Electronic Supplementary Information (ESI)

CeO_x-anchored β-$Ni(OH)_2$ nanosheets onto nickel foam for efficient energy-saving hydrogen production via an electrocatalytic glucose oxidation reaction

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Supplementary Information available: [details of any supplementary information available should be included here]. See DOI: 10.1039/x0xx00000x

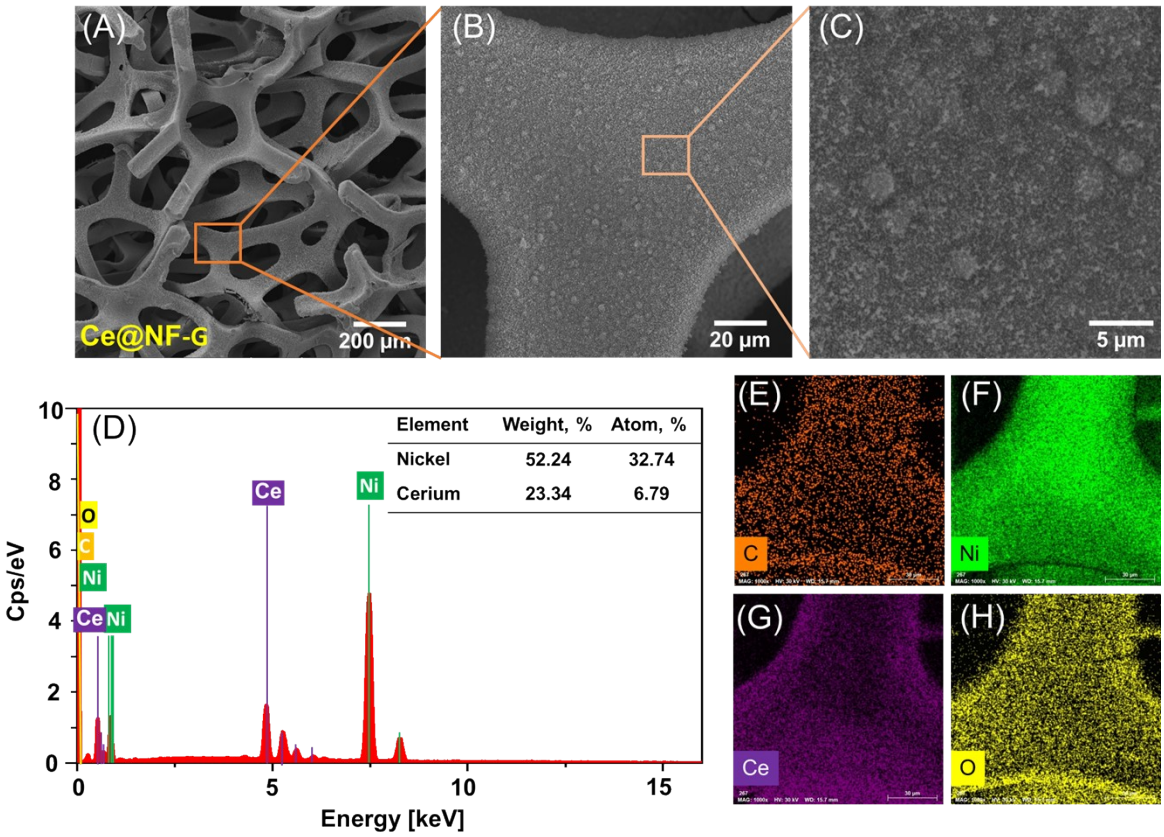

Figure S1. SEM image (A-C), EDX spectrum (D) and element mapping images (E-H) of as-prepared Ce@NF-G

