

Supplementary Material (ESI) for Journal of Material Chemistry A:

## Hierarchical nanoparticles-induced superhydrophilic and underwater superoleophobic Cu foam with ultrahigh water permeability for effective oil/water separation

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### Electronic Supplementary Information

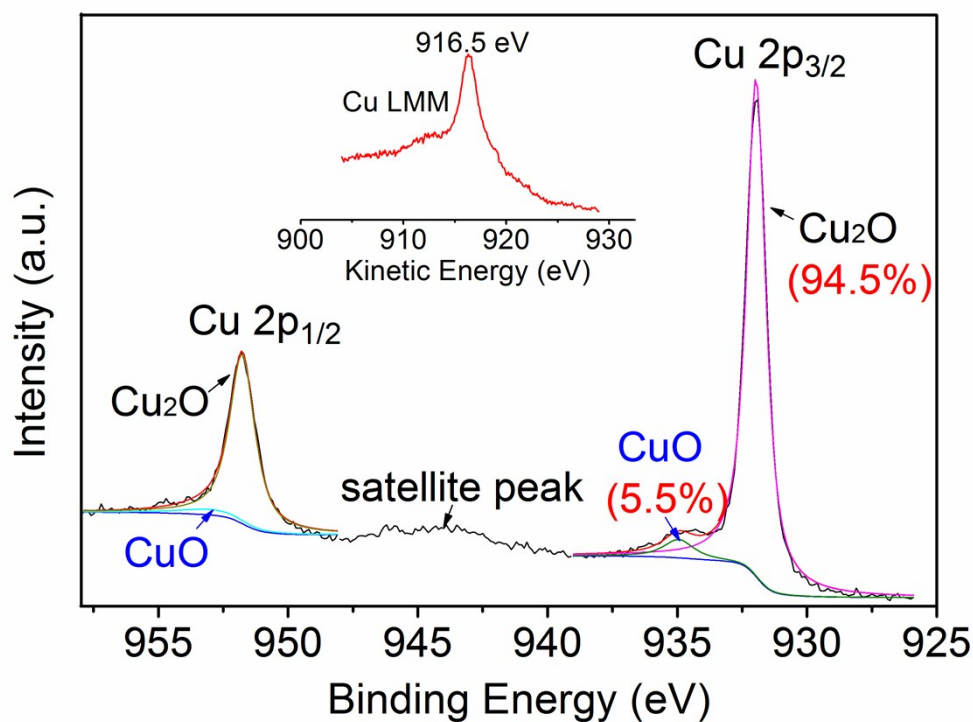
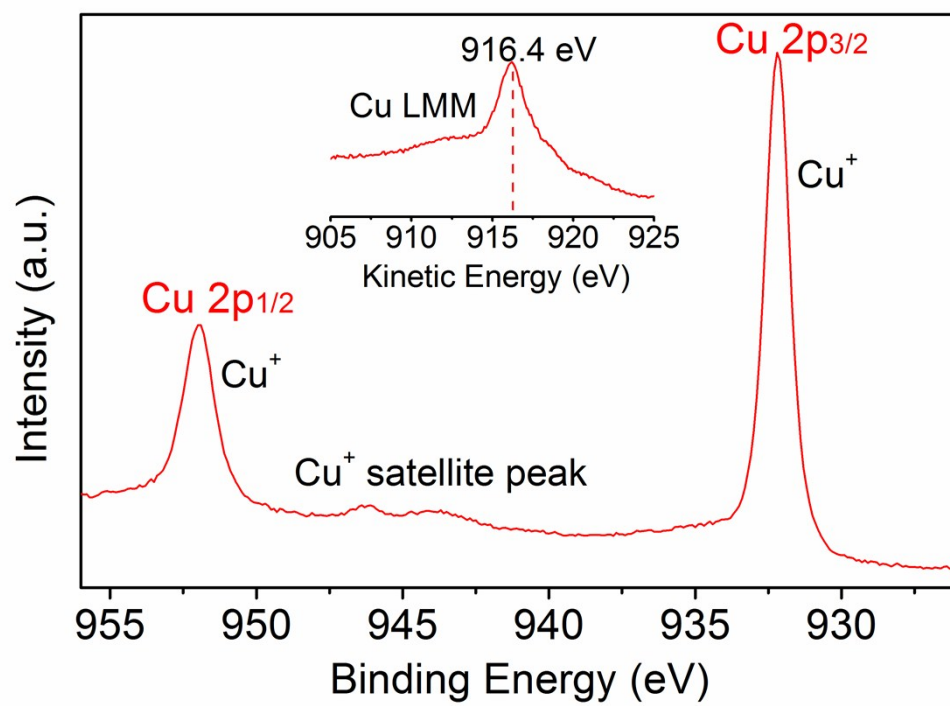
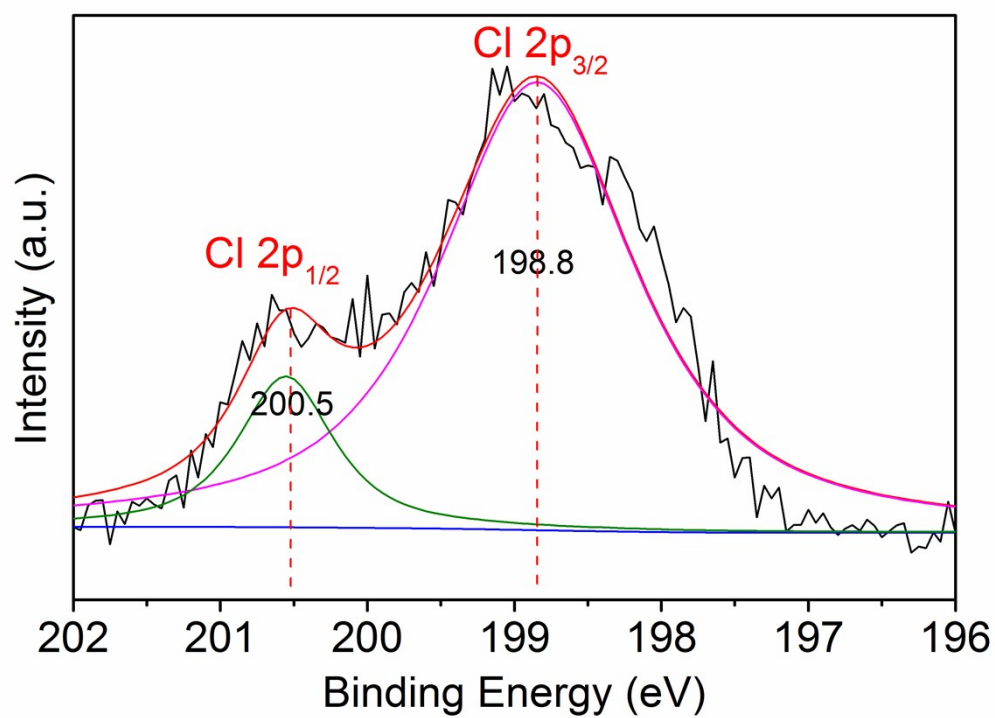


