Electronic Supplementary Material (ESI) for Dalton Transactions.

Supporting Information

High-efficient Electrochemical Oxygen Evolution Reaction Catalyst Constructed by S-treated Two-dimension Prussian Blue Analogue

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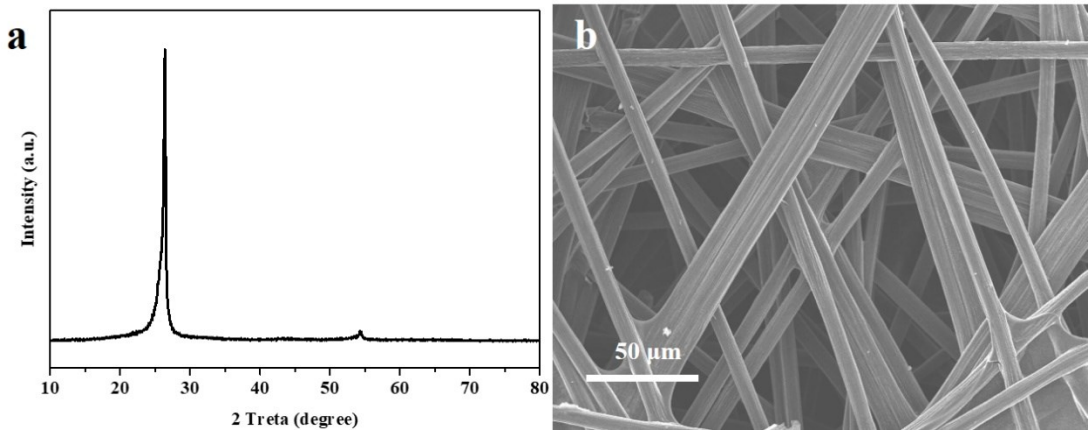

