Supporting

Robust NiCoP@FeP derived from Prussian blue analog for efficient overall water splitting

Yaoyao Pan[a], Xiaoyu Huang[a], Yin Huang[a], Congyi Sheng[b], Xiuhua Wang[a]*

[a]College of Chemistry and Materials Science, The Key Laboratory of Functional Molecular Solids, Ministry of Education, Anhui Laboratory of Molecular-Based Materials, Key Laboratory of Electrochemical Clean Energy of Anhui Higher Education Institutes, Anhui Normal University, Wuhu 241000, P. R. China.

[b]School of Chemical Engineering and Technology, Sun Yat-sen University, Guangzhou 510275, P. R. China

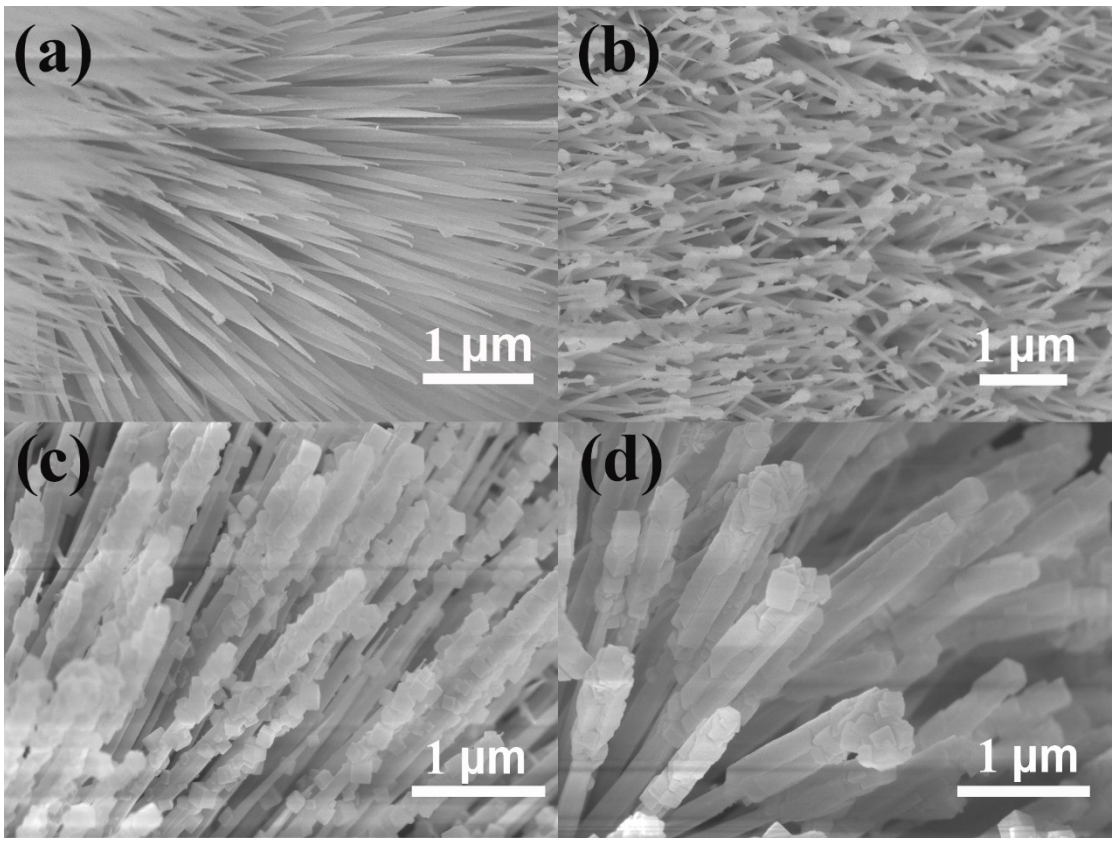

Fig. S1. SEM images of (a)NiCo precursor@PBA (3 h), (b) NiCo precursor@PBA (6 h), (c) NiCo precursor@PBA (12 h) and (d) NiCo precursor@PBA (24 h).