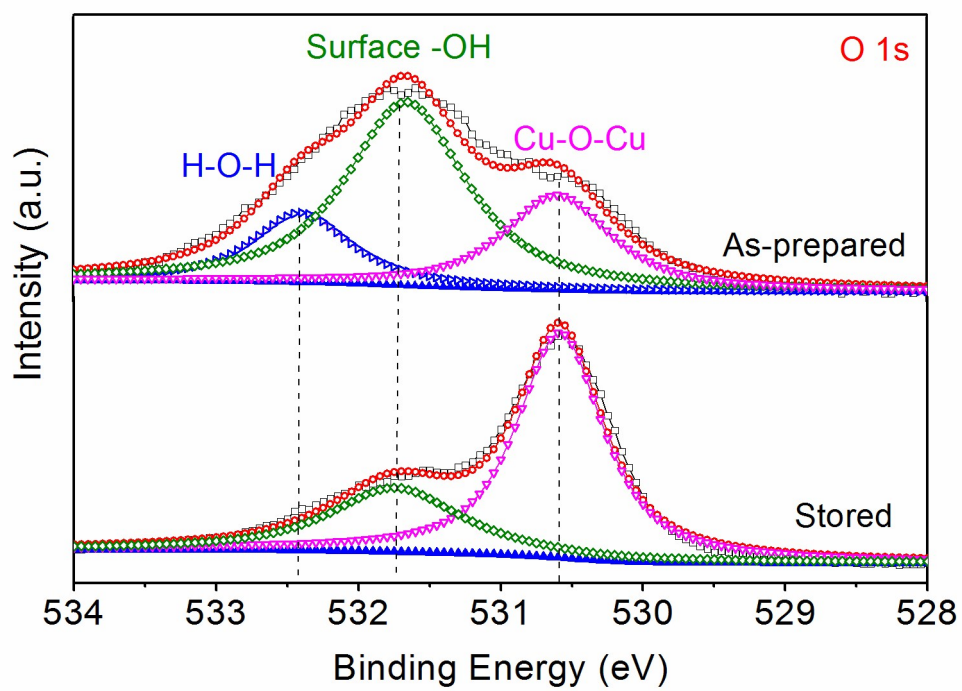
Fig. S1 XPS analysis of surface Cu species after anodization



