Electronic Supplementary Material (ESI) for Chemical Communications

Hierarchical porous $NiCo_2O_4$ nanowires for high-rate supercapacitors

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Part I: Experimental section

The as-prepared products were characterized with X-ray powder diffractometer (XRD; Shimadzu XRD-6000, Cu Kα radiation) at a scan rate of 1 °C min^{-1}, scanning electron microscopy (FESEM; JEOL, JSM-7600F), and transmission electron microscopy (TEM; JEOL, JEM-2100F) operated at 200 kV. N_2 adsorption/desorption was determined by Brunauer-Emmett-Teller (BET) measurements using a Tristar-3000 surface area analyzer.

The electrochemical measurements (Autolab PGSTAT30 potentiostat) were conducted using a three-electrode mode in a 1 M KOH aqueous solution. The working electrodes were prepared by mixing the active materials (80 wt%), acetylene black (15 wt%) and polyvinylidene fluoride (PVDF, 5 wt%) in NMP (N-methyl-2-pyrrolidone). A small amount of absolute ethanol was then added to the mixture to promote homogeneity. After that, the mixture was coated onto the graphite paper (1 cm^2) to form the electrode layer by drying at 120 °C for around two hours. The reference electrode

and counter electrode were Ag/AgCl electrode and platinum foil, respectively.

Part II: Supplementary Figures

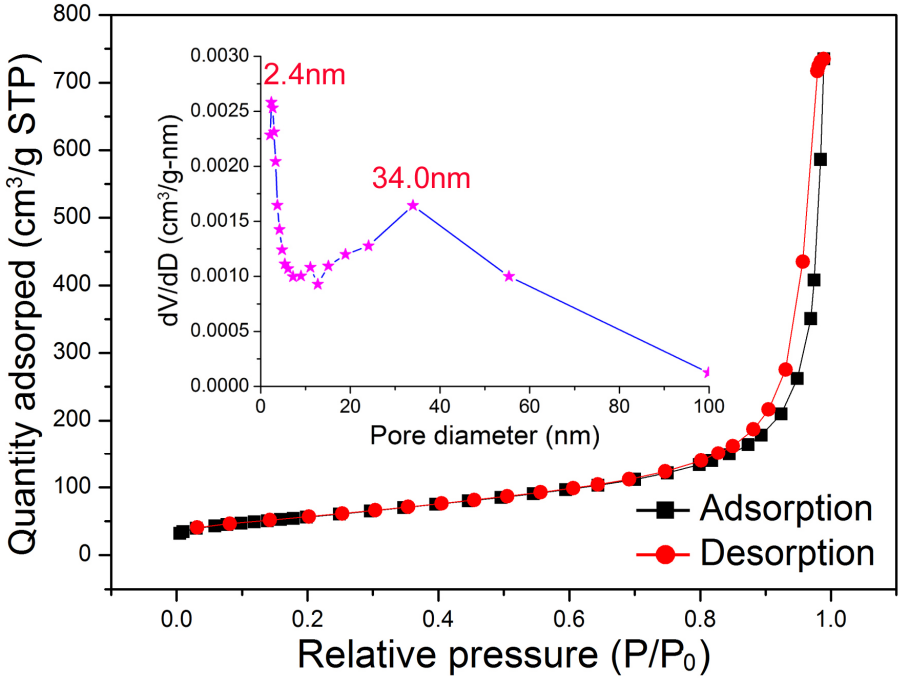

Figure S1 Nitrogen adsorption and desorption isotherm and its corresponding pore size distribution curves of the NiCo2O4 nanowires calcinated at 250 ºC

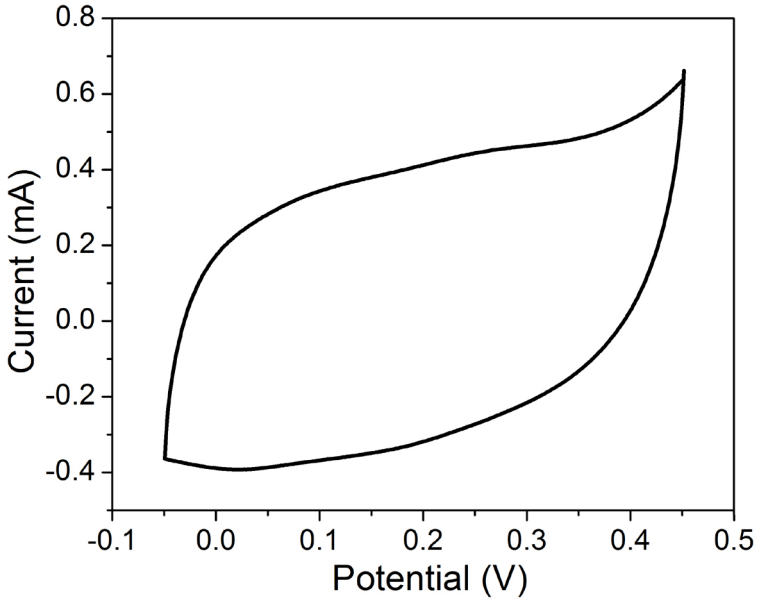

Figure S2 CV curve at a scan rate of 10 mV s^{-1} of the substrate in 1 M KOH aqueous solution.