

Optimizing Li ions transport in garnet-type solid electrolyte via grain boundary design

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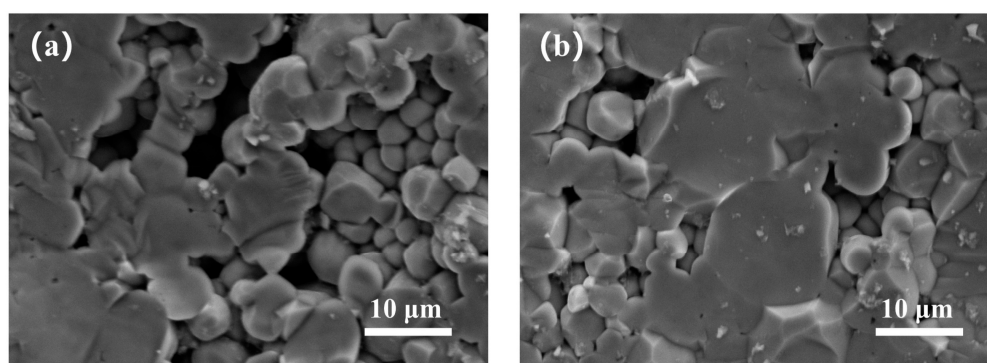


Figure S1. (a-b) SEM image of pristine and coated samples disassembled after 50 cycles.

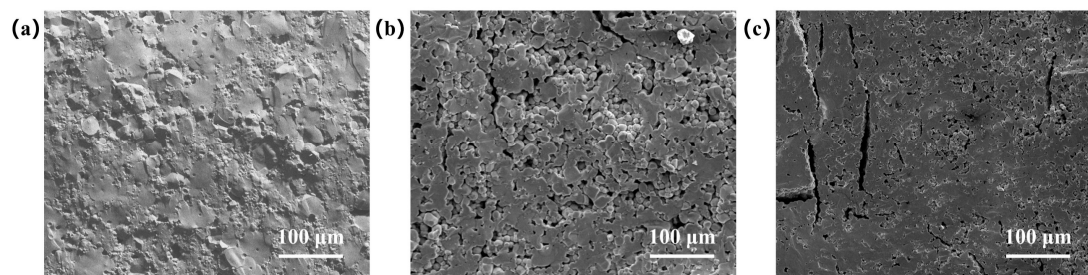


Figure S2. (a) Cross-section SEM image of LLZTO pellets. (b) Cross-section SEM image and (c) the edges of bulk image of LLZTO after 50 cycles.

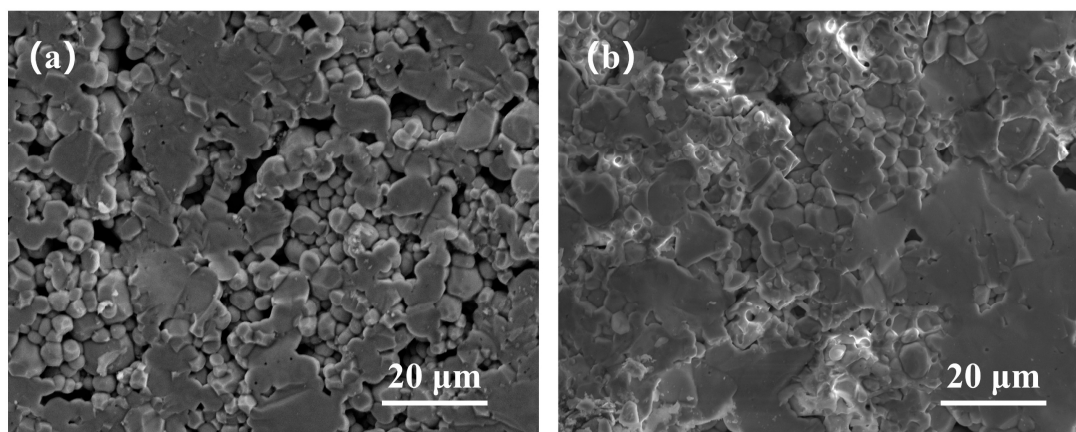


Figure S3. (a-b) SEM image of pristine and annealed samples disassembled after 50 cycles.

