Supporting Information

Hollow bean-pod-like SiO_2-supported-SnO_2/C nanocomposites for durable lithium and sodium storage

Linyu Yang,[a,b] Site Li,[b*] Jun Liu,[b*] Kunjie Zhu,[b] Sailin Liu,[b] Ming Lei[c]

[a] School of physics and technology, Xin Jiang University, Urumqi, Xinjiang 830000, China.
[b] School of Materials Science and Engineering, Central South University, Changsha, Hunan 410083, China. E-mail: liujun4982004@csu.edu.cn
[c] State Key Laboratory of Information Photonics and Optical Communications, Beijing University of Posts and Telecommunications, Beijing 100876, China

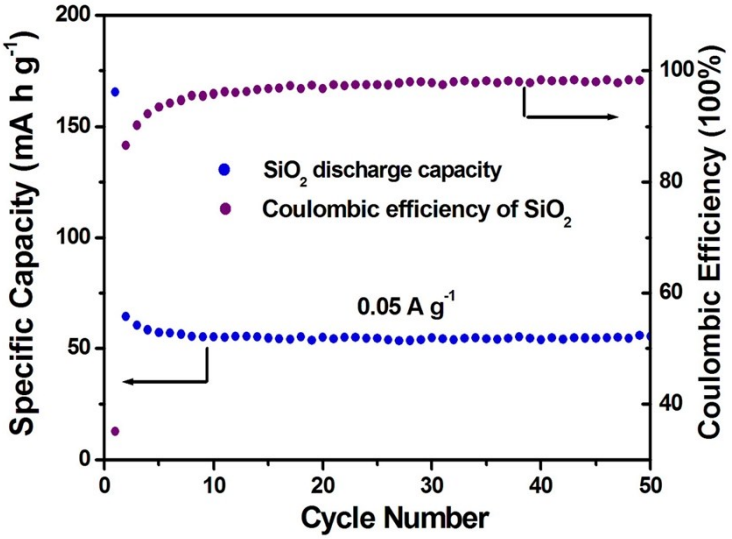

Figure. S1 Cycling performance of SiO_2 at a current density of 50 mA g^{-1} for Li storage.

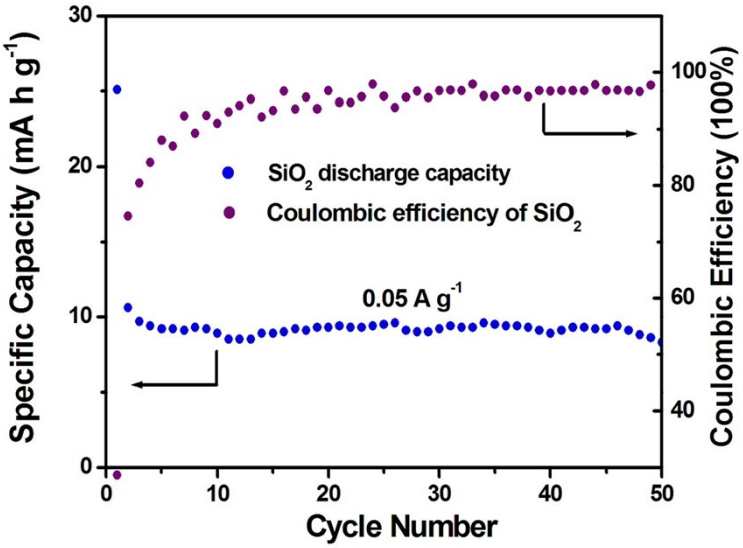

Figure. S2 Cycling performance of SiO_2 at a current density of 50 mA g^{-1} for Na storage.

