

Electronic Supplementary Information

**In-Site Grown of an Efficient NiFeOOH/NiFe-LDH Based Oxygen-Evolving
Electrode via A Simple One-Step Strategy**

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† Jing Ning and Li Xu contributed equally to this work.

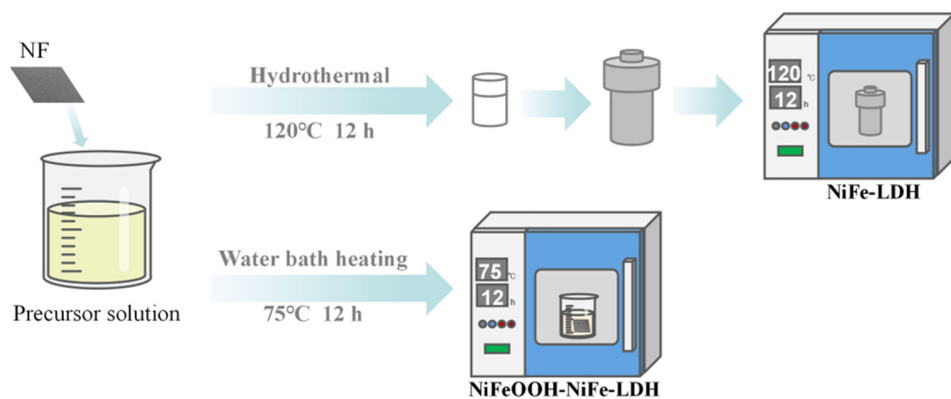


Figure S1. Synthesis methods for experimental electrodes.

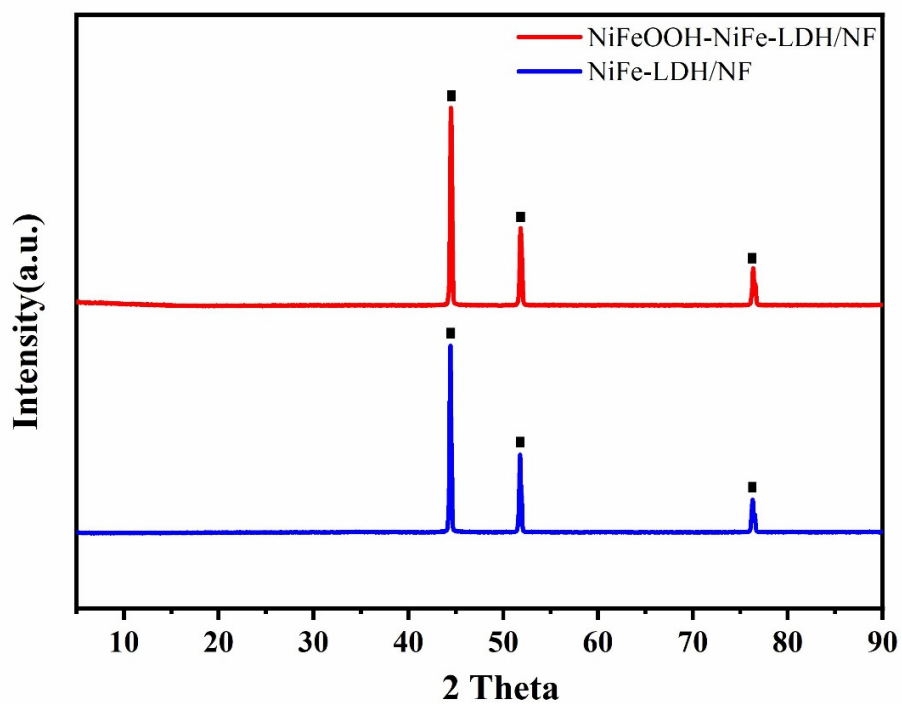


Figure S2. XRD pattern of NiFeOOH-NiFe-LDH/NF and NiFe-LDH/NF.

