

Supporting Information

High Performance LiMn_2O_4 Cathode Materials Grown with Epitaxial Layered Nanostructure for Li-ion Batteries

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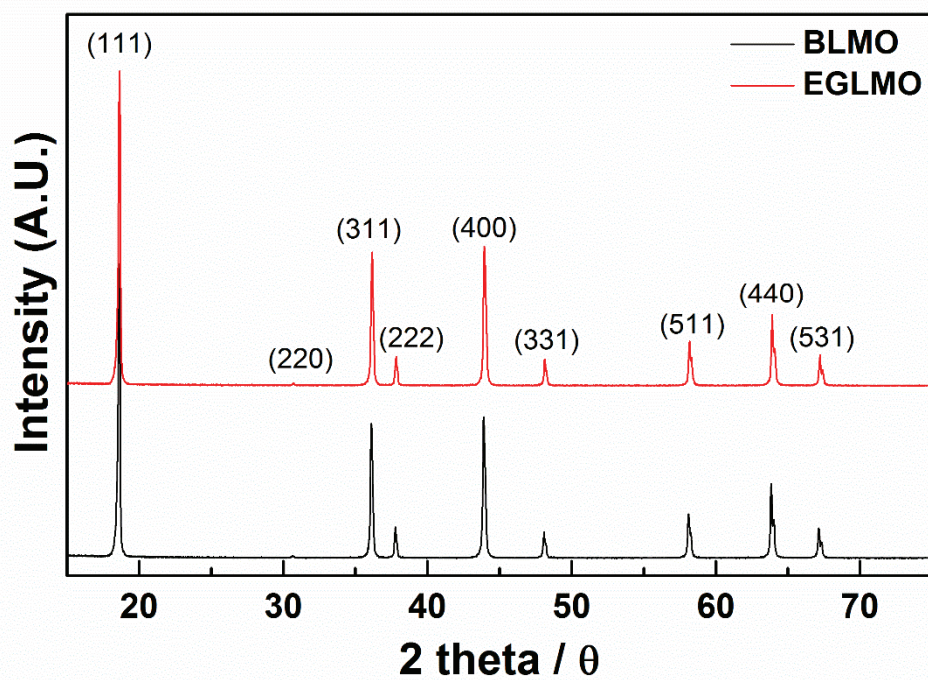


Figure S1. Power XRD patterns of BLMO (Bare LiMn_2O_4) and EGLMO (epitaxially grown layer coated LiMn_2O_4).

