

NiCo₂S₄@NiCo₂Se₄ in-situ grown on carbon cloth for performance-enhanced supercapacitor electrode

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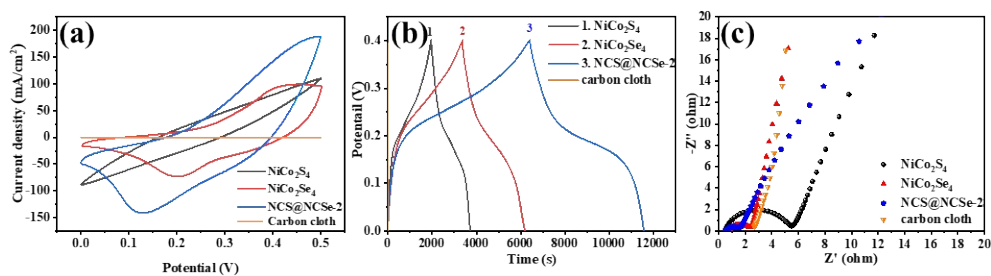


Fig. S1 Electrochemical performance of bare carbon cloth, NiCo₂S₄, NiCo₂Se₄ and NCS@NCSe-2: (a) CV curves at a scan rate of 50 mV s⁻¹, (b) GCD curves at a current density of 1 mA cm⁻², (c) Nyquist plots

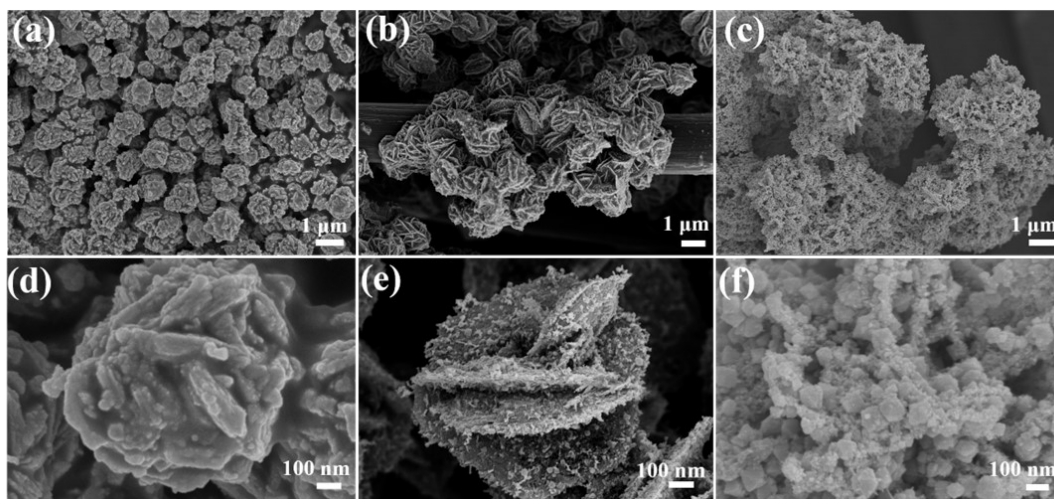


Fig. S2 SEM images of NiCo₂S₄@NiCo₂Se₄ synthesized at different temperatures: (a, d) NCS@NCSe-1(160°C), (b, e) NCS@NCSe-2(180°C), (c, f) NCS@NCSe-3(200°C)

