

Supporting information

Engineering coordination polymer-derived one-dimensional porous S-doped Co₃O₄ nanorods with rich oxygen vacancies as high-performance electrode materials for hybrid supercapacitors

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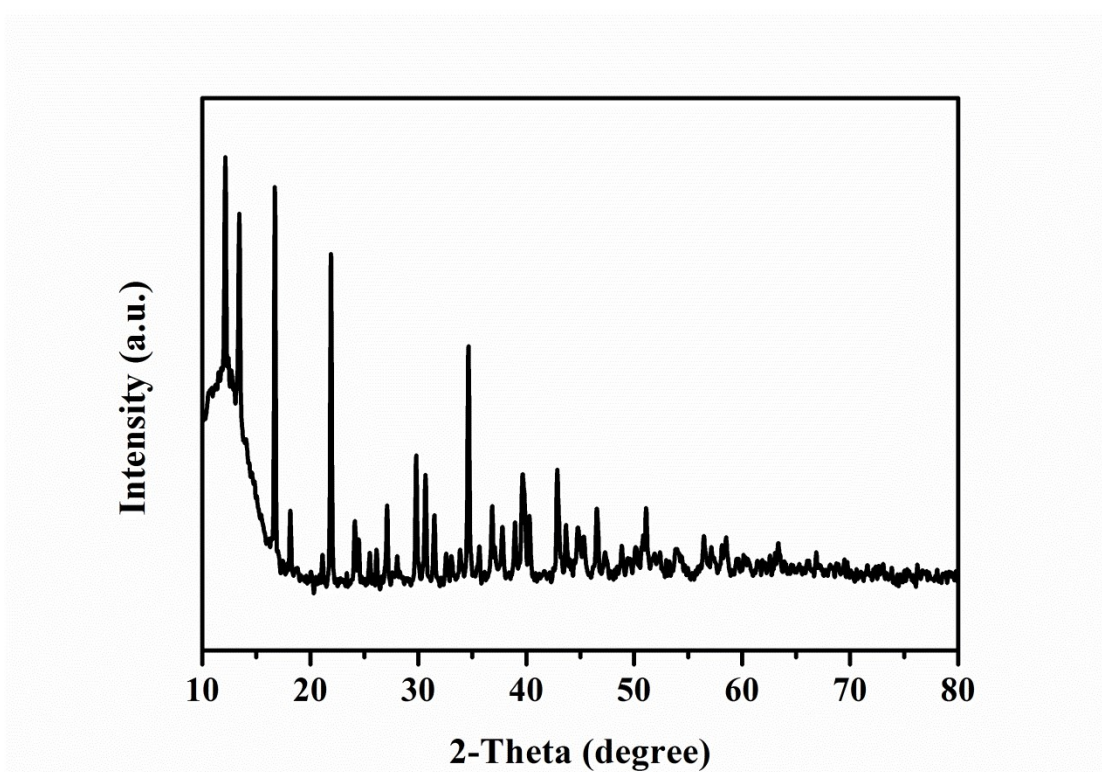


Fig. S1. XRD pattern of the as-prepared Co-NTA nanorods precursor.

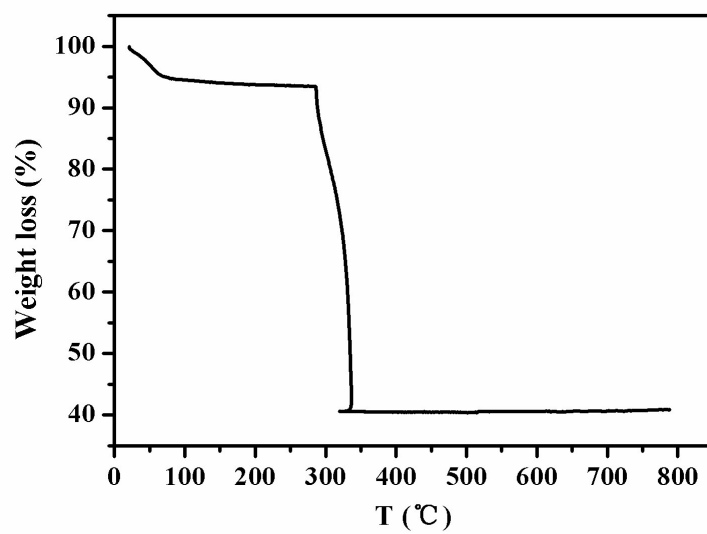


Fig. S2. TG curve of the Co-NTA nanorods precursor.

