

*Supporting Information*

*For*

**Accelerated aging and degradation mechanism of LiFePO<sub>4</sub>/graphite  
batteries cycled at high discharge rates**

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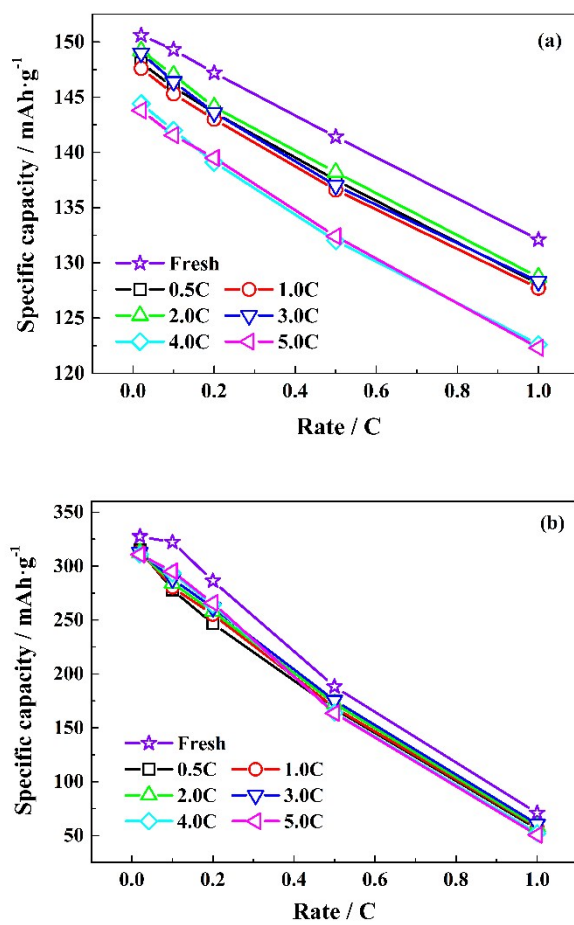
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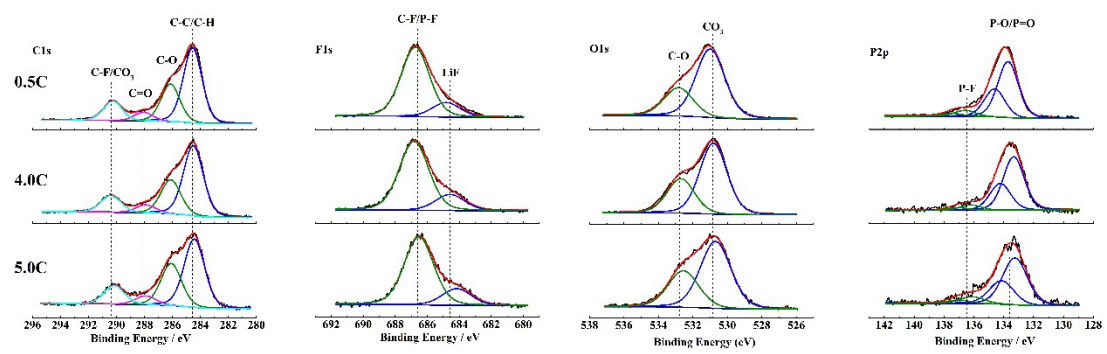
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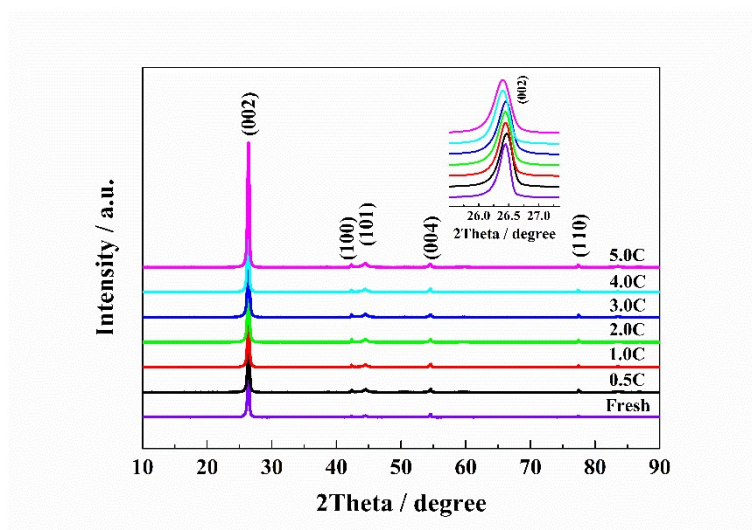
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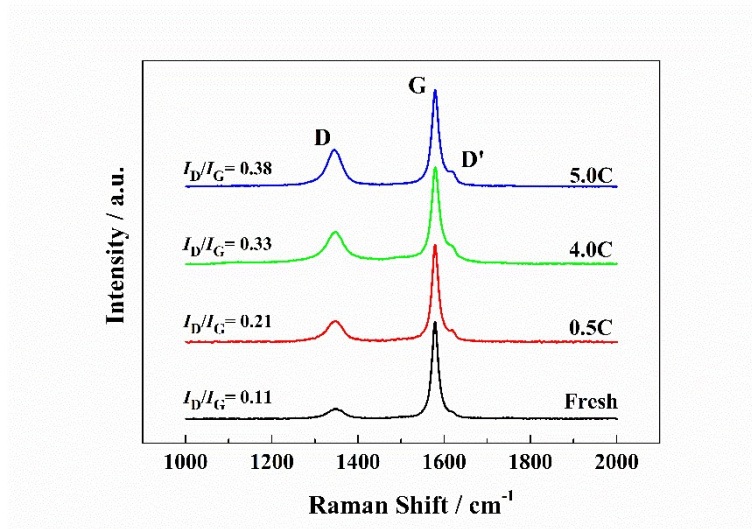
**Fig. S1.** The rate capabilities of (a) the cathodes and (b) the anodes recovered from the fresh and the aged full cells.



**Fig. S2.** XPS spectra of cathode surfaces harvested from the full cells aged at 0.5C, 4.0C and 5.0C discharge rates.



**Fig. S3.** The XRD patterns of the graphite powders recovered from the fresh and the aged full cells tested at different discharge rates (the inset is the magnification of the (002) peaks).



**Fig. S4.** The Raman spectra of the fresh and the aged graphite electrodes tested at 0.5C, 4.0C and 5.0C discharge rates.