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Electronic Supporting Information for

Hollow Co_3O_4 Dodecahedrons with Controlled Crystal Orientation and Oxygen Vacancies for High Performance Oxygen Evolution Reaction

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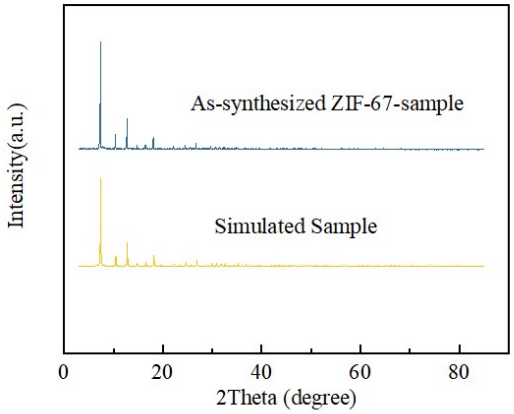

Fig. S1 XRD pattern of ZIF-67.

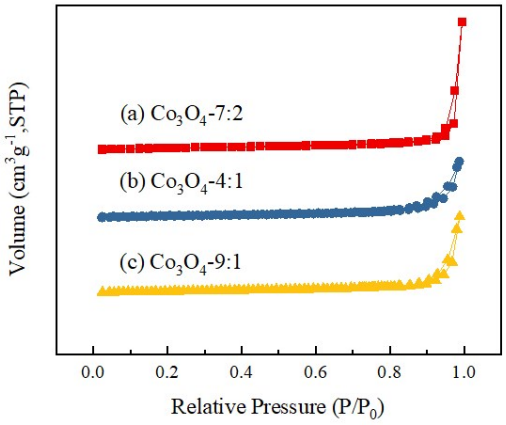

Fig. S2 The nitrogen adsorption-desorption isotherms of Co_3O_4-7:2, Co_3O_4-4:1 and Co_3O_4-9:1.

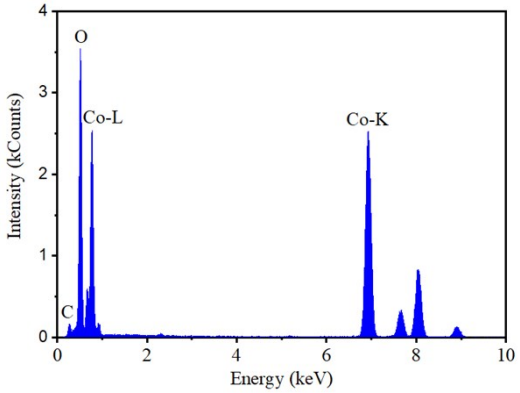

Fig. S3 The EDS spectrum of Co_3O_4-9:1.

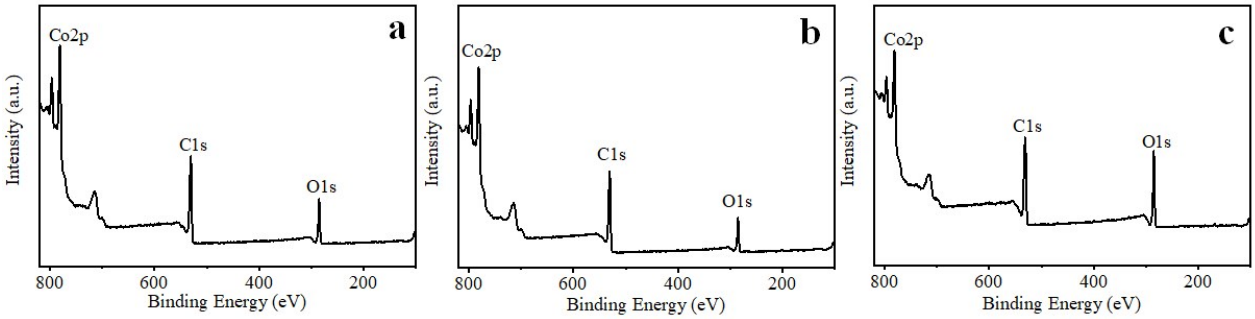

Fig. S4 The XPS spectra of (a) Co_3O_4-7:2, (b) Co_3O_4-4:1 and (c) Co_3O_4-9:1.