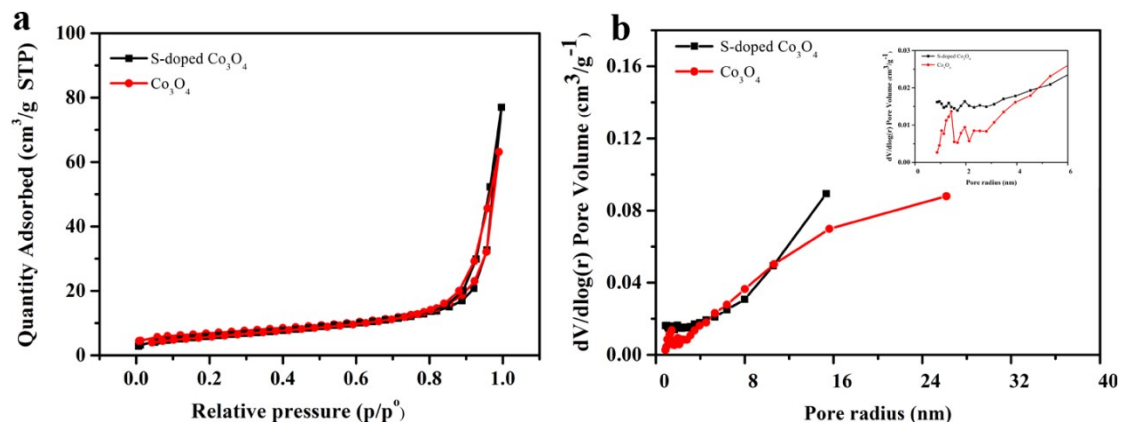


Fig. S3. (a) Nitrogen absorption–desorption isotherms and (b) pore size distribution curves of S-doped Co_3O_4 and Co_3O_4

