

Supplementary Information

Facile synthesis of transparent superhydrophobic titania coating by using soot as nanoimprint template

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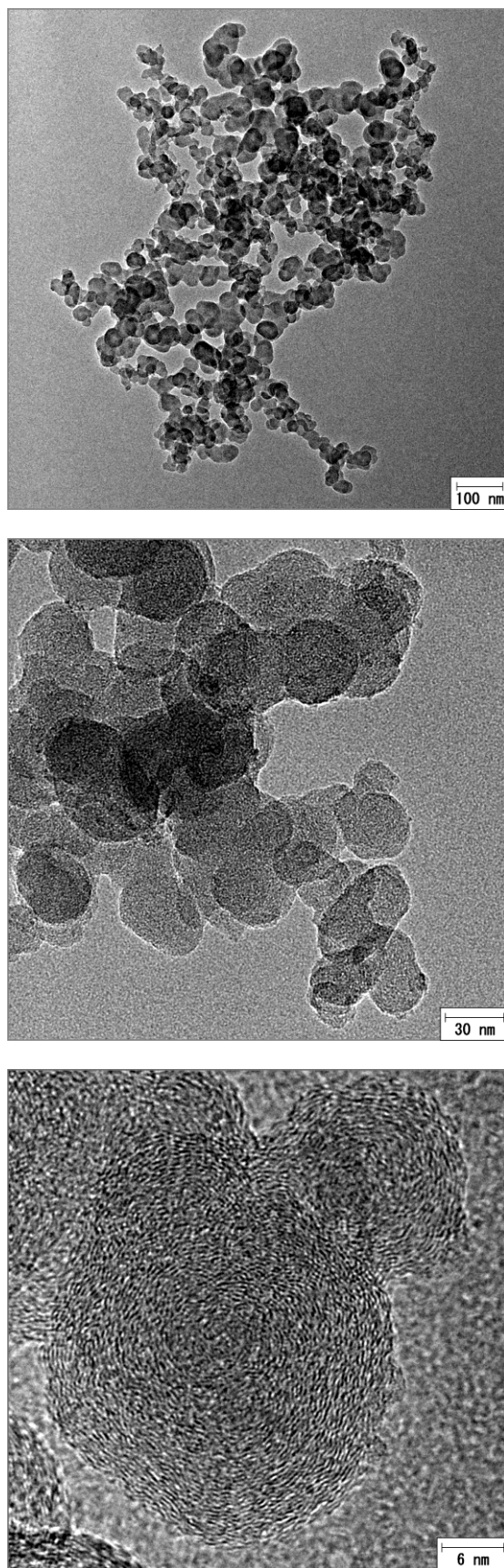


Fig. S1 Low- and high-resolution TEM images of carbon nanoparticles

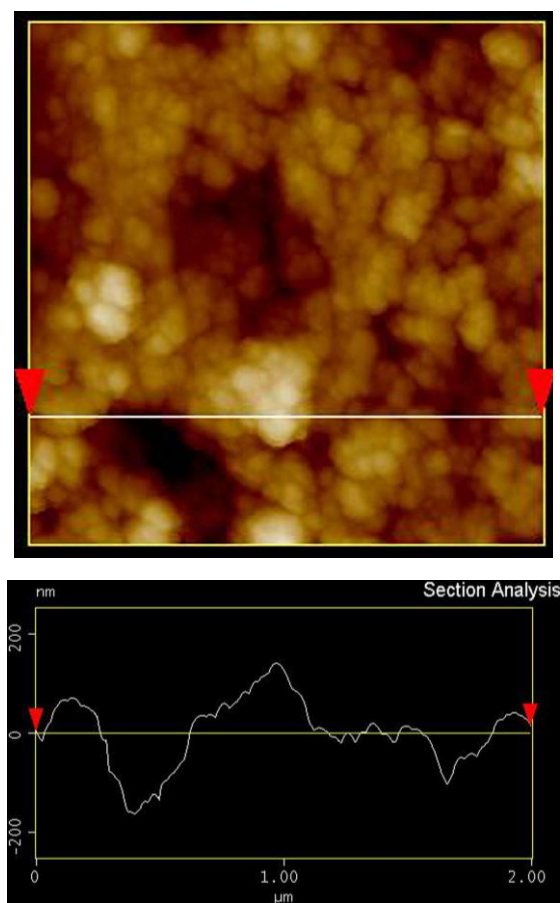


Fig. S2 AFM image of superhydrophobic TiO₂ surface.

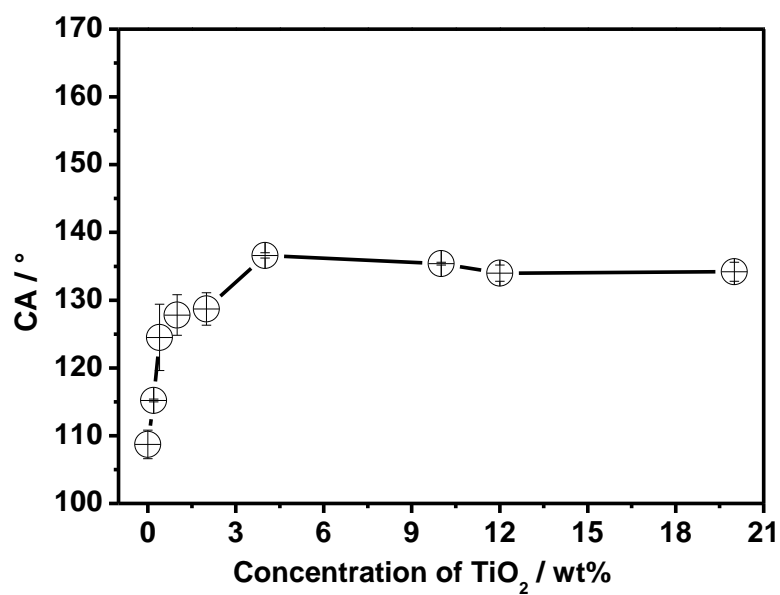


Fig. S3 Contact angels of the TiO_2 coating (without soot layer treatment) prepared using different concentrations of TiO_2 suspensions.

