

# 3D Network nanostructured NiCoP nanosheets supported on N-doped carbon coated Ni foam as a highly active bifunctional electrocatalyst for hydrogen and oxygen evolution reactions

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## Electronic Supplementary Material

**Table S1.** The overpotential and Tafel slope of all the compared catalysts for HER.

sample	Overpotential at 10 mA cm <sup>-2</sup> (mV)	Tafel slope (mV dec <sup>-1</sup> )
NiCoP/NF@NC	31.8	62.3
NiP/NF@NC	126.6	80.1
CoP/NF@NC	112.1	77.8
Pt/C-NF@NC	10.5	41.3
NiCoP-NF@NC	279.3	109.6

**Table S2.** The overpotential and Tafel slope of all the compared catalysts for OER.

sample	Overpotential at 10 mA cm <sup>-2</sup> (mV)	Tafel slope (mV dec <sup>-1</sup> )
NiCoP/NF@NC	308.2	94.5
NiP/NF@NC	349.1	390.4

CoP/NF@NC	383.3	394.9
RuO <sub>2</sub> -NF@NC	210.4	135.0
NiCoP-NF@NC	362.7	155.2

**Table S3.** The fitting results of the Nyquist plots in Fig. 5C.

sample	R <sub>s</sub>	capaciance	R <sub>ct</sub>
NiCoP/NF@NC	3.1	5.629	7.3
NiP/NF@NC	3.8	5.188	12.9
CoP/NF@NC	3.5	5.244	10.5
RuO <sub>2</sub> -NF@NC	6.4	18.07	21.0
NiCoP-NF@NC	7.3	7.471	11.6