Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

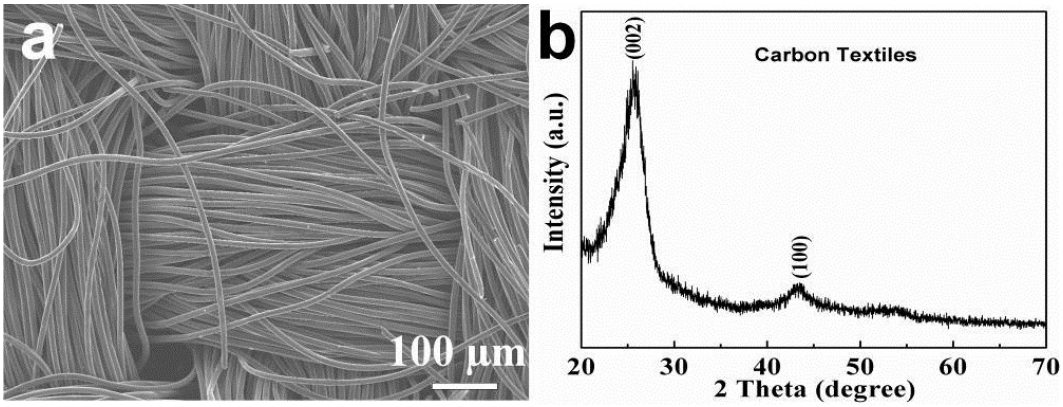

Figure S1. (a) SEM image and (b) XRD pattern of the carbon textile.

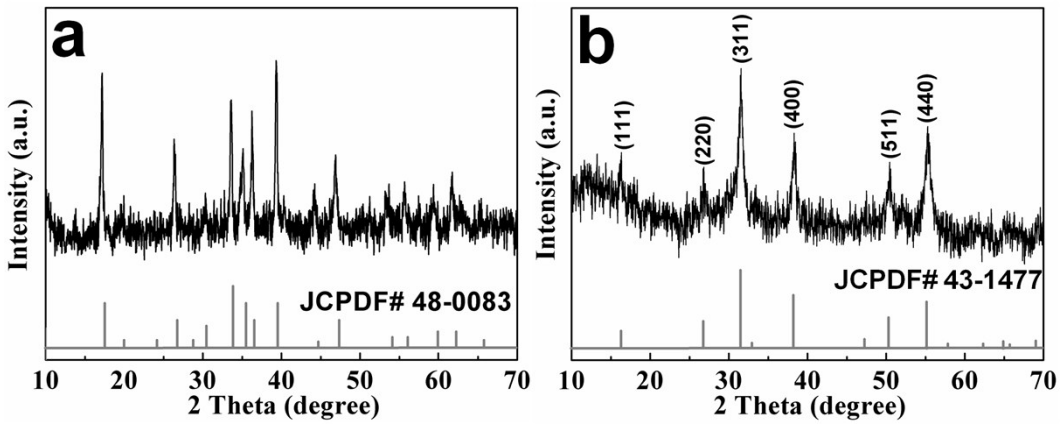

Figure S2. XRD patterns of (a) (Ni, Co)$(CO_3)_{1/2}OH$ precursor and (b) $NiCo_2S_4$ nanotubes synthesized in the absence of CT.

