

Supporting Information

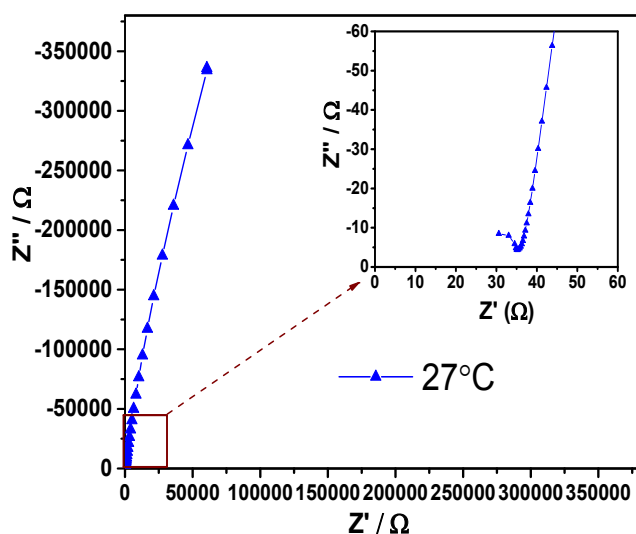


Fig. S1. AC impedance spectrum of $\text{Li}_{3.334}\text{Ge}_{0.334}\text{As}_{0.666}\text{S}_4$ measured at room temperature. The total conductivity is determined by using the intercept between the semi-arc and straight line as the total resistance.

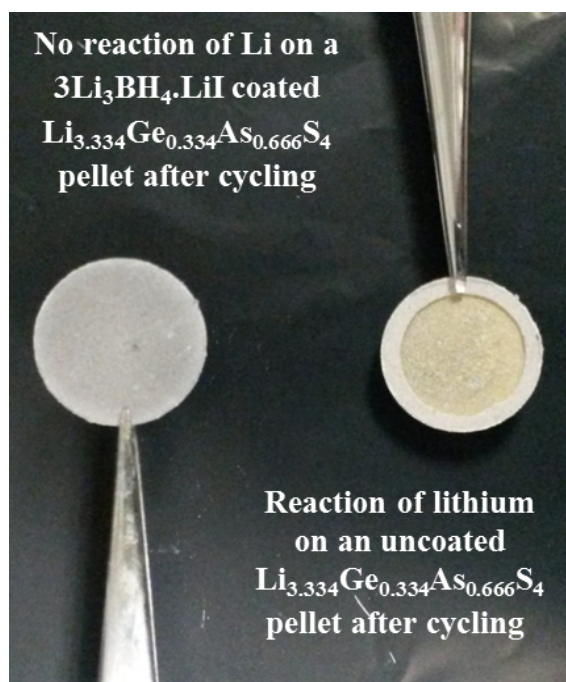


Fig. S2. Post-mortem analysis of cycled $\text{Li}_{3.334}\text{Ge}_{0.334}\text{As}_{0.666}\text{S}_4$ pellet with and without $3\text{Li}_3\text{BH}_4\cdot\text{LiI}$ coating. The chemical reaction of lithium with the solid electrolyte is clearly visible on an uncoated pellet as opposed to the surface passivated pellet where the coating protects the solid electrolyte from reacting with lithium metal.