Electronic Supplementary Material (ESI) for RSC Advances.

Iron and nickel co-doped cobalt hydroxide nanosheets with enhanced activity for oxygen evolution reaction

Guangfeng Zeng,[a] Mei Liao,[a] Caixia Zhou,[a] Xiaojuan Chen,[b] Yujue Wang,[a] and Dan Xiao*[ab]

[a]College of Chemistry, Sichuan University, Chengdu 610065, P . R. China

Tel: +86-28-85415029, Fax: +86-28-85416029 Email: xiaodan@scu.edu.cn.

[b]College of Chemical Engineering, Sichuan University, Chengdu 610065, P. R. China

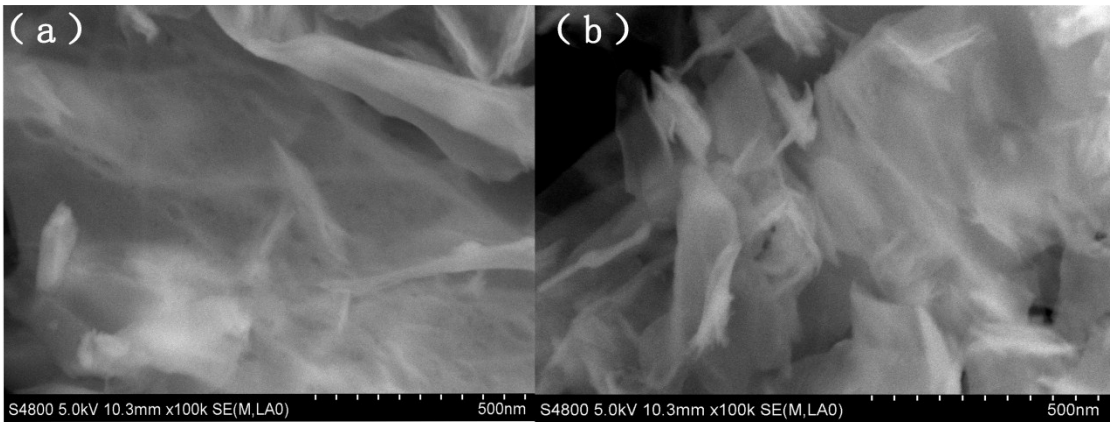

Fig S1 (a) and (b) SEM images of $Co(OH)_2$ nanosheets

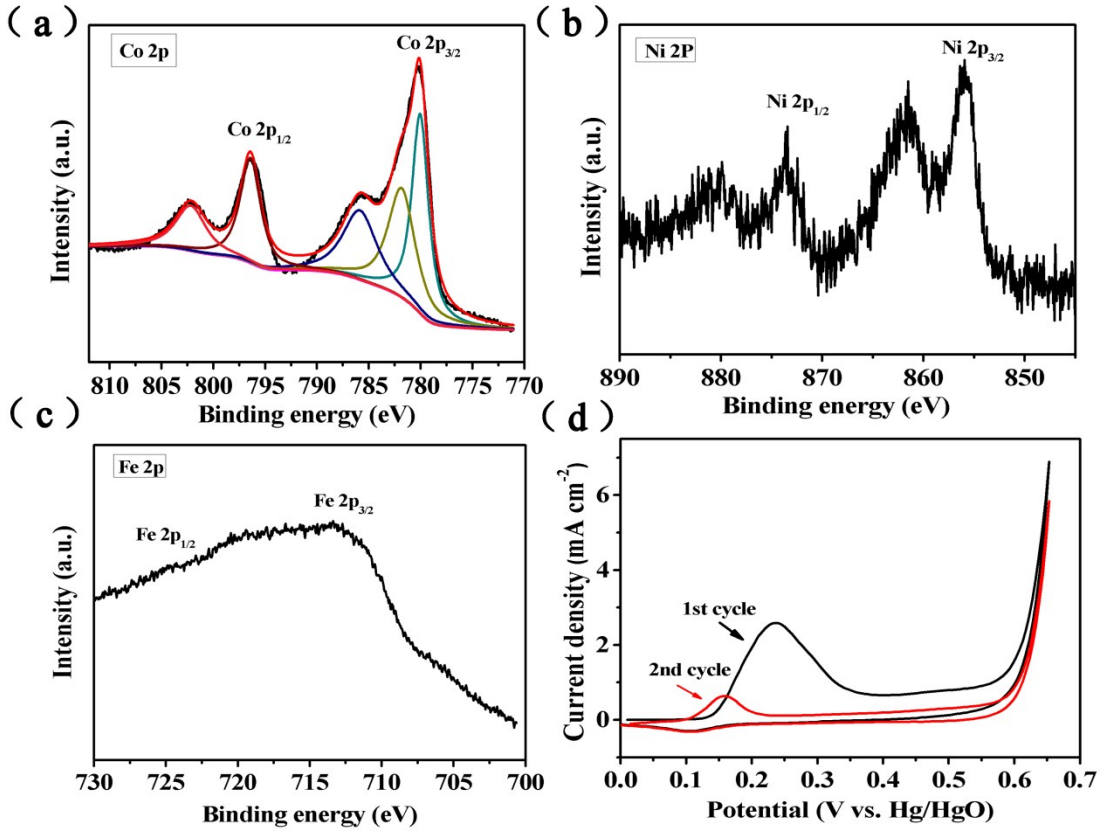

Fig S2 （a）The Co 2p deconvolution spectra;（b, c）Ni 2p and Fe 2p spectra of Co-Ni-Fe511 catalyst after OER test; (d) The CV cycles of $Co(OH)_2$ at scan rates of 10 mV s^{-1}.