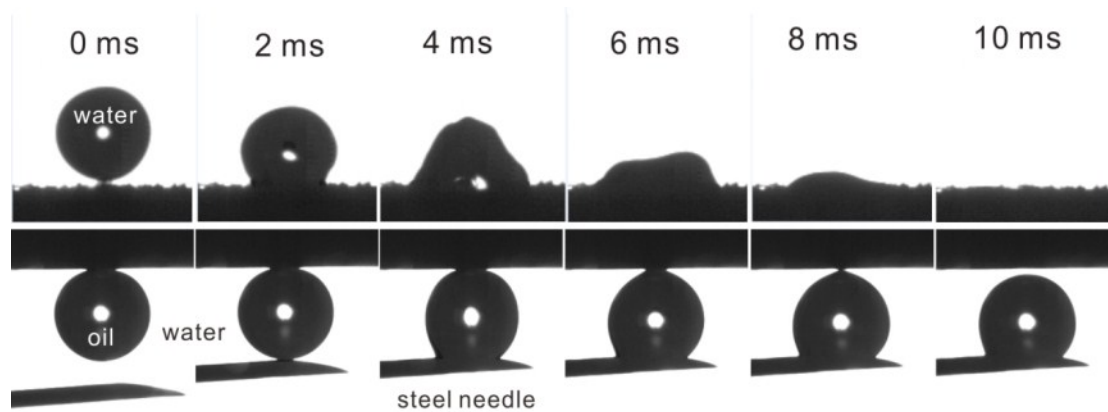
**Fig. S2** XPS analysis of surface Cu species after HCl etching



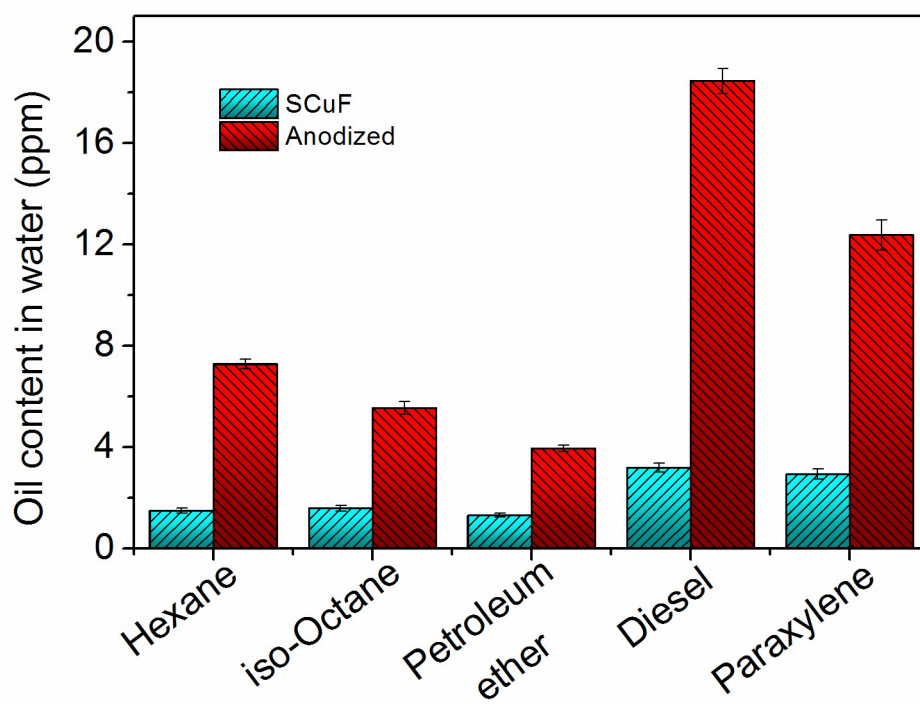
**Fig. S3** XPS analysis of surface Cl species after HCl etching



