

*Supplementary information*

# Fabrication of fluorine-free electrodeposited superhydrophobic surface on aluminum substrate for corrosion protection and drag reduction

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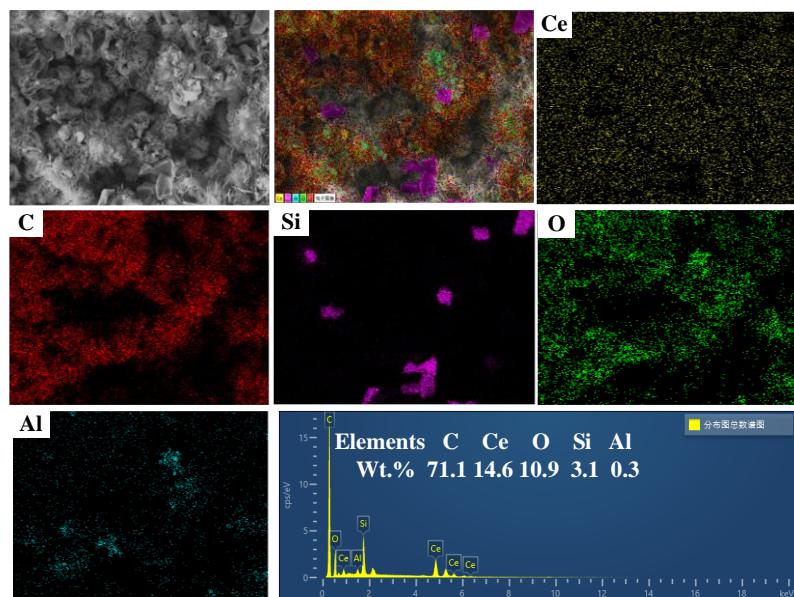


Figure S1. The EDS results of the surface of the ED1 sample.

