Electronic Supplementary Material (ESI) for Materials Chemistry Frontiers.

Organic carbonized copper foil facilitates the performance of current collector for lithium-ion batteries

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1. Electrochemical corrosion device and parameters estimated by extrapolation of Tafel curves

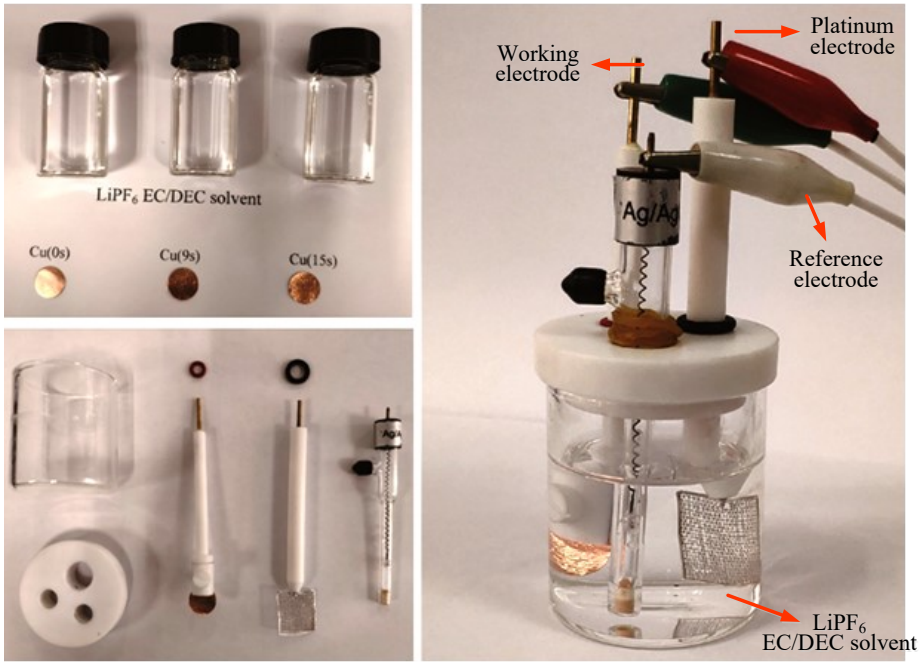

Fig. S1 Physical diagram of electrochemical corrosion process

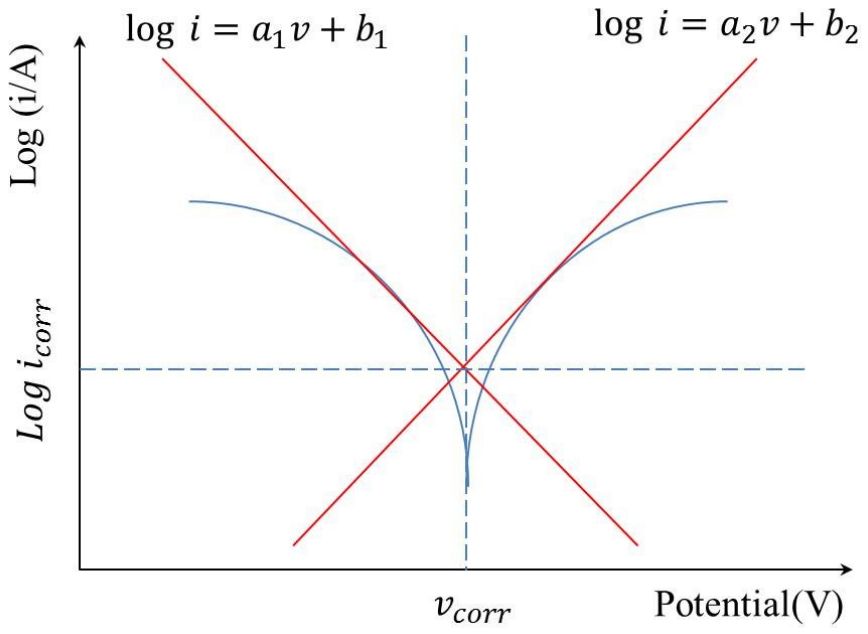

Fig. S2 Electrochemical corrosion parameters listed in Table 1 are estimated by extrapolation of Tafel curves

