Supplementary Information

Ameliorating Electrochemical Performance of Li-rich Mn-based Cathode for Li-ion Batteries by Fe Substitution

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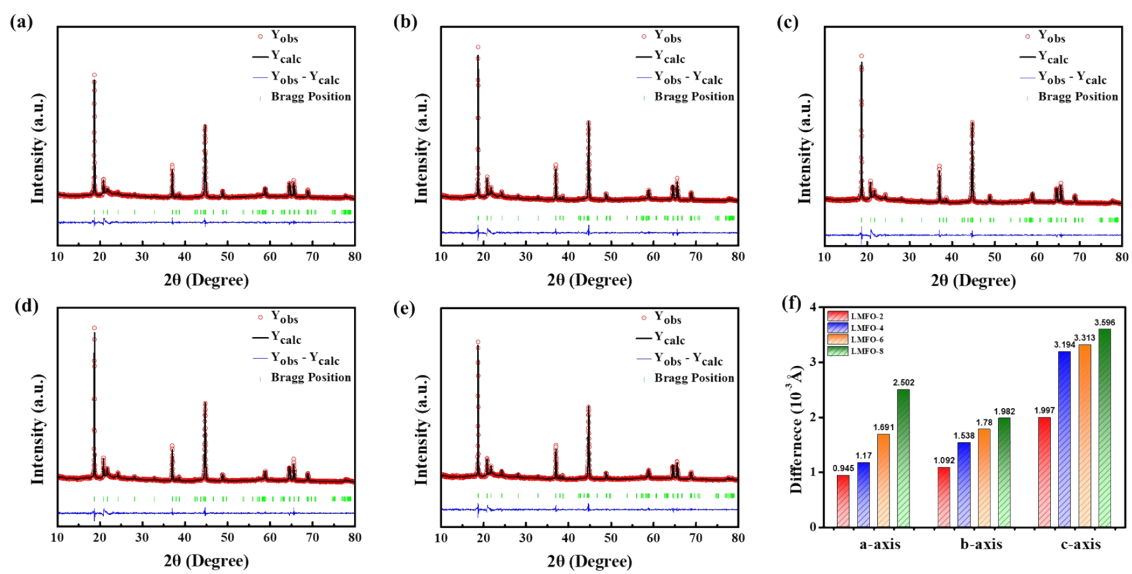E-mail address: kmin.min@ssu.ac.kr (K. Min), kwpark@ssu.ac.kr (K.-W. Park)

