Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

A Morphological Study of Poly(Butylene Succinate)/Poly(Butylene Adipate) Blends with Different Blend Ratios and Crystallization Processes JEROLD SCHULTZ, University of Delaware, HAIJUN WANG, ZHIGUA GAN, SHOUKE YAN, Chinese Academy of Sciences — Morphologies of blends of poly(butylene succinate) (PBS, m.p. 114 $^\circ$C) with poly(butylene adipate) (PBA, m.p. 60 $^\circ$C) varying in blend ratio and in crystallization temperature of the PBS component were studied using optical and atomic force microscopies. When PBS is crystallized at 75 $^\circ$C, subsequent PBA crystallization occurs only within PBS spherulites. When PBS is crystallized at 100 $^\circ$C, a portion of the PBA is rejected from the growing PBS. The morphological difference is also reflected in the time-dependence of the crystallization kinetics. The difference in behavior at these two temperatures reflects a large change in the diffusion length. Further, the location of PBA crystals within PBS spherulites depends on PBA concentration and on PBS crystallization temperature. Lower PBA concentrations lead to interlamellar segregation, while when PