

Supporting Information

Surface-reconstructed formation of hierarchical TiO₂ mesoporous nanosheets with fast lithium-storage capability

Yuan Liu,^{abc} Chenfeng Ding,^{ac} Peitao Xie,^a Xiaodong Yan,^d Mei Feng,^{*a} Yaochun Liu,^c Chunzhao Liu,^{*a} Yunhua Yu,^e and Yuanhua Lin^{*b}

^a*State Key Laboratory of Bio-fibers and Eco-textiles, Institute of Biochemical Engineering, Affiliated Qingdao Central Hospital, College of Materials Science and Engineering, Qingdao University, Qingdao 266071, China. E-mail: czliu@qdu.edu.cn; Fengmei_qduzxyy@163.com*

^b*State Key Lab of New Ceramics and Fine Processing, School of Materials Science and Engineering, Tsinghua University, Beijing 100084, China. E-mail: linyh@mail.tsinghua.edu.cn*

^c*Foshan (South China) Institute for New Materials, Foshan 528200, China*

^d*Key Laboratory of Synthetic and Biological Colloids, Ministry of Education, School of Chemical and Material Engineering, Jiangnan University, Wuxi 214122, China.*

^e*State Key Laboratory of Organic-Inorganic Composites, Beijing University of Chemical Technology, Beijing 100029, China.*

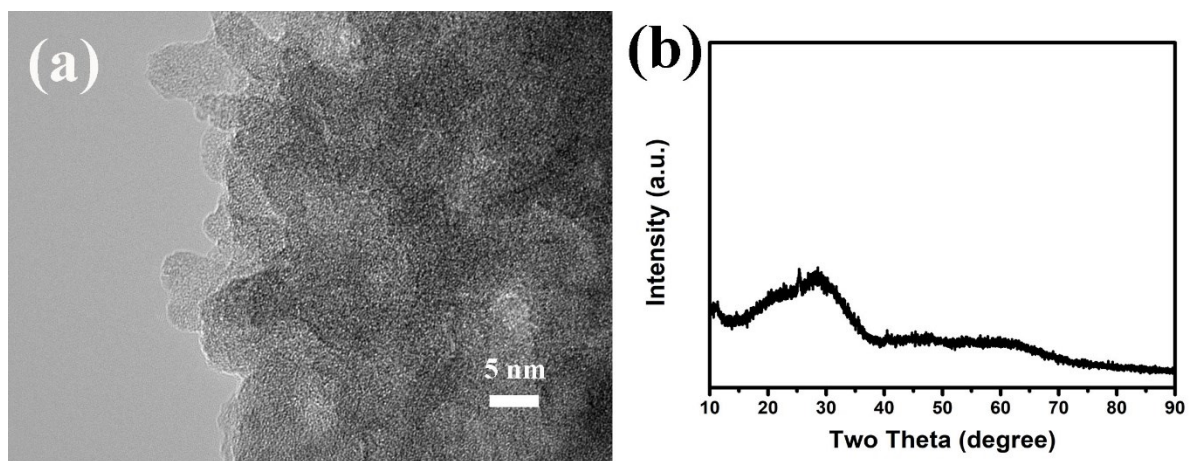


Figure S1. (a) HR-TEM image and (b) XRD pattern of the amorphous titania-silica composite nanosheets.