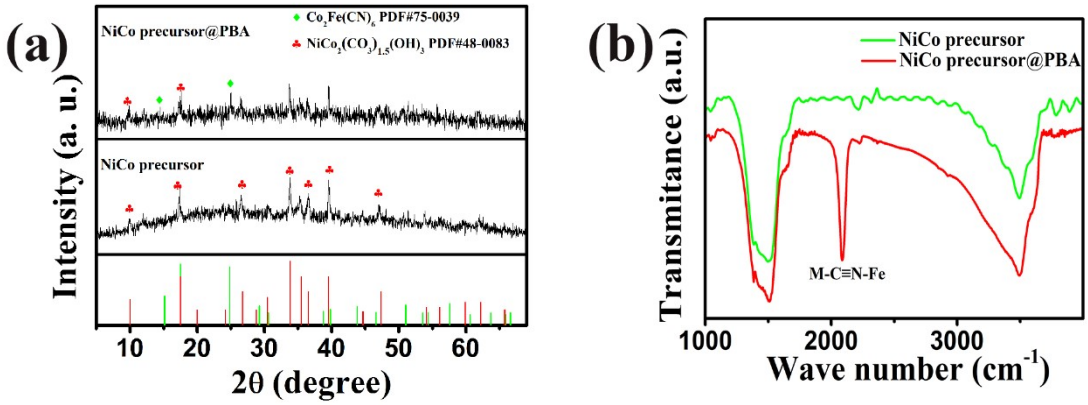

Fig. S2. (a) XRD and (b) FTIR spectra of NiCo precursor and NiCo precursor@PBA

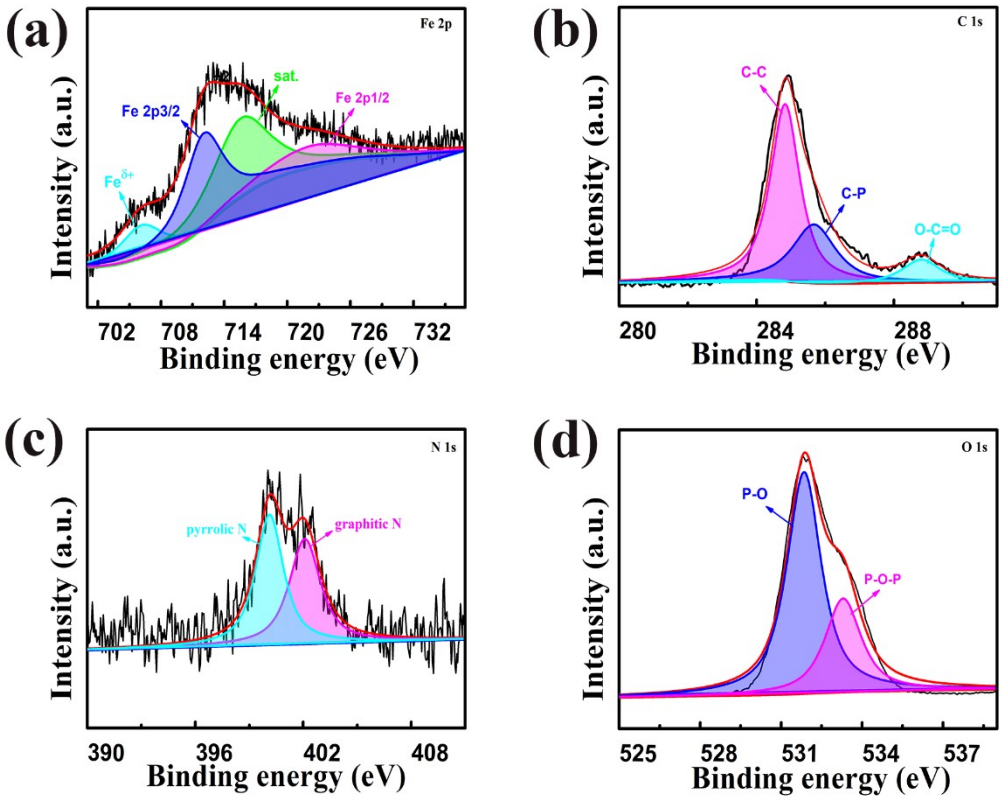

Fig. S3. High-resolution XPS profiles of (a) Fe 2p, (b) C 1s, (c) N 1s and (d) O 1s for NiCoP@FeP.

