Electronic Supplementary Material (ESI) for RSC Advances.

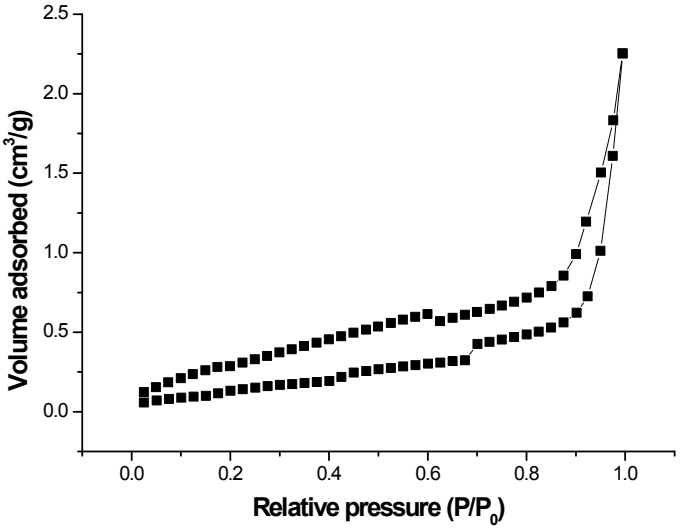

Fig. S1 N_2 adsorption-desorption isotherm for the double-shelled SnO_2 hollow sphere.

The synthesized SnO_2 sample exhibits type-IV isotherm plot with a sharp capillary condensation step, indicative of mesoporous structures. The BET surface area of double-shelled SnO_2 hollow sphere is 42.8 m^2 g^{-1}.

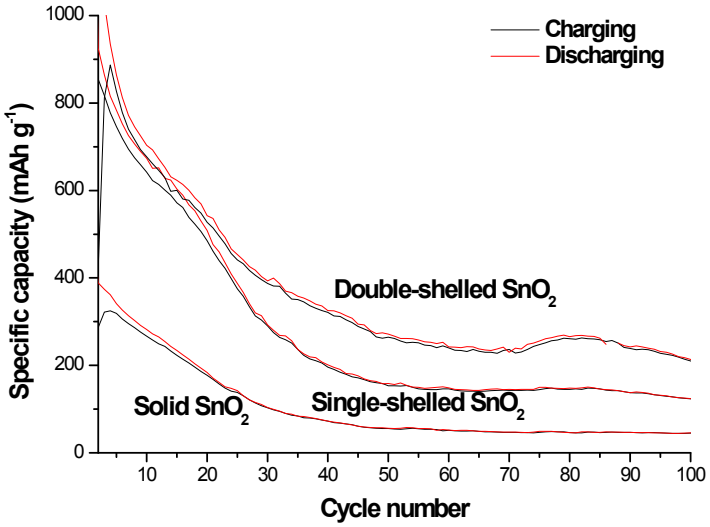

Fig. S2 The cycling performance of the various SnO_2 spheres.

When tested as the anode materials for LIBs, these complex double-shelled SnO_2 hollow spheres exhibit superior cyclic stability.

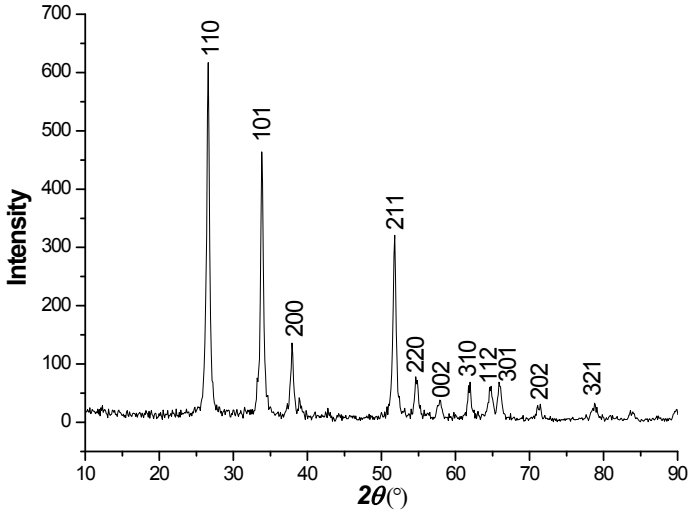

Fig. S3 XRD pattern of the double-shelled SnO_2 hollow sphere.

The crystallinity of the double-shelled SnO_2 hollow spheres is independently confirmed by XRD. All the peaks in the XRD pattern could be indexed to crystalline SnO_2 by comparison with JCPDS card No. 41-1445, indicating good phase purity.