

Supporting information

A promising PMHS/PEO blend polymer electrolyte for all-solid-state lithium ion batteries

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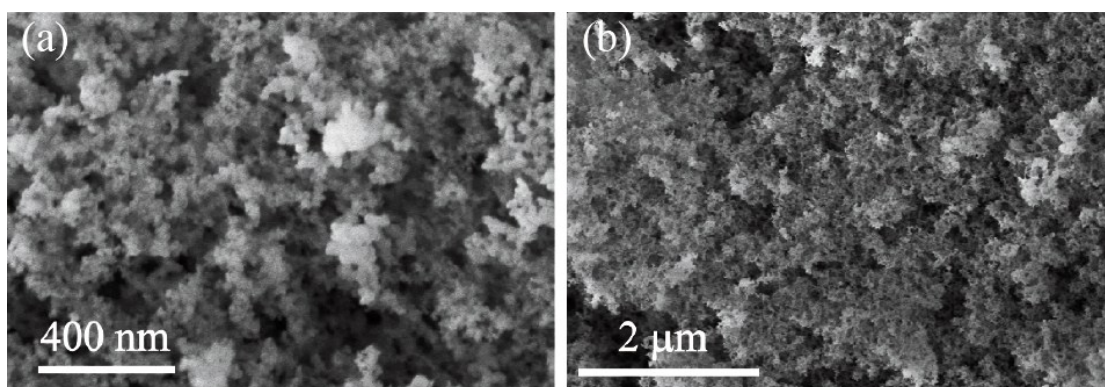


Fig. S1 SEM images of SiO₂.

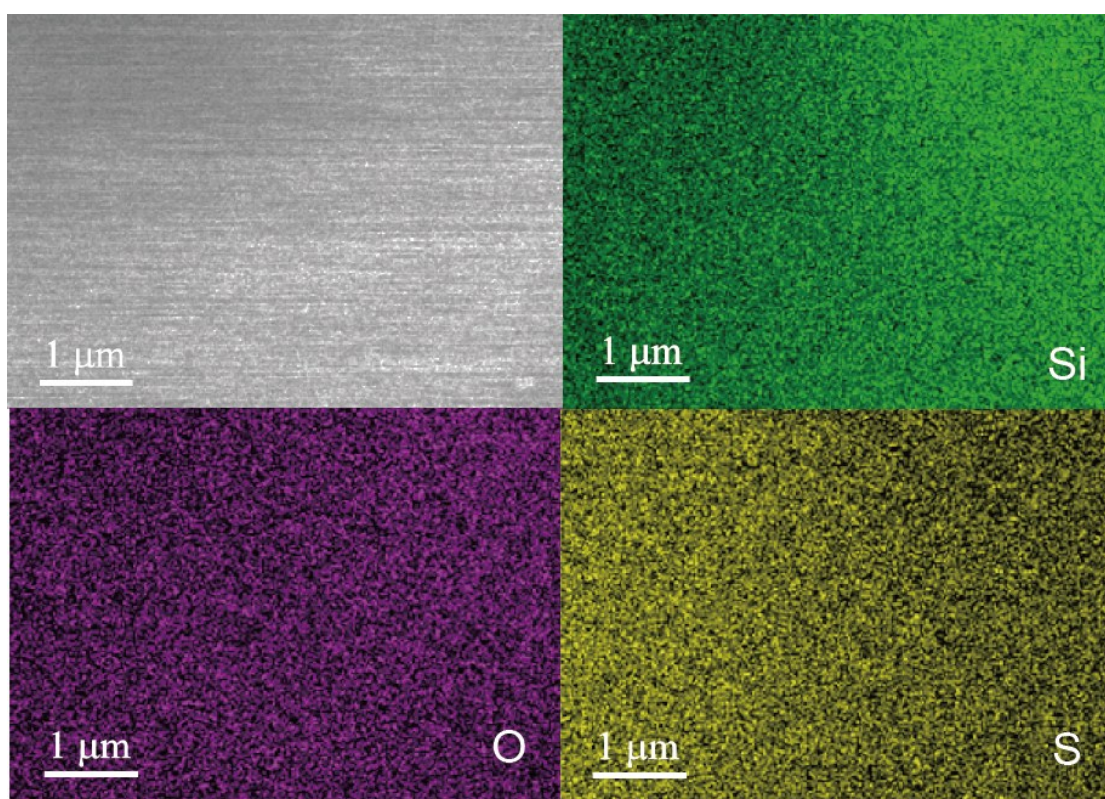


Fig. S2 SEM images and EDX spectra for the surface of PPS-CPE.

