Supporting information

Dynamic activation of lattice oxygen in medium-entropy CoNiFe-based spinel oxides decorated with *in situ* formed alloy for efficient oxygen evolution reaction

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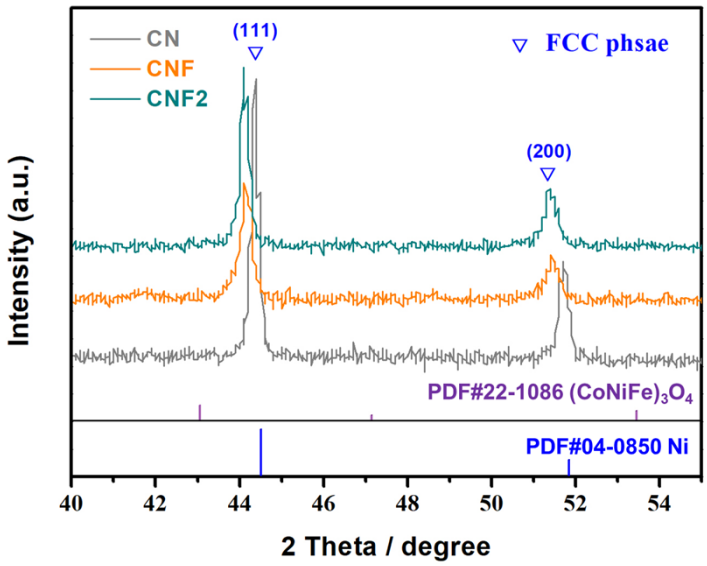

Figure S1. XRD patterns of the as-prepared catalysts.

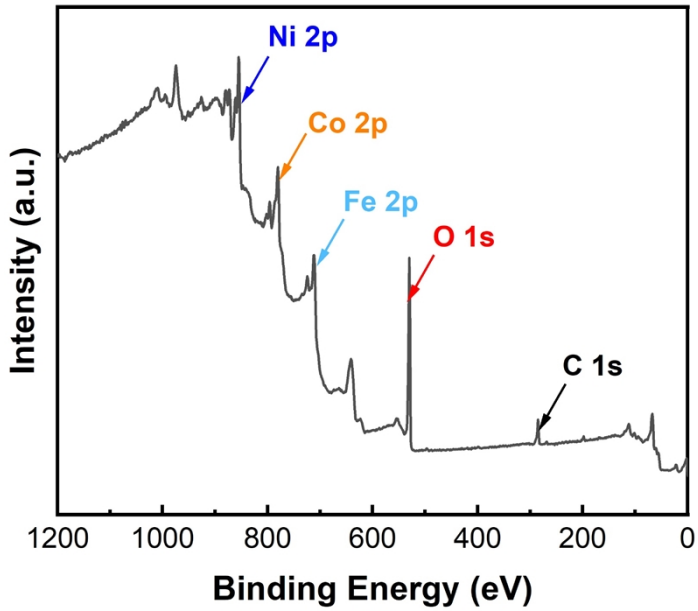

Figure S2. XPS survey spectra of the CNF catalyst.