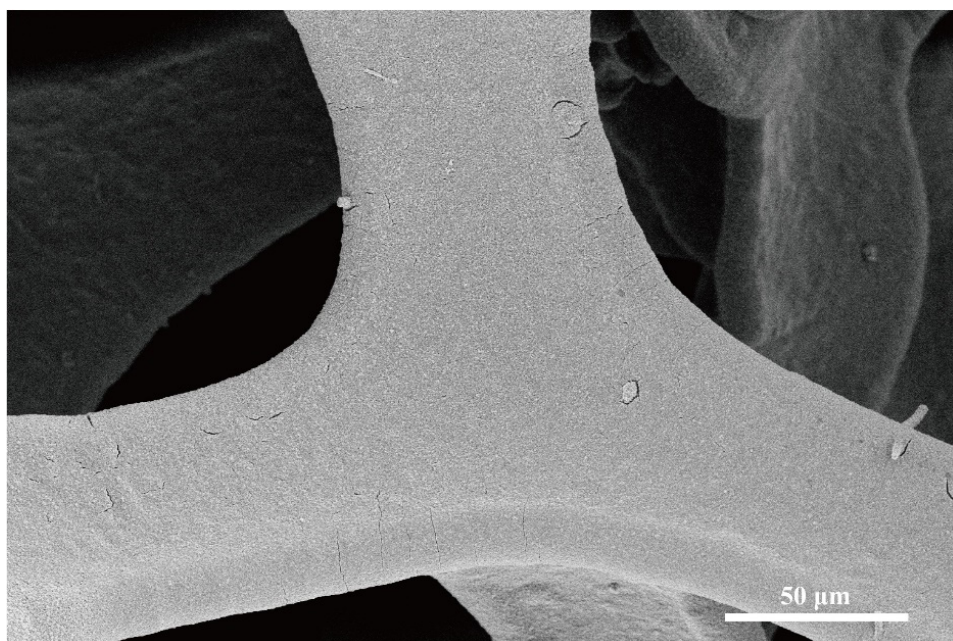


Figure S3. SEM images of NiFeOOH-NiFe-LDH/NF at low magnification

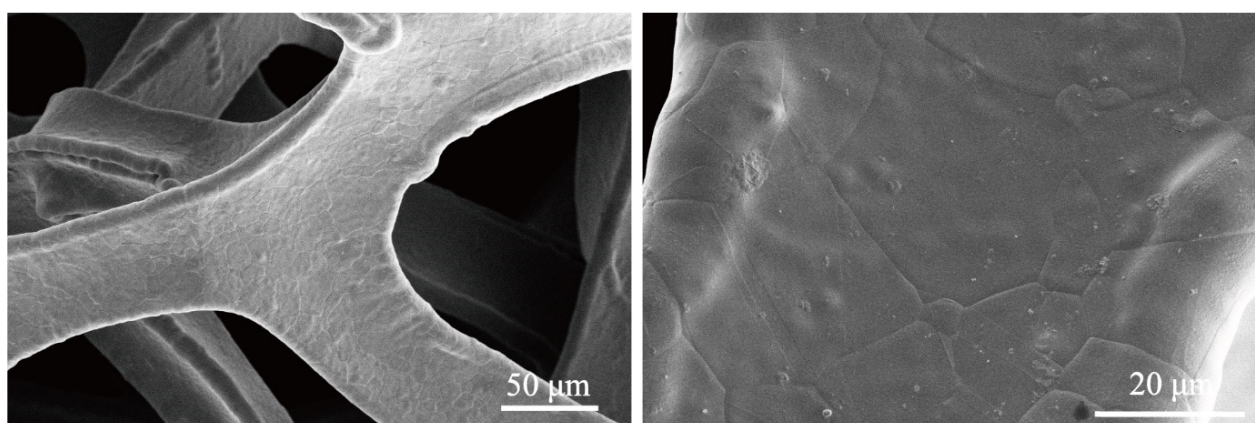


Figure S4. SEM images of NF.

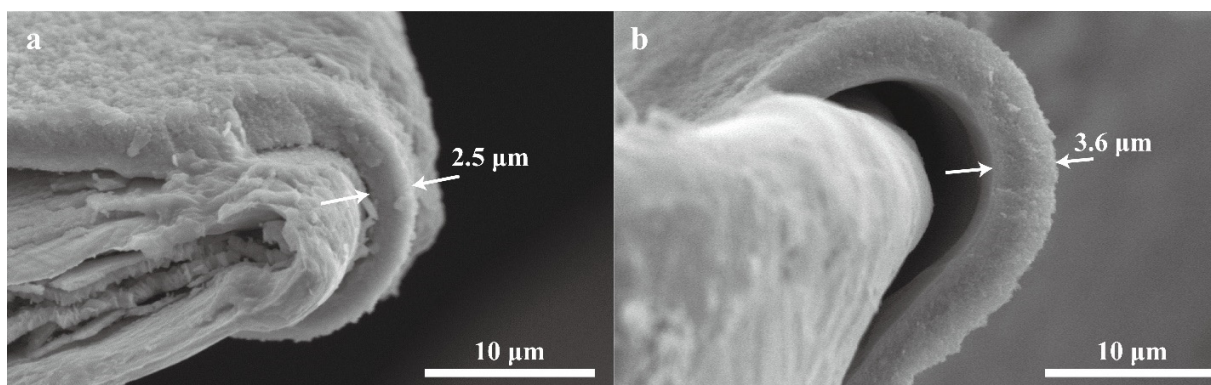


Figure S5. SEM image of the cross-section of the catalytic layer (a) NiFeOOH-NiFe-LDH/NF, (b) NiFe-LDH/NF.

