

Supporting Information for
Metastable and Nanosize Cation-Disordered Rocksalt-type Oxides; Revisit on
Stoichiometric LiMnO₂ and NaMnO₂

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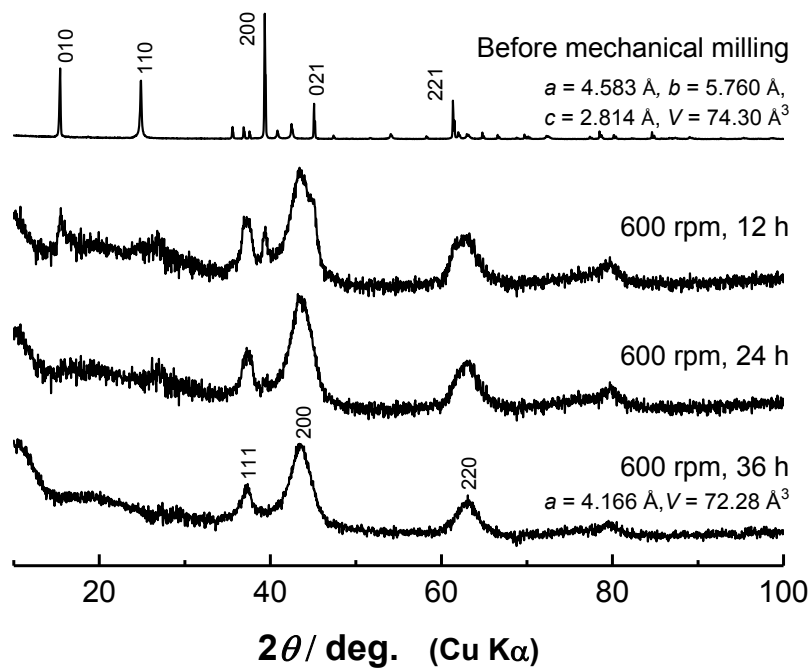


Figure S1. Changes in XRD patterns from zigzag-layered LiMnO_2 to rocksalt LiMnO_2 during mechanical milling.

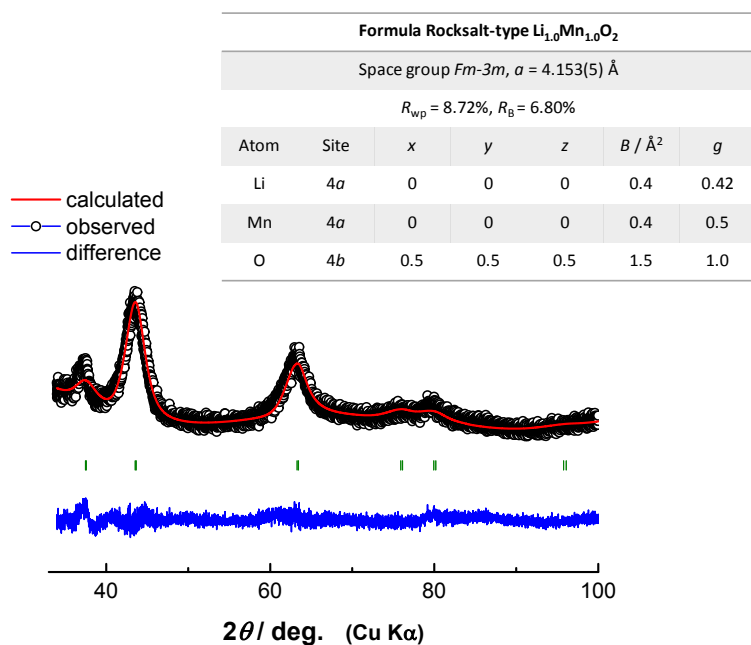


Figure S2. A fitting result of rocksalt LiMnO_2 by Rietveld analysis. Note that the presence of defects at Li sites is considered for the analysis, which is further discussed in the later section.

