

## SUPPORTING INFORMATION

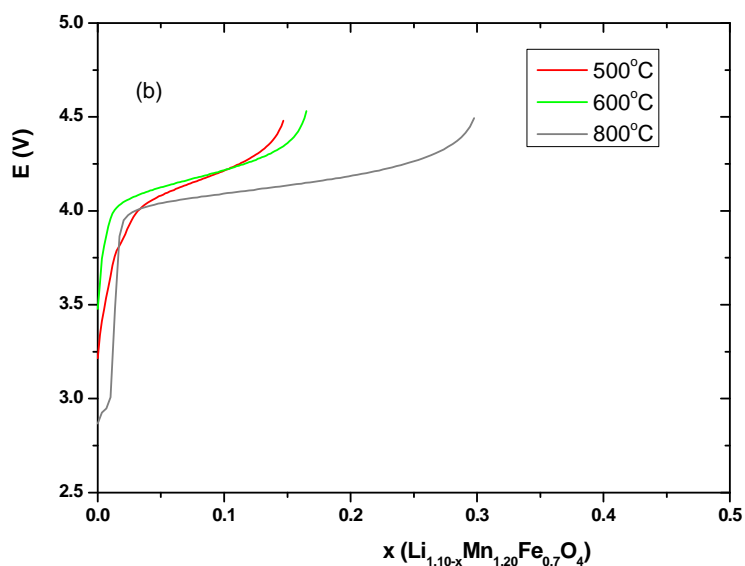
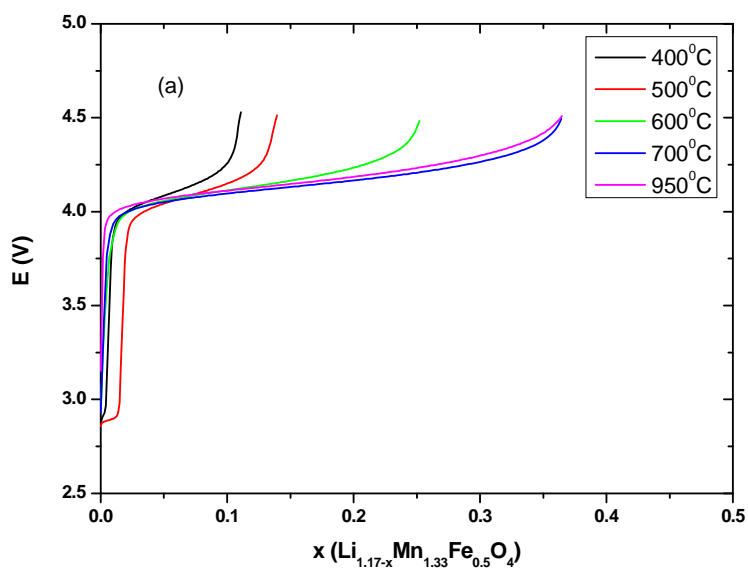
### ENHANCEMENT OF CYCLING EFFICIENCY IN $\text{Li}_{(4-X)/3}\text{Mn}_{(5-2X)/3}\text{Fe}_X\text{O}_4$ ( $X = 0.5$ AND $X = 0.7$ ) SPINELS: MICROSTRUCTURAL AND COMPOSITIONAL PERFORMANCES INDUCED BY TEMPERATURE.