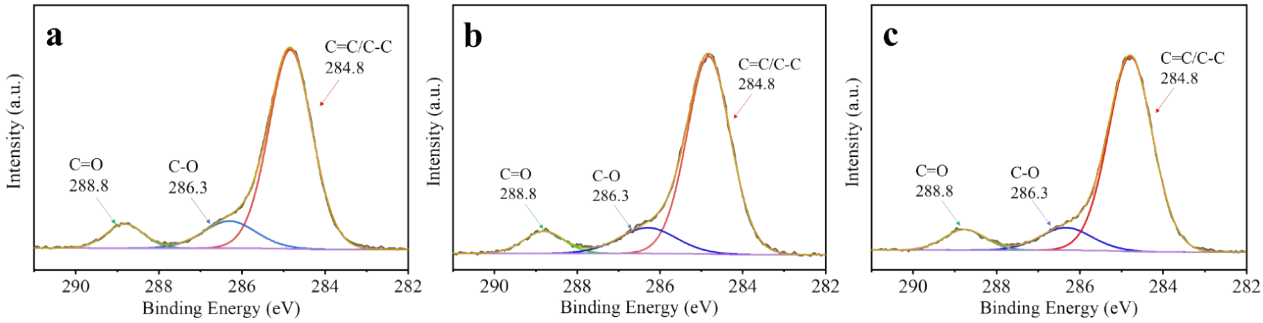

Fig. S5 C 1s high resolution XPS spectra of (a) Co_3O_4-7:2, (b) Co_3O_4-4:1 and (c) Co_3O_4-9:1.

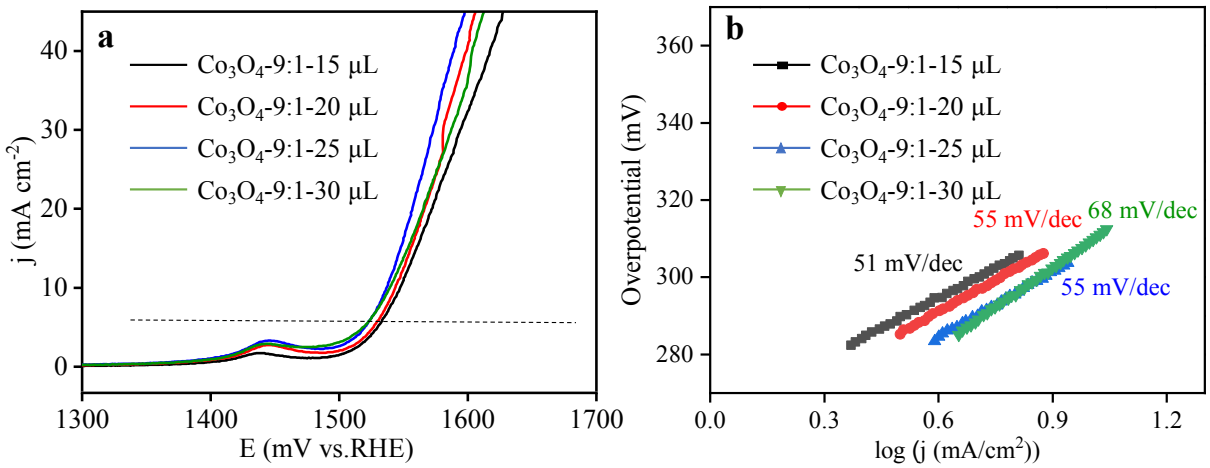

Fig. S6 (a) Polarization curves and (b) Tafel plots of Co_3O_4-9:1 at different coated weight.

