Supporting Information

Constructing self-standing Fe_2O_3-Pt/NF nanoflowers with synergistic active sites for efficient electrocatalytic overall (sea) water splitting

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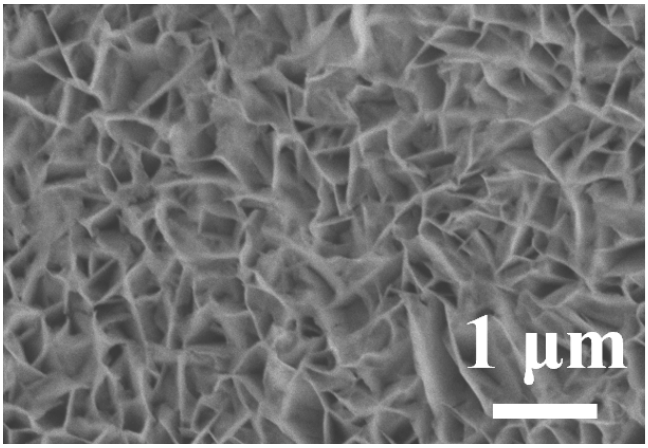

Fig. S1 SEM image of Pt/NF.

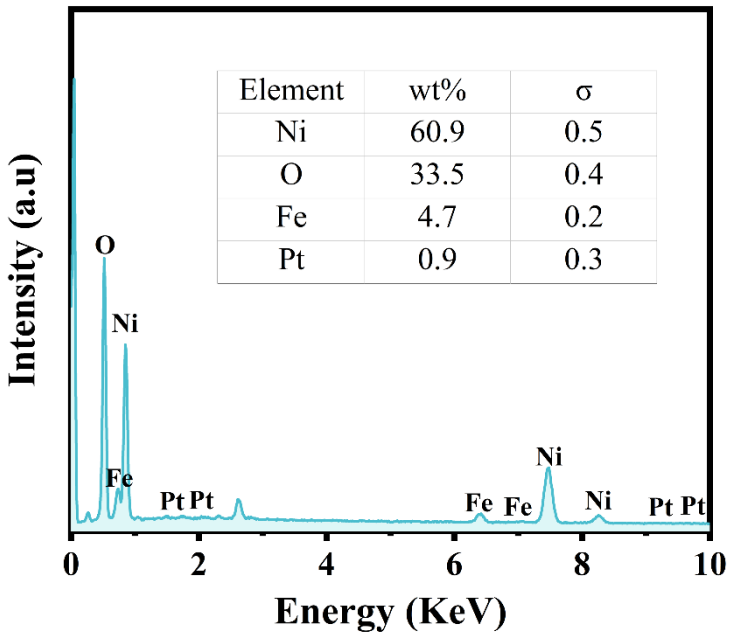

Fig. S2 EDS spectrum of Fe_2O_3-Pt/NF-$Fe_{2.0}$.

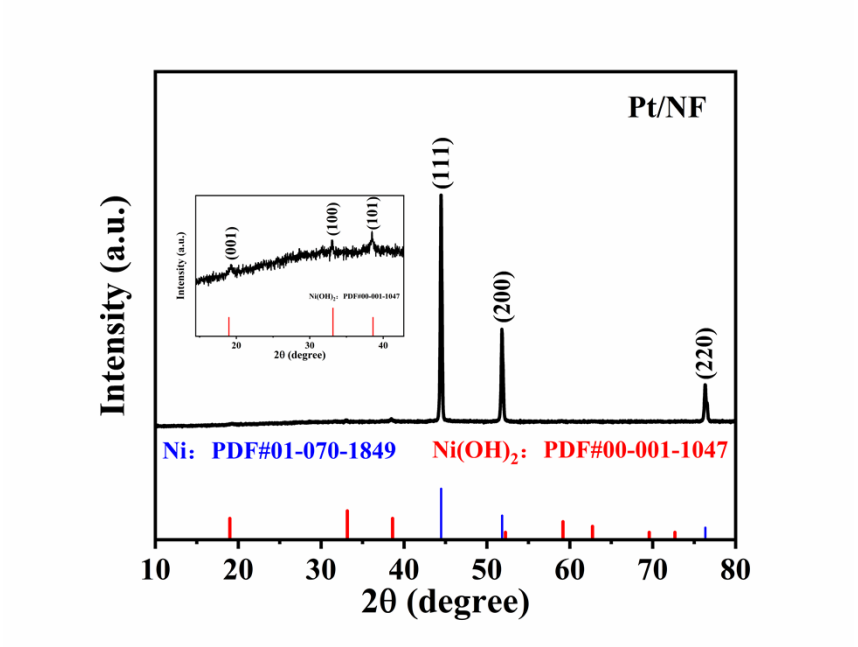

Fig. S3 XRD spectrum of Pt/NF.