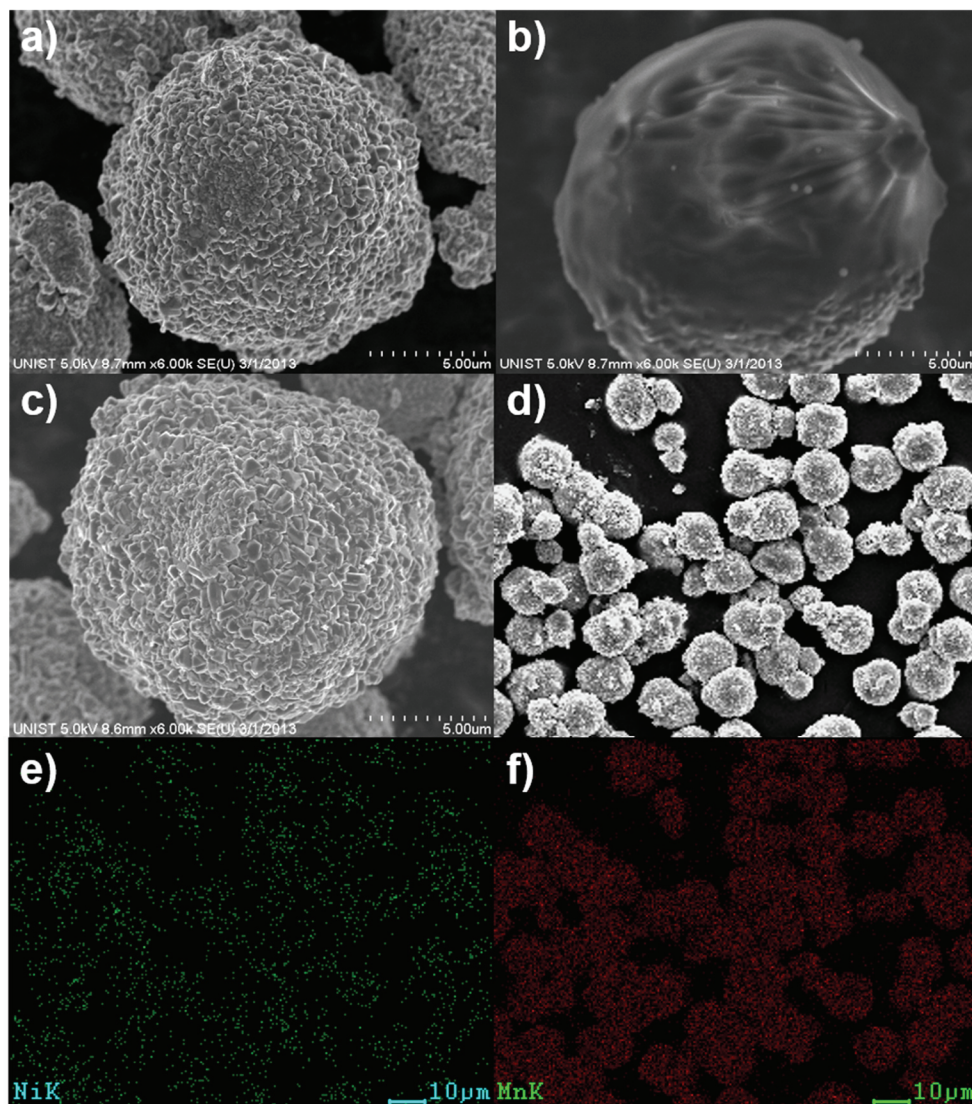


Figure S2. SEM images of a) BLMO, b) BLMO covered by coating precursor (right after spray drying), c) EGLMO and d) low magnified image of the EGLMO. Energy dispersed X-ray analysis of each element e) Ni and f) Mn.

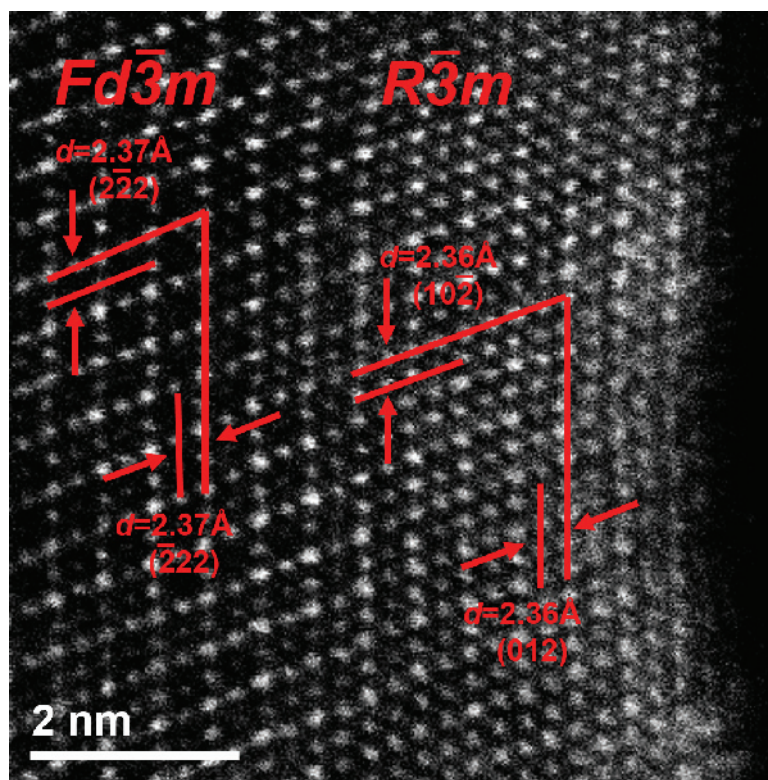


Figure S3. HAADF STEM image of surface of cross-sectioned particle of EGLMO.