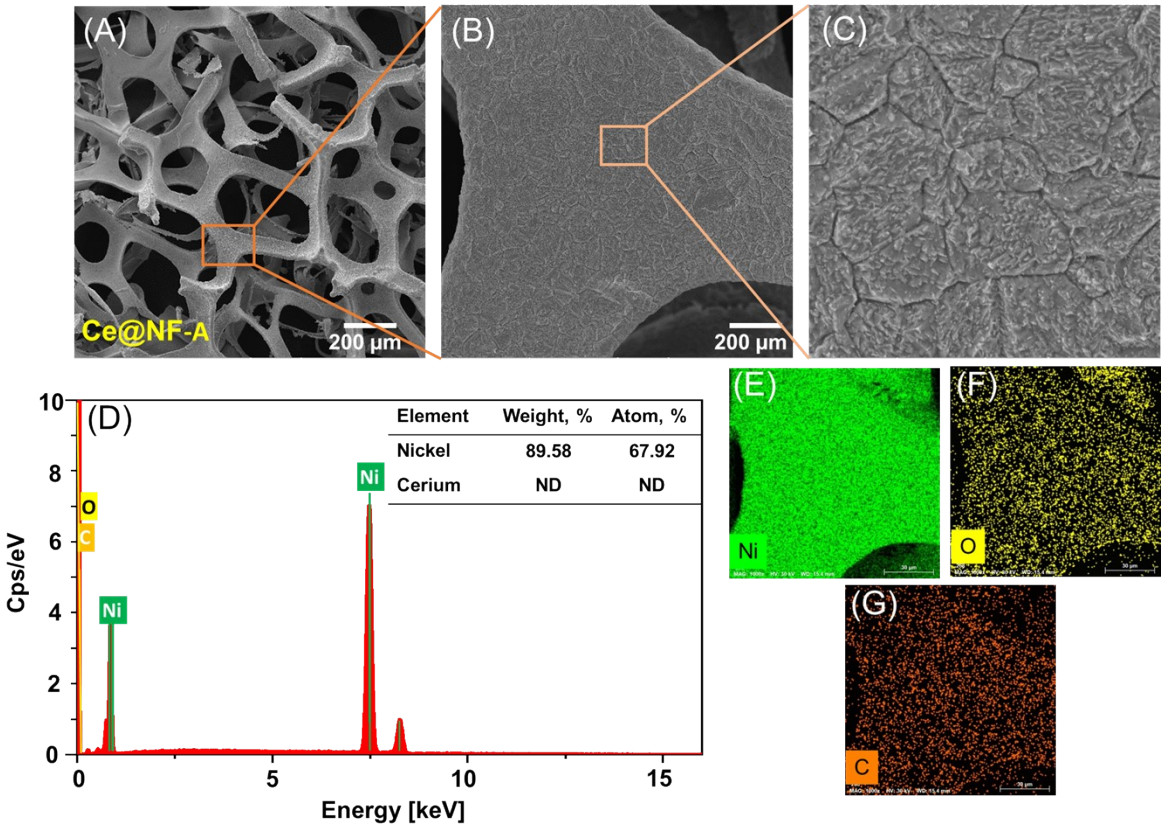

Figure S2. SEM image (A-C), EDX spectrum (D) and element mapping images (E-H) of as-prepared Ce@NF-A