Fig. S1 (a) XRD pattern and (b) SEM image of bare CFP

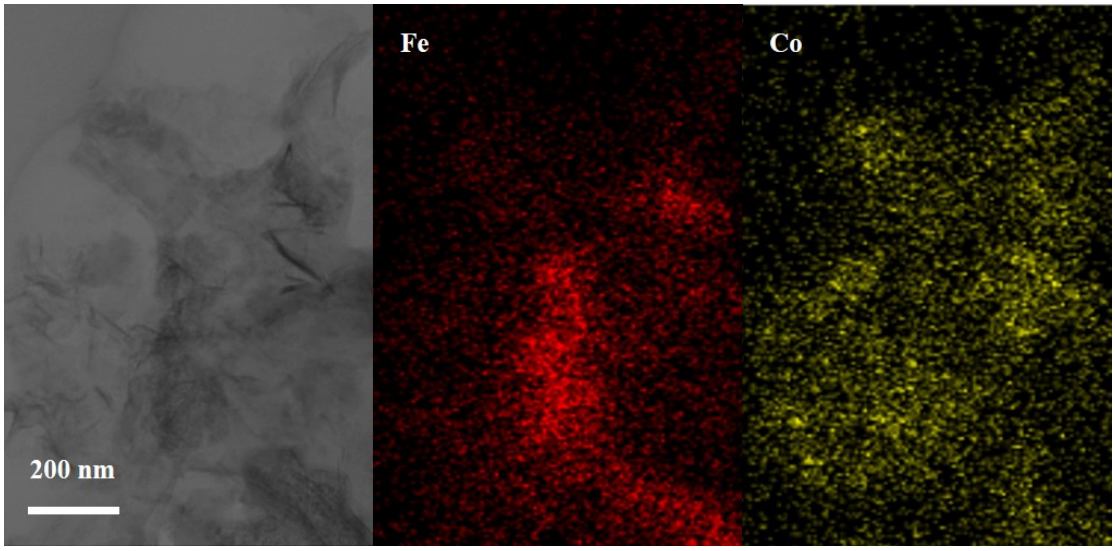

Fig. S2 EDX elemental mapping images of Co and Fe in S-CoFe-PBA/CFP

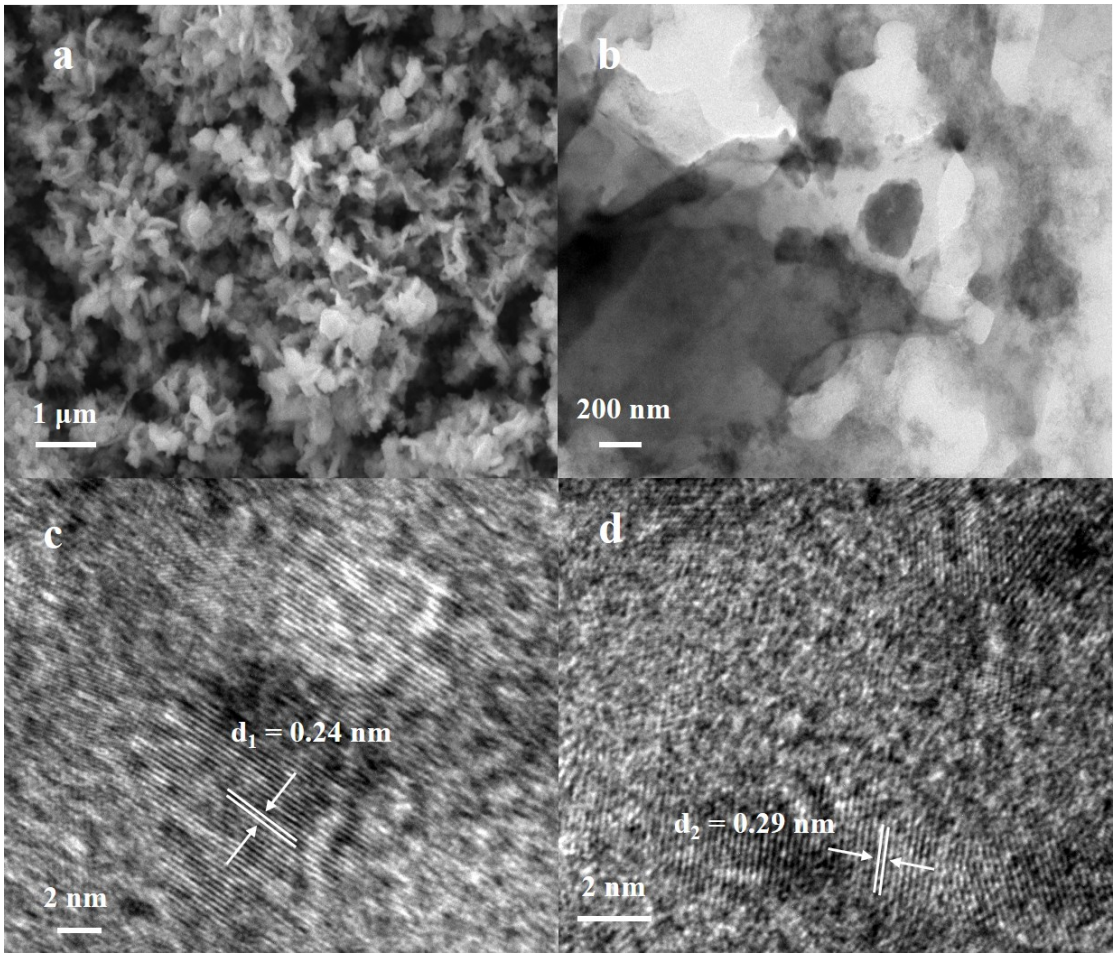

Fig. S3 (a) SEM, (b) TEM and (c-d) HRTEM images of S_{150}-CoFe-PBA

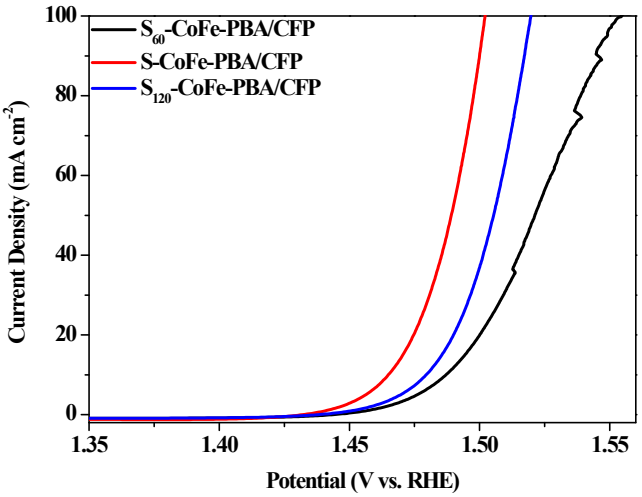

Fig. S4 LSV curves of S_{60}-CoFe-PBA/CFP, S-CoFe-PBA/CFP and S_{120}-CoFe-PBA/CFP.

