

## ***Supporting Information***

# **Stabilizing Liquid Electrolytes in Porous PVDF Matrix Incorporated with Star Polymers with Linear PEG Arms and CycloPEG Cores**

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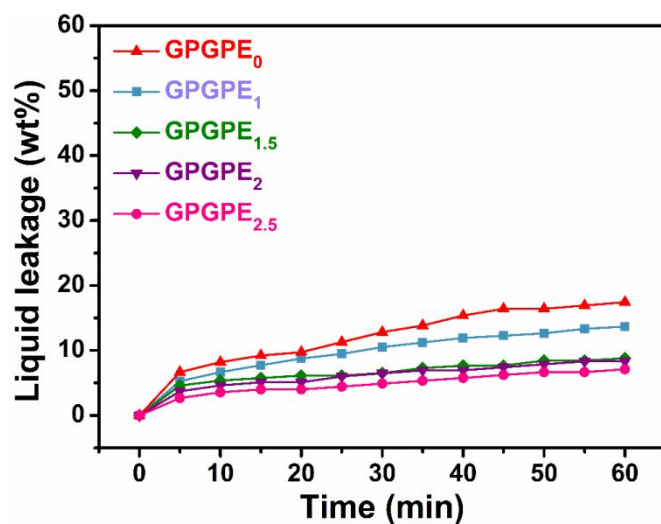
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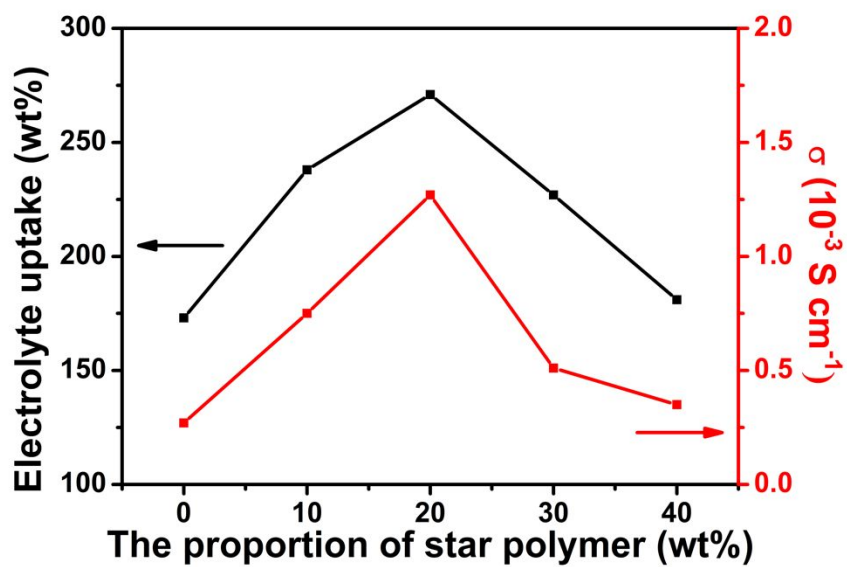
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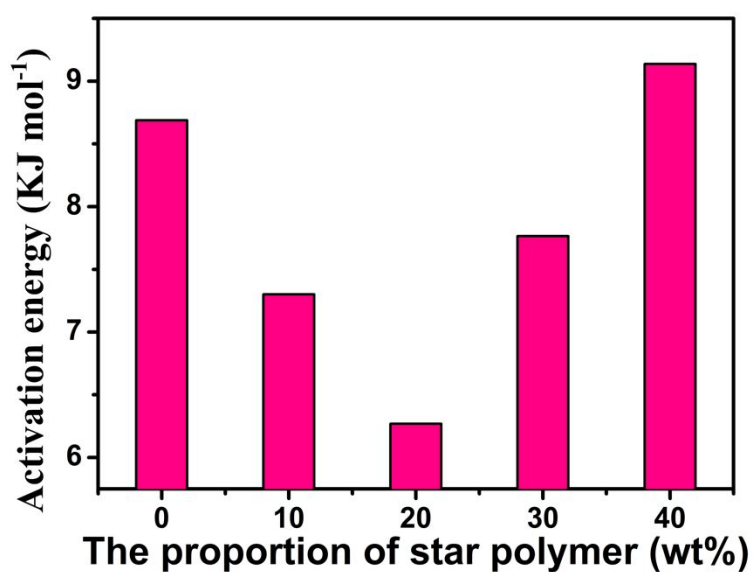
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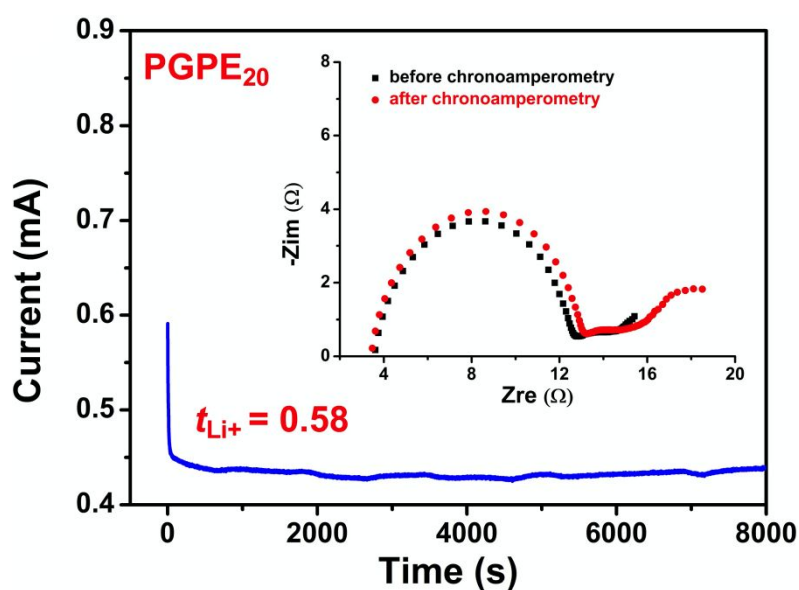
**Figure S1.** Electrolyte leakage curves of GPGPEs



**Figure S2.** Electrolyte uptake and porosity of PGPEs membranes with different mass ratios of star polymer.



**Figure S3.** Activation energy of PGPEs with different mass fractions of star polymer.



**Figure S4.** Current-time curve obtained for PGPE<sub>20</sub> from chronoamperometry at a DC polarization of 10 mV, inset: Nyquist profiles of the cells before and after polarization. The test was run at 60 °C.