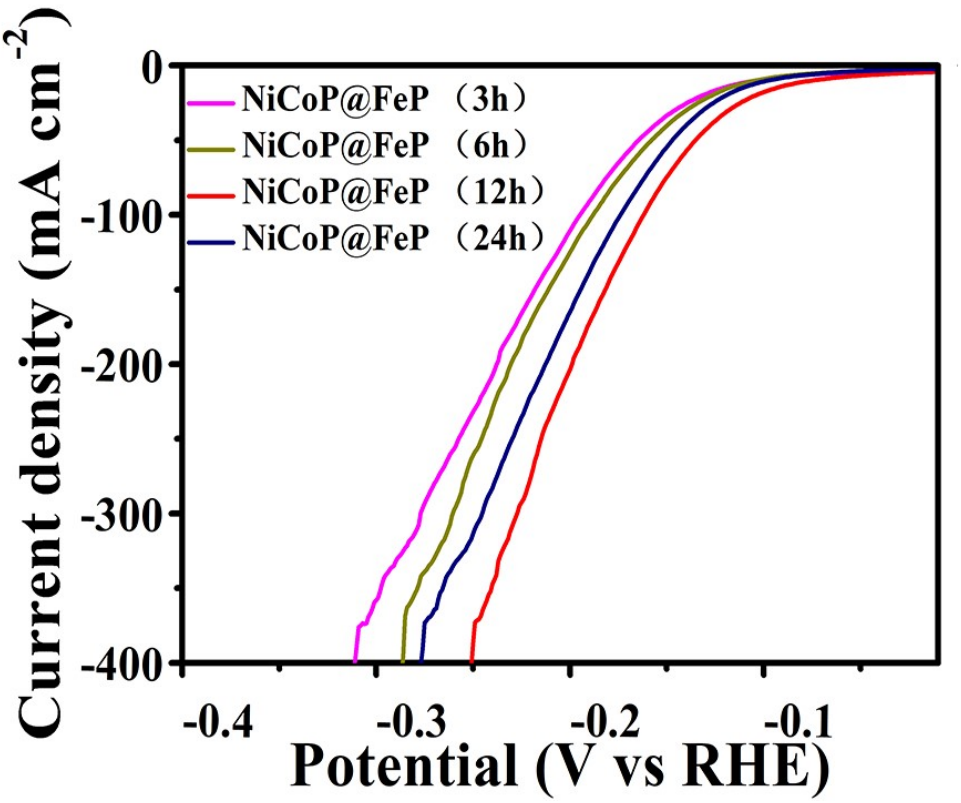

Fig. S4. HER polarization curves of NiCoP@FeP (3 h), NiCoP@FeP (6 h), NiCoP@FeP (12 h) and NiCoP@FeP (24 h)

