Electronic supplementary information for

Ge@C Core-Shell Nanostructures for Improved Anode Rate Performance in Lithium-Ion Batteries

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Characterization details

![Fig. S1. (a) SEM image of Ge NPs. (b) TEM images of Ge NPs.](image)

![Fig. S2. TGA curves of the Ge@C nanocomposites.](image)
Fig. S3. N$_2$ adsorption/desorption isotherms and pore-size distribution curves of Ge@C nanocomposites.

Fig. S4. Cycling performance of Ge@C nanostructures at 500 mAh g$^{-1}$ for 100 cycles (0.01 V - 1.5 V versus Li$^+/$/Li).
Fig. S5. (a) SEM and (b) TEM images of Ge@C nanocomposites electrodes cycled after 50 cycles at 500mA/g.