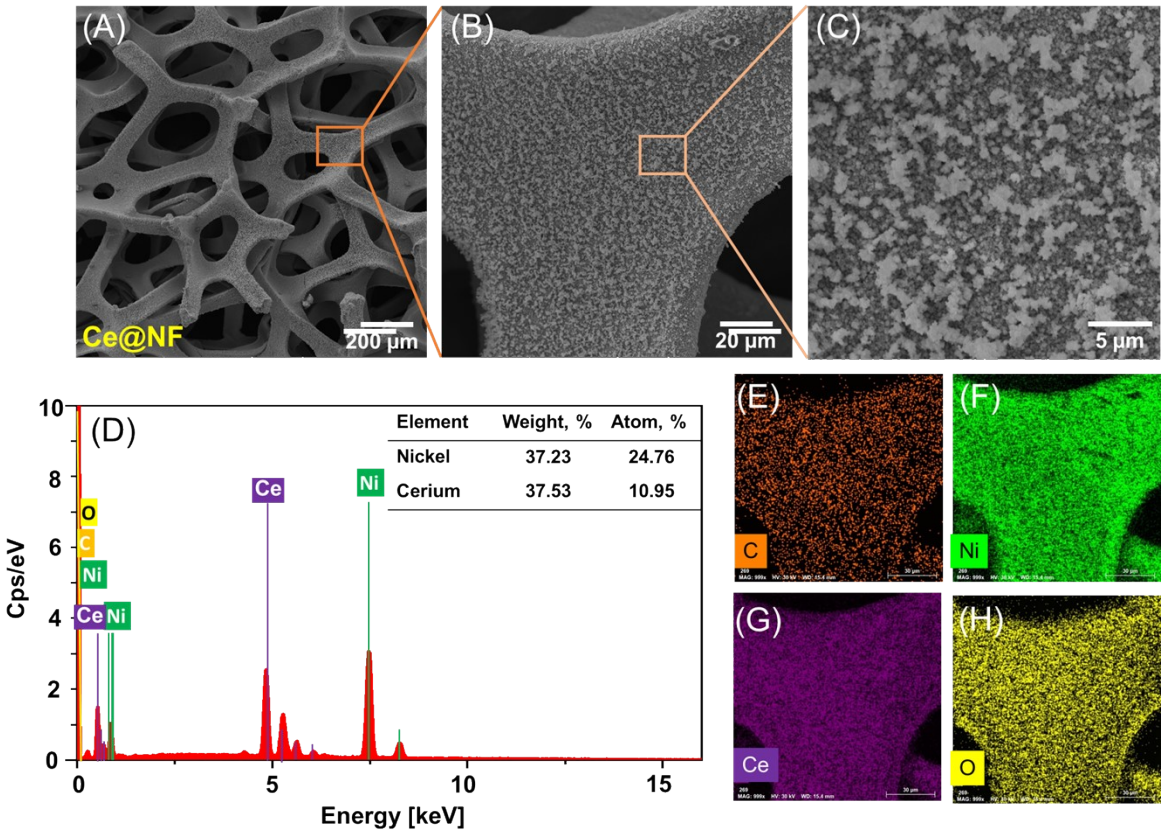

Figure S3. SEM image (A-C), EDX spectrum (D) and element mapping images (E-H) of as-prepared Ce@NF