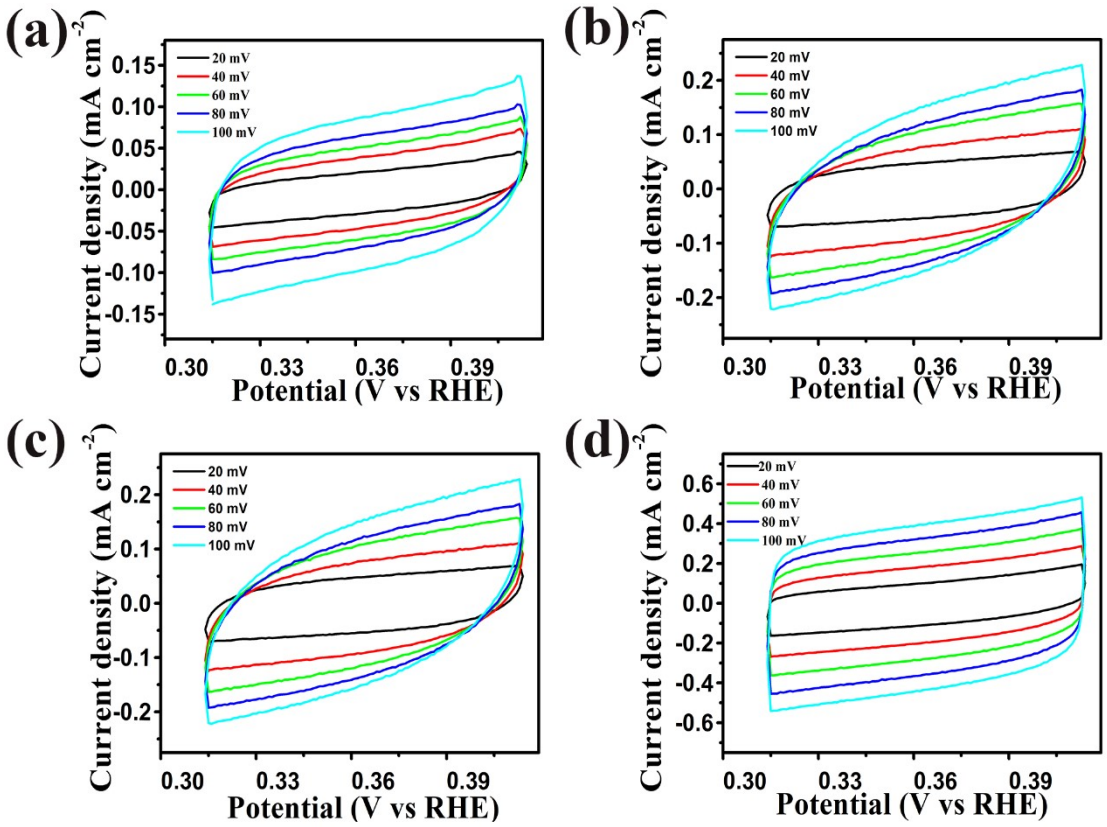

Fig. S5. CV curves showing the capacitive behaviors of electrochemical double layer of (a) NiCo precursor, (b) NiCo precursor@PBA, (c) NiCoP, (d) NiCoP@FeP.

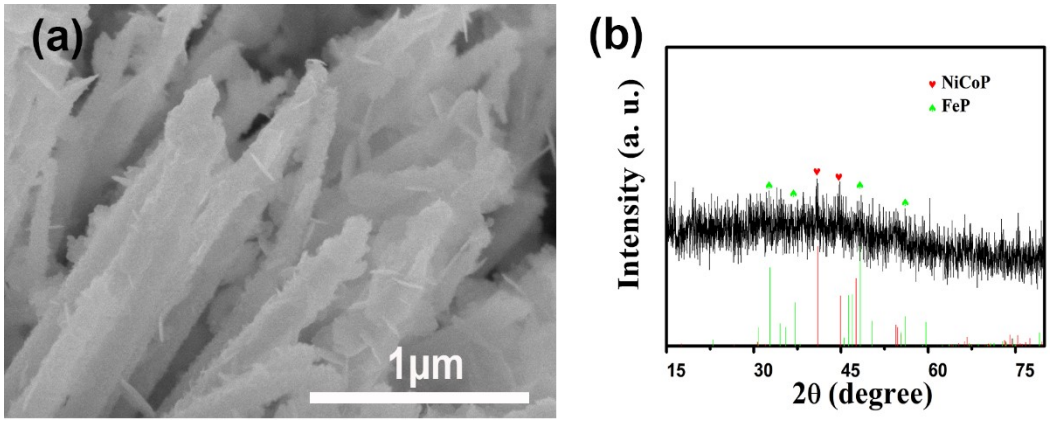

Fig. S6. (a) SEM images and (b) XRD of the NiCoP@FeP catalyst after 1000 cycles for HER test.

