Electronic Supplementary Material (ESI) for CrystEngComm.

Water coordinated Co-MOFs with 1D/2D network structure and highly enhanced electrocatalytic OER activity

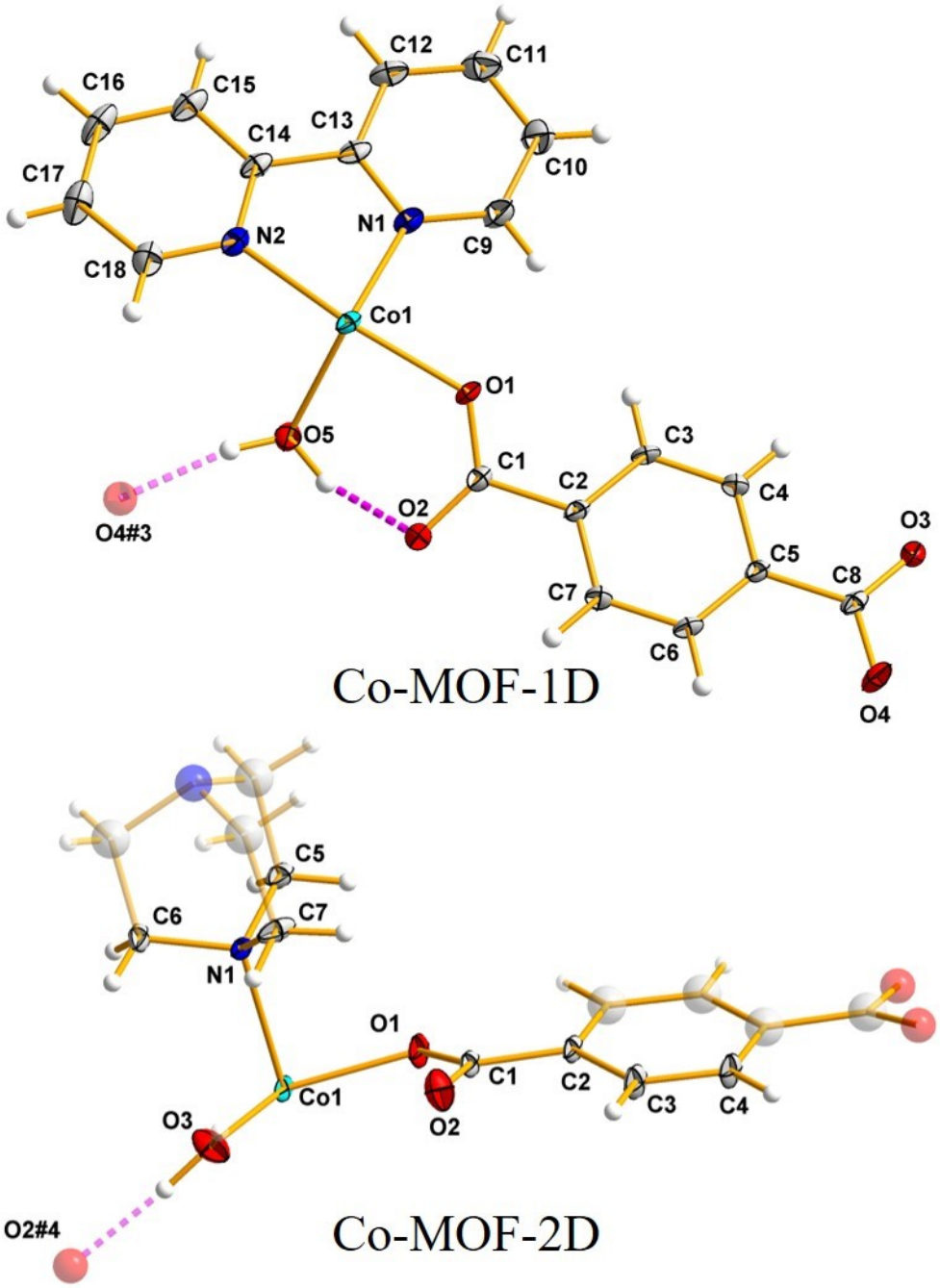


Figure S1. ORTEP plots of the asymmetric units of **Co-MOF-1D** and **Co-MOF-2D**.

