

Supporting information

Effectively suppressing lithium dendrite growth via an es-LiSPCE single-ion conducting nano fiber membrane

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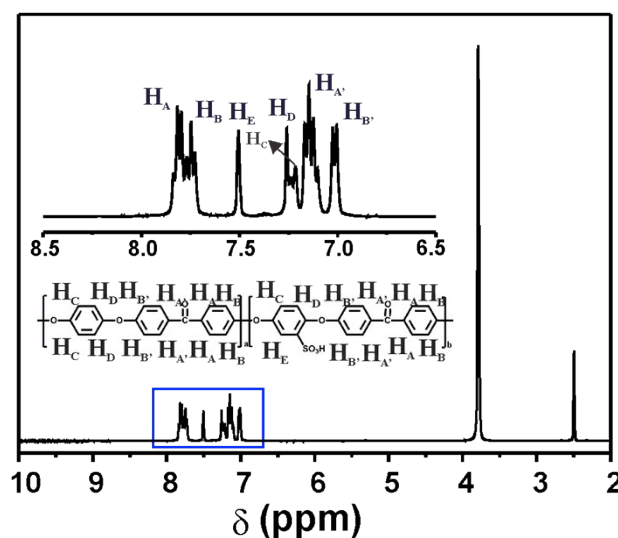


Fig. S1. ¹H NMR spectrum of SPEEK

Table S1. The chemical shift and relative integration of BAPFDS in DMSO-*d*₆.

	Chemical shift (ppm)	Relative integration
H _A	7.80-7.82	2.55
H _B	7.75-7.80	2.29
H _C	7.21-7.24	1.12
H _D	7.24-7.26	0.78
H _E	7.50	1.00
H _{A'}	7.15-7.24	3.74
H _{B'}	7.01-7.03	1.95

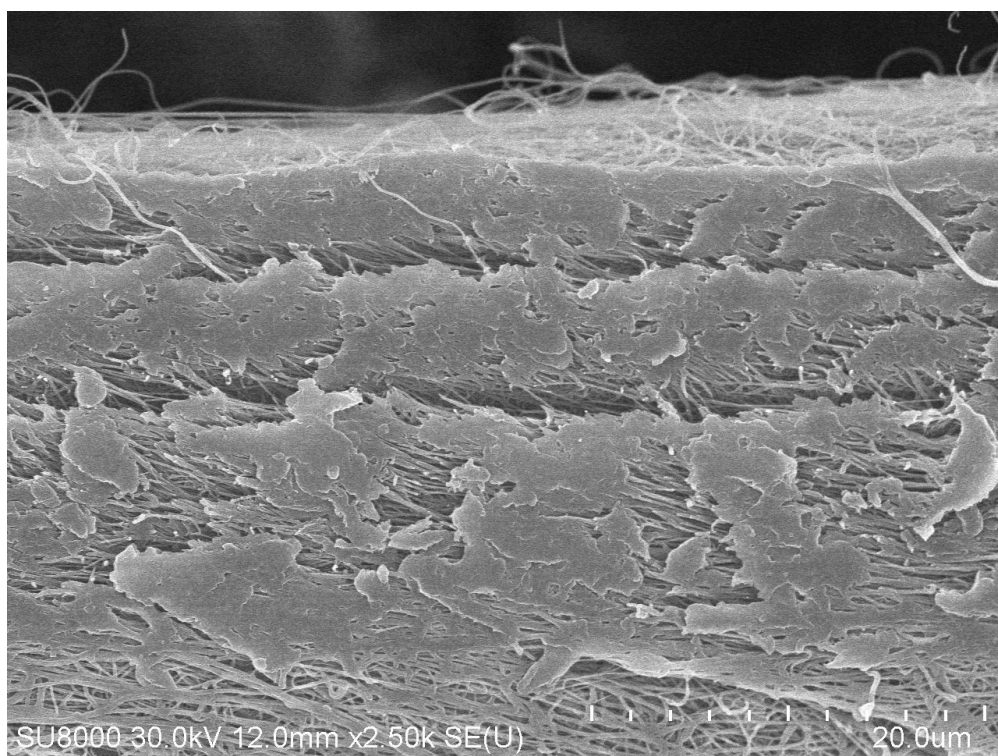


Fig. S2. The cross-section view of the *es*-LISPCE membrane.

