Supporting information

Fabrication of 2D/2D nanosheets heterostructures of ZIF-derived Co_3S_4 and g-C_3N_4 for asymmetric supercapacitors with superior cycling stability

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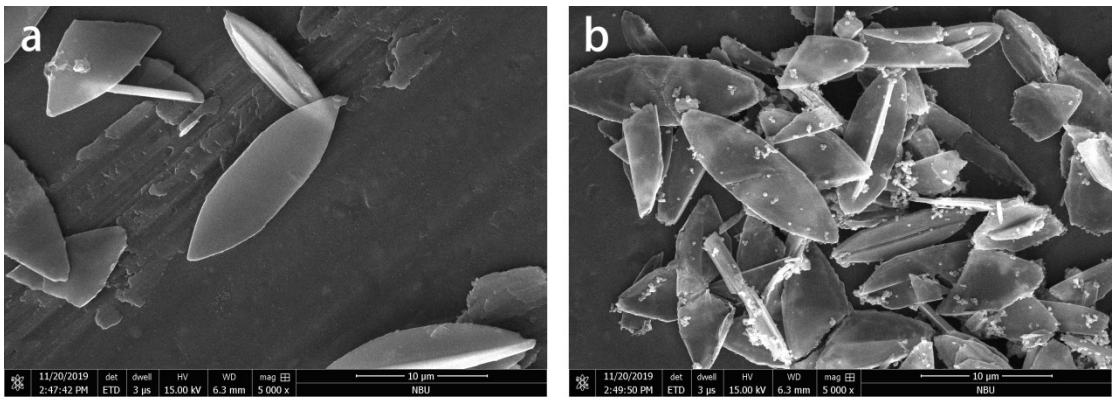

Figure S1. SEM images of (a) Co-ZIF-L and corresponding (b) Co_3S_4.

