

Abstract Submitted  
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**Ionic Conductivity of Poly(ethylene oxide)-Containing Block Copolymers at Order-Disorder and Order-Order Transitions** NISITA WANAKULE, UC Berkeley, ASHOUTOSH PANDAY, SCOTT MULLIN, NITASH BALSARA, UC Berkeley, Lawrence Berkeley National Labs — The order-disorder transition (ODT) and order-order transition (OOT) of block copolymers with lithium bis(trifluoromethanesulfonyl)imide (LiTFSI) salts are measured with a combination of small-angle x-ray scattering (SAXS) and birefringence. The block copolymers comprise of polyethylene oxide (PEO), a polymer with a higher dielectric constant that dissolves LiTFSI, and polystyrene (PS), a polymer with a lower dielectric constant that does not dissolve LiTFSI. Ionic conductivity of the block copolymers are measured through the observed ODT and OOT. The effect of morphology on the ionic conductivity will be presented and compared with literature results.

Nisita Wanakule  
UC Berkeley

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