Supporting Information

Double Design of Host and Guest Synergistically Reinforces Na-ion Storage of Sulfur Cathodes

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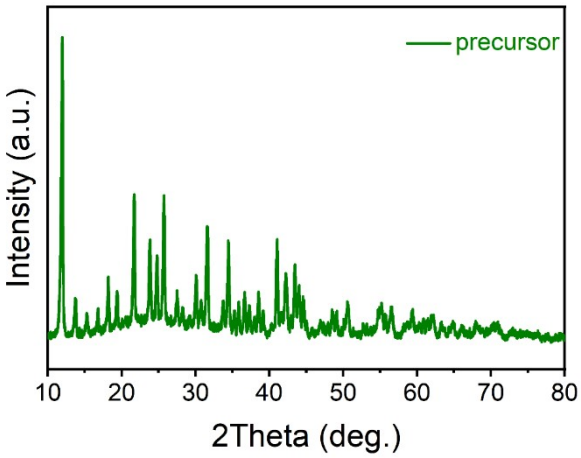

Figure S1. XRD pattern of the precursor.

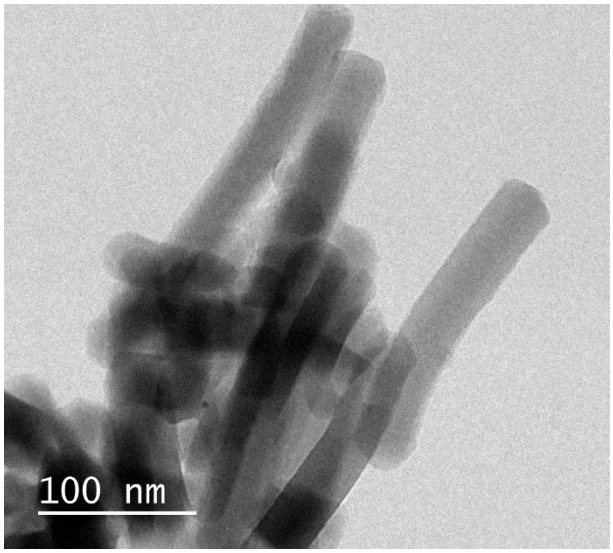

Figure S2. TEM image of the precursor.

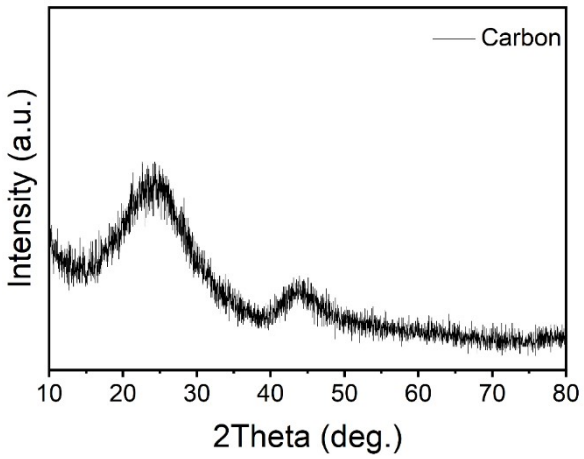

Figure S3. XRD pattern of the carbon.

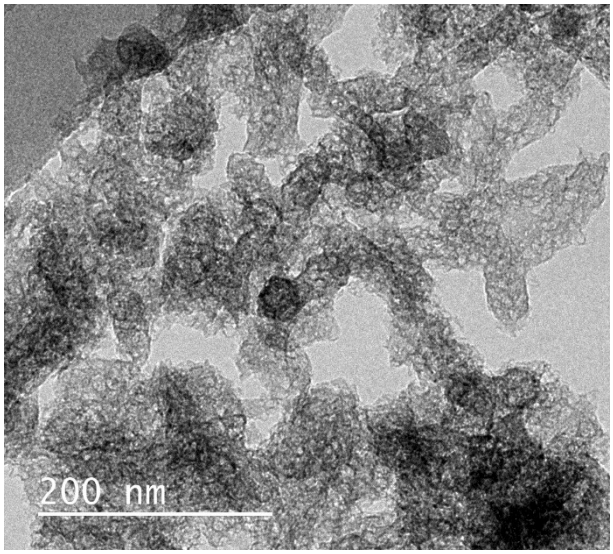

Figure S4. TEM image of the porous carbon.

