Electronic Supplementary Material (ESI) for Inorganic Chemistry Frontiers.

Supporting Information

Carbon Coated SiO Nanoparticles Embedded in Hierarchical Porous N-Doped Carbon Nanosheets for Enhanced Lithium Storage

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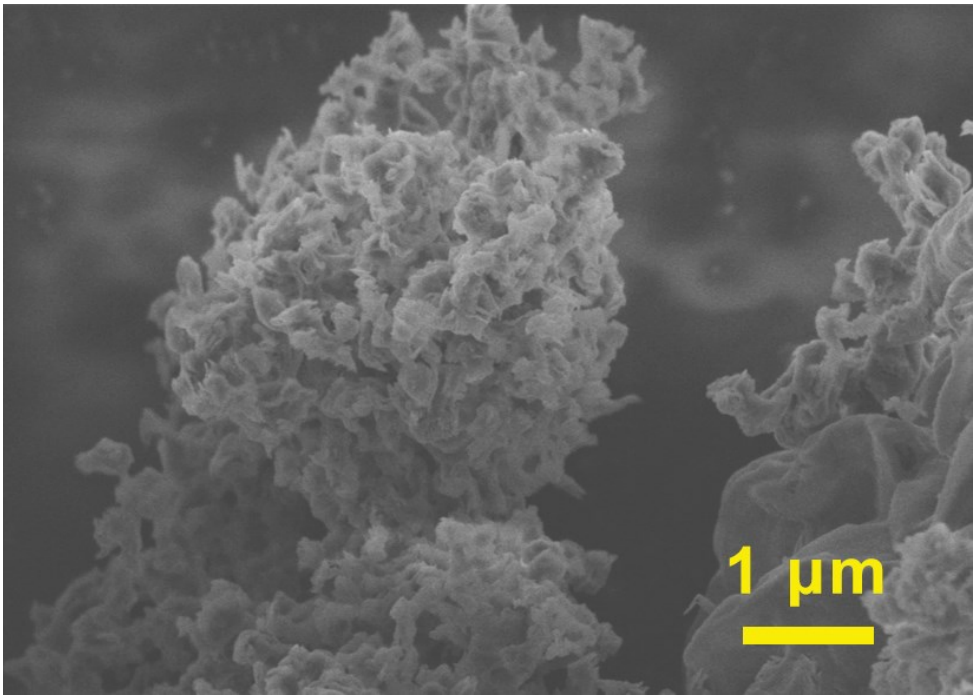

Fig. S1. FESEM image of g-C_3N_4 precursor.

