

Supporting Information

Developing a Se Quantum Dots@ CoFeO_x Composite Nanomaterial as a Highly Active and Stable Cathode Material for Rechargeable Zinc–Air Batteries

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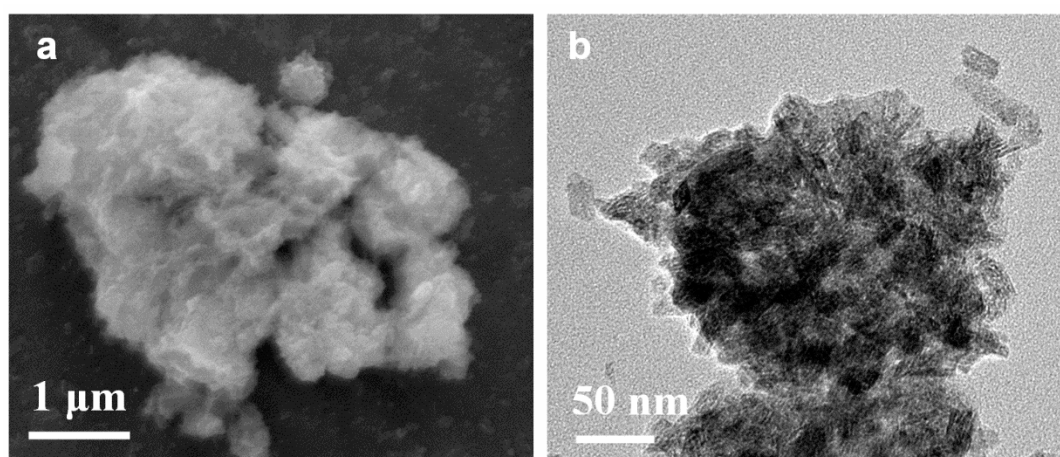


Figure S1. SEM and TEM images of Se-FeO_x material.

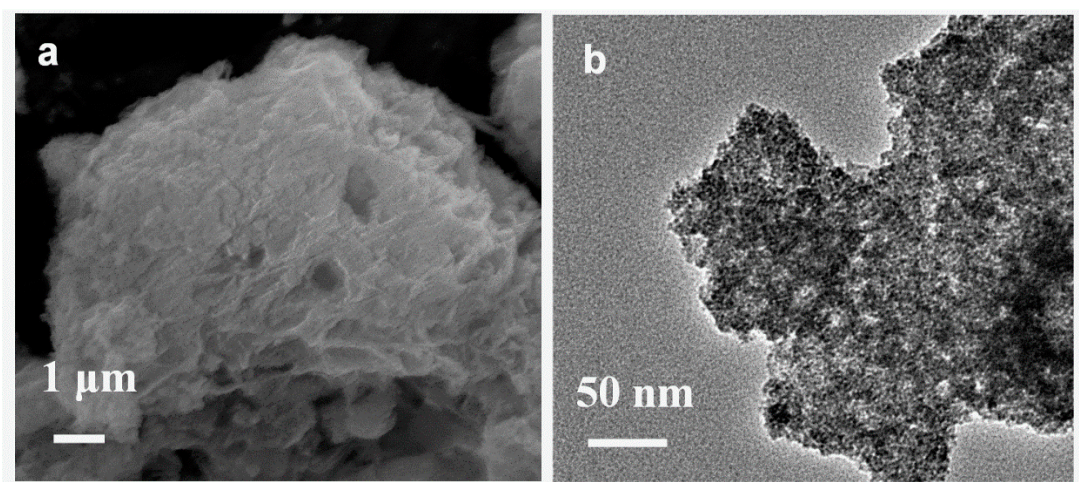


Figure S2. SEM and TEM images of Se-FeO_x-Co-1 material.

