

## Supporting Information

### Effect of Solvents on a $\text{Li}_{10}\text{GeP}_2\text{S}_{12}$ -Based Composite Electrolyte via Solution

### Method for Solid-State Battery Applications

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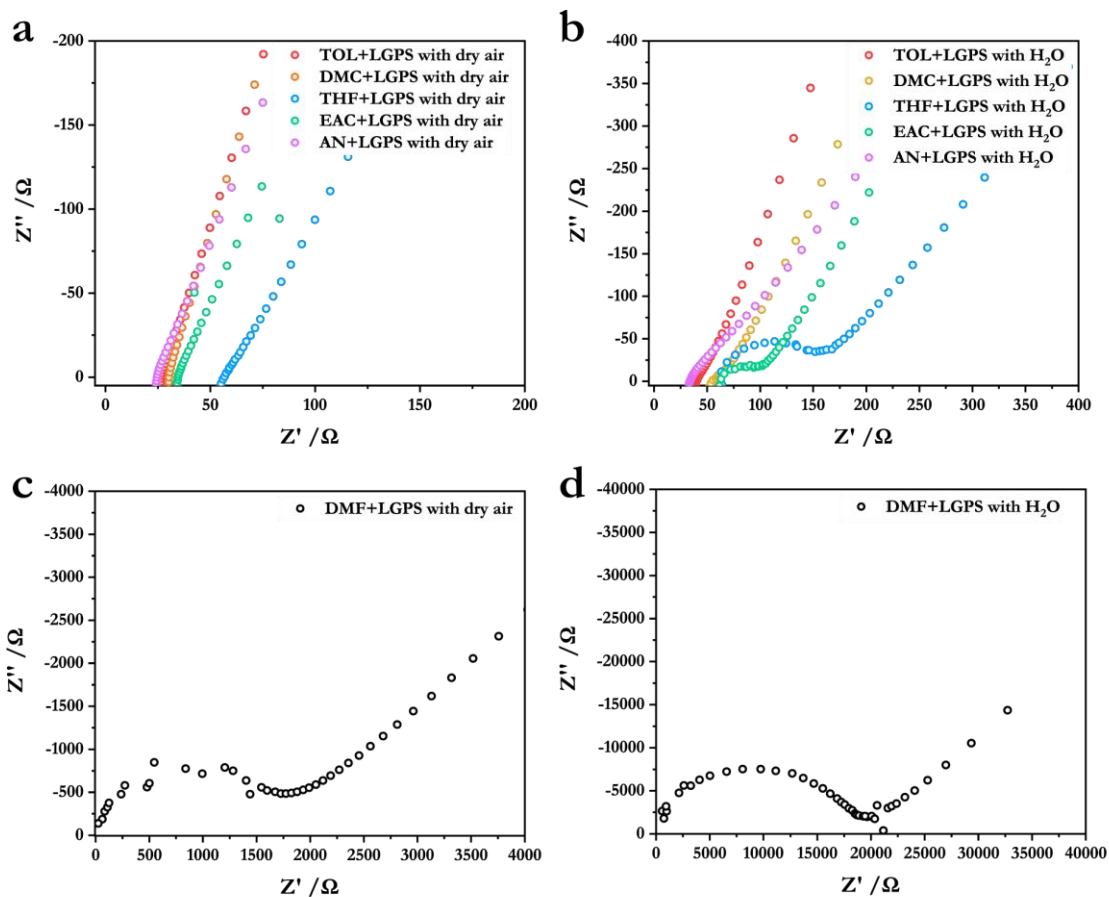


Fig. S1 Nyquist plots of the LPCE with different amounts of PVDF-HFP. (a) Solvents + LGPS with dry air. (b) Solvents + LGPS with moisture. (c) DMF + LGPS with dry air. (d) DMF + LGPS with moisture.

