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Unusual "Twisting" Morphology in Poly(3-hydroxybutyrate-co 3-hydroxyhexanoate) and Poly(bisphenol A hexane ether) Spherulites
JEROLD SCHULTZ, University of Delaware — Polarized light images of poly(3-hydroxybutyrate-co 3-hydroxyhexanoate) spherulites grown from the melt exhibit the standard evidence of periodic twisting of lamellae. AFM images of lamellae growing from the melt, on the other hand, reveal a sudden change in orientation and a trowel-like morphology. Similarly, AFM images of poly(bisphenol A hexane ether) (BA-C6) lamellae growing from the melt show a sudden orthogonal change of orientation. It is suggested that chain extension in the melt near the propagating front forces the observed reorientation, possibly through creation of crystals with an orientation approximately orthogonal to that of the original crystals. A rudimentary model for this behavior is proposed.

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