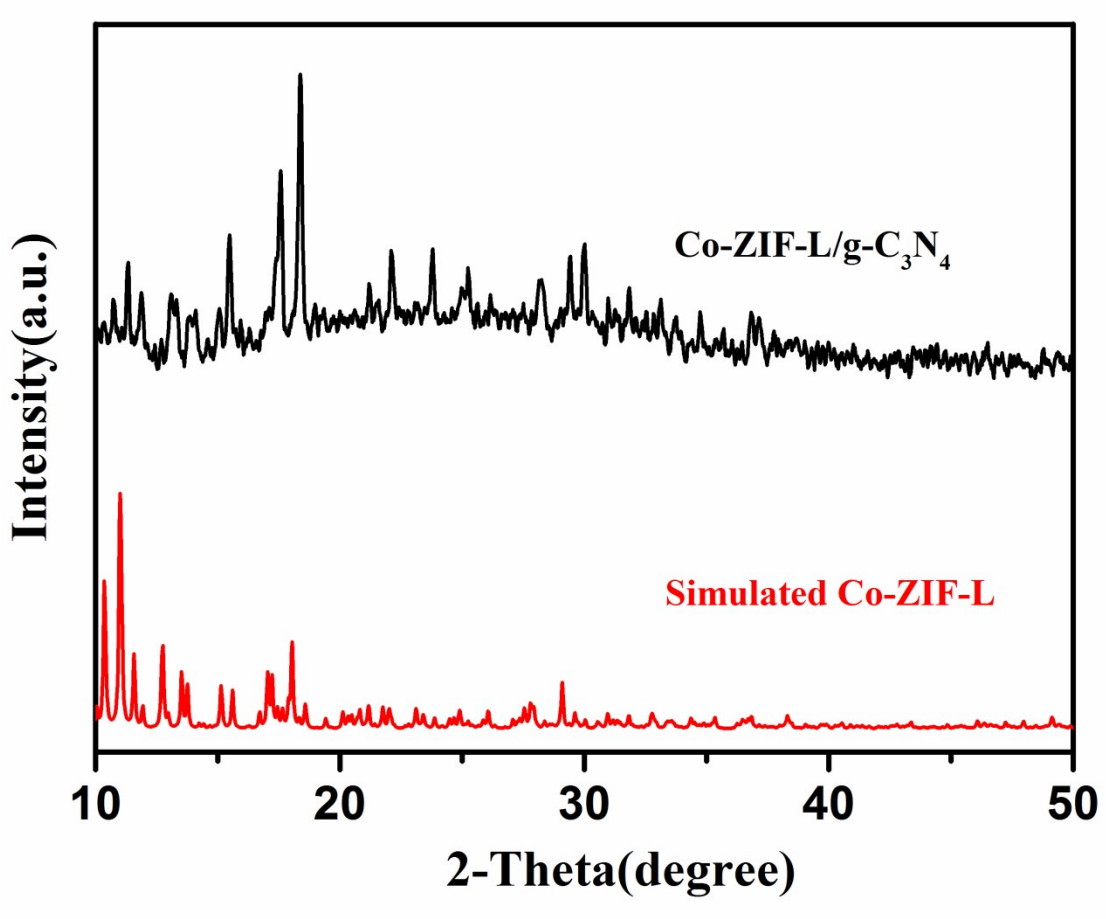

Figure S2. XRD pattern of Co-ZIF-L/g-C_3N_4

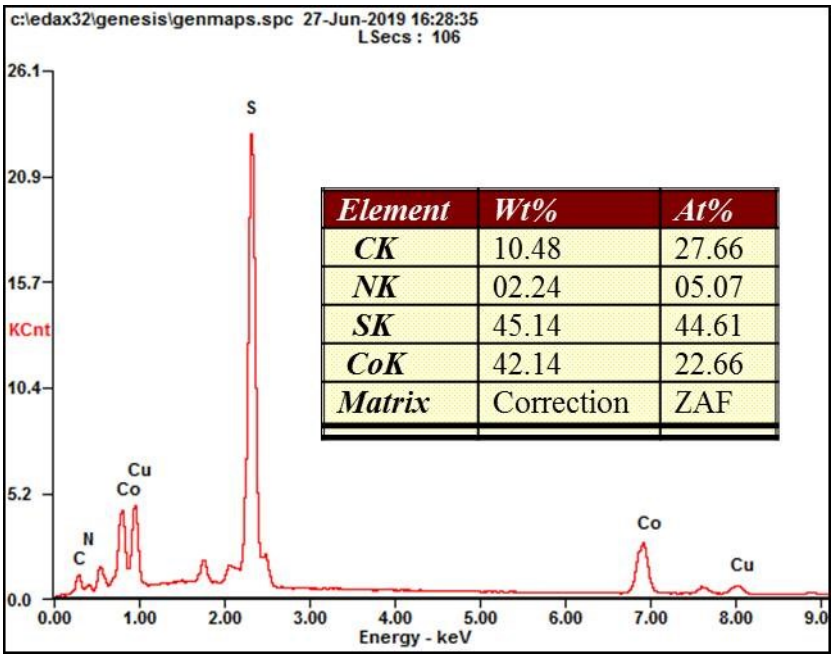

Figure S3. EDS pattern of Co_3S_4/g-C_3N_4-10

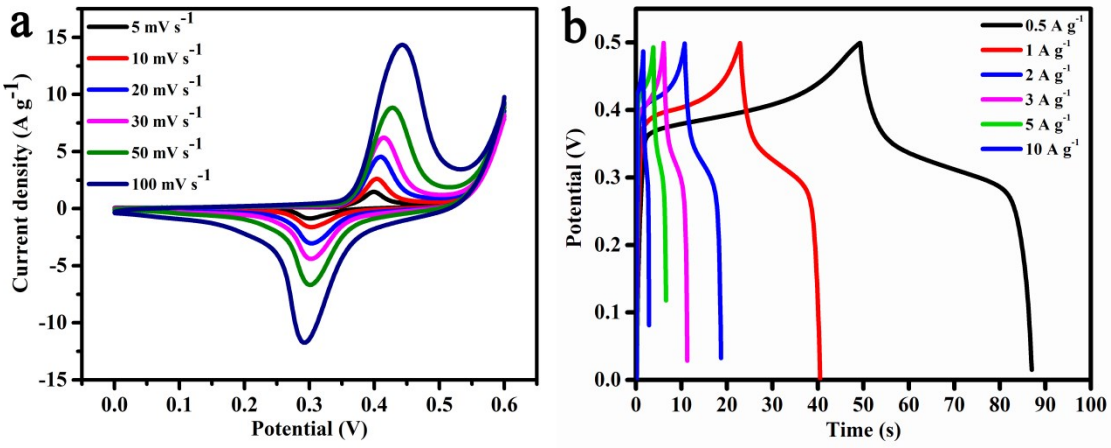

Figure S4. (a) CV curves and (b) GCD curves of C_3N_4.