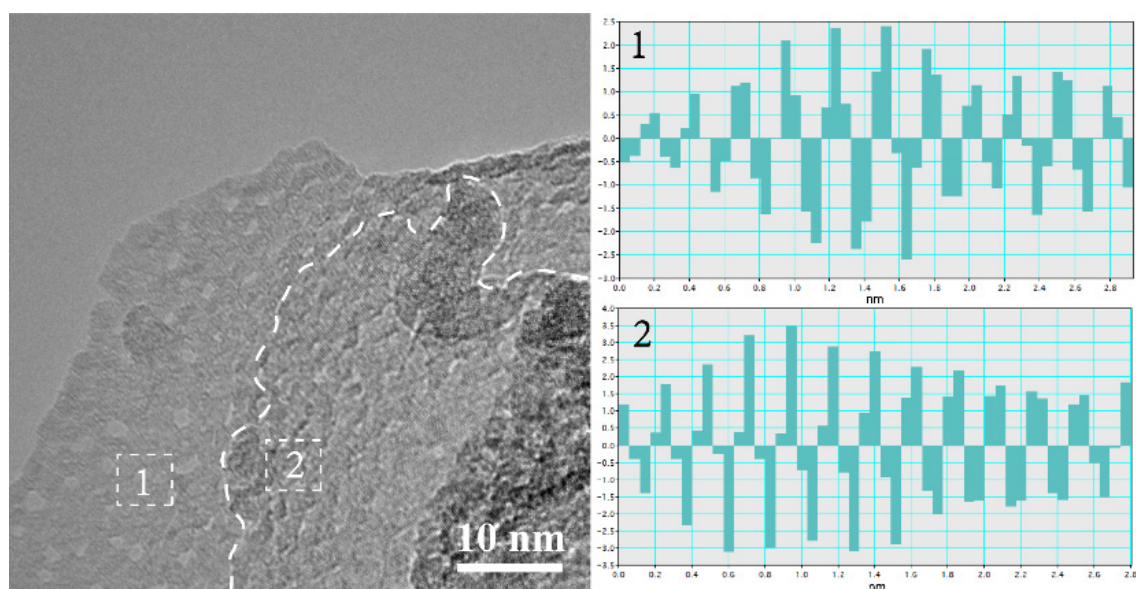


Figure S6. Calculation of lattice stripes corresponding to two phase frame selection positions.

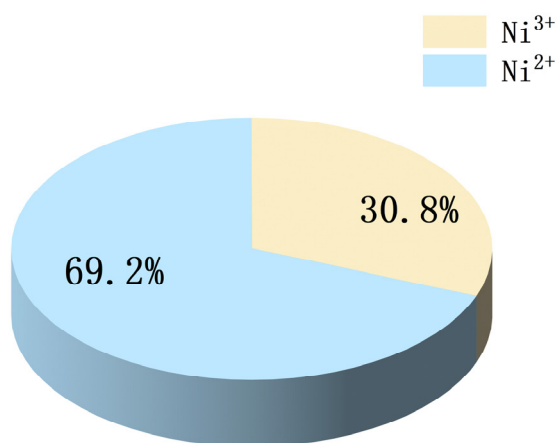


Figure S7. Percentage of Ni²⁺ and Ni³⁺ of NiFeOOH-NiFe-LDH

Table S1. The ECSA and Cdl values of different catalysts

	ECSA(cm ²)	Cdl (mF · cm ⁻²)
NiFeOOH-NiFe-LDH	179.75	7.19
NiFe-LDH	100.50	4.02
IrO ₂	69.50	2.78
NF	34.75	1.39

Table S2. The comparisons between NiFeOOH-NiFe-LDH and NiFe-LDH

	NiFeOOH-NiFe-LDH	NiFe-LDH
Synthesis temperature	75 °C	120 °C
Material composition	(Fe _{0.67} Ni _{0.33})OOH, NiFe-LDH	NiFe-LDH
Ni elemental form	Ni ³⁺ , Ni ²⁺	Ni ²⁺
Fe elemental form	FeOOH, Fe(OH) ₃	Fe(OH) ₃
Ov content	9.84%	6.16%
Overpotential η_{100} (mV)	227	257
Onset potential (V)	1.337	1.343