

Facile One-Pot Synthesis of NiCo₂Se₄-rGO on Ni foam for High Performance Hybrid Supercapacitor

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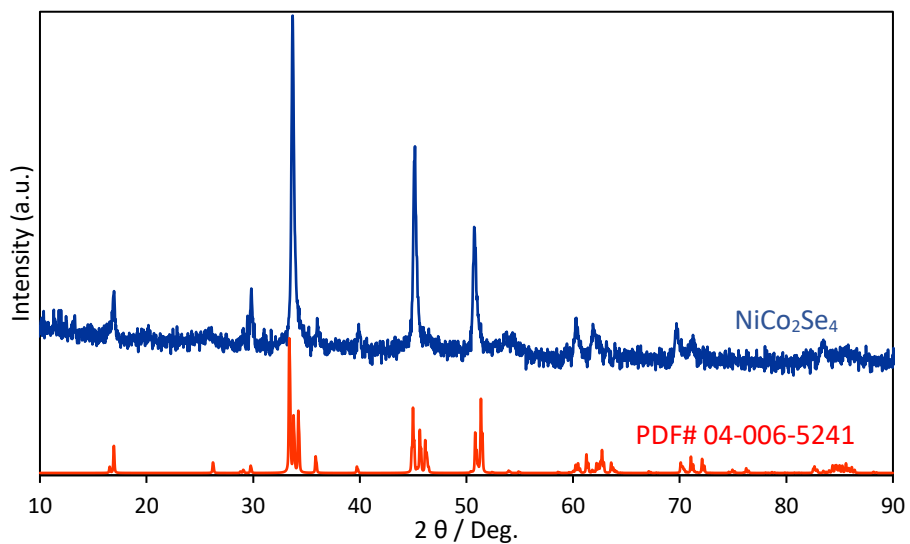


Fig. S1 XRD patterns of NiCo₂Se₄ along with the reference spectra (PDF No. 04-006-5241)

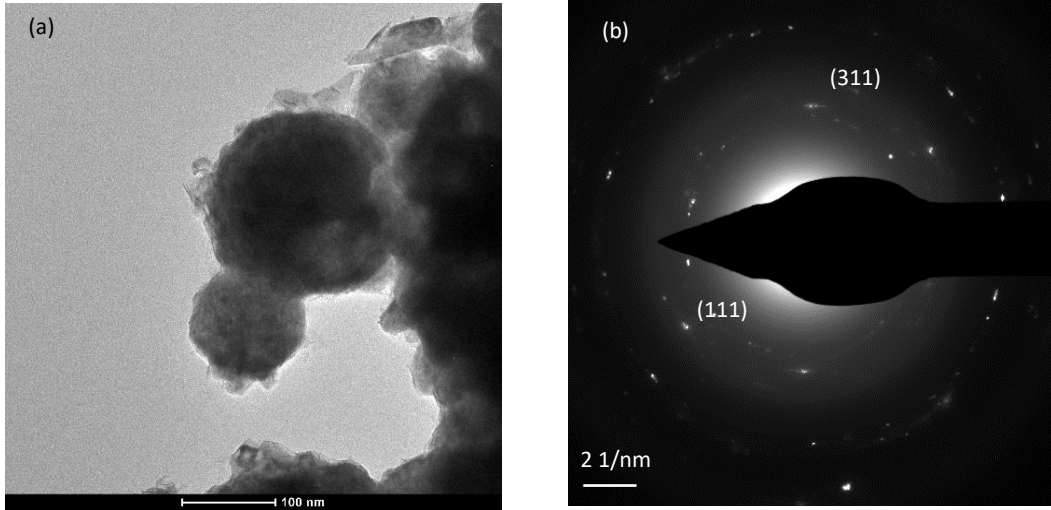


Fig. S2 TEM (a) and SAED (b) of NiCo_2Se_4 .

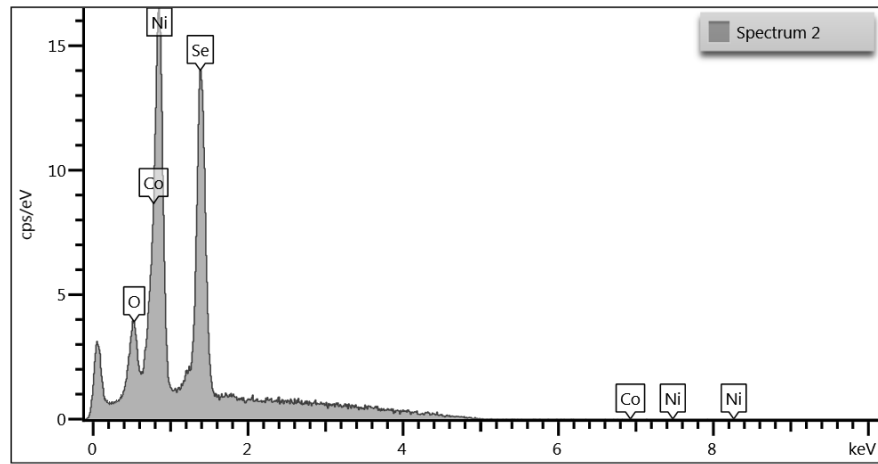


Fig. S3 EDS analysis of NiCo_2Se_4 .

