

Figure S1 XPS spectra of Zn2p, Co2p, O 1s, C1s and N1s spectrum of the sample of ZCO@C₃N₄

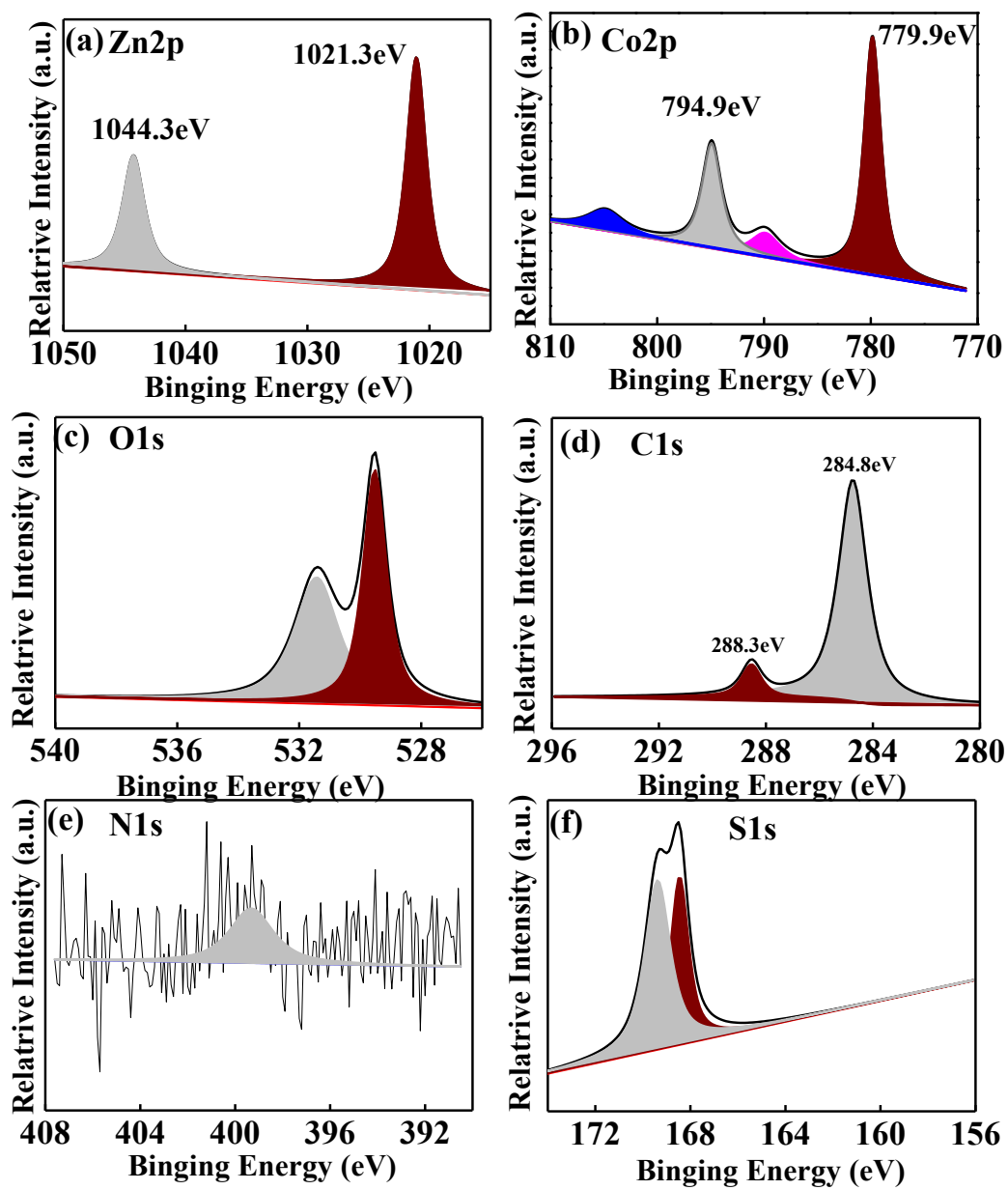


Figure S2 XPS spectra of Zn2p, Co2p, O 1s, C1s, N1s and S1s spectrum of the sample of ZCO@C₃N₄-S

