壓克力系彈性體之合成與PMMA增韌研究

This study addresses the synthesis of two elastomers with different morphology. One is the core-shell latex particles prepared by multistage, seeded emulsion polymerization and the other is the graft copolymers formed from radical copolymerization of butylacrylate and poly(mehyl methacrylate) macromonomer. According to the internal formation, two categories of the core-shell particles, Core-PBA/Shell-PMMA and Core-P(BA-co-St)/Shell-PMMA were examined against various polymerization parameters including composition and size of the particles to evaluate their impacts on the toughness of blending matrixes. As to the graft copolymer, same discussion was made concerning the possible influences caused by the difference of segment length and composition. The stress-strain test, the impact test and the dynamic property test were performed to evaluate the properties of the toughened matrixes.