

Effect of ball-milling and lithium insertion on  
the lithium mobility and structure of  
 $\text{Li}_3\text{Fe}_2(\text{PO}_4)_3$

*Jordi Cabana,<sup>§</sup> Junichi Shirakawa,<sup>§,†</sup> Masanobu Nakayama,<sup>†</sup> Masataka Wakihara,<sup>†</sup> and  
Clare P. Grey<sup>§,&,\*</sup>*

<sup>§</sup> Chemistry Department, Stony Brook University, NY 11794-3400, USA.

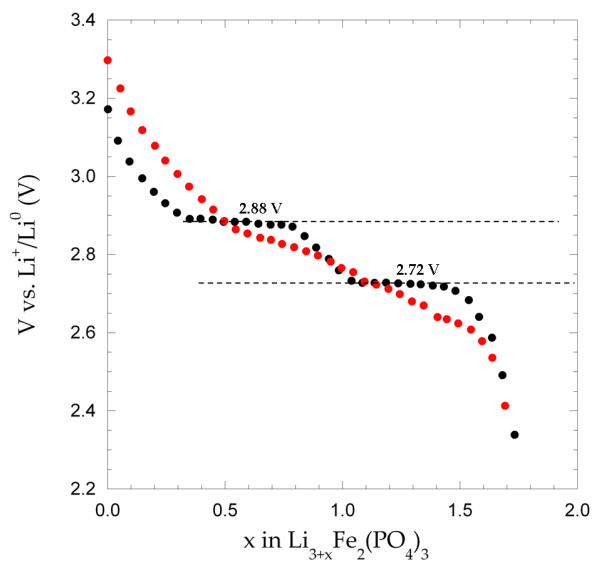
<sup>†</sup> Department of Applied Chemistry, Tokyo Institute of Technology, 2-12-1, Ookayama  
Meguro-ku, Tokyo 152-8552, JAPAN

<sup>&</sup> Chemistry Department, Cambridge University, Lensfield Rd, Cambridge, CB2 1EW,  
UK

\*corresponding author: [cpg27@cam.ac.uk](mailto:cpg27@cam.ac.uk)

**SUPPORTING INFORMATION**

**Figure S1:** Quasi-open circuit voltage vs. extent of lithium intercalation during the first of a lithium battery containing A- (black dots) and B- $\text{Li}_3\text{Fe}_2(\text{PO}_4)_3$  (red dots) as positive electrodes. The data were obtained using the galvanostatic intermittent titration technique by alternating 2 h periods of constant current discharge at C/50 with 10 h periods of open circuit. Relevant potential values for A- $\text{Li}_3\text{Fe}_2(\text{PO}_4)_3$  are indicated.



**Figure S2:** Evolution with temperature of the shift of pristine (full diamonds) and milled (void diamonds) A- and B- $\text{Li}_3\text{Fe}_2(\text{PO}_4)_3$  (circles), plotted as  $1/\delta$  over T to clearly show the absence of linear Curie-Weiss behavior.