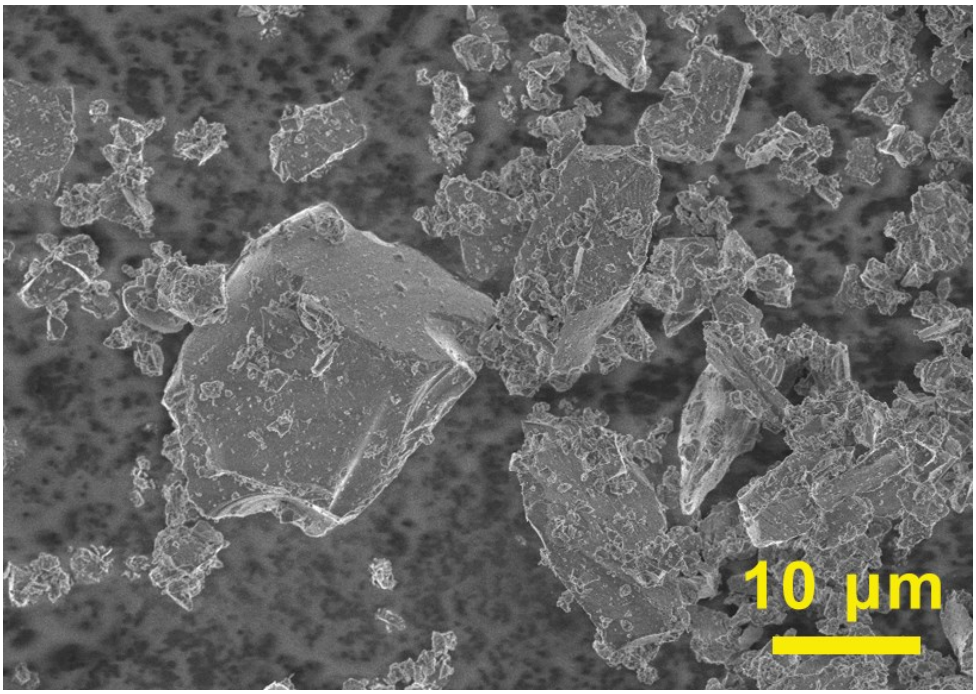

Fig. S2. FESEM image of bulk SiO.

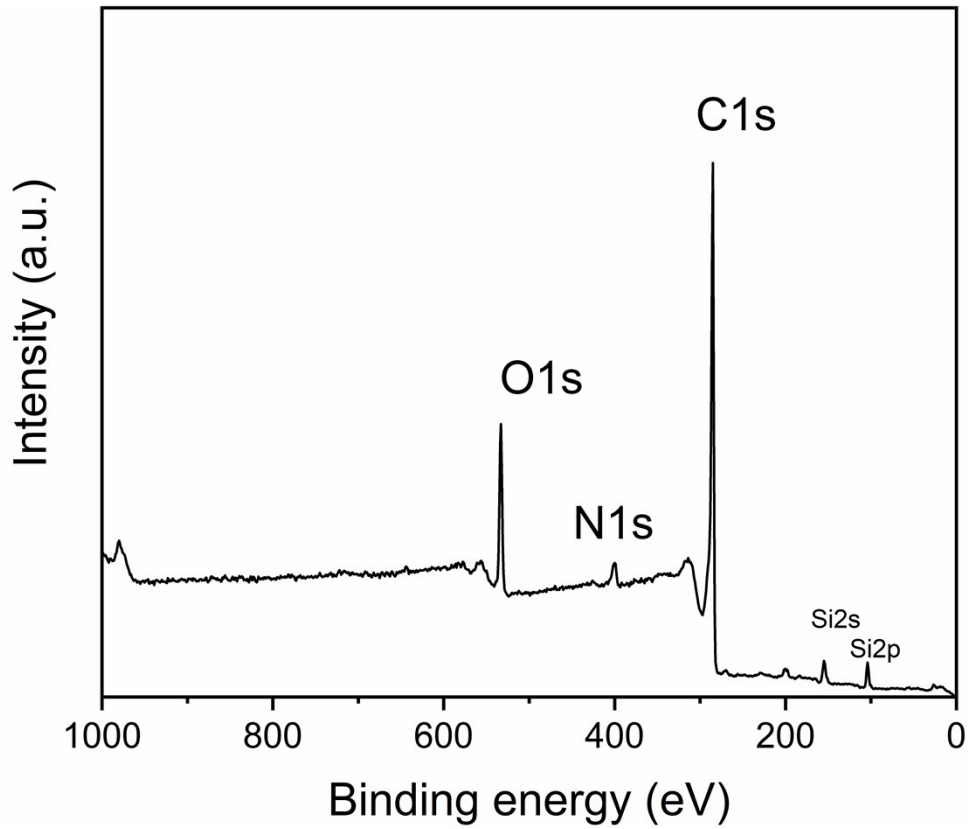

Fig. S3. XPS survey spectrum of SiO@C/CNS.

