

Supporting Information

Polymer electrolyte-skinned active material strategy toward high-voltage lithium ion batteries: polyimide-coated $\text{LiNi}_{0.5}\text{Mn}_{1.5}$ spinel cathode material case

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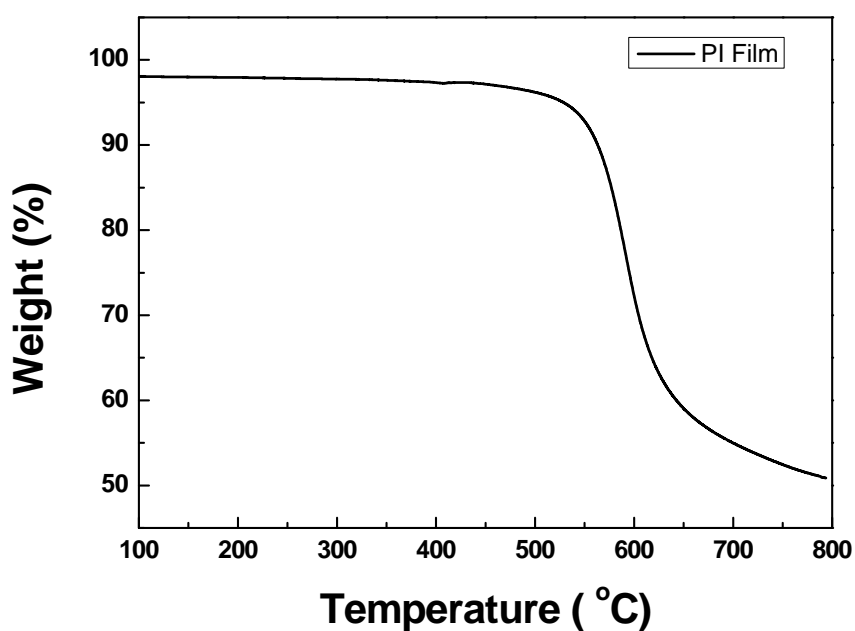


Fig. S1. Mass change of a PI film as a function of temperature under N_2 atmosphere obtained by thermogravimetric analysis (TGA). No significant changes were observed at least up to 550 °C.

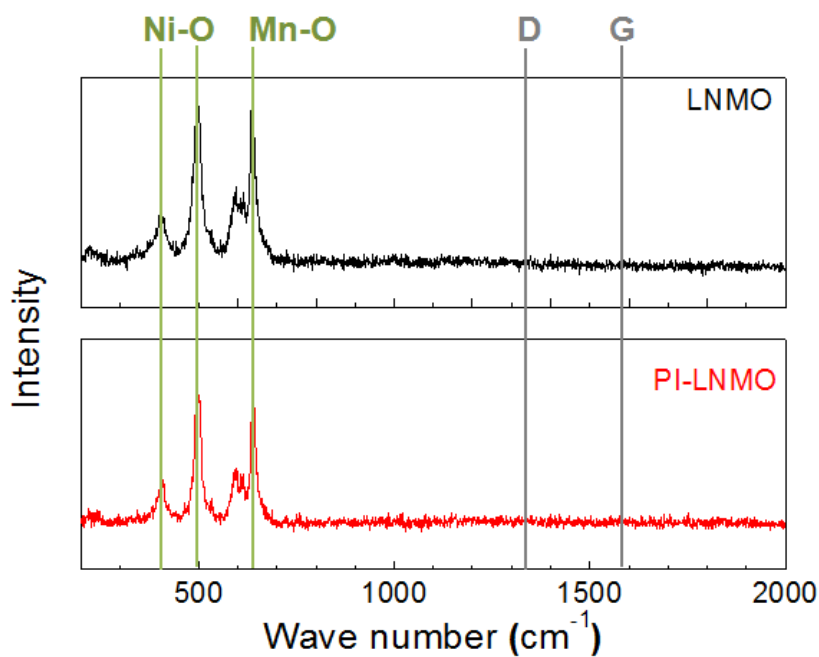


Fig. S2. Raman spectra of LNMO and PI-LNMO. There were no significant changes of peaks related to Ni-O, Mn-O and carbon (D and G bands).

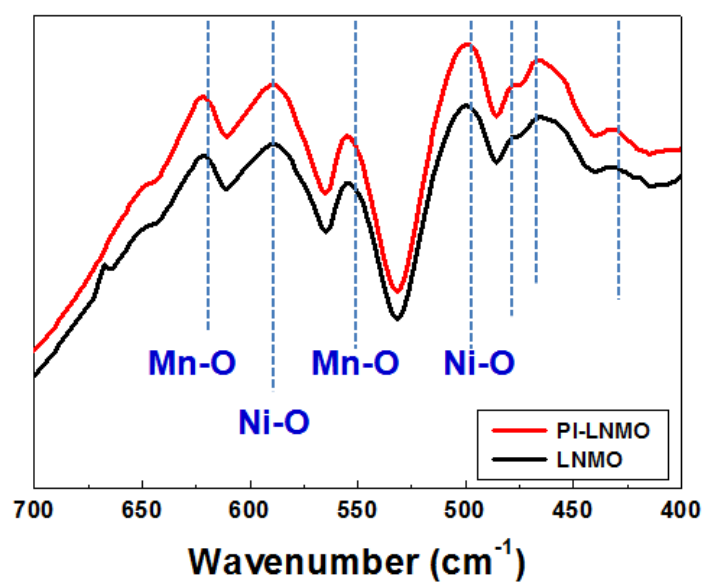


Fig. S3. FT-IR spectra of bare LNMO and PI-LNMO, where the characteristic peak assigned to the Mn-O and Ni-O.

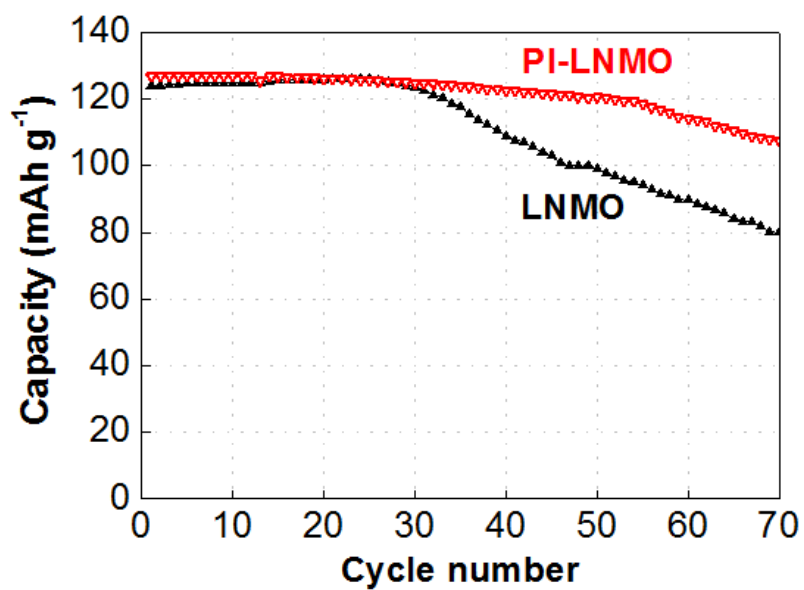


Fig. S4. Discharge capacities (charge/discharge current density = 1.0 C/1.0 C) as a function of cycle number for cells assembled with pristine or PI-LNMO under a voltage range of 3.5 – 4.9 V at 55 °C. This figure shows more extended cyclability of Fig. 6b.