

Supplementary Materials for

Effect of Ga_2O_3 Addition on the Properties of Garnet-Type Ta-Doped $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}$ Solid Electrolyte

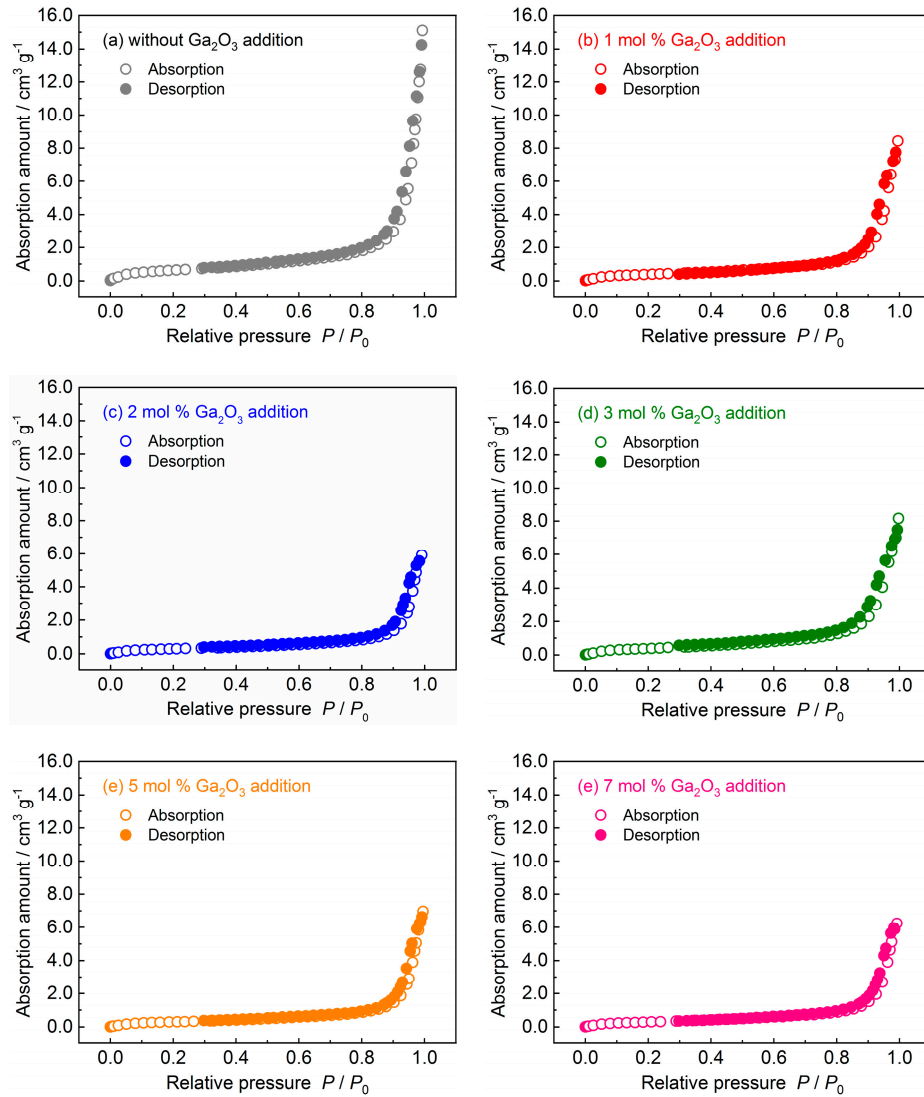
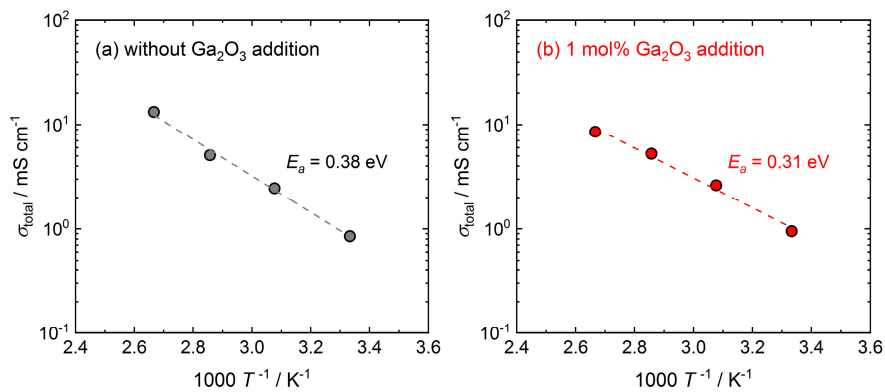


Figure S1. N_2 gas adsorption/desorption isotherms for Ta-doped LLZO with or without Ga_2O_3 addition.