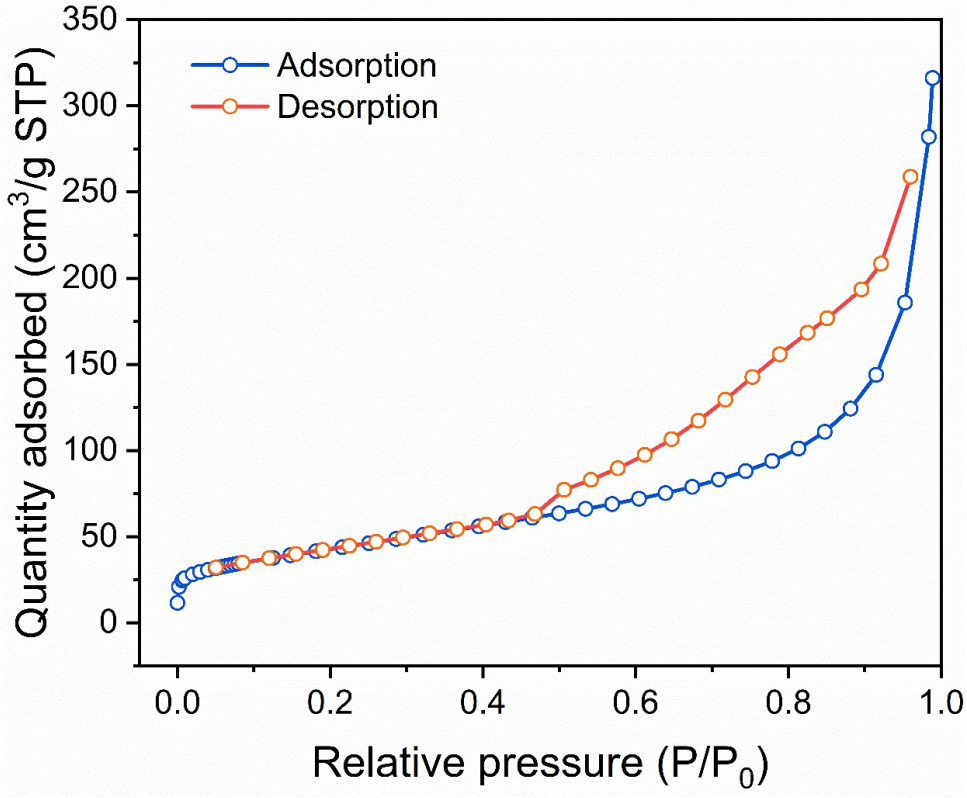

Fig. S4. Nitrogen adsorption-desorption isotherms of SiO@C/CNS.

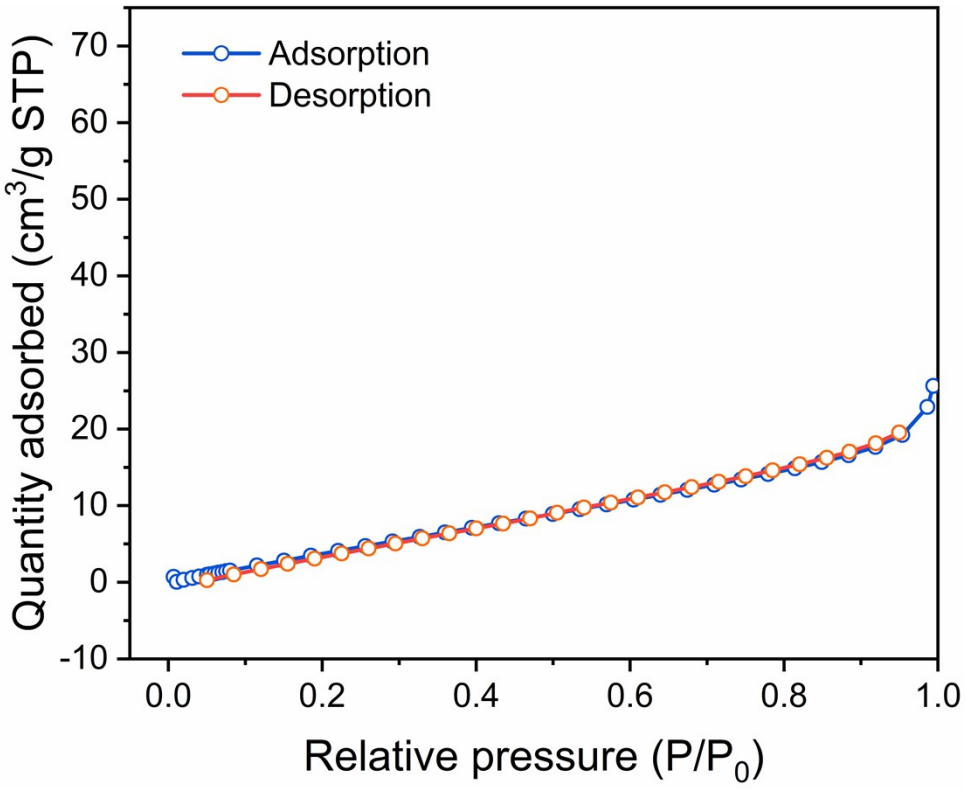

Fig. S5. Nitrogen adsorption-desorption isotherms of SiO@C.