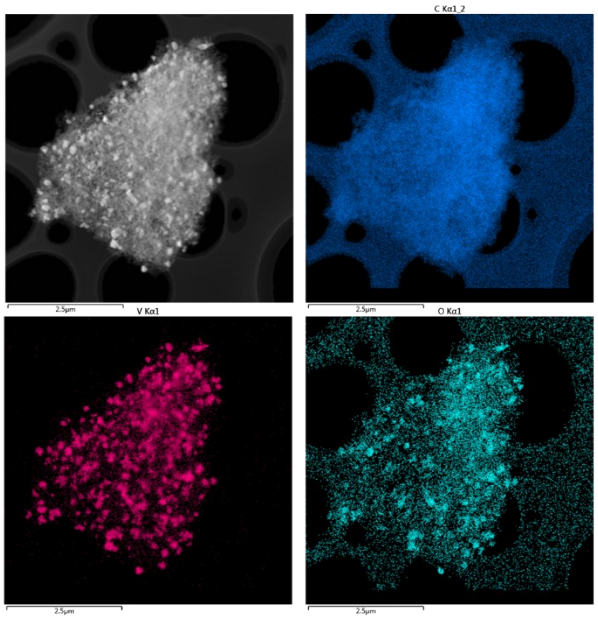

Figure S5. STEM and EDS mappings of the V_2O_3@C

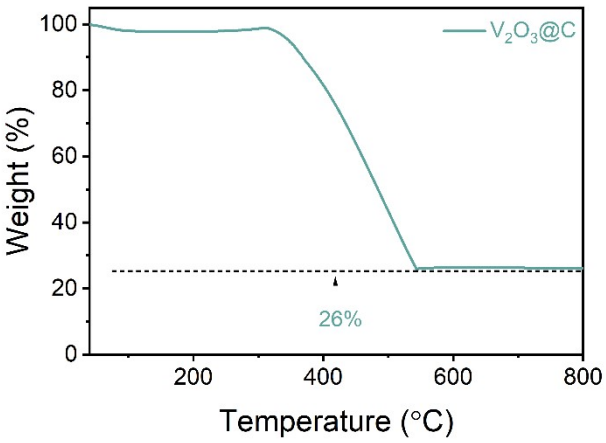

Figure S6. TGA curve of the V_2O_3@C composite at air atmosphere.

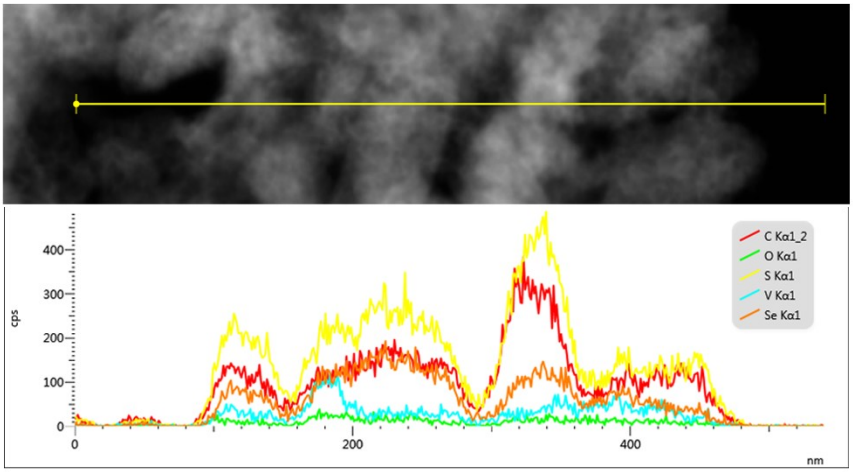

Figure S7. Linear elemental distribution of the SeS_2/V_2O_3@C.

