



Article

MoO₃ Nanoparticle Coatings on High-Voltage 5 V LiNi_{0.5}Mn_{1.5}O₄ Cathode Materials for Improving Lithium-Ion Battery Performance

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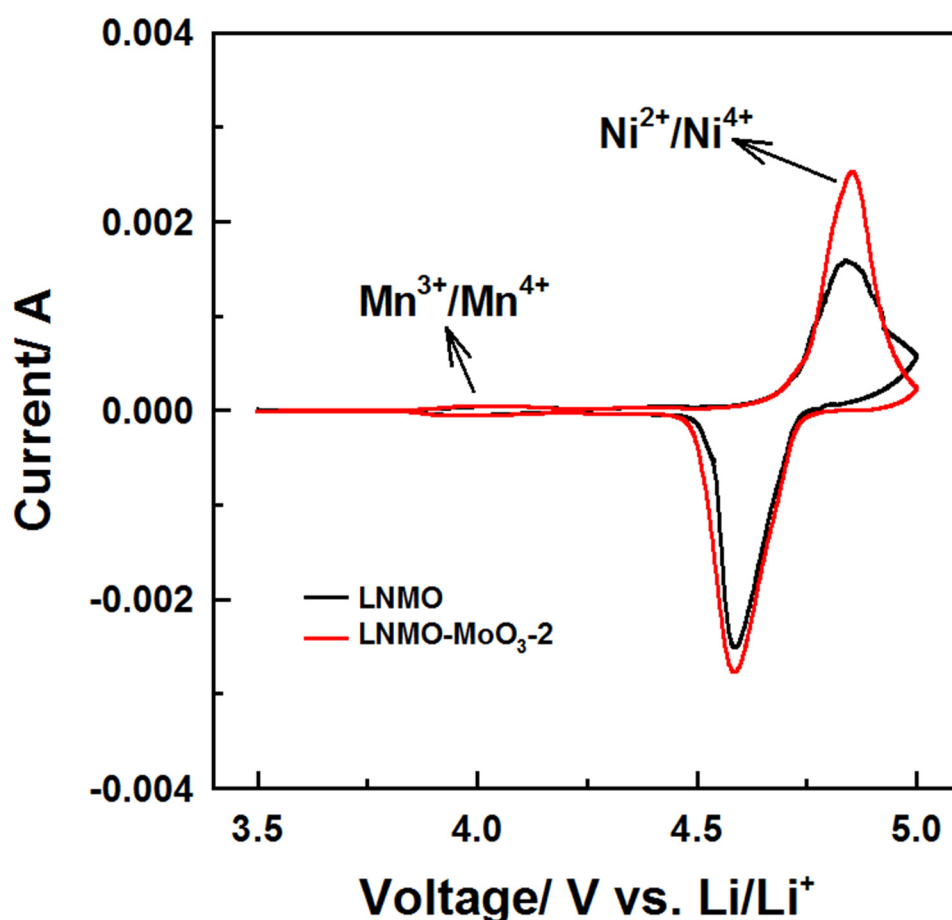


Figure S1. Cyclic voltamograms of LNMO and LNMO-MoO₃-2 electrodes at a scan rate of 0.1 mV s⁻¹.

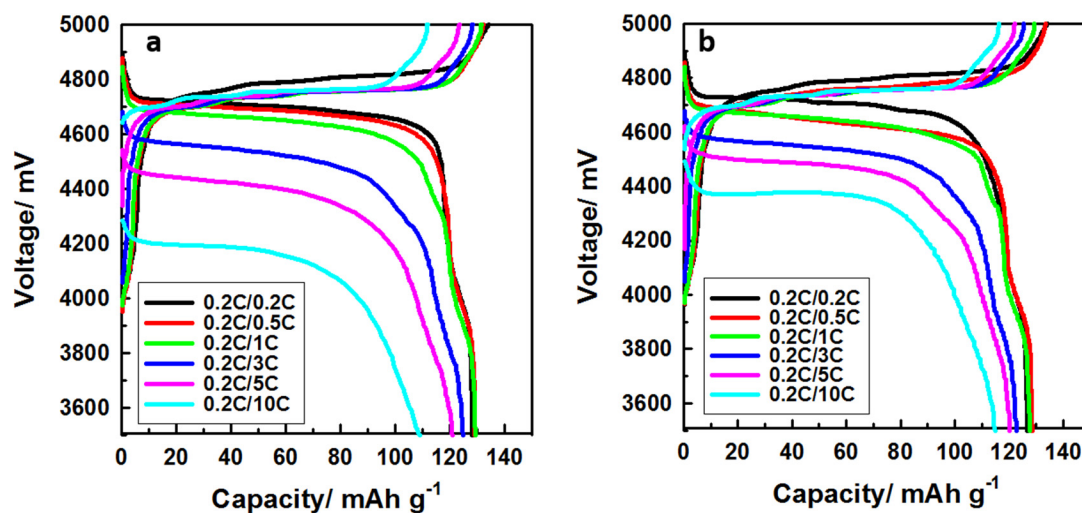


Figure S2. Charge-discharge curves of pristine LNMO-MoO₃-1 (a) and LNMO-MoO₃-3 (b) electrodes at 0.2–10 C.

