

*Supporting Information*

## Nanostructures in Superhydrophobic Ti6Al4V Hierarchical Surfaces Control Wetting State Transitions

Yizhou Shen, Jie Tao\*, Haijun Tao, Shanlong Chen, Lei Pan and Tao Wang

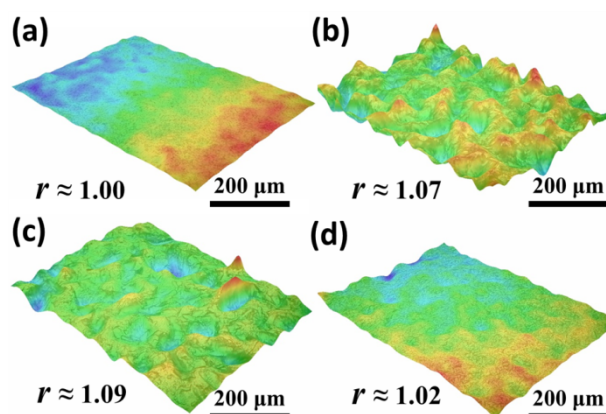
*Corresponding author: Professor Jie Tao*

*Tel/Fax.: +86 25 5211 2911.*

*E-mail address: taojie@nuaa.edu.cn.*

*College of Material Science and Technology, Nanjing University of Aeronautics and Astronautics, Nanjing 210016,  
P. R. China.*

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.



**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.