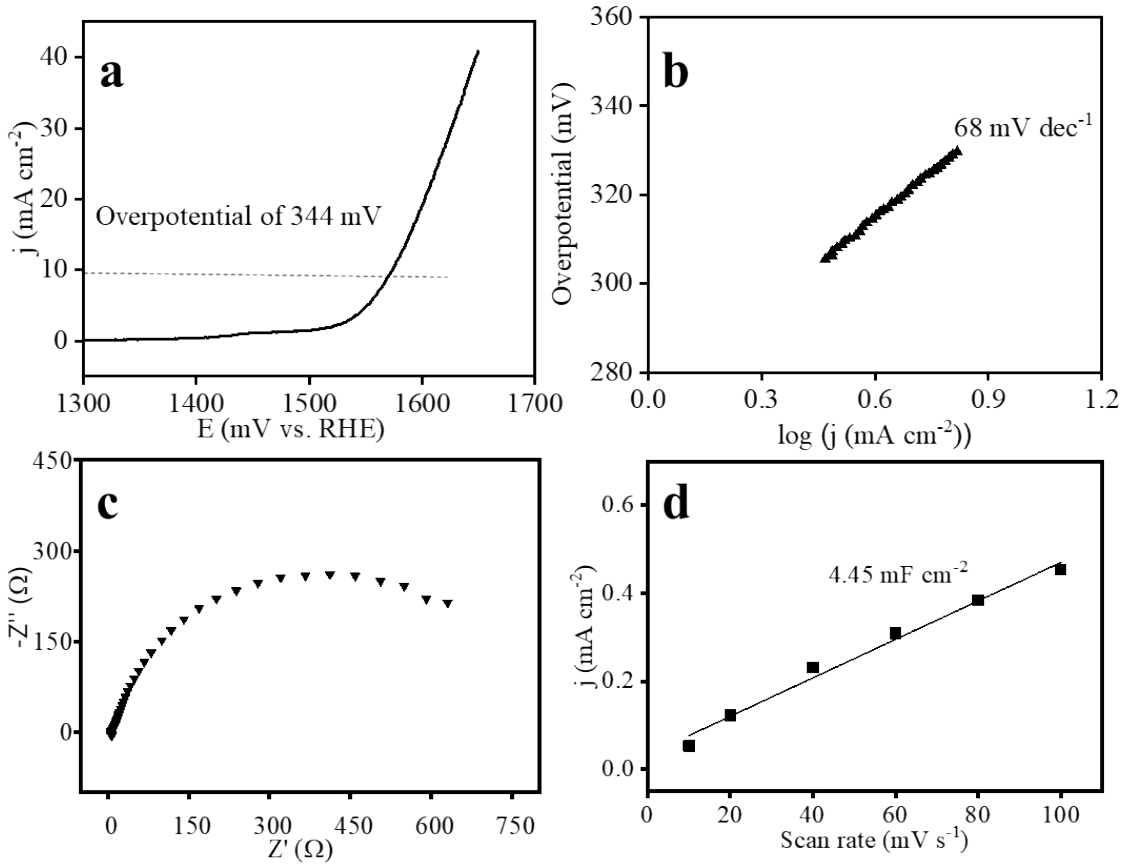

Fig. S7 (a) LSV, (b) Tafel plot, (c) EIS and (d) double layer capacitance at different scan rate of Co_3O_4-9:1 after grinding.

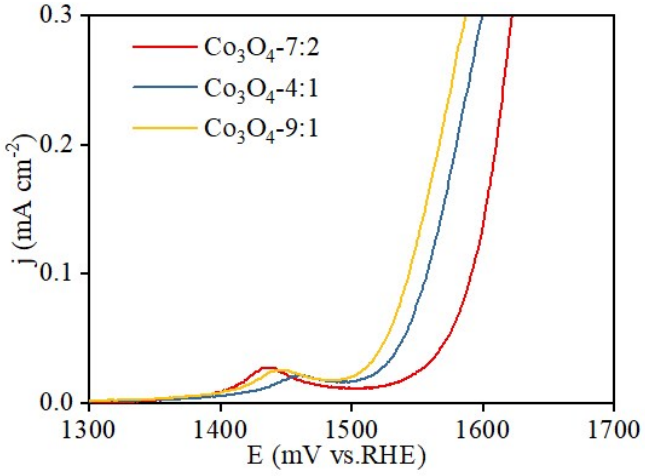

Fig. S8 ECSA-normalized LSV curves of Co_3O_4-9:1, Co_3O_4-4:1 and Co_3O_4-7:2.

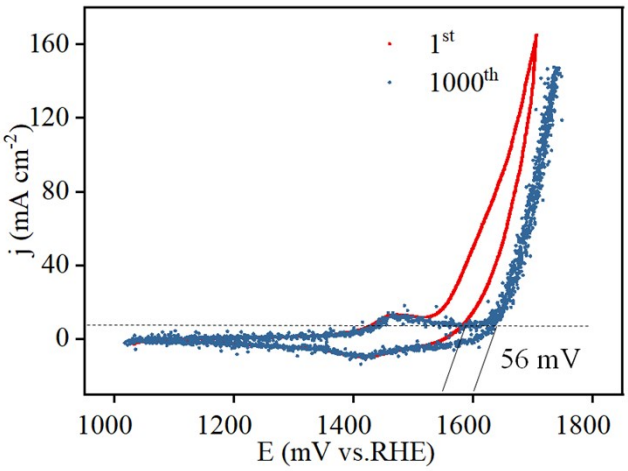

Fig. S9 CV curves of Co_3O_4-9:1 before and after 1000 cycles.

Table S1 Comparison of the catalytic performance for OER of Co_3O_4-based electrodes in this work and previous studies.

Composition	Morphology	Overpotential (mV) at 10 mA/cm^2 for OER in 1M KOH	Tafel slope (mV/dec)	References
Co_3O_4	Pompon-like	308	60.8	1
Co_3O_4	Flower-shaped	356	68	2
Co_3O_4	Petal-like nanoflakes	314	77.5	3
Co_3O_4/$CoMoO_4$	Porous nanocages	318	63	4
Co_3O_4/C	Hollow dodecahedron	353	60	5
Co_3O_4	Nanomeshes	307	76	6
C/Co/Co_3O_4	Hierarchical hollow sphere	352	80	7
Co_3O_4	Hollow sphere	352	117	8
Co_3O_4	Honeycomb-like	450	89	9
Pd@PdO-Co_3O_4	Nanocage	310	70	10
Co_3O_4/C/N	Co_3O_4 embedded in nitrogen doped carbon polyhedra	333	69	11
Co_3O_4	Hollow dodecahedron	307	55	This work

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