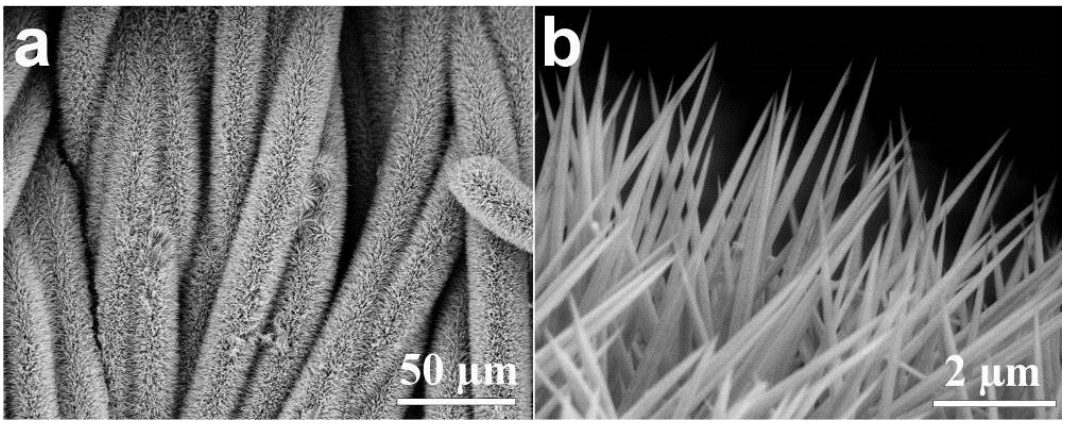

Figure S3. SEM images of the (Ni, Co)$(CO_3)_{1/2}OH$ NWAs/carbon textile.

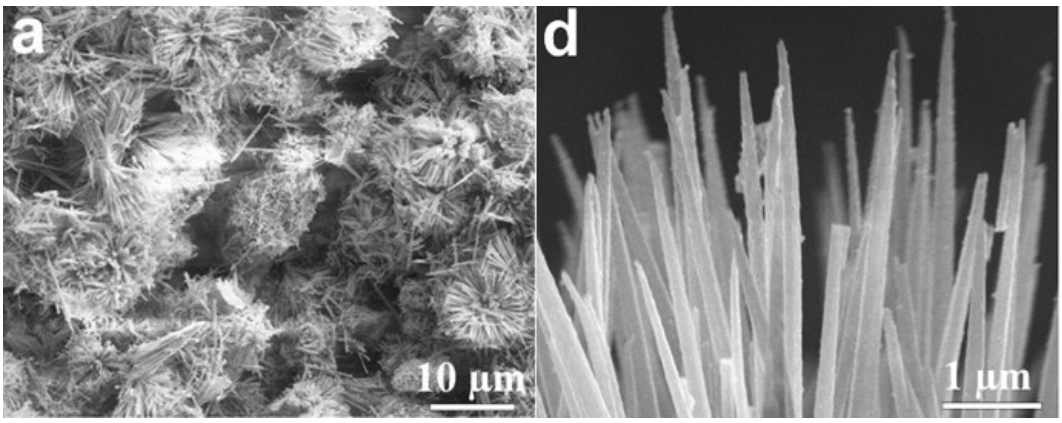

Figure S4. SEM images of $NiCo_2S_4$ nanotube-assembled urchin-like structures.

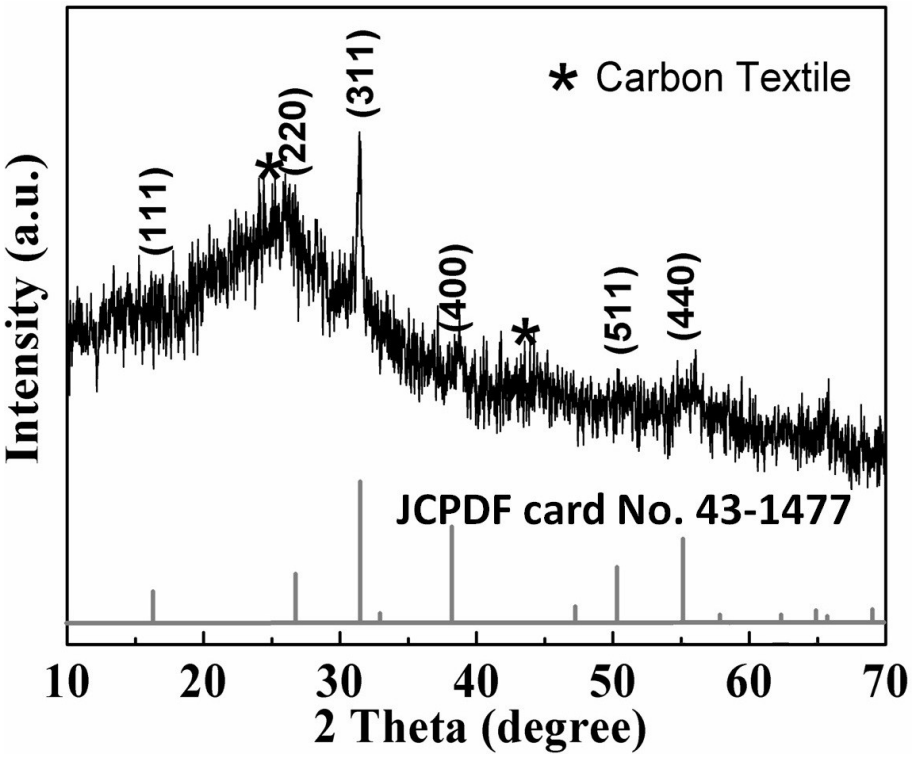

Figure S5. XRD pattern of the $NiCo_2S_4$/CT composite.