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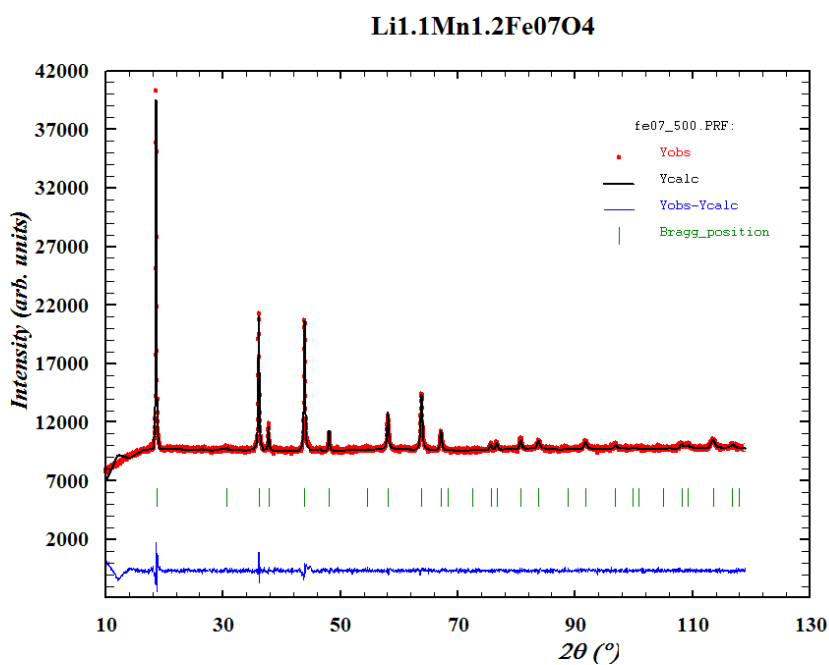
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#### S1 First charge profiles of $x = 0.5$ (a) and $x = 0.7$ (b) at different thermal treatments

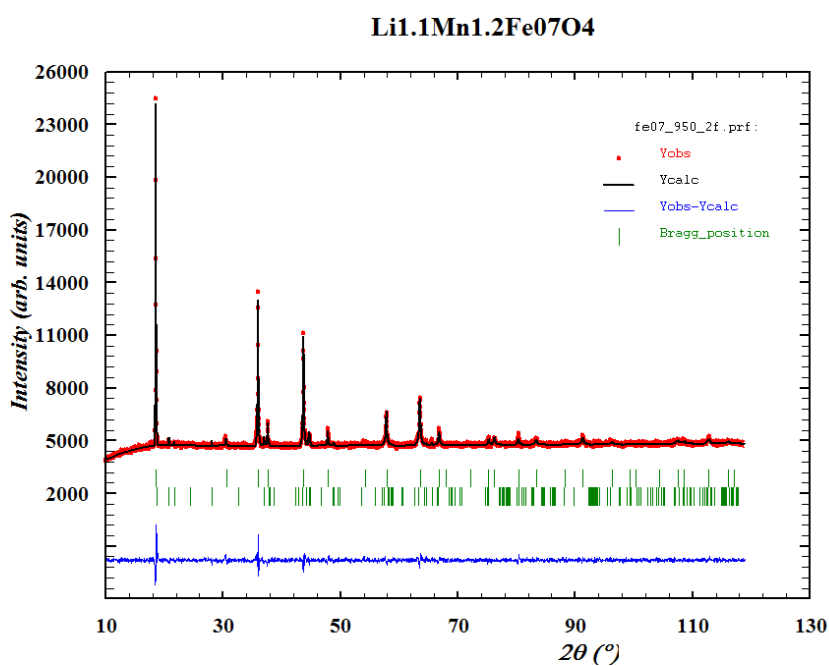


S2. Structural refinement for  $\text{Li}_{1.1}\text{Mn}_{1.2}\text{Fe}_{0.7}\text{O}_4$ : a) at 500°C; b) at 800 °C. Observed patterns are denoted by dots (red), and the calculated and difference plots are shown by solid lines (black). Reflection positions for spinel (upper row) and  $\text{Li}_2\text{MnO}_3$  (lower row) phases are included (green).