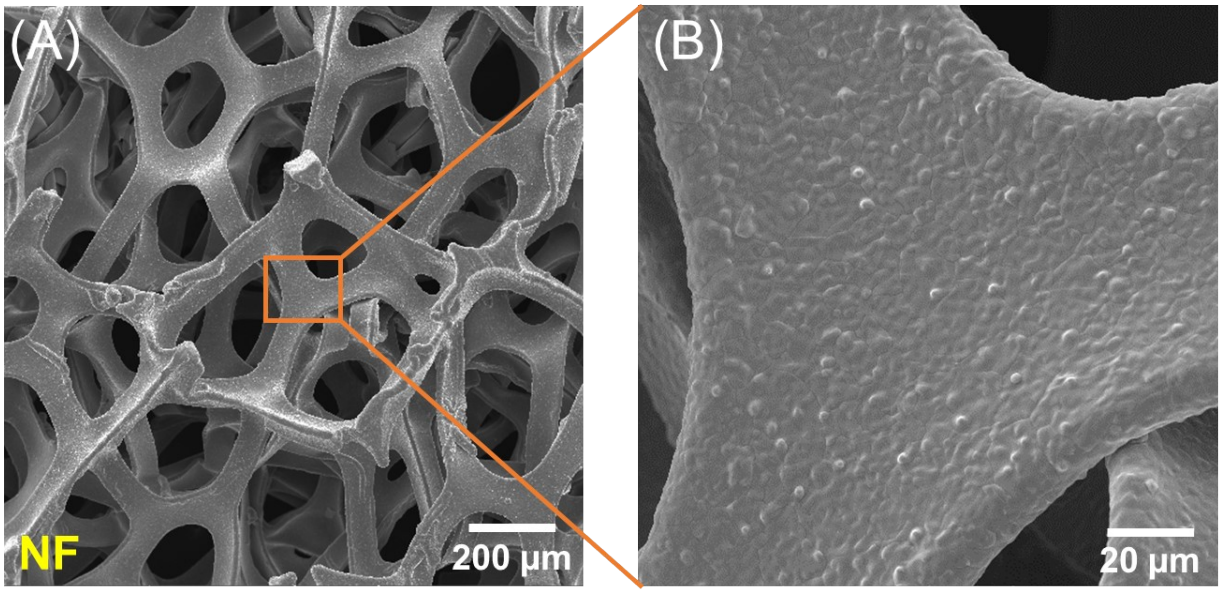

Figure S4. SEM image of bare NF

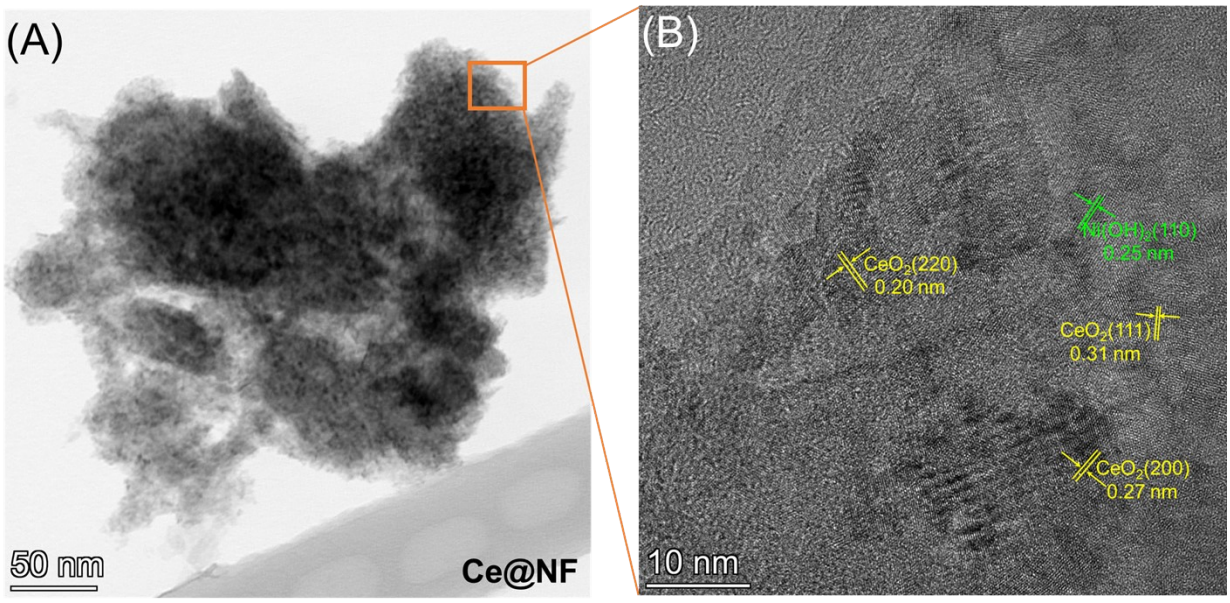

Figure S5. HR-TEM image of as-prepared Ce@NF samples

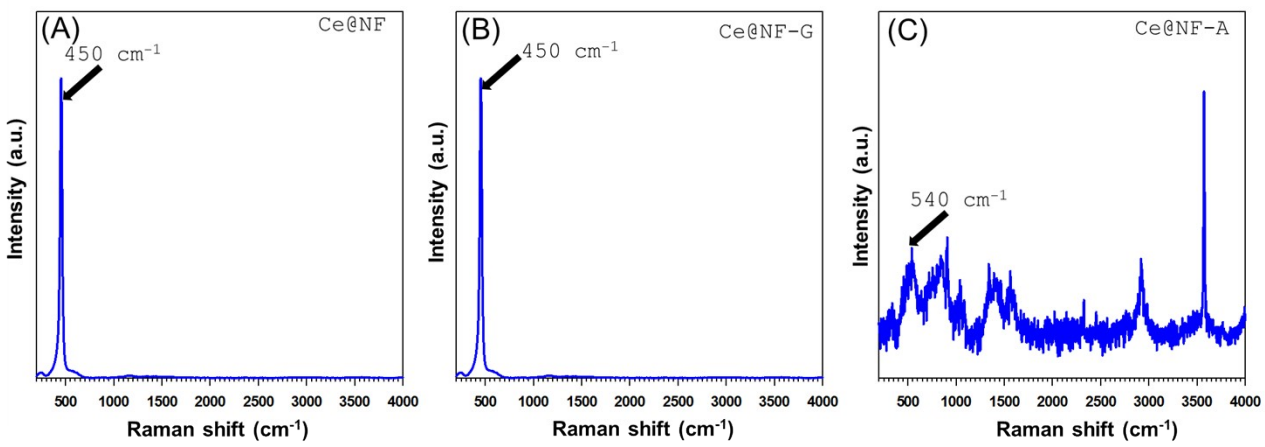

Figure S6. Raman spectra of as-preapred samples

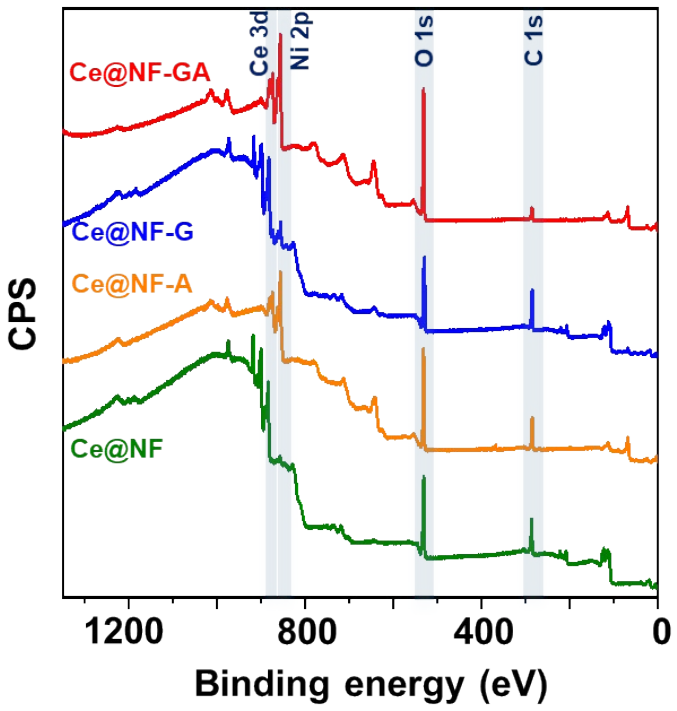

Figure S7. XPS survey spectra of as-prepared samples

Table S1. The area ratio of Ce^{3+}/Ce^{4+}

Sample	Ce^{3+}/Ce^{4+} ratio