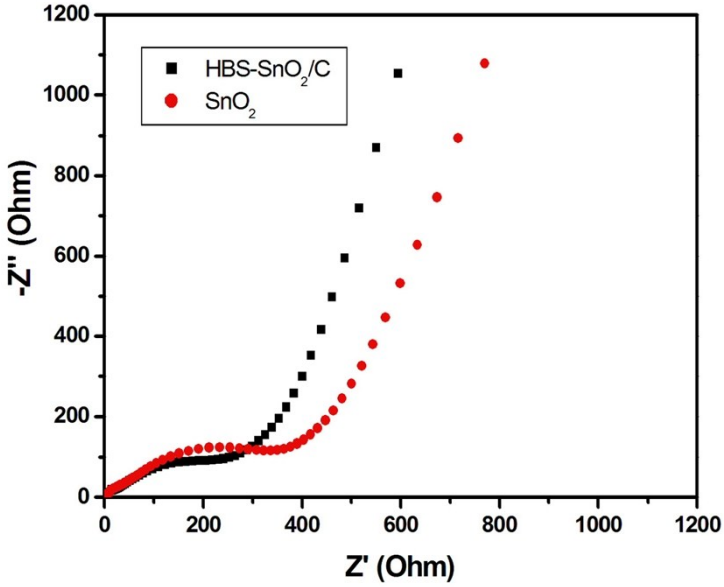

Figure S3. Experimental Nyquist plots of SnO_2 and HBS-SnO_2/C nanocomposites for Li half cells.

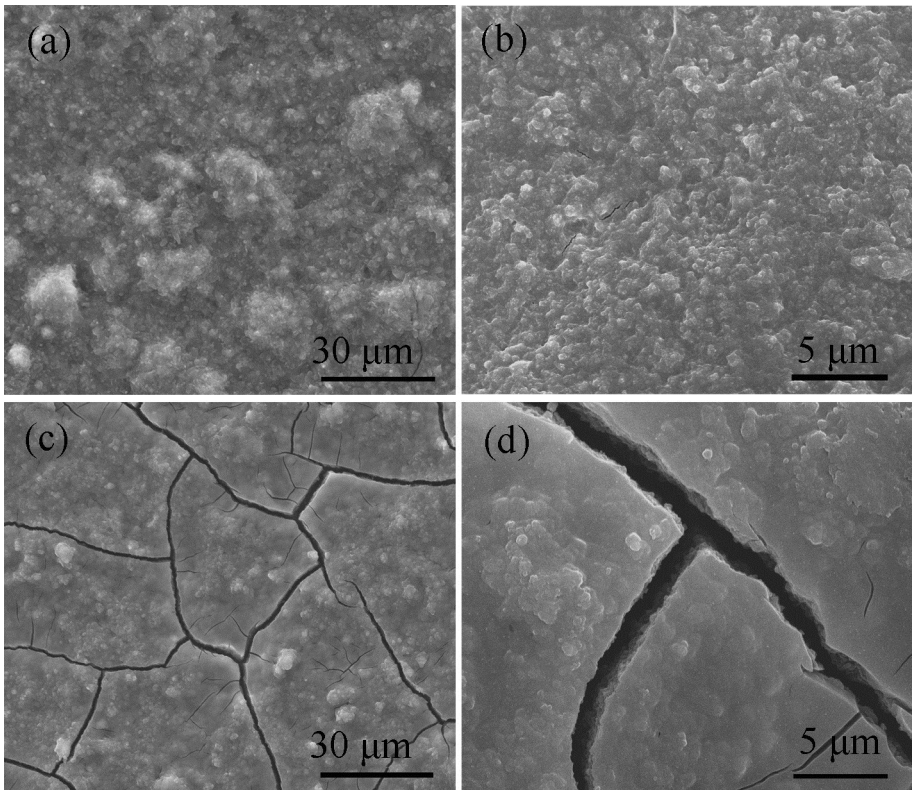

Figure. S4 Analysis of electrodes after cycles: (a) and (b) SEM and magnified SEM images of HBS-SnO_2/C electrodes after 50 cycles of the Li insertion and extraction. (c), (d) SEM and magnified SEM images of SnO_2 after 50 cycles of the Li insertion and extraction.