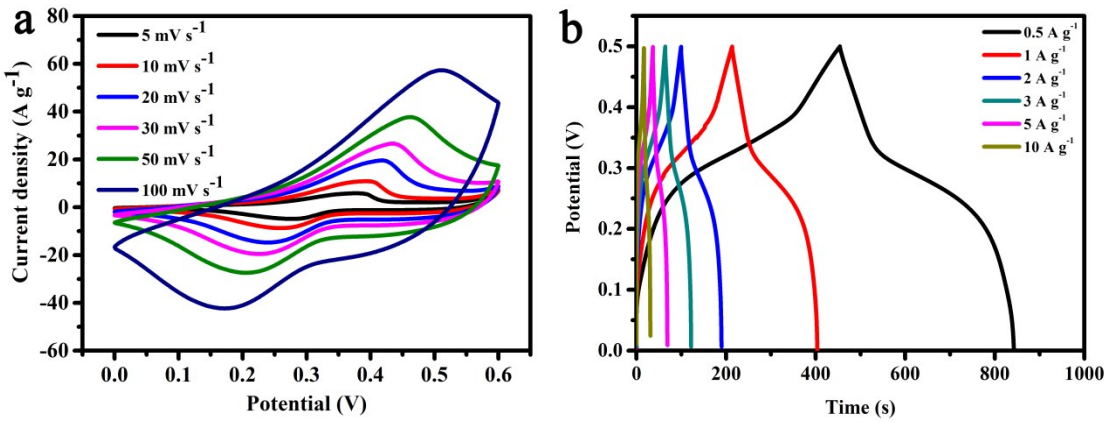

Figure S5. (a) CV curves and (b) GCD curves of Co_3S_4.