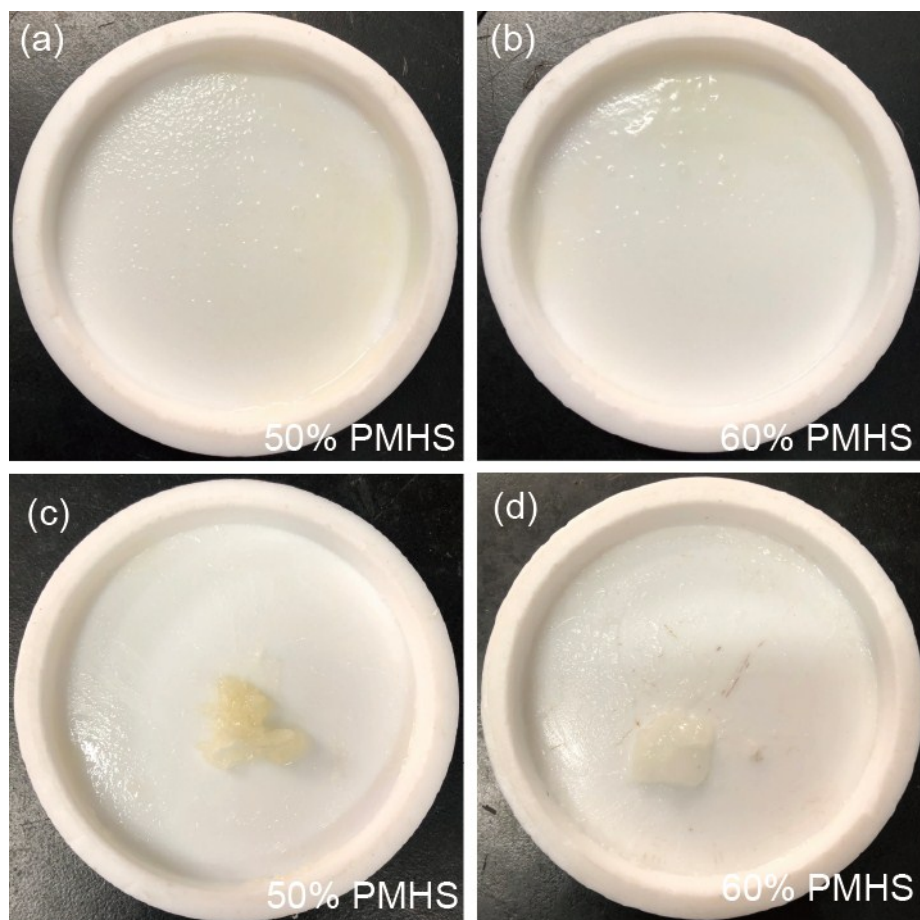


Fig. S3 Digital photos of PPS-CPE with different ratios of PMHS. (a, b) are the initial state when PPS-CPE is produced, and (c, d) are the aggregation state of PPS-CPE.

