Electronic Supplementary Material (ESI) for RSC Advances.


# Electronic Supplementary Information (ESI)

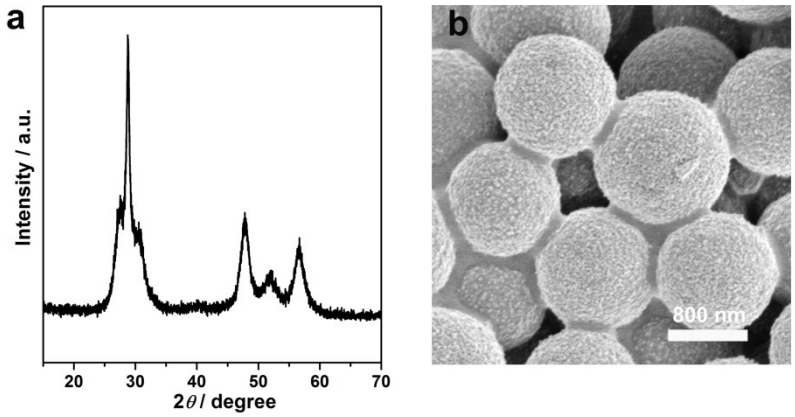


**Fig. S1** (a) XRD pattern and (b) SEM image of the ZnS.

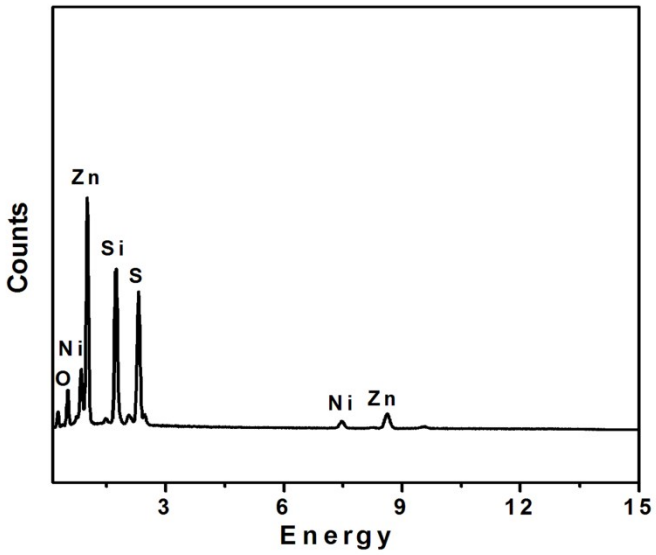


**Fig. S2** The energy-dispersive X-ray (EDX) spectrum of the mesoporous hierarchical ZnS@β-$Ni(OH)_2$ microspheres.

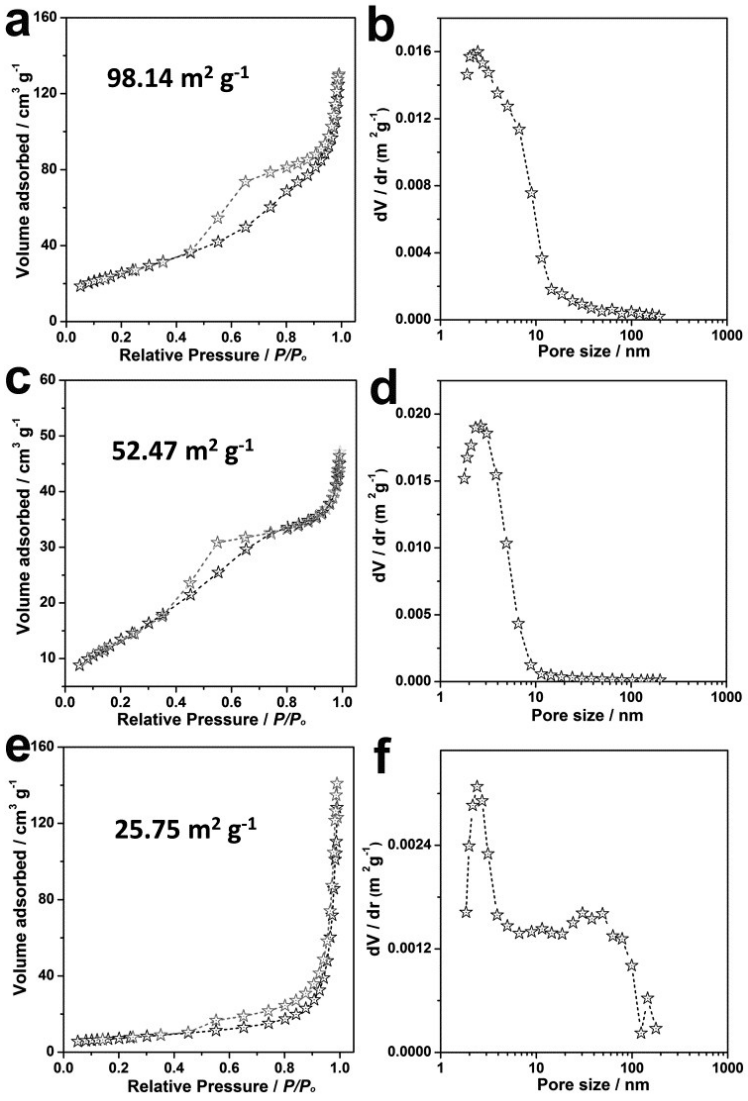


**Fig. S3** $N_2$ adsorption-desorption isotherms and pore size distribution curves of the samples: (a, b) ZnS@β-$Ni(OH)_2$; (c, d) ZnS and (e, f) β-$Ni(OH)_2$.

