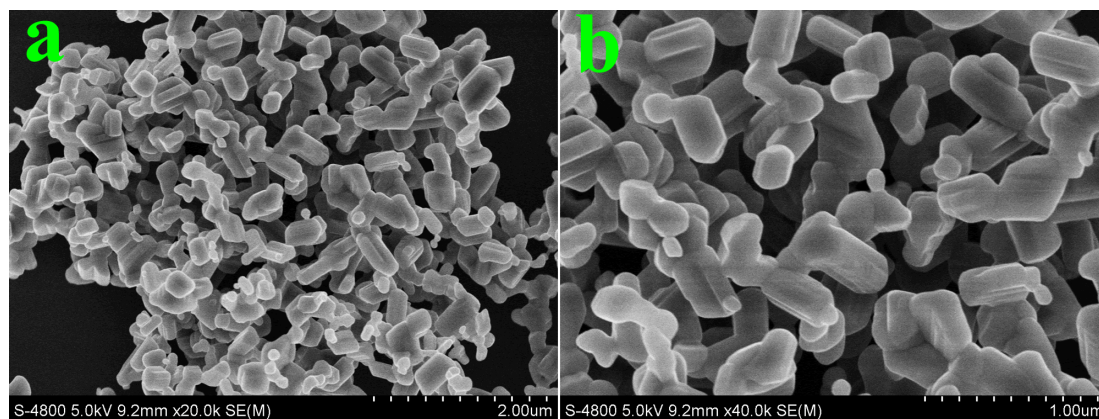


**Electronic Supplementary Information for**  
**TiNb<sub>2</sub>O<sub>7</sub> Nanoparticles Assembled into Hierarchical**  
**Microspheres as High-Rate Capability and Long-Cycle-Life**  
**Anode Materials for Lithium Ion Batteries**

**Hongsen Li, Laifa Shen, Gang Pang, Shan Fang, Haifeng Luo, Kai Yang, and Xiaogang Zhang\***

*College of Materials Science and Engineering, Jiangsu Key Laboratory of Material and Technology for Energy Conversion, Nanjing University of Aeronautics and Astronautics, 29 Yudao Road, Nanjing, 210016, P. R. China. Email: azhangxg@nuaa.edu.cn*