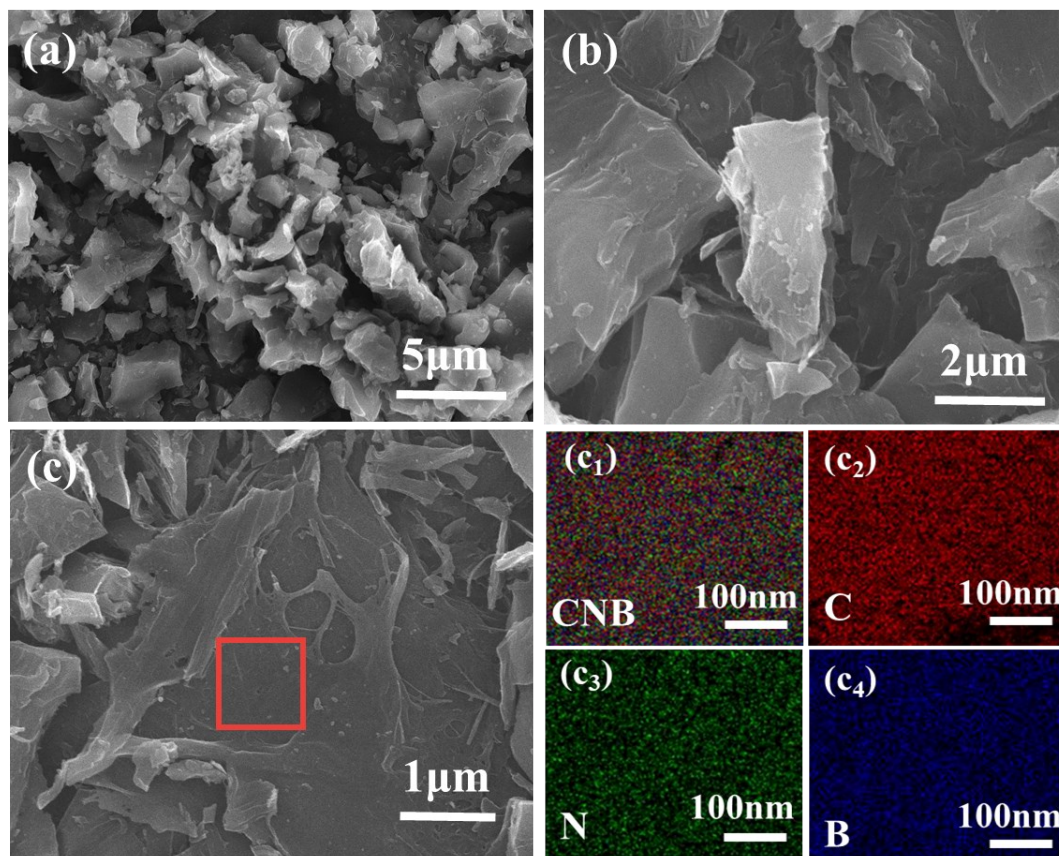


Figure S3 (a-c) SEM images of g-C₃N₄, g-C₃N₄-S and g-C₃N₄-B; (c₁ - c₄) SEM-EDS elemental mapping of C, N and B for the g-C₃N₄-B.

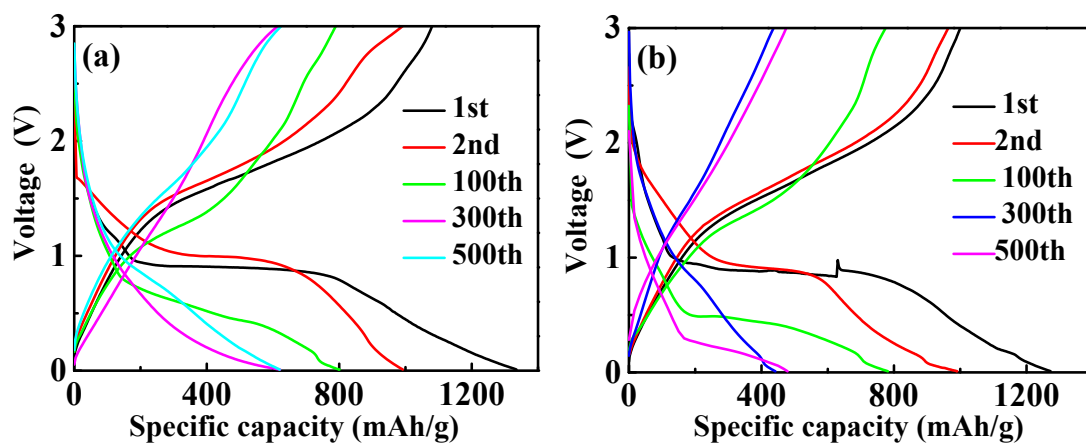


Figure S4 (a/b) Charge and discharge profiles of ZCO@C₃N₄ and ZCO@C₃N₄-B electrodes for the selected cycles (1st, 2nd, 100th, 300th and 500th)