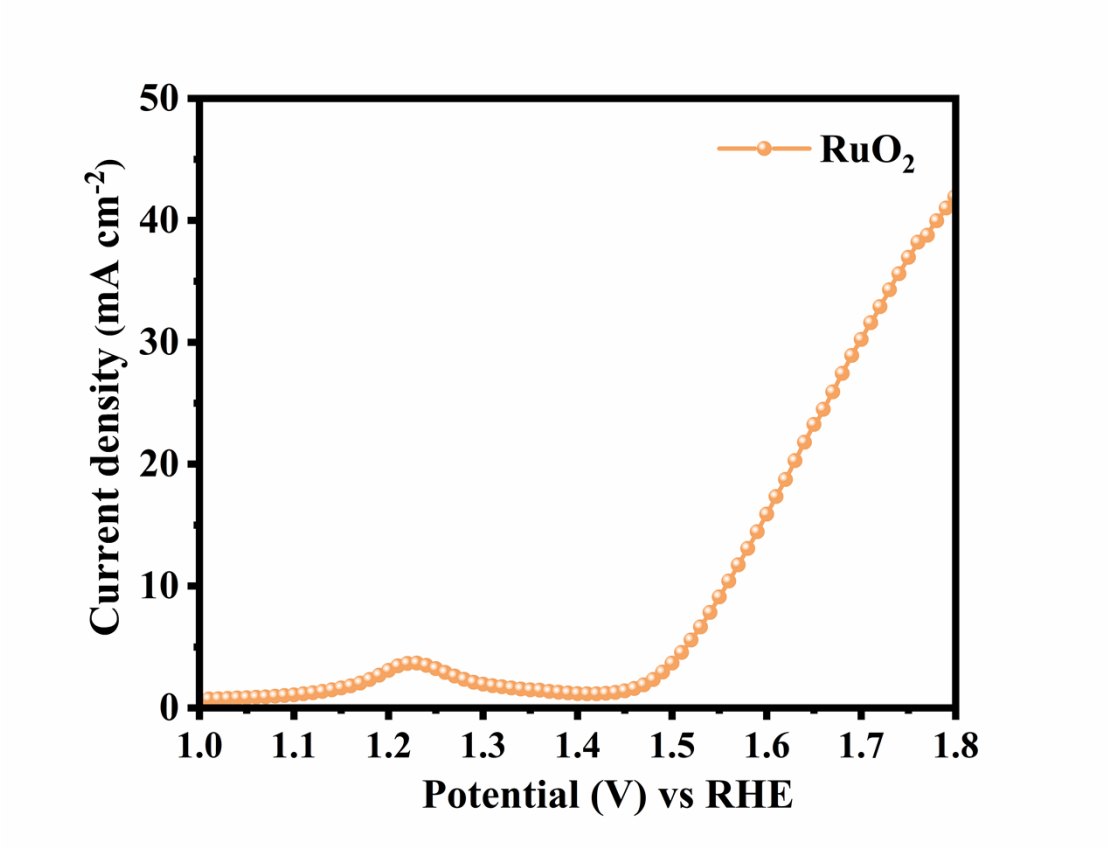

Fig. S4 OER performance testing of RuO_2 in 1 M KOH solution.

