

Supporting Information

SnSe₂ Nanoparticles Chemically Embedded in Carbon Shell for High Rate Sodium Ion Storage

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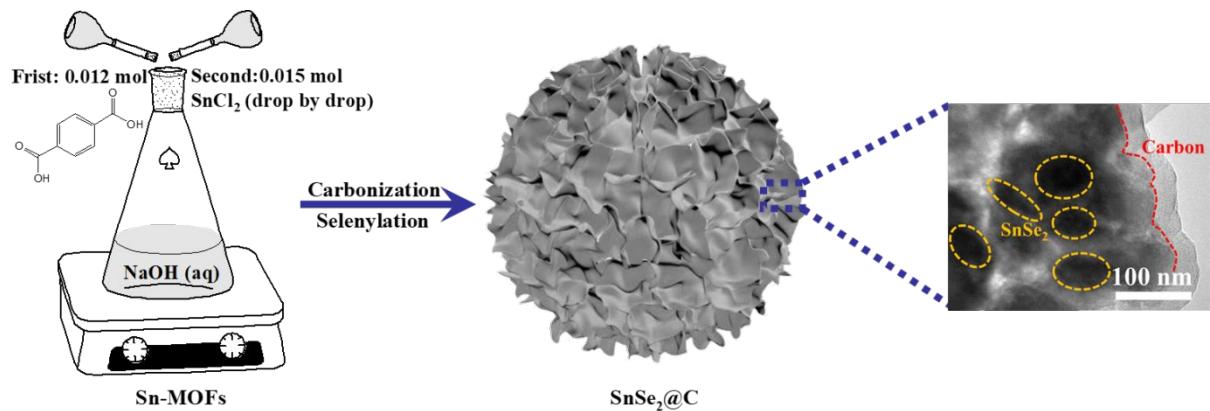


Figure S1. Diagram of the preparation of SnSe₂@C nanocomposite.

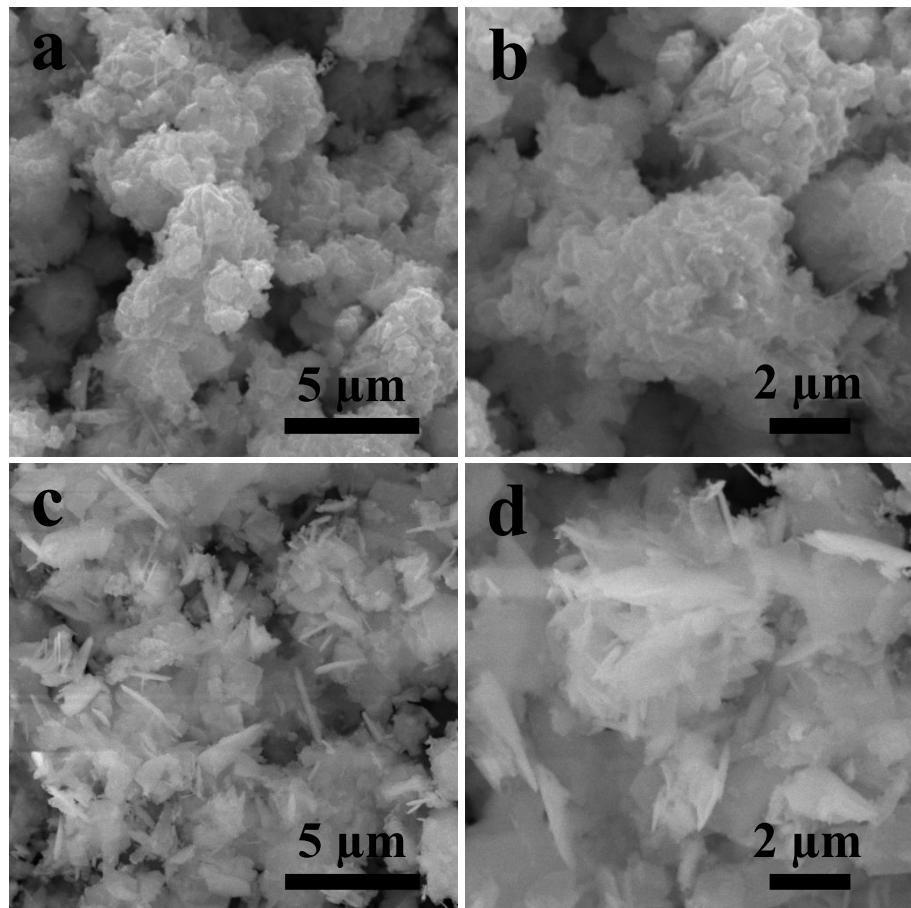


Figure S2. SEM images of (a, b) Sn-MOFs and (c, d) SnSe₂@C.

