

Figure S1. ^1H NMR spectra of synthesized starting copolymers for (a) CP 1 and (b) CP2, respectively.

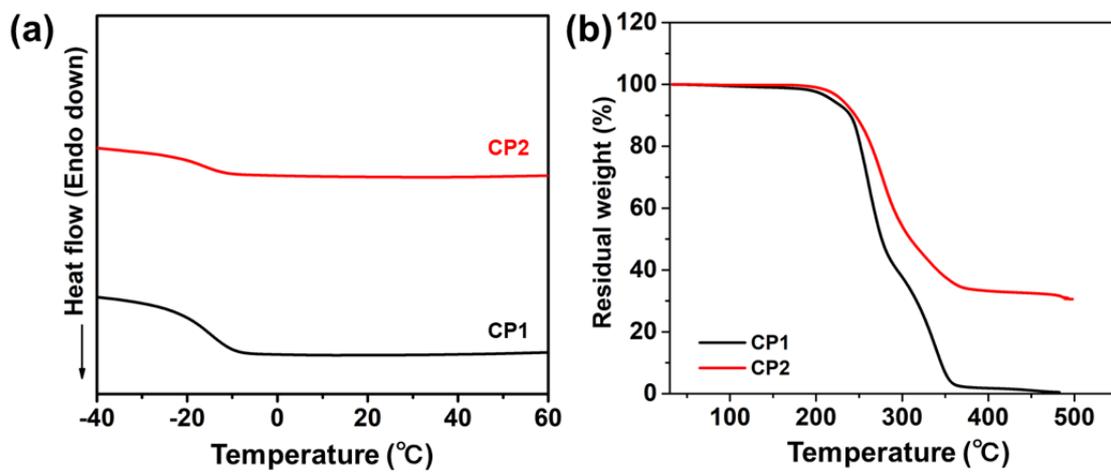


Figure S2. (a) DSC curves and (b) TGA thermograms of CP1 and CP2.

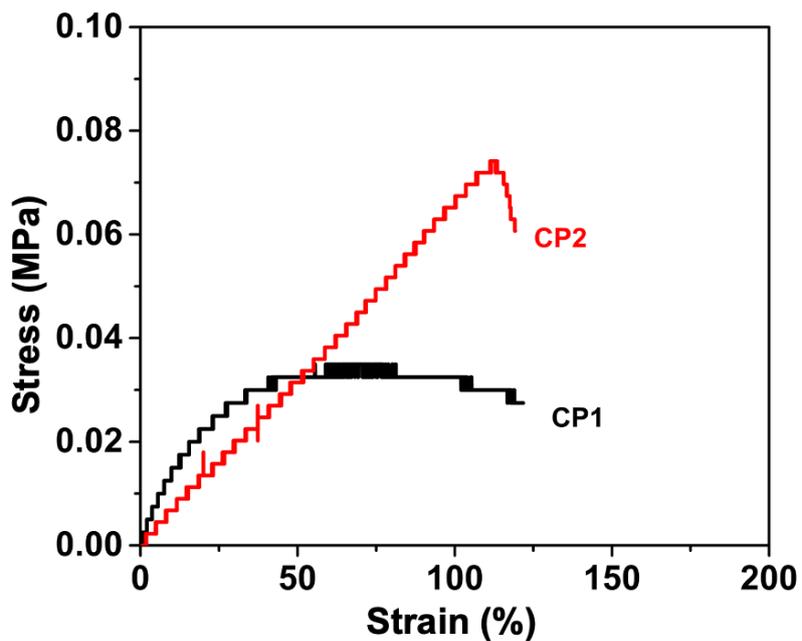


Figure S3. Tensile stress-strain curves of CP1 and CP2.