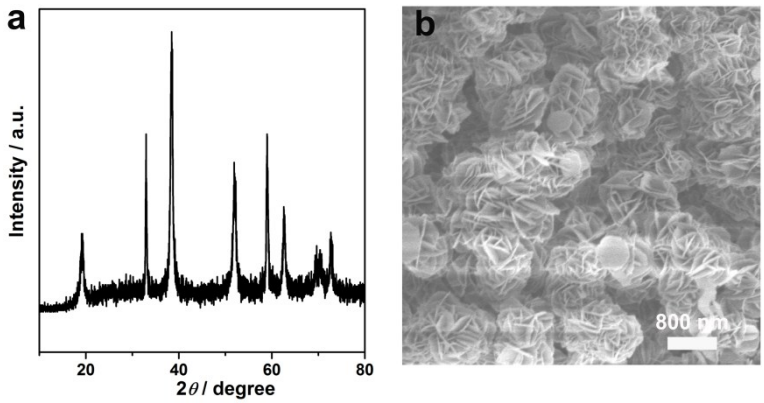


**Fig. S4** (a) XRD pattern and (b) SEM image of the β-$Ni(OH)_2$.

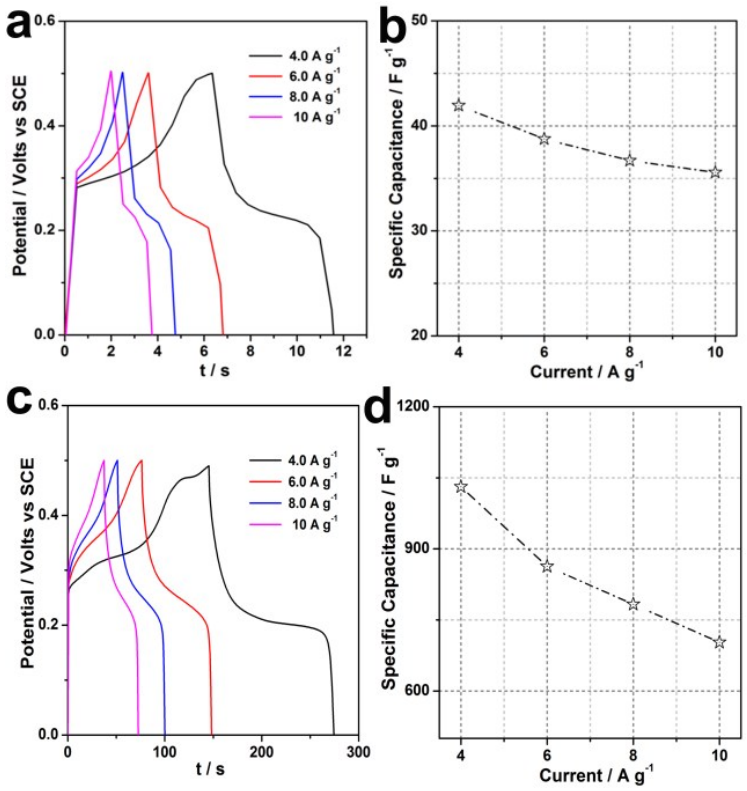


**Fig. S5** (a) Charge-discharge curves and (b) specific capacitances of ZnS at different current densities; (c) Charge-discharge curves and (d) specific capacitances of β-$Ni(OH)_2$ at different current densities.