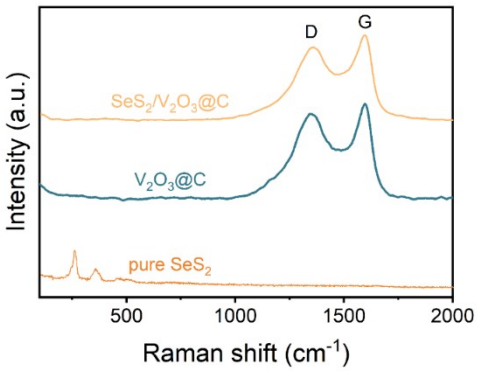

Figure S8. Raman spectra of the pure SeS_2, V_2O_3@C, and SeS_2/V_2O_3@C.

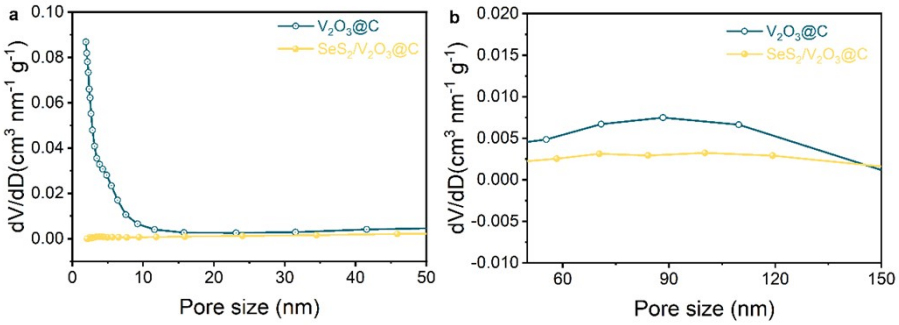

Figure S9. Pore size distribution of the V_2O_3@C and SeS_2/V_2O_3@C.

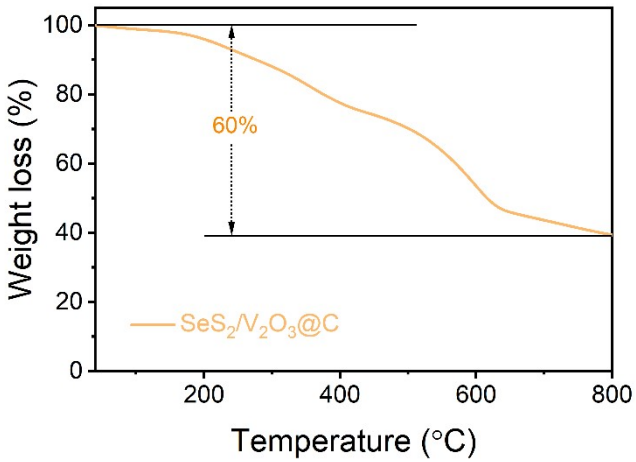

Figure S10. TGA curve of the SeS_2/V_2O_3@C composite.

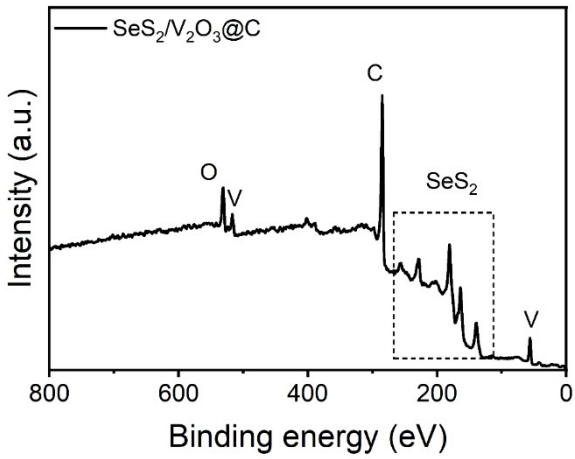

Figure S11. Survey XPS spectra of the SeS_2/V_2O_3@C composite.