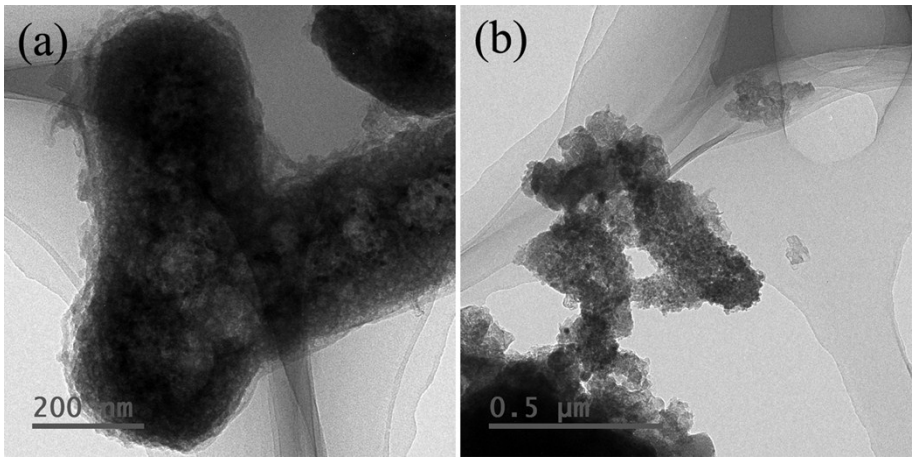

Figure. S5 TEM images of (a) HBS-SnO_2/C and (b) SnO_2 nanotubes after 50 cycles of the Li insertion and extraction.

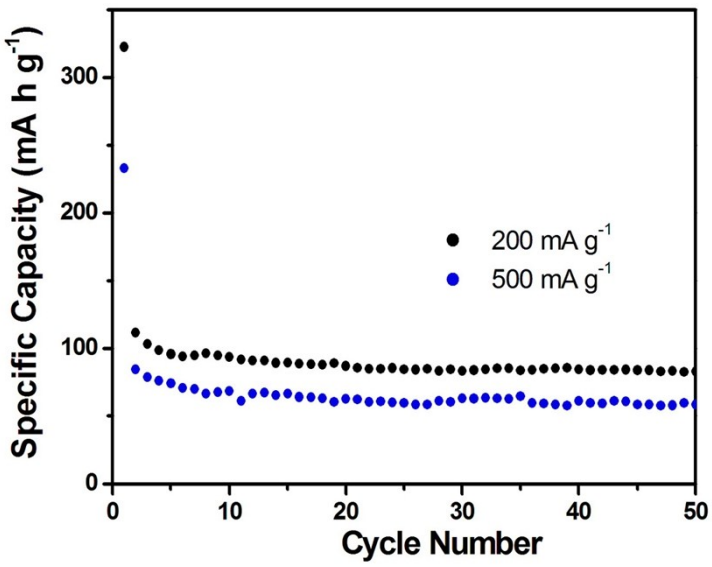

Figure. S6 Cycling performance of HBS-SnO_2/C nanocomposites at a current density of 200 and 500 mA g^{-1}.

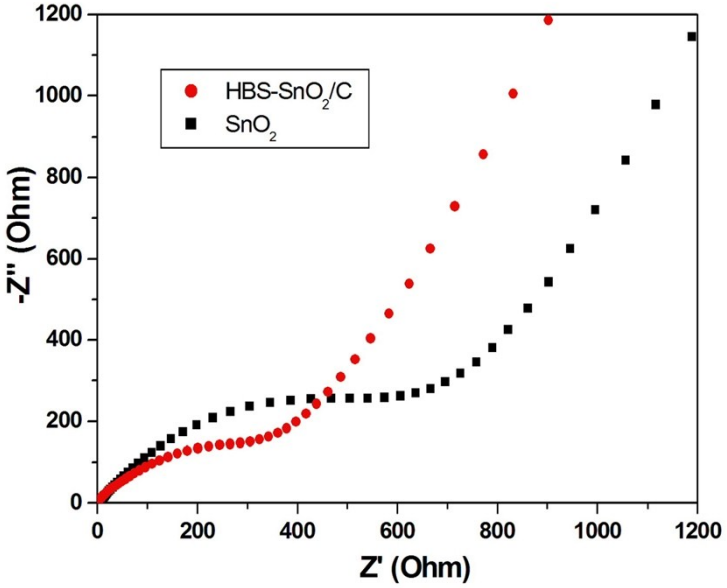

Figure. S7 Experimental Nyquist plots of SnO_2 and HBS-SnO_2/C nanocomposites for Na half cells.