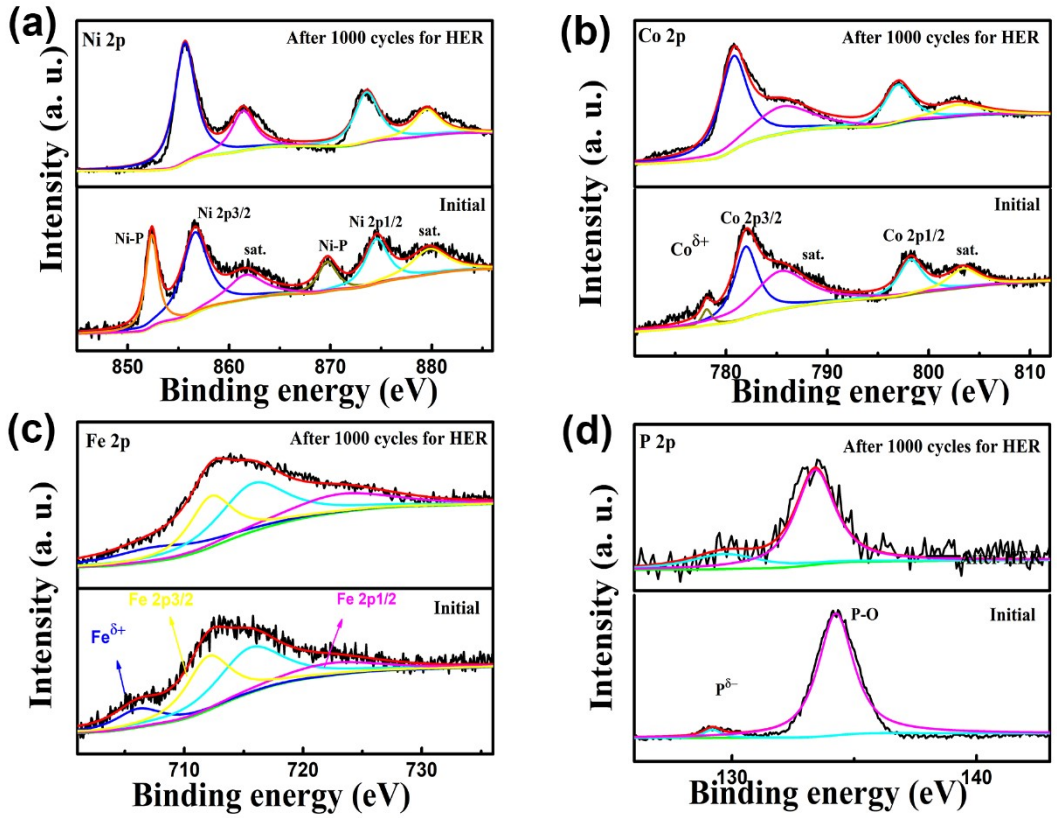

Fig. S7. The high resolution XPS profiles of (a) Ni 2p, (b) Co 2p, (c) Fe 2p and (d) P 2p before and after 1000 cycles for HER test.