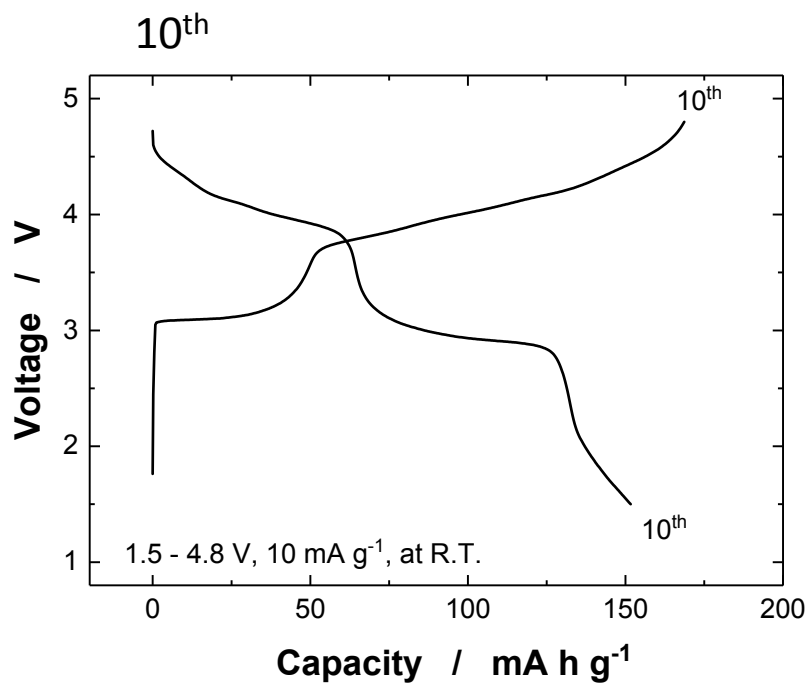


Figure S3. Charge/discharge curves of 10th cycle for zigzag layered LiMnO₂.

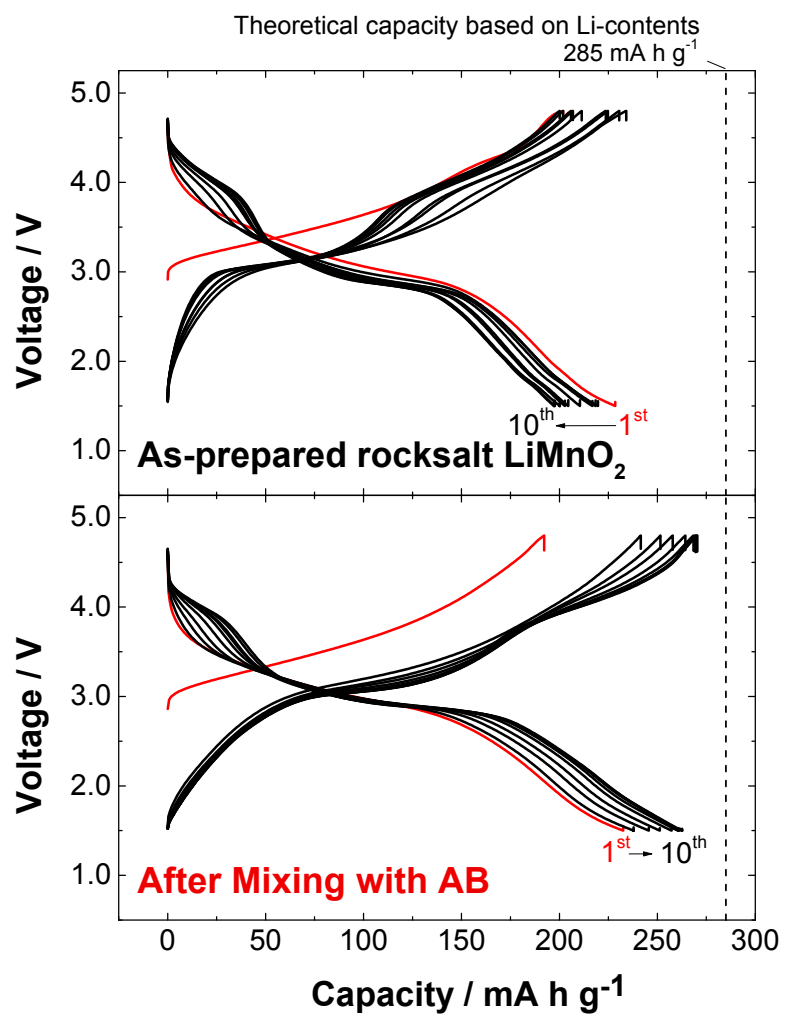


Figure S4. Charge/discharge curves of rocksalt LiMnO_2 before/after mixing with AB by ball milling at 10 mA g^{-1} .