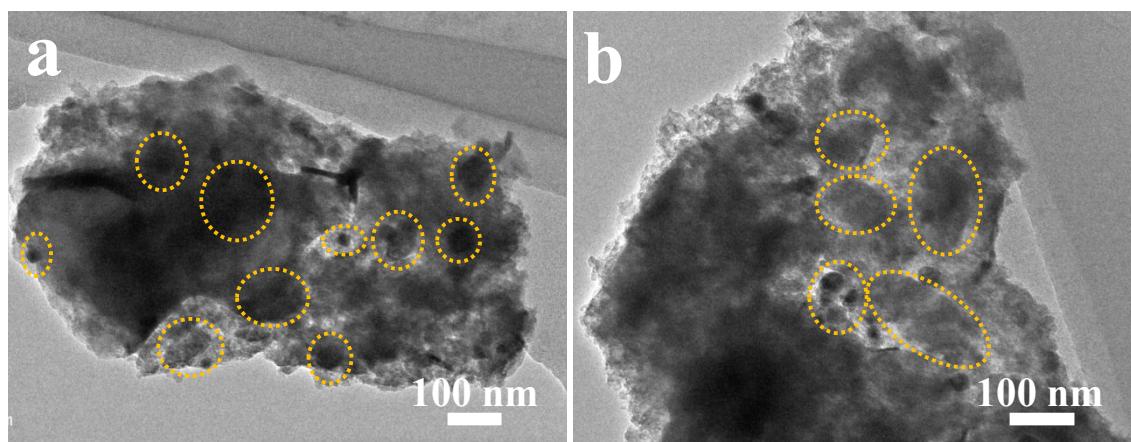


Figure S3. (a), (b) TEM images of $\text{SnSe}_2@\text{C}$.