Ce@NF-GA	0.46
Ce@NF-G	0.24
Ce@NF	0.05

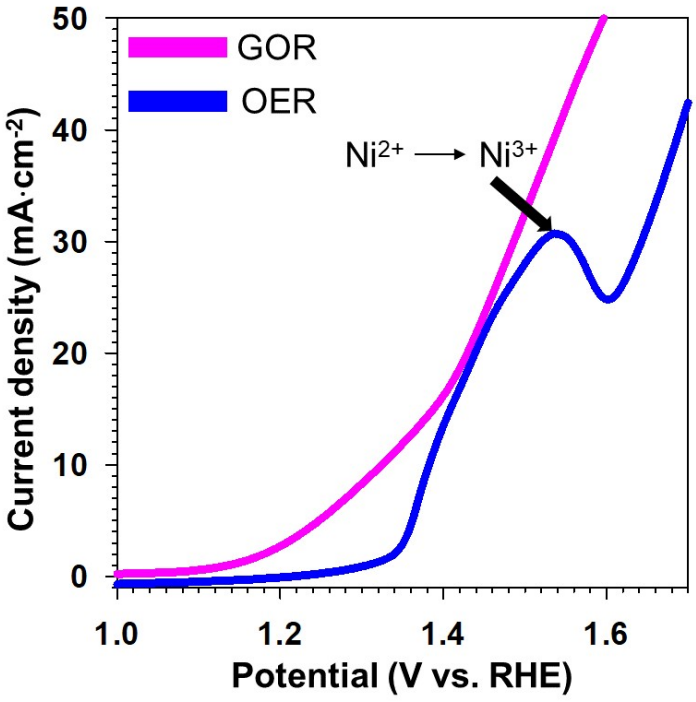

Figure S8. LSV curves of Ce@NF-GA electrode with and without glucose

Table S2. Comparison of the potentials required to the current density of 10 $mA \cdot cm^{-2}$ for our as-synthesized catalyst (Ce@NF-GA) and available reported GOR catalysts

Sample	Potential at 10 $mA \cdot cm^{-2}$	Electrolyte	References
