Electronic Supplementary Material (ESI) for Nanoscale Advances.

V-Doped porous CoP nanoarrays grown on carbon cloth with optimized electronic structure for the hydrogen evolution reaction

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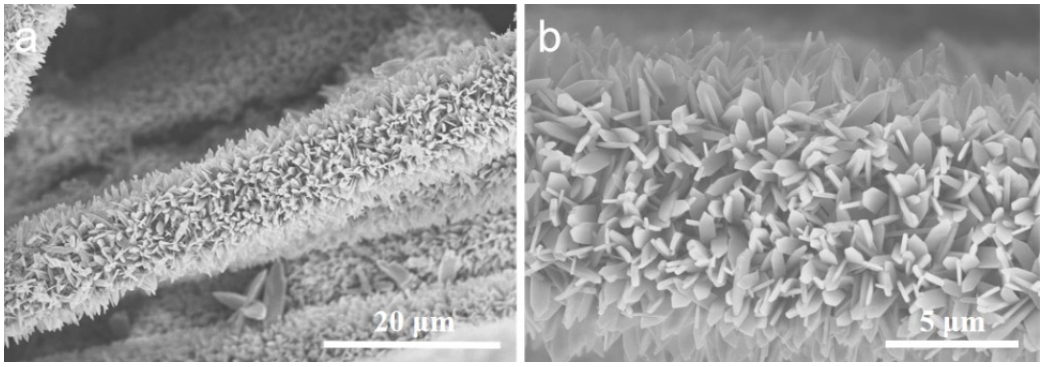

Figure S1 SEM images of Co-MOF (a, b).

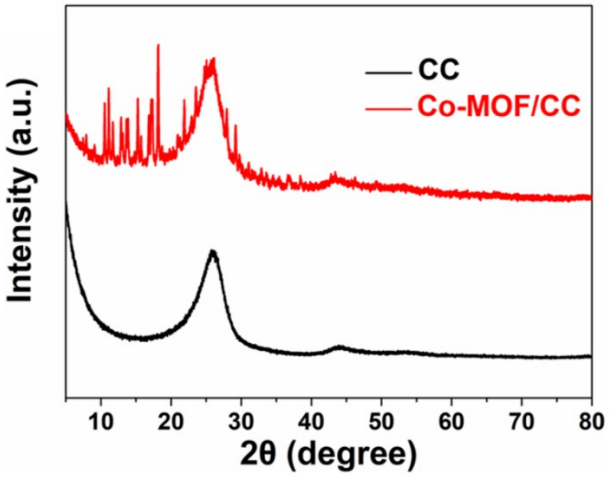

Figure S2 XRD patterns of Co-MOF.

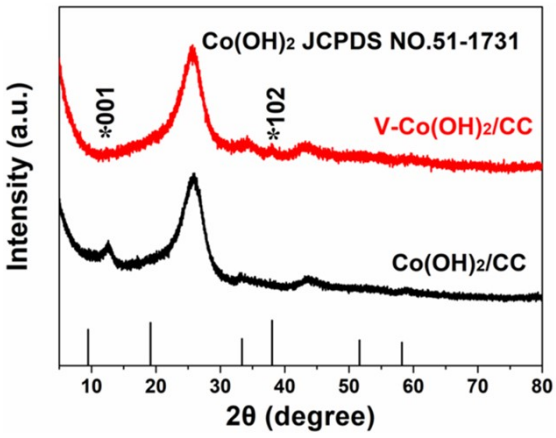

Figure S3 XRD pattern of V-doped $Co(OH)_2$ (LDH).

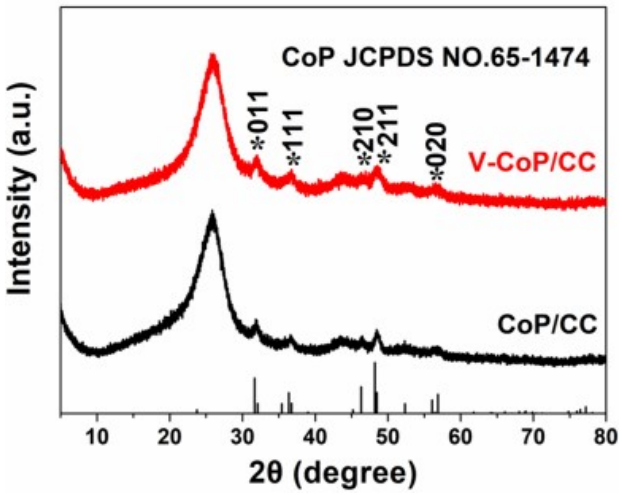

Figure S4 XRD patterns of V-CoP/CC.