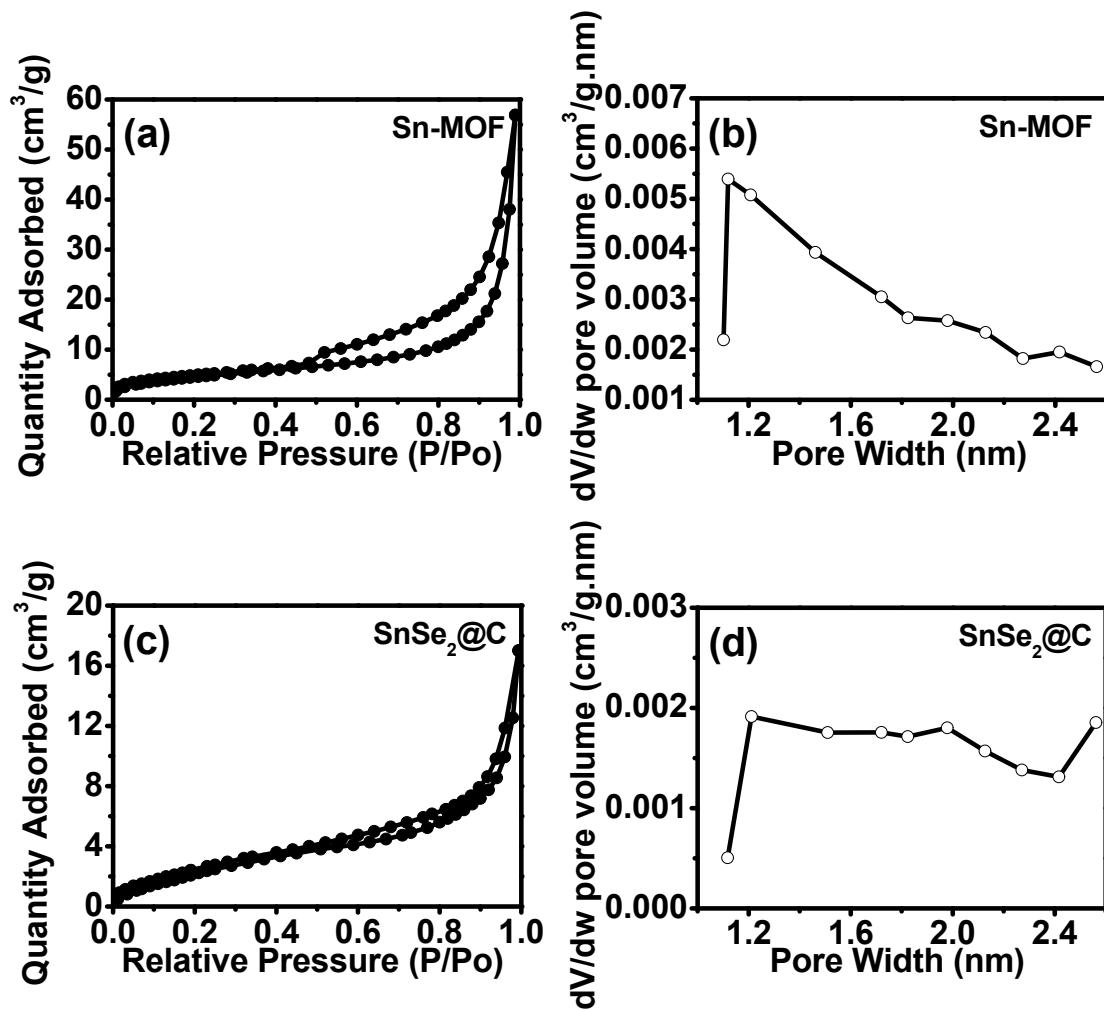


Figure S4. (a, c) Nitrogen adsorption and desorption isotherms; (b, d) the pore size distribution curves of Sn-MOFs and $\text{SnSe}_2@\text{C}$.

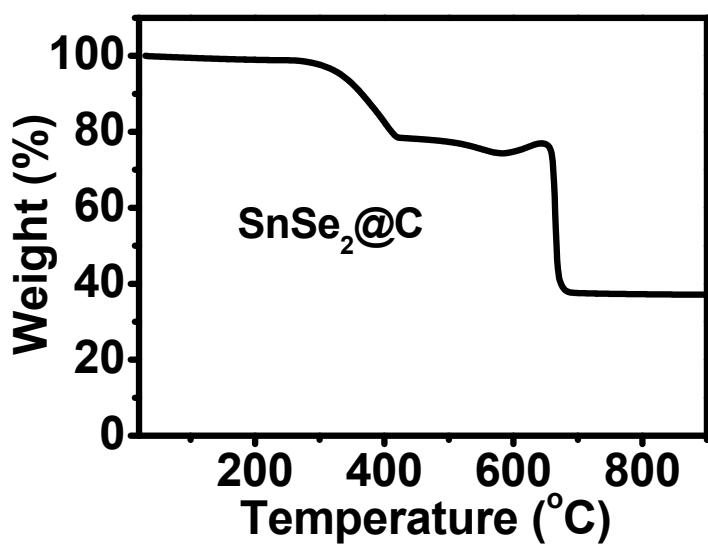


Figure S5. TGA curve of the $\text{SnSe}_2@\text{C}$ nanocomposite.

