

Supplementary Information

Preparation of sulfide solid electrolytes in the $\text{Li}_2\text{S-P}_2\text{S}_5$ system by a liquid phase process

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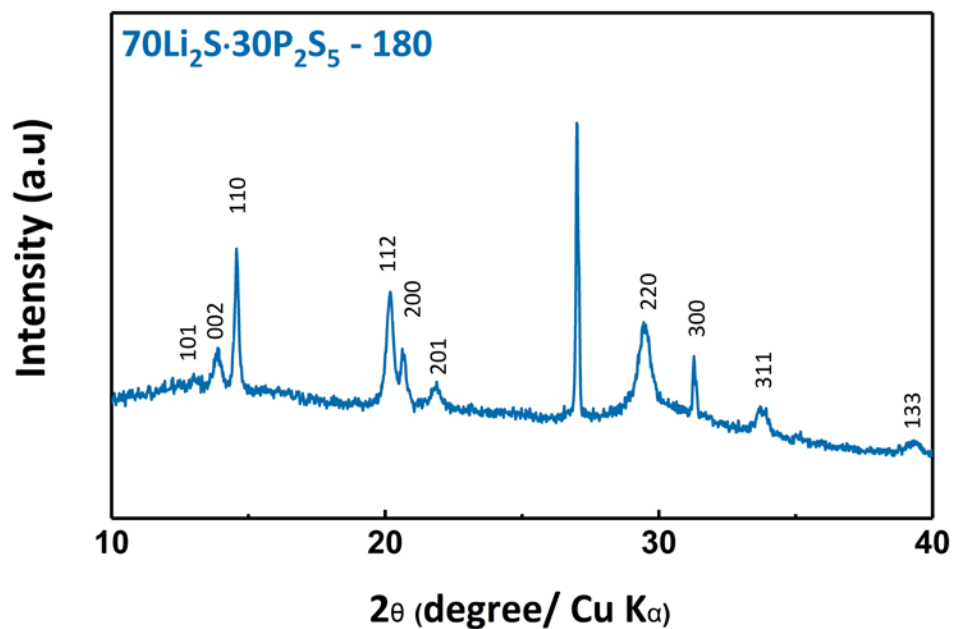


Figure S1. Indexed XRD pattern of the 70Li₂S·30P₂S₅-180 sulfide solid electrolyte.

Table S1. Cell parameters of the 70Li₂S·30P₂S₅-180 sulfide solid electrolyte

a (Å)	8.5930
b (Å)	8.5930
c (Å)	12.7620
α (°)	90
β (°)	90
γ (°)	90
Volume (Å ³)	942.342
Space group	P4/m(83)

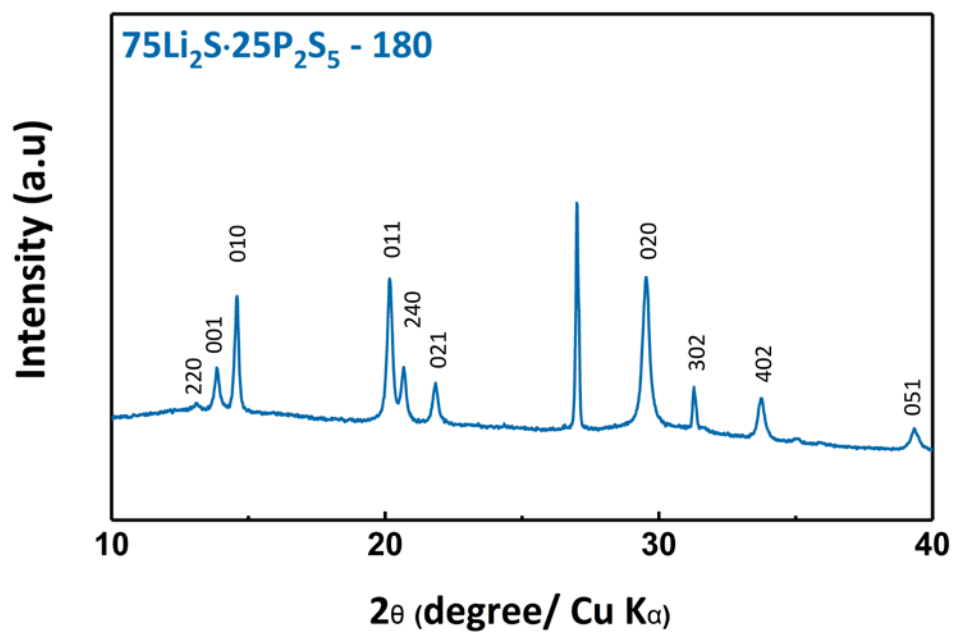


Figure S2. Indexed XRD pattern of the 75Li₂S·25P₂S₅-180 sulfide solid electrolyte.

Table S2. Cell parameters of the 75Li₂S·25P₂S₅-180 sulfide solid electrolyte

a (Å)	19.2157
b (Å)	19.2157
c (Å)	6.3772
α (°)	90
β (°)	90
γ (°)	90
Volume (Å ³)	2354.737
Space group	P4/m(83)

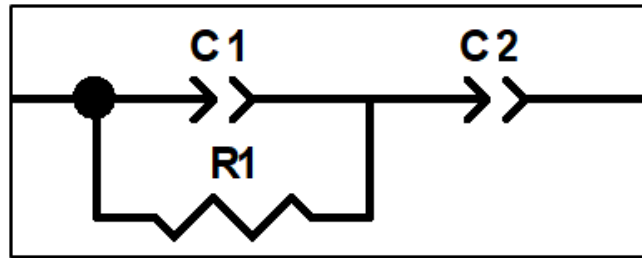


Figure S3. Equivalent circuit used to fit the impedance spectra.

In the equivalent circuit used to fit the impedance spectra, the resistor R1 in parallel with the constant phase element C1 are used to simulate the pellet electrical behavior. The constant phase element C1 is used to simulate the contribution of the electrodes interface