

Supporting information

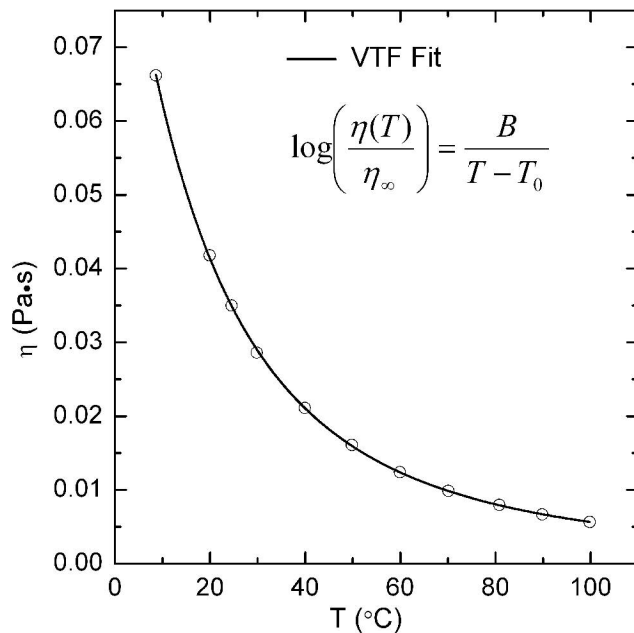


Figure S1. Temperature dependence of zero shear rate viscosity for [EMIM][TFSI]. Solid line is a fit to the Vogel-Tammann-Fulcher (VTF) equation with $B = 367$ K, $T_0 = 145$ K, and $\eta_\infty = 1.40 \times 10^{-4}$ Pa.s.

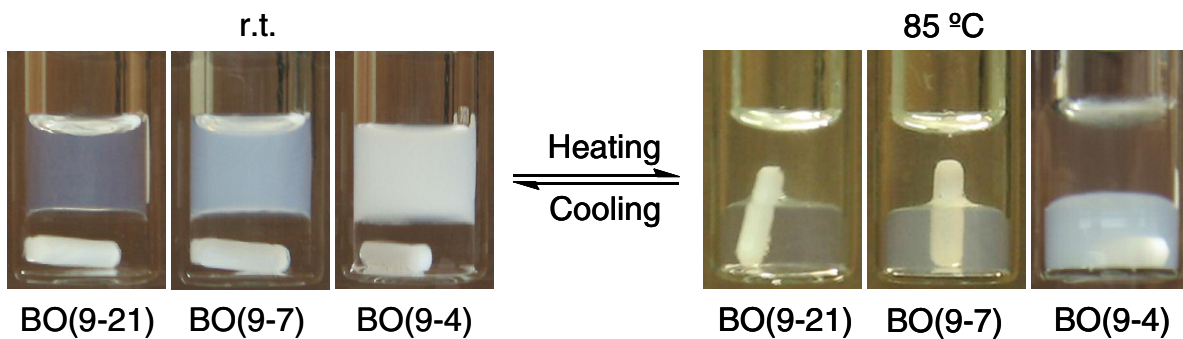


Figure S2. Experimental images of the micelle shuttles of BO(9-21), BO(9-7), and BO(9-4) block copolymers between [EMIM][TFSI] (lower layer) and water (upper layer).

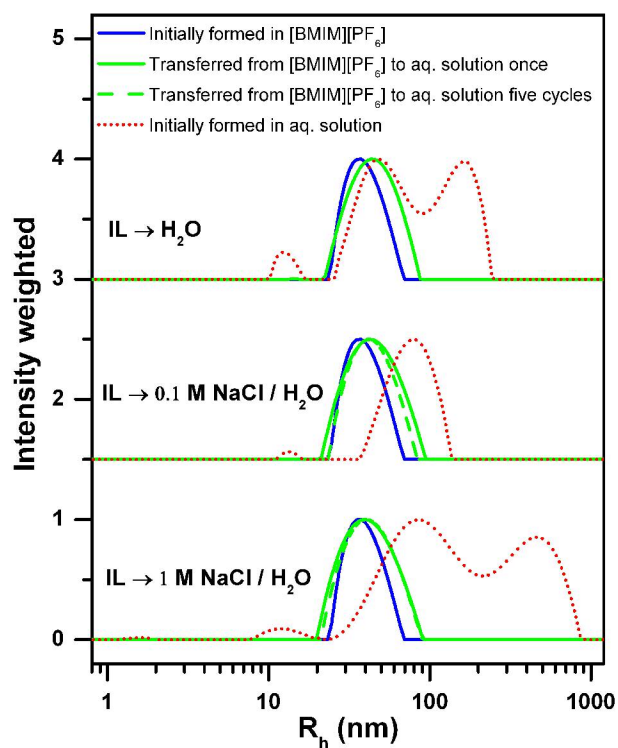


Figure S3. Apparent hydrodynamic radius distribution for the BO(9-10) micelles in four different solutions (1 wt%), measured by DLS at room temperature. The distribution for the micelle prepared by direct dissolution in water is reproduced by the data from ref. 13.