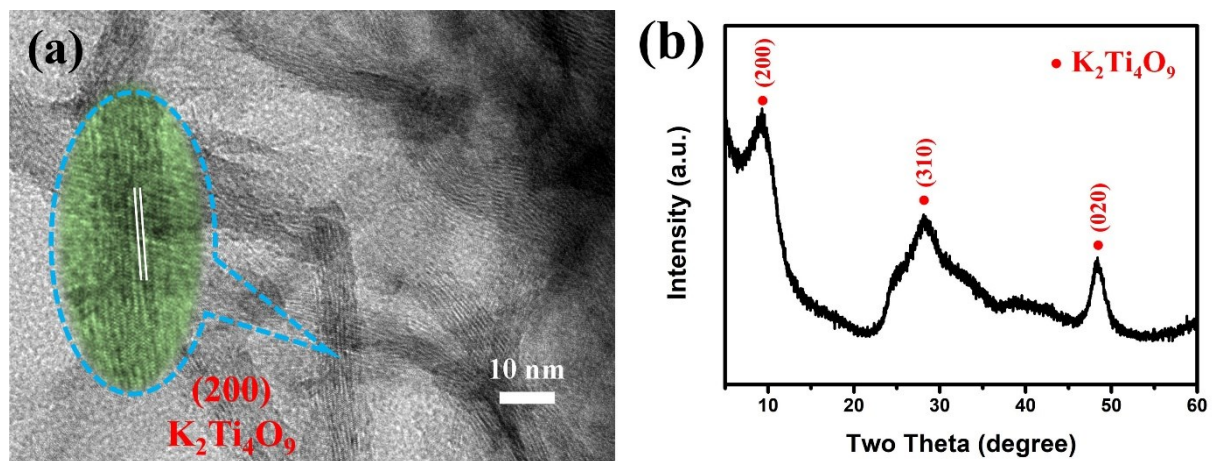


Figure S2. (a) HR-TEM image and (b) XRD pattern of the layered KTO.

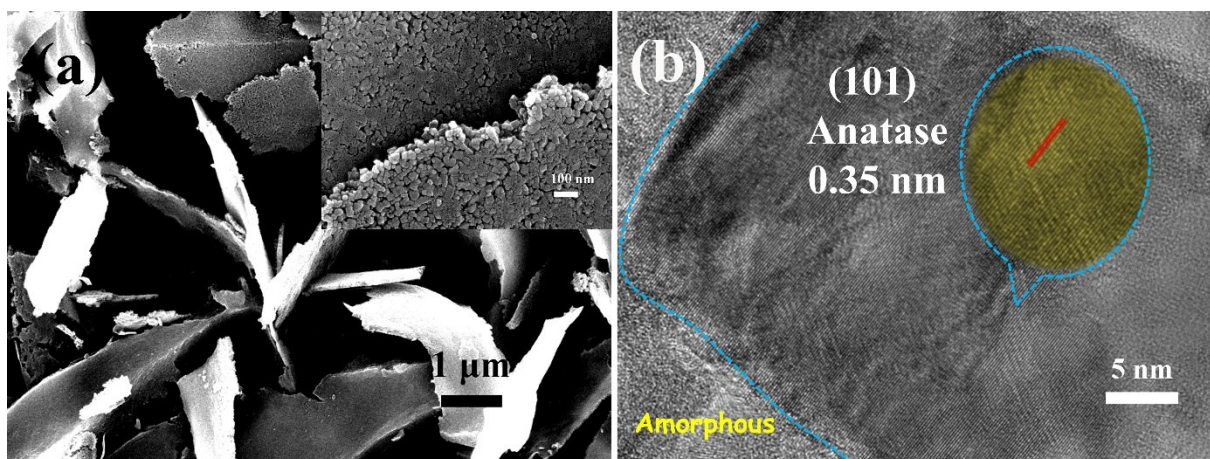


Figure S3. (a) SEM and (b) HR-TEM images of A-TONS.

