

Supporting Information for

**Cu₃Mo₂O₉ Nanosheet Array as a High-Efficiency Oxygen
Evolution Electrode in Alkaline Solution**

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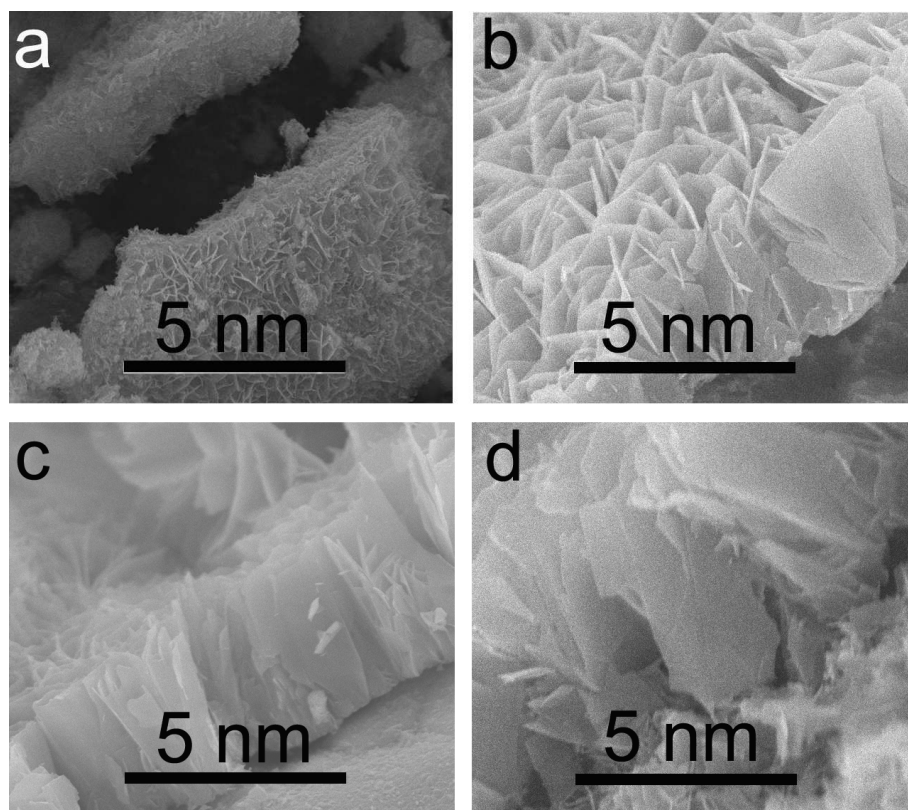


Figure S1. (a) SEM image for $\text{Cu}_3\text{Mo}_2\text{O}_9$ powder. Cross-section SEM images for (b) $\text{Cu}_3\text{Mo}_2\text{O}_9/\text{NF}$ -10h, (c) $\text{Cu}_3\text{Mo}_2\text{O}_9/\text{NF}$ and (d) $\text{Cu}_3\text{Mo}_2\text{O}_9/\text{NF}$ -20h.

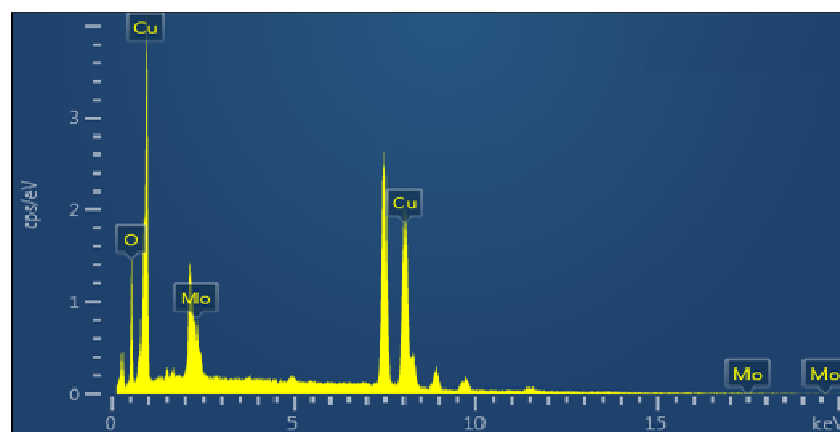


Figure S2. EDX spectrum for Cu₃Mo₂O₉/NF.