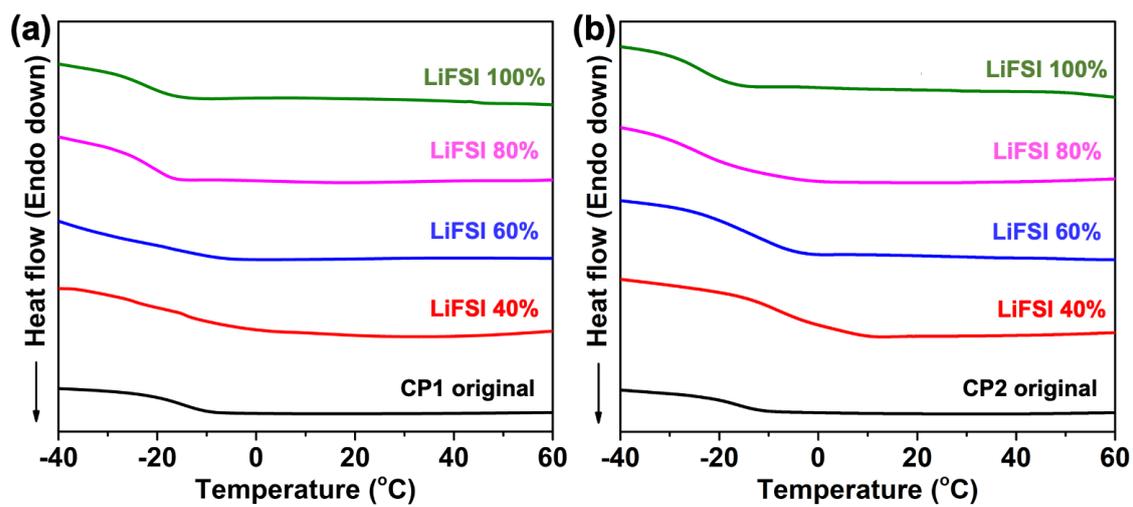


Figure S4. DSC curves of (a) CP1 and (b) CP2 with different concentrations.

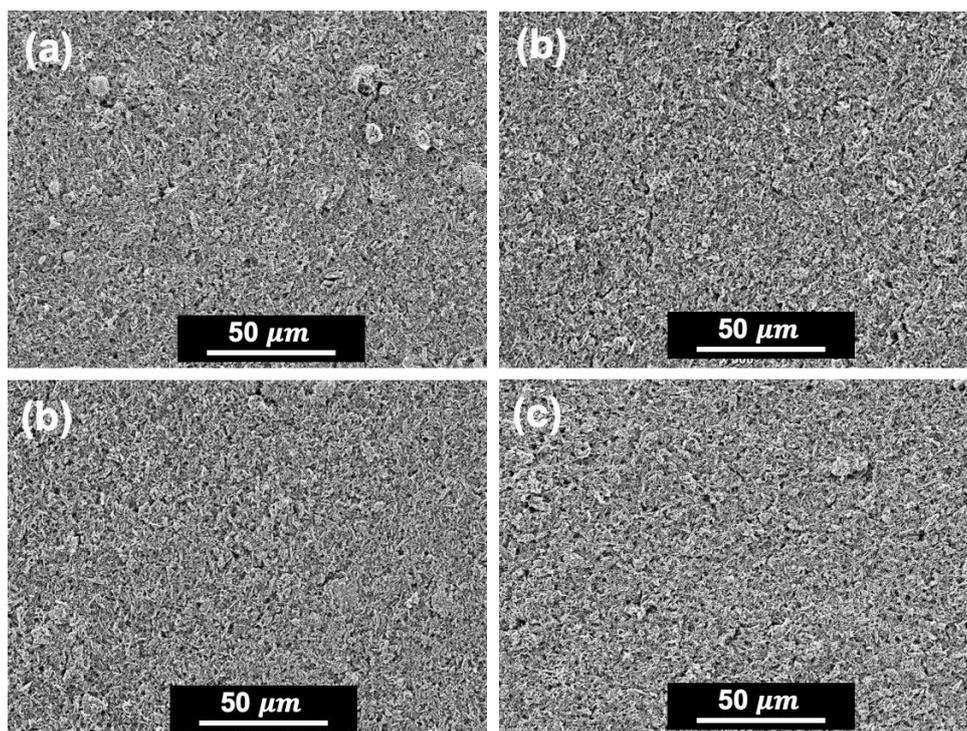


Figure S5. SEM images of (a) CP2:PVDF 0:100, (b) CP2:PVDF 20:80, (c) CP2:PVDF 50:50, and (d) CP2:PVDF 80:20 cathode, respectively.

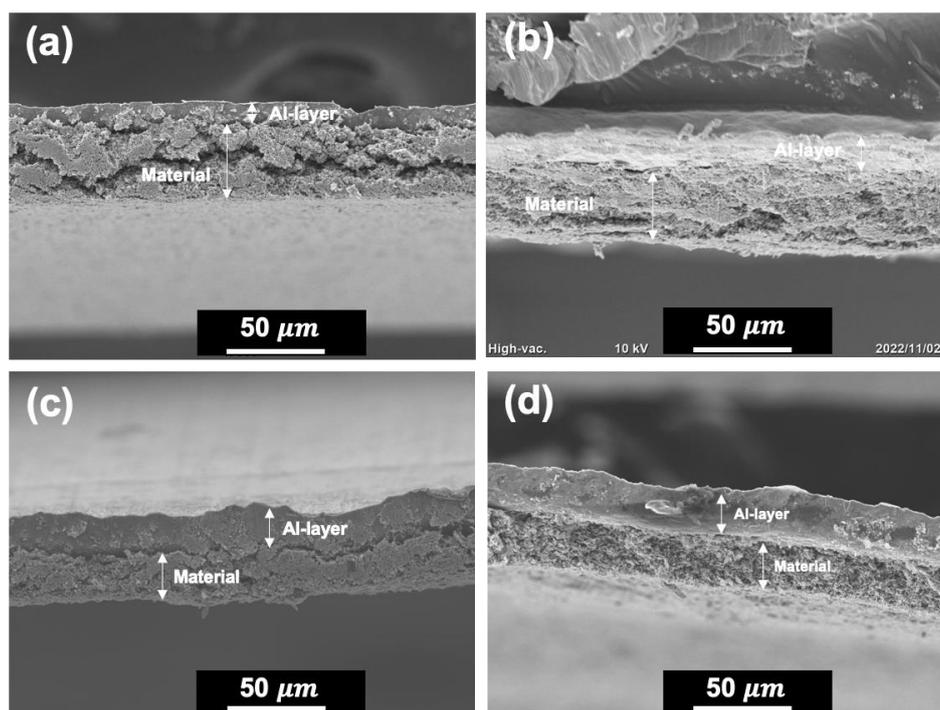


Figure S6. SEM images of cross-section (a) CP2:PVDF 0:100, (b) CP2:PVDF 20:80, (c) CP2:PVDF 50:50, and (d) CP2:PVDF 80:20 cathode, respectively.

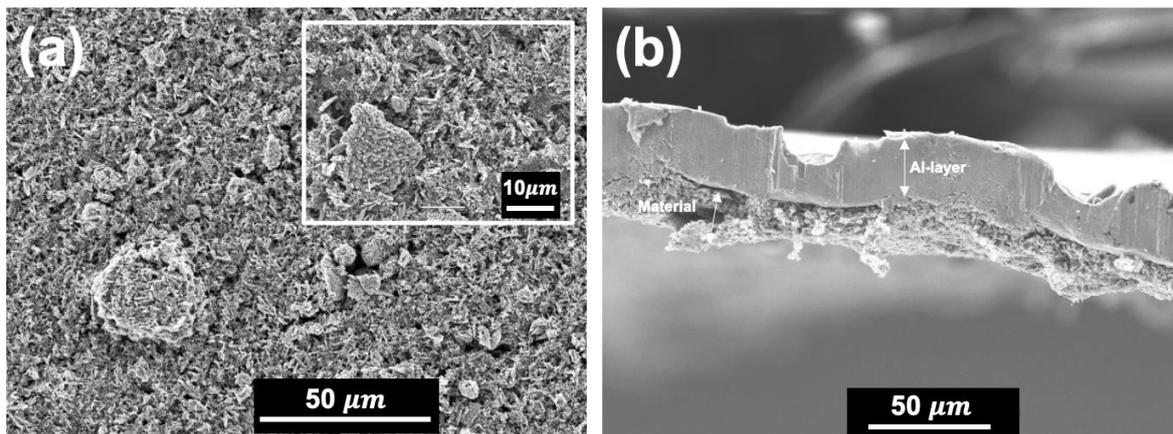


Figure S7. SEM images of the (a) surface side (inset: SEM images at the higher magnification for this sample) and (b) cross-section of CP2:PVDF 100:0 cathode.

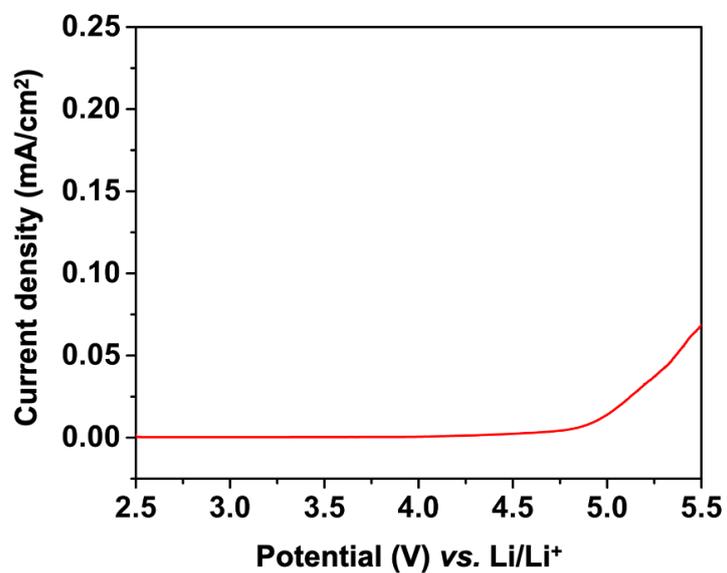


Figure S8. Linear sweep voltammogram of CP1 80 mol% LiFSI at 60 °C and a potential scan rate of 1 mV/s.