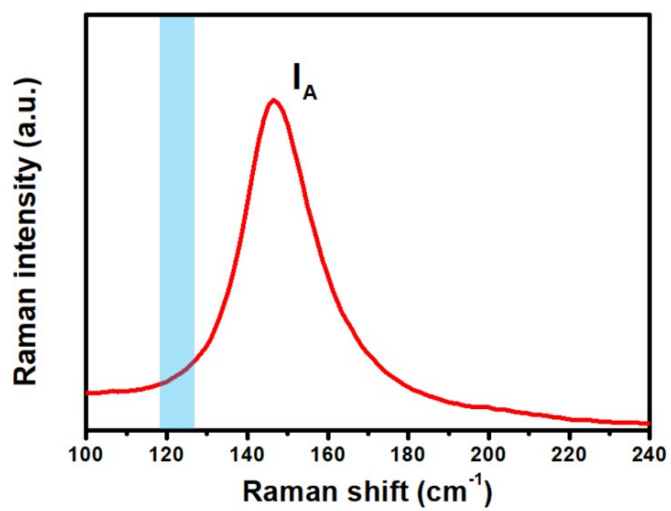


Figure S4. Raman spectrum of A-TONS

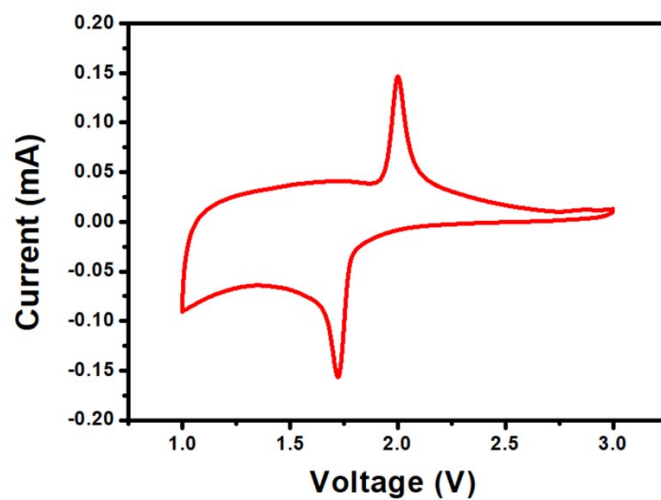


Figure S5. CV curve of the A-TONS electrode at the scanning rate of 0.1 mV s^{-1} .

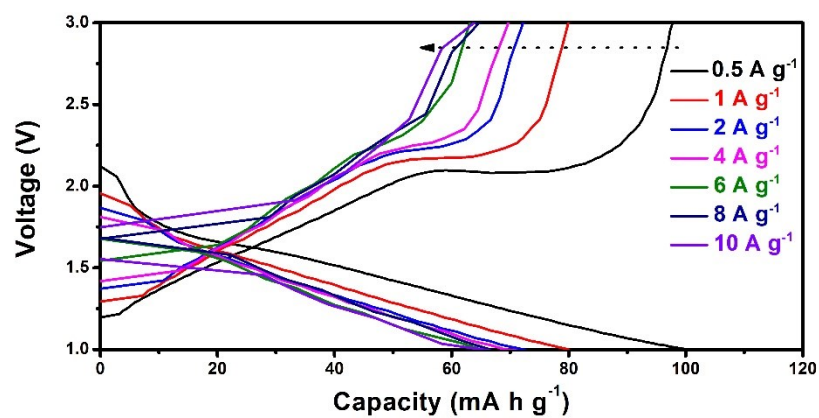


Figure S6. Charge-discharge curves of the A-TONS electrode at various current densities.

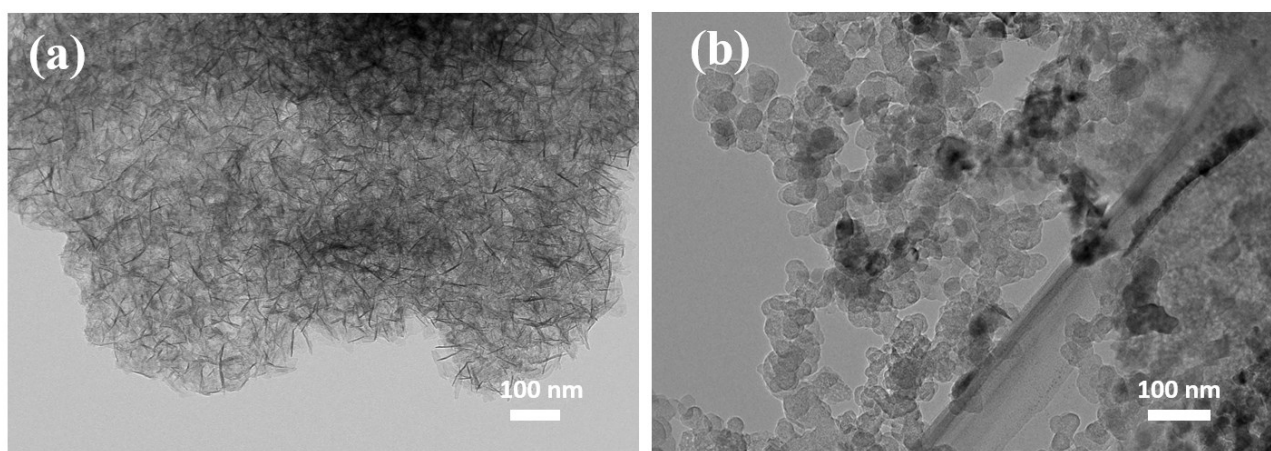


Figure S7. TEM images of the SE-TONS (a) and A-TONS (b) electrodes after 1000 cycles.