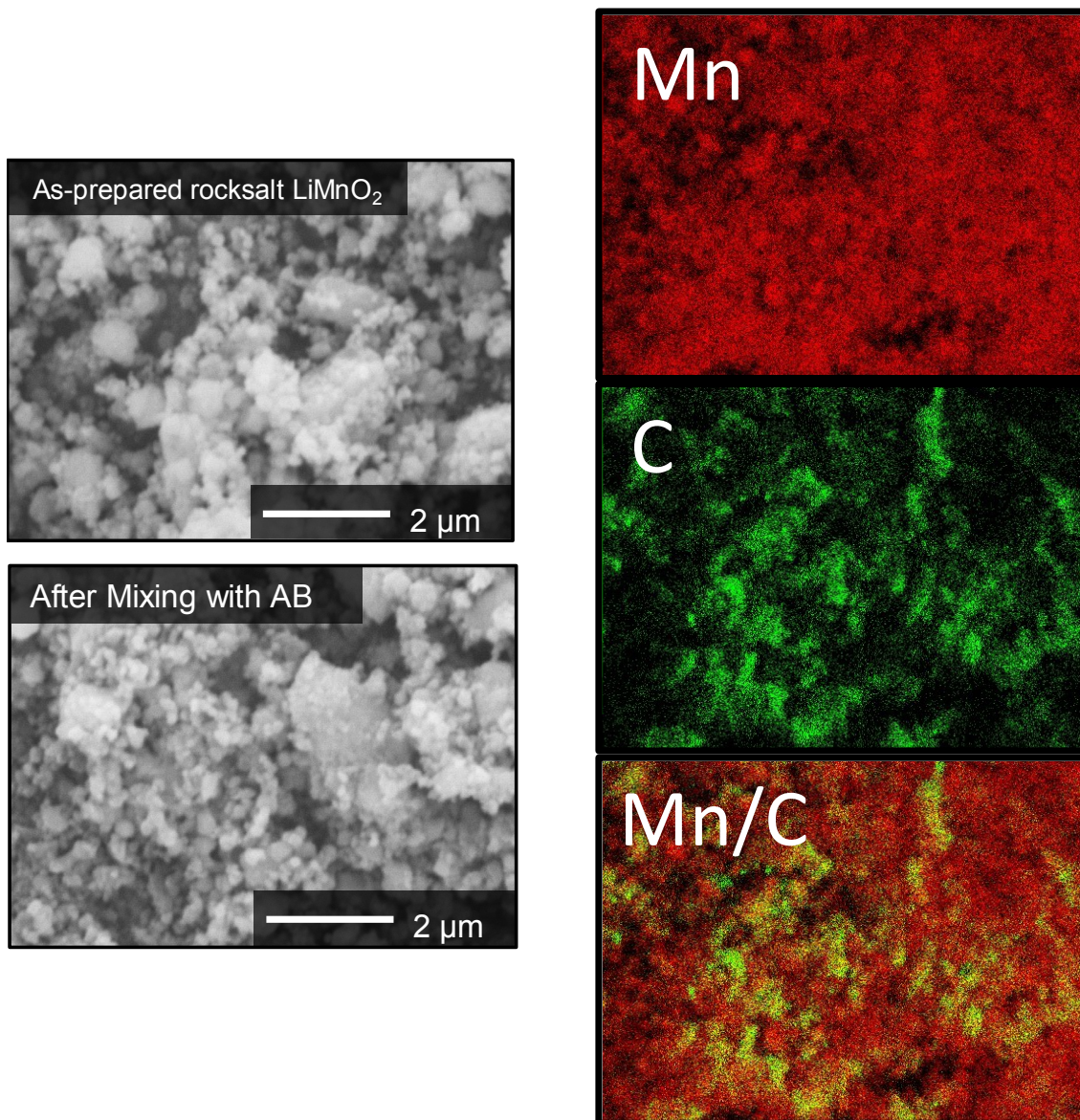


Figure S5. Comparison of SEM images of rocksalt LiMnO₂ before/after mixing with AB by ball milling. EDX mappings of the sample after milling with AB are also shown. Carbon is uniformly distributed in the sample after milling.