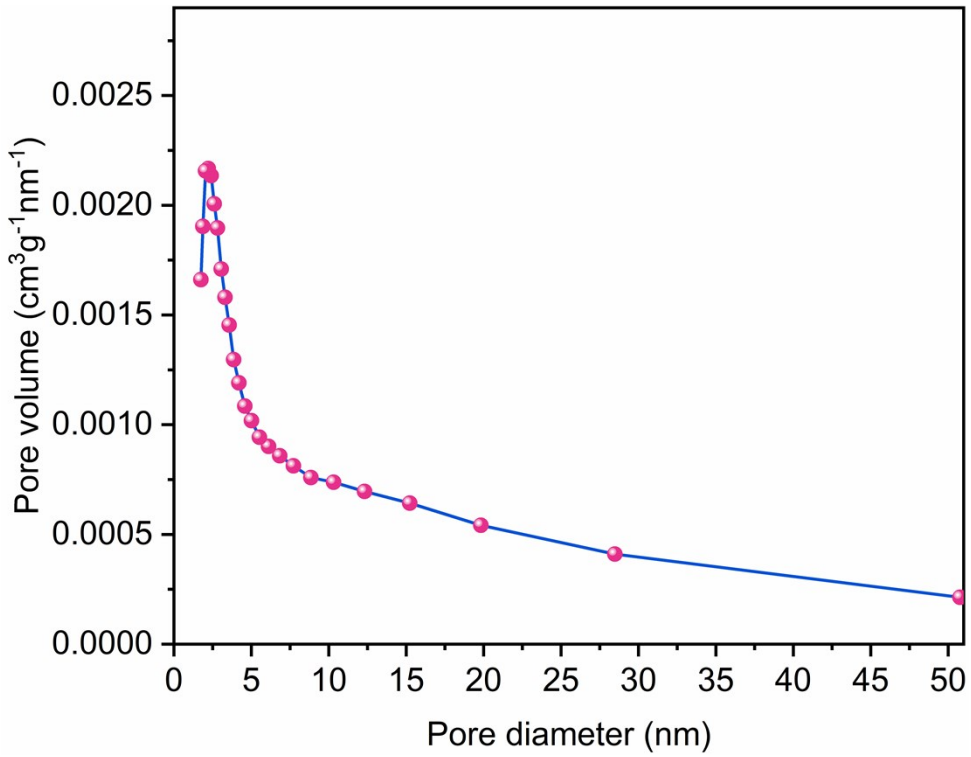

Fig. S6. Pore size distribution curve of SiO@C/CNS.