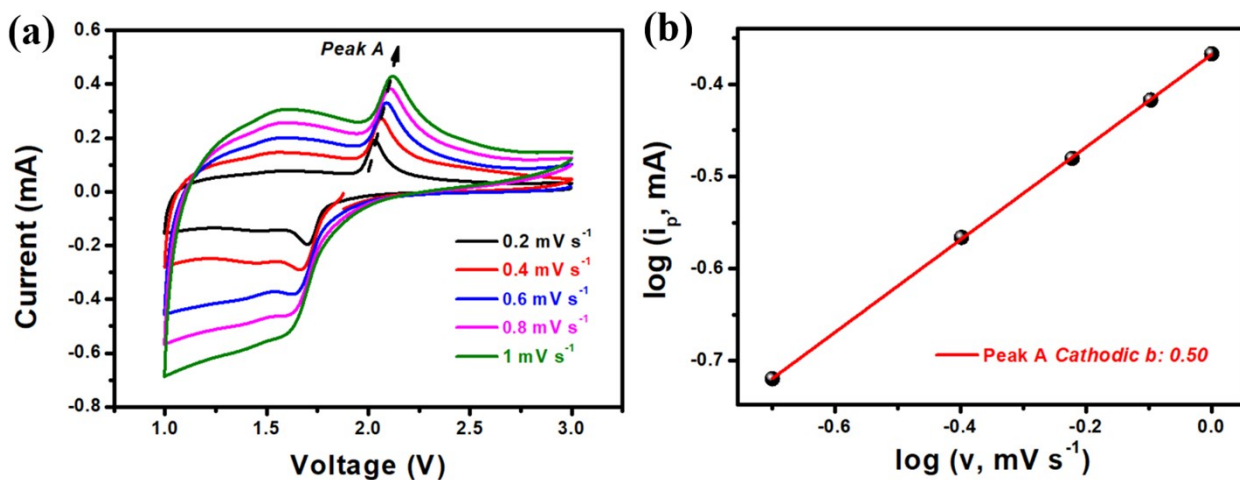


Figure S8. (a) CV curves of the A-TONS electrode at various scan rates in the range from 0.2 to 1.0 mV s⁻¹ and (b) corresponding $\log(i)$ versus $\log(v)$ plots of specific peak currents.

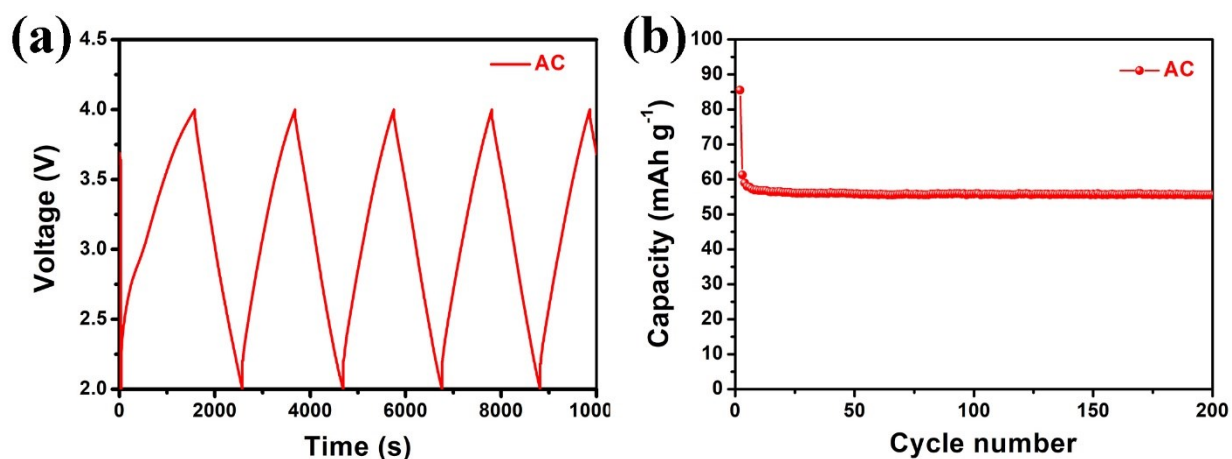


Figure S9. (a) Galvanostatic charge-discharge curve and (b) cycling performance of the AC electrode at 1.0 A g⁻¹ between 2.0 and 4.0 V.