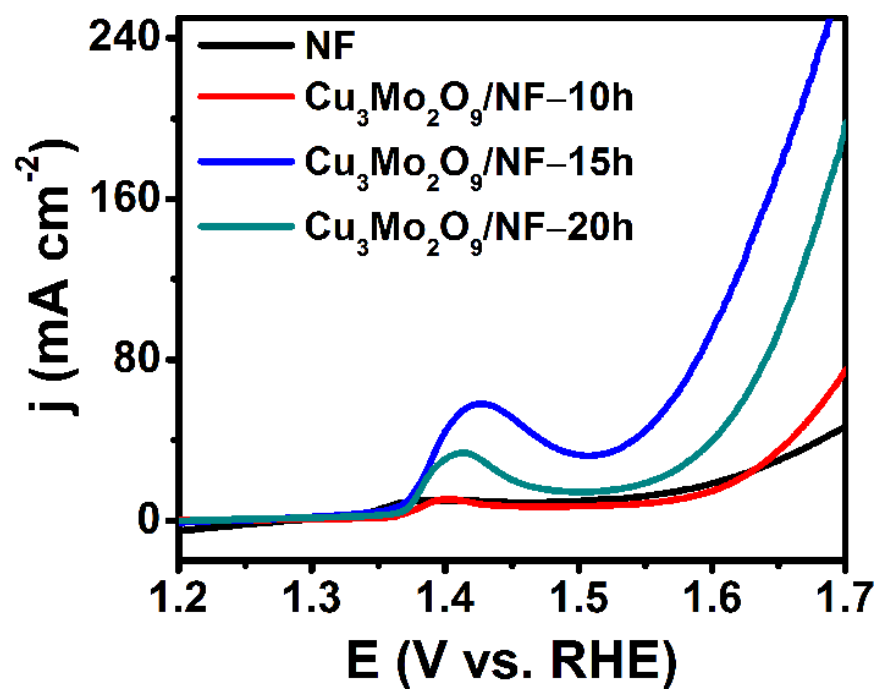


Figure S3. LSV curves of bare NF, Cu₃Mo₂O₉/NF-10h, Cu₃Mo₂O₉/NF-15h (Cu₃Mo₂O₉/NF) and Cu₃Mo₂O₉/NF-20h for water oxidation.