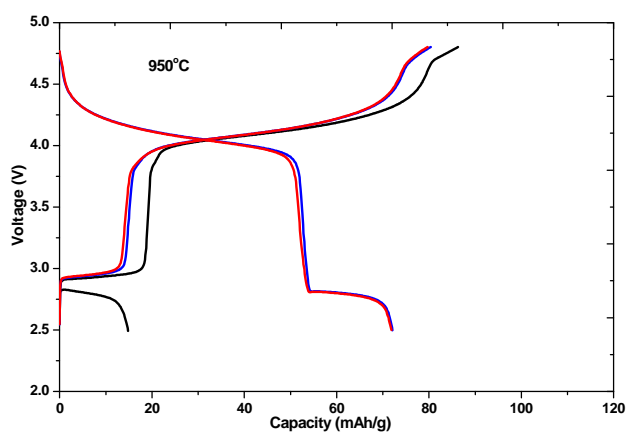
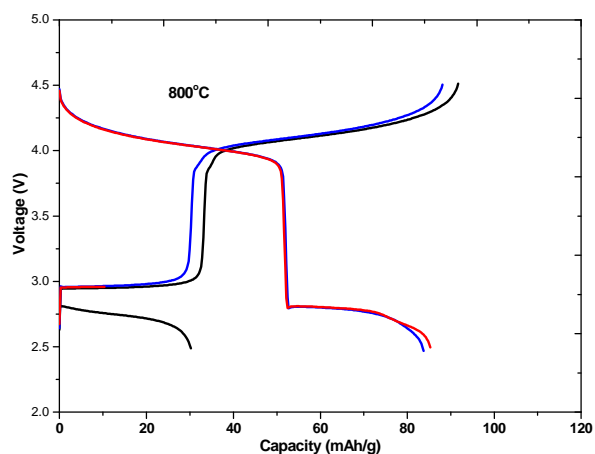
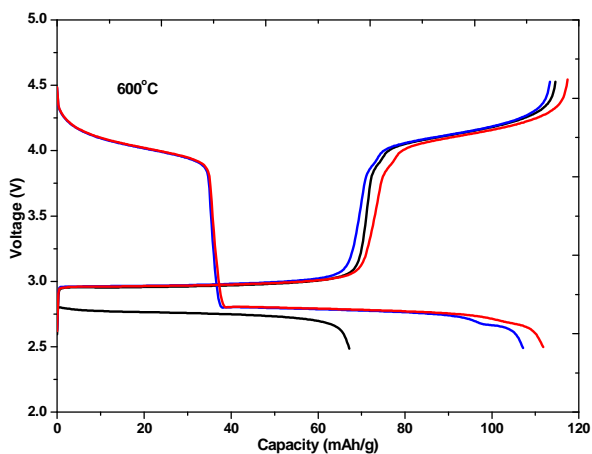
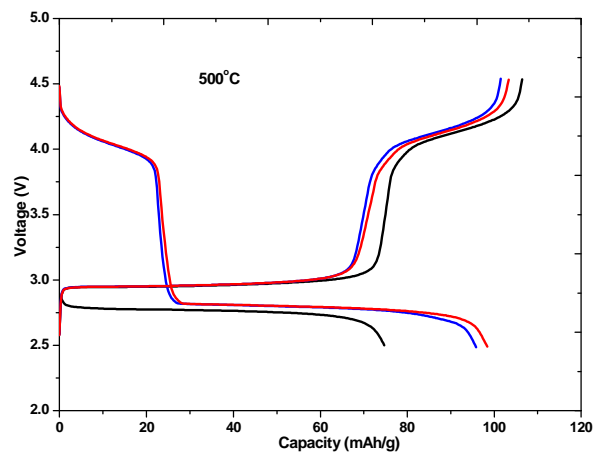
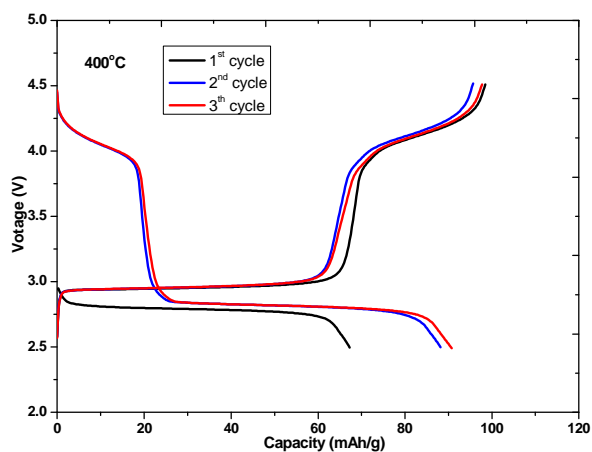
a)