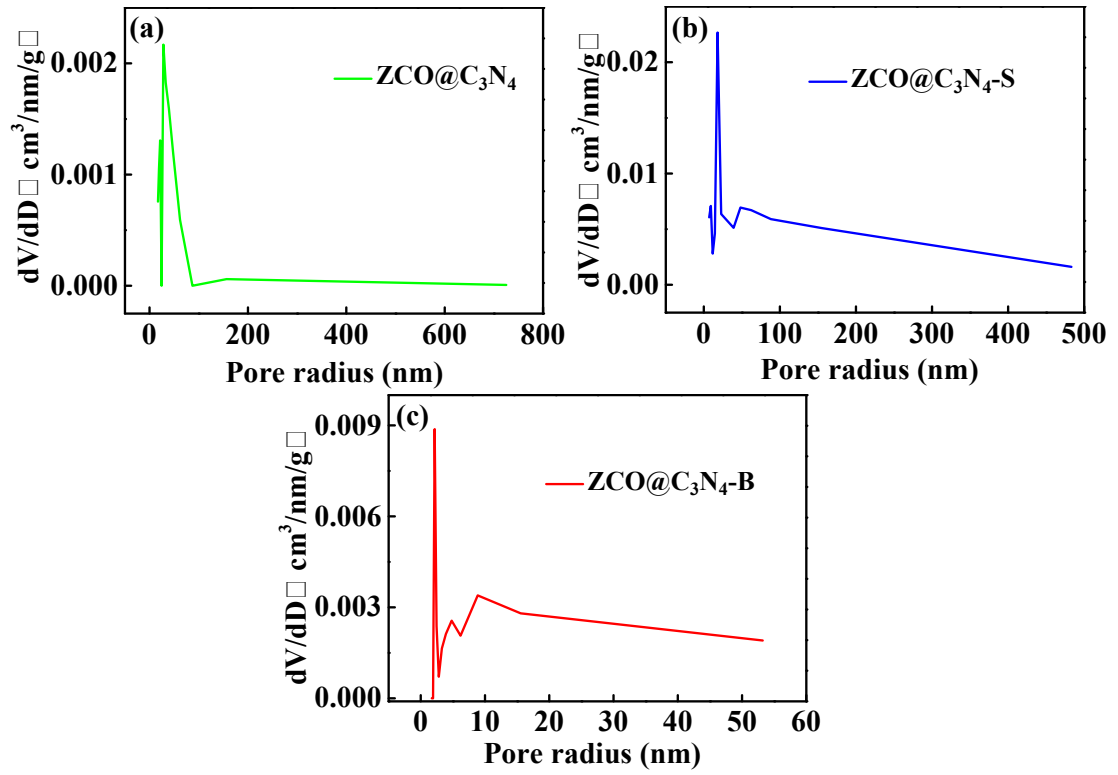


Figure S5 Pore size distribution of ZCO@C₃N₄, ZCO@C₃N₄-S and ZCO@C₃N₄-B

B

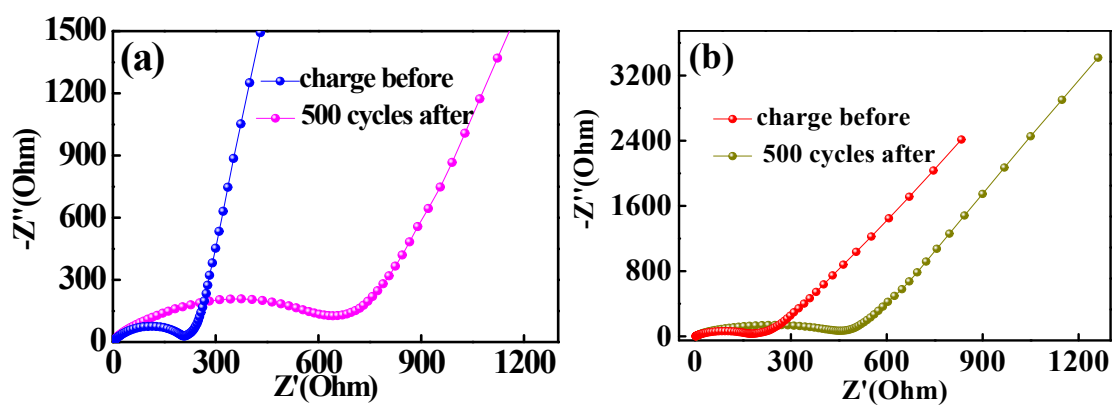


Figure S6 (a/b) Electrochemical impedance spectroscopy of the ZCO@C₃N₄, ZCO@C₃N₄-S electrodes after 500 cycles and charge before.