

## Vat Photopolymerization of Tantalum-Doped Li<sub>7</sub>La<sub>3</sub>Zr<sub>2</sub>O<sub>12</sub> Electrolytes: A New Frontier in Solid-State Battery Design

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## Supplementary Information (SI)



Figure S1: BET plot Ta-LLZO using points collected at the pressure range 0.05 to 0.3





**Figure S2**: The TGA curves of the green bodies performed in (a) three different atmospheres, namely synthetic air, nitrogen and argon; (b) TGA analysis in argon at different heating rates for kinetic analysis



**Figure S3**: Stepped current density GC for Li/LLZ:Ta/Li cell at 25 °C (The step width for changing current density is 100 μA cm<sup>-2</sup> with a stack pressure of 3 MPa)