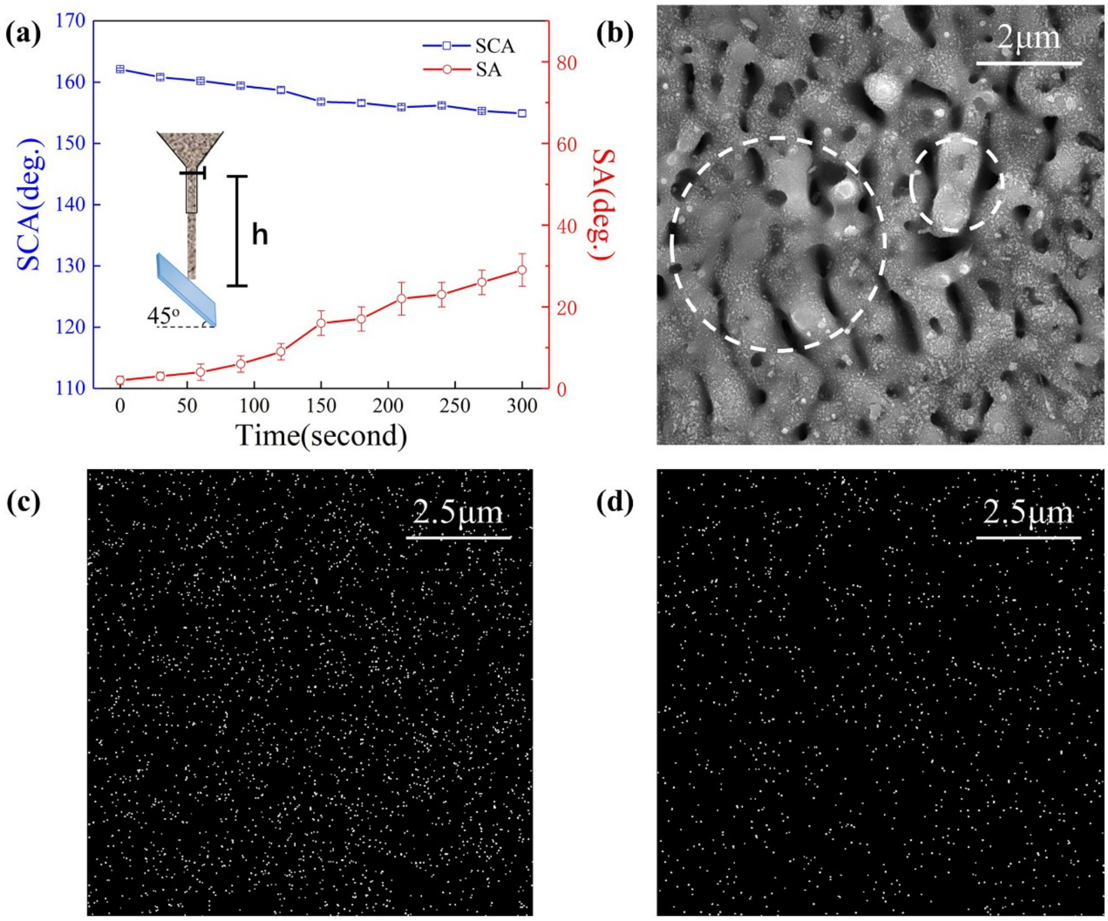

Fig. S-6 (a) Changes of SCAs&SAs after sand abrasion test in 300 s, inset is the schematic illustration of the sand abrasion test. The sizes of sand varied from 100 μm to 300 μm, the velocity is about 30 g/min and the height is 20 cm. (b) SEM image of microstructure in the micropit after 150 g sand abrasion test. (c) EDS element mapping of fluorine before sand abrasion test. (d) EDS element mapping of fluorine after 150 g sand abrasion test.

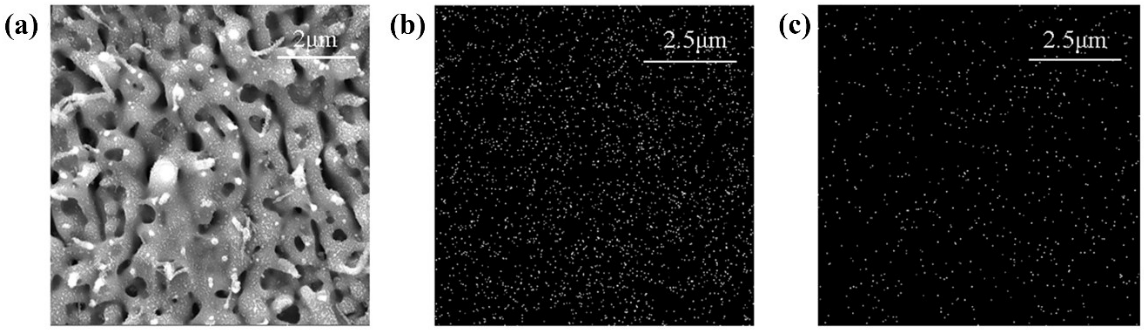

Fig. S-7 (a) SEM image of microstructure in the micropit after 600°C heating treatment. (b) EDS element mapping of fluorine before thermal treatment. (c) EDS element mapping of fluorine after 600°C heating treatment.