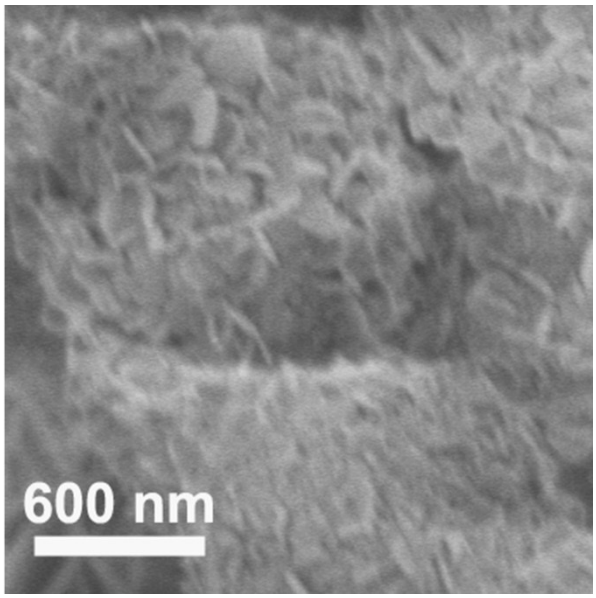


**Fig. S6** SEM image of the hierarchical ZnS@β-$Ni(OH)_2$ microspheres after 6000 charge-discharge cycles at 6.0 A $g^{-1}$.

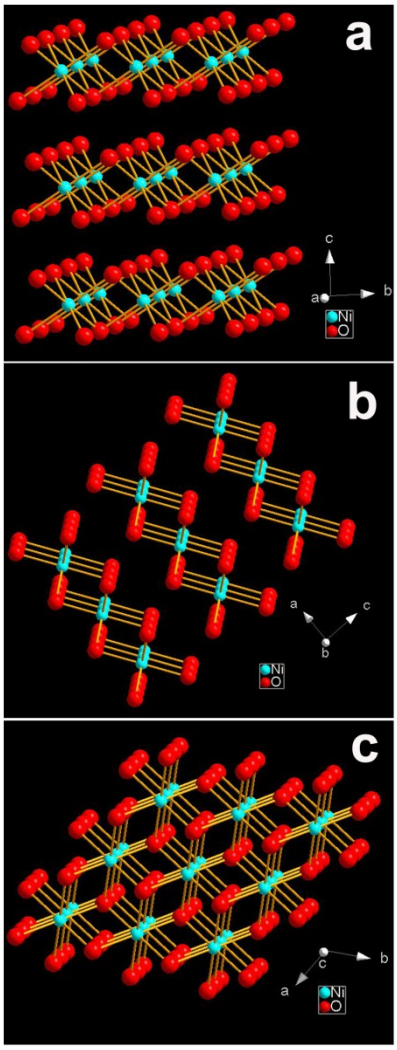


**Fig. S7** The schematic crystal structures of β-$Ni(OH)_2$ super cell (2×2×2 slabs) projected based on data of ICSD-24015.