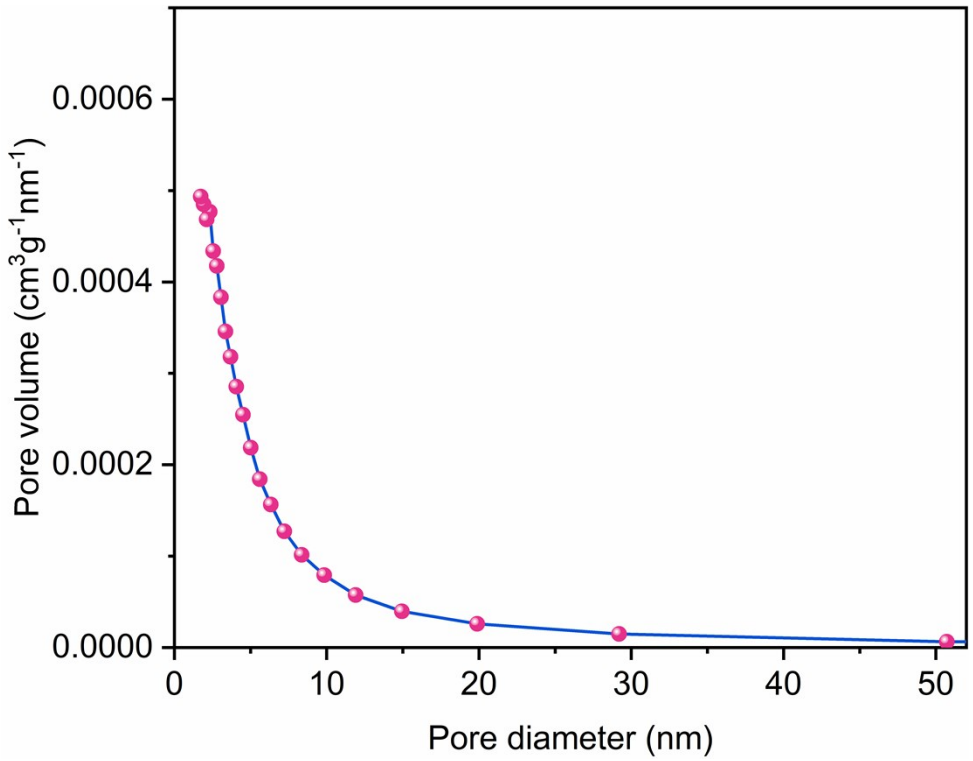

Fig. S7. Pore size distribution curve of SiO@C.

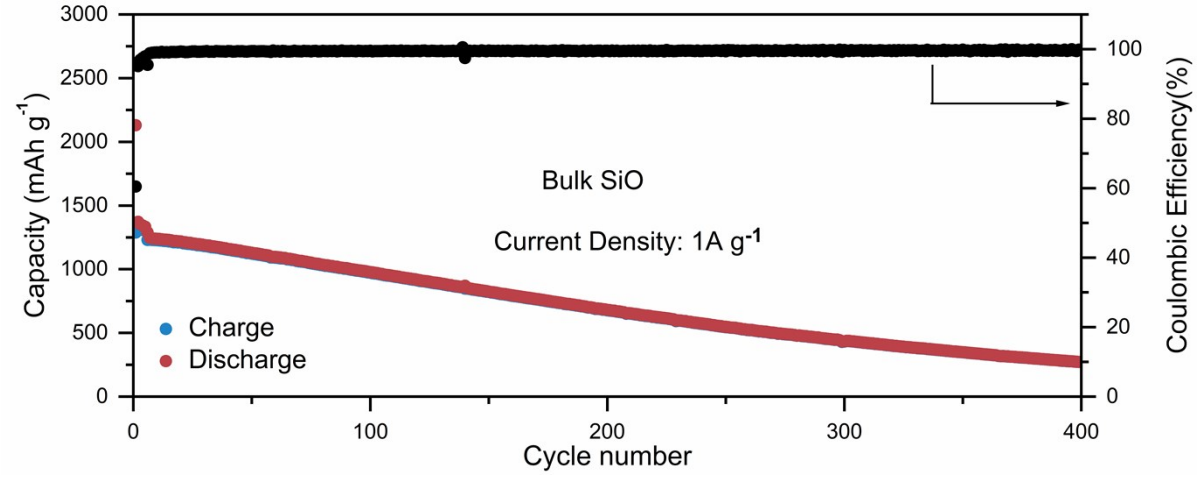

Fig. S8. Charge/discharge curves of SiO@C/CNS electrode at the current density of 1 A g^{-1}.

