

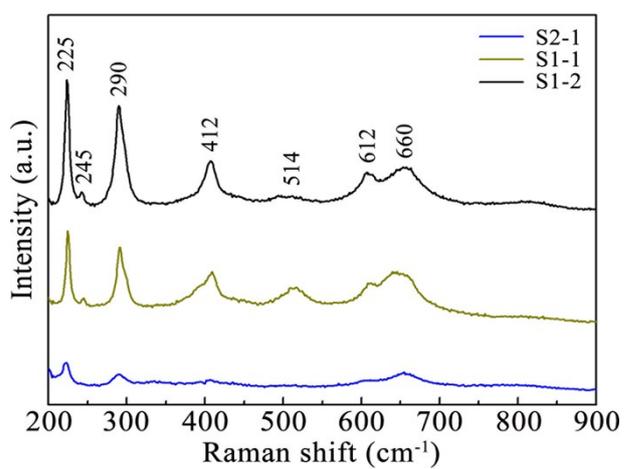
## Supporting Information

### **Nitrogen-Doped Carbon-Coated Ti-Fe-O Nanocomposites with Enhanced Reversible Capacity and Rate Capability for High-Performance Lithium-Ion Batteries**

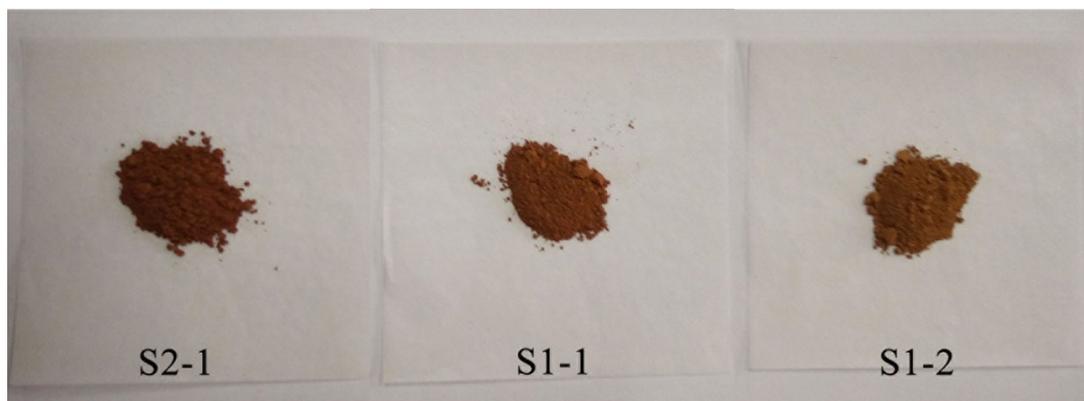
Tao Li, Xue Bai, Ning Lun, Yong-Xin Qi, Yun Tian\* and Yu-Jun Bai\*

Key Laboratory for Liquid-Solid Structural Evolution and Processing of Materials (Ministry of Education), Shandong University, Jinan 250061, PR China

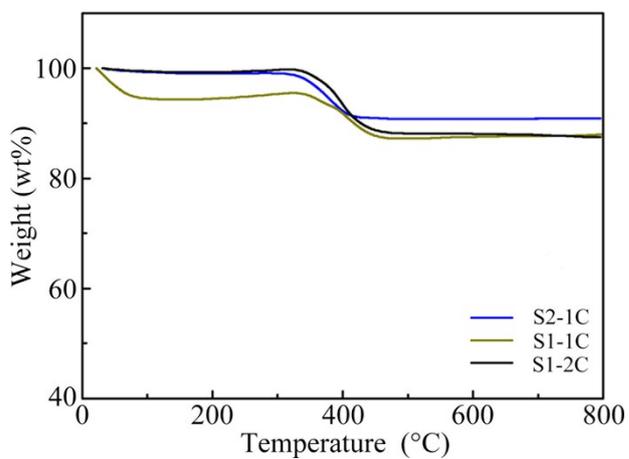
\*Corresponding authors. Tel/Fax: +86 531 88392315. E-mail address: byj97@126.com (Y.-J. Bai); ytian@sdu.edu.cn (Y. Tian).