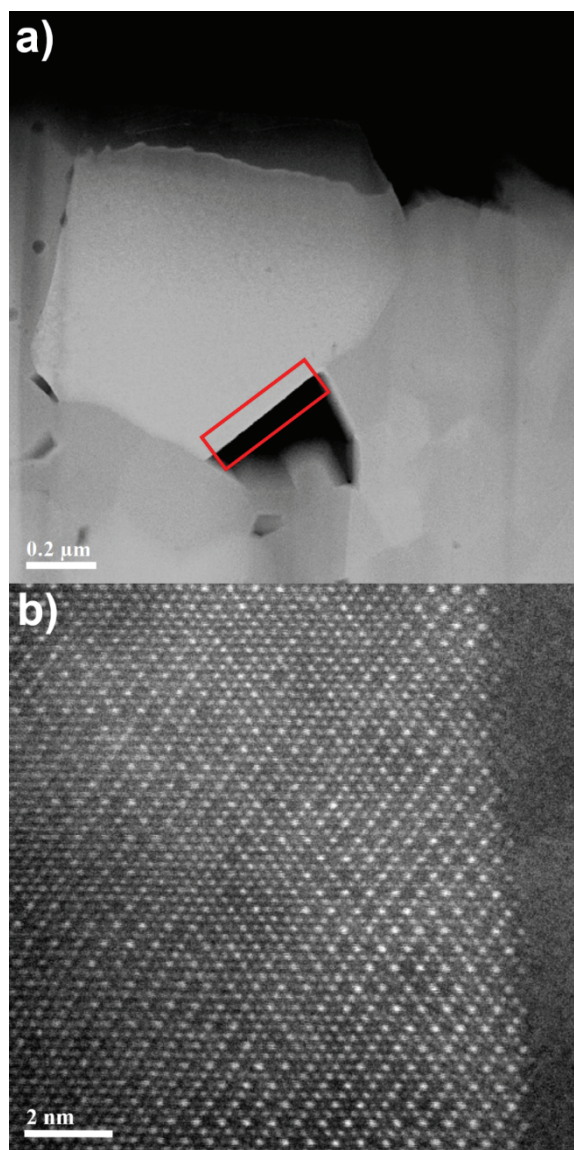


Figure S4. HAADF STEM images of a) surface of cross sectioned particle of EGLMO. b) magnified image of selected area in a).

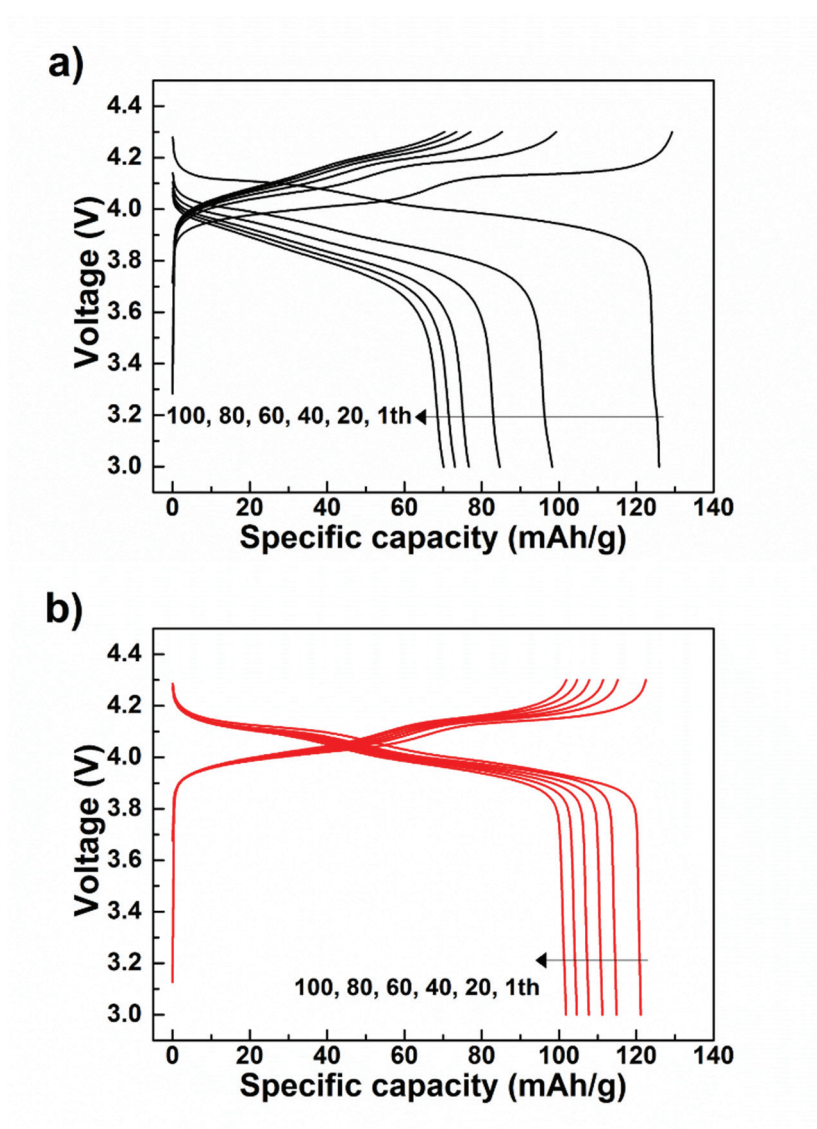


Figure S5. Charge and discharge profiles of a) BLMO and b) EGLMO at 60 °C after 1st, 20th, 40th, 60th, 80th, 100th cycles.