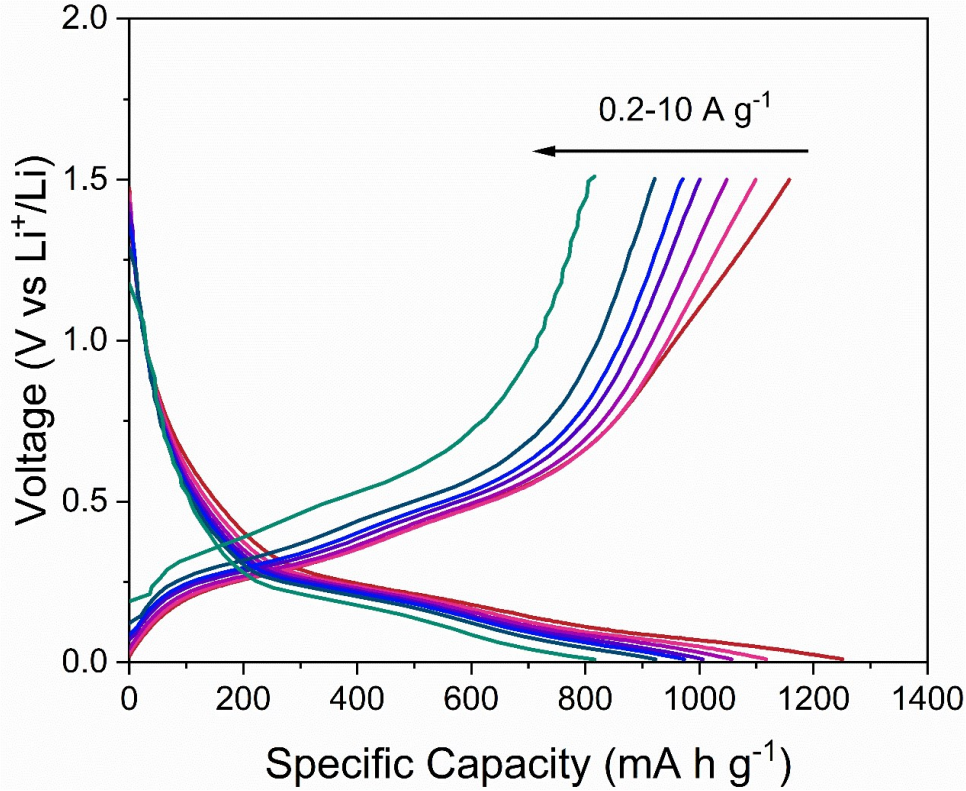

Fig. S9. Charge/discharge curves of SiO@C/CNS electrode at current densities from 0.2 to 10 A g^{-1}.

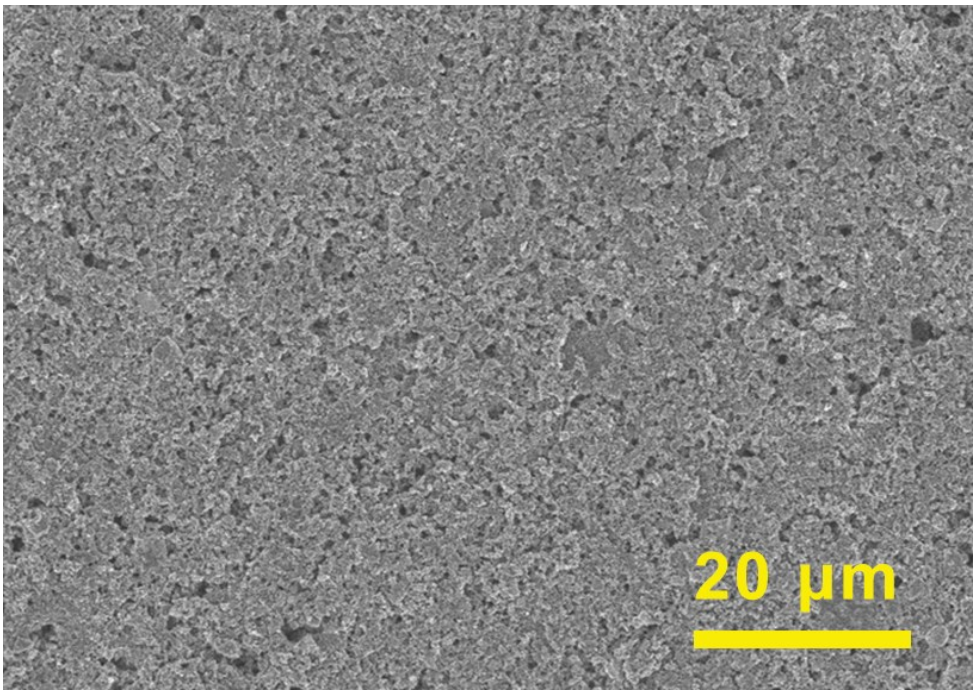

Fig. S10. FESEM image of pristine SiO@C/CNS electrode.