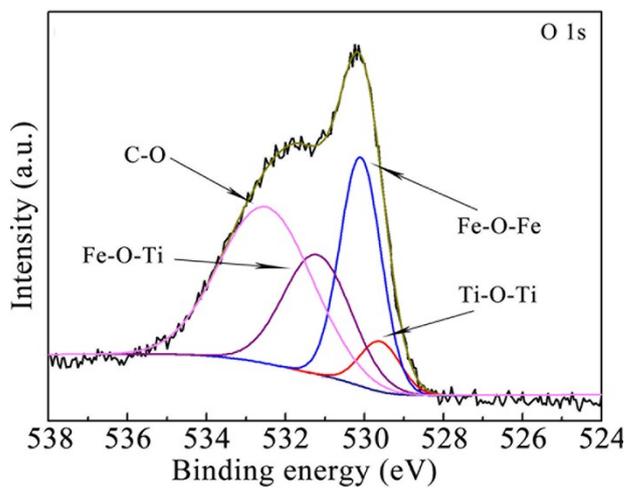
**Fig. S1** Raman spectra of the as-sintered products of S2-1, S1-1 and S1-2.



**Fig. S2** Photographs of S2-1, S1-1, and S1-2.



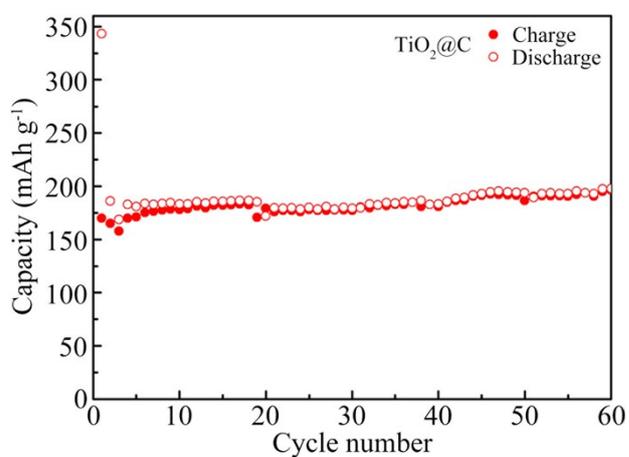
**Fig. S3** TGA curves of S2-1C, S1-1C, and S1-2C.



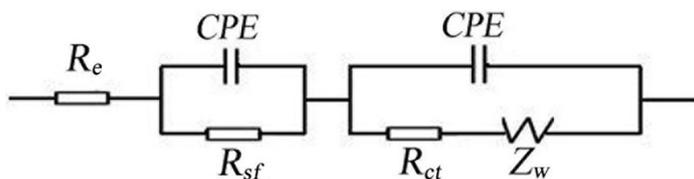
**Fig. S4** XPS spectra of O 1s of S1-2C.

**Table S1** Mass fractions of  $\text{TiO}_2$ ,  $\text{Fe}_3\text{O}_4$ , and  $\text{FeTiO}_3$  in S2-1C, S1-1C, and S1-2C.

Samples	$\text{TiO}_2$ (wt%)	$\text{Fe}_3\text{O}_4$ (wt%)	$\text{FeTiO}_3$ (wt%)	Carbon (wt%)
S2-1C	31.1	20.0	40.7	8.2
S1-1C	22.1	43.8	25.8	8.3
S1-2C	7.0	46.9	35.0	11.1



**Fig. S5** Cycling performance of  $\text{TiO}_2@\text{C}$  at  $100 \text{ mA g}^{-1}$ .



**Fig. S6** Equivalent circuit fitting to the EIS.