2. XRD patterns of copper foil before and after calcination

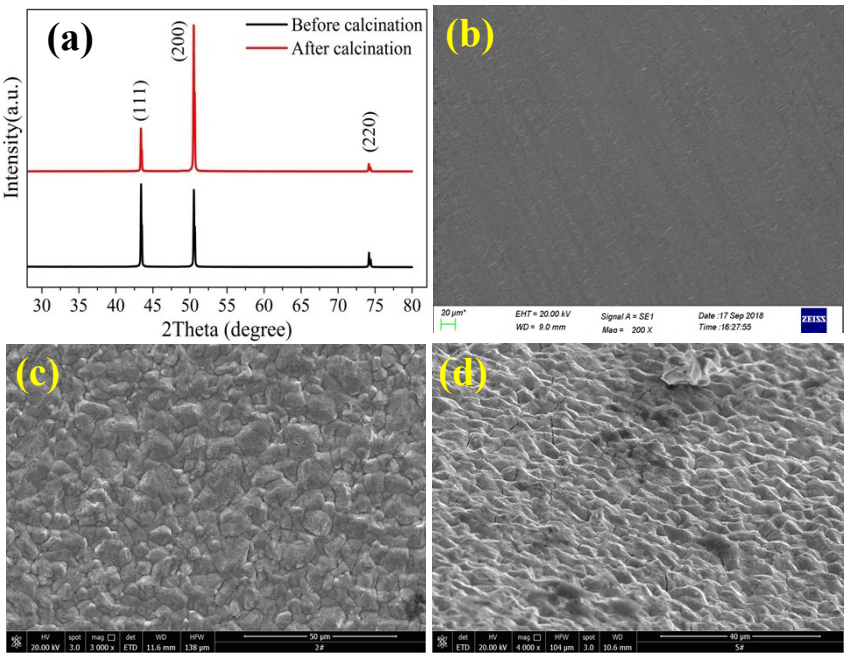

Fig. S3 (a) XRD diffraction patterns; (b) SEM image of pristine copper foil; (c-d) SEM images of copper foil before and after calcination

3. Comparison of Organic Carbon Copper Foil Electrodes with Different Thickness (7.5 μm and 2.8 μm)

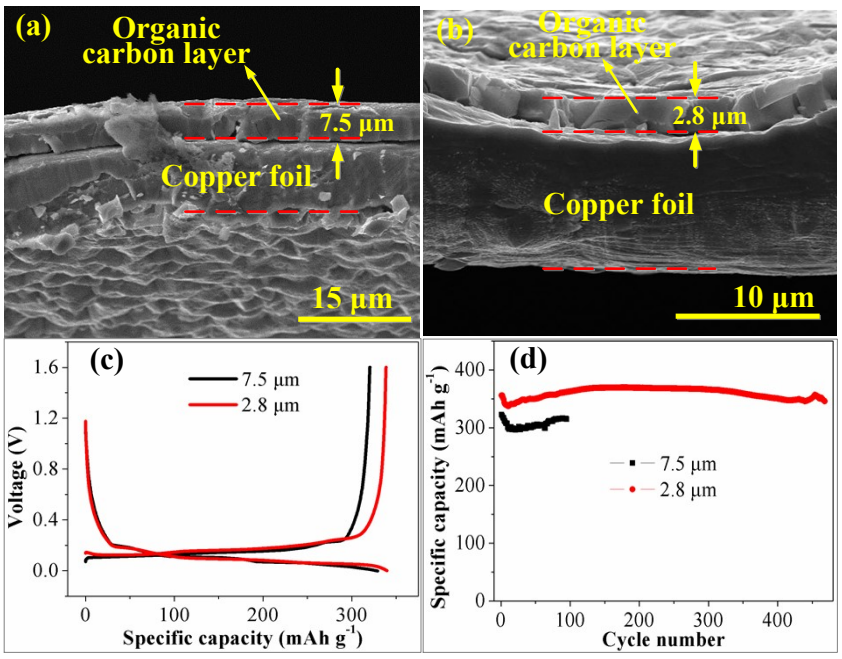

Fig. S4 (a-b) SEM images of organic carbon modified Cu foil with different thickness (7.5 μm and 2.8 μm); (c) Initial charge/discharge curves of organic carbon modified Cu foil with different thickness (7.5 μm and 2.8 μm); (d) Cycle performance of organic carbon modified Cu foil with different thickness (7.5 μm and 2.8 μm).

4. Charge/discharge performance of organic carbon layer/Li battery

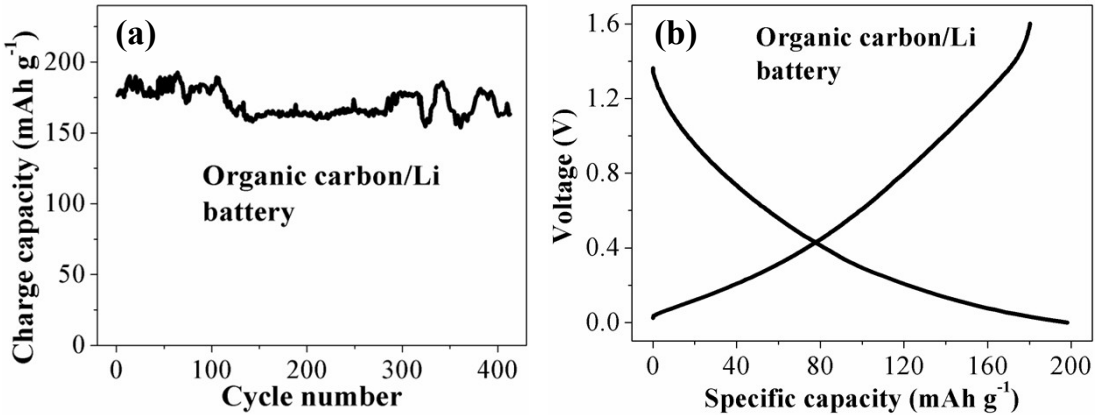

Fig. S5 Charge/discharge performance of organic carbon layer (2.8 μm)/Li battery