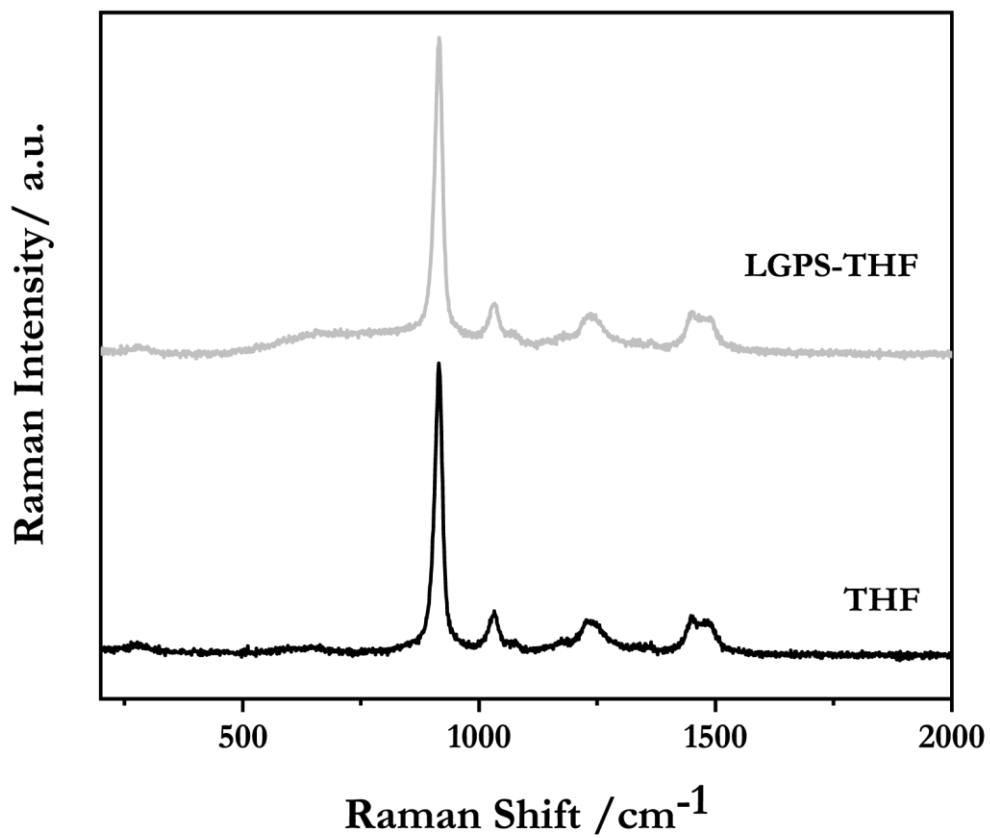


Fig. S2 The Raman spectra of the supernatant THF solution with LGPS.

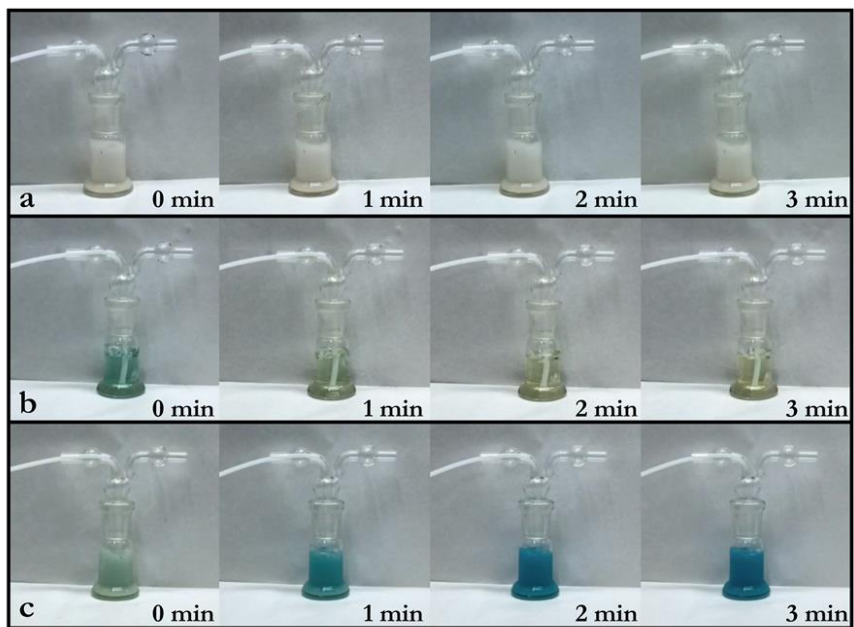


Fig. S3 Screenshots of artificial air pouring in the DMC suspension with LGPS(a), supernatant(b) and suspension (c) of NMP solvent with LGPS.

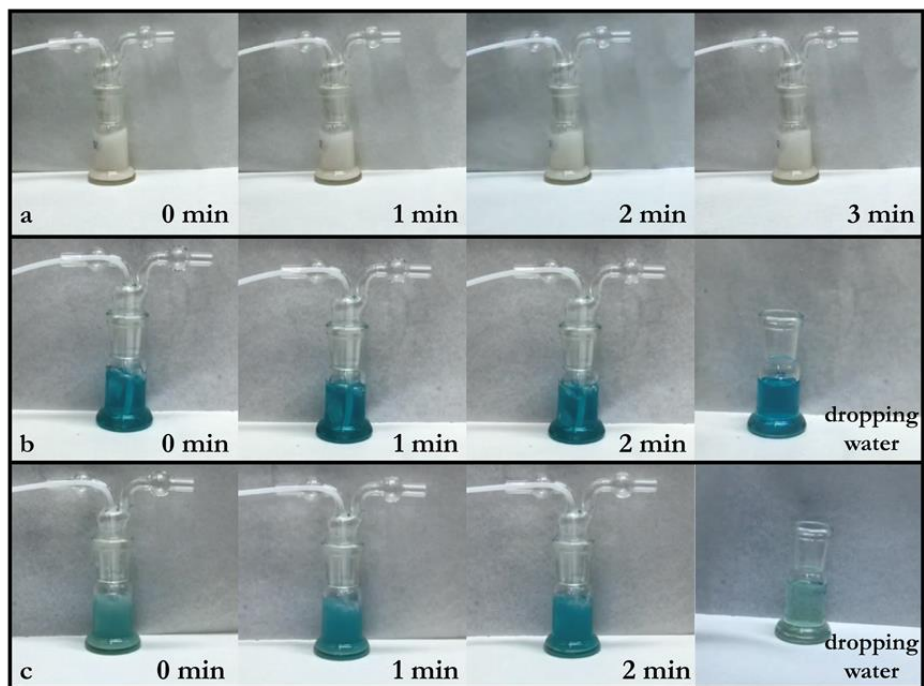


Fig. S4 Screenshots of  $N_2$  with saturated water vapor pouring in the DMC suspension with LGPS(a), supernatant(b) and suspension (c) of NMP solvent with LGPS.