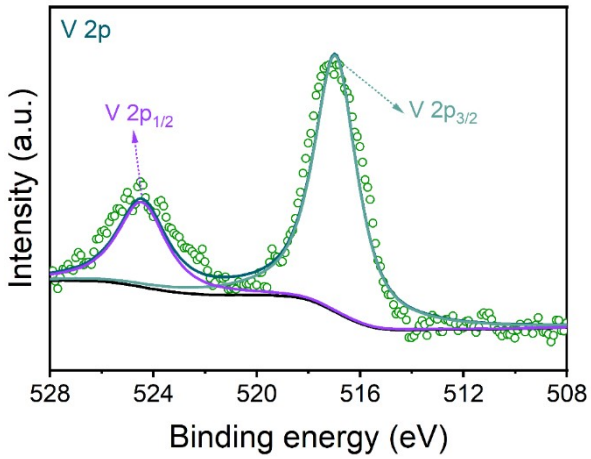

Figure S12. XPS spectra of V 2p.

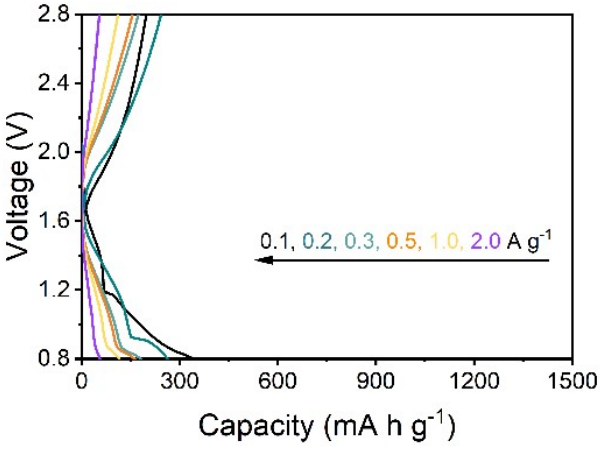

Figure S13. Rate profiles of the SeS_2/C composite.

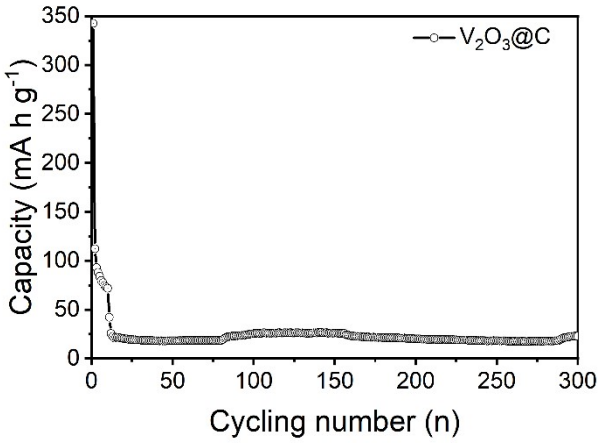

Figure S14. Cycling performance of the V_2O_3@C composite.

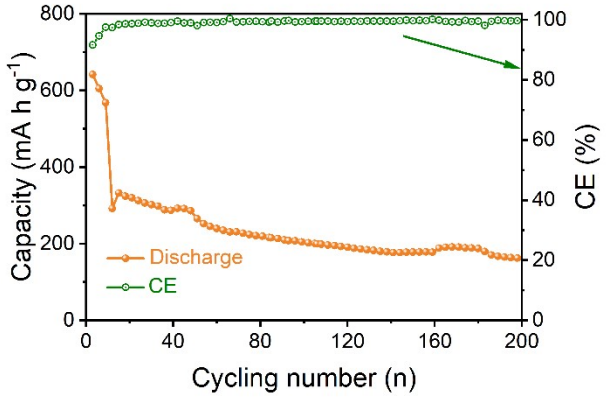

Figure S15. Cycling performance of the SeS_2/V_2O_3@C with a loading content of 70% at 1.0 A g^{-1}.