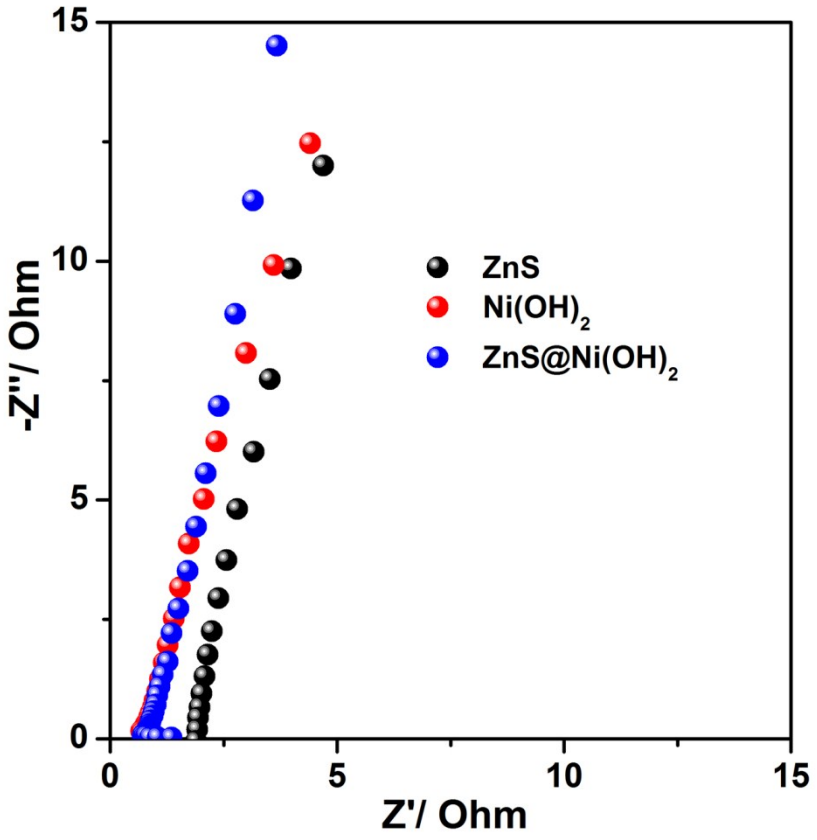


**Fig. S8** Electrochemical impedance spectra of different electrodes materials at room temperature in 3.0 M KOH solutions

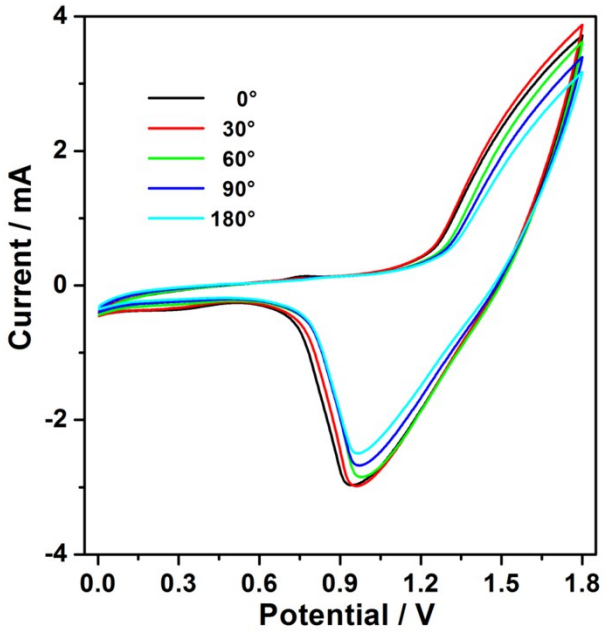


**Fig. S9** Flexibility and stability of the flexible solid state ZnS@β-$Ni(OH)_2$//activated carbons hybrid supercapacitors device at 30 mV $s^{-1}$ with different bending angles.

