

Electronic Supplementary Information

**A facile one-step spray-coating process for the fabrication of
superhydrophobic attapulgite coated mesh used in oil/water
separation**

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Supplementary movie and figure captions:

Movie S1. Water droplet slipped on the oil wetted mesh surface with the water slipping angle about 10° .

Movie S2. The separation process of oil (kerosene)/water mixture based on the as-prepared APT-coated mesh.

Figure S1. Photographs of water on the as-prepared APT-coated mesh with a contact angle as high as $158 \pm 1^\circ$ and a sliding angle as low as 8° .

Figure S2. Photographs of water (a and b) and (c) oil droplets on the contaminated APT-coated mesh after rinsed with ethanol and deionized water to get rid of the oil residuals. The contaminated APT-coated mesh retained superhydrophobic and superoleophilic properties again with a water contact angle of $151 \pm 1^\circ$ and an oil contact angle close to zero. However, the water contact mode is changed from the Cassie state to the Wenzel state with the water droplet pinned on the mesh surface.

Figure S3. Images of water droplets on the superhydrophobic APT-coated meshes: (a) pH = 1, (b) pH = 7 and (c) pH = 14.

Figure S4. Images of water droplets on the treated superhydrophobic APT-coated meshes after immersed the meshes into (a) 1 M HCl, (b) 1 M NaCl, (c) 1 M NaOH, (d) acetone and (e) toluene for 24 h.

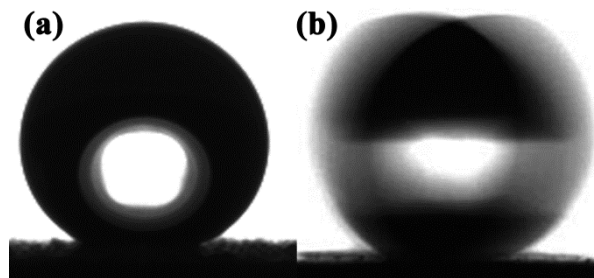


Figure S1. Photographs of water on the as-prepared APT-coated mesh with a contact angle as high as $158 \pm 1^\circ$ and a sliding angle as low as 8° .

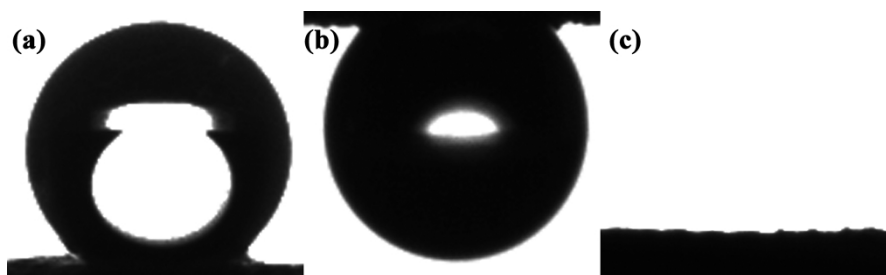


Figure S2. Photographs of water (a and b) and (c) oil droplets on the contaminated APT-coated mesh after rinsed with ethanol and deionized water to get rid of the oil residuals. The contaminated APT-coated mesh retained superhydrophobic and superoleophilic properties again with a water contact angle of $151 \pm 1^\circ$ and an oil contact angle close to zero. However, the water contact mode is changed from the Cassie state to the Wenzel state with the water droplet pinned on the mesh surface.

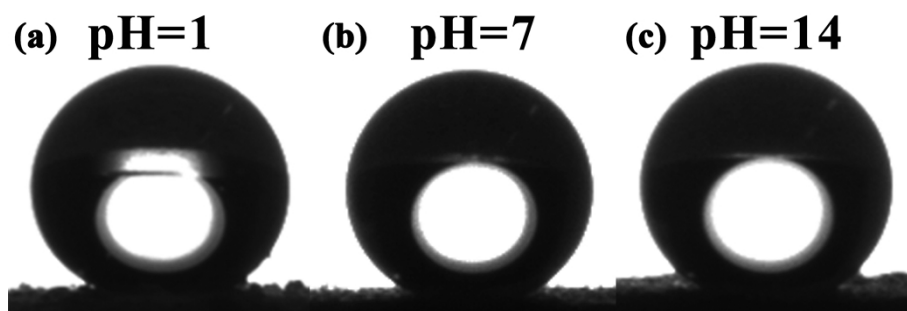


Figure S3. Images of water droplets on the superhydrophobic APT-coated meshes: (a) pH = 1, (b) pH = 7 and (c) pH = 14.

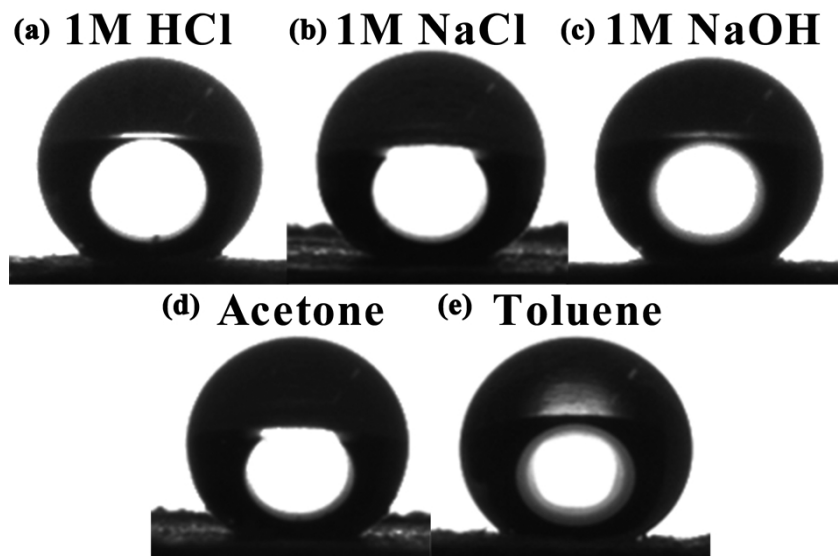


Figure S4. Images of water droplets on the treated superhydrophobic APT-coated meshes after immersed the meshes into (a) 1 M HCl, (b) 1 M NaCl, (c) 1 M NaOH, (d) acetone and (e) toluene for 24 h.