

Preparation and Application of Highly Monodispersed Nanoparticles by Living Radical Emulsion Polymerization

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Nano to micro scaled polymeric particles are applicable in many industrial fields. The sur-iniferter is a key material that enable living radical emulsion polymerization to be successfully conducted, because it acts as an initiator, chain transfer, terminator and surfactant simultaneously. This sur-iniferter, ionic charges can be provide on the growing polymeric particle surface. In this contribution, highly monodispersed polystyrene and poly(methyl methacrylate) nano-particles were prepared via living radical emulsion polymerization method. The living radical mechanism is special characters that enable re-activate to another monomer because of reversible function site and having functional group to end site. And the color particles were produced by using the special features.