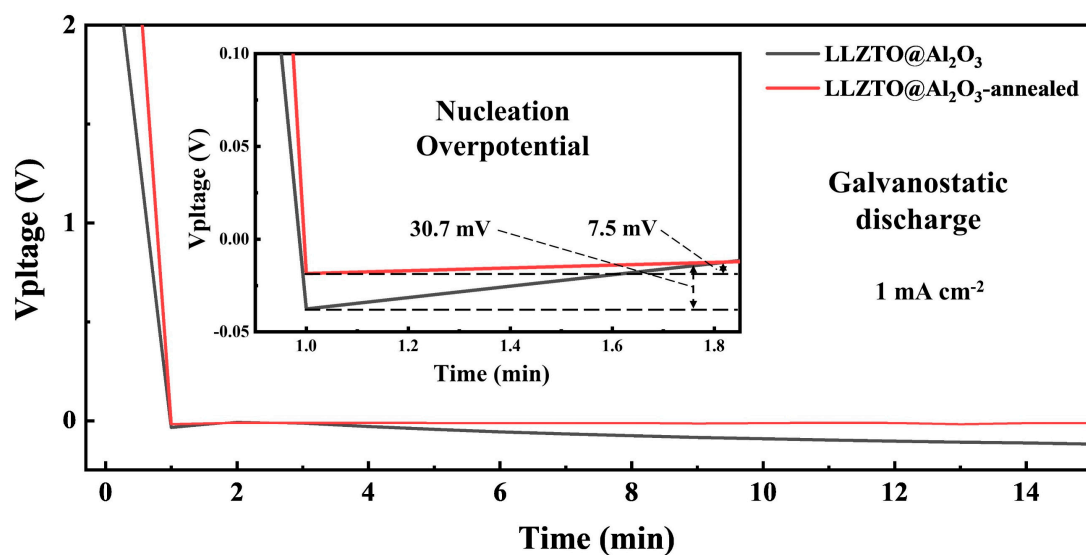


Figure S4. Voltage-capacity curves of Li plating in coated and annealed sample in the overpotential for Li nucleation at 1.0 mA cm⁻², respectively.

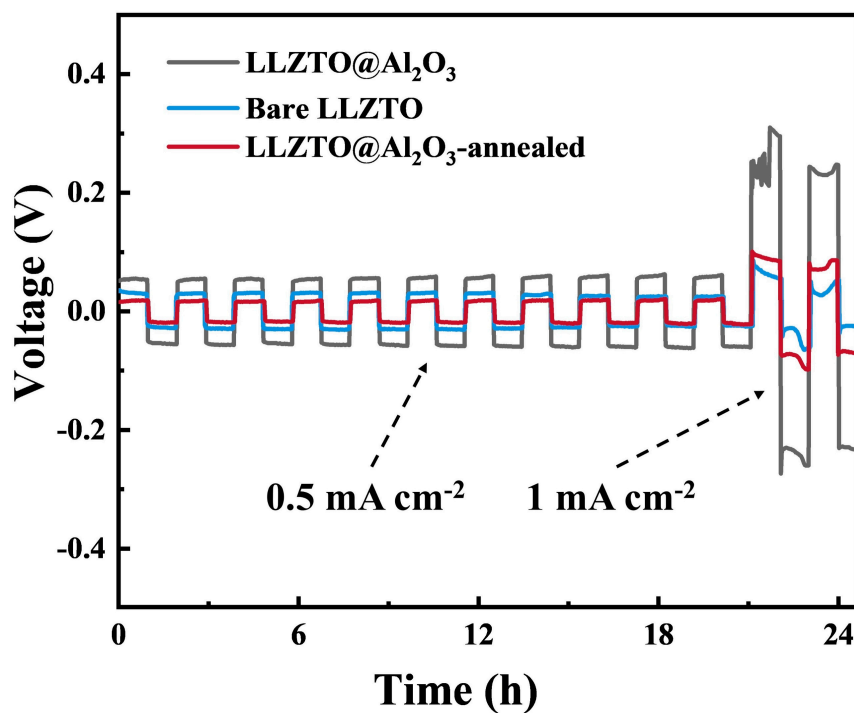


Figure S5. Constant current cycle curves of Li/LLZTO/Li, Li/LLZTO@Al₂O₃/Li, and Li/LLZTO@Al₂O₃-annealed/Li symmetrical batteries at a current density of 0.5 mA cm⁻² are presented in this figure.

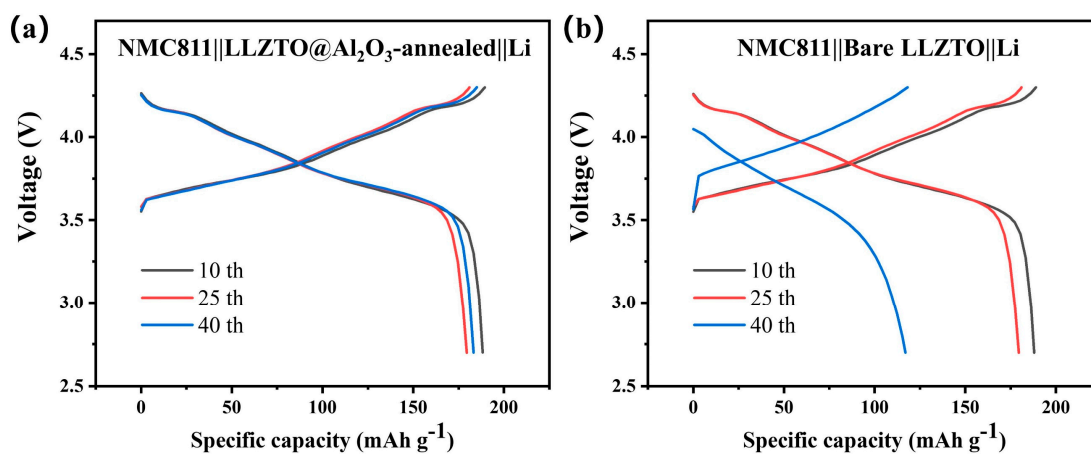


Figure S6. Voltage-versus-capacity plot of NMC811 cells using bare LLZTO and LLZTO@Al₂O₃-annealed as electrolyte and Li metal as anodes, respectively.