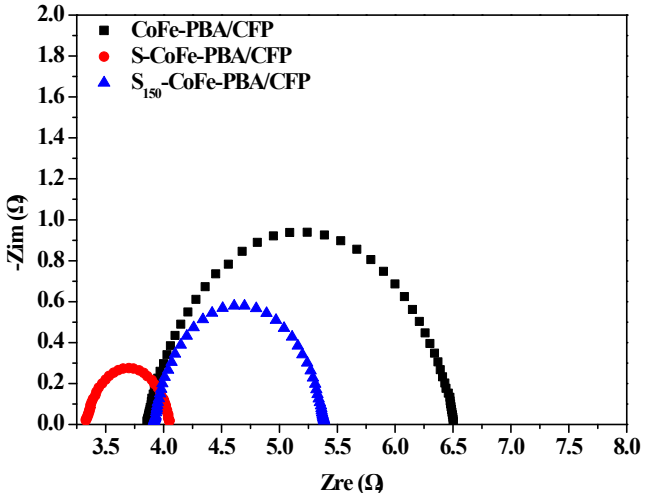

Fig. S5 Nyquist plots fitted with equivalent circuit.

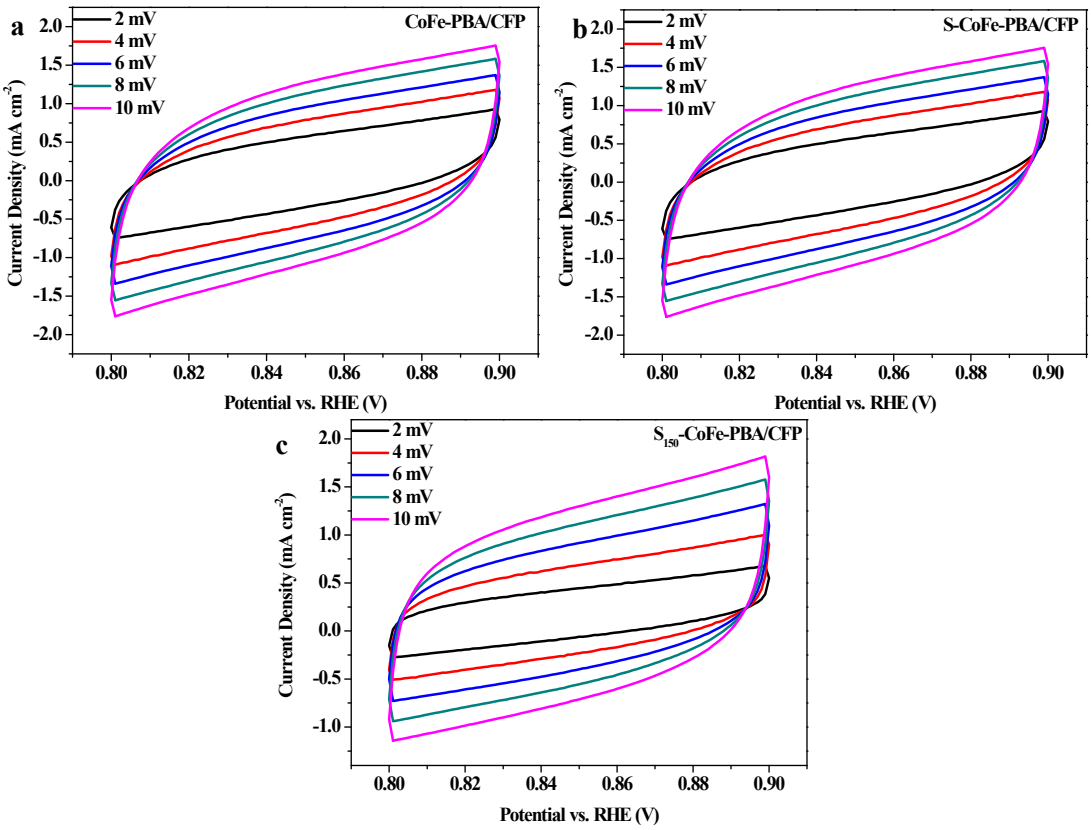

Fig. S6 CV measurements with various scan rates from 2 to 10 mV/s of (a) CoFe-PBA/CFP, (b) S-CoFe-PBA/CFP and (c) S-CoFe-PBA/CFP

