

Phase Behavior of Diblock Copolymer in Selective Solvent

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NNIN Facility utilized: Characterization Facility

DESCRIPTION OF WORK

- ◆ Study of the micellar properties of diblock copolymer solutions in highly selective solvent (squalane)
- ◆ Synthesis of poly(styrene-*b*-ethylene-*alt*-propylene) (PS-PEP) with 42kDa of PS and 60kDa of PEP and prepare polymer solutions in squalane.
- ◆ Use Small Angle X-ray Scattering (SAXS) to know micellar properties in the function of temperature and polymer concentration.

MAJOR OBSERVATIONS

- ◆ According to the first minimum, a core radius does not change much depending on temperature (see Fig. 1).
- ◆ According to a form factor, general shape of SAXS figures, micellar properties remain up to 10 wt% of polymer in the solvent (see Fig.2).

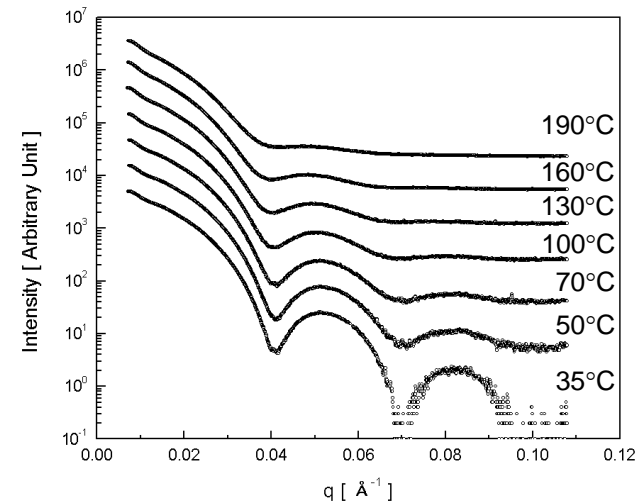


Figure 1

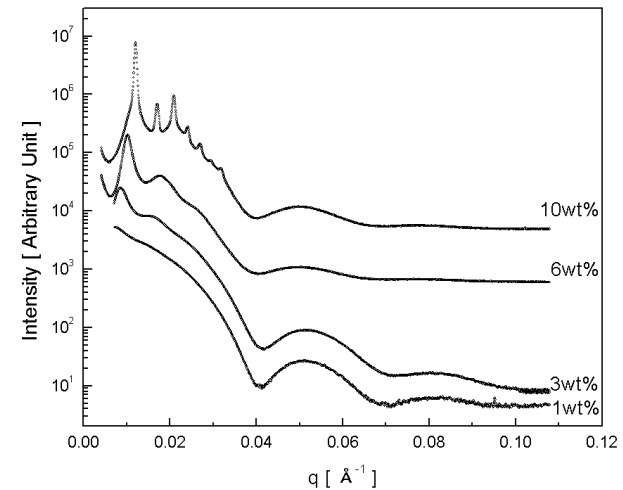


Figure 2