**Fig. S1.** The representative morphology of the bulk TiNb<sub>2</sub>O<sub>7</sub>.

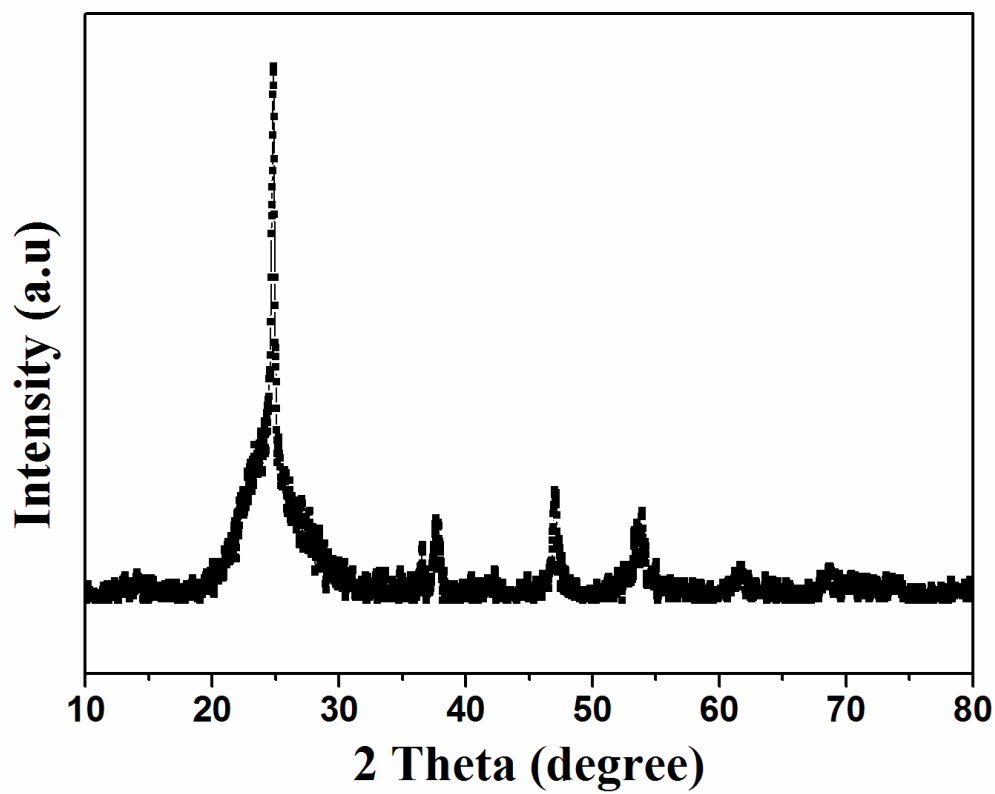
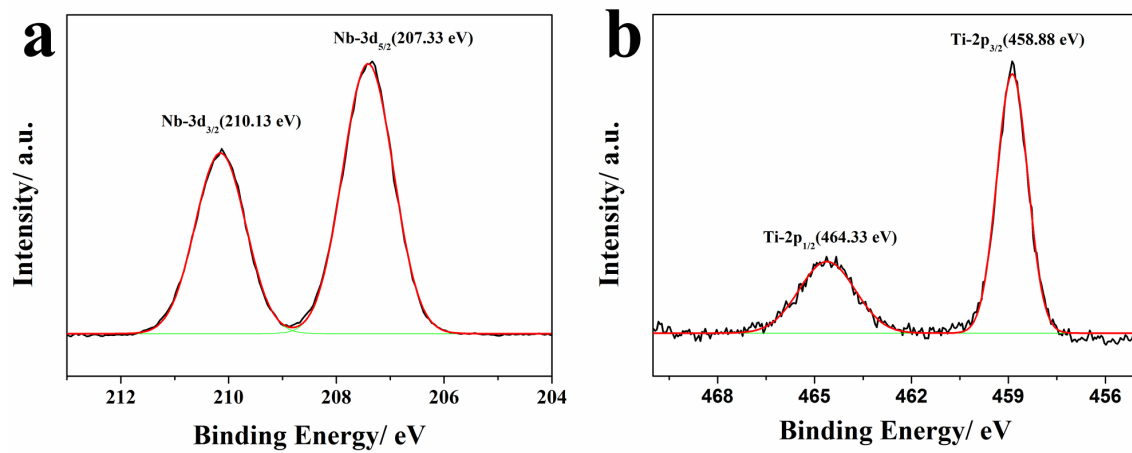
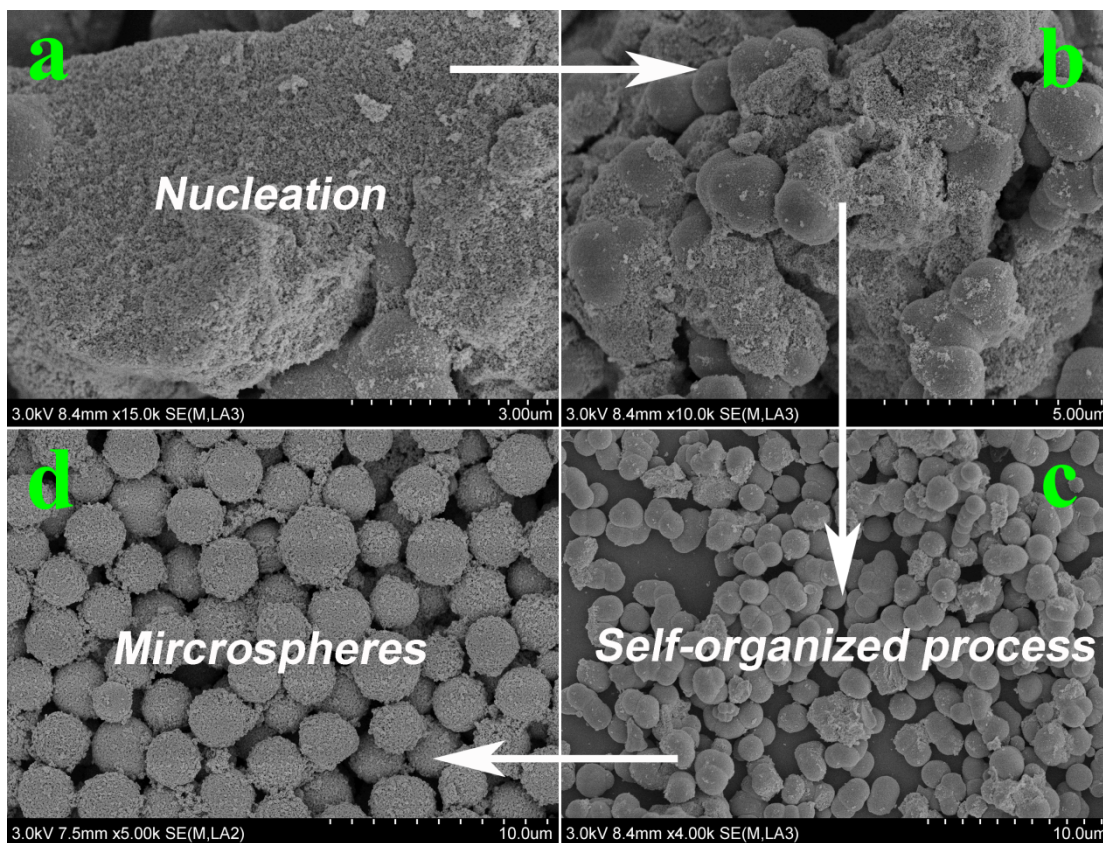