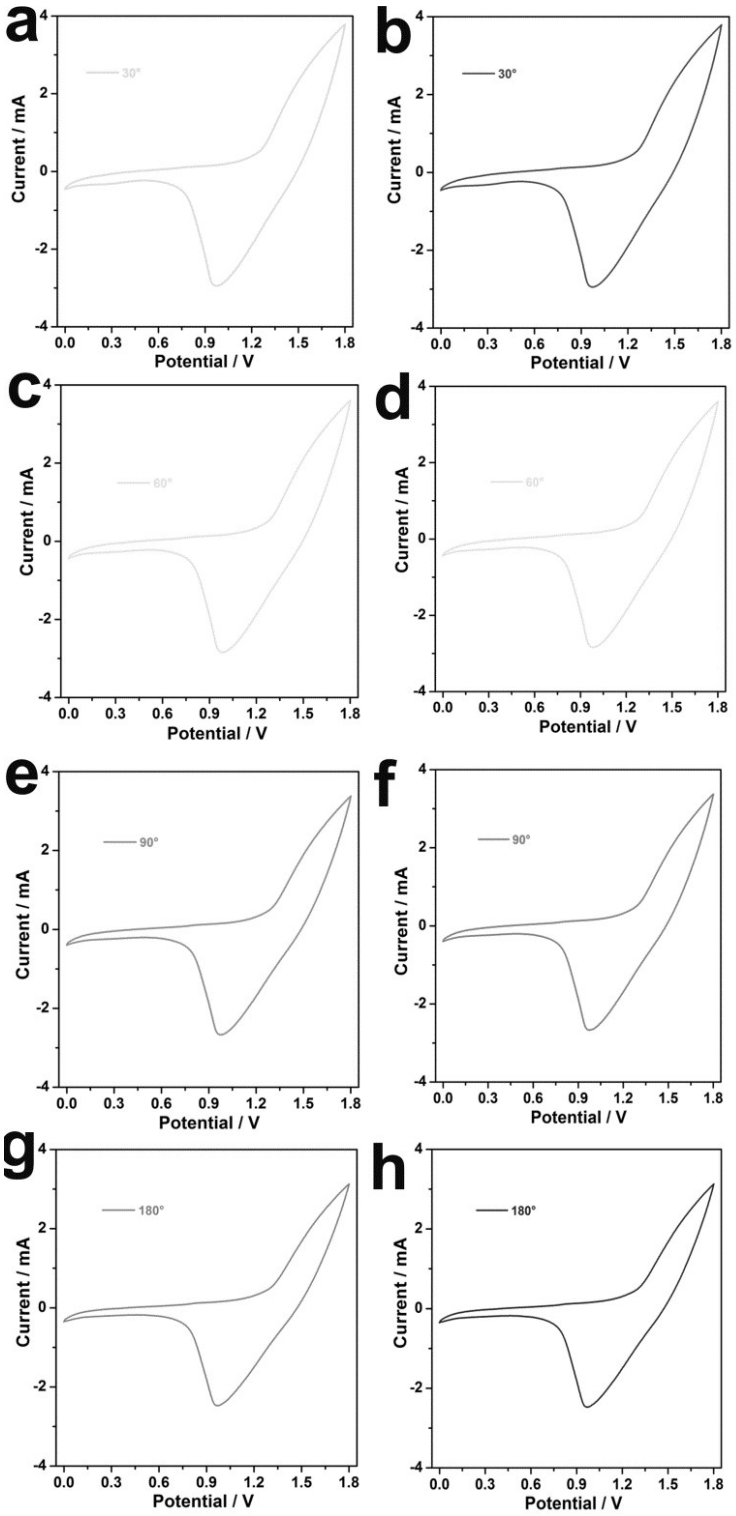


**Fig. S10** The CV curves after bending for certain times: (a) 30° for 10 times; (b) 30° for 30 times; (c) 60° for 10 times; (d) 60° for 30 times; (e) 90° for 10 times; (f) 90° for 30 times; (g) 180° for 10 times; (h) 180° for 30 times.