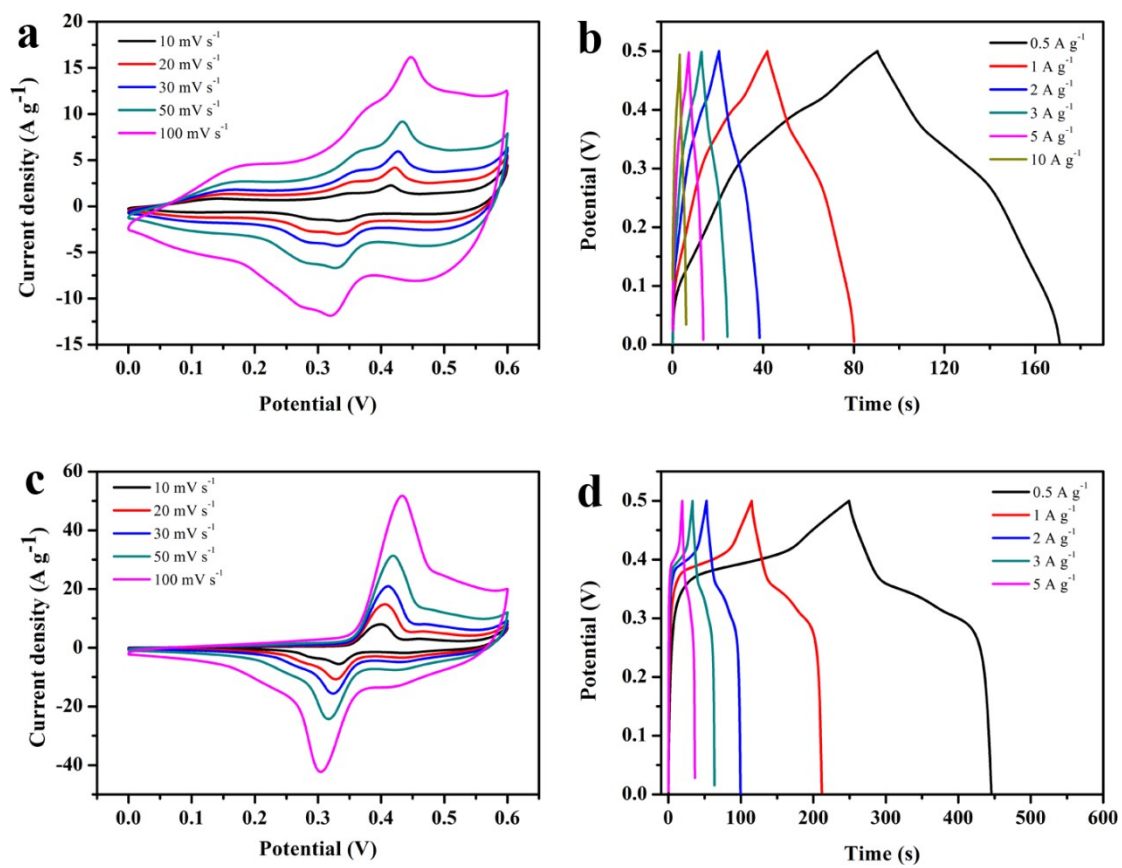


Fig. S4. (a) CV curves of the Co-NTA at different scan rates, (b) GCD curves of the Co-NTA at various current densities, (c) CV curves of the Co₃O₄ at different scan rates, and (d) GCD curves of the Co₃O₄ at various current densities.