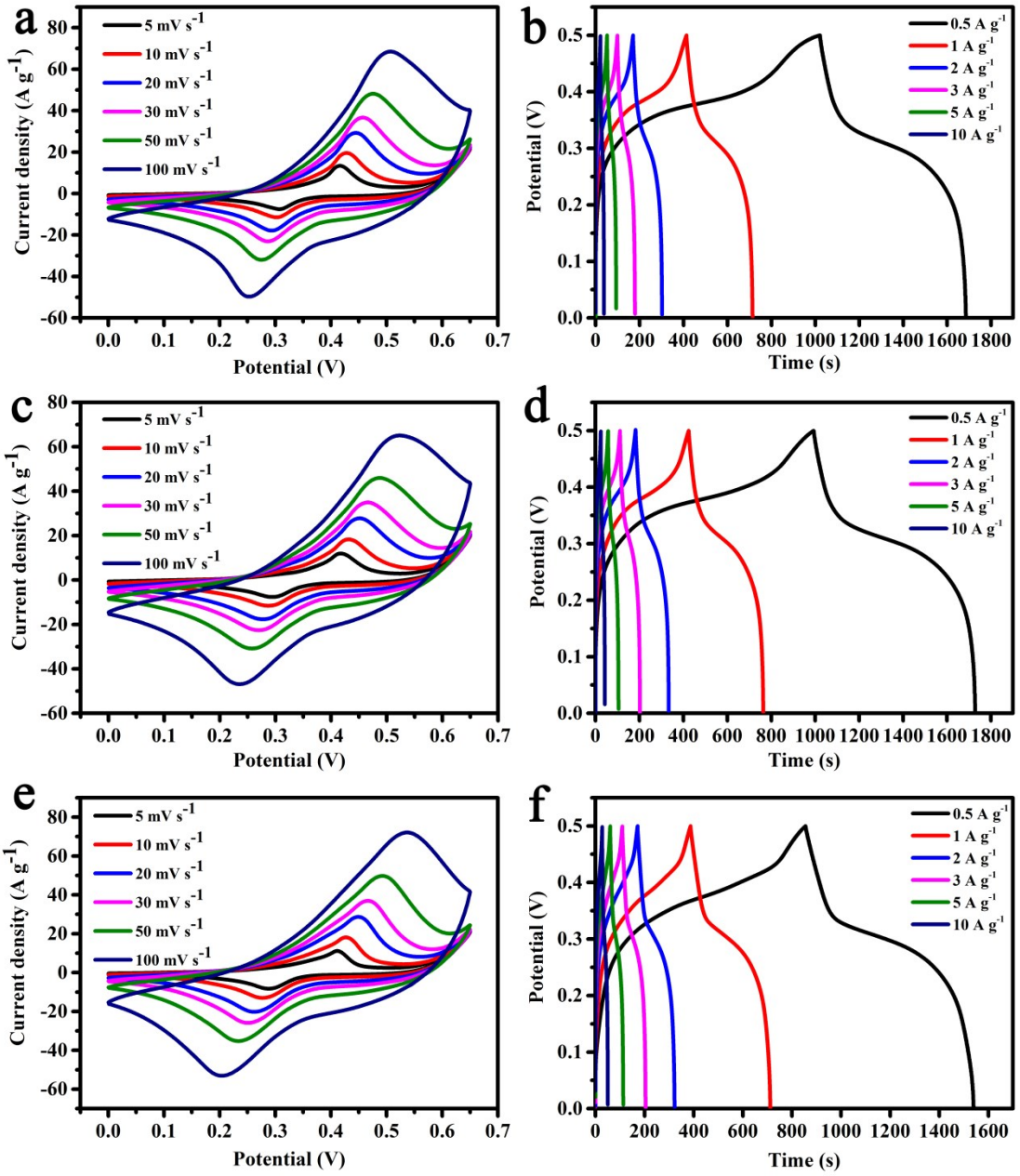

Figure S6. (a, c, e) CV curves and (b, d, f) GCD curves of Co_3S_4/ g-C_3N_4 composites. (a, b): Co_3S_4/g-C_3N_4-5; (c, d): Co_3S_4/g-C_3N_4-15; (e, f): Co_3S_4/g-C_3N_4-20.

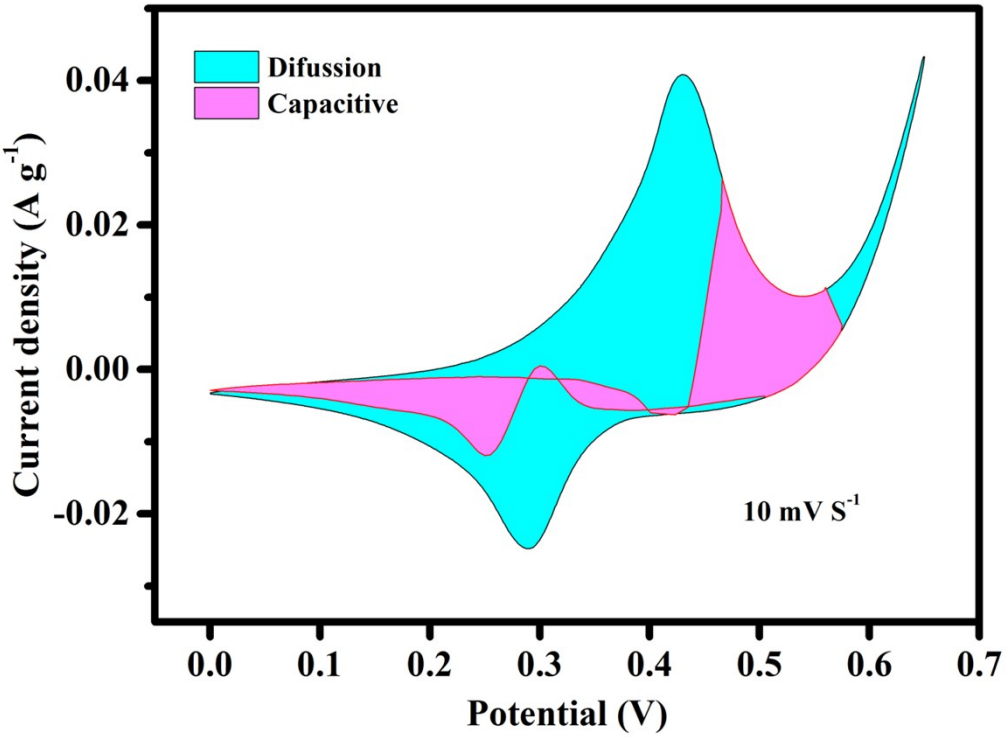

Figure S7. Separation of the capacitive and diffusion currents in the as-prepared Co_3S_4/g-C_3N_4-10 electrode at a scan rate of 10 mV s^{-1}.