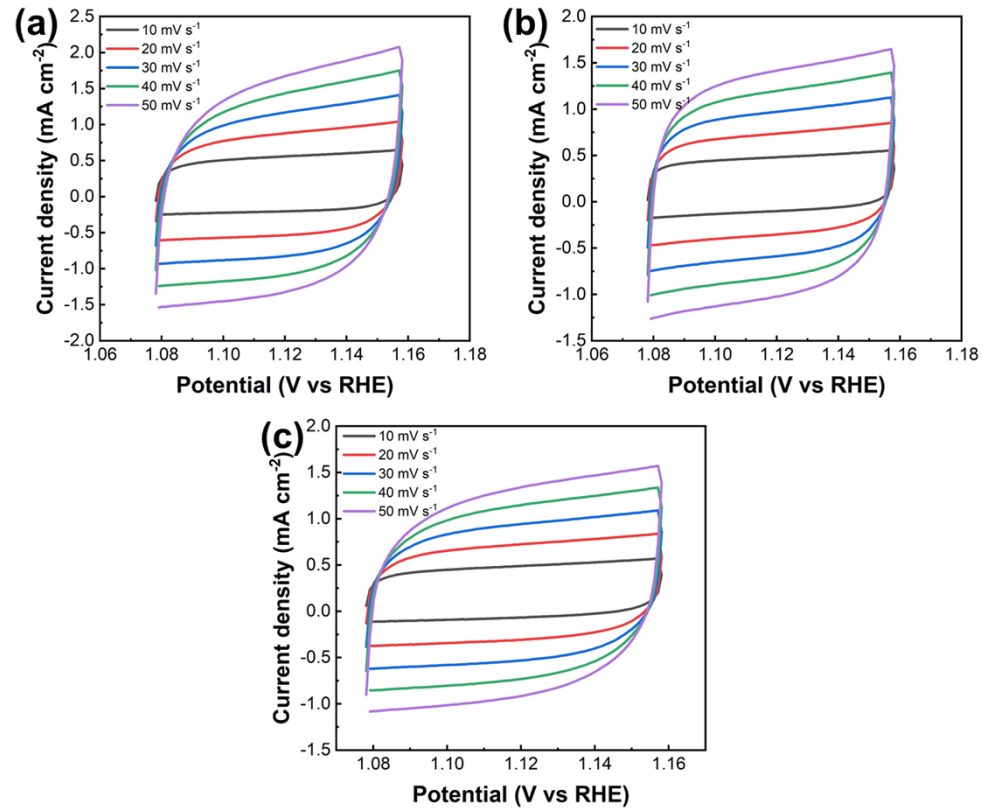

Figure S3. CV curves with various scan rates (10, 20, 30, 40, and 50 mV s^{-1}): (a) CN@NF, (b) CNF@NF, and (c) CNF2@NF electrodes.

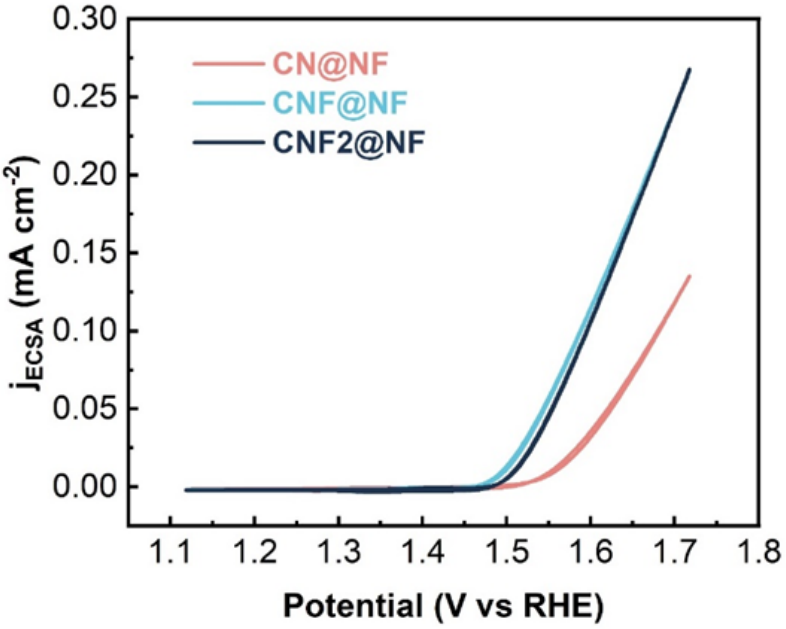

Figure S4. CV curves of working electrodes normalized by ECSA.

