

Electronic Supplementary Information

High-performance polymeric ionic liquid-silica hybrid ionogel electrolytes for lithium metal batteries

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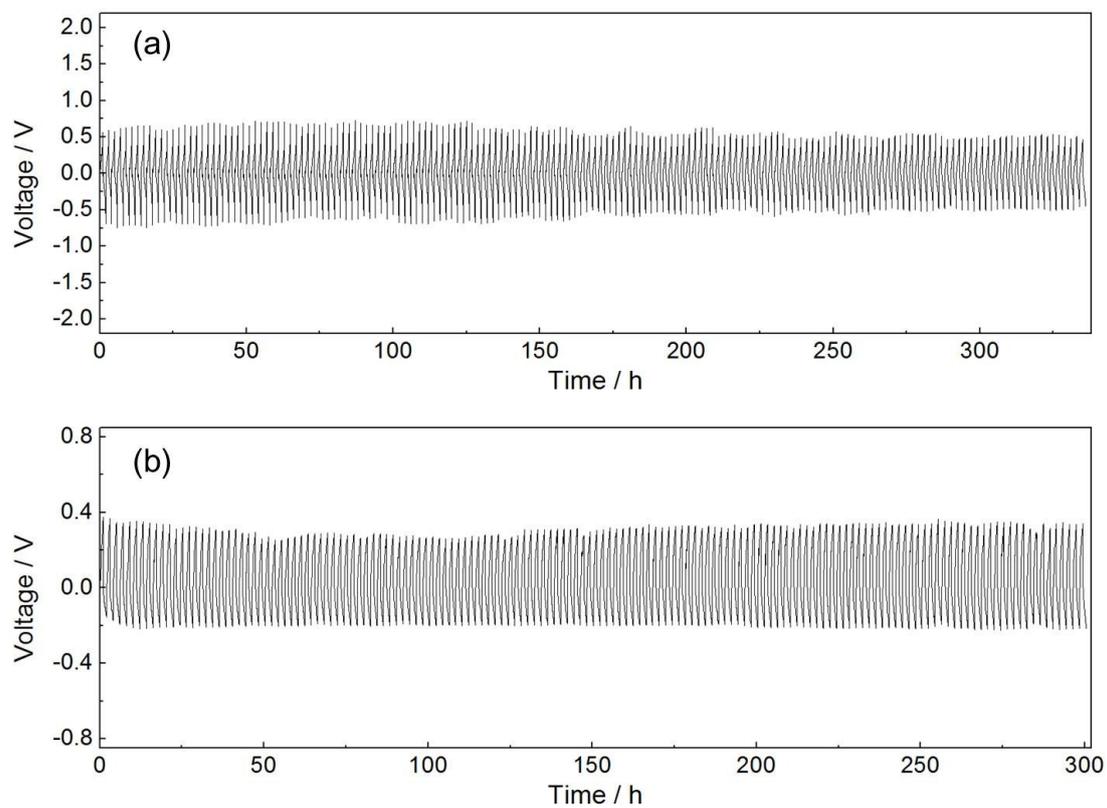


Fig. S1. Time-dependent voltage profile for (a) Li/[80/20]/70 HIGE/Li cell and (b) Li/Li-IL/Li cell at the current density of 0.2 mA cm^{-2} .

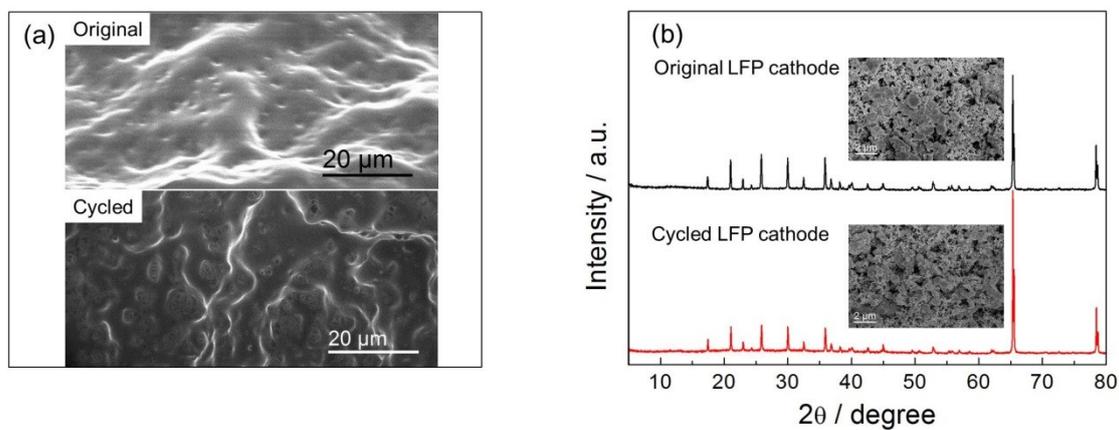


Fig. S2. (a) cross section SEM images of the [80/20]/70 HIGE membrane before and after the rate test; (b) SEM images and XRD patterns of the LiFePO_4 cathode before and after the rate test.

The cross section SEM images of the HIGE membrane (Fig. S2 (a)) illustrates that the HIGE after cycles has the same morphology as the original HIGE. In addition, SEM images of the LiFePO_4 cathode (Fig. S2 (b)) shows that compared with the original cathode, the surface of the cathode after the rate test is still homogeneous, and LiFePO_4 particles have no obvious destruction. XRD patterns (Fig. S2 (b)) shows that no structural change can be observed for the LiFePO_4 cathode after cycles.