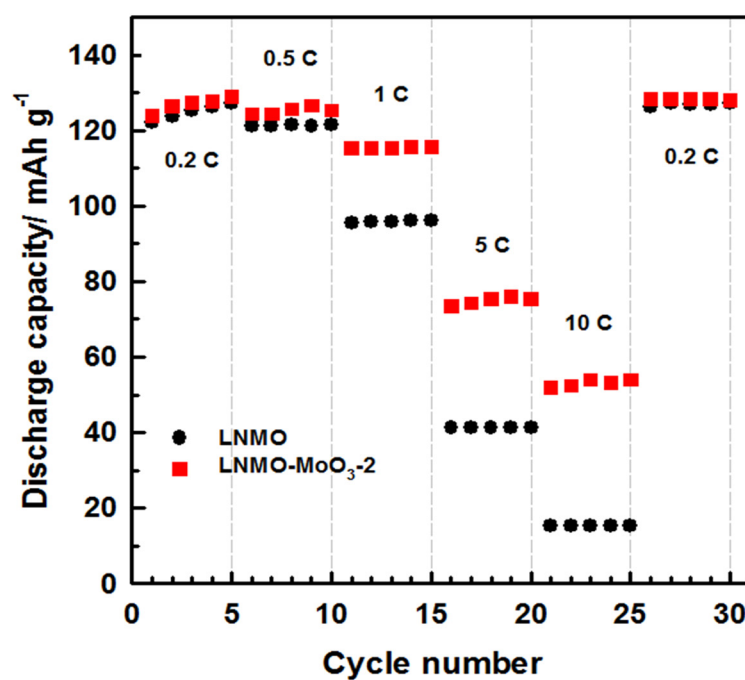


Figure S3. Rate profiles of pristine LNMO and LNMO-MoO₃-2 electrodes at 0.2C/0.2C–10C/10C rate.