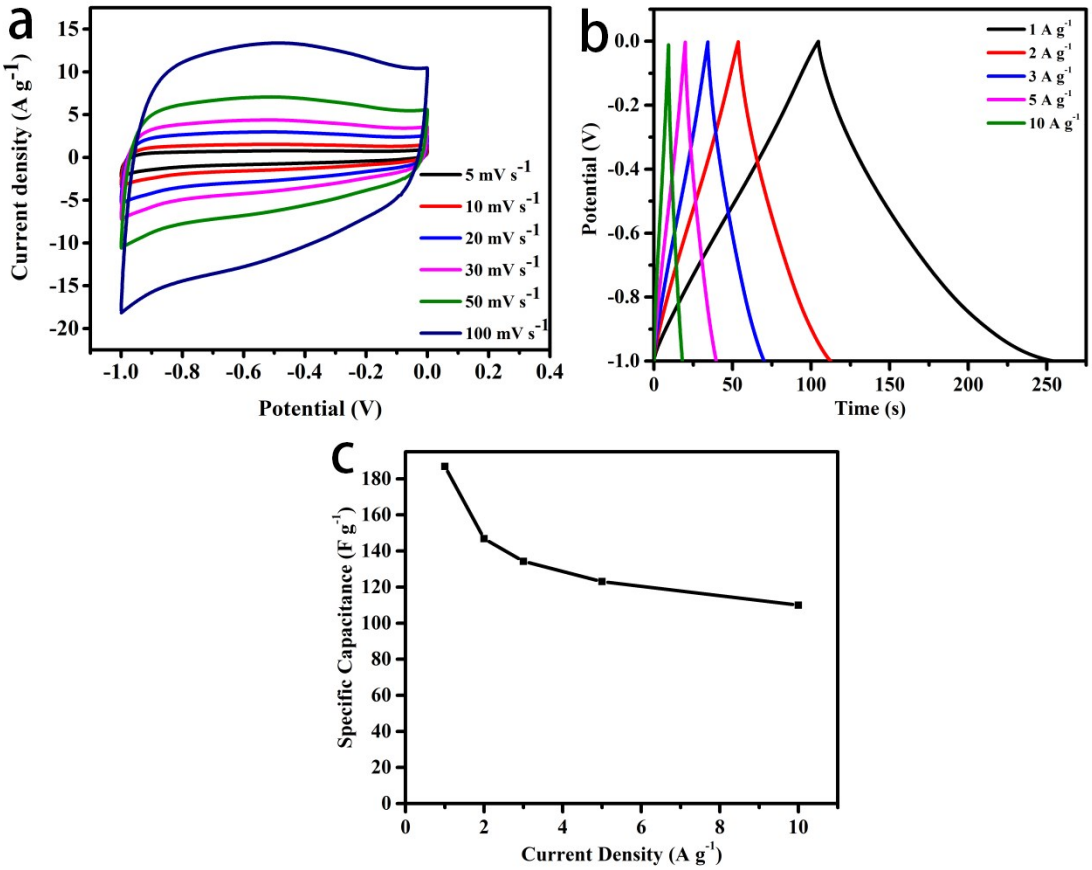

Figure S8. (a) CV curves of AC electrode at different scan rates, (b) GCD curves of AC electrode at different current densities and (c) the corresponding specific capacitance of AC electrode by the GCD curves.