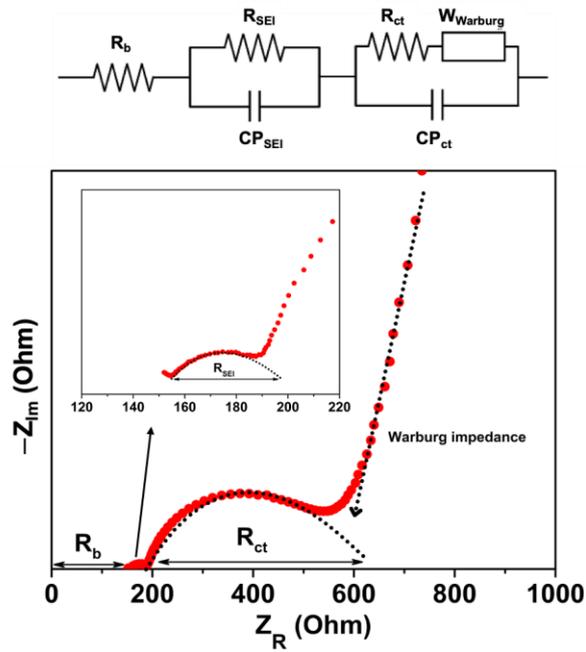


Figure S9. EIS analysis of Nyquist plot with an equivalent circuit model of CP2:PVDF 80:20 cathode after 10th cycle.

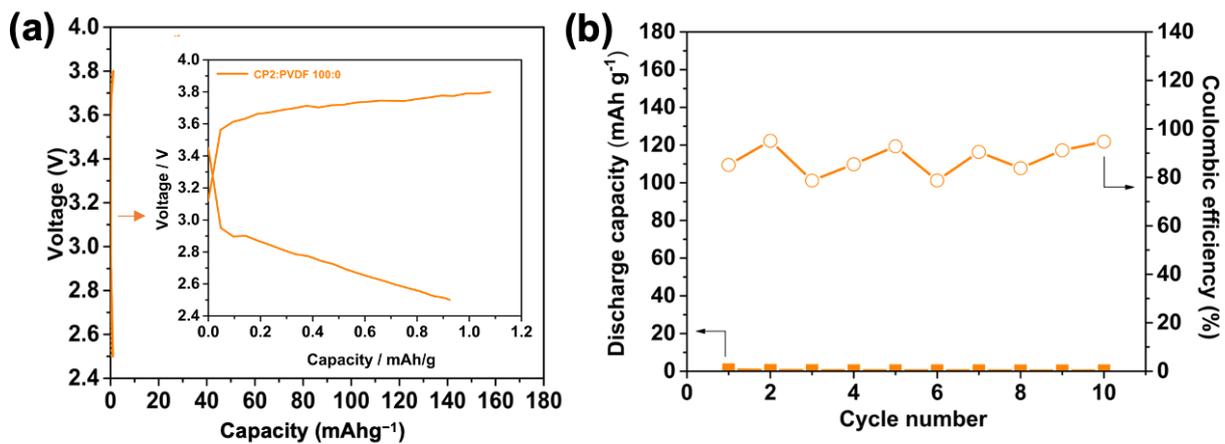


Figure S10. Voltage profiles of 1st charge-discharge cycle, discharge capacity, and coulombic efficiency after 10 cycles of coin cells using CP2:PVDF 100:0 cathode.

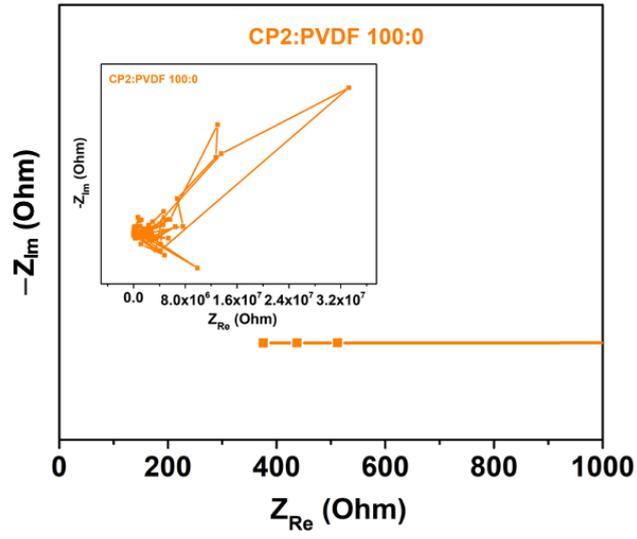


Figure S11. Nyquist plots after 1st of CP2:PVDF 100:0 cathode.