

Supporting Information

Assembly of ZIF-67 nanoparticles and in-situ grown Cu(OH)₂ nanowires serves as an effective electrocatalyst for oxygen evolution

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Fig. S1. Picture of the composite samples, the order from left to right is CF, $\text{Cu}(\text{OH})_2/\text{CF}$ and $\text{Cu}(\text{OH})_2@ZIF-67/\text{CF}$.

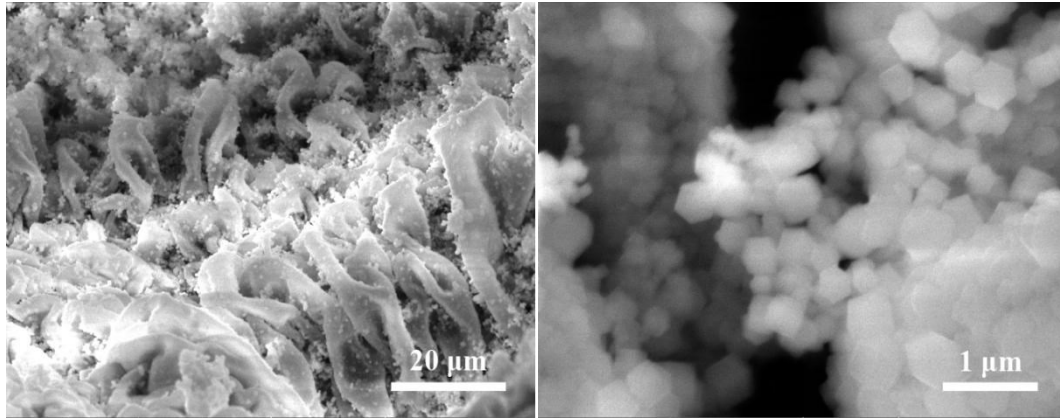


Fig. S2. SEM images of ZIF-67/CF.