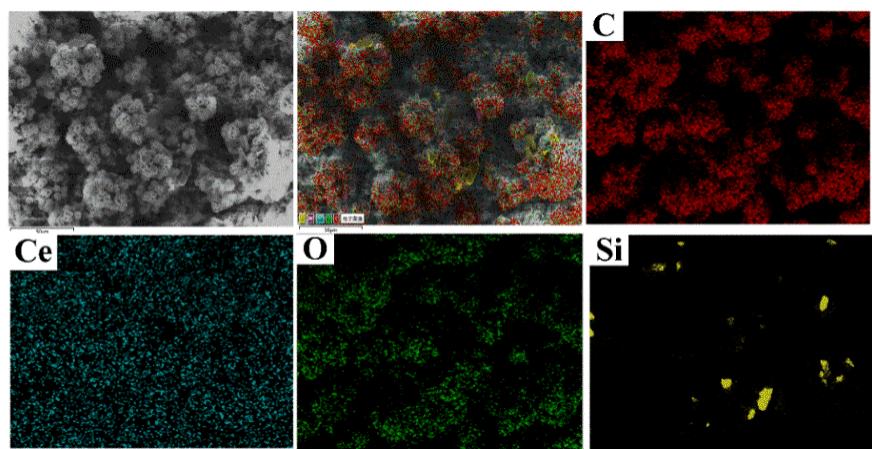
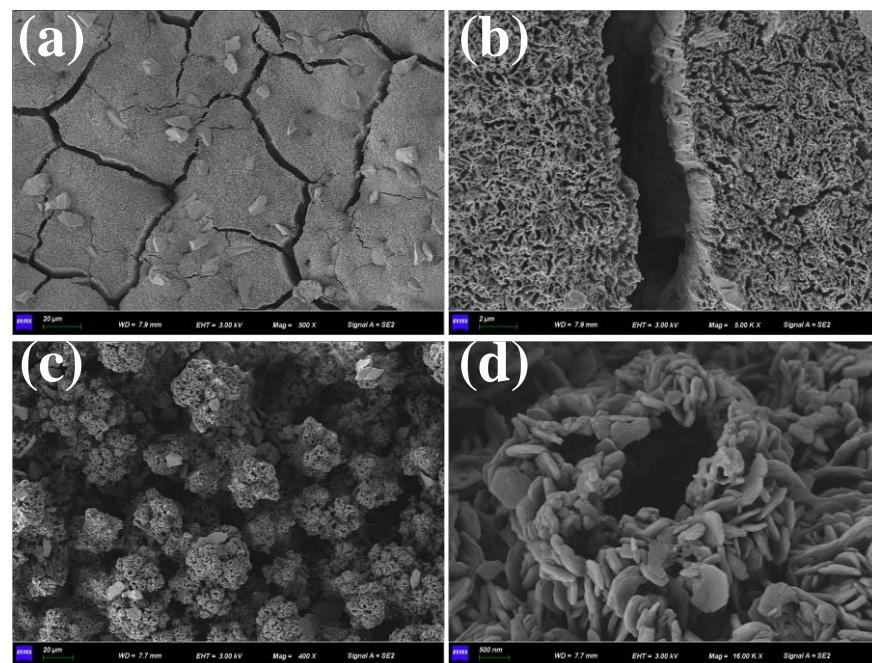
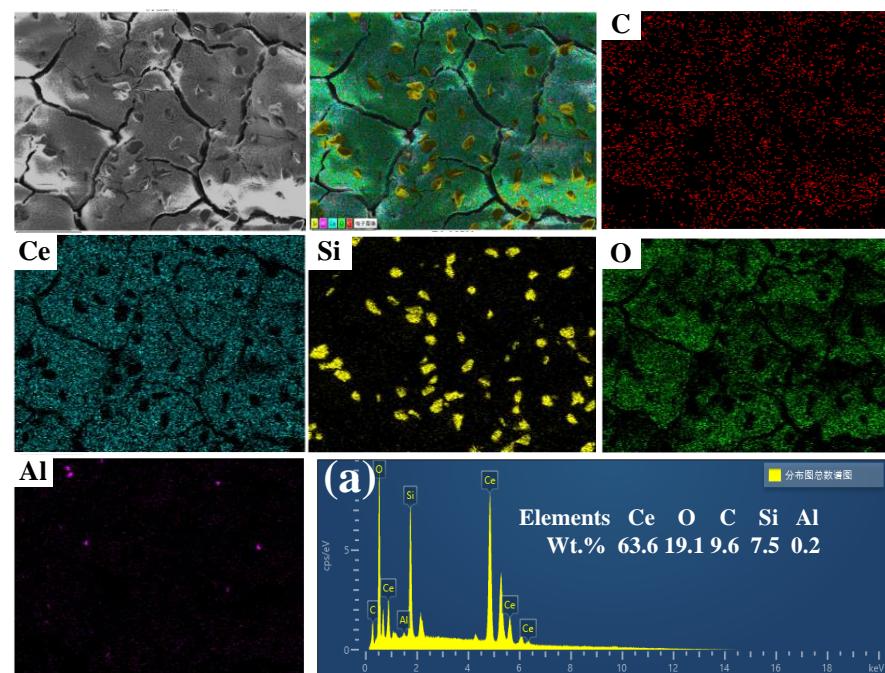


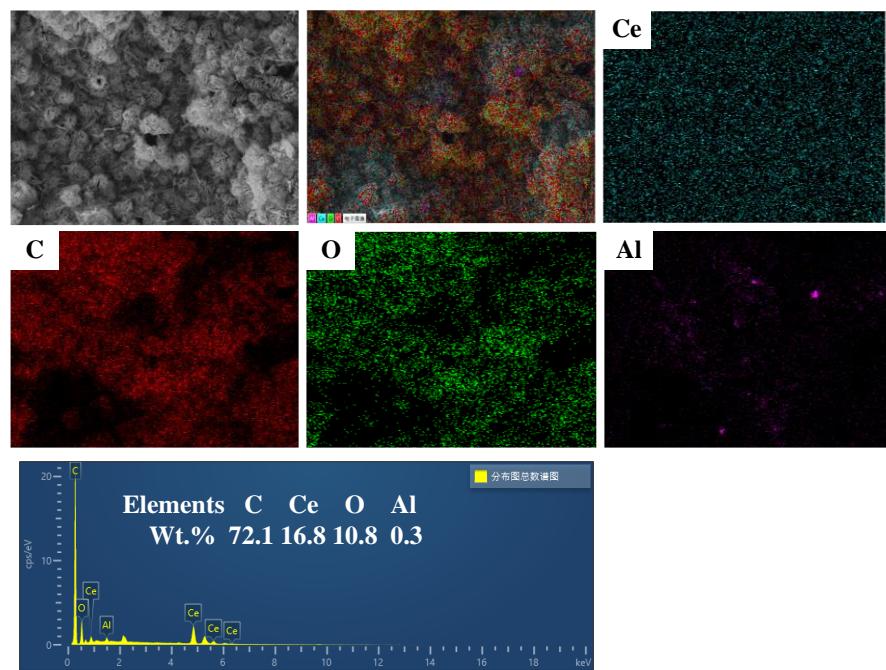
Figure S2. The EDS results of the ED2 surface.



