

Facile fabrication of robust 3D Fe-NiSe nanowires supported on nickel foam as a highly efficient, durable oxygen evolution catalyst

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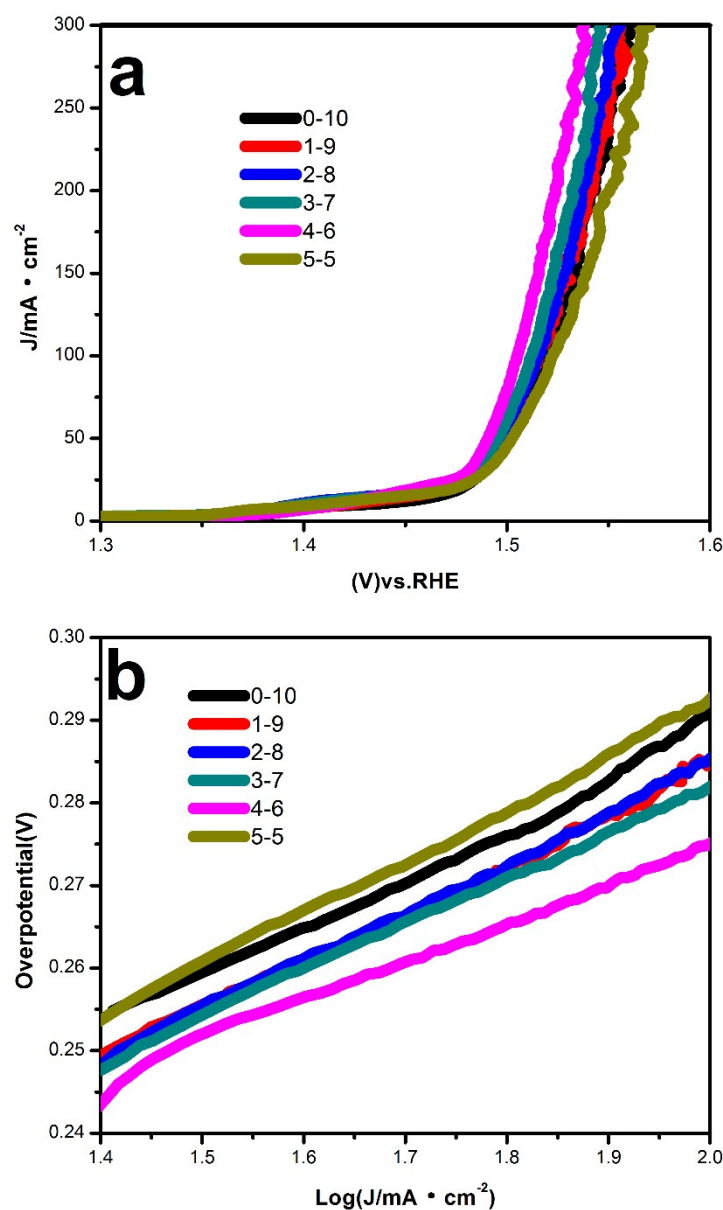


Fig. S1 a) Polarization curves for Fe-NiSe/NF prepared with different Ni/Fe ratios. b) The corresponding Tafel plots.