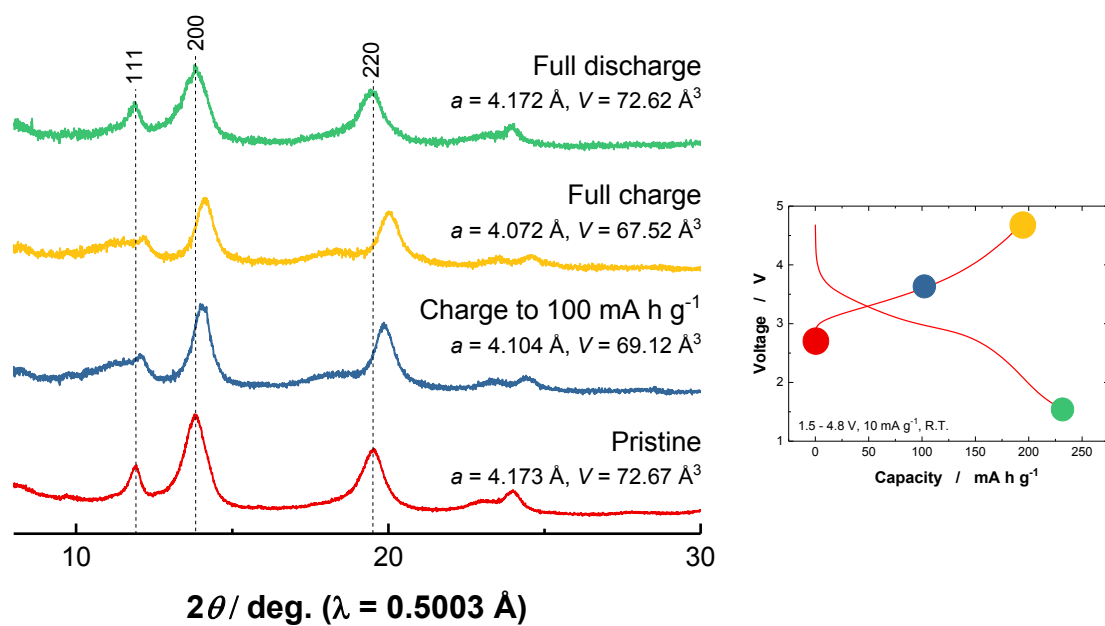


Figure S6. *Ex-situ* synchrotron XRD patterns of rocksalt Li_xMnO_2 for the initial charge/discharge process.

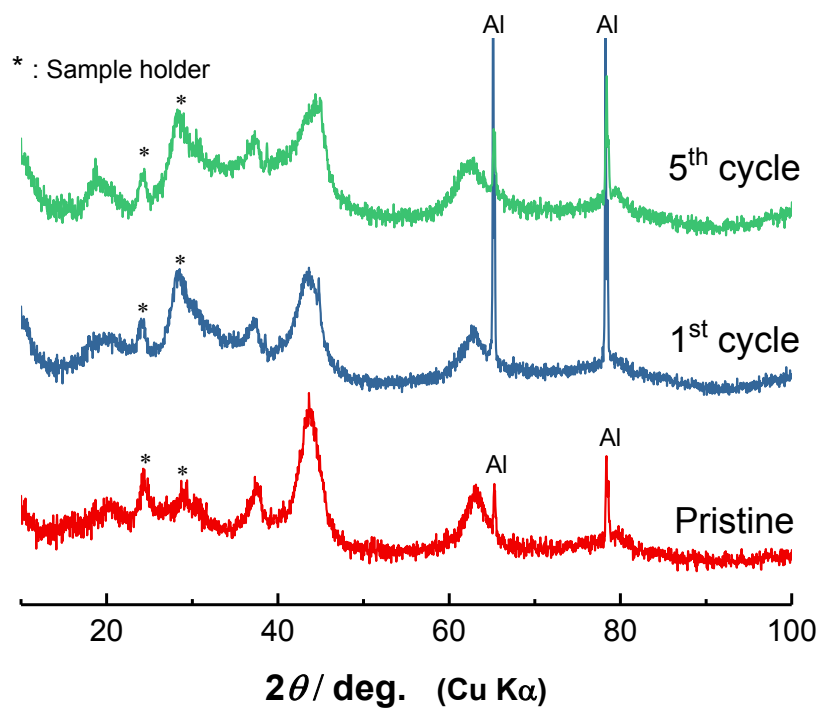


Figure S7. Changes in XRD patterns of rocksalt Li_xMnO_2 upon electrochemical cycles.

