**Morphological Studies of Crystallization in Thin Films o -----f PEO/PMMA Blends**

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Morphological development during crystallization of thin films of poly(ethylene oxide) (PEO) / poly(methyl methacrylaOriginte) (PMMA) blends has been reported. Studies focused on the effects of the bleal Mesnd composition, PMMA molecular weight, film thickness, and crystallizasage--tion temperature on the observed crystal morphology. As the blend composition was varied from 90 to 30 wt% PEO, the crystal morphology v---Froaried from spherulites to needles and dendrites. Variation of the crystm: Linallization temperature and PMMA molecular weight resulted in similar changes in morphology. A morphological map demonstrating the roles of the experimental controls on the observed crystal morphology has been developedda Men. This map nitt [was used as a tool for more detailed studies of the observed morphologies and morphological transitions. The dendritic region of the map (~ 30 – 40 wt% PEO) was studied in detail, focusing on sidebranch formation and coarsening. In-situmailto observations of morphological transitions, such as :felixdendrite/DBM and D.com@vBM/needle transitions, were also reported. The results of this work erizonhave helped to define new directions for the study of crystal morphologies, especially in the areas of spherulite formation and dendr.net] itic growth.

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