Supporting Information

TiO_2 (B) Nanofiber Bundles as a High Performance Anode for Li-Ion Battery

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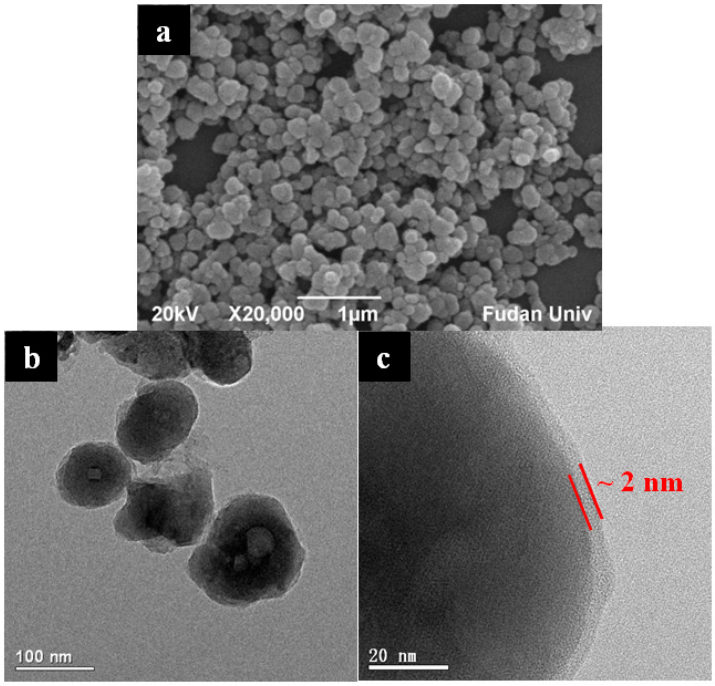

Figure S1 SEM (a) and TEM (b, c) images of the $LiFePO_4$ which were used for TiO_2(B)/$LiFePO_4$ and $Li_4Ti_5O_{12}$/$LiFePO_4$ batteries investigation. The $LiFePO_4$ sample was prepared according to Wang *et al*'s previous report [Y. G. Wang *et al.* Angew. Chem. Int. Ed. 2008, 47, 7461].

As shown in Fig.S1a and S1b, the particle-size of the as-prepared $LiFePO_4$ is about 80 ~ 100 nm. It can be detected from the HRTEM image (Fig. S1c) that the $LiFePO_4$ particle is coated by a carbon layer.

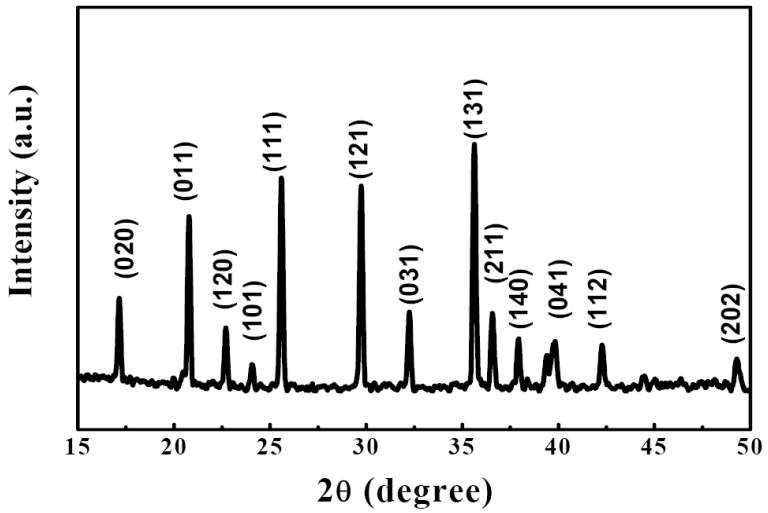

Figure S2 XRD pattern of as-prepared $LiFePO_4$ sample. As shown in Fig. S2, all of the diffraction peaks can be indexed on the basis of an olive $LiFePO_4$.