Fig. S1. (a)–(e) Rietveld refinement results of the LMFO-X cathodes. (f) Differences in a-, b-, and c-axes calculated via Rietveld refinement of the LMFO-X cathodes.
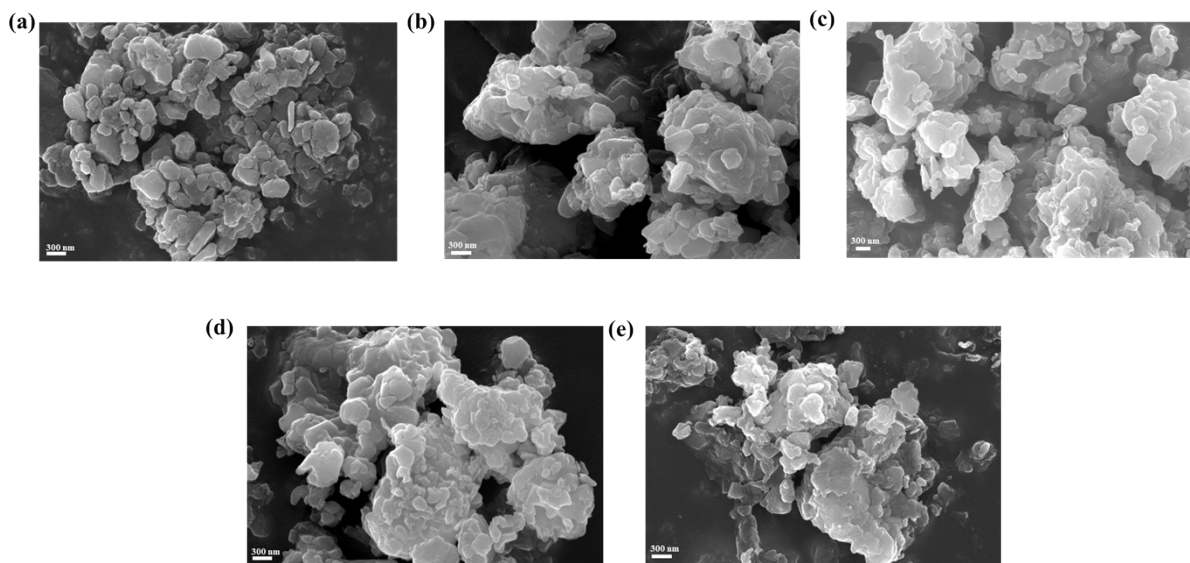
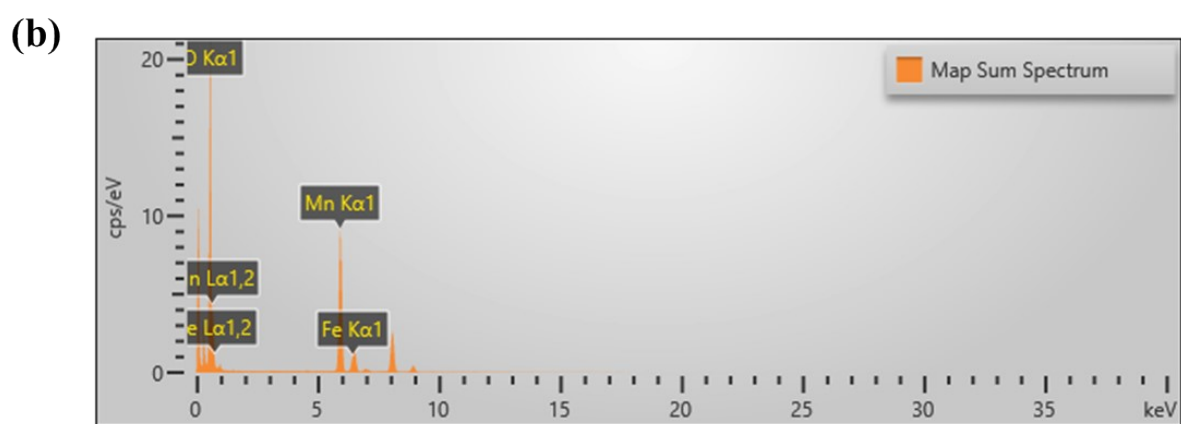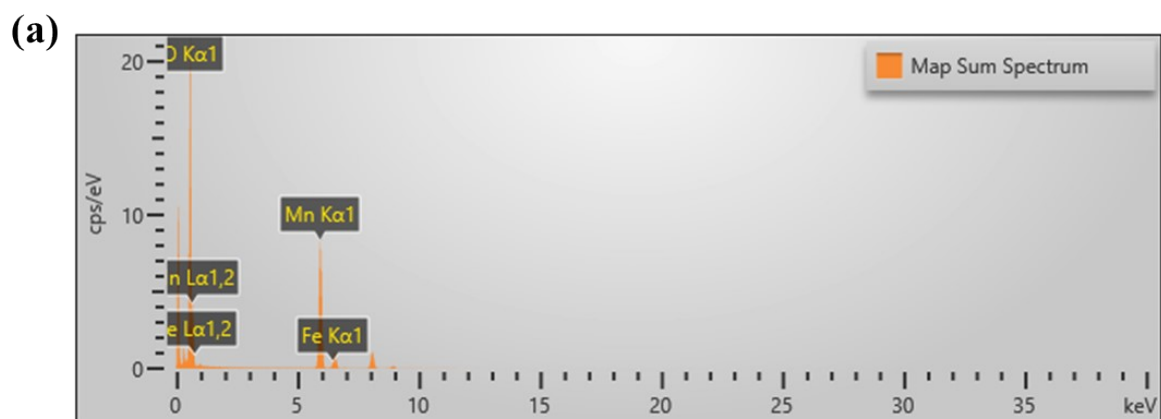**Fig. S2**. SEM images of (a) LMFO-0, (b) LMFO-2, (c) LMFO-4, (d) LMFO-6, and (e) LMFO-8.

