Supporting Information

Figure S1 FESEM and TEM images of Co$_3$O$_4$ nanosheets.

Figure S2 TEM image of Co$_3$S$_4$/NiS.
Figure S3 (a) CV curves of 90#3, (b) Charge-discharge curves of 90#3, (c) CV curves of 90#24, (d) Charge-discharge curves of 90#24, (e) CV curves of 90#36, (f) Charge-discharge curves of 90#36, (g) CV curves of 70#12, (h) Charge-discharge curves of 70#12, (i) CV curves of 110#12, (j) Charge-discharge curves of 110#12.
Figure S4 The Nyquist plot after the cycling test of \( \text{Co}_3\text{S}_4/\text{NiS} \).

Figure S5 (a) CV curves of porous carbon, (b) Charge-discharge curves of porous carbon.
Figure S6 Raman spectrum of Co$_3$S$_4$/NiS.