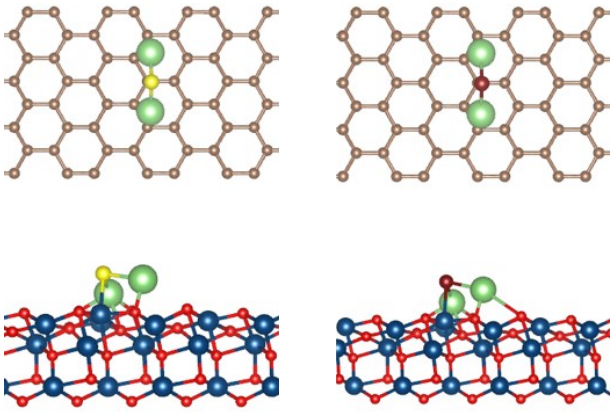

Figure S16. Configurations between Na_2S/Na_2Se and graphene/V_2O_3.

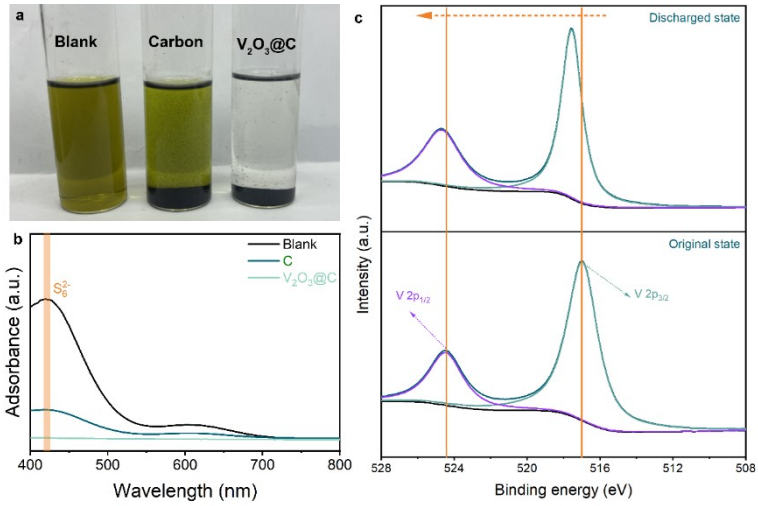

Figure S17. (a) Optical photos of the blank solution and solutions with different materials; UV-vis spectrum of the polysulfide solutions soaked with different materials; (c) XPS spectra of V 2p before and after discharging to 2.0 V.

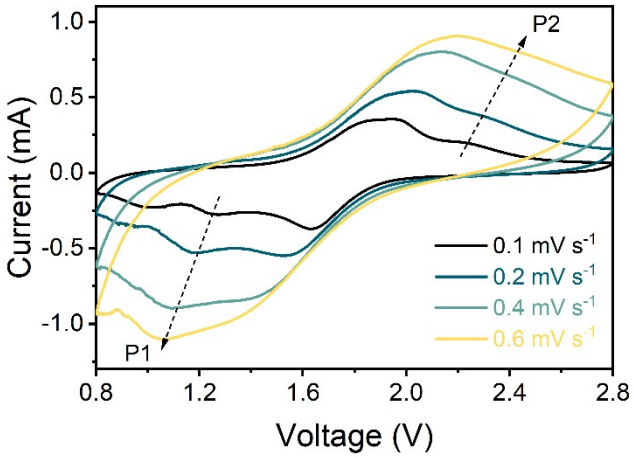

Figure S18. CV curves at different scan rates.

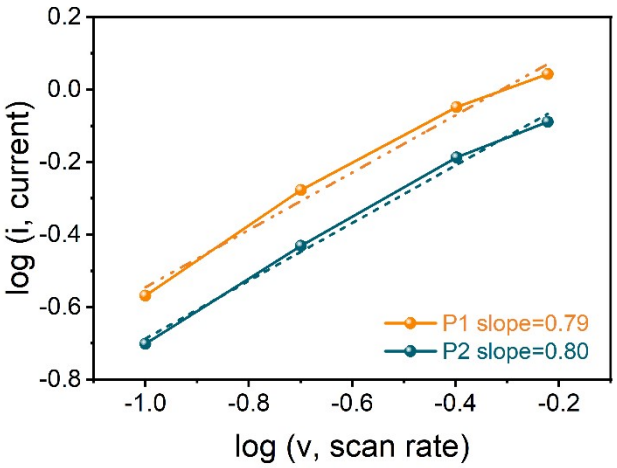

Figure S19. Linear fitted b-values obtained from CV curves at various sweep rates.