Ce@NF-GA	1.31 V vs RHE	1 M KOH & 0.1 M glucose	This work
(NiVP/Pi–VC)	1.3 V vs RHE	1 M KOH & 0.1 M glucose	1
Co(OH)2/CC	1.34 V vs RHE	1 M KOH & 0.1 M glucose	2

Co-Ni	1.39 V vs RHE	1 M KOH & 0.1 M glucose	3
CNTs@Co/CoP	1.42 V vs RHE	1 M KOH & 0.5 M glucose	4
Ni-MoS2 NPs	1.46 V vs RHE	1 M KOH & 0.3 M glucose	5

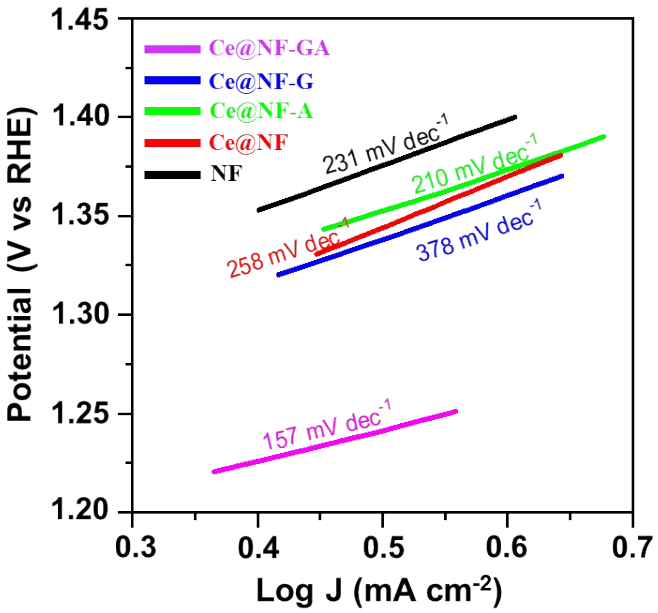

Figure S9. LSV- derived Tafel slope of as-prepared samples at scan rate of 0.1 mV s^{-1}

