Supporting Information

Nanostructures in Superhydrophobic Ti6Al4V Hierarchical Surfaces Control Wetting State Transitions

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To obtain the roughness factor \( r \) of the sand blasted structure surfaces, we reproduced the morphologies of these surfaces via a 3D optics microscope, as shown in Fig. S1. These 3D optics images indicate that the surface roughness of the sand blasted structure surface with 60-mesh aluminum oxide increased with slightly reducing in the roughness factor \( r \) (\( r \approx 1.07 \)), compared with that (\( r \approx 1.09 \)) of the sand blasted structure surface with 150-mesh aluminum oxide.

![3D optics images](image)

**Fig. S1.** 3D optics images of the sand blasted microstructure with the fluorination modification using FAS-17; (a) Smooth substrate, (b) with 60 mesh aluminum oxide, (c) with 150 mesh aluminum oxide,
(d) with 300 mesh aluminum oxide.