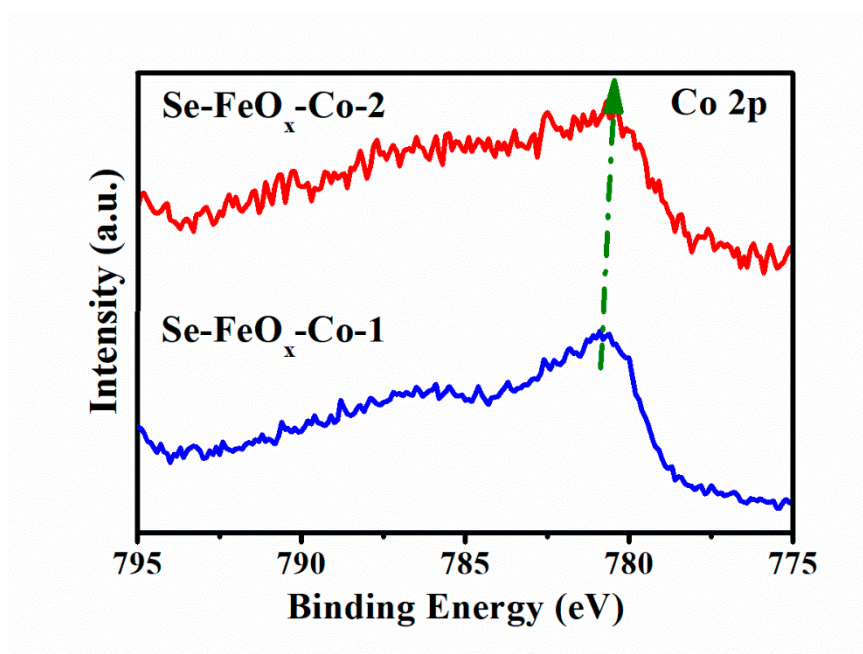


Figure S3. The Co 2p spectra of Se-FeO_x-Co-1 and Se-FeO_x-Co-2 materials.

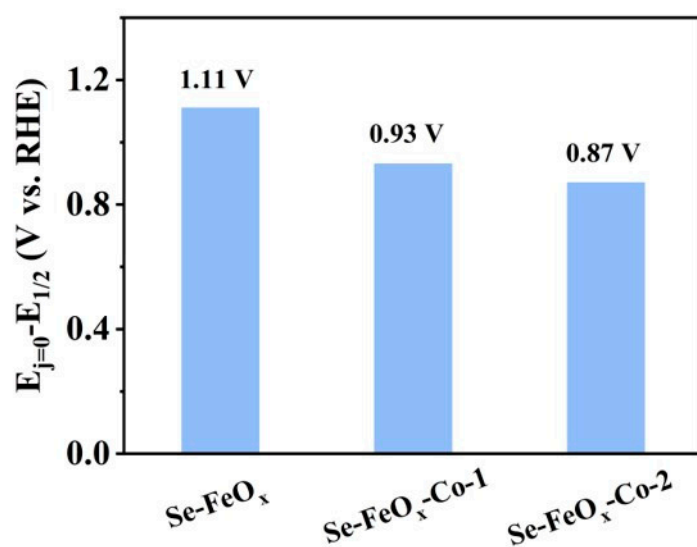


Figure S4. The relative bar in the value of $E_{j=0}-E_{1/2}$.

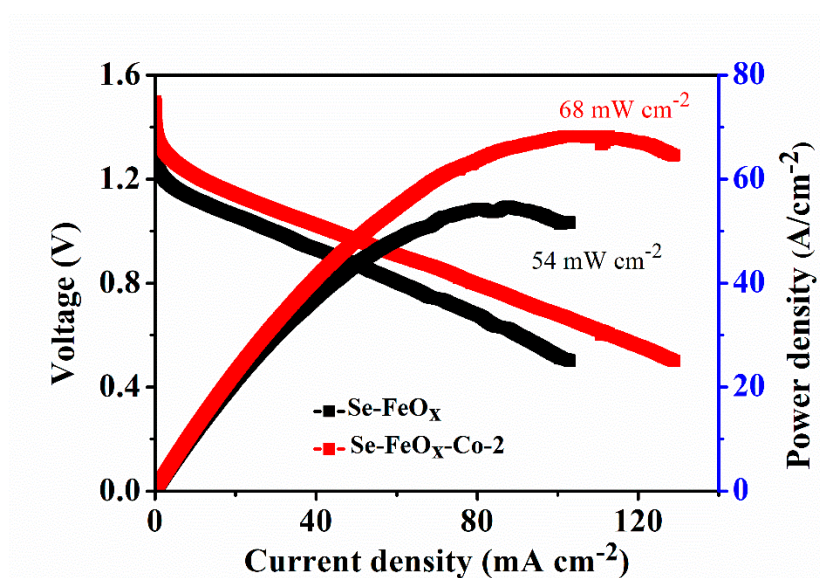


Figure S5. The polarization and power density curves of Se-FeO_x and Se-FeO_x-Co-2 materials as cathode.

Table S1. The ORR and OER performance comparison with reported references

Catalyst	ORR Electrolytes	Half-wave potential (V vs. RHE)	OER Electrolytes	Potential $E_{j=10}$ (V vs. RHE)	Potential Gap (V)	Ref.
Se-FeOx-Co-2	0.1 M KOH	0.64	1 M KOH	1.51	0.87	This work
Ni/NiOH_x	0.1 M KOH	0.62	1 M KOH	1.47	0.86	[68]
Ni/NGr	0.1 M KOH	0.62	1 M KOH	1.62	1.01	[67]
Co₃O₄/CC	0.1 M KOH	0.73	1 M KOH	1.59	0.88	[66]
TiC_{0.25}N_{0.75}	0.1 M KOH	0.62	--	--	--	[65]
CoO/N-doped graphene	--	--	1 M KOH	1.55	--	[62]
Co₃O₄ nanosheet	--	--	1 M KOH	1.56	--	[63]
N-doped graphene/CNT	0.1 M KOH	0.63	--	--	--	[64]