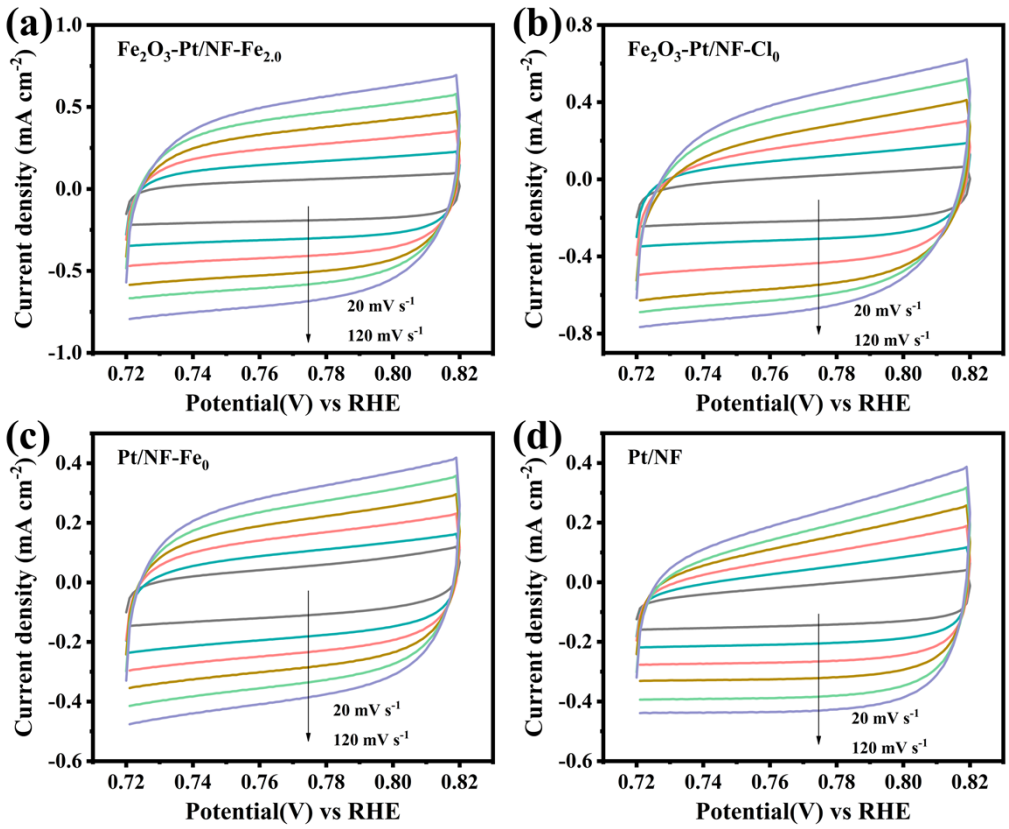

Fig. S5 CV curves of (a) Fe_2O_3-Pt/NF-$Fe_{2.0}$, (b) Fe_2O_3-Pt/NF-Cl_0, (c) Pt/NF-Fe_0, and (d) Pt/NF at different scanning speeds.

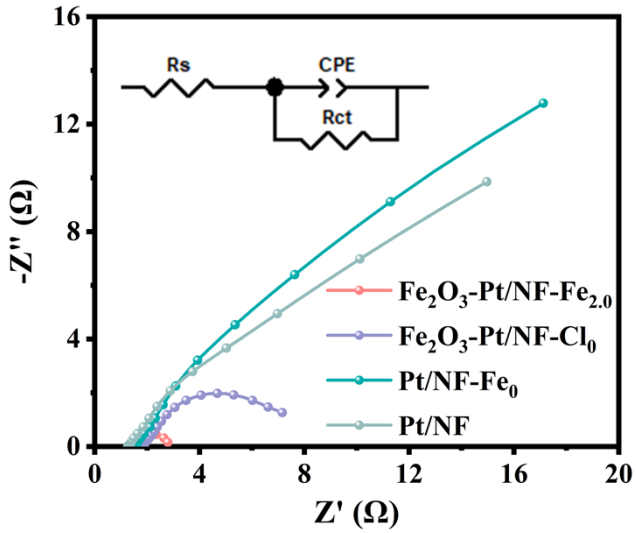

Fig. S6 Electrochemical impedance spectroscopy (EIS) Nyquist plots.