(a)

(b)

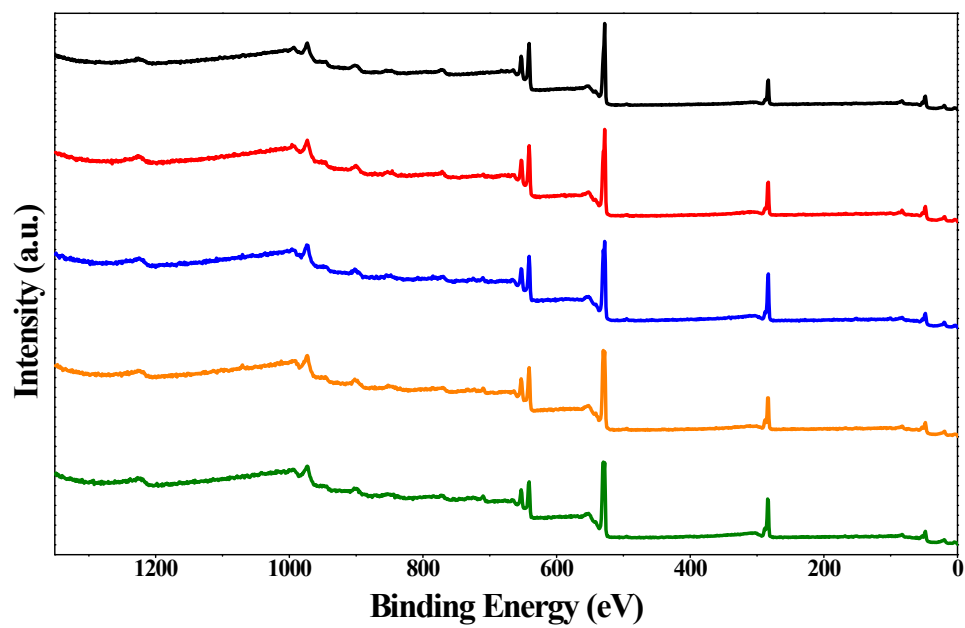**Fig. S3**. TEM-EDS spectra of (a) LMFO-0 and (b) LMFO-6.

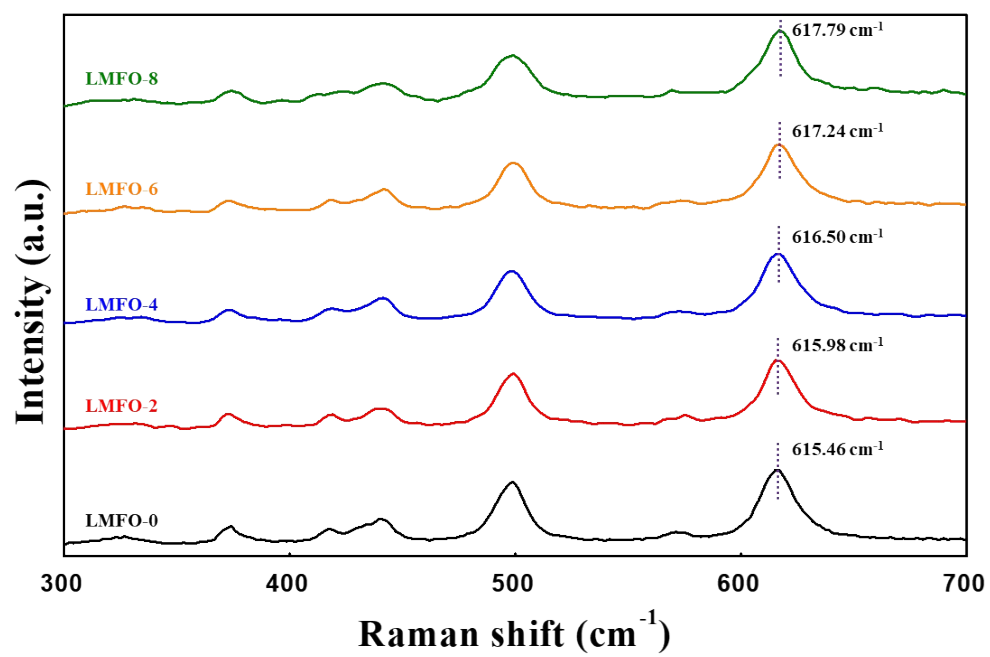**Fig. S4**. XPS survey spectra of the LMFO-X cathodes.

