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Fabrication of Pt nanoparticle surface on aluminum substrate for its excellent superhydrophobicity and catalytic activity

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Supplementary Information

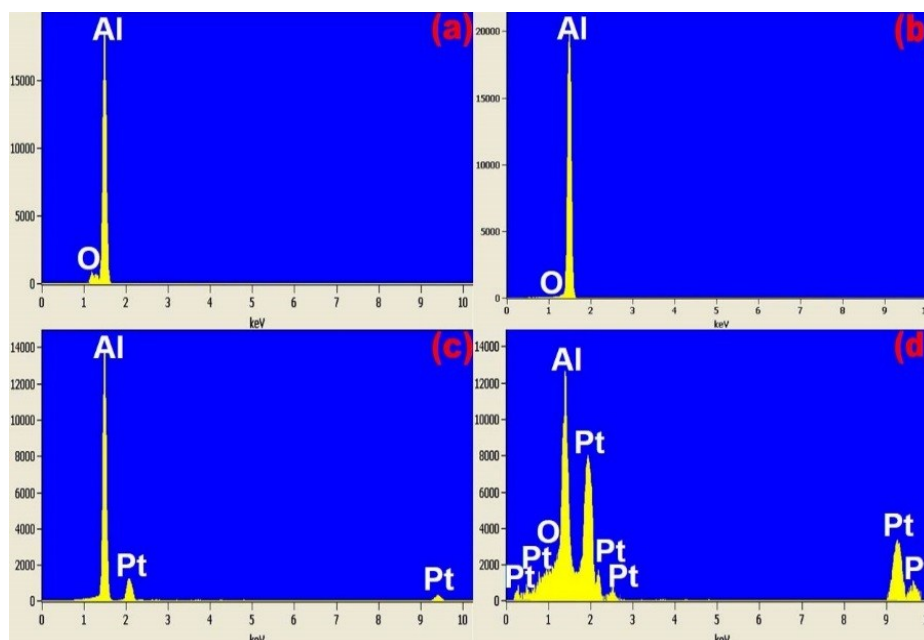


Fig. S1 EDS spectra of different sheets of Al: (a) pre-treated Al substrate surface; (b) Al sheet after etching step; (c) Al sheet surface after deposition without annealing treatment; (d) SHS

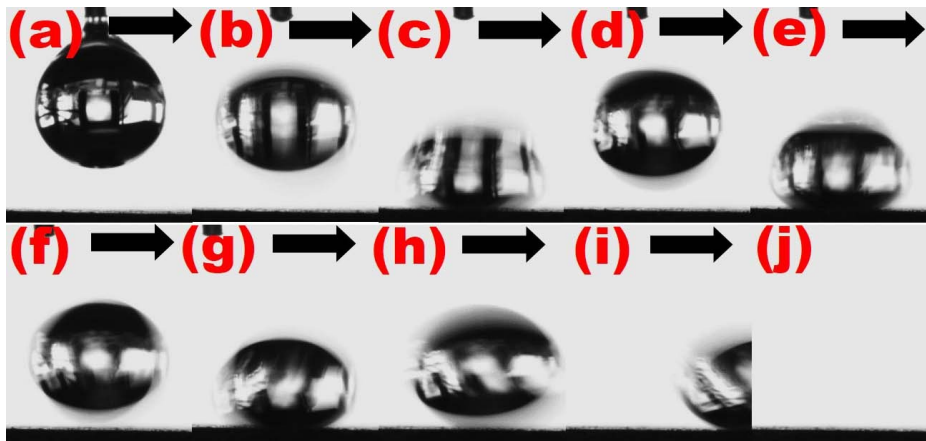


Fig. S2 Pictures of the water drop falling independently on the SHS, organized the superhydrophobic test for rolling off water drops.

