## Template-Free Synthesis of Sb<sub>2</sub>S<sub>3</sub> Hollow Microspheres as Anode Materials for Lithium-Ion and Sodium-Ion Batteries

Jianjun Xie<sup>1</sup>, Li Liu<sup>1, 2, \*</sup>, Jing Xia<sup>1</sup>, Yue Zhang<sup>1</sup>, Min Li<sup>1</sup>, Yan Ouyang<sup>1</sup>, Su Nie<sup>1</sup>, Xianyou Wang<sup>1</sup>

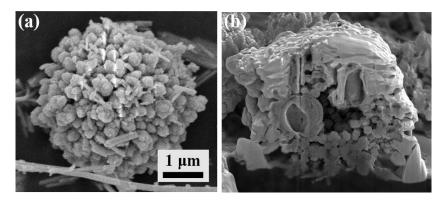
<sup>1</sup>National Base for International Science & Technology Cooperation, National Local Joint Engineering Laboratory for Key materials of New Energy Storage Battery, Hunan Province Key Laboratory of Electrochemical Energy Storage and Conversion, School of Chemistry, Xiangtan University, Xiangtan 411105, People's Republic of China

<sup>2</sup>Key Laboratory of Advanced Energy Materials Chemistry (Ministry of Education), Nankai University, Tianjin 300071, People's Republic of China

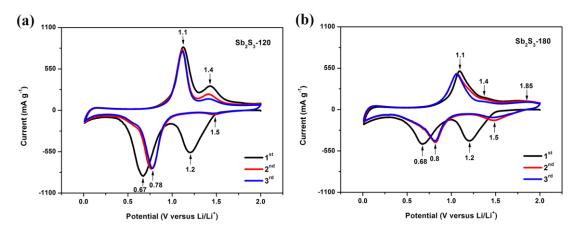
\*Corresponding author. E-mail: liulili1203@126.com

Tel.: +86-731-58292206; Fax: +86-731-58292477

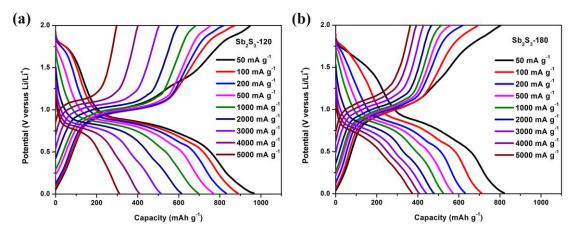
## **Figures**



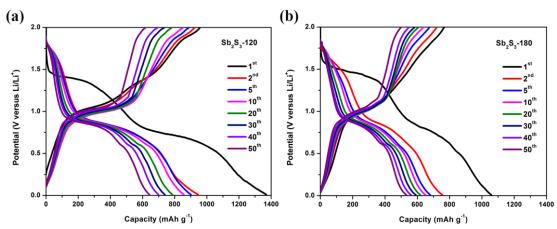
**Fig. S1 a** Random selected a particle of  $Sb_2S_3$ -150 sample. **b** After dissected  $Sb_2S_3$ -150 particle



**Fig. S2** CV curves of **a**  $Sb_2S_3$ -120 and **b**  $Sb_2S_3$ -180 electrodes for the first three cycles at a scan rate of 0.1 mV s<sup>-1</sup> in LIBs



**Fig. S3** Selected charge/discharge voltage profiles of **a**  $Sb_2S_3$ -120 and **b**  $Sb_2S_3$ -180 electrodes at different current densities in LIBs



**Fig. S4** Selected charge/discharge voltage profiles of **a**  $Sb_2S_3$ -120 and **b**  $Sb_2S_3$ -180 electrodes at a current density of 200 mA  $g^{-1}$  in LIBs