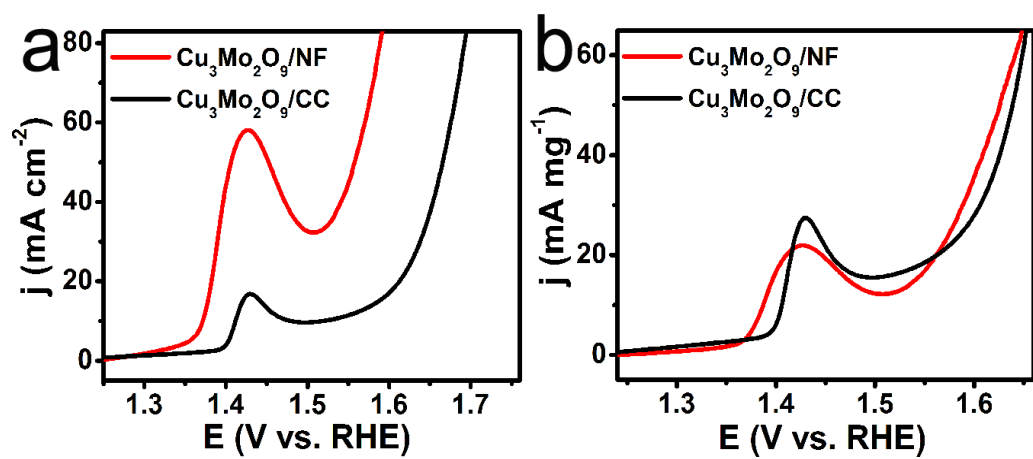


Figure S4. (a) LSV curves of $\text{Cu}_3\text{Mo}_2\text{O}_9/\text{CC}$ and $\text{Cu}_3\text{Mo}_2\text{O}_9/\text{NF}$ for water oxidation. (b) Mass-normalized polarization curves for $\text{Cu}_3\text{Mo}_2\text{O}_9/\text{CC}$ and $\text{Cu}_3\text{Mo}_2\text{O}_9/\text{NF}$.

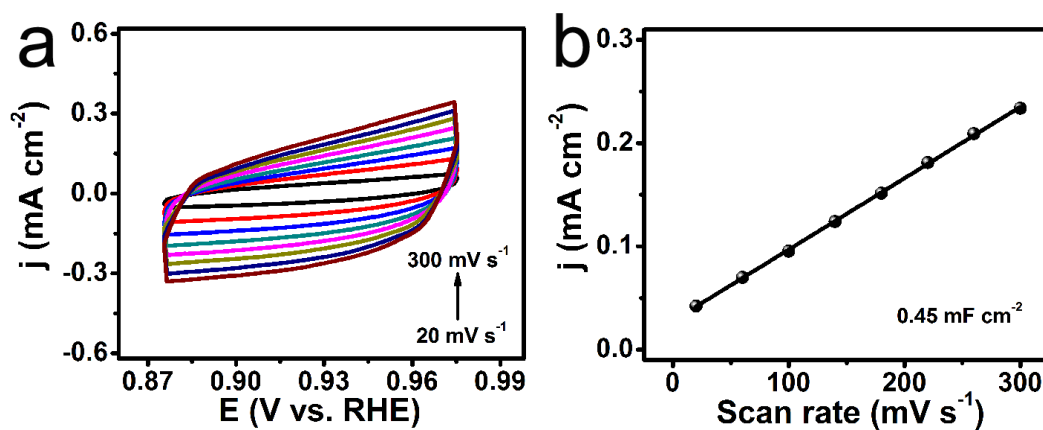


Figure S5. (a) CVs for bare NF in the non-faradaic capacitance current ranges at scan rates of 20, 60, 100, 140, 180, 220, 260 and 300 mV s⁻¹. (b) The relationship between capacitive current density and scan rate at 0.9254 V vs. RHE.

Table S1. Comparison of water oxidation performance for Cu₃Mo₂O₉ /NF with other non-noble-metal OER electrocatalysts in alkaline media.

Catalyst	J (mA cm ⁻²)	η (mV)	Electrolyte	Ref.
Cu ₃ Mo ₂ O ₉ /NF	50	325	1.0 M KOH	This work
	100	374		
CoMoO ₄ nanorod	10	343	1.0 M KOH	(1)
Cu _x Co _y O ₄	10	391	1.0 M KOH	(2)
NiMoO ₄ Nanotubes	10	359	1.0 M KOH	(3)
CuCo ₂ O ₄ /NrGO	10	360	1.0 M KOH	(4)
Ni-Co ₂ -O	10	362	1.0 M KOH	(5)
Cu/(Cu(OH) ₂ -CuO) NA/CF	10	417	0.1 M KOH	(6)
Fe(OH) ₃ :Cu(OH) ₂ /CF	10	~365	1.0 M KOH	(7)
	100	~407		
Zn _x Co _{3-x} O ₄	50	400	1.0 M KOH	(8)
Hydrogenated-Pt on CaMnO ₃	10	~570	0.1 M KOH	(9)
Ni ₃₀ Fe ₇ Co ₂₀ Ce ₄₃ O _x	10	410	1.0 M NaOH	(10)
Co ₃ O ₄ /2.7Co ₂ MnO ₄	10	540	0.1 M KOH	(11)
Ni-Co oxides layers	10	325	1.0 M NaOH	(12)

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