

## Supporting Information

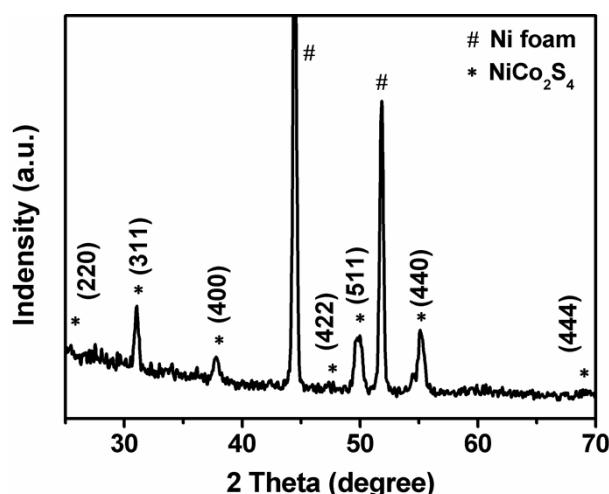
### Cobalt sulfide nanosheets coated on $\text{NiCo}_2\text{S}_4$ nanotube arrays as electrode materials for high-performance supercapacitors

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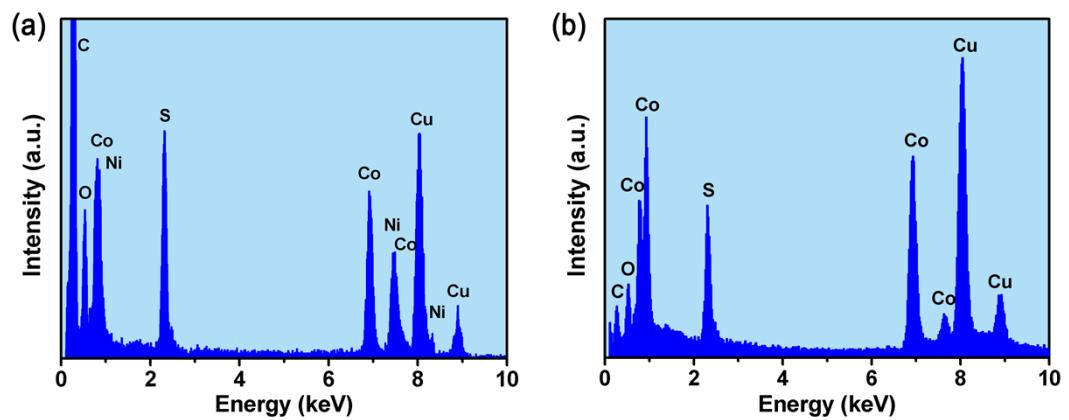
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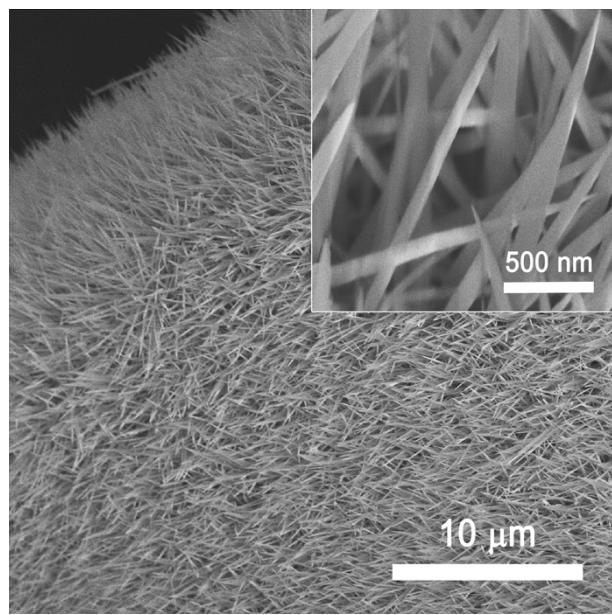
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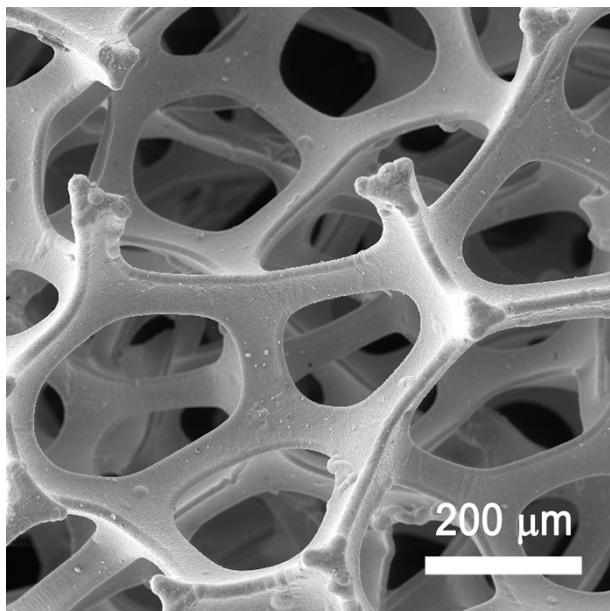
**Fig. S1** XRD pattern of  $\text{NiCo}_2\text{S}_4$  nanotube arrays on Ni foam.