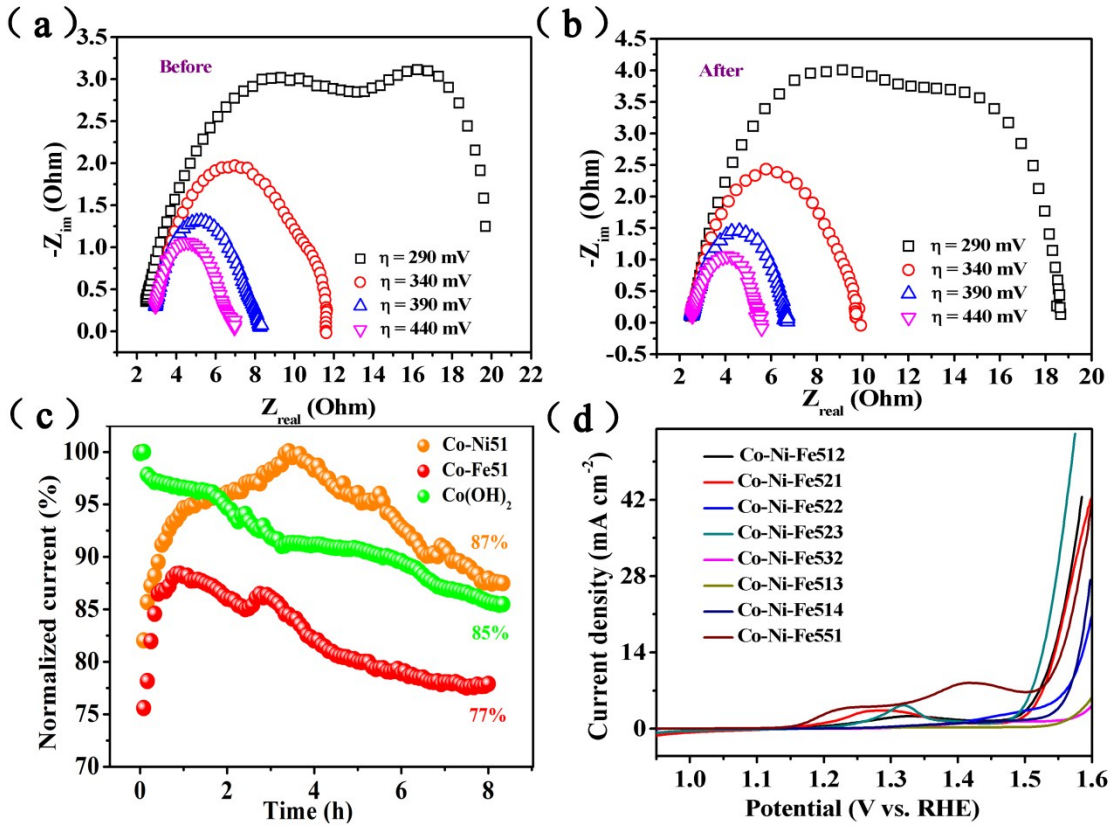

Fig S3 (a, b) The EIS measurements of the Co-Ni-Fe511 catalyst before and after stability at

different overpotential; (c) the stability test of Co-Ni51, Co-Fe51 and $Co(OH)_2$; (d) Linear sweep voltammetric (LSV) curves of other ratios of iron and nickel co-doped cobalt hydroxide.

Catalyst	Catalyst loading	electrolyte	Overpotential（η） at 10 mA(mg cm^{-2})	Tafel slope	References
FeOOH/Au	—	1 M KOH	340 mV	46 mV dec^{-1}	1
Ni(OH)2/NiOOH	—	1 M KOH	280 mV	40 mV dec^{-1}	2
Ni-Fe (oxy)hydroxide	—	1 M KOH	275 mV	—	3
CoOOH	—	0.1 M KOH	570 mV	55 mV dec^{-1}	4
G/NiFe	0.25 mg/cm^{-2}	0.1 M KOH	390 mV	67 mV dec^{-1}	5
γ - CoOOH	—	1 M KOH	300 mV	38 mV dec^{-1}	6
$Ni(OH)_2$/NiOOH	—	Fe-saturated 0.1M KOH	310 mV	—	7
CoOOH	—	1 M KOH	486 mV	54 mV dec^{-1}	8
Co-Ni-Fe511	0.12 mg/cm^{-2}	1 M KOH	288 mV	43 mV dec^{-1}	This work

Table S1 Comparison of Co-Ni-Fe511 catalyst with the novel metal oxyhydroxide OER catalysts

Notes and references

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