

Supporting information

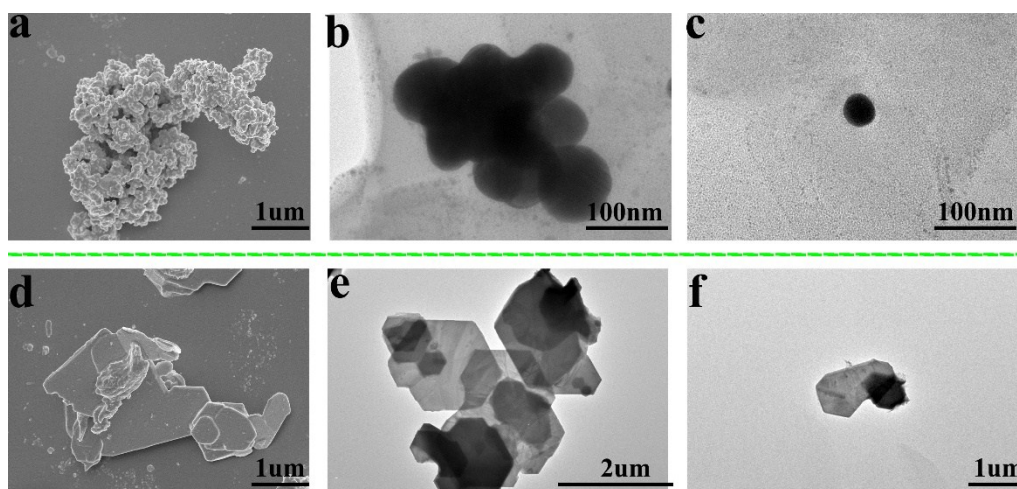


Fig. S1 (a) The SEM image of agglomerated silver particles. (b-c) The TEM images of silver particles. (d) The SEM image of agglomerated WS2. (e-f) TEM images of WS2 with different magnification.

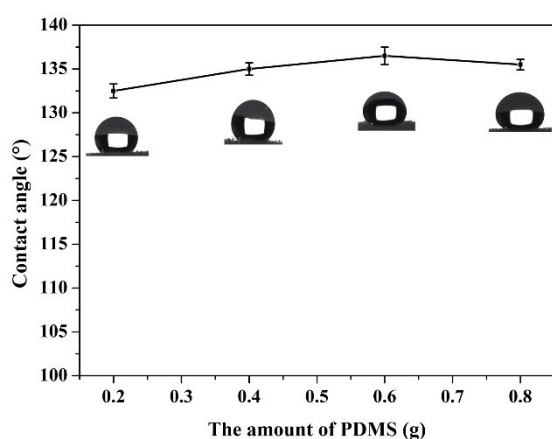


Fig. S2 the contact angle of different sponges that modified by various amount of PDMS.

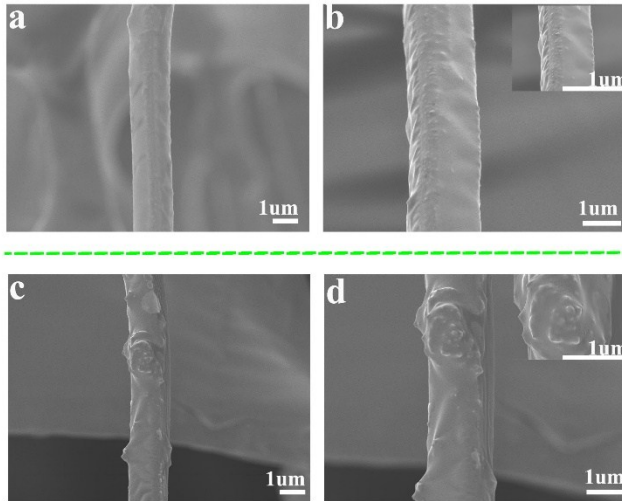


Fig. S3. (a-b) The SEM images of the WS2 sponge with different multiples. (c-d) The SEM images the of WS2&M-AgNPs sponge with different multiples.

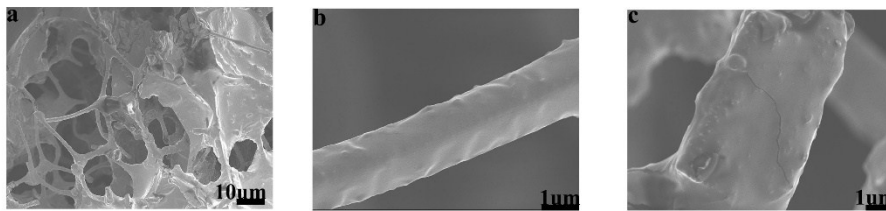


Fig. S4 (a) The SEM image of superhydrophobic conductive sponge after 400 compressed cycles. (b-c) The SEM images of superhydrophobic conductive sponge after 2400 compressed cycles.

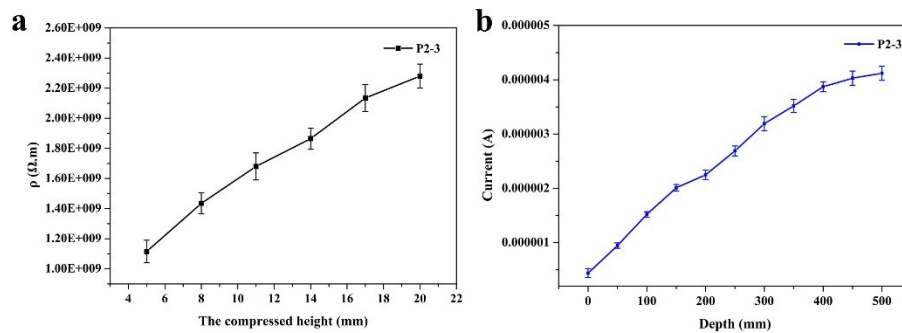


Fig. S5 (a) The relationship between electrical resistivity and the compressed height of superhydrophobic conductive sponge (P2-3), (b) the relationship between the depth and current superhydrophobic conductive sponge (P2-3).