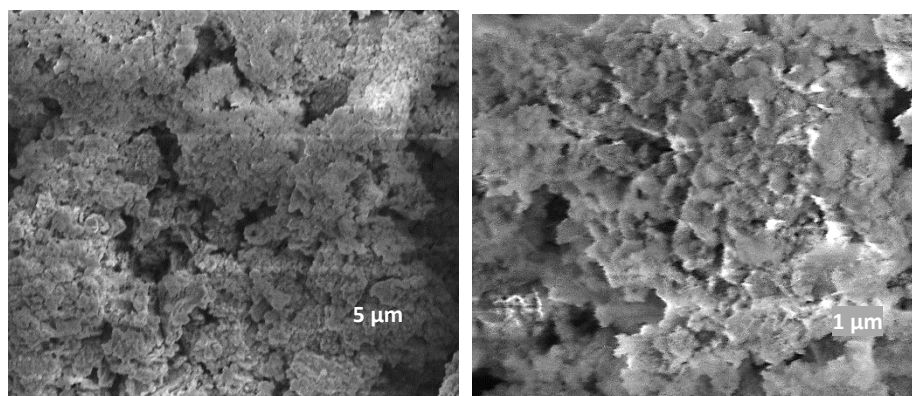


Fig. S4 SEM images of NiCo_2Se_4 with different magnification.

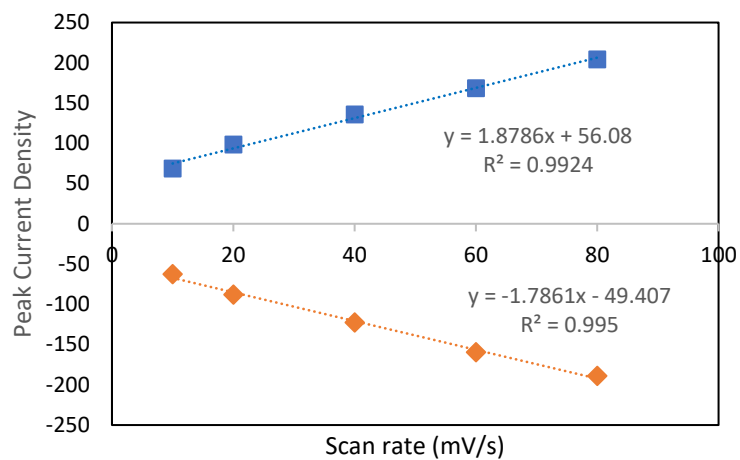


Fig. S5 Relationship between the oxidation and reduction peak currents as a function of the scan rate.

Table S1. Comparison of previously reported catalysts in energy storage applications

Electrode	Specific Capacitance	Energy Density (Wh kg ⁻¹)	Power Density (W kg ⁻¹)	Ref.
NiCo ₂ S ₄	1440 @ 3 A g ⁻¹	28.3	245	1
Ni _{0.85} Se on Ni foam	1115 @ 1 A g ⁻¹	32.2	789.6	2
Ni _{1.5} Co _{1.5} S ₄	1093 @ 1 A g ⁻¹	37.6	775	3
Co _{0.85} Se	1378 @ 1 A g ⁻¹	39.7	789.6	4
NiSe ₂	1044 @ 3 A g ⁻¹	44.8	969.7	5
Mo ₉ Se ₁₁	601 @ 1 A g ⁻¹	42	960	6
MoSe ₂ on Ni foam	2020 @ 1 A g ⁻¹	-	-	7
NiCo ₂ S ₄	1612.95 @ 5 A g ⁻¹	56	-	8
NiCo ₂ Se ₄ @carbon microsphere	1394 @ 0.5 A g ⁻¹	101	749	9
NiCo ₂ O ₄ / rGO	947.4 @ 0.5 A g ⁻¹	-	-	10
NiCo ₂ O ₄ / rGO	1388 @ 0.5 A g ⁻¹	57	375	11
NiCo₂Se₄/rGO@NF	2038.55 @ 1 A g⁻¹	67.01	903.61	This work

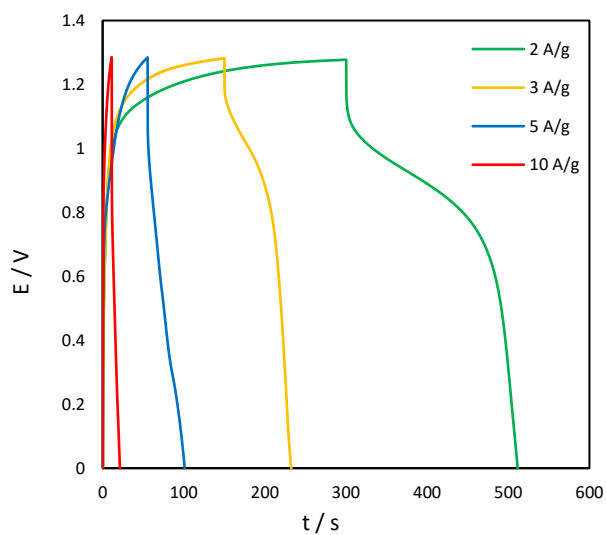


Fig. S6 Charge-discharge plots at different current densities for a symmetrical full cell capacitor with NiCo₂Se₄-rGO used as both cathode and anode.

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