Electronic supplementary information

A Novel Dried Plum-Like Yolk-Shell Architecture of Tin Oxide Nanodots Embedded into Carbon Matrix: Ultra-Fast Assembly and Superior Lithium Storage Property

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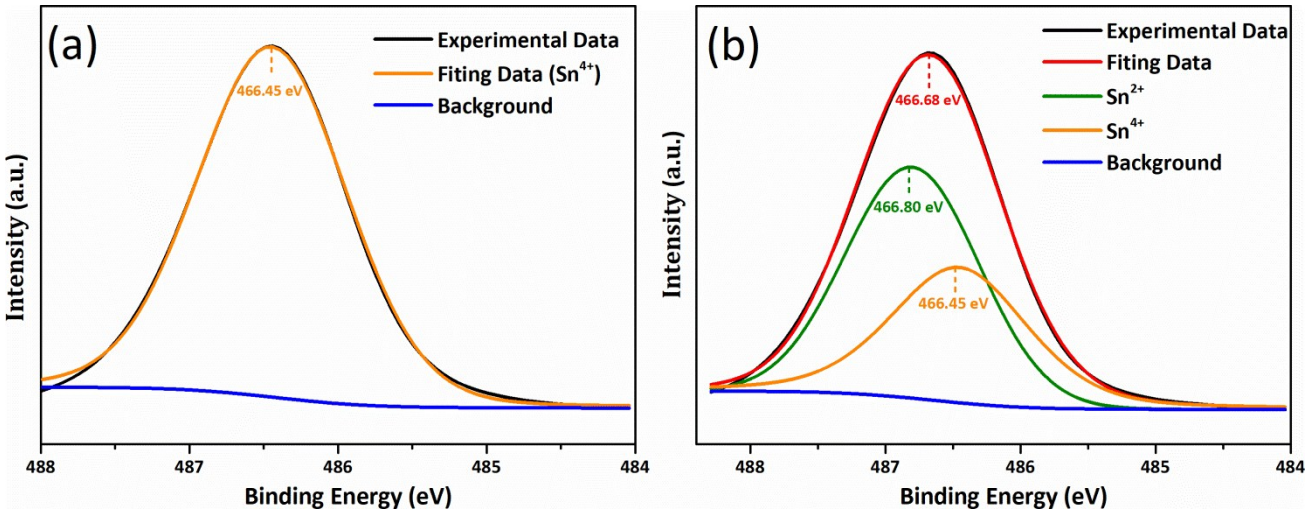

Figure S1. Sn $3d_{5/2}$ XPS spectrums of the pure SnO_2 particles (a) and SnO_x-C composite (b).

As shown in Figure S1, no characteristic peak of Sn^{2+} is observed in the XPS spectrum of the pure SnO_2 particles prepared by SP. However, the XPS spectrum of the YS-SnO_x/C composite revealed a mixed crystal structure. The mole ratio of SnO and SnO_2 in the YS-SnO_x/C composite evaluated by XPS spectrum was about 59/41. The amorphous carbon formed by the carbonization of PVP resulted in a reducing atmosphere around the SnO_2 particle during the high-temperature SP process, and the SnO phase is generated from the partial reduction of SnO_2.

