

Abstract Submitted
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Discontinuous Changes in Ionic Conductivity of a Block Copolymer Electrolyte through the Order-Disorder Transition¹ ALEXANDER TERAN, RODGER YUAN, SCOTT MULLIN, NITASH BALSARA, University of California, Berkeley — Simultaneous small angle X-ray scattering and ionic conductivity measurements of a block copolymer electrolyte as it transitions from an ordered lamellar structure to a disordered phase reveal a discontinuous increase in conductivity at the phase transition. A simple framework for understanding this result is presented, incorporating both morphology factor corrections that account for constraints imposed by the geometry of the conducting phase and ‘vehicular’ transport of coupled polymer chains and ions.

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