

Supporting Information

High Ionic Conductivity of Flexible Solid-State Composite Electrolyte for

Lithium-Ion Battery

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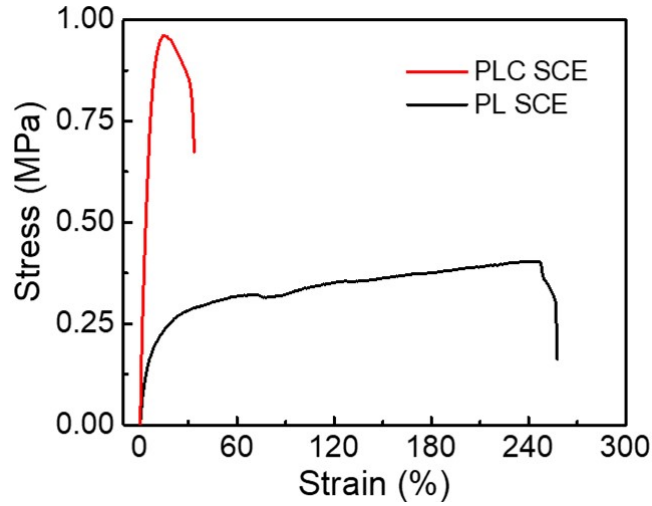


Figure S1. The stress-strain curves of PLC SCE and PL SCE.

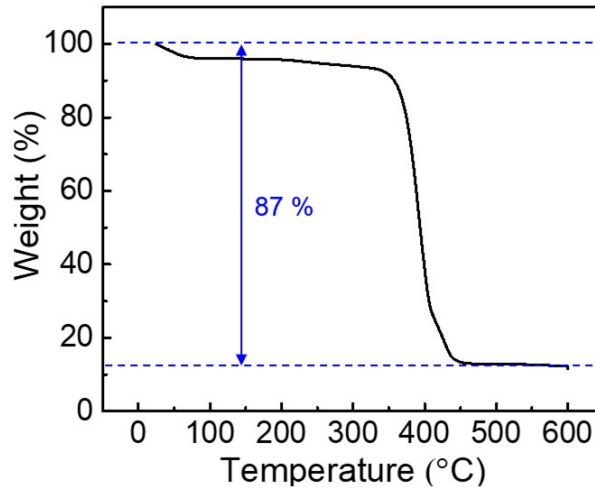


Figure S2. TGA curves of PLC SCE.

Video #1

Molecular dynamics simulations: Ion diffusion behavior was investigated using the mean square displacement of Li-ion movement in an electrolyte incorporating CNF-A, CNF-B, and CNF-C spanning the time range from 0 ps to 1500 ps.

Video #2

Conduct fire resistance tests of PL SCE and PLC SCE to observe their flammability.

Video #3

Failure risk of the battery cell tests: Utilizing PLC SCE as the electrolyte to evaluate the battery underwent folding, nail penetration, and cutting.

Table S1

Sample	t_{Li^+}	Initial Current (i_0)	Steady-State Current (i_s)	Applied Potential (ΔV)	Initial Resistance (R_0)	Steady-State Resistance (R_s)
PLC SCE	0.47	0.15 A	0.07 A	10 mV	100 Ω	150 Ω