

The Role of copolymer surfactants in determining the polydispersity of drop size distribution and copolymer concentration in disperse phase polymer blends

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We summarize recent work to understand the role of copolymer surfactants in determining the drop size distribution and the polydispersity of copolymer coverage on the drops in a disperse phase polymer blend. In the first part of the work, we discuss the roles of Marangoni effects and of steric repulsion in inhibiting coalescence, and hence controlling the drop size distribution. This is done by utilizing data on a symmetric system, with the two bulk phase polymers having equal viscosities and the two parts of the diblock copolymer having either the same molecular weights or the same degree of polymerization. In the second part, we consider drop breakup and its role in determining the polydispersity of copolymer coverage in the blend.

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