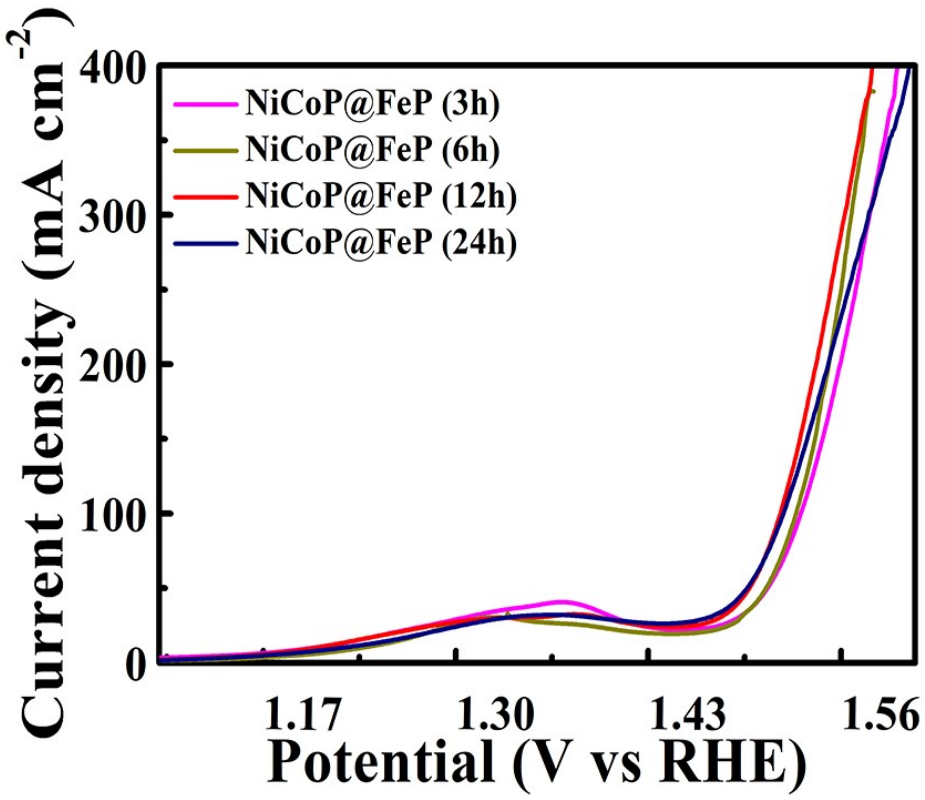

Fig. S8 OER polarization curves of NiCoP@FeP (3 h), NiCoP@FeP (6 h), NiCoP@FeP (12 h) and NiCoP@FeP (24 h).

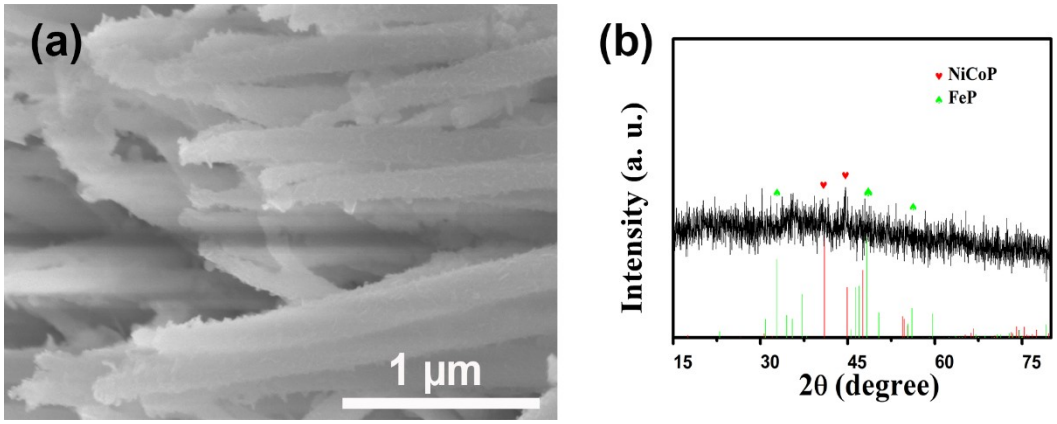

Fig. S9. (a) SEM images and (b) XRD of the NiCoP@FeP catalyst after 3000 cycles for OER test.

