

Preparation of Polymer Colloid Particles
with a Complex Morphology

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Preparation of particles with a known morphology such as "core-shell" or "currant-bun" by single shot preparation or seed and feed techniques with mixed monomers has not always given well defined particulate forms. Consequently, a need exists for experimental methods which give a tighter control on the final particle morphology for a two polymer system. For this reason we have explored the use of heterocoagulation processes as a means of forming composite particles. In one case we have used an anionic core particle with a high glass transition temperature, T_g , and by heterocoagulation, using small cationic particles, with a low T_g , formed a coating of these on the core particles. On warming above the T_g of the small particles these spread on the surface to form a shell. In another case the larger core particles with a low T_g were used in conjunction with high T_g smaller particles. On heating above the T_g of the larger particles engulfment of the smaller particles occurred.

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