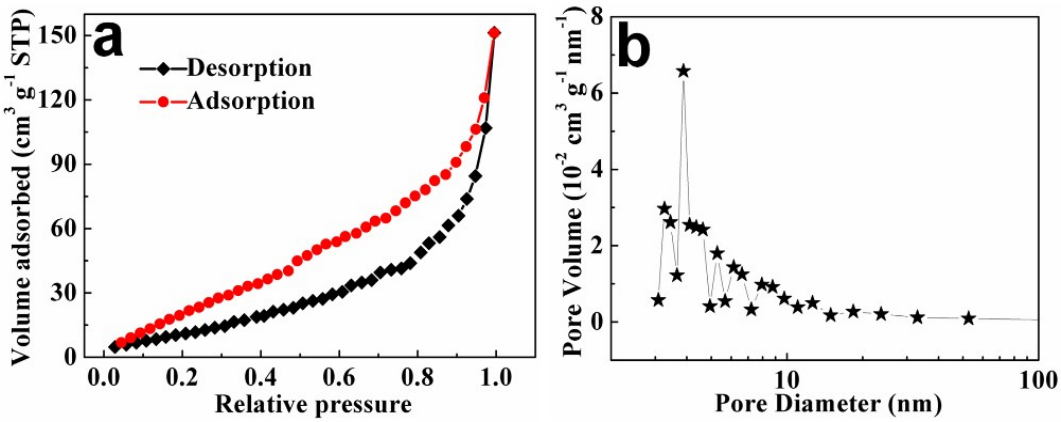

Figure S6. (a) N_2 adsorption-desorption isotherms measured at 77 K and (b) corresponding pore size distribution of $NiCo_2S_4$ nanotubes synthesized in the absence of CT.

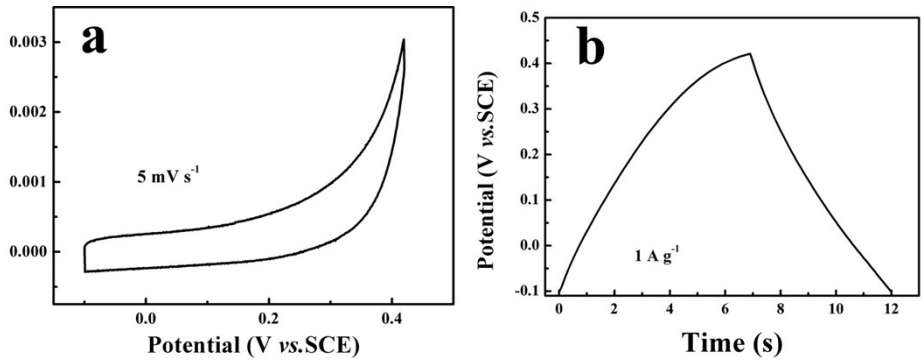

Figure S7. Electrochemical properties of the CT: (a) CV curve at 5 mV s^{-1}; (b) Galvanostatic charge-discharge curve at a current density of 1 A g^{-1}.