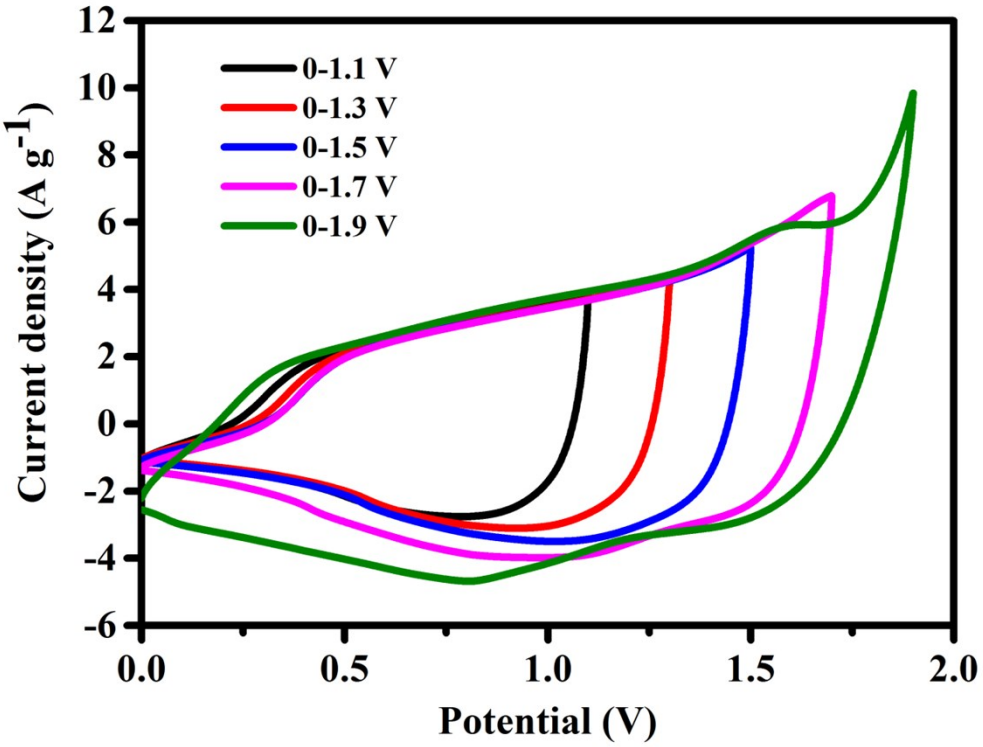

Figure S9. The CV curves of ASC device at different voltage windows with scan rate of 50 mV s^{-1}.

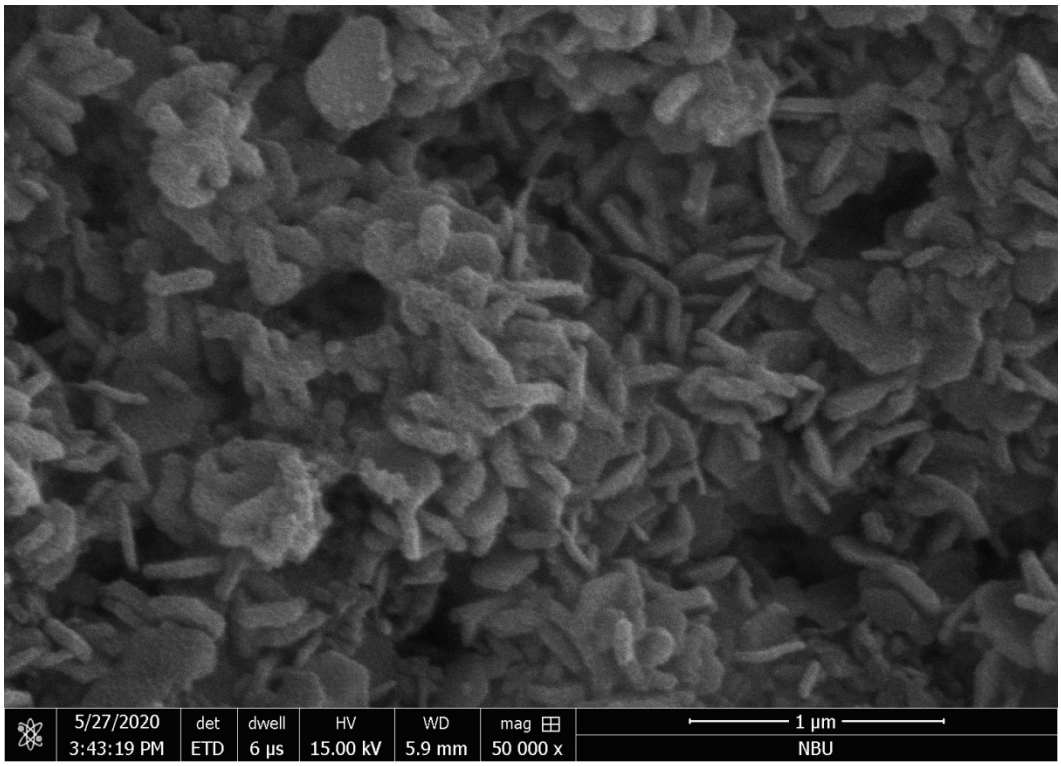

Figure S10. SEM image of Co_3S_4/g-C_3N_4-10 after cycling.

Table S1 Comparison of electrochemical performance of this work with metal sulfides reported in literature.

Electrode materials	Specific capacitance	Current density	Refs
Co_3S_4/g-C_3N_4	830 F g^{-1}(415.0 C g^{-1})	0.5 A g^{-1}	This work
g-C_3N_4/CoS	834.0 F g^{-1}	0.5 A g^{-1}	1
CoS/rGO	550.0 F g^{-1}	1 A g^{-1}	2
Co_9S_8/S,N-dped carbon	734.1 F g^{-1}	1 A g^{-1}	3
CoS_X/C	496.8 F g^{-1}	0.5 A g^{-1}	4
CoS_2	375.2 C g^{-1}	1 A g^{-1}	5
Flower-like CoS	348 F g^{-1}	1 A g^{-1}	6
Ni_3S_2@Co_9S_8	600 F g^{-1}	0.5 A g^{-1}	7

References

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