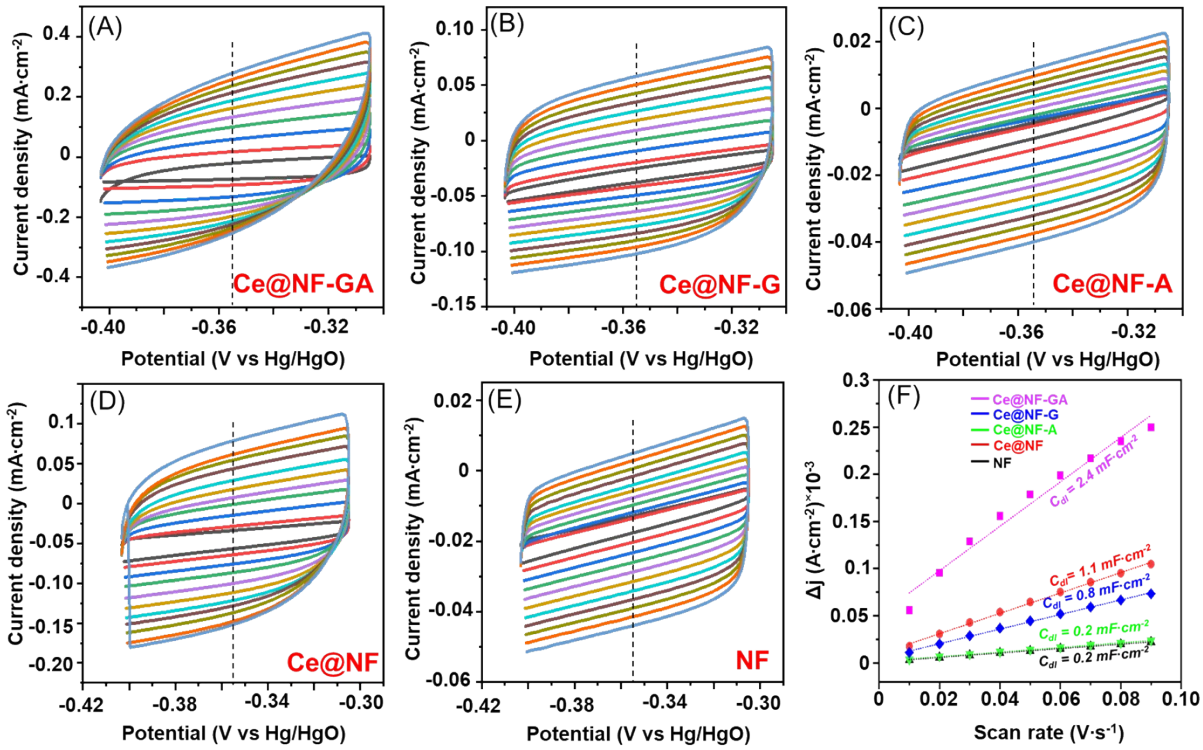

Figure S10. Electrochemically active surface area (ECSA) curves and eelectrochemical double-layer capacitance (C_{dl}) values in GOR of as-prepared catalysts