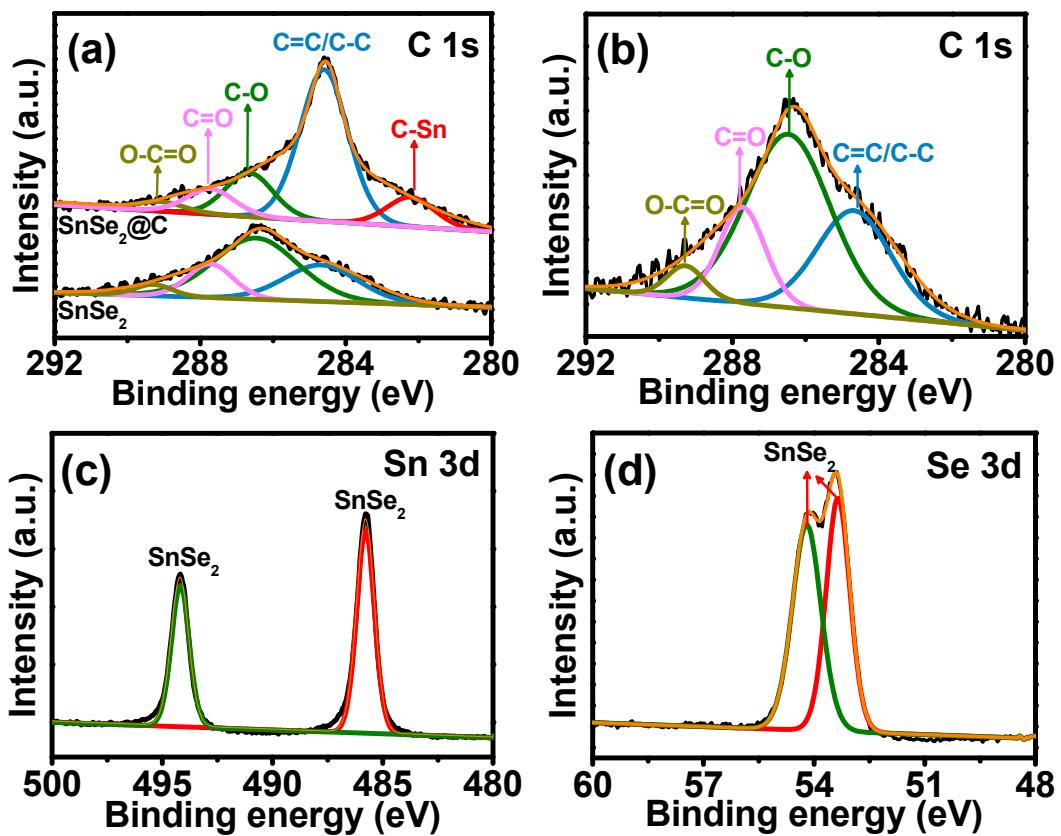


Figure S6. XPS spectra images: (a) C 1s of SnSe_2 and $\text{SnSe}_2@\text{C}$; (b) C 1s, (c) Sn 3d, and Se 3d of pure SnSe_2 .

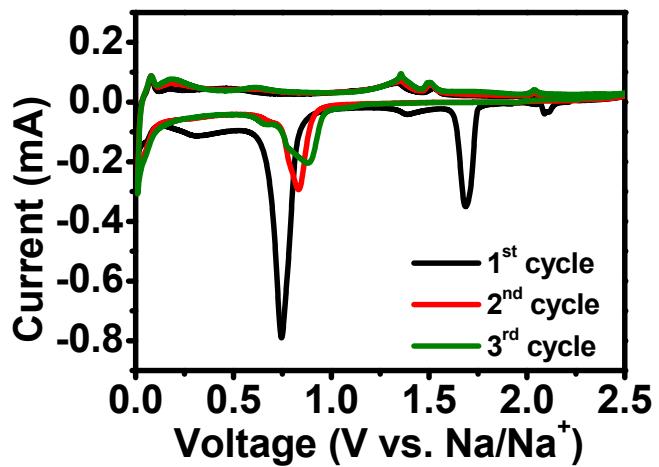


Figure S7. CV curves of SnSe_2 electrode at a scan rate of 0.1 mV s^{-1} .

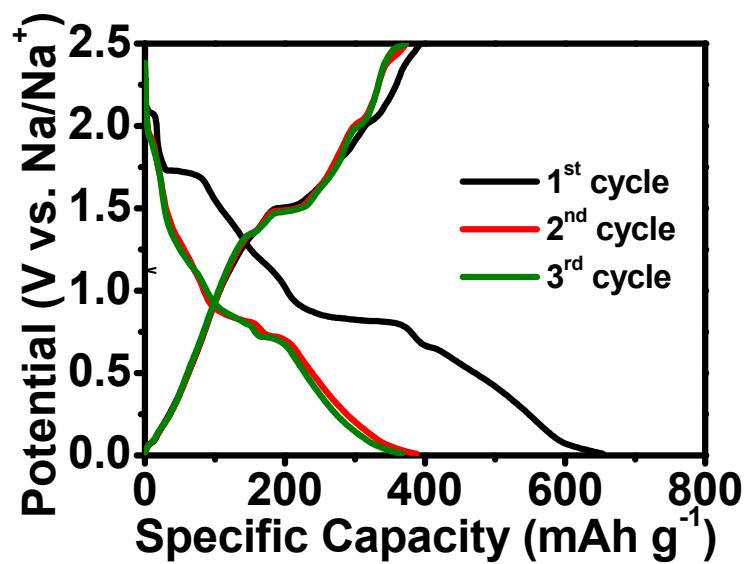


Figure S8. Initial three galvanostatic discharge/charge profiles of $\text{SnSe}_2@\text{C}$ composite at the current density of 0.1 A g^{-1} in the voltage range of 0.01 to 2.5 V .

Table S1. The AC impedance parameters of the equivalent circuits for the pristine SnSe₂, SnSe₂@C electrodes in different cycles

Sample	Fresh			100th cycle		
	R _s (Ω)	R _f (Ω)	R _{ct} (Ω)	R _s (Ω)	R _f (Ω)	R _{ct} (Ω)
SnSe ₂	1.100	174.700	3.110	0.992	54.370	3.160
SnSe ₂ @C	0.512	26.970	1.952	1.128	2.966	10.260