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Supporting Information

Facile Synthesis of Hierarchical Ni₇S₆ and Co (II)-doped Ni₇S₆ Flower-structures for High-performance Supercapacitors

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Fig.S1 The SEM images of Ni₇S₆ flowers obtained at different reaction temperature and fixed the reaction time of 12h: (a) 120 °C, (b) 140 °C, (c) 160 °C, (d) 180 °C.



Fig.S2 (a) SEM image of Ni_7S_6 , (b) the size distribution graph of (a).



Fig.S3 The size distribution graph of Fig.1d.



Fig.S4 Nitrogen adsorption-desorption isotherm and BJH pore size distribution plot (inset) of Co_{0.7}Ni_{6.3}S₆ flowers.



Fig.S5 (a) CV of Ni₇S₆ flowers electrodes at different scan rates of 5 mV s⁻¹ to 50 mV s⁻¹; (b) CV curves of $Co_{0.7}Ni_{6.3}S_6$. (c) Galvanostatic charge/discharge curves of Ni_7S_6 flowers electrode at different current densities (12 A g⁻¹ to 18 A g⁻¹). (d) GCD curves of $Co_{0.7}Ni_{6.3}S_6$ at the current density of 12-18 A g⁻¹.



Fig.S6 The coulombic efficiency of Ni₇S₆ and Co_{0.7}Ni_{6.3}S₆ flowers at different current density.

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Fig.S7 The characterize of Ni_7S_6 work electrode after 4000 cycling at 8 A g⁻¹, (a-b) SEM image of Ni_7S_6 work electrode observed on Ni foam after cycling test, (c-d) TEM image of Ni_7S_6 flowers scratched from Ni foam, (f) The HRTEM image of Ni_7S_6 after cycling test.



Fig.S8 (a) CV of AC electrode at different scan rates of 5 mV s^{-1} to 50 mV s^{-1} ; (b) galvanostatic charge/discharge

curves of AC electrode at different current densities (1 to 10 A g⁻¹).

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Fig.S9 Energy and power densities for the Ni_7S_6 //AC hybrid supercapacitor.