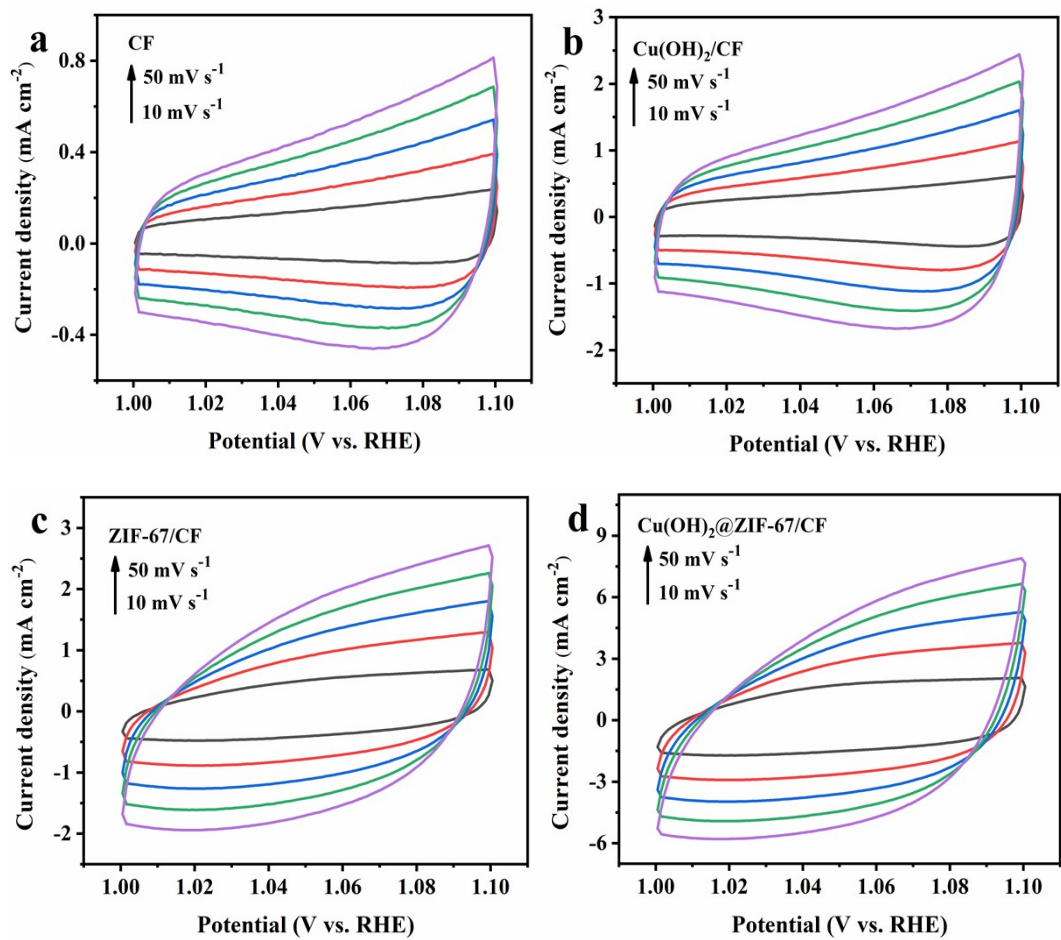


Fig. S3. Cyclic voltammetry curves of (a) CF, (b) Cu(OH)₂/CF, (c) ZIF-67/CF and (d) Cu(OH)₂@ZIF-67/CF.

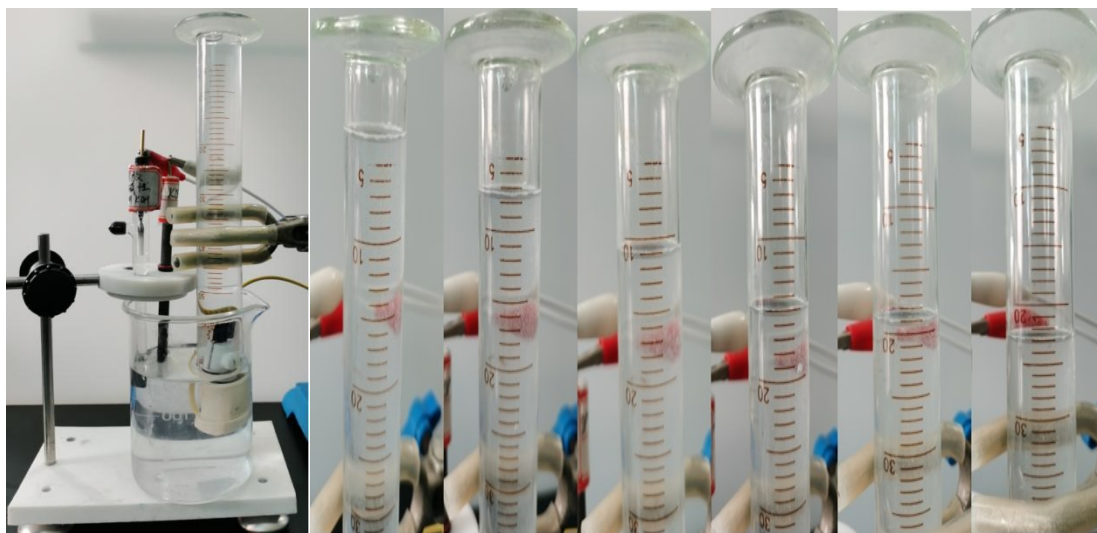


Fig. S4. Digital photograph of the experimental measurement of the oxygen production of $\text{Cu}(\text{OH})_2@Z\text{IF}-67/\text{CF}$ electrocatalyst at a current density of $100 \text{ mA}\cdot\text{cm}^{-2}$ is presented.