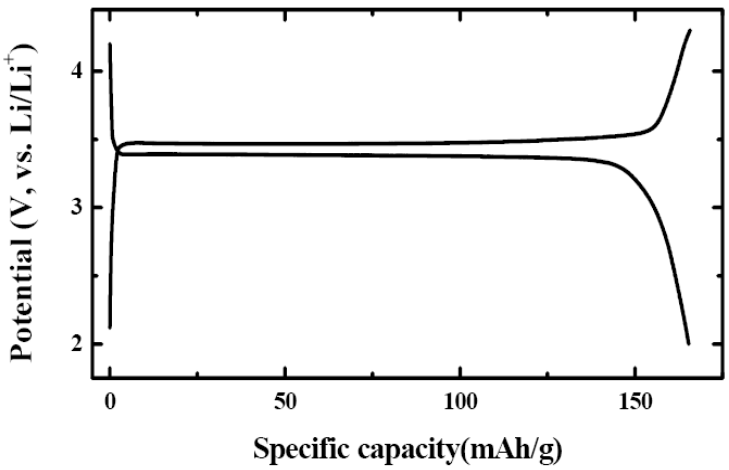

Figure S3 charge/discharge curves of as-prepared $LiFePO_4$ sample with a current density of 10 mA g^{-1}. It can be observed from Fig.S3 that the LiFePO4 sample displays a reversible capacity about 163mA g^{-1}.

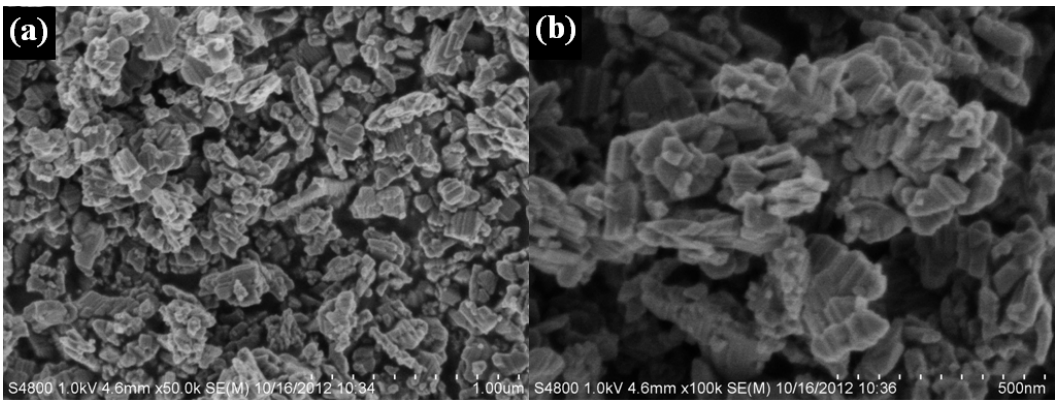

Figure S4 SEM images of the applied $Li_4Ti_5O_{12}$ which was used for the $Li_4Ti_5O_{12}/LiFePO_4$ battery investigation. This sample is provided by Superhoo Technology Co., Ltd (China). As shown Fig.S4, the typical size of the $Li_4Ti_5O_{12}$ is 100-200 nm.

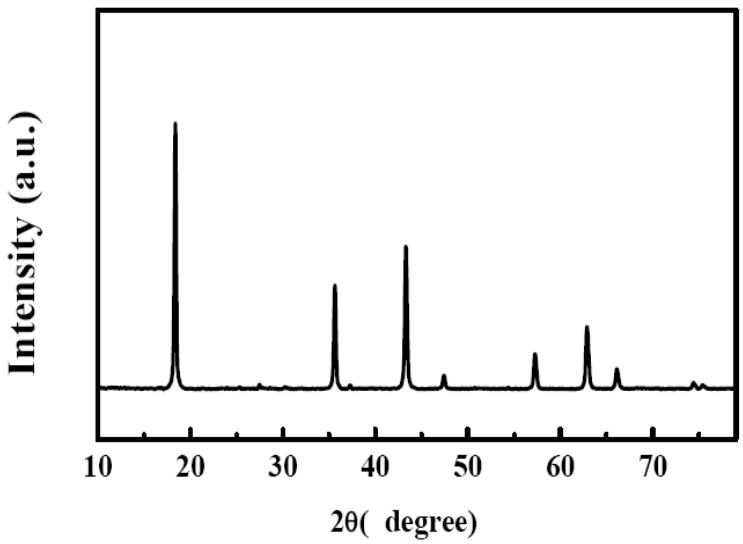

Figure S5 XRD pattern of the $Li_4Ti_5O_{12}$ sample, where all of the diffraction peaks can be indexed on the basis of a spinel $Li_4Ti_5O_{12}$.