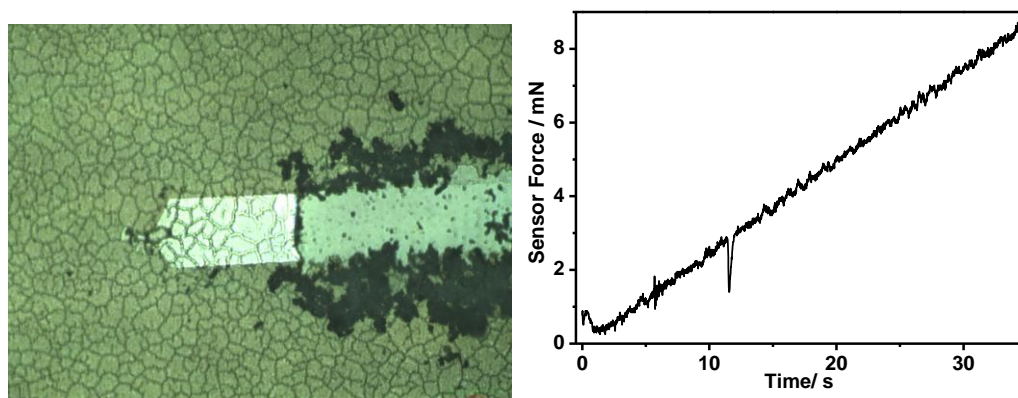


Fig. S4 Nanolayer scratch test of the TiO_2 coating. Right: Micrograph of the coating after scratch test; left: Loading Curve.

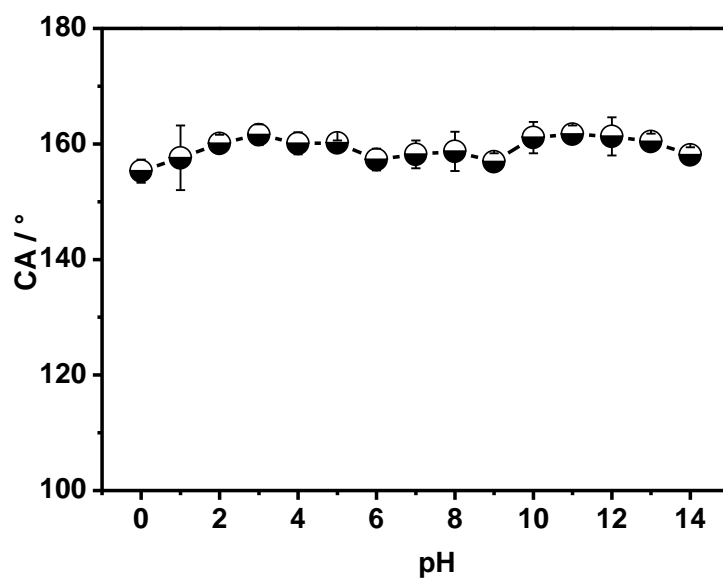


Fig. S5 The relationship between pH values with contact angle of the prepared superhydrophobic film. The obtained surfaces show superhydrophobicity in pH values ranging from 0 (1.0 mol L⁻¹ HCl) to 14 (1.0 mol L⁻¹ NaOH)

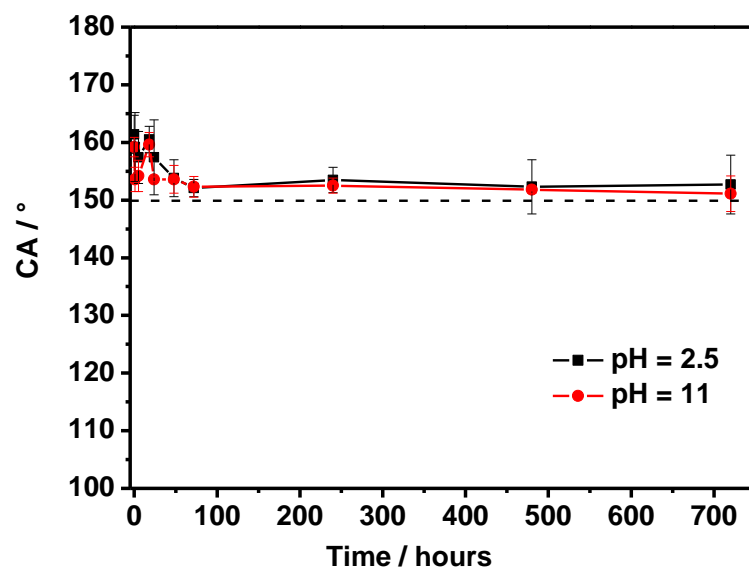


Fig. S6 The superhydrophobicity of the prepared coating remains unchanged even after immersed in the acid (pH = 2.5) and basic (pH = 11.0) solution for one month.