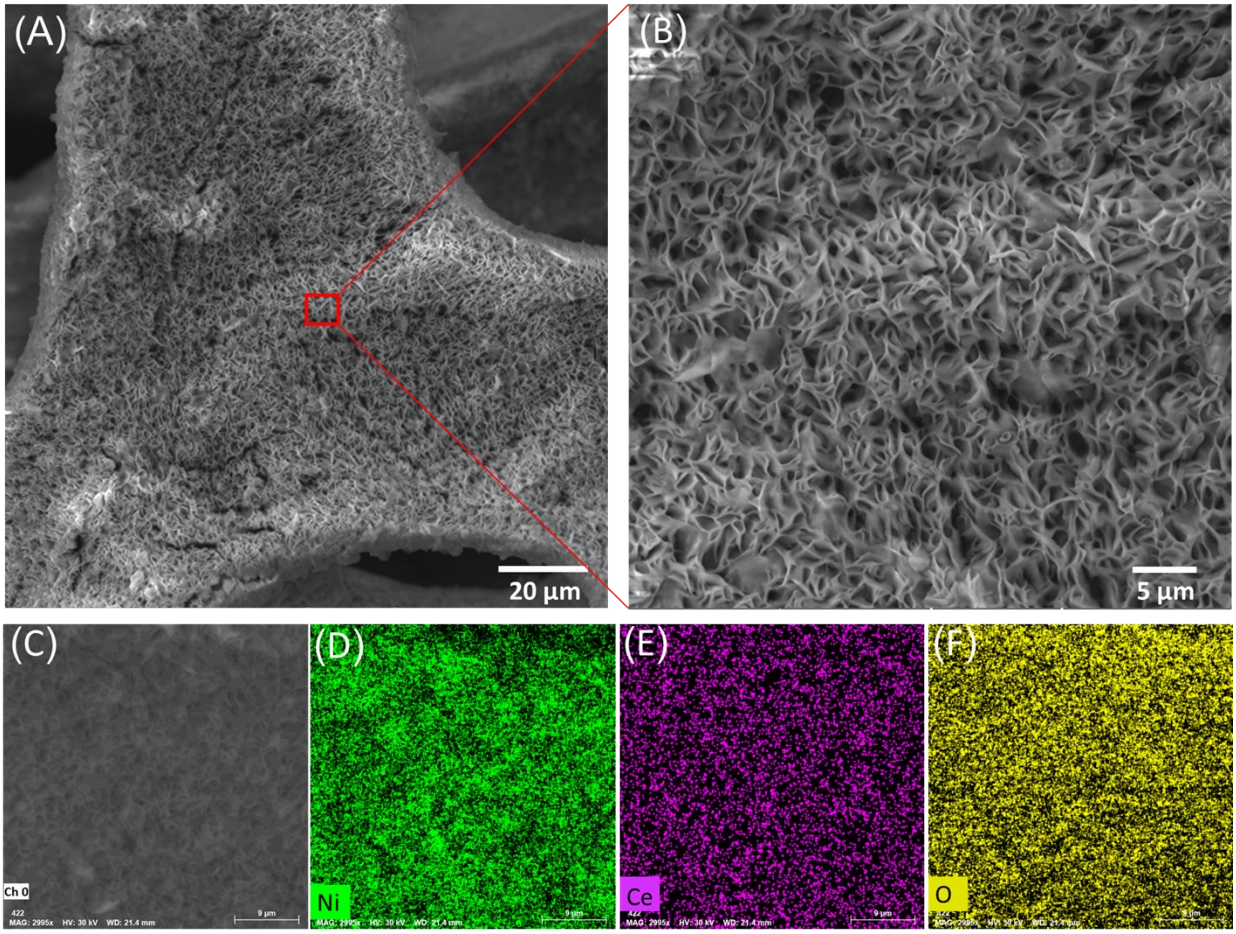

Figure S11. SEM images (A-B) and element mapping image (C-F) of Ce@NF-GA after stability testing

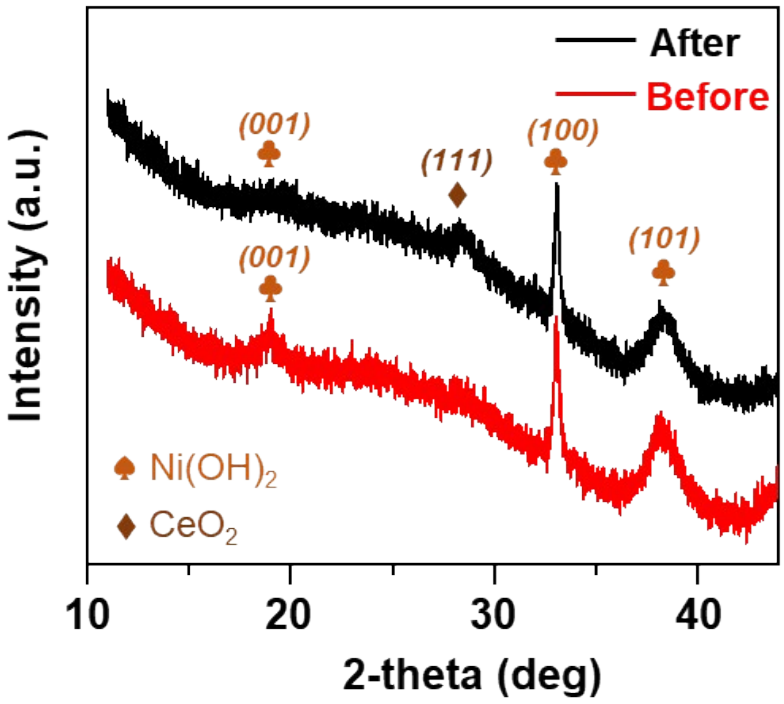

Figure S12. XRD patterns of Ce@NF-GA sample before and after stability testing

References

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