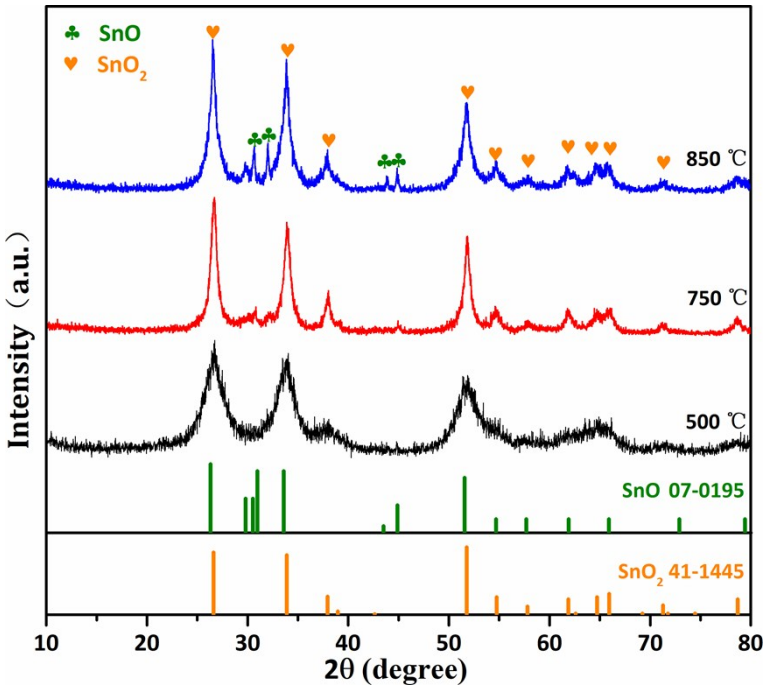

Figure S2. XRD patterns of the samples prepared by SP at different temperature.

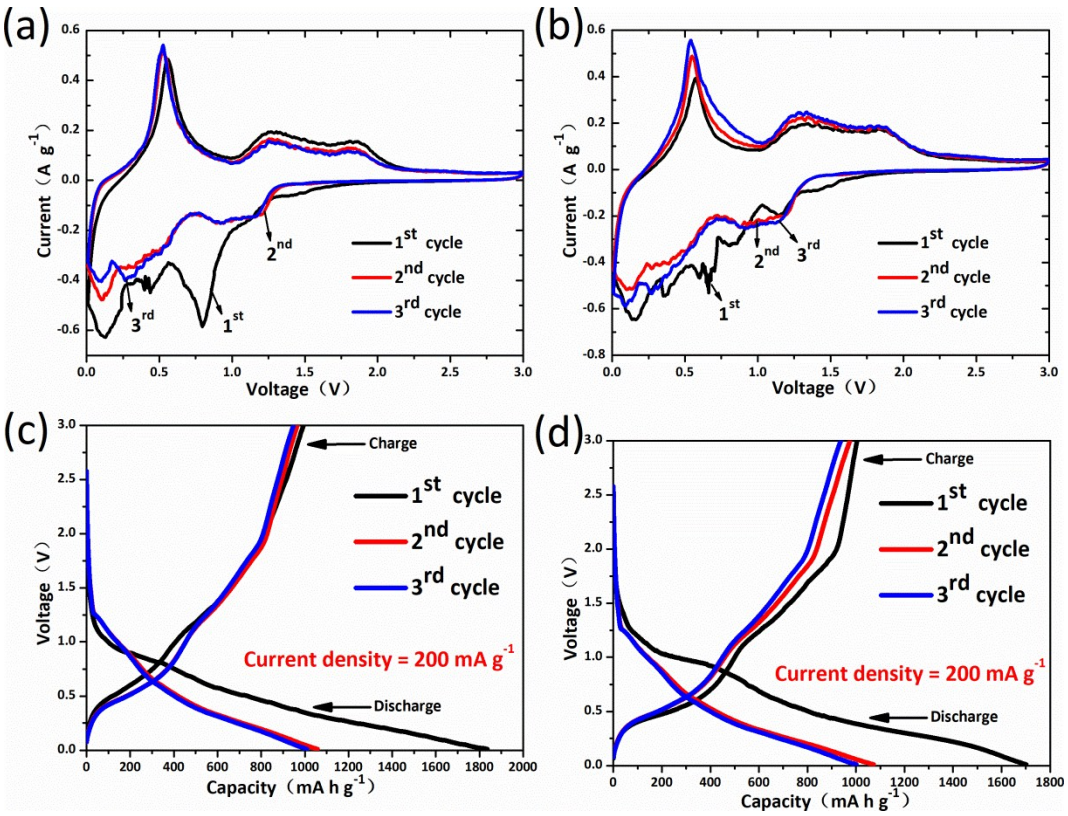

Figure S3. (a-b) The initial three CV curves at 0.1 mV s^{-1} and (c-d) charge and discharge curves. (a, c) P-SnO_2; (b, d) D-SnO_2.