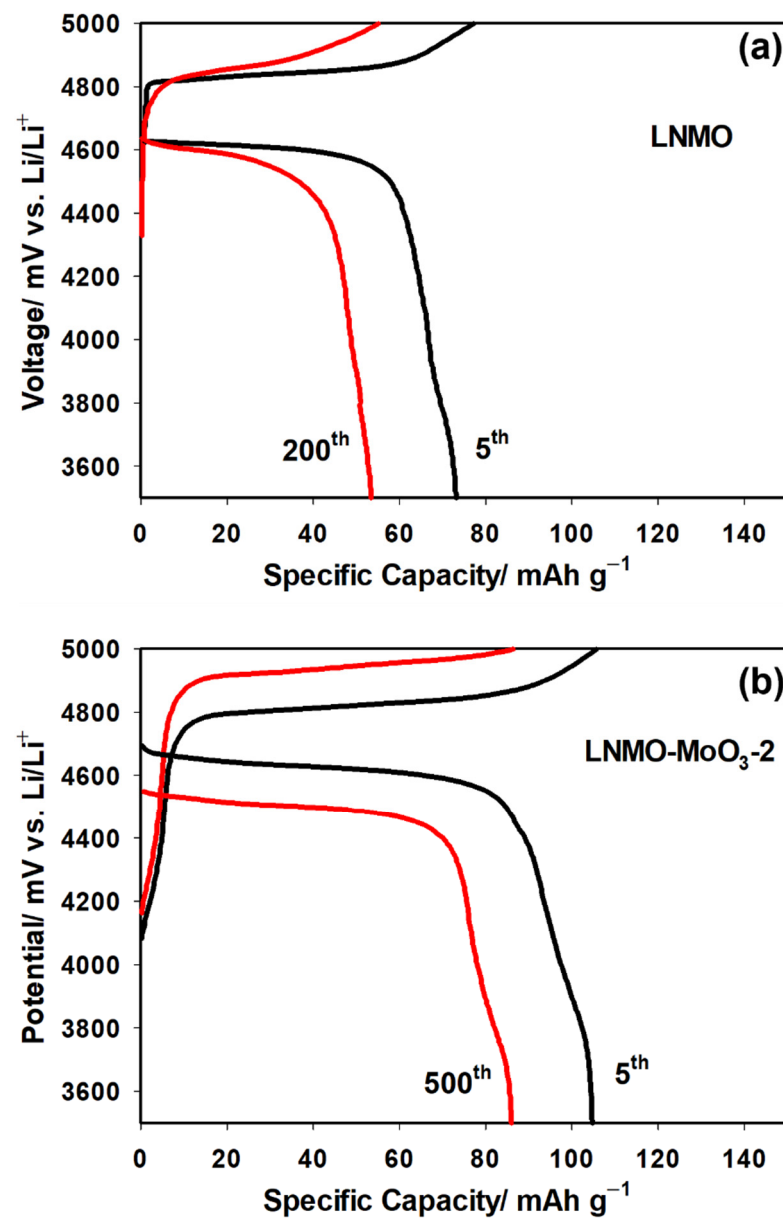


Figure S4. Charge-discharge cycles of LNMO and LNMO-MoO₃-2 electrodes.

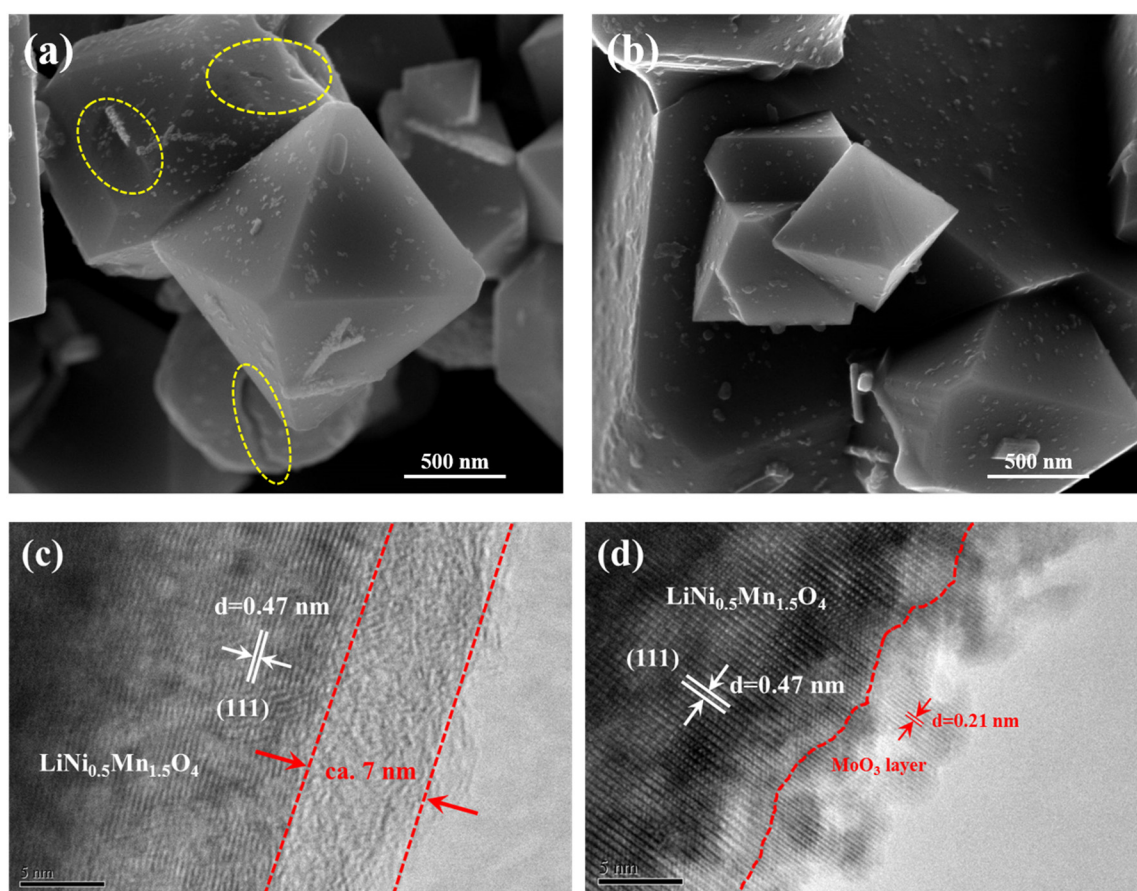


Figure S5. FESEM (a,b) and HRTEM (c,d) images of LNMO (left) and LNMO-MoO₃-2 (right) electrodes after 1C/10C rate performance for 500 cycles.