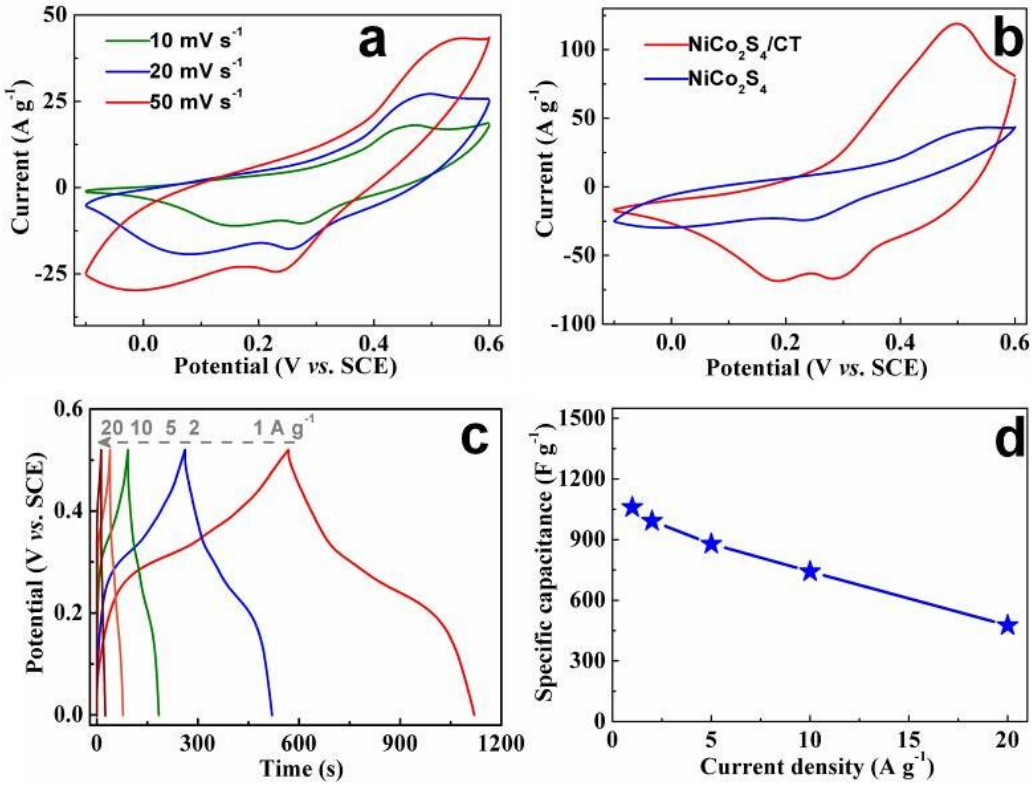

Figure S8. Electrochemical properties of the $NiCo_2S_4$ nanotube-assembled urchin-like structure: (a) CV curves at various scan rates ranging from 10 to 50 mV s^{-1}. (b) A comparison of CV curves at a scan rate of 50 mV s^{-1}. (c) Constant-current charge-discharge voltage profiles at different current densities. (d) Specific capacitance as a function of current density.

Table S1. Electrochemical performance of different Ni-Co sulfides based electrodes.

Reference	Type of materials	Specific capacitance (F g^{-1})	Capacitance retention
This work	$NiCo_2S_4$ NTAs/CT	1004 F g^{-1} at 20 A g^{-1}	78% from 1 to 20 A g^{-1}
This work	$NiCo_2S_4$ nanotubes	476 F g^{-1} at 20 A g^{-1}	45% from 1 to 20 A g^{-1}
1	$NiCo_2S_4$ nanosheets/graphene	760 F g^{-1} at 20 A g^{-1}	52% from 3 to 20 A g^{-1}
2	$NiCo_2S_4$ nanotubes	550 at 5 A g^{-1}	50% from 0.2 to 5 A g^{-1}
3	Urchin-like $NiCo_2S_4$	888 at 20 A g^{-1}	77% from 1 to 20 A g^{-1}
4	$NiCo_2S_4$ nanoprisms	585 F g^{-1} at 20 A g^{-1}	65% from 1 to 20 A g^{-1}
5	$NiCo_2S_4$ nanotubes on Ni foam	608 F g^{-1} at 15 A g^{-1}	78% from 2 to 15 A g^{-1}
6	Co_3S_4 nanospheres/graphene	522 F g^{-1} at 5 A g^{-1}	76% from 0.5 to 5 A g^{-1}
7	CoS_2 hollow spheres	450 F g^{-1} at 20 A g^{-1}	35% from 1 to 20 A g^{-1}
8	CoS nanowire arrays	102 F g^{-1} at 40 A g^{-1}	79% from 2 to 40 A g^{-1}
9	NiS hollow spheres	583 F g^{-1} at 10.2 A g^{-1}	63% from 4 to 10.2 A g^{-1}
10	NiS_2 nanocube	158 F g^{-1} at 12.5 A g^{-1}	23% from 1.25 to 12.5 A g^{-1}
11	NiS/rGO composite	579 F g^{-1} at 5 A g^{-1}	64% from 0.5 to 5 A g^{-1}

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