Electronic Supplementary Information

Facile synthesis of a Co_3O_4 @carbon nanotubes/polyindole composite and its application in all-solid-state flexible supercapacitors



Fig. S1 Schematic illustration of the symmetric supercapacitor configuration.



Fig. S2 Photographs of CNTs (a), Co_3O_4 (b), CNTs/PIn (c), Co_3O_4 @CNTs (d) and Co_3O_4 @CNTs/PIn (e) dispersed in water (1 mg/mL) after 1 h ultrasonication and stood for 72 h.



Fig. S3 TEM images of Co_3O_4 , inset is HRTEM micrographs of Co_3O_4 nanoparticles.



Fig. S4 XRD pattern of prepared Co₃O₄@CNTs/PIn and Co₃O₄@CNTs.



Fig. S5 Galvanostatic charge/discharge curves of four different materials at a scan rate of 1 A g^{-1} .



Fig. S6 (A) Cyclic voltammetry curves of bare GCE, CNTs, CNTs/PIn, $Co_3O_4@CNTs$ and $Co_3O_4@CNTs/PIn$ modified GCE in a 10 mM $K_3Fe(CN)_6$ and 0.1 M KCl solution at a scan rate of 100 mV s⁻¹, (B) Peak currents as a function of scan rate for the determination of the effective working surface area.



Fig. S7 The specific capacitance of $Co_3O_4@CNTs/PIn$ device as a function of PIn (A) and $Co(NO_3)_2 \cdot 6H_2O$ (B), respectively, $Co(NO_3)_2 \cdot 6H_2O$ mass is fixed at 0.3 g for (A) plot, PIn mass is fixed at 0.1 g for (B) plot.