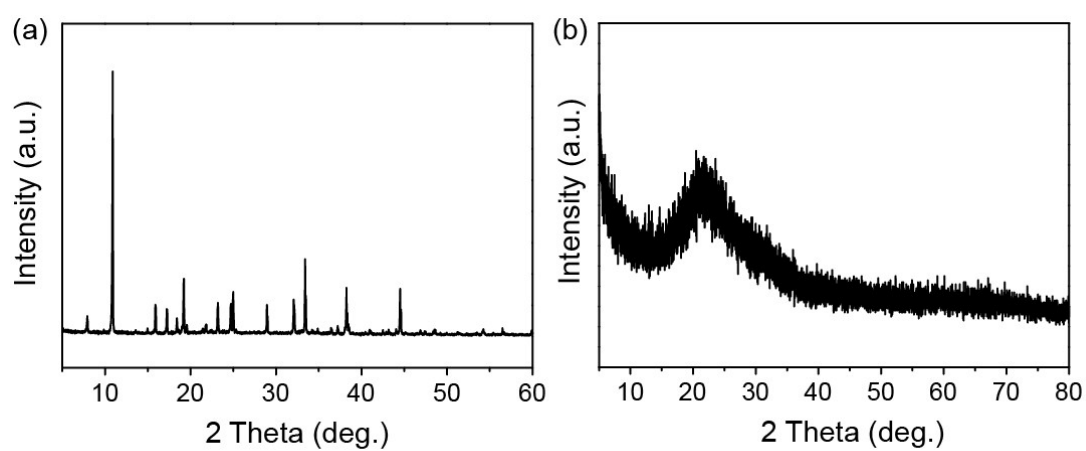


Fig. S4 XRD patterns of LiTFSI (a) and SiO₂ (b).

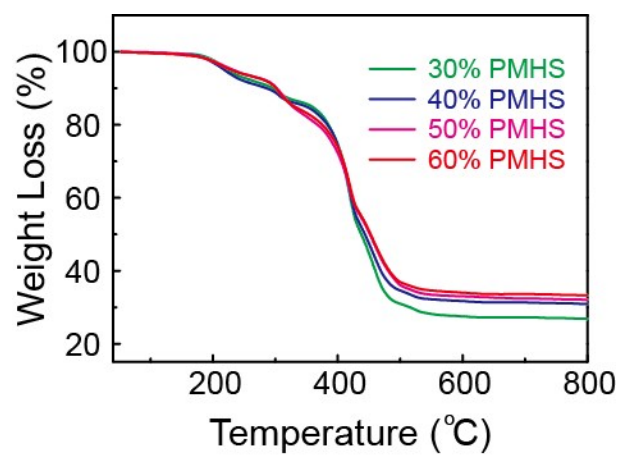


Fig. S5 TGA curves for pure PEO and PPS-CPE films with differently contents of PHMS under air temperature at a heating rate of $10\text{ }^{\circ}\text{C min}^{-1}$.

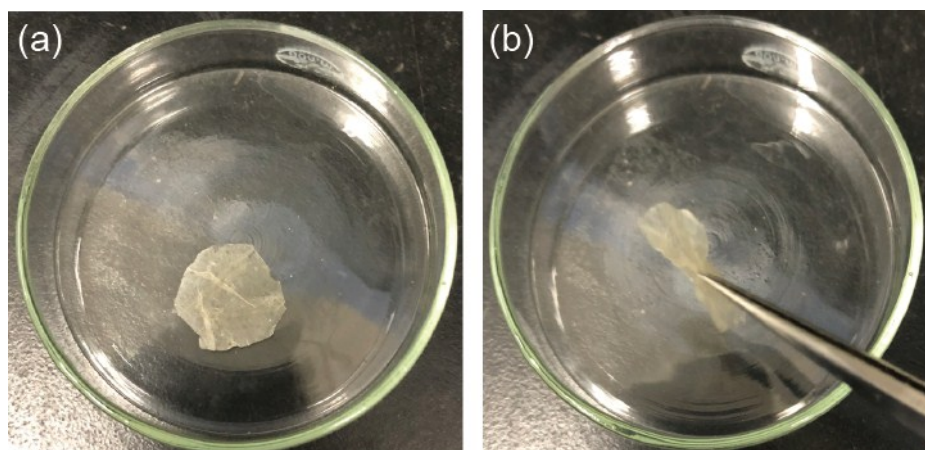


Fig. S6 Digital photograph of PPS-CPE at $60\text{ }^{\circ}\text{C}$.

Table S1. Composition of PPS-CPE material

	PMHS(g)	SiO ₂ (g)	PEO(g)	LiTFSI(g)
PPS-CPE(30%)	0.3	0.025	0.7	0.3
PPS-CPE(40%)	0.4	0.025	0.7	0.3
PPS-CPE(50%)	0.5	0.025	0.7	0.3
PPS-CPE(60%)	0.6	0.025	0.7	0.3