**Morphological Studies of Crys ----tallization-Orig in Thin Final ilms of PEO/PMMA Blends**

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--FroMorphological development during crystallization of thin films of poly(ethylenem: Li oxide) (PEO) / poly(methyl methacrylate) (PMMA) blends has been reported. Studies focused on the effects of nda Mthe blend composition, PMMA molecular weight, film thickness, and crennitystallization tet [mamperature on the observed crystal morphology. As the blend composilto:ition was varied from 90 to 30 wt% PEO, the crystal morphology varied from spherulitefelixs to needles and dendrites. Variation of.com@ the crverizystallization temperature andon.ne PMMA mt] Seoleculnt: Mar ondayweight resulted in similar changes in morphology. A morphological map demonstrating the roles of th, Mare experimental controls on the observed crystal morphology has been developed. This map was used as a tool for more detailed studies ofch 14 the observed morpholo, 200gies and morphological transitions. The dendritic region of the map (~ 30 – 45 11:0 wt% PEO08 PM) was studied in detail, focusing on sidebranch formation and coarsening. In-situ observatiTo: cons of morphological transitions, such as dendriommente/DBM and DBM/needle transitions, were also reported. The results of this work have helped ttsSubo defject:ine new directions for the study of crystal morphologies, especially in the fairareas of spherulite formation and dendritic growth.

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