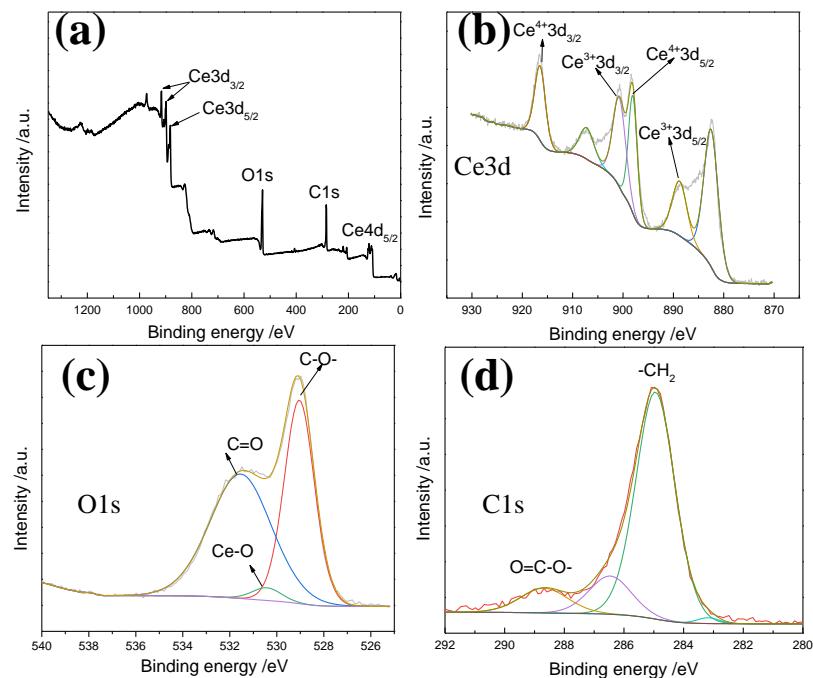
**Figure S3.** The surface morphologies of sample; (a, b) the surface morphologies of the first-step electrodeposited surface of the ED2 sample; (c, d) the surface morphologies of the second step electrodeposited surface of the ED2 sample.



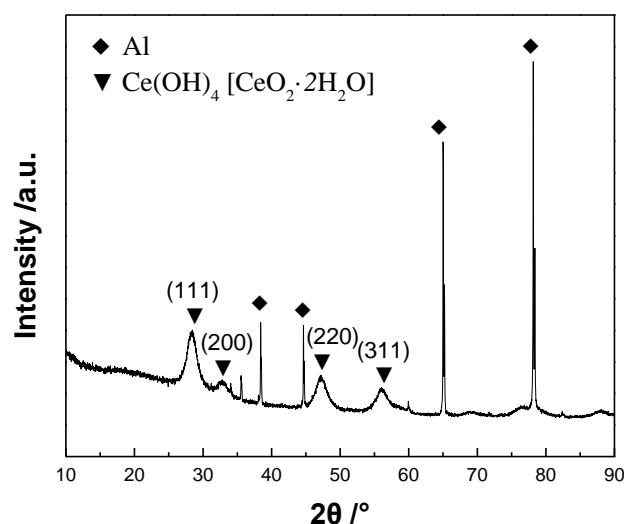
**Figure S4.** The EDS results of the first step electrodeposited surface of the ED2 sample.



**Figure S5.** The EDS results of the surface of the ED3 sample.



**Figure S6.** The XPS results of first step electrodeposited surface of the ED2 sample.



**Figure S7.** The XRD results of first step electrodeposited surface of the ED2 sample.