Supporting Information

[tert-butyl(diphenyl)silyl] trifluoromethanesulfonate acts as an effective additive for high-voltage lithium metal batteries

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Figure S1 The polarization voltage changes of Li||Li symmetric batteries at 1mA cm⁻² and 1mAh cm⁻² with 0.3%, 0.1% and 0.05% TB, respectively. (a) long cycle performance. the enlarged views of different cycles (b) 60th-61st and (c) 99th -100th.



Figure S2 CV curves of the first to 5th cycles in NCM622||Li batteries using (a) the blank electrolyte and (b) the 0.1% TB electrolyte, respectively.



Figure S3 Chronoamperometric responses of NCM422||Li batteries with different electrolytes.



Figure S4 Cycling performance of NCM622||Li batteries with different electrolytes at 45°C at 2 C.



Figure S5 Cross-sectional SEM images of lithium anodes in the NCM622||Li batteries after 200 cycles with (a) fresh lithium anode, (b) the blank electrolyte and (c) the 0.1% TB electrolyte.



Figure S6 Linear sweep voltammetry (LSV) curves for different electrolytes.



Figure S7 Cycling performance of the reassembled batteries with B_{-anode}, T_{-anode}, B_{-cathode}, and T₋ _{cathode} as electrodes, respectively.