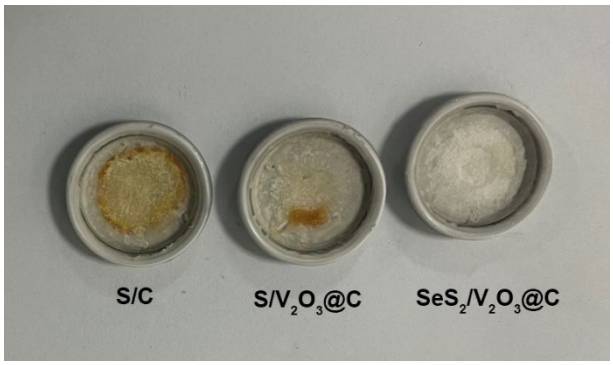

Figure S20. Separators from the cycled batteries assembled with different cathode materials.

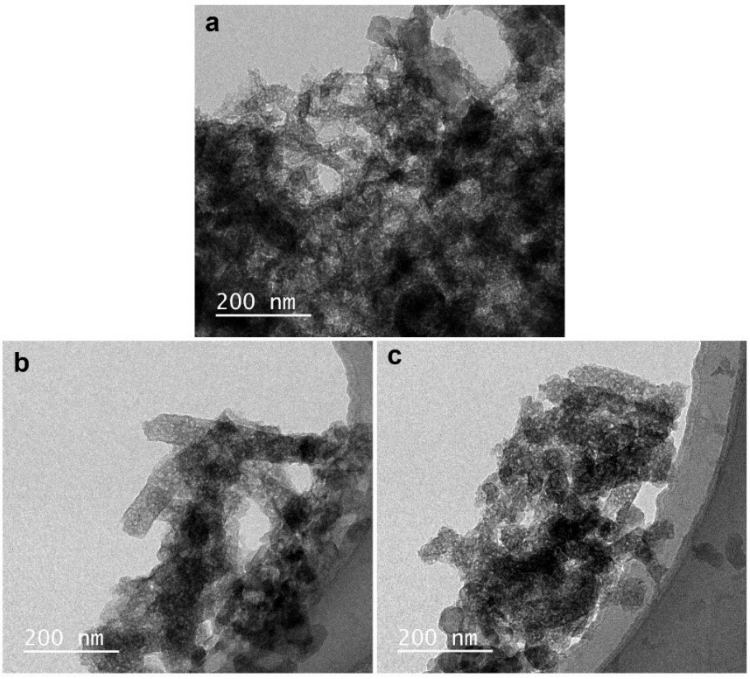

Figure S21. TEM images of the SeS_2/V_2O_3@C cathode after cycling at different regions.

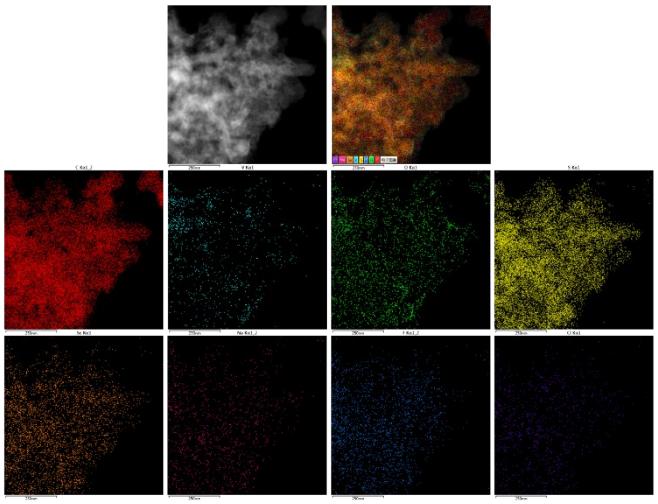

Figure S22. STEM image and corresponding EDS mappings of the SeS_2/V_2O_3@C cathode after cycling

References

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