

## Supporting Information for

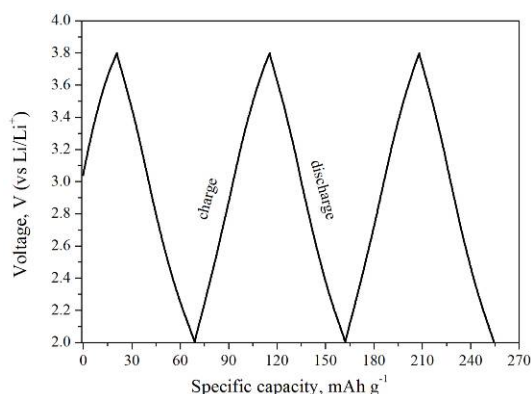
### LiFePO<sub>4</sub>/reduced graphene oxide hybrid cathode for lithium ion battery with outstanding rate performance

Xianjun Zhu,<sup>\*a</sup> Jing Hu,<sup>a</sup> Wenyan Wu,<sup>a</sup> Wencong Zeng,<sup>b</sup> Huaili Dai,<sup>a</sup> Yuanxin  
Du,<sup>b</sup> Zhen Liu,<sup>a</sup> Liang Li,<sup>a</sup> Hengxing Ji<sup>b</sup> and Yanwu Zhu<sup>\*b</sup>

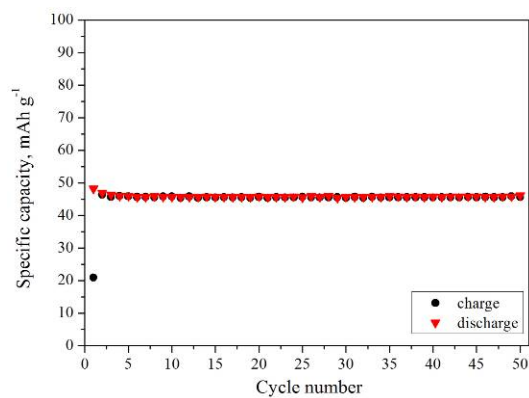
<sup>a</sup>College of Chemistry, Central China Normal University, 152 Luoyu Rd, Wuhan,  
Hubei 430079, China. E-mail: [xjzhu@mail.ccnu.edu.cn](mailto:xjzhu@mail.ccnu.edu.cn); Tel: +86-27-67867953.

<sup>b</sup>Department of Materials Science and Engineering and CAS Laboratory of Materials  
for Energy Conversion, University of Science and Technology of China, 96 Jin Zhai  
Rd, Hefei, Anhui 230026, China. E-mail: [zhuyanwu@ustc.edu.cn](mailto:zhuyanwu@ustc.edu.cn); Tel: +86-551-  
63607670.