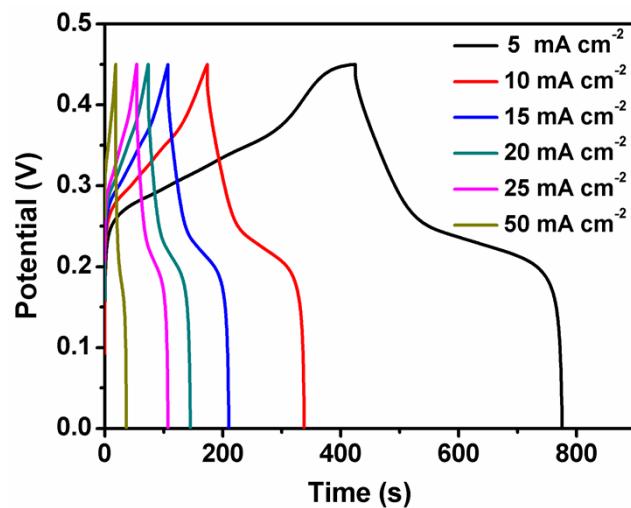
**Fig. S2** EDX spectra of the NiCo<sub>2</sub>S<sub>4</sub> nanotubes (a) and the CoS<sub>x</sub> nanosheets (b).



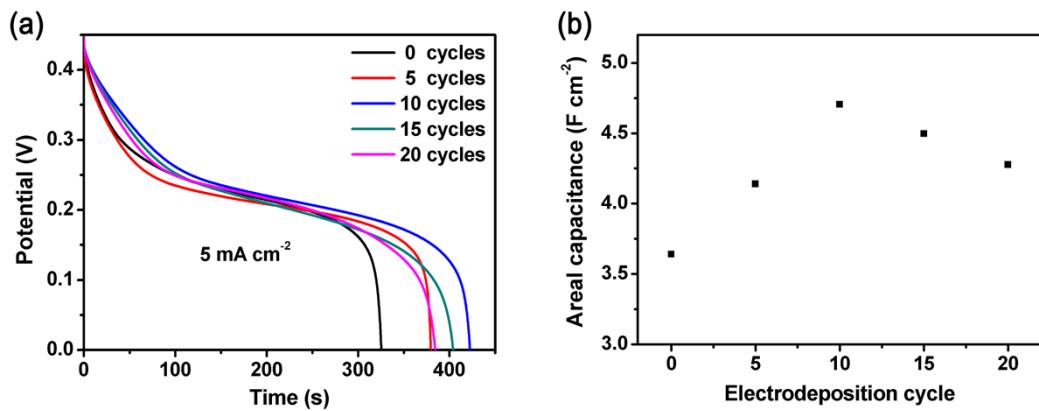
**Fig. S3** SEM image of NiCo<sub>2</sub>S<sub>4</sub> precursors.



**Fig. S4** SEM image of Ni foam.



**Fig. S5** GCD curves of  $\text{NiCo}_2\text{S}_4$  electrode.



**Fig. S6** (a) Discharging curves of the  $\text{NiCo}_2\text{S}_4@\text{CoS}_x$  electrodes with different amounts of  $\text{CoS}_x$  at a current density of  $5 \text{ mA cm}^{-2}$ . (b) The area capacitances as a function of the  $\text{CoS}_x$  electrodeposition cycles.