

Supporting Information

Unusual Phase Transition Mechanism of Poly(ethylene oxide) in an Ionic Liquid: Opposite Frequency Shifts in C-H Groups

Wenlong Li, and Peiyi Wu*

A simple phase diagram has been drawn based on the results of our measurements. The sample we chose for this phase diagram is PEO-20K with a number-average molecular weight (M_n) of 1.98×10^4 . The phase separation temperature presented in Fig. S1 is mainly obtained from DSC measurements, which varies with the concentration of PEO in solution. It first experiences a decrease and then increases with the growing weight concentration of PEO from 10 wt% to about 90 wt% as the upper curve illustrated in Fig. S1. It's noteworthy that the temperature at which the solid phase transforms to sol phase stays at about 66 °C according to our measurements, which is indeed the melting point of PEO.

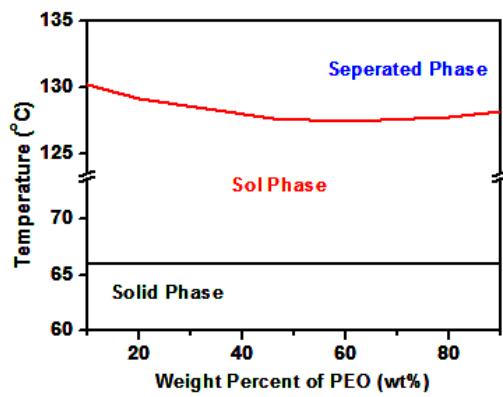


Fig. S1 Phase diagram of PEO (20K)/[EMIM][BF₄] solution