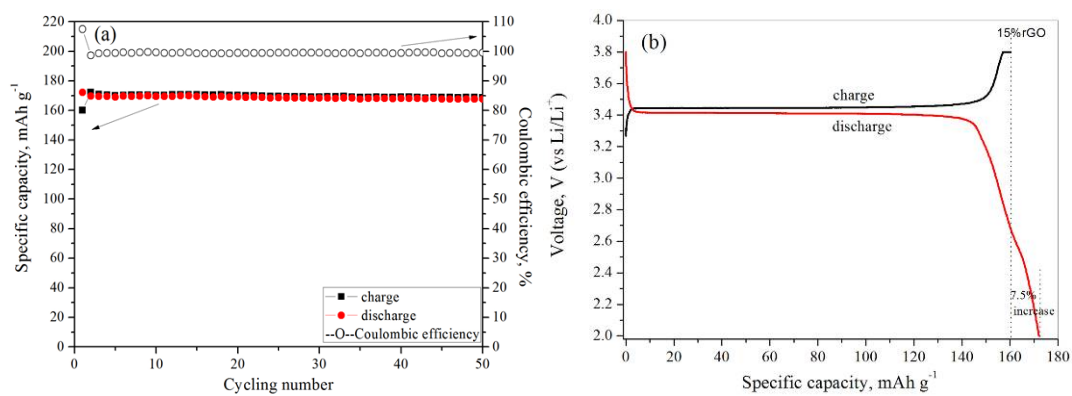
#### Supporting figures



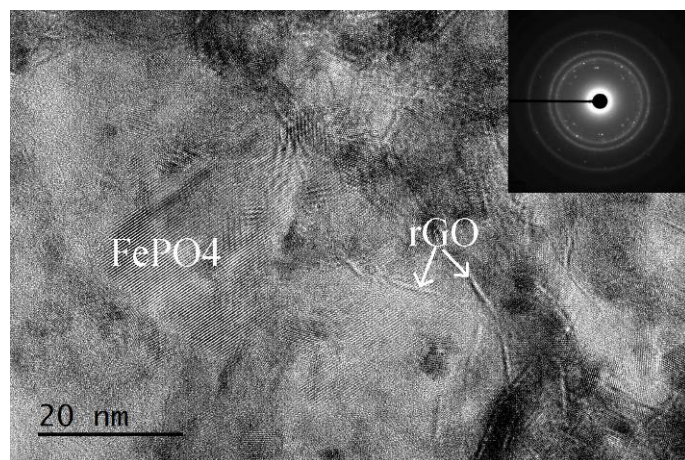
**Figure S1.** The first three charge/discharge profiles of pure rGO at a current density of 0.06 C.



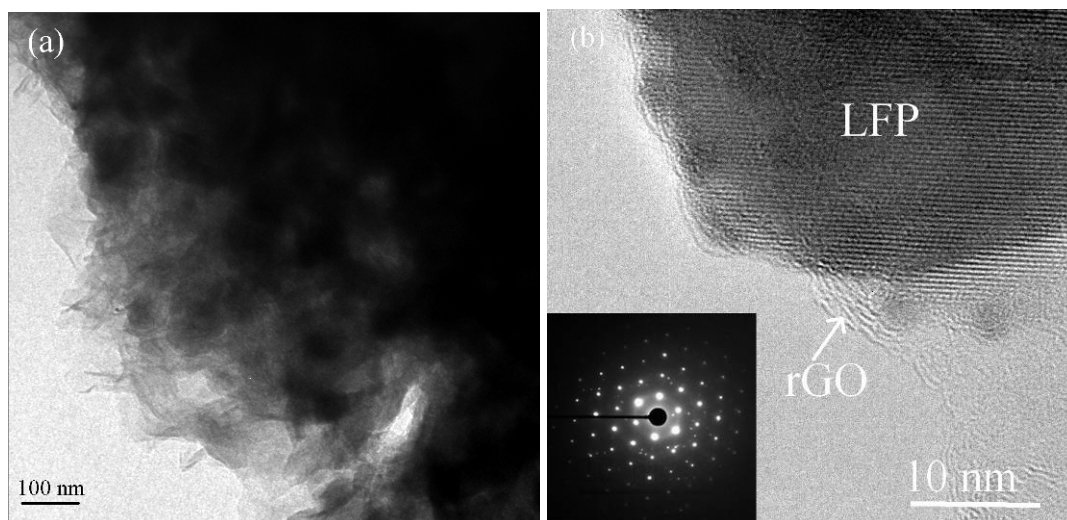
**Figure S2.** Cycle performance of pure rGO in the voltage range of 2.0~3.8 V at a current density of 0.06 C.



**Figure S3.** (a) Cycle performance and coulombic efficiency of LFP with 15 wt% rGO in the voltage range of 2.0~3.8 V at a current density of 0.06 C, (b) The initial charge/discharge profiles of LFP with 15 wt% rGO at a current density of 0.06 C.



**Figure S4.** TEM image of LFP with 15 wt% rGO after 53 cycles between 2.0 and 3.8 V in the state of charge (3.8 V).



**Figure S5.** TEM (a and b) images of LFP with 15 wt% rGO after C-rate testing between 2.0 and 3.8 V in the state of discharge (2.0 V).