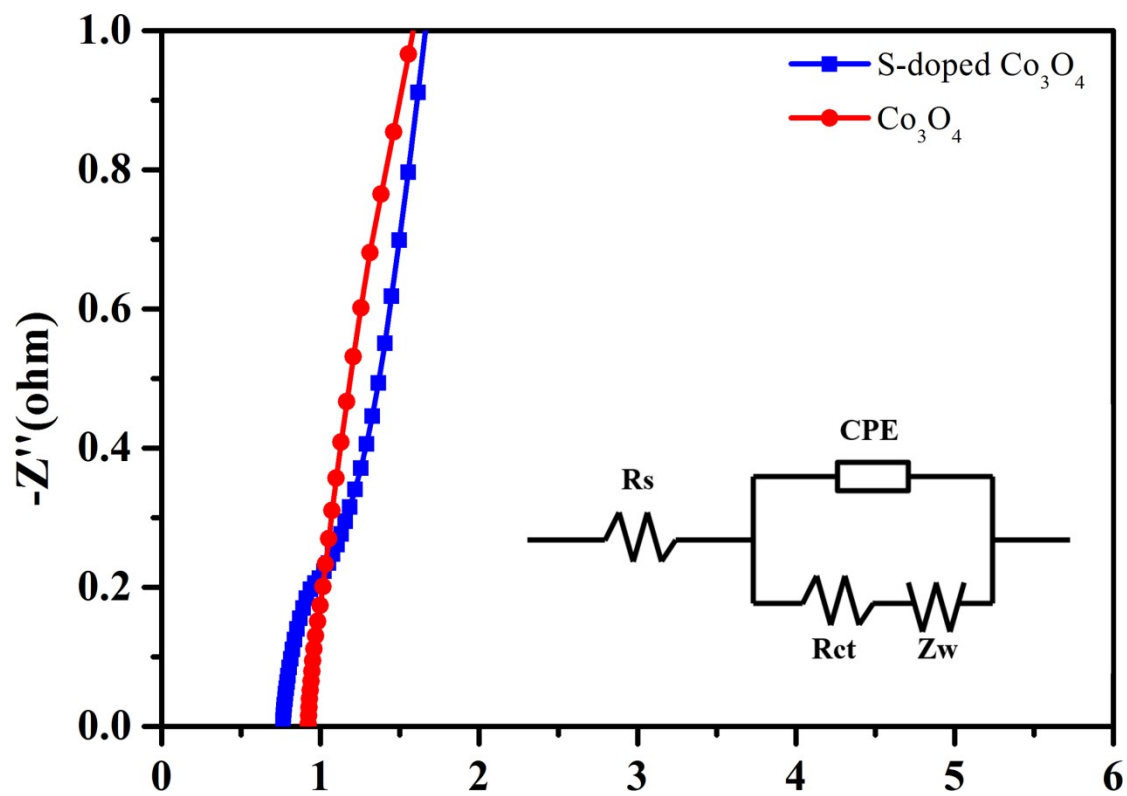


Fig. S5. The Nyquist plots of Co_3O_4 and S-doped Co_3O_4 .

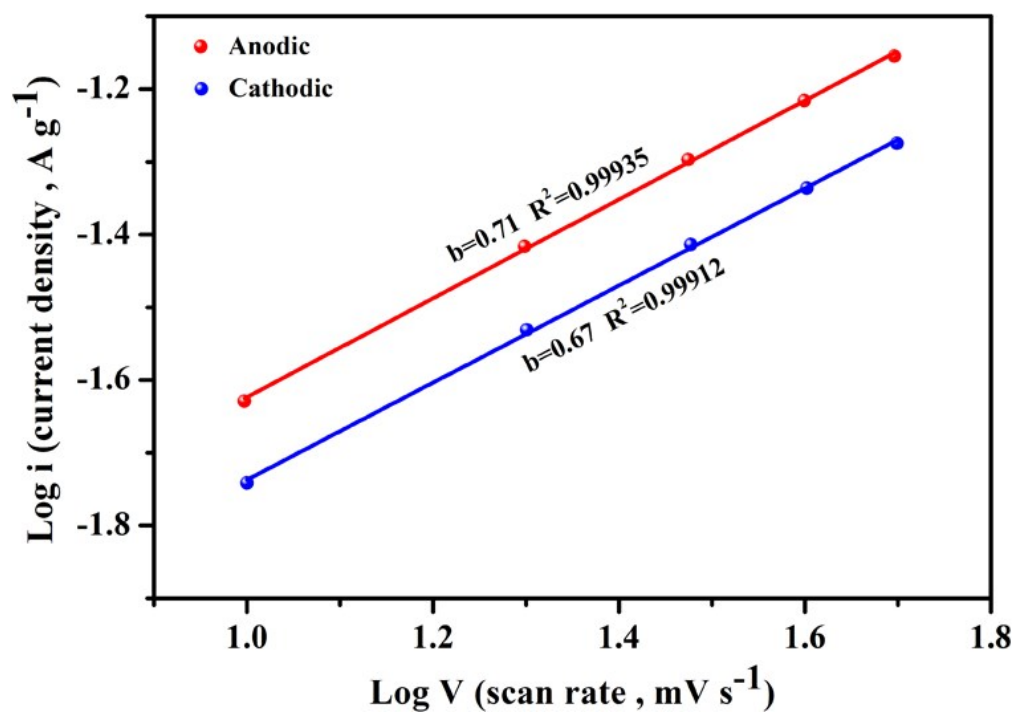


Fig. S6. The anodic and cathodic peak currents as a function of scan rate.