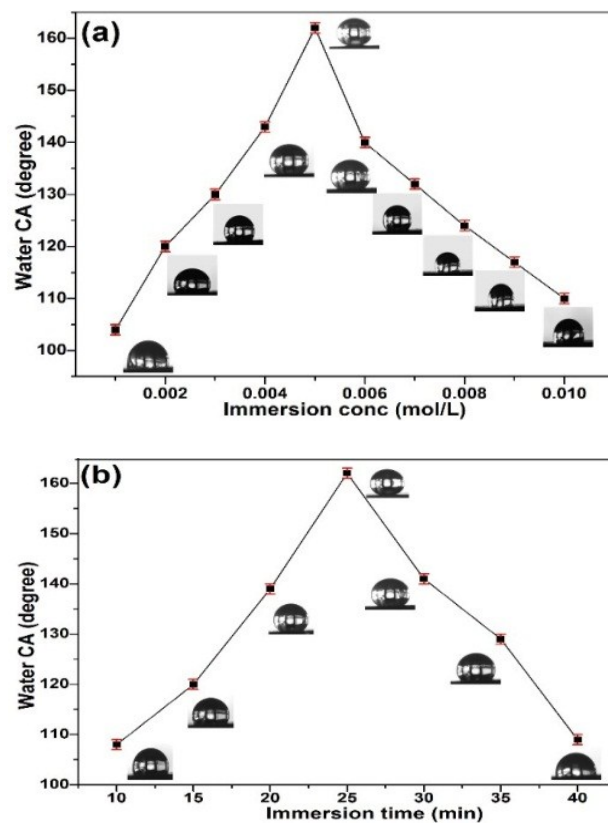


Fig. S3 Variation in the static WCAs of the sample surface with the immersion concentration (a) and immersion time (b)

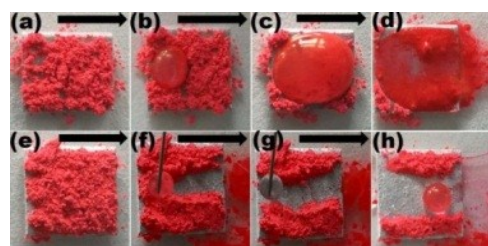


Fig. S4 Photographs of the pre-treated sample surface from (a) to (d) and SHS from (e) to (h) for the self-cleaning property

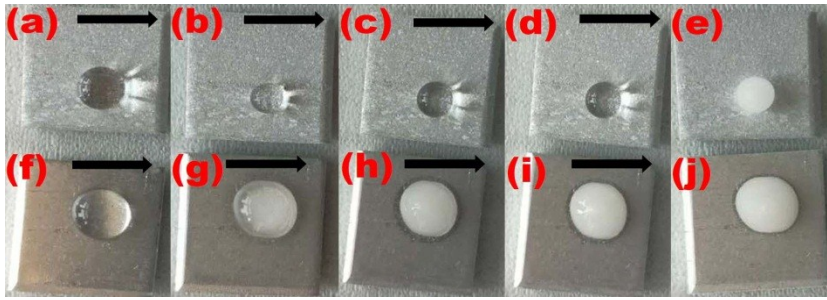


Fig. S5 Observation of ice formation on samples. The lower sheets denote the pre-treated Al substrate from (f) to (j), and the upper is for the SHS from (a) to (e). Pictures of the beginning of the experiment.



Fig.S6 Picture of the pre-treated Al sheet and SHS fabricated on Al substrate, superhydrophobic test floating on water.

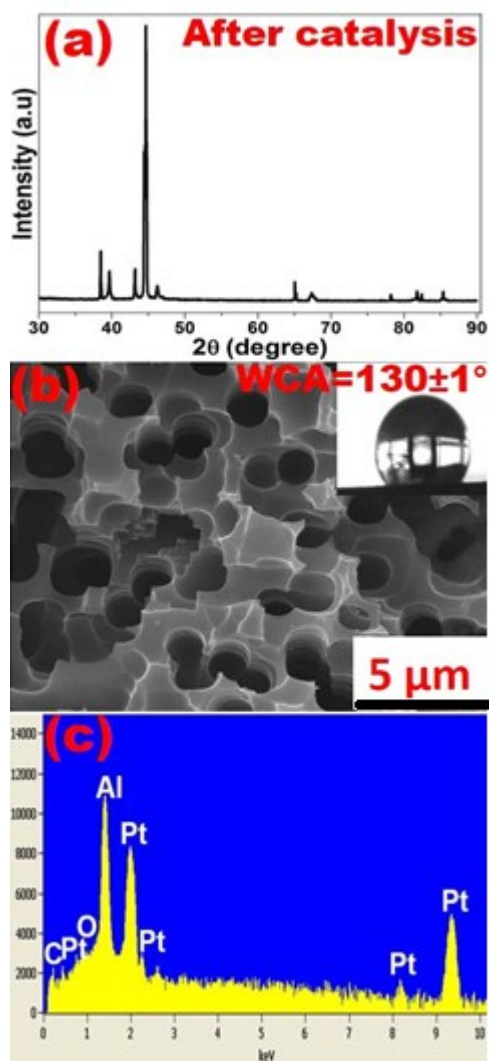


Fig. S7 XRD pattern (a), SEM picture (b) and EDS spectrum (c) of the SHS after catalysis respectively. The inset is the static WCA of the SHS after catalysis.