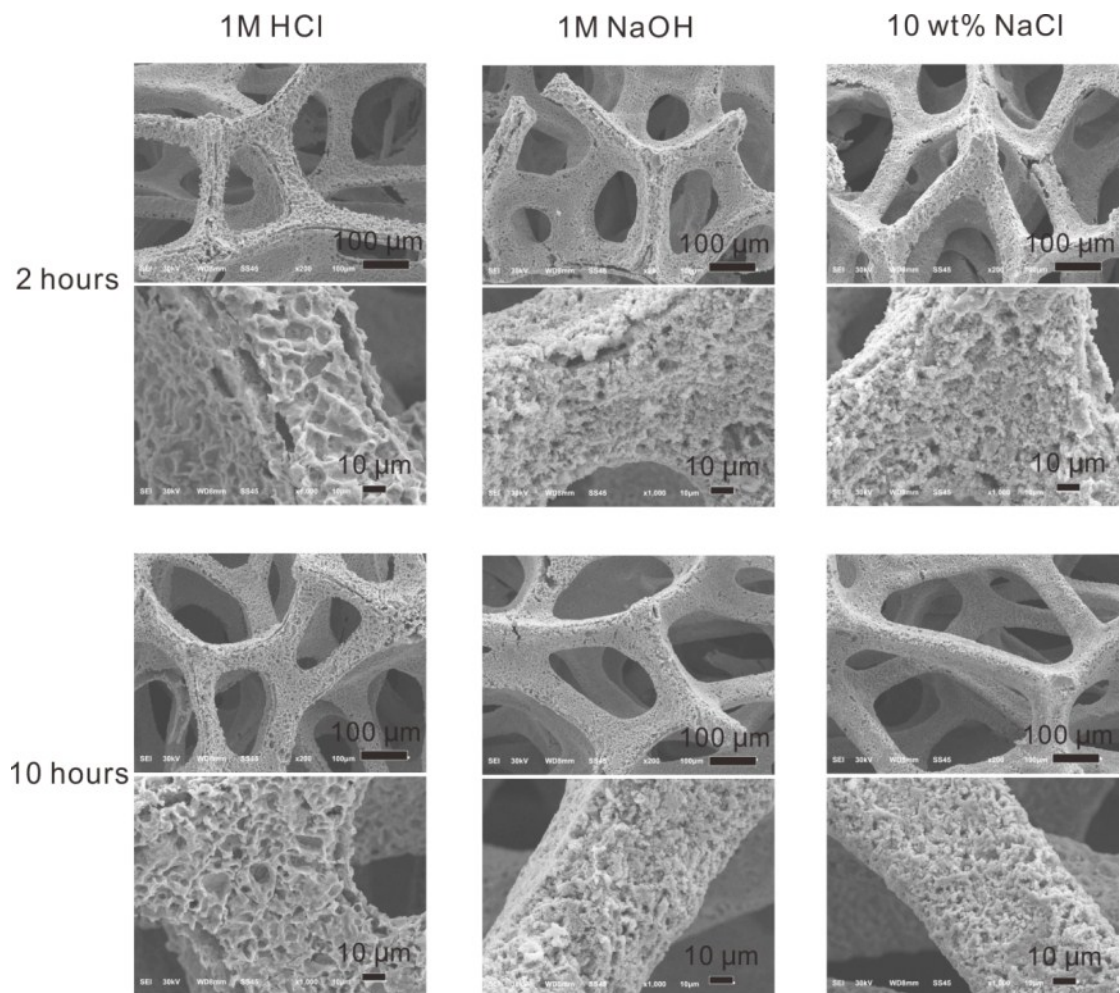
**Fig. S4** O 1s spectrum of anodized Cu foam before and after storing for 3 months



**Fig. S5** High-speed dynamic images of 5 µl water droplet spreading out on as-prepared anodized Cu foam, and the corresponding underwater oil adhesive effect.



**Fig. S6** the oil/water separation performance of anodized Cu foam and SCuF, respectively.



**Fig. S7** the morphologies of SCuF after immersing in corrosive solution for 2 h and 10 h, respectively.