Table S1. Hydrogen bonds for Co-MOF-1D [Å and °].

D-H...A	d(D-H)	d(H...A)	d(D...A)	<(DHA)
O(5)-H(1O5)...O(4)#3	0.920(10)	1.822(12)	2.730(2)	169(3)
O(5)-H(2O5)...O(2)	0.916(10)	1.754(13)	2.633(2)	160(3)

Symmetry transformations used to generate equivalent atoms:
#3 -x+1/2,y+1/2,-z+1/2

Table X. Hydrogen bonds for Co-MOF-2D [Å and °].

D-H...A	d(D-H)	d(H...A)	d(D...A)	<(DHA)
O(3)-H(1O3)...O(2)#4	0.918(7)	1.760(8)	2.677(2)	176(3)

Symmetry transformations used to generate equivalent atoms:
#4 x-1/2,-y+1/2,z-1/2

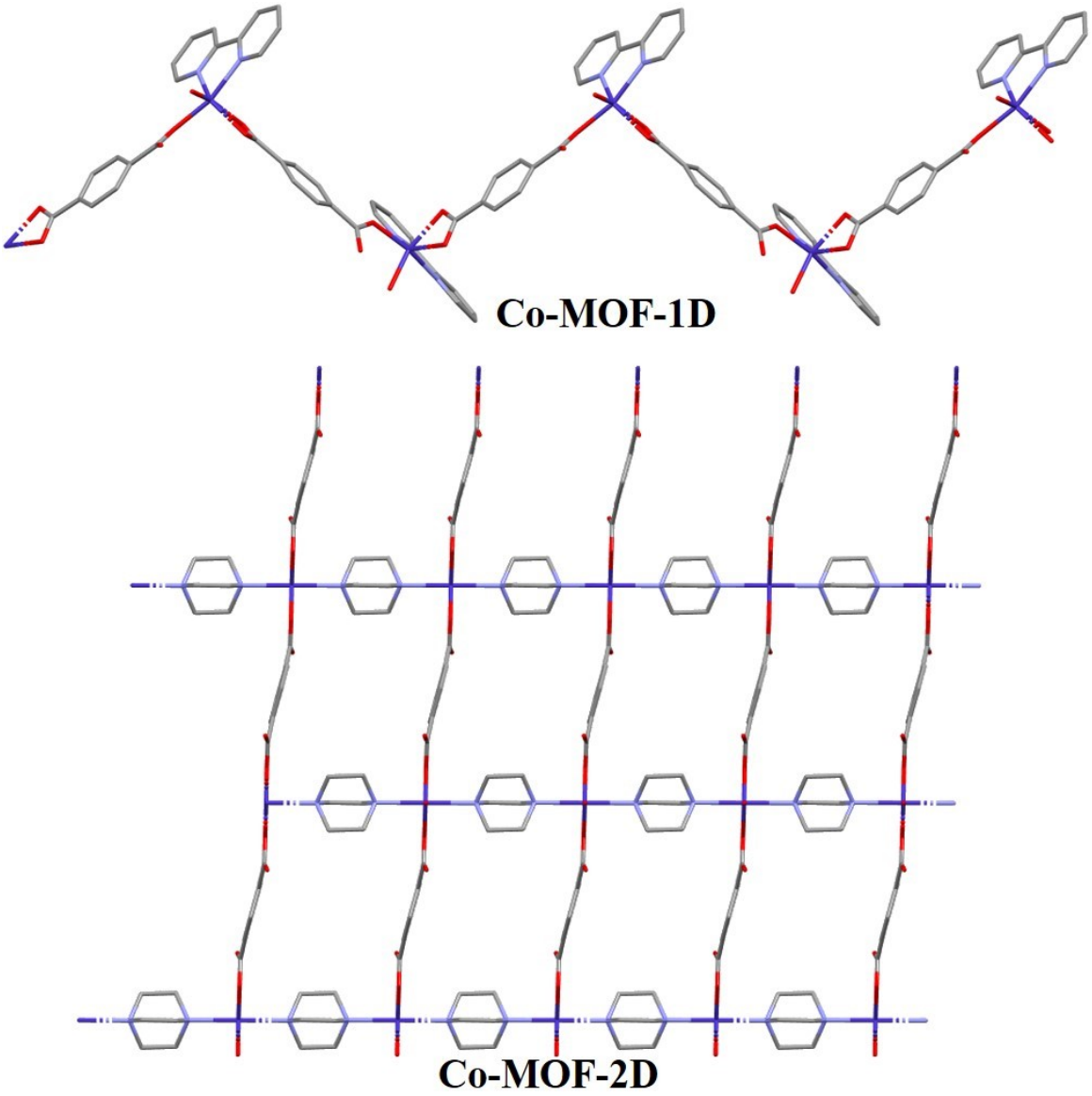


Figure S2. The 1D and 2D networking structure in the crystal lattice of **Co-MOF-1D** and **Co-MOF-2D**.

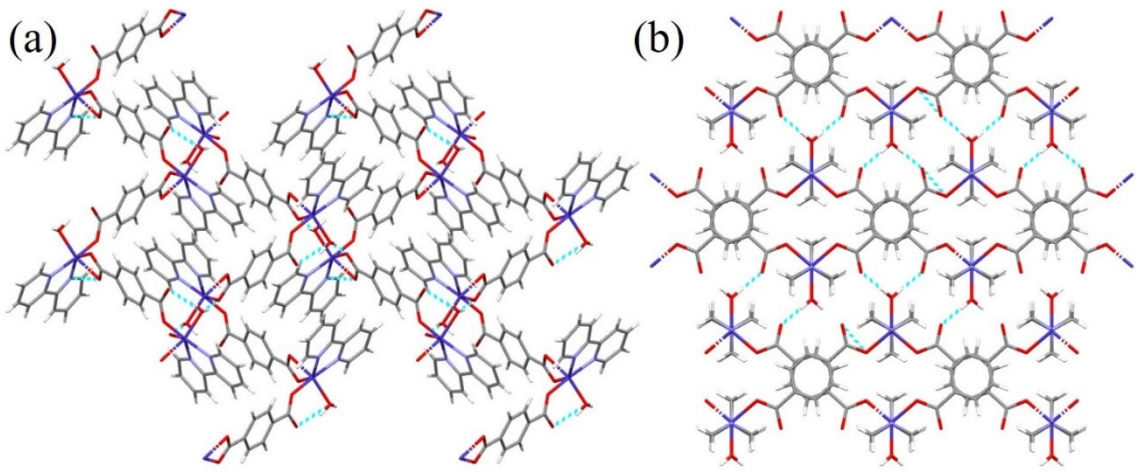


Figure S3. Intermolecular interaction in the crystal lattice of (a) **Co-MOF-1D** and (b) **Co-MOF-2D**. C (grey), H (white), N (blue), O (red) and Co (dark blue). Dotted lines indicate the hydrogen bonding interactions. H-bond distances ranged between 2.733 and 2.980 Å.