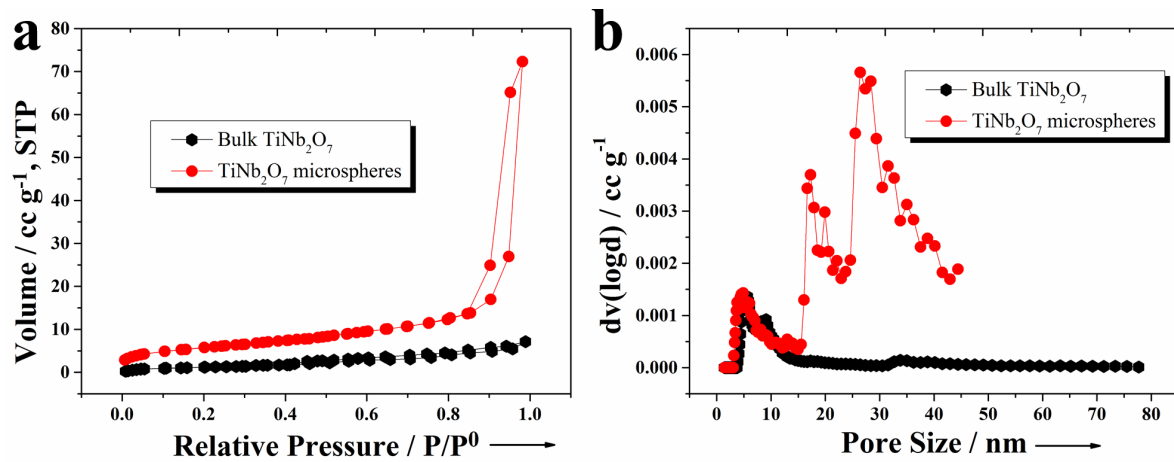
Fig. S2. The XRD pattern of the uncalcined  $\text{TiNb}_2\text{O}_7$  microspheres.



**Fig. S3.** Narrow-scan XPS spectra of (a) Nb 3d, (b) Ti 2p in TiNb<sub>2</sub>O<sub>7</sub> microspheres.

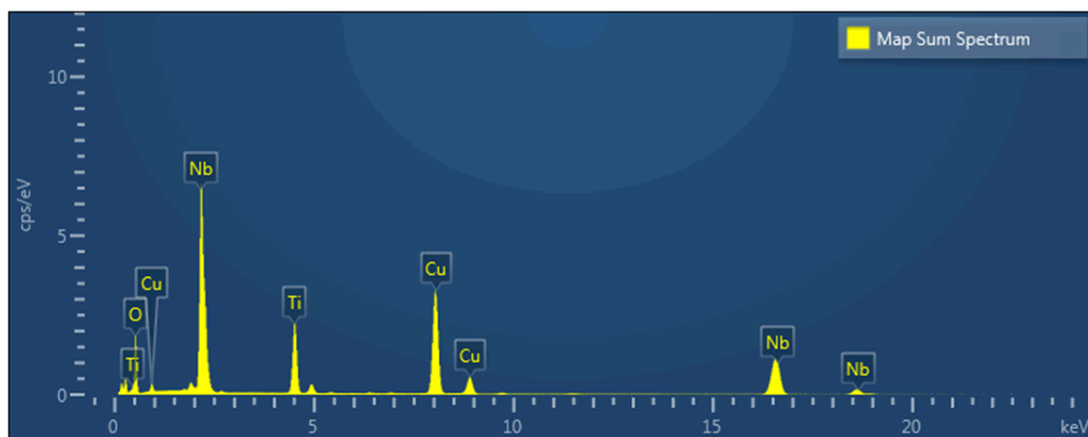


**Fig. S4.** The formation process of the nano/micro TiNb<sub>2</sub>O<sub>7</sub> microspheres. SEM images of TiNb<sub>2</sub>O<sub>7</sub> after solvothermal treatment for 3 h (a), 6 h (b) 12 h (c) and 24 h (d), respectively.