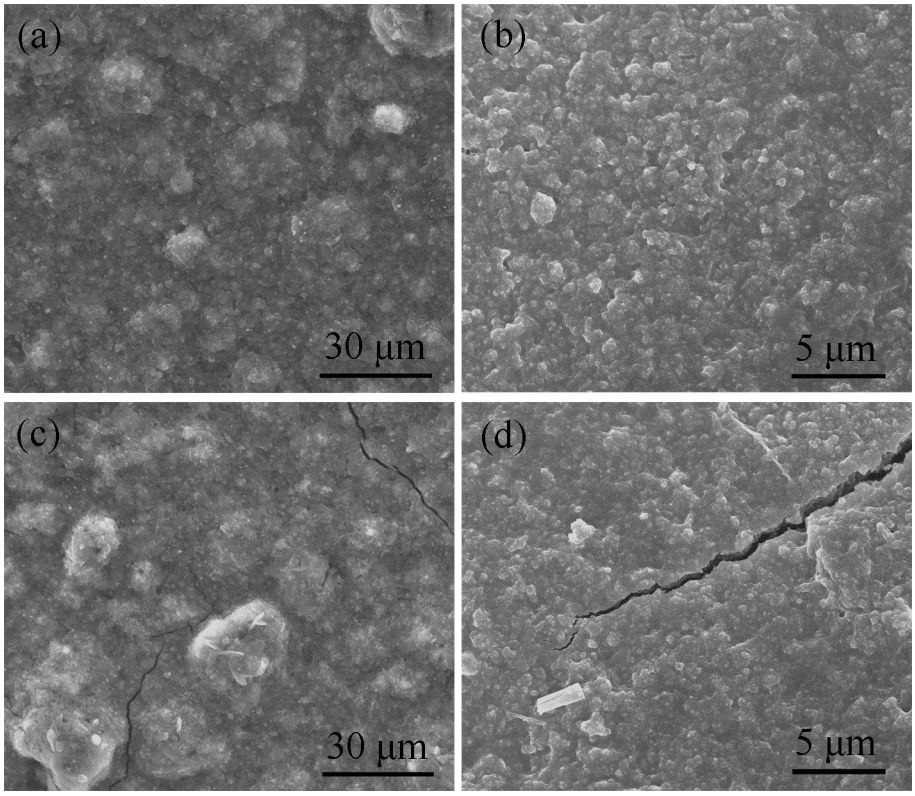

Figure. S8 Analysis of electrodes after cycles: (a) and (b) SEM and magnified SEM images of HBS-SnO_2/C electrodes after 50 cycles of the Na insertion and extraction. (c), (d) SEM and magnified SEM images of SnO_2 after 50 cycles of the Na insertion and extraction.

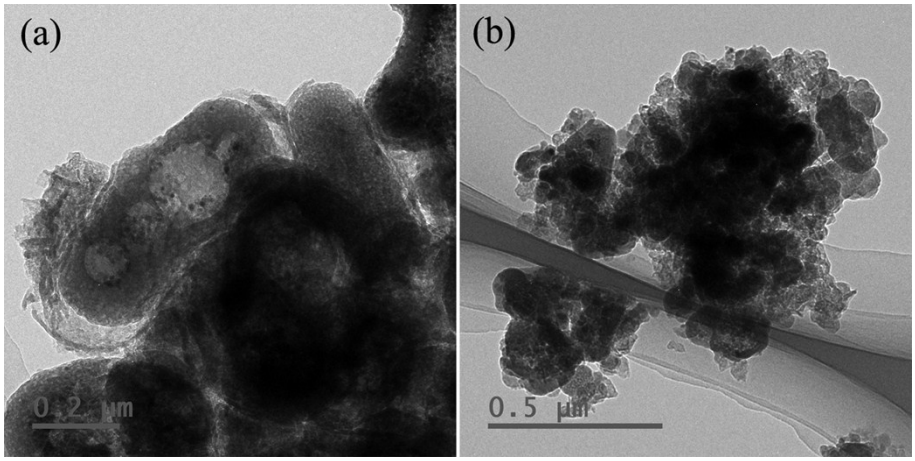

Figure. S9 TEM images of (a) HBS-SnO_2/C and (b) SnO_2 nanotubes after 50 cycles of the Na insertion and extraction.