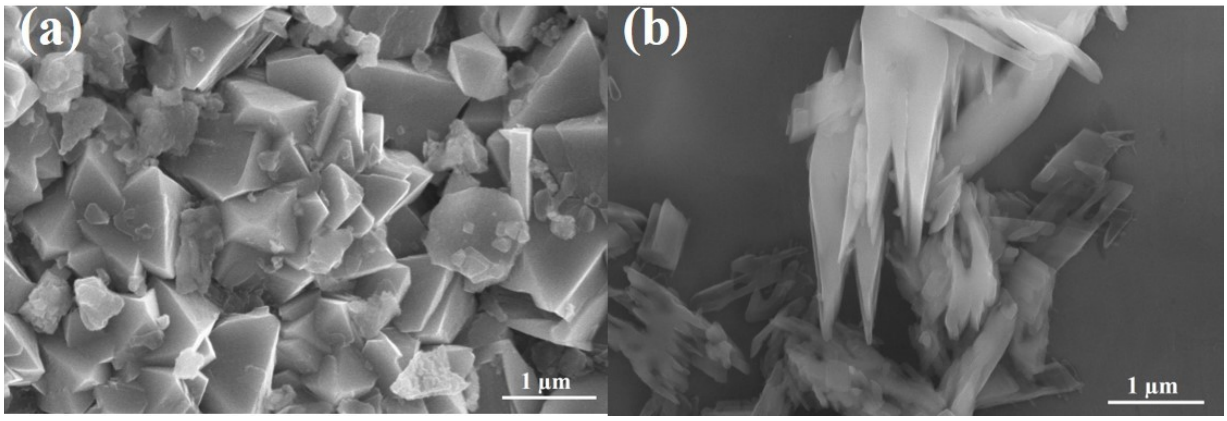


Figure S4. SEM images of (a) Co-MOF-1D and (b) Co-MOF-2D microcrystals.

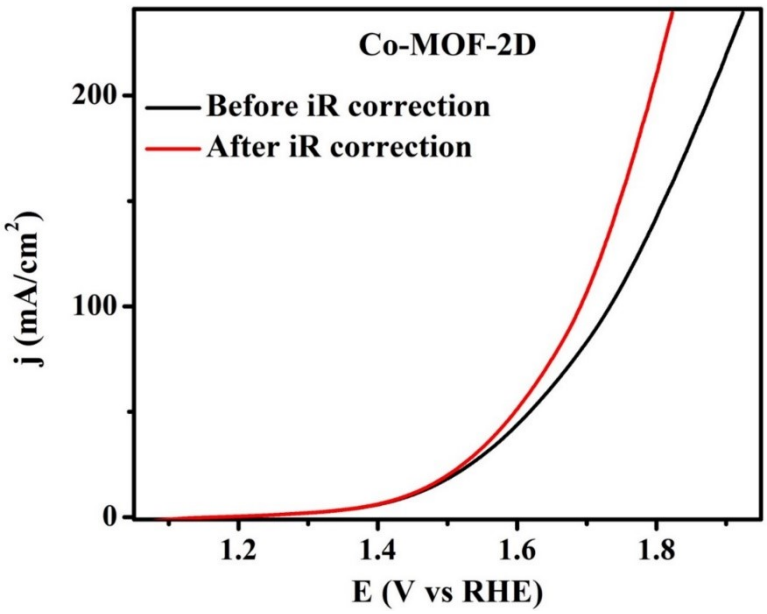


Figure S5. OER polarization curves of **Co-MOF-2D** before and after iR correction.