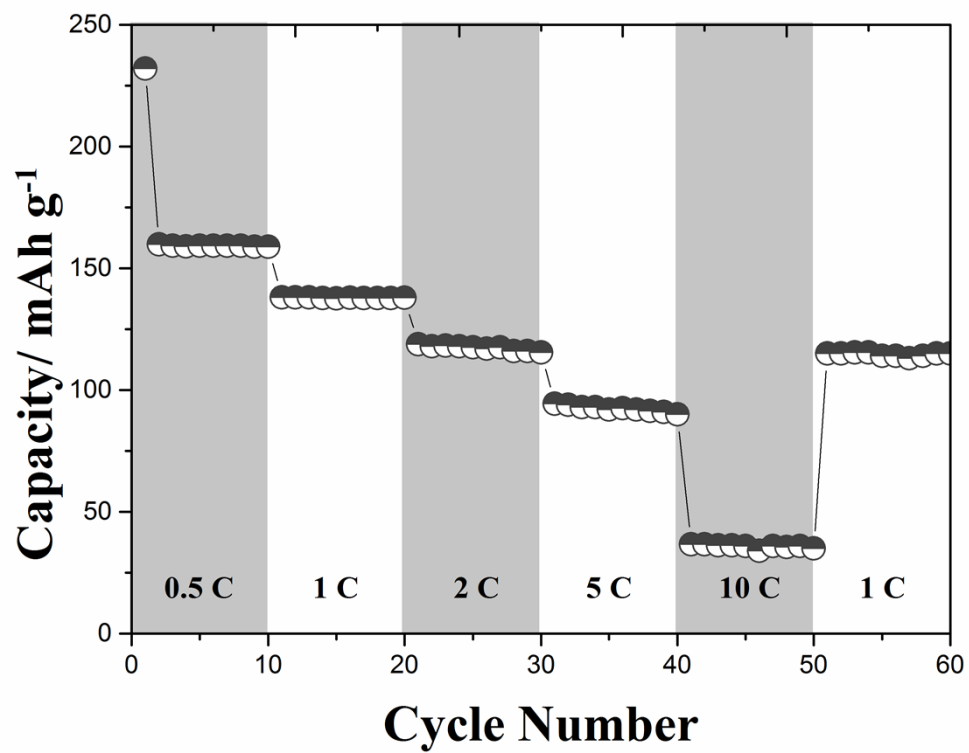


**Fig. S5.** (a) Nitrogen adsorption-desorption isotherms for TiNb<sub>2</sub>O<sub>7</sub> microspheres and bulk

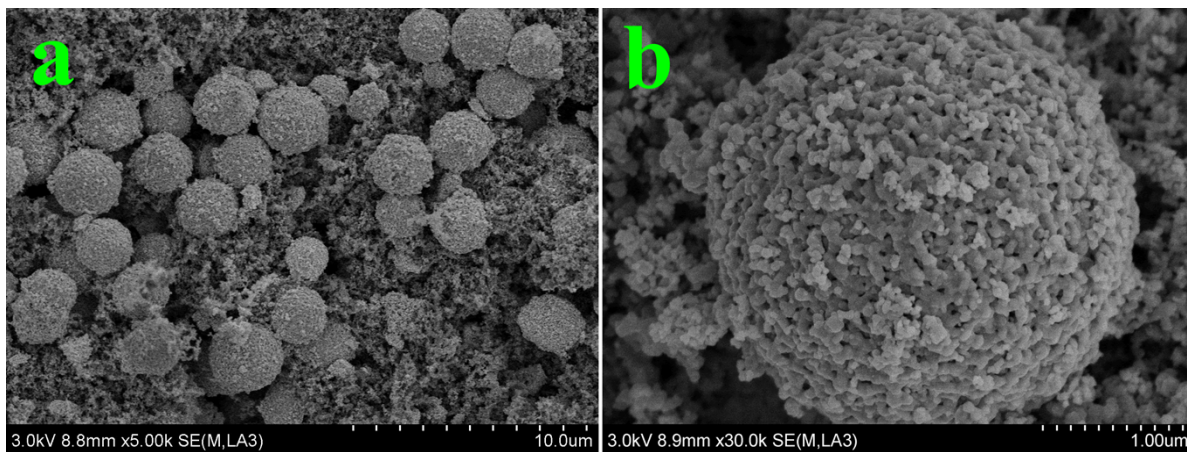
TiNb<sub>2</sub>O<sub>7</sub> and (b) the corresponding pore size distributions.



**Fig. S6.** The EDX spectrum of the TiNb<sub>2</sub>O<sub>7</sub> microspheres.



**Fig. S7.** The rate and cycling performances of the bulk TiNb<sub>2</sub>O<sub>7</sub>.



**Fig. S8.** FESEM images of the  $\text{TiNb}_2\text{O}_7$  microspheres after 100 discharge/charge cycles at 5 C.