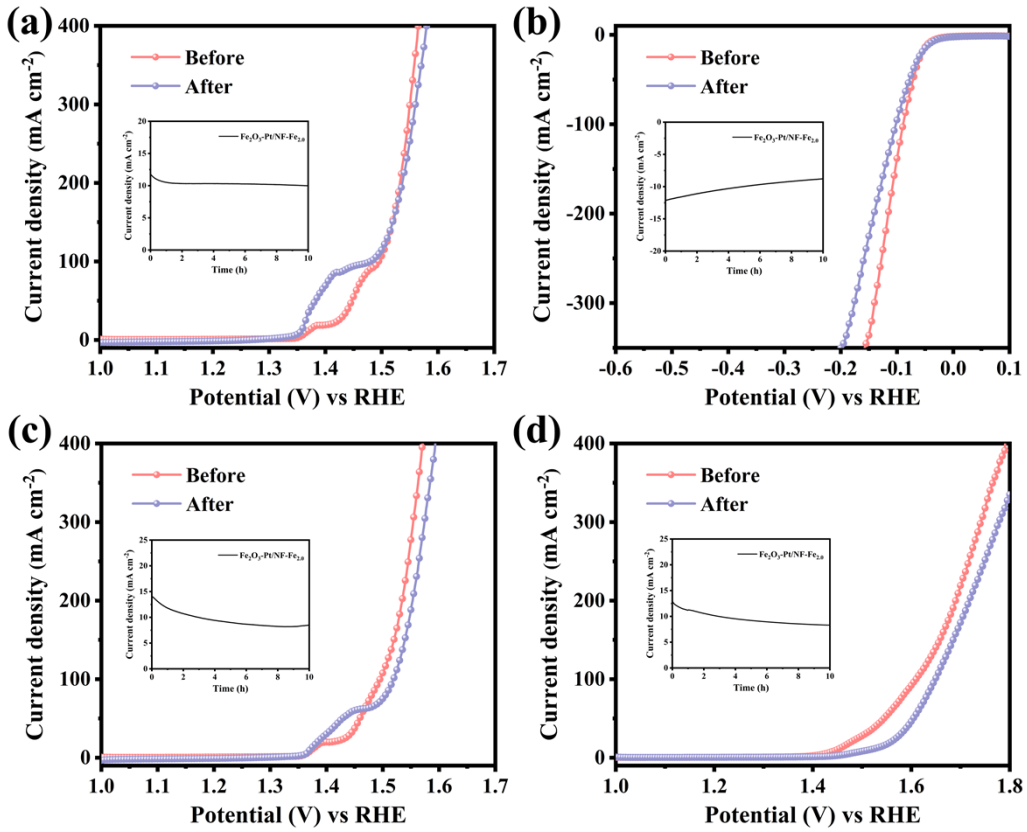

Fig. S7 i-t curves of Fe_2O_3-Pt/NF-$Fe_{2.0}$ running stably for 10 h and the corresponding LSV curves before and after durability. (a) OER in 1 M KOH; (b) HER and (c) OER in simulated seawater; (d) the whole seawater splitting reaction.

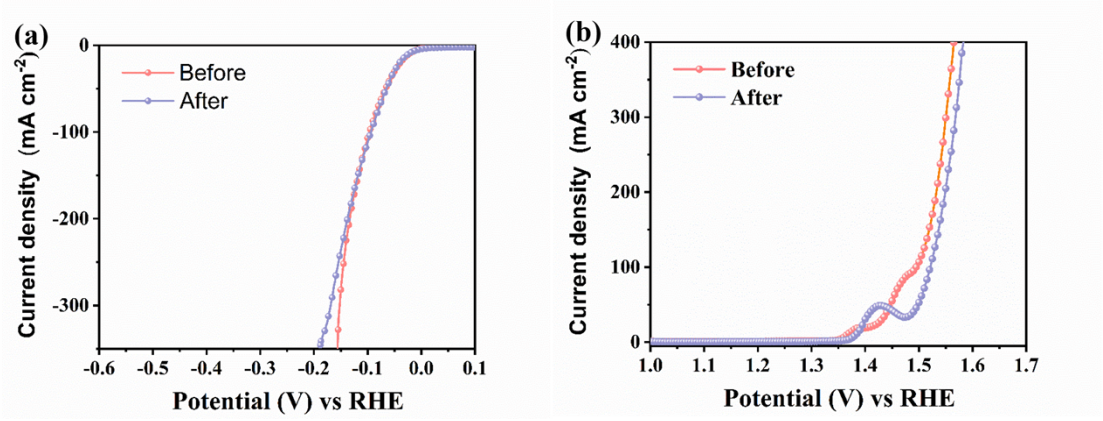

Fig. S8 LSV curves of HER and OER performance of Fe_2O_3-Pt/NF-$Fe_{2.0}$ before and after 2000 CV cycles.

Table S1. ICP text result of Fe_2O_3-Pt/NF-$Fe_{2.0}$.

Sample	Element	wt%
Fe_2O_3-Pt/NF-$Fe_{2.0}$	Pt	0.6806

Table S2. Comparison of the water splitting performance of catalysts reported in literatures in 1 M KOH solution. (Current density: 100 mA cm^{-2}).

Catalysts	Potential	Substrate	Reference
Fe_2O_3-Pt/NF	1.60 V	NF	This work
α-$Co(OH)_2$@PN/NF	1.74 V	NF	[1]
Pt-NiFe-P/NF	1.65 V	NF	[2]
S-NCFO/NF	1.53 V	NF	[3]
$CoMoO_4$ NPAs/NF	1.55 V	NF	[4]
Co_3Fe_1-LDH/rGO/NF	1.84 V	NF	[5]
$(Co_{0.3}Mn_{0.1}Ni_{0.6})(OH)_2$/NF	1.78 V	NF	[6]

Reference

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