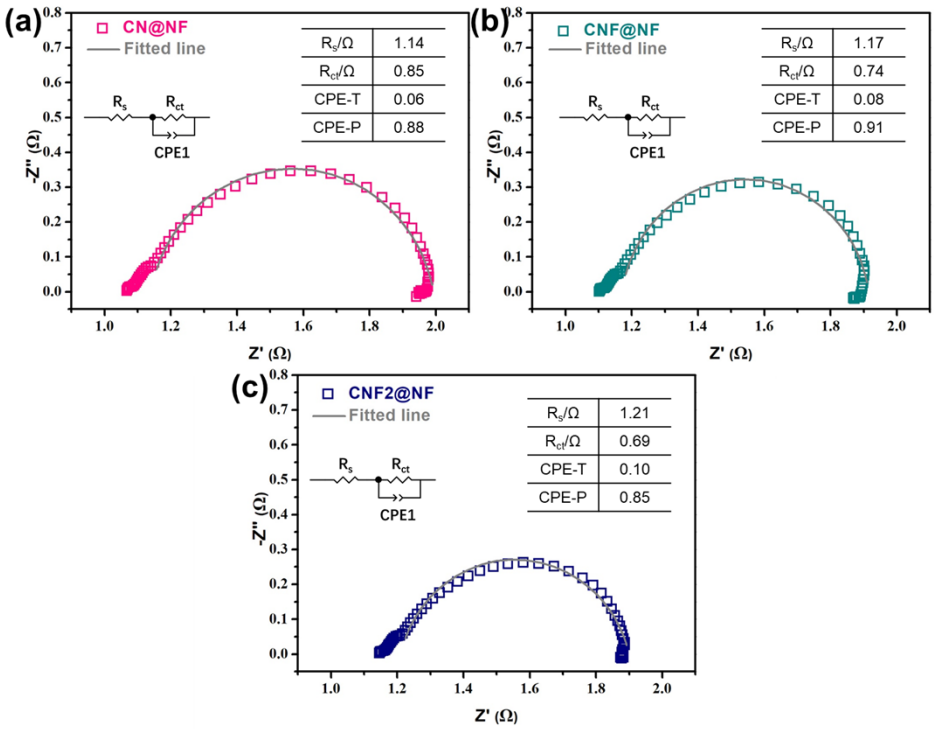

Figure S5. Nyquist plots of the as-prepared electrodes: (a) CN@NF, (b) CNF@NF, and (c) CNF2@NF.

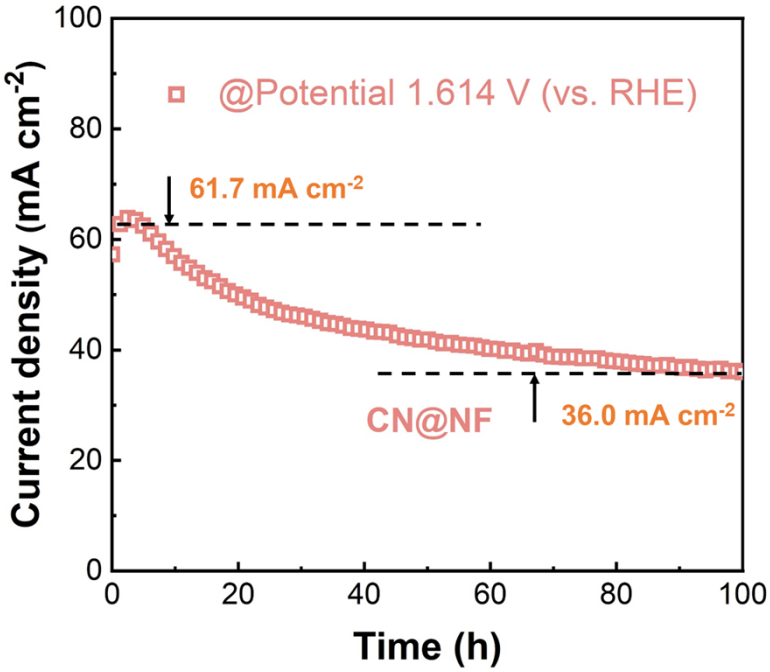

Figure S6. The i-t curve of the CN@NF electrode.

Table S1. OER performances of electrocatalysts in recent literatures.

Electrocatalysts	Electrolyte	η_{10}/mV	Tafel slope/ mV dec^{-1}	References
$(Cr_{0.2}Mn_{0.2}Fe_{0.2}Co_{0.2}Ni_{0.2})_3O_4$	1 M KOH	332	54.5	*Chemical Engineering Journal 431 (2022) 133448*
$La_{0.2}CoFe_{1.8}$/3D-G	1 M KOH	320	140	*Journal of Energy Chemistry 94 (2024) 778–788*
$Ni(Co_{1.98}Ni_{0.02})O_4$	1 M KOH	349	58	*International Journal of Hydrogen Energy 71 (2024) 8–13*
NdNi-Co_3O_4	1 M KOH	269	54	*Applied Catalysis B: Environment and Energy 352 (2024) 123990*
$Zn_{0.2}Co_{0.8}Mn_2O_4$/CNT	1 M KOH	312	58.4	*Journal of Alloys and Compounds 1000 (2024) 175089*
$Ni_{1/2}Fe$–S/$NiFe_2O_4$	1 M KOH	248	53	*Int. J. Miner. Metall. Mater. 29 (2022) 1120–1131*
$(Cr_{0.2}Mn_{0.2}Fe_{0.2}Ni_{0.2}Zn_{0.2})_3O_4$	1 M KOH	295	53.7	*J. Mater. Chem. A 10 (2022) 17633–17641*
$(Fe_{0.2}Co_{0.2}Ni_{0.2}Mn_{0.2}Cr_{0.2})_3O_4$ @CC	1 M KOH	287	95.76	*Inorg. Chem. 62 (2023) 19052–19059*
CNF@NF	**1 M KOH**	**276**	**50.5**	**This work**