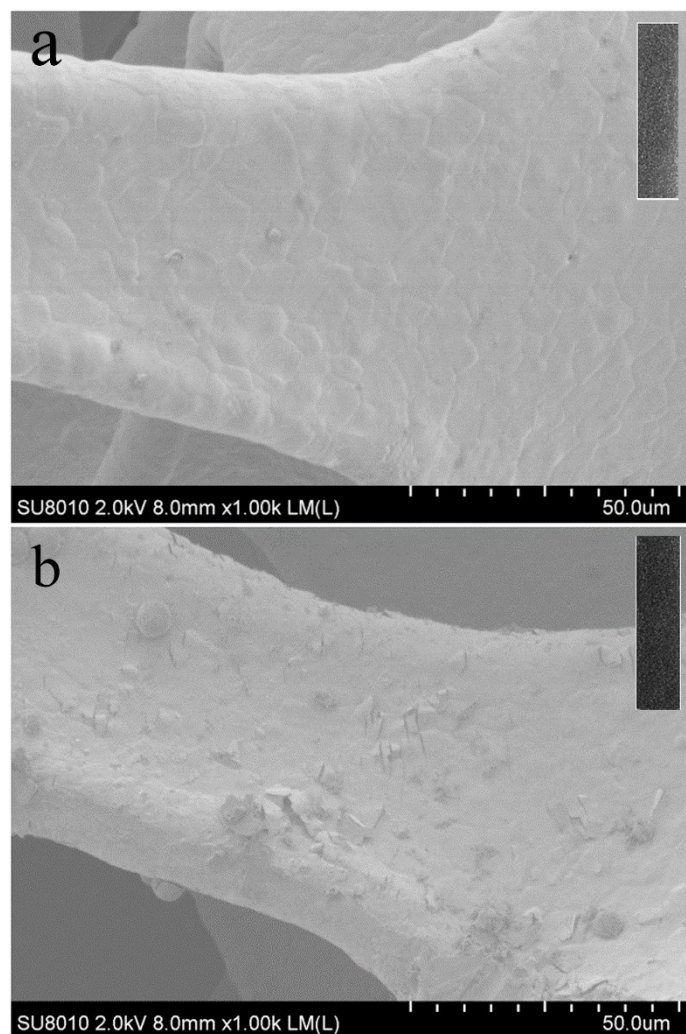


Fig. S2 SEM images of NF substrate (a) and Fe-NiSe/NF electrode (b) (insets: photographs of NF substrate and Fe-NiSe/NF).

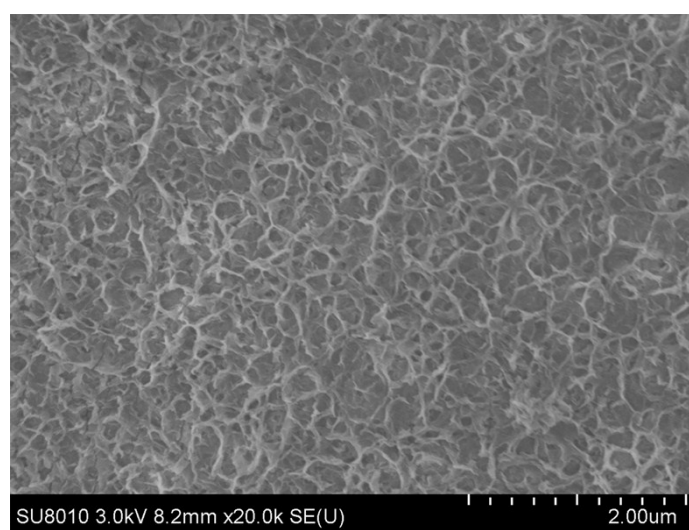


Fig. S3 SEM image of as-prepared NiSe/NF electrode.