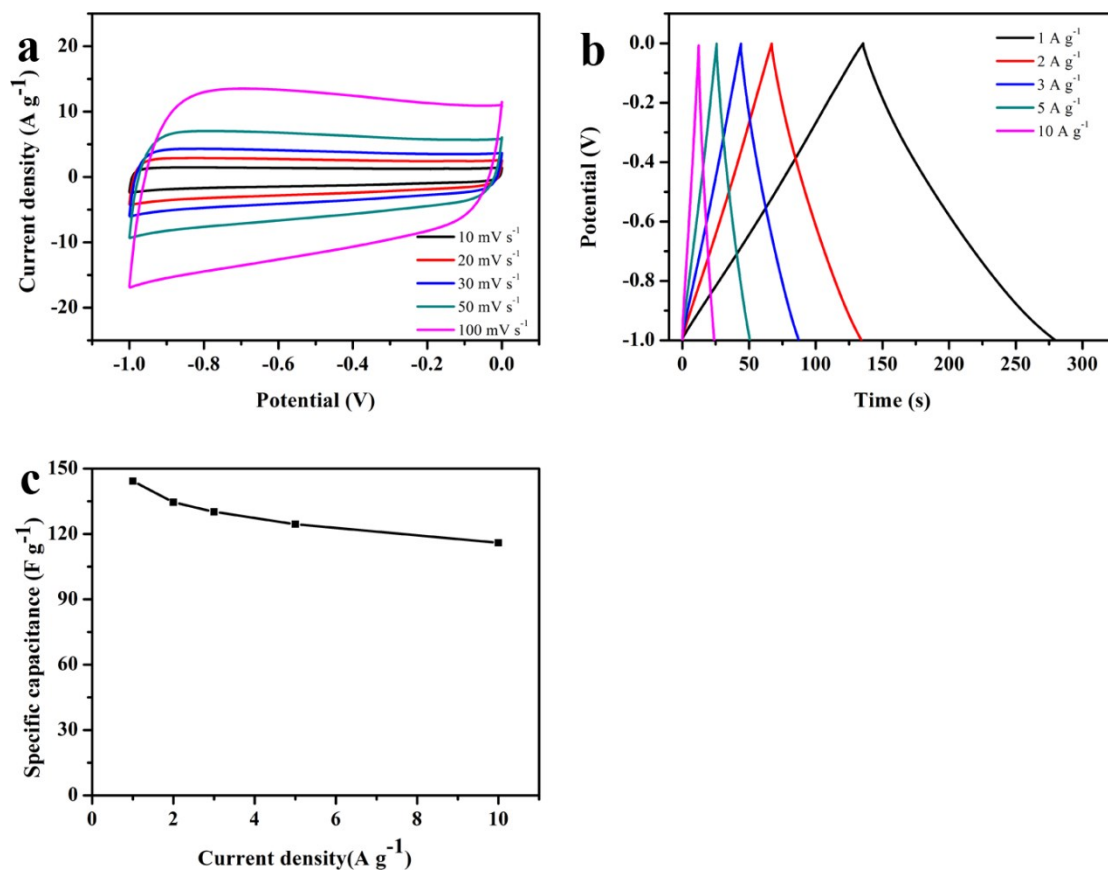


Fig. S7. (a) CV curves at different scan rates of the AC electrode, (b) charge–discharge curves of the AC electrode and (c) specific capacitances at various current densities of the AC electrode.

Table S1. Simulated resistances of the samples.

Electrode materials	R_s (Ω)	R_{ct} (Ω)
S-doped Co_3O_4	0.77	0.25
Co_3O_4	0.94	0.13

Table S2. Comparison of the electrochemical performance of this work with other relevant electrodes reported in literature.

Electrode materials	Specific capacitance	Current density	Refs
S-doped Co ₃ O ₄ nanorods	638.6 F g ⁻¹	0.5 A g ⁻¹	This work
S-doped Co ₃ O ₄ nanorods	628 F g ⁻¹	1 A g ⁻¹	This work
Flower-like CoS	586 F g ⁻¹	1 A g ⁻¹	1
CoS _{1.097}	186.0 F g ⁻¹	0.5 A g ⁻¹	2
CoS _x @C	496.8 F g ⁻¹	0.5 A g ⁻¹	3
Ag/CoS	370 F g ⁻¹	1 A g ⁻¹	4
CoS ₂ nanoframes	568 F g ⁻¹	0.5 A g ⁻¹	5
Co ₃ O ₄ nanotubes	574 F g ⁻¹	0.1 A g ⁻¹	6
Nanostructured Co ₃ O ₄	393.6 F g ⁻¹	1 A g ⁻¹	7
MnO@C nanofibers	578 F g ⁻¹	1 A g ⁻¹	8

References

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