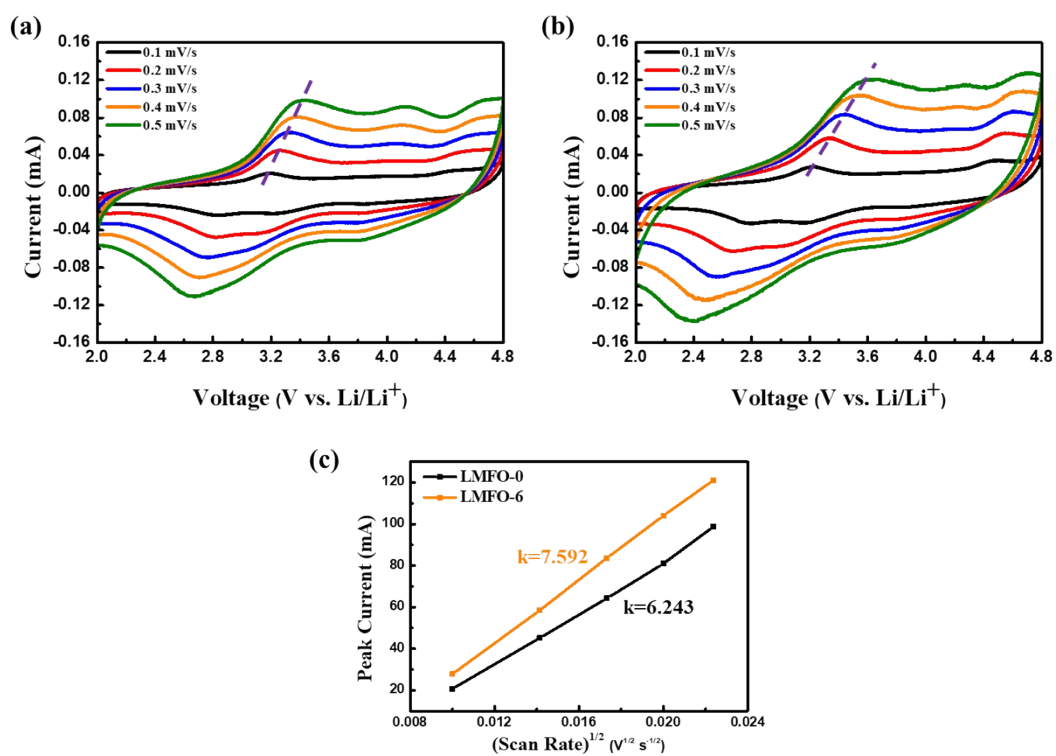**Fig. S5**. Raman spectra of the LMFO-X (X=0, 2, 4, 6, and 8) samples.

Fig. S6. Cyclic Voltammetry results of (a) LMFO-0 and (b) LMFO-6 at different scan rates, (c) The relation of peak current and square root (scan rate) of LMFO-0 and LMFO-6 calculated from the CV data.