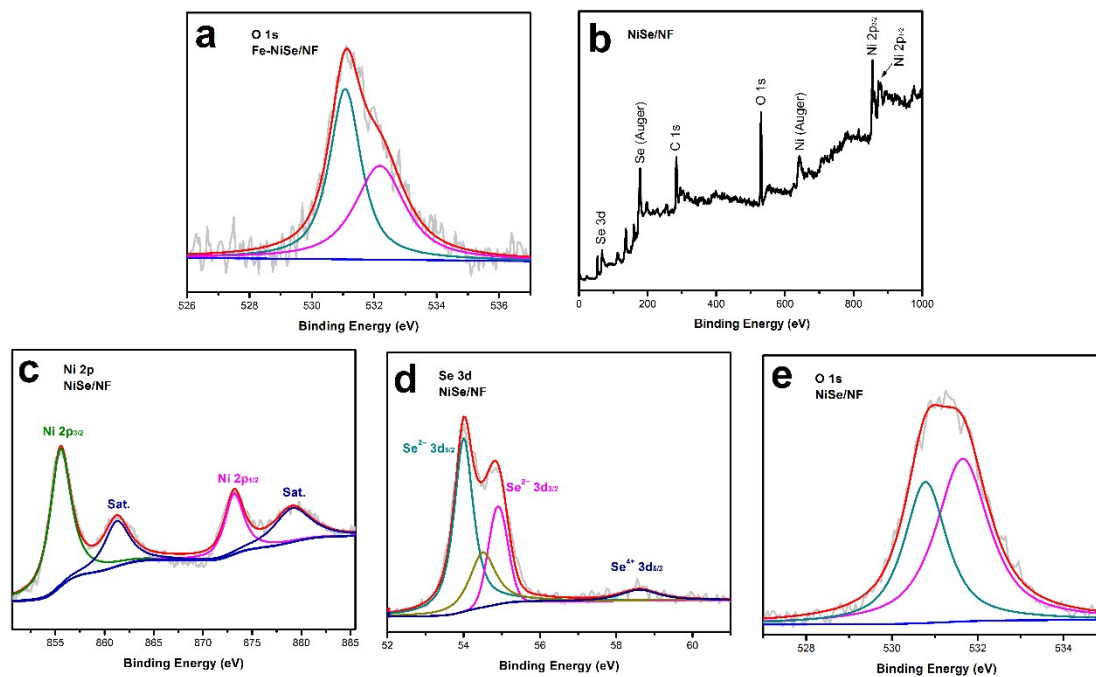


Fig. S4 a) High-resolution O 1s XPS spectrum for Fe-NiSe/NF. b) XPS survey spectrum of NiSe/NF. High-resolution c) Ni 2p, d) Se 3d, and e) O 1s XPS spectra for the NiSe/NF.

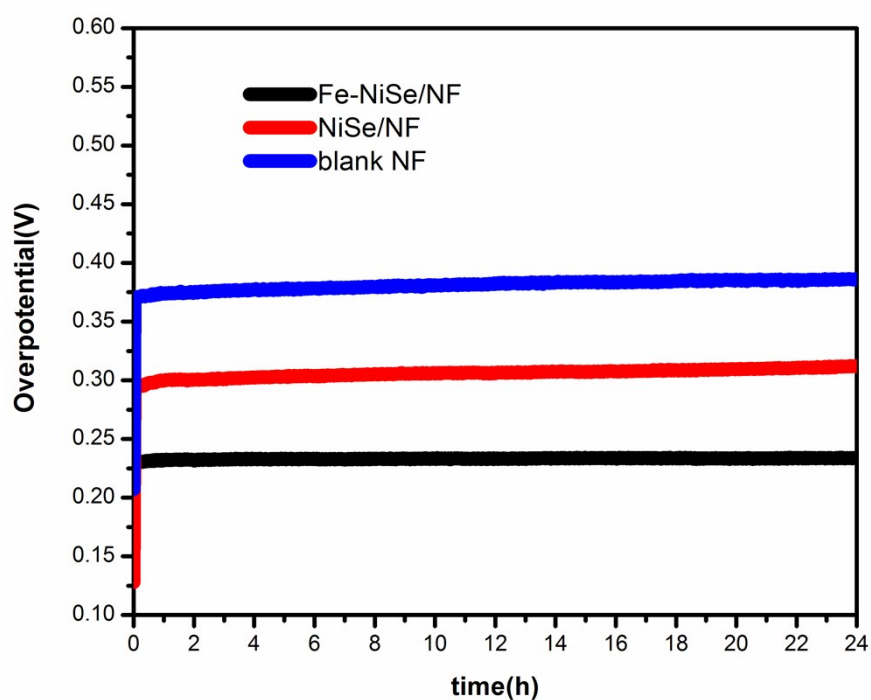


Fig. S5 Chronopotentiometric curves for Fe-NiSe/NF, NiSe/NF and blank NF with a constant current density of 10 mA cm^{-2} for 24 h.

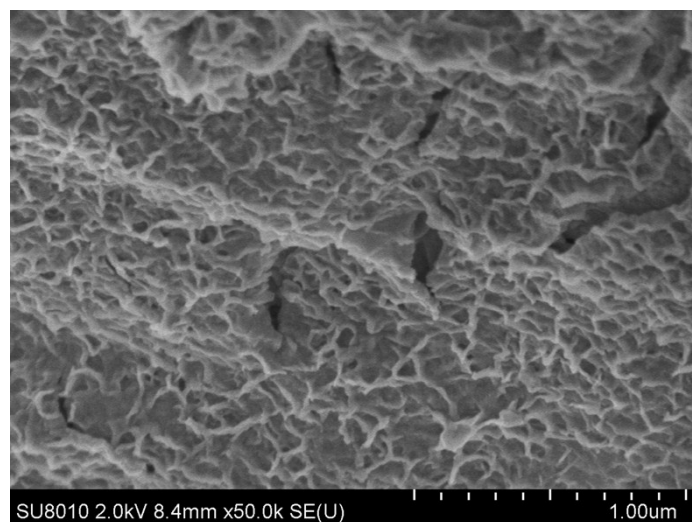


Fig. S6 SEM image of post-OER Fe-NiSe/NF electrode.

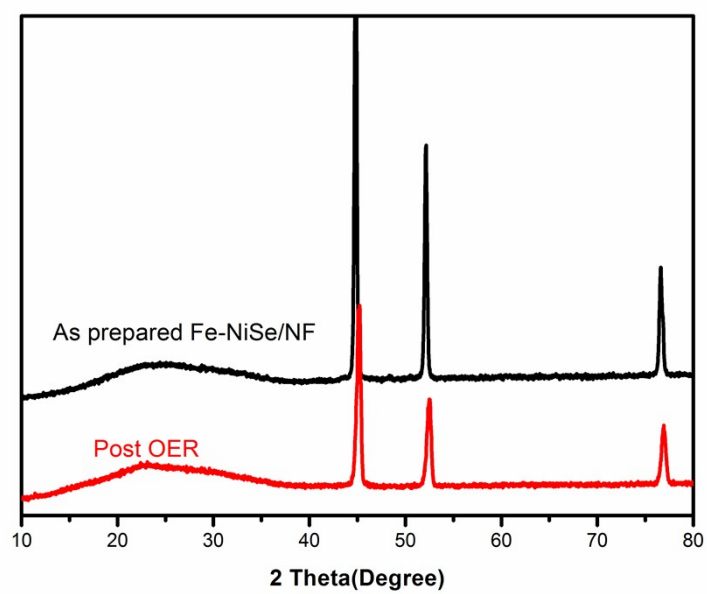


Fig. S7 XRD patterns of as-prepared and post-OER Fe-NiSe/NF.