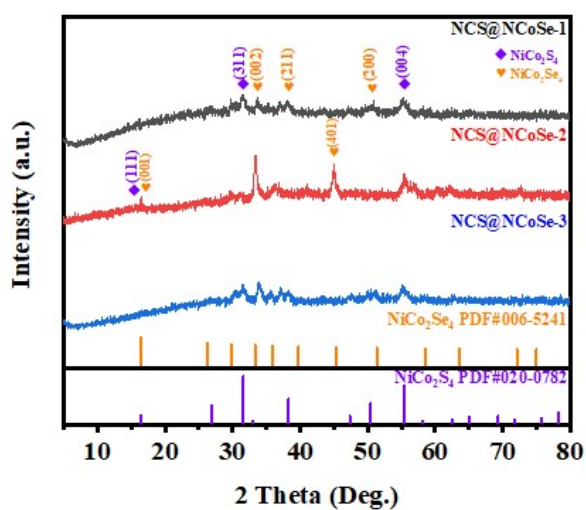


Fig. S3 XRD patterns of NCS@NCSe-1, NCS@NCSe-2 and NCS@NCSe-3

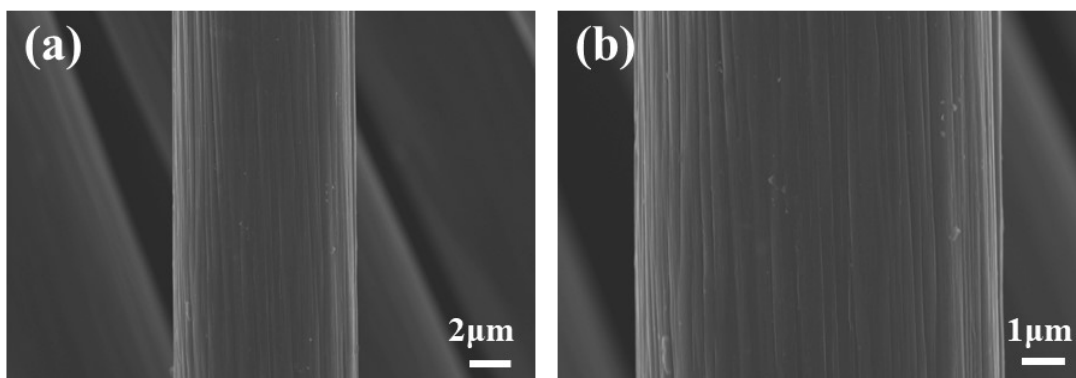


Fig. S4 SEM images of bare carbon cloth

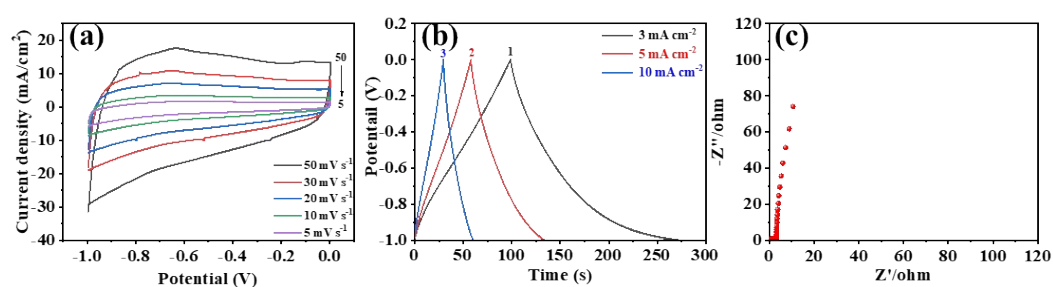


Fig. S5 Electrochemical performance of activated carbon: (a) CV curves at a scan rate of 5-50 mV s^{-1} , (b) GCD curves at a current density of 3-10 mA cm^{-2} , (c) Nyquist plot

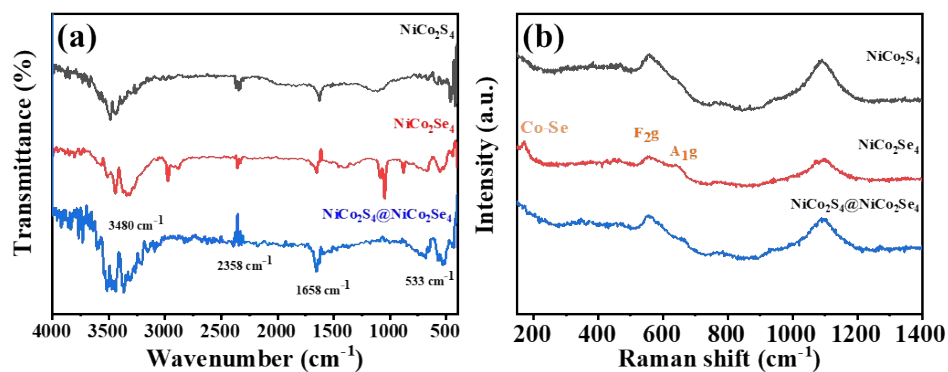


Fig. S6 FT-IR spectra (a) and Raman spectra (b) of NiCo_2S_4 , NiCo_2Se_4 and $\text{NiCo}_2\text{S}_4@\text{NiCo}_2\text{Se}_4$

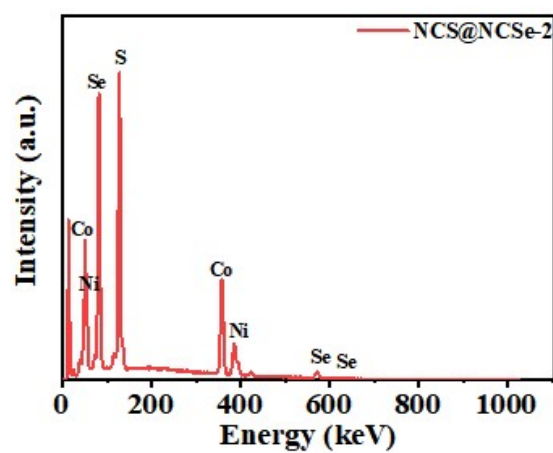


Fig. S7 EDS spectrum of the NCS@NCSe-2

Table S1 Elemental content of the NCS@NCSe-2 sample

Element	wt%	Atomic Fraction (%)
Ni	14.81	13.69
Co	37.38	34.42
S	18.93	32.04
Se	28.87	19.84