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**Crystallization Control in Crystalline-Crystalline PEO-*b*-PCL Diblock Copolymers** RYAN M. VAN HORN, ELLIOTT HASENKOPF, CHRISTINA MUCCI, Allegheny College — Understanding the crystallization behavior of crystalline-crystalline (CC) diblock copolymers is crucial in tailoring their macroscopic properties. The order of crystallization and structure of the phase-separated CC material is dependent on many factors including, but not limited to,  $T_{\text{ODT}}$ ,  $T_{\text{m}}^0$ ,  $M_{\text{n}}$ , and domain size. PEO-*b*-PCL copolymers are unique in that their  $T_{\text{m}}^0$  values are similar. As such, manipulation of the crystallization sequence or overall crystallinity of each block is more difficult. Using DSC and FTIR analysis, work has been done to observe the effects of thermal history and solvent interactions on the crystallization of PEO-*b*-PCL copolymers with differing  $M_{\text{n}}$  ratios. Preliminary results indicate that the mechanism, crystallinity, and eventually macroscopic properties may be tuned using different crystallization conditions.

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