Electronic Supplementary Information (ESI)

Magnetic Particles-based Super-Hydrophobic Coatings with Excellent Anti-icing and Thermoresponsive Deicing Performances

Table s1. The Compositions of the Hybrid Coatings

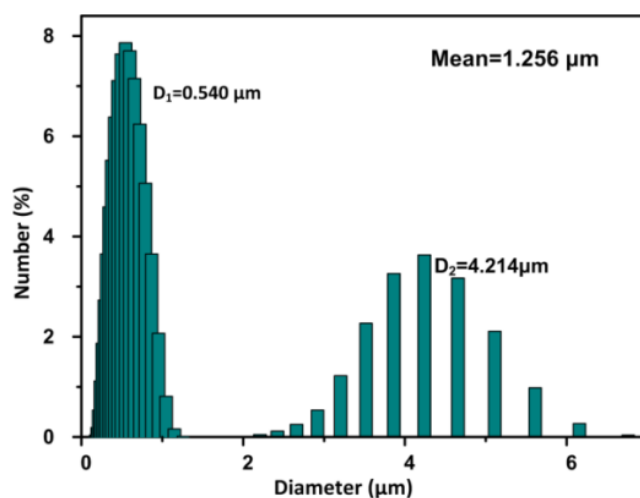| samples	MNP-0	MNP-10	MNP-30	MNP-50
copolymer solution(g)	3.33	3.0	2.33	1.67
curing agent solution (g)	0.33	0.27	0.21	0.15
MNP@NH$_2$ solution (g)	0.00	1.00	3.00	5.00

Fig. s1 Size distribution of MNP@NH$_2$ dispersed in ethanol dispersions. Two hydrodynamic values, 0.540 μm (82.1%) and 4.214 μm (17.9%), appeared in the curve. This indicates the presence of small clusters consisting of nanoparticles.
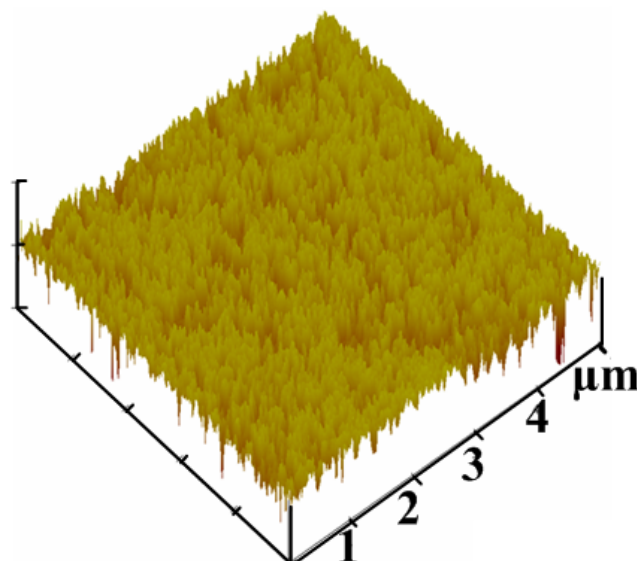

Fig. s2 The typical three dimensional AFM phase images of MNP-50. In addition, the nano-scale phase separation was obviously observed on the MNP-50sample.
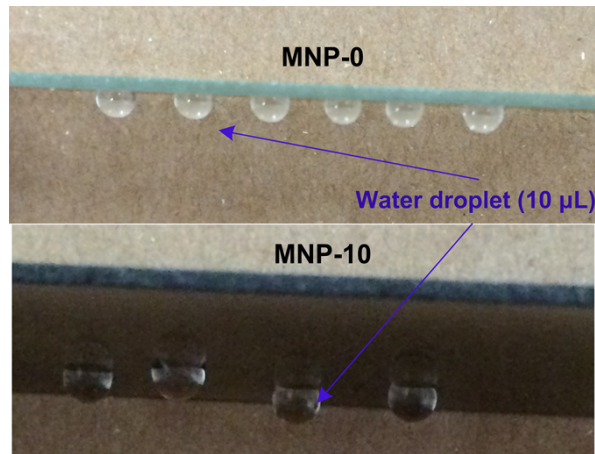
Fig. s3 The water droplet was pinned firmly on the MNP-0 and MNP-10 surfaces at a tilted angle of 180 °. Water droplets could not roll-off the MNP-0 and MNP-10 surfaces by overturn the surface. Thus the sliding angles of the MNP-0 and MNP-10 could not be recorded.