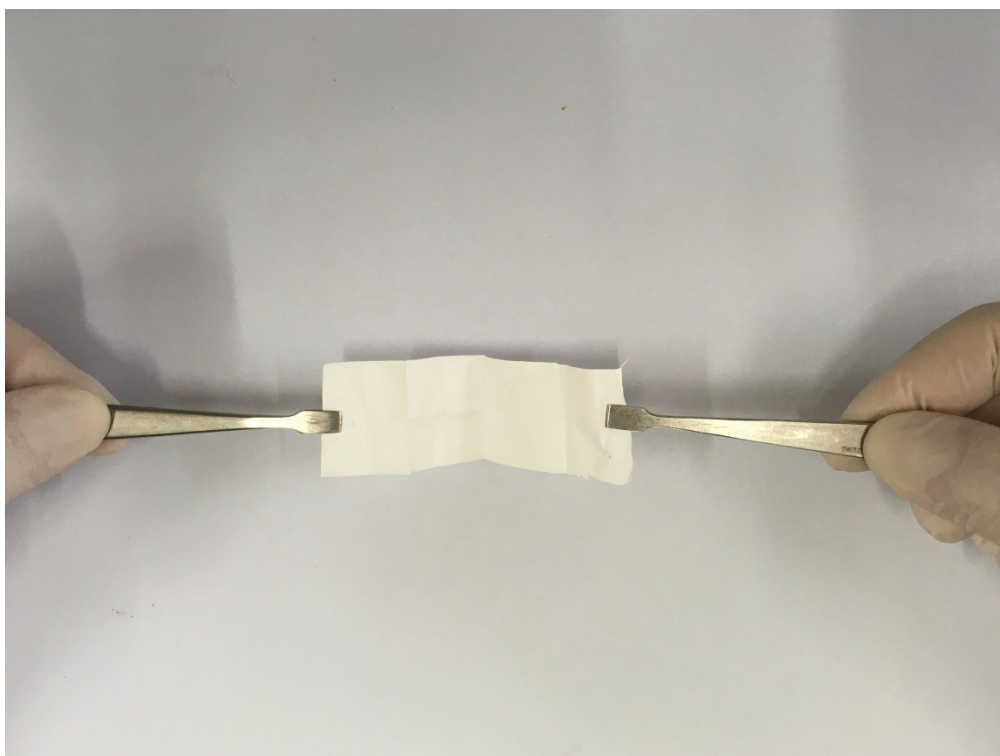


Fig. S3. A digital image of the *es*-LiSPCE nanofiber membrane after the scrunch test.



Fig. S4. A digital image of the *es*-LiSPCE nanofiber membrane with appropriate mechanical strength.

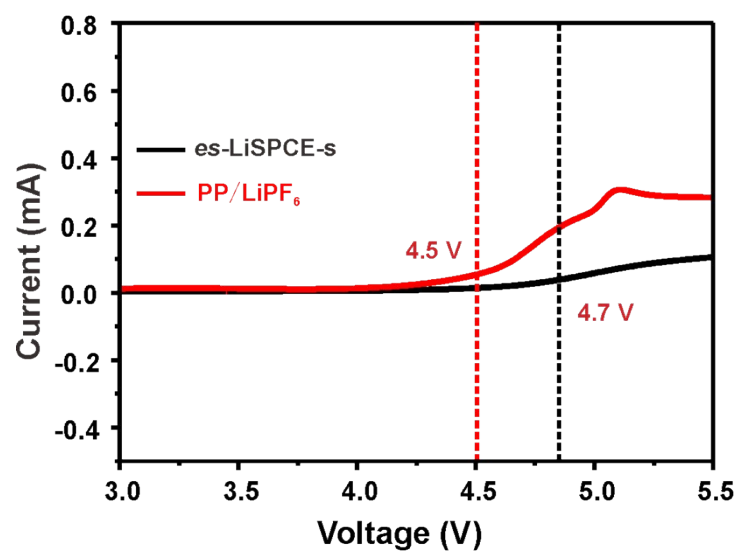


Fig. S5. Electrochemical stability of the *es*-LiSPCE-s and PP/1M LiPF₆ in EC/DMC electrolyte systems at room temperature.