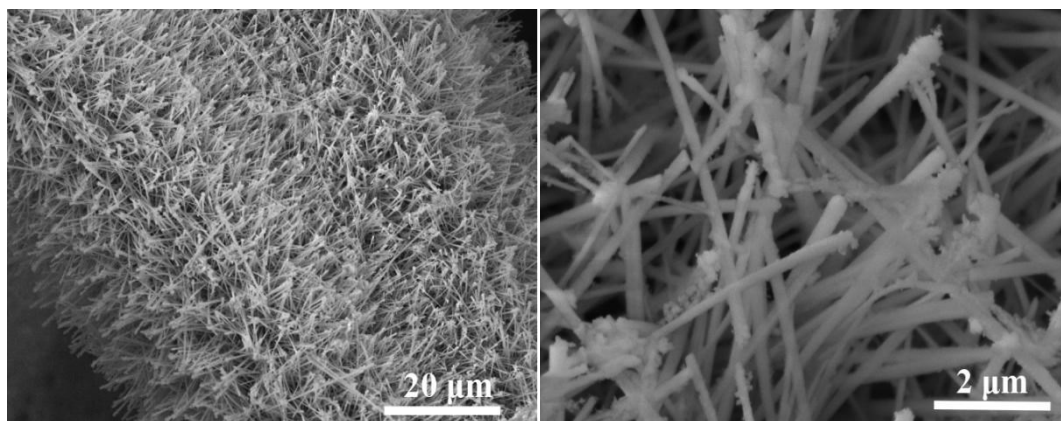


Fig. S5. SEM images of $\text{Cu}(\text{OH})_2@\text{ZIF-67}/\text{CF}$ after 22 hours stability measurements.

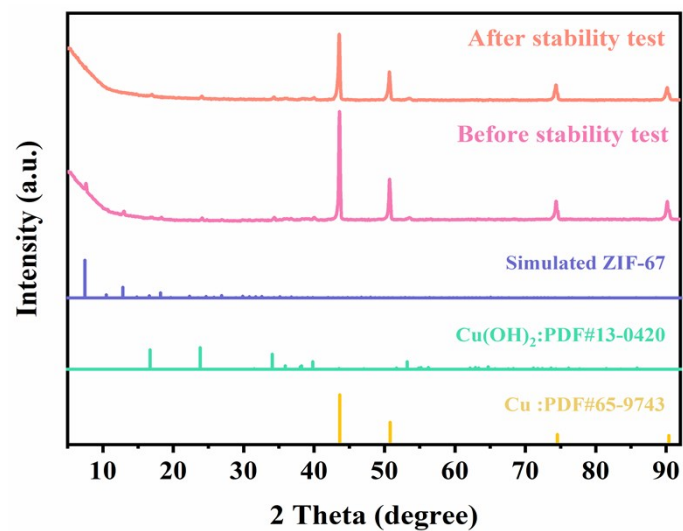


Fig. S6. XRD pattern of Cu(OH)₂@ZIF-67/CF before and after stability.

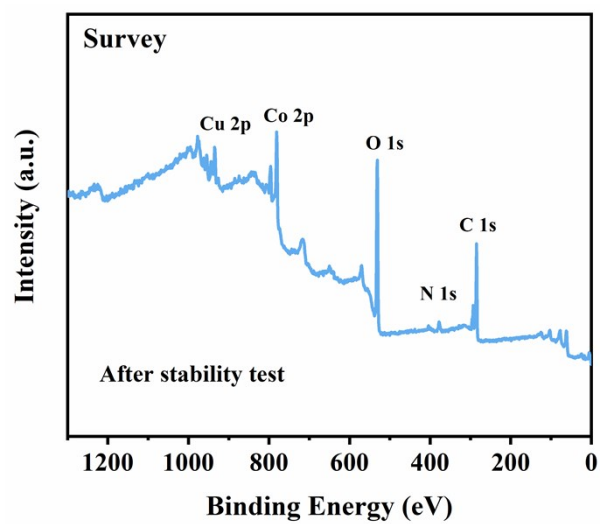


Fig. S7. XPS survey spectrum of $\text{Cu}(\text{OH})_2@Z\text{IF-67}/\text{CF}$ after stability test.