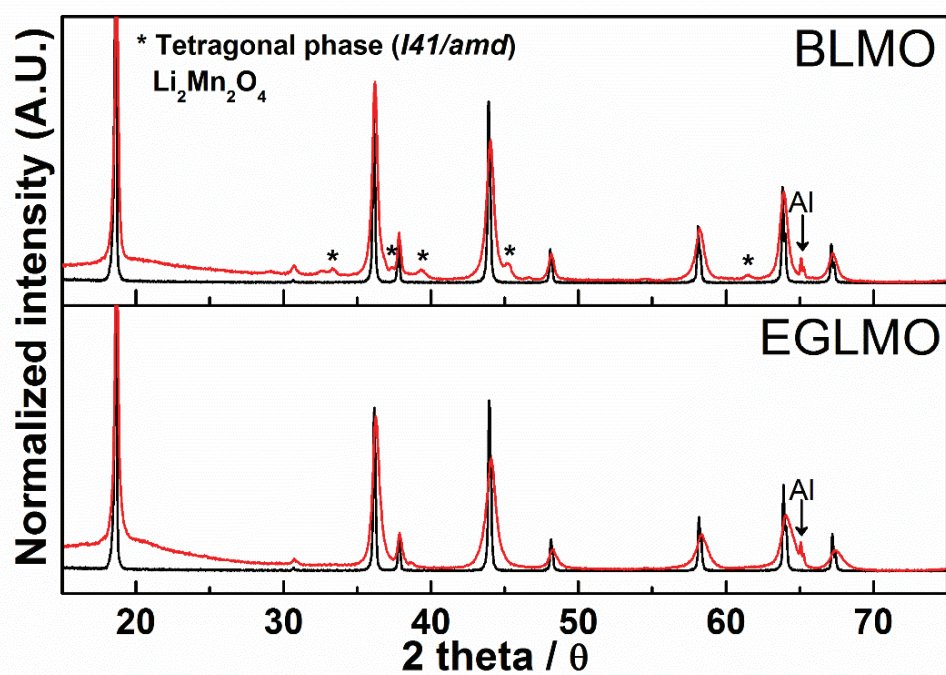


Figure S6. *Ex-situ* X-ray diffraction patterns of samples; as-prepared powders before cycling (black) and electrodes after 100 cycles at 60 °C (red).

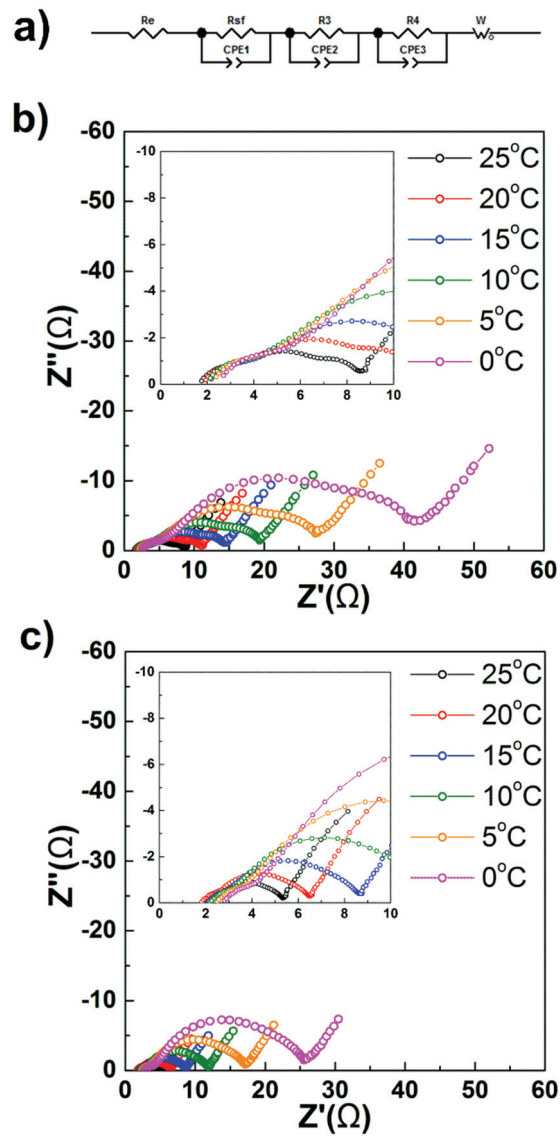


Figure S7. a) Equivalent circuit for the electrochemical impedance of BLMO and EGLMO. Nyquist plot for b) BLMO and c) EGLMO at different temperatures from 25 °C to 0 °C.