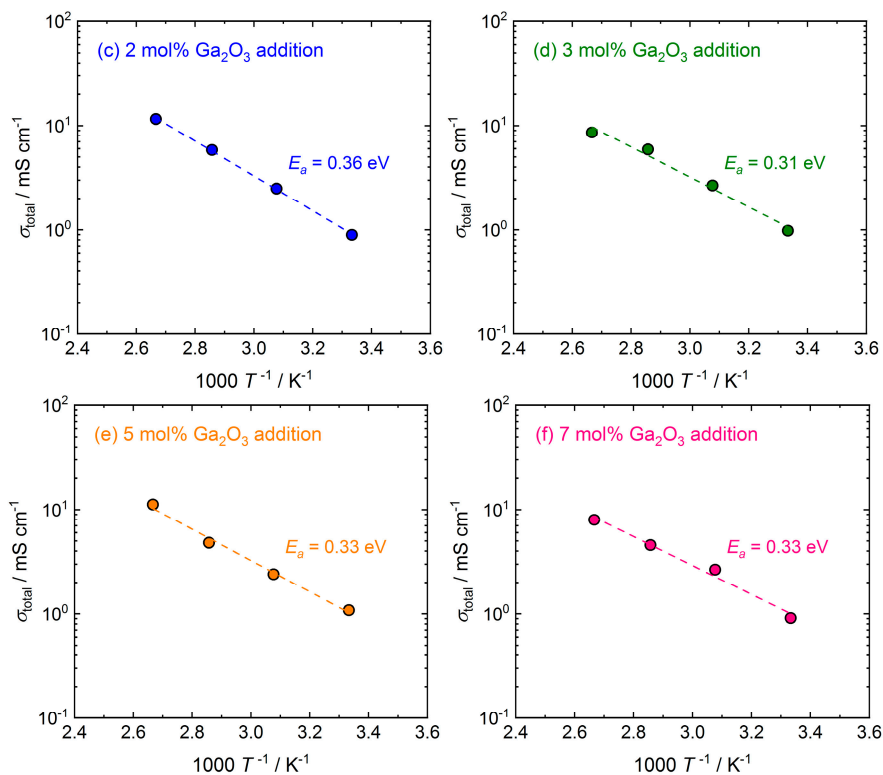


Figure S2. Temperature dependence for total ionic conductivity σ_{total} for Ta-doped LLZO sintered with or without Ga_2O_3 addition.

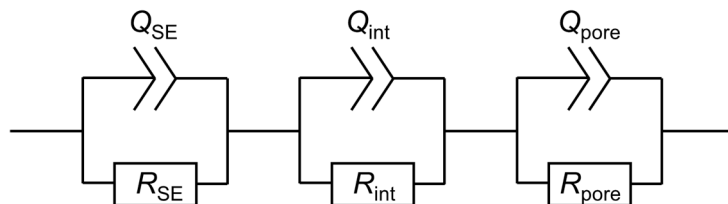
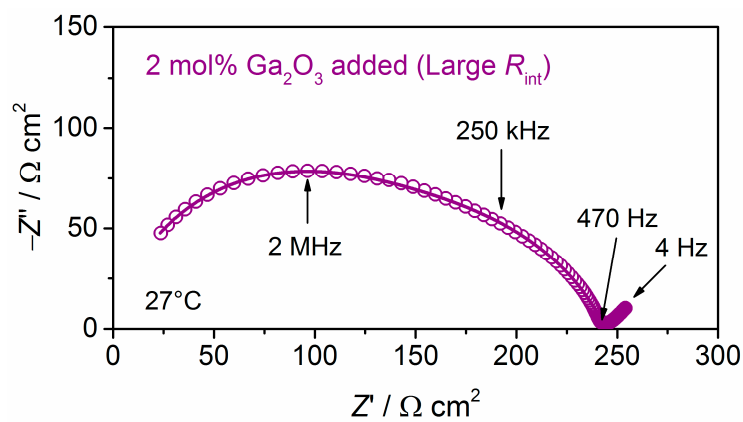


Figure S3. Equivalent circuit for fitting the electrochemical impedance of Li symmetric cell.



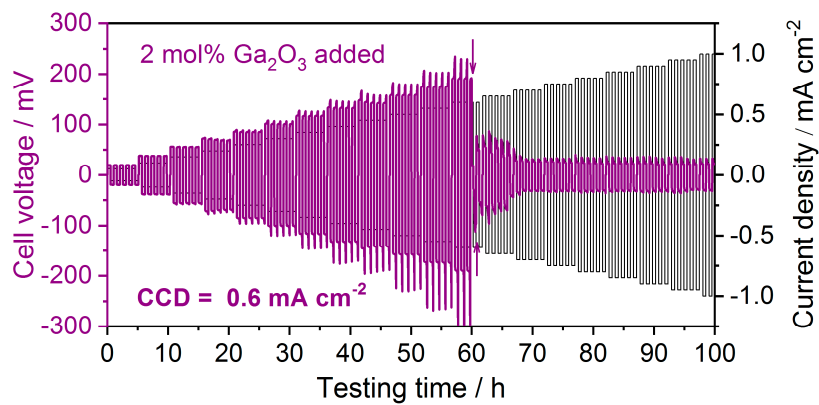


Figure S4. Nyquist plot for complex impedance (top) and voltage response in galvanostatic cycling test (bottom) for Li symmetric cell with larger interfacial resistance R_{int} composed of 2 mol % Ga_2O_3 added Ta-doped LLZO.

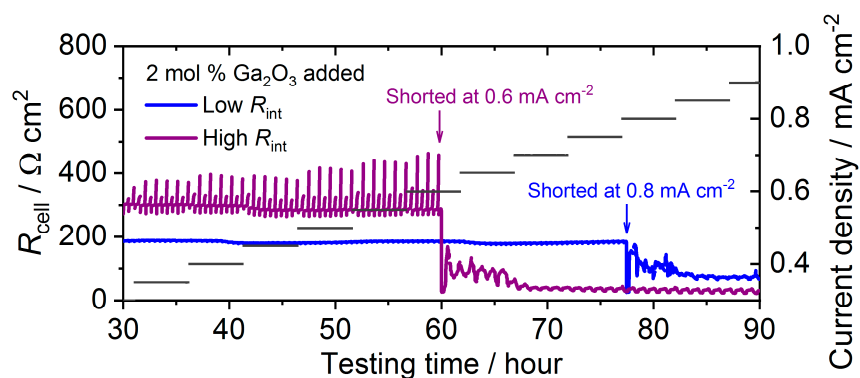


Figure S5. Change in cell resistance R_{cell} during galvanostatic cycling test for Li symmetric cells with different R_{int} composed of 2 mol % Ga_2O_3 added Ta-doped LLZO.