Supporting Information

TiO$_2$ (B) Nanofiber Bundles as a High Performance Anode for Li-Ion Battery

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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 S1 SEM (a) and TEM (b, c) images of the LiFePO$_4$ which were used for TiO$_2$(B)/LiFePO$_4$ and Li$_4$Ti$_5$O$_{12}$/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 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 LiFePO$_4$ sample displays a reversible capacity about 163mA g$^{-1}$.

Figure S4 SEM images of the applied Li$_4$Ti$_5$O$_{12}$ which was used for the Li$_4$Ti$_5$O$_{12}$/LiFePO$_4$ battery investigation. This sample is provided by Superhoo Technology Co., Ltd (China). As shown Fig.S4, the typical size of the Li$_4$Ti$_5$O$_{12}$ is 100-200 nm.
Figure S5 XRD pattern of the Li₄Ti₅O₁₂ sample, where all of the diffraction peaks can be indexed on the basis of a spinel Li₄Ti₅O₁₂.