Supplementary Information

Shape-controlled synthesis and lithium storage properties of SnO$_2$ nonspherical hollow structures

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S1. FESEM and TEM images of monodisperse SiO$_2$ hollow colloids with different shapes

Fig. S1 Typical FESEM and TEM images of monodisperse SiO$_2$ hollow colloids with different shapes: (a-b) peanuts; (c-d) capsules; and (e-f) pseudocubes.
S2. EDX spectra and TEM images of double-shelled SiO$_2$@SnO$_2$ hollow structures with different shapes

The gradual deposition of SnO$_2$ nanocrystallites on the outer surfaces of SiO$_2$ colloids with different shapes led to the formation of double-shelled silica@SnO$_2$ hollow structures with different shapes (insets of Fig. S2).

**Fig. S2** TEM images and EDX point spectra of double-shelled SiO$_2$@SnO$_2$ hollow structures with different shapes: (a) peanut; (b) capsule; and (c) pseudocube. The Cu and C peaks are attributed to the carbon-coated Cu grid used in TEM.
S3. EDX spectra and TEM images of SnO$_2$ hollow structures with different shapes.

**Fig. S3** TEM images and EDX point spectra of SnO$_2$ hollow structures with different shapes: (a) peanut; (b) capsule; and (c) pseudocube. The Cu and C peaks are attributed to the carbon-coated Cu grid used in TEM.
S4. TEM, SAED and HRTEM images of SnO$_2$ solid spheres and SnO$_2$ hollow structures with different shapes

**Fig. S4** TEM, SAED and HRTEM images of SnO$_2$ solid sphere and SnO$_2$ hollow structures with different shapes: (a-c) capsule; (d-f) peanut; (g-i) pseudocube; and (j-l) solid sphere.
S5. Coulombic efficiency of SnO$_2$ solid spheres and SnO$_2$ hollow structures with different shapes

Fig. S5 Coulombic efficiency of SnO$_2$ solid spheres and SnO$_2$ hollow structures with different shapes.

S6. SEM images of SnO$_2$ hollow structures with different shapes after 60 cycles

Fig. S6 FESEM images of SnO$_2$ hollow structures with different shapes after 60 cycles: (a) capsule; (b) peanut; and (c) pseudocube.