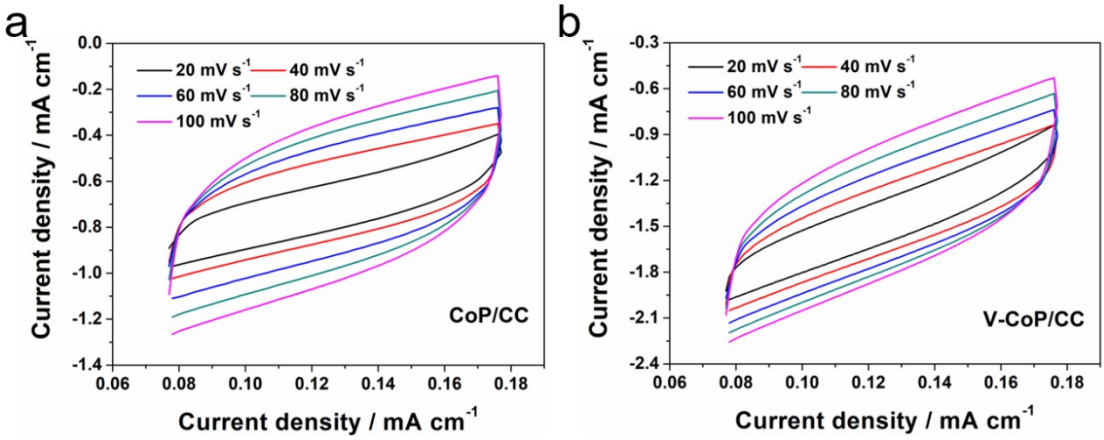

Figure S5 Cyclic voltammetry of a) CoP/CC and b) V-CoP/CC.

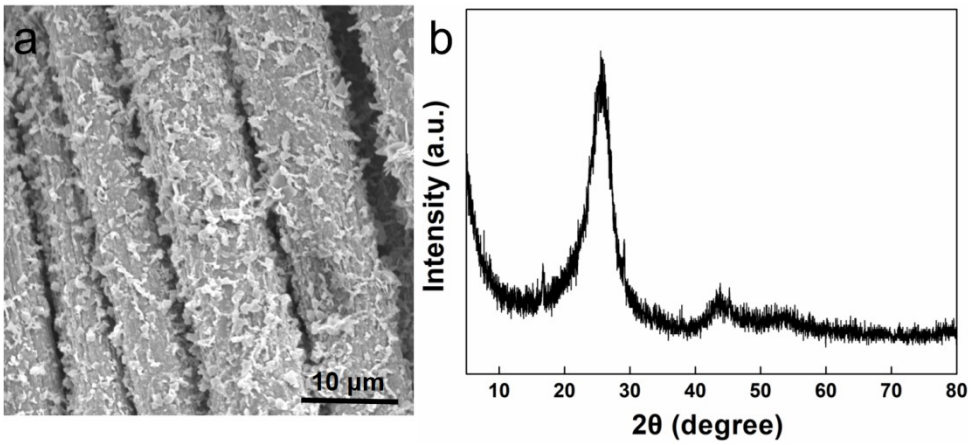

Figure S6 (a) SEM and (b) XRD patterns for V-CoP/CC after HER test.

Table S1. HER performances comparison of recently reported representative electrocatalysts in alkaline medium (1.0 M KOH, at 10 mA cm^{-2})

catalysts	Overpotential (mV)	Reference
V-CoP/CC	98	This work
Co@NC-CNTs@NiFe-LDH	160	1
Co@HMNC	51	2
Fe-$Co_{1.11}Te_2$@NCNTF	165	3
CoP/Ni_2P@$Co(OH)_2$	38	4
$Co(OH)_2$/MoS_2/CC	101	5
Co_3O_4–Mo_2N	212	6
Ru/Co_3O_4	31	7
CoSe/$Co(OH)_2$-CM (AE)	207	8
CoP/CeO_x	118	9
CeO_2-$NiCoP_x$/NCF	39	10

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