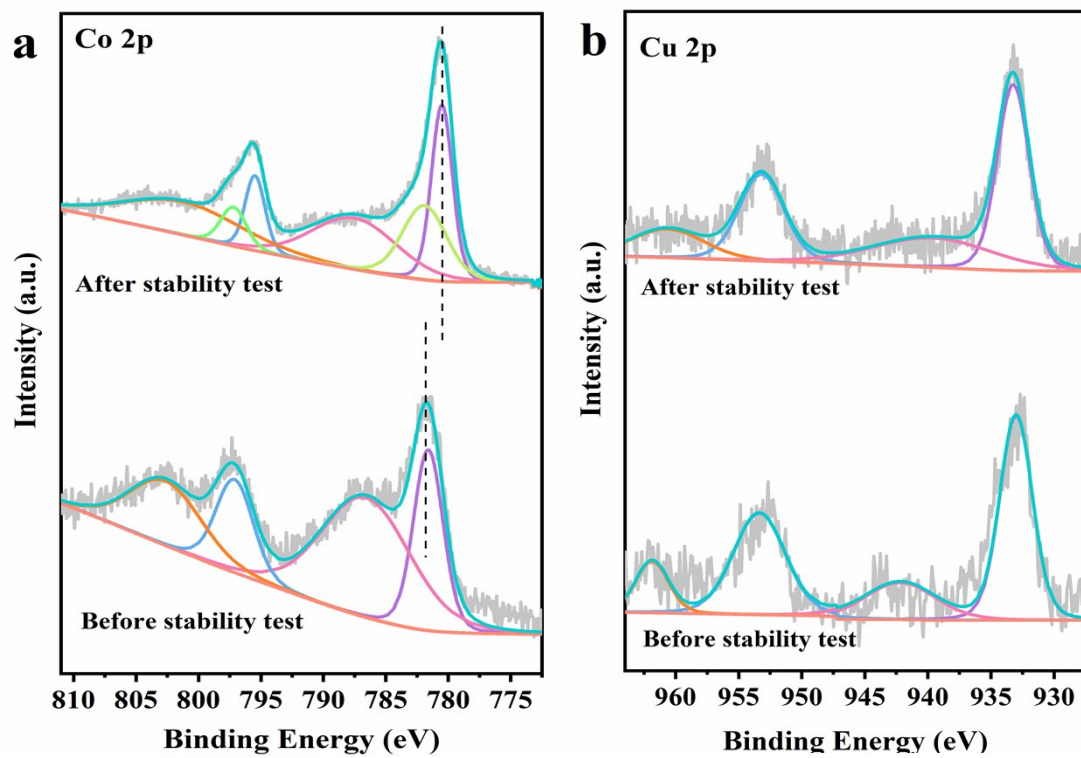


Fig. S8. Comparison of XPS spectra before and after stability test, (a) Co 2p, (b) Cu 2p.

Table S1. Comparison of OER activity between Cu(OH)₂@ZIF-67/CF and other recently reported non noble metal catalysts.

Catalyst	Current density (mA·cm⁻²)	Overpotential (mV)	Tafel slope (mV·dec⁻¹)	Reference
Cu(OH) ₂ @ZIF-67/CF	10	205	70.5	this work
Co LDHs UTNSs	10	340	56	1
SiW ₉ Co ₃ [h]@ZIF-67	10	420	93.9	2
EG/Co(OH) ₂ /ZIF-67	10	280	63	3
Co-Mo-N-PHP	10	294	57	4
ZIF-67@CoFe-PBA-F-250	10	297	34	5
CUMSSs-ZIF-67	10	320	185.1	6
50% PANI/ZIF-67	10	350	57	7
Cu(OH) ₂ @CoNiCH NTs/CF	30	288	74	8
Cu(OH) ₂ @Co(OH) ₂	10	283	48	9
CuO@CoZn-LDH/CF	10	194	78.3	10

Reference

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