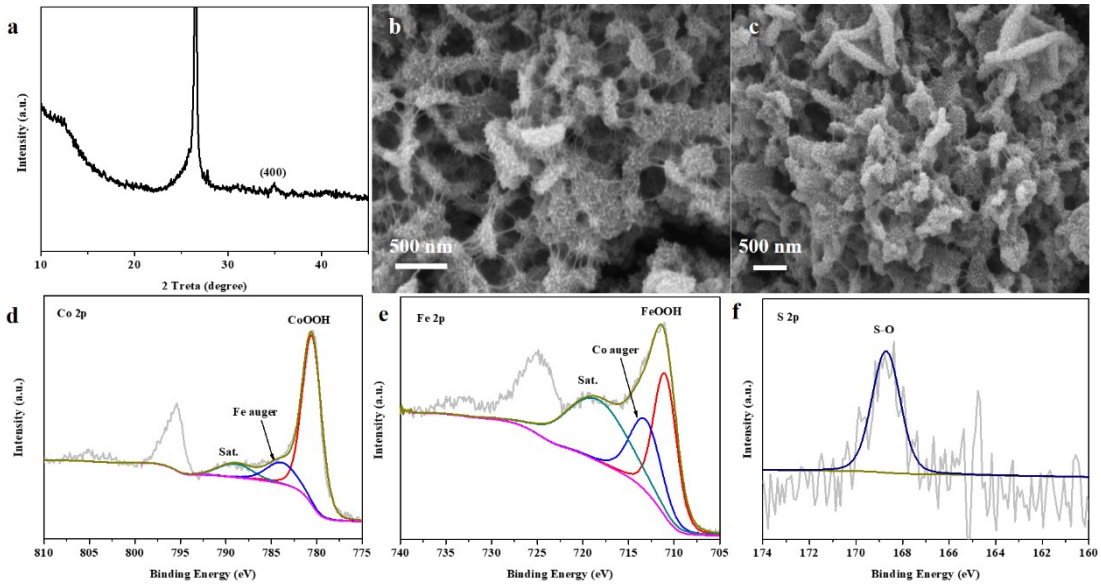

Fig. S7 (a) XRD pattern, (b-c) SEM images and high resolution XPS spectra in (d) Co 2p, (e) Fe 2p and (f) S 2p regions of S-CoFe-PBA after long-time durability

Table S1Comparison of the OER performance of S-CoFe-PBA/CFP with previously reported OER electrocatalysts analogous

Catalyst	Current density (j, mA cm^{-2})	Overpotential (η, mV)	Tafel slope ($mVdec^{-1}$)	References
S-CoFe-PBA/CFP	10 50 100	235 259 272	35.2	This work
NF-PBA	10	258	46	J. Am. Chem. Soc., 140, 2018, 11286-11292.
NFN-MOF/NF	10	240	58.8	Adv. Energy Mater.,2018, 8, 1801065.
2D Ni-MOF-250	50	250	88.6	J. Mater. Chem. A, 2020, 8, 2140-2146.
Ni-BDC@NiS	20	330	62	ACS Appl. Mater. Interfaces, 2019, 11, 41595-41601
Fe_{MOFs}-SO_3	10	218	36.2	Adv. Energy Mater., 2020, 2000184
Co_3S_4/EC-MOF	10	226	120	Adv. Mater., 2019, 1806672

Table S2 Fitting parameters of Nyquist plots.

Catalysts	R_{ct}/Ω	R_s/Ω	CPE-T/S s^{-n}	CPE-n
CoFe-PBA/CFP	2.67	3.85	0.15	0.8
S-CoFe-PBA/CFP	0.72	3.33	0.19	0.85
S_{150}-CoFe-PBA/CFP	1.43	3.92	0.18	0.83