

The Effect of Molecular Structure of formed copolymer on Morphological Changes at Polymer-Polymer Interface

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In this study we investigated the effect of molecular structure formed copolymer on morphological changes at reactive polymer-polymer interface. Also, we made an attempt to find the relation the presence of microemulsion or micelle with molecular structure of formed copolymer.

Ther blend systems employed in this study was glycidylmethacrylate terminated polystyrene (PS-GMA) and an carboxylated poly (methyl methacrylate) (PMMA-COOH). All samples were synthesized by an anionic polymerization. In order to get various molecular structure of formed copolymer, we synthesized three kind

of PMMA-COOH with different position of carboxylate group - middle, a third and end of chain. We prepared the film, PS-GMA/PMMA-COOH/Si-wafer by sequential spin-casting. We make the reaction occur at 180°C for 24 hrs. We observed the interface by AFM after removing of PS by selective solvent rinsing. And we examined the presence of microemulsion or micelle by TEM study.