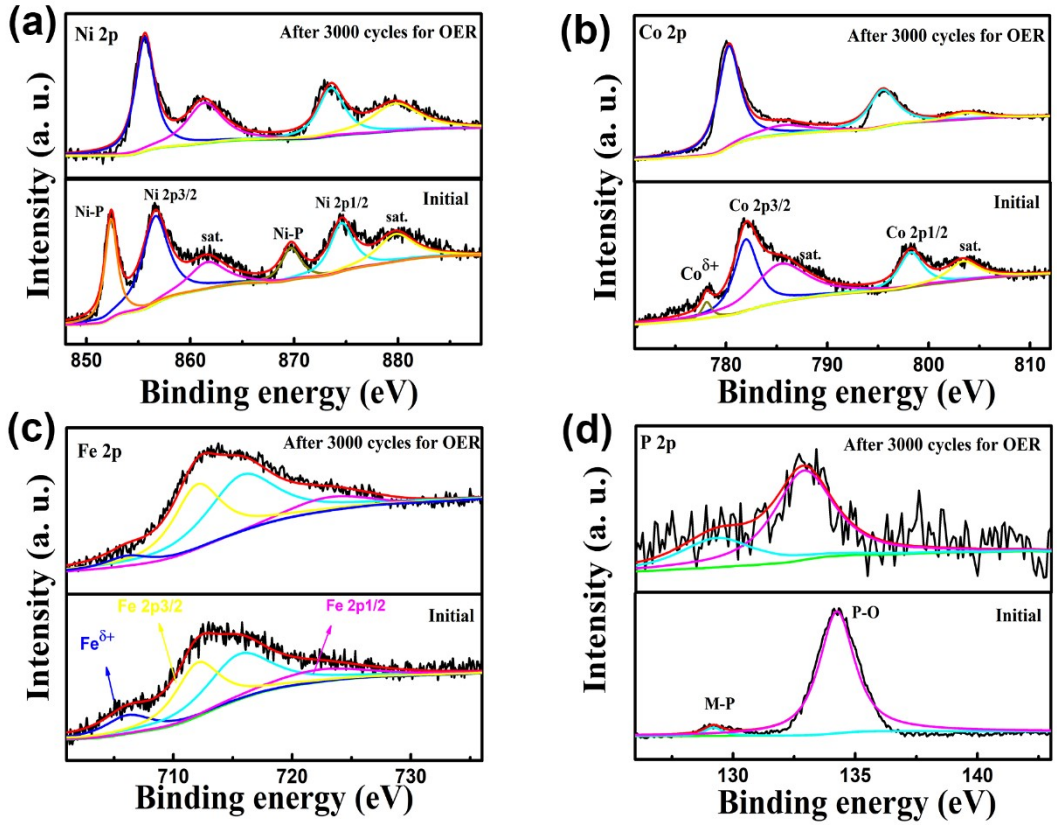

Fig. S10. The high resolution XPS profiles of (a) Ni 2p, (b) Co 2p, (c) Fe 2p and (d) P 2p before and after 3000 cycles for OER test.

Table S1. Comparison of electrocatalytic HER performance of the NiCoP@FeP electrodes with recently reported electrocatalysts.

Catalyst	Current density ($mA\ cm^{-2}$)	Potential (V vs RHE)	Reference
NiCoP@FeP/NF	10	73	This work
NiCoP/CoP−Ti_4O_7	10	128	[1]
$NiCo_2S_4$@NiCoP	10	108	[2]
O−NiCoP/Ni_2P	10	58	[3]
FeP/Ti	10	95	[4]
CoP/NiCoP/NC	10	75	[5]
CoCH@NiCoP/NF	10	45	[6]
S-NiCoP NW/CFP	10	102	[7]
NiCoP-CoP/NF	10	73	[8]

Table S2. Comparison of electrocatalytic OER performance among the NiCoP@FeP and recently reported non-precious metal electrocatalysts.

Catalyst	Current density ($mA\ cm^{-2}$)	Potential (V vs RHE)	Reference
NiCoP@FeP/NF	50	268	This work
CoP–N/Co foam	50	260	[9]
CuO-FR@CoP	50	290	[10]
NiCoP@NC NA/NF	50	305	[11]
NiCo-LDH@MOFs	10	289	[12]
NiFe LDH/NiCoP@NC/NF	10	210	[13]
NiCoP−$NiCoSe_2$/CC	10	243	[14]
$(Ni_xFe_{1-x})_2P$/NF	20	219	[15]
$Ni_{0.2}Co_{0.8}P$/NF	10	230	[16]
FePi/NiFeP /NF	10	210	[17]

References

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