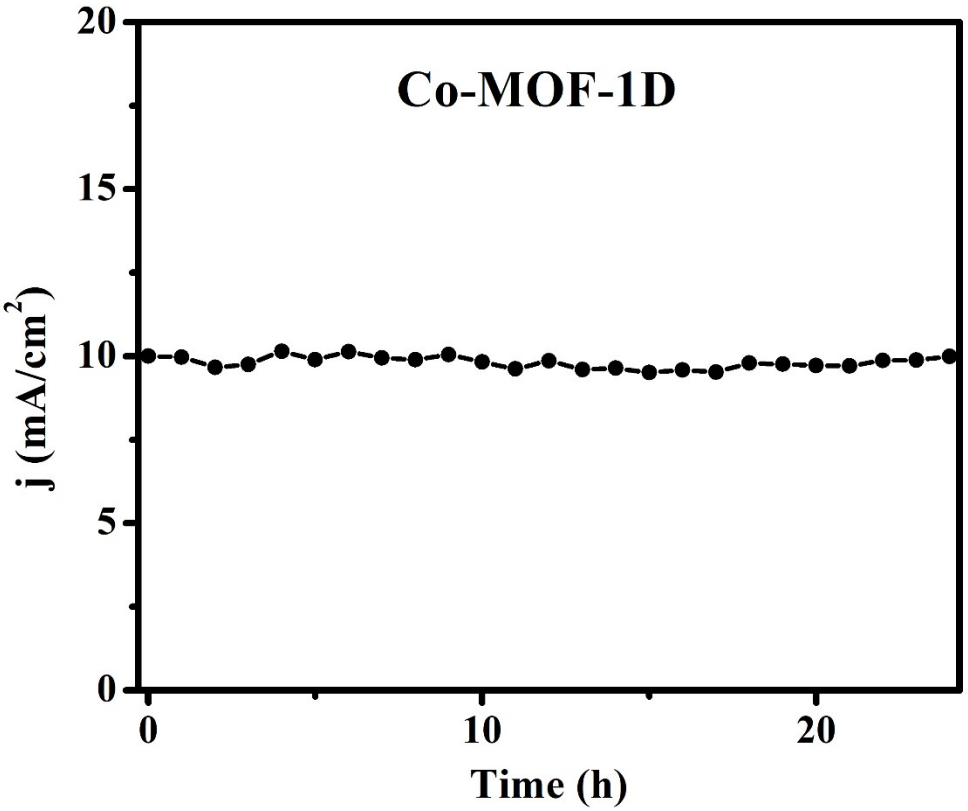
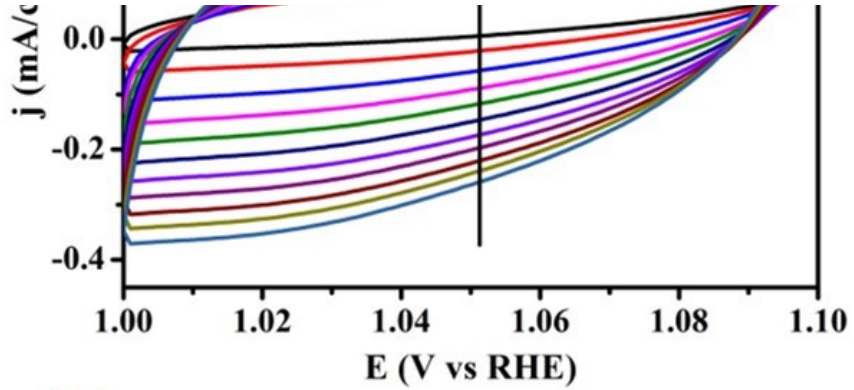


Figure S6. Current-time amperometric test of **Co-MOF-1D**.



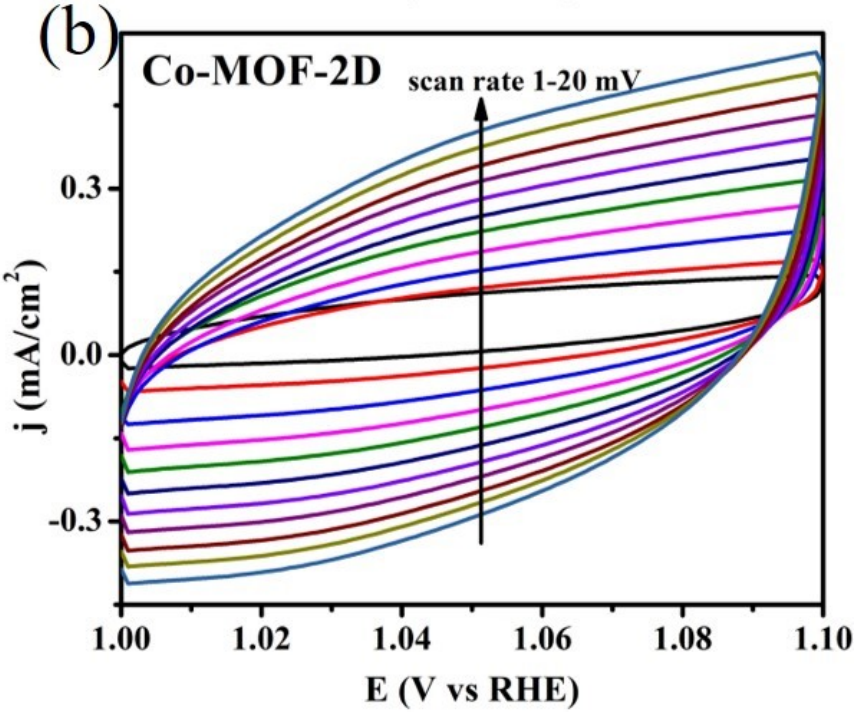


Figure S7. Double layer capacitance and capacitive currents as a functional of scan rate.