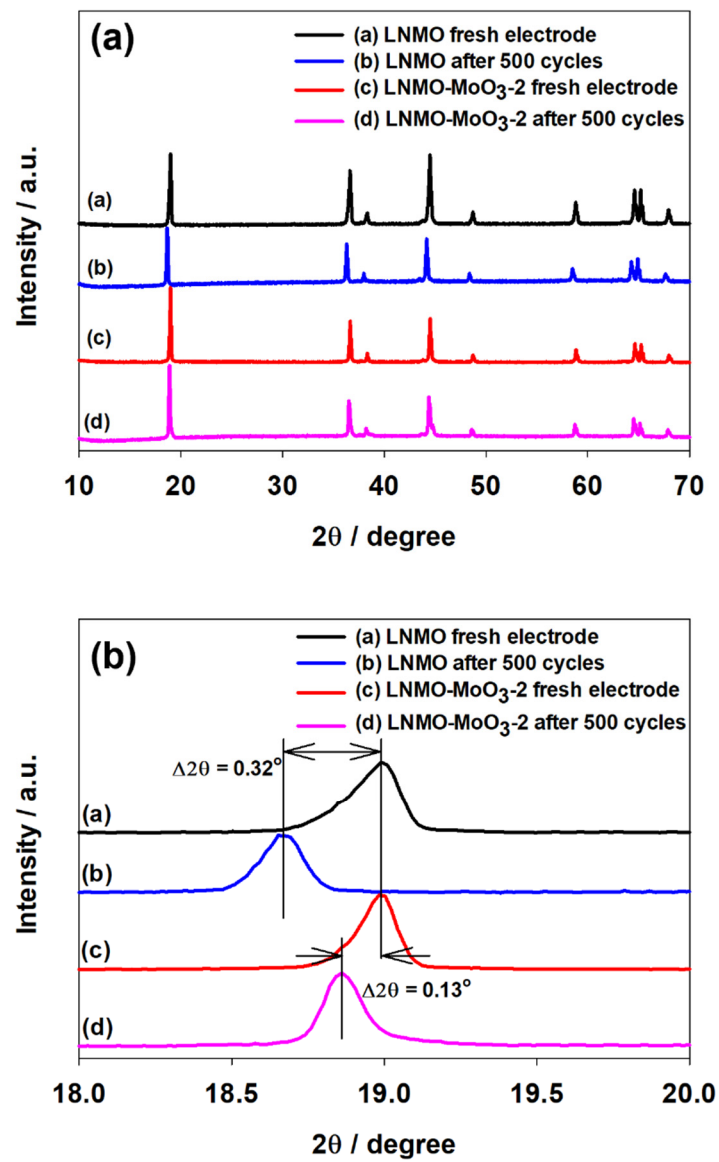


Figure S6. XRD pattern of pristine LNMO and LNMO-MoO₃-2 electrode in fresh and after 500 cycles at 10C rate.

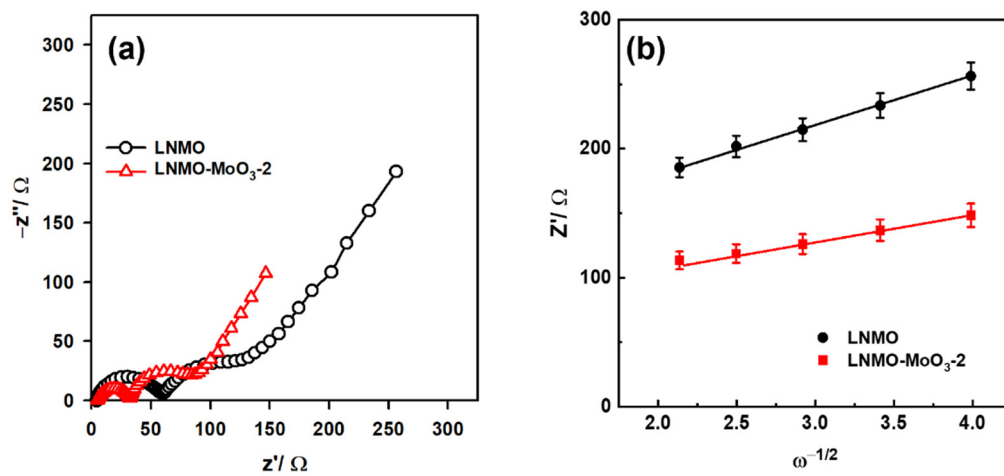


Figure S7. (a) EIS and (b) Z' vs. $\omega^{-1/2}$ plot of LNMO and LNMO-MoO₃-2 electrodes after 5 cycles at 0.1C rate.

Table S1. EIS fitting results for LNMO and LNMO-MoO₃-2 electrodes after 5 cycles at 0.1C rate.

Sample	R_b/Ω	R_{SEI}/Ω	R_{ct}/Ω	$D_{Li^+}/\text{cm}^2\text{ s}^{-1}$
LNMO	4.30	55.13	67.08	2.52×10^{-14}
LNMO-MoO ₃ -2	5.13	27.23	52.74	9.61×10^{-14}