

Supplementary Materials: Highly stable porous polyimide sponge as a separator for lithium-metal secondary batteries

Junyoung Choi ^{1,2,3,†}, Kwansoo Yang ^{2,3,†}, Hyeon-Su Bae ¹, Isheunesu Phiri ¹, Hyun Jeong Ahn ^{2,3}, Jong Chan Won ^{2,3}, Yong Min Lee ^{4,*}, Yun Ho Kim ^{2,3,*} and Myung-Hyun Ryou ^{1,*}

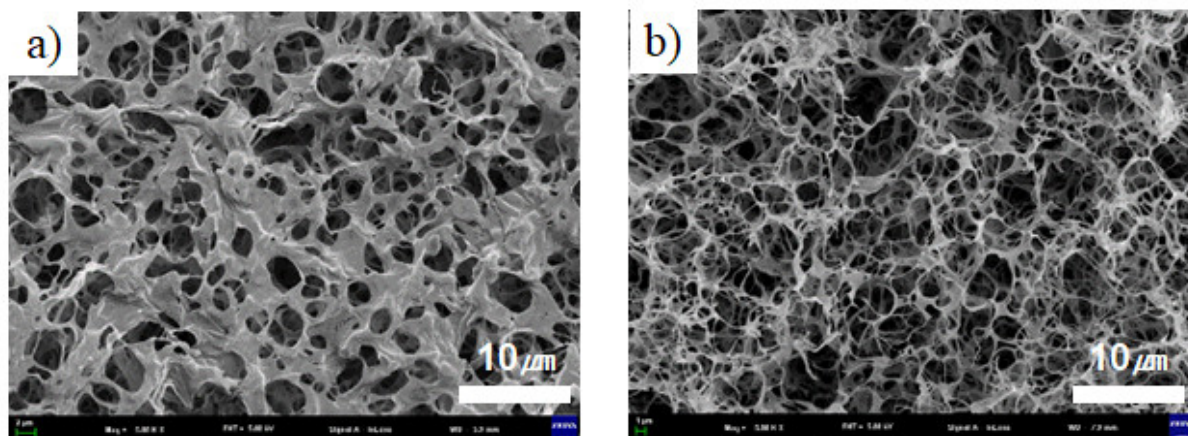


Figure S1. (a) Surface and (b) cross-sectional scanning-electron microscopy (SEM) images of PI sponge before pressing.

Table 1. Mercury porosimetry (AutoPore V) analysis of PI sponge before pressing.

Porosity (%)	Bulk density (g mL ⁻¹)	Apparent density (g mL ⁻¹)	Median pore diameter (μm)	Average pore diameter (μm)
94.9	0.0153	0.4810	0.19766	4.5998

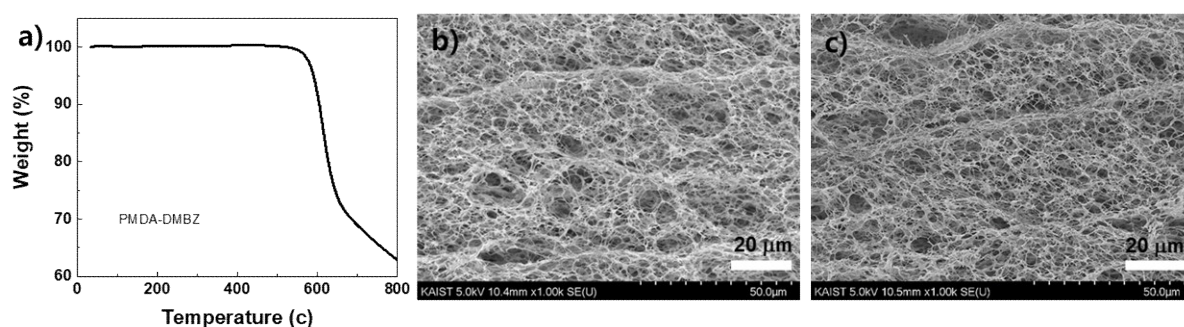


Figure S2. (a) TGA Thermograph of PMDA-DMBZ based PI porous separator and cross-sectional SEM images of (b) pristine PI separator and (c) after 250 °C heat treatment.

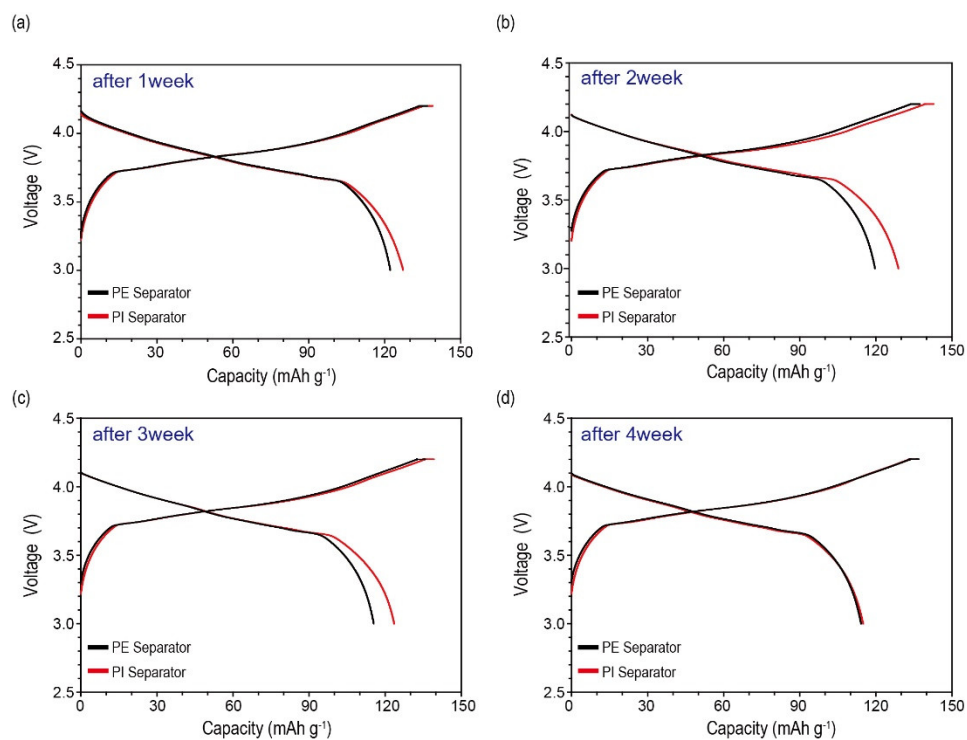


Figure S3. Voltage profiles of stored Li metal half cells corresponding to Figure 5.