

Dispersion Polymerization of Styrene Using Poly(vinyl alcohol) as a Stabilizer

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Dispersion polymerization has been known as a useful technique to synthesize 1–10 micron sized-polymer colloids. The choice of steric stabilizers has been limited to a few amphiphilic polymers such as poly(vinylpyrrolidone) or poly(acrylic acid) or hydroxyl propylcellulose. In this study, poly(vinylalcohol) (PVA) was unprecedentedly employed as an effective stabilizer in the dispersion polymerization of styrene. Monodisperse polystyrene(PS) microspheres are successfully produced in a mixture of alcohol/water using PVA as a stabilizer. Polymerization characteristics and properties of the PS particles are investigated.