

Effect of Hydrostatic Pressure on Closed Loop Phase Behavior of Polystyrene-*block*-Poly (*n*-pentyl methacrylate) Copolymer with Gold Nanoparticles

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Polystyrene-*block*-poly(*n*-pentyl methacrylate) copolymer (PS-PnPMA) has baroplastic property which could be utilized in pressure processing at lower temperature. Nanoparticles could affect the interaction of two different blocks by disturbing the ordering of the microdomains.

We prepared the nanocomposites consisting of PS-*b*-PnPMA and gold nanoparticles. Gold nanoparticles are selectively incorporated into PS lamellar microdomains because the surface of gold nanoparticles was modified by thiol-terminated PS. The ordered-to-disordered transition (ODT) and the pressure effect of ODT are investigated for these nanocomposites.