Supporting Information for

Power characteristics of spinel cathode correlated with elastic softness and phase transformation for high-power lithium-ion batteries

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Fig. S1. (a, b) FESEM images of (a) LNMO and (b) LNMTO nanopowders, and (c) EDS mapping images of ion-sliced HRTEM for Mn, Ni, O, and Ti ions in a LNMTO nanoparticle.
Fig. S2. XPS spectra of (a) C1s, (b) Mn2p, and (c) Ni2p for LNMO (black circles) and LNMT0 (red triangles) after Ar ion sputtering for 300 s.
**Fig. S3.** PDOS of (a) Ni and (b) Mn d-orbitals in $L_{1-y}$NMO, and (c) Ni, (d) Mn, and (e) Ti d-orbitals in $L_{1-y}$NMTO with respect to the inverse Li content, $y = 0$ (black solid line), 0.5 (red dashed line), and 1.0 (blue dotted line).
Fig. S4. Total density of states of (a) LNMO (black solid line) and (b) LNMTDO (red dashed line).
Fig. S5. Charge-discharge profiles of LNMO (black lines) and LNMTTO (red lines) at a specific current of 80 mA g\(^{-1}\).