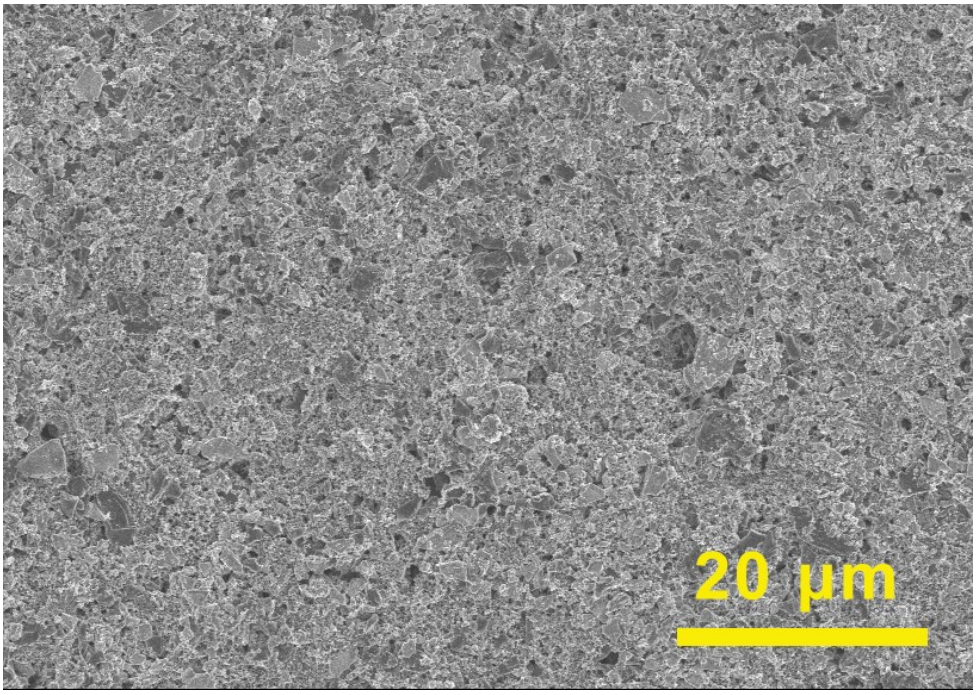

Fig. S11. FESEM image of pristine SiO@C electrode.

Table S1. Cyclability (discharge capacity) and the rate performance comparison of SiO@C/CNS versus reported literature.

Sample	Reversible capacity	Cycle number	Refs.
Si/SiO_x@NC	525 mAh g^{-1} at 500mA g^{-1}	400	1
SiO_x/G/C	524 mAh g^{-1} at 500mA g^{-1}	500	2
SiO_x/CNTs	441 mAh g^{-1} at 500mA g^{-1}	500	3
SiO_x/asphalt	600 mAh g^{-1} at 200mA g^{-1}	200	4
SiO_x@NC	~600 mAh g^{-1} at 500 mA g^{-1}	500	5
DC-$HSiO_x$	682 mAh g^{-1} at 1000 mA g^{-1}	300	6
LiBp-SiO_x/C@G	377 mAh g^{-1} at 750 mA g^{-1}	400	7
SiO_x@C nanorods	724 mAh g^{-1} at 100 mA g^{-1}	350	8
SiO_x/C@2D-C	690 mAh g^{-1} at 1000 mA g^{-1}	400	**This work**

Table S2. Electrochemical impedance parameters of SiO@C/CNS and SiO@C electrodes.

Electrode	R_e(Ω)	R_{ct}(Ω)
SiO@C/CNS	2.923	1.938
SiO@C	3.461	14.87

References

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