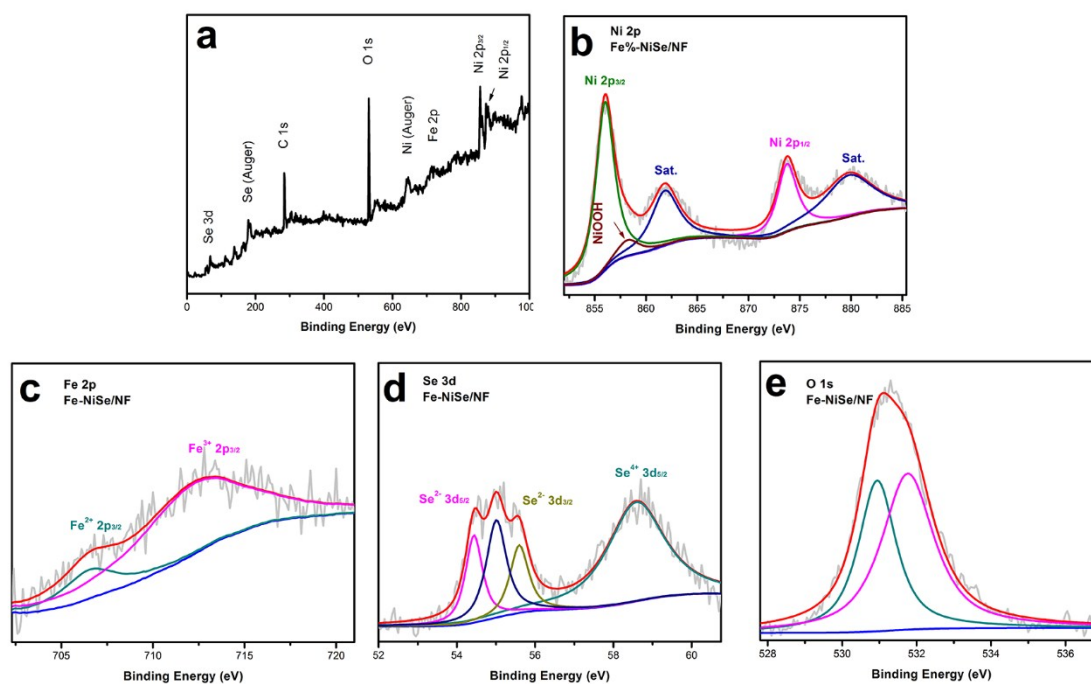


Fig. S8 a) XPS survey spectrum of the post-OER Fe-NiSe/NF. XPS spectra in the b) Ni 2p, c) Fe 2p, d) Se 3d, and e) O 1s regions for the Fe-NiSe/NF catalyst after OER electrolysis in 1 M KOH.

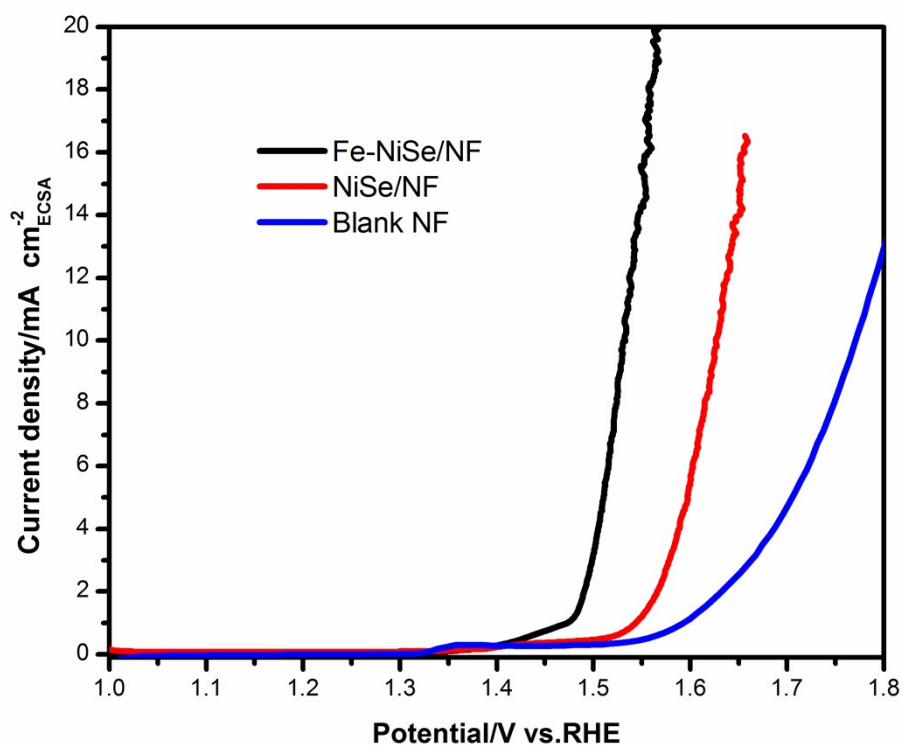


Fig. S9 LSV curves normalized with respect to ECSA for Fe-NiSe/NF, NiSe/NF, and Blank NF.

Table S1. Compositional analysis from TEM-EDS data of Fe-NiSe/NF before and after OER.

Fe-NiSe/NF	Element analysis (At.%)
	Ni:Fe:Se
Before OER	2.7 : 1.0 : 11.5
After OER	3.7 : 1.0 : 1.6