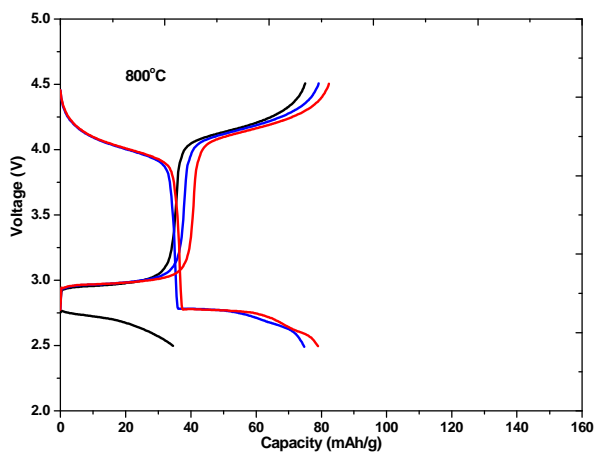
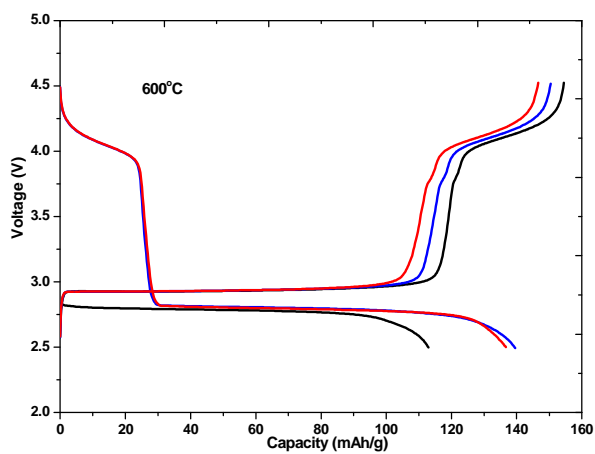
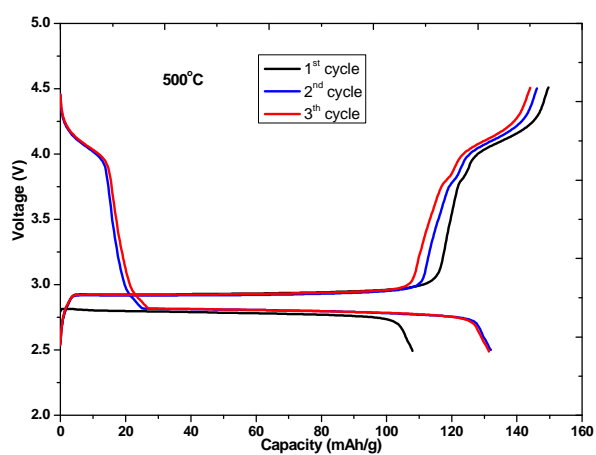
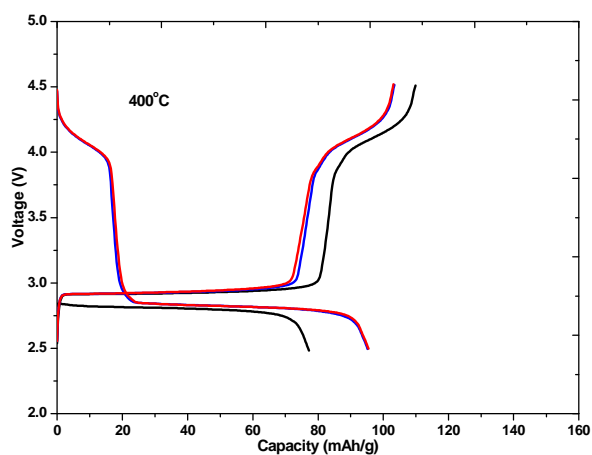
b)



S3. Charge/discharge curves at rate of C/10 between 2.5-4.5V for  $\text{Li}_{1.17}\text{Mn}_{1.33}\text{Fe}_{0.5}\text{O}_4$  heated at different temperatures.



S4. Charge/discharge curves at rate of C/10 between 2.5-4.5V for  $\text{Li}_{1.1}\text{Mn}_{1.2}\text{Fe}_{0.7}\text{O}_4$  heated at different temperatures.



S5. Charge/discharge curves at a rate C/10 between 2.5-5 V for (a)  $\text{Li}_{1.17}\text{Mn}_{1.33}\text{Fe}_{0.5}\text{O}_4$  and (b)  $\text{Li}_{1.1}\text{Mn}_{1.2}\text{Fe}_{0.7}\text{O}_4$ .