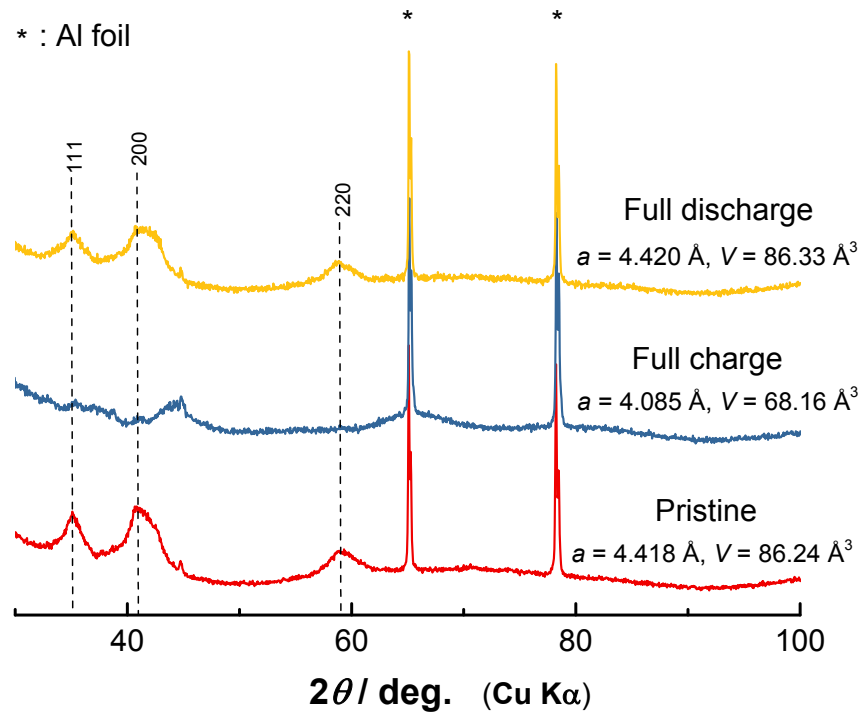


Figure S8. Changes in XRD patterns of rocksalt Na_xMnO_2 for the initial charge/discharge process.

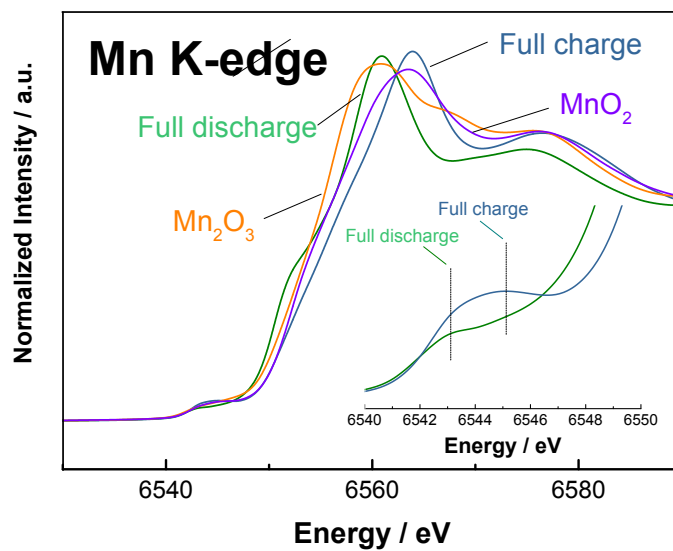


Figure S9. XAS spectra of fully charged/discharged rocksalt Li_xMnO_2 with Mn_2O_3 and MnO_2 used as reference materials. Pre-edge data are also highlighted in the inset.

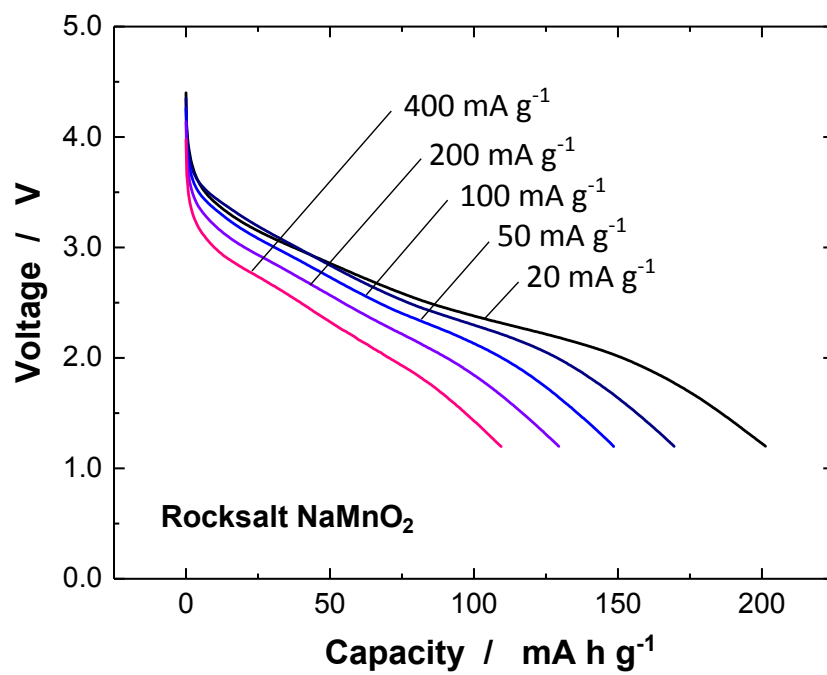


Figure S10. Rate capability of rocksalt Na_xMnO₂. The cell was charged at 10 mA g⁻¹ and then discharged at different rates. Sample loading was 1.85 mg cm⁻².