

SAXS Investigations of PLA Containing Block Copolymers

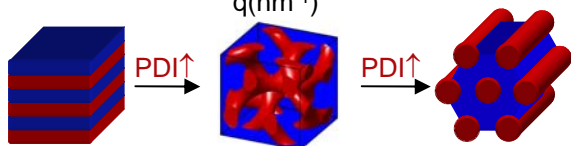
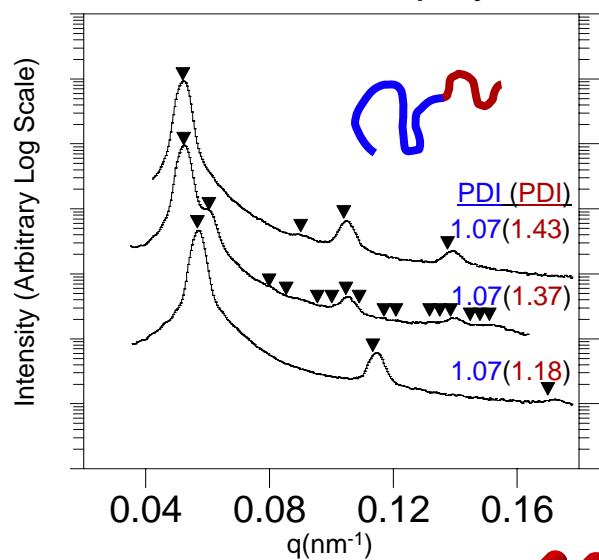
Marc A. Hillmyer, Nathaniel A. Lynd, and David A. Olson

Department of Chemistry, University of Minnesota, CharFac

Small Angle X-ray Scattering (SAXS) is a powerful tool for examining block copolymer phase behavior

● Polydisperse Block Copolymers

- ◆ Melt phase behavior of polydisperse PI-*b*-PLA diblock copolymers



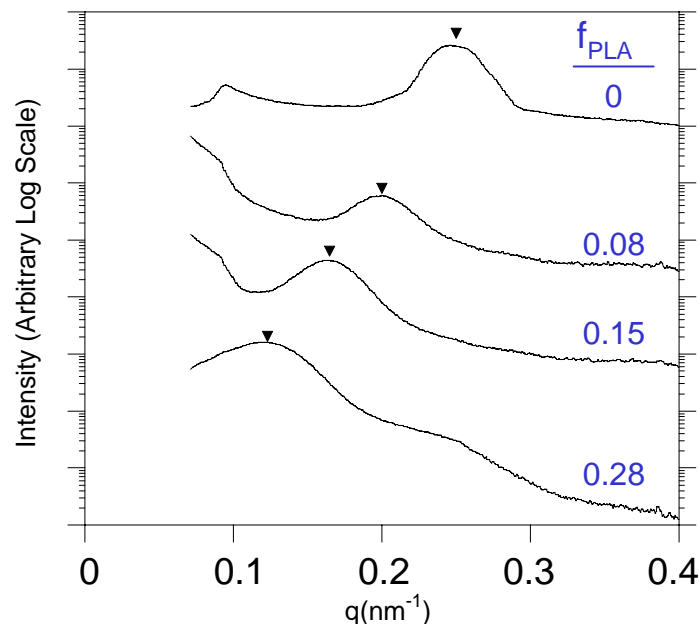
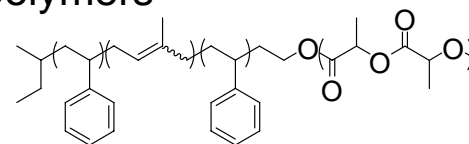
- ◆ Increasing polydispersity (PDI) increases structure dimensions and changes observed morphology

● Publications

- ◆ Lynd, N. A.; Hillmyer, M. A. *Macromolecules*, **2005**, 38, 8803.

● Mechanically Robust Nanostructures

- ◆ PS-*b*-PI-*b*-PS-*b*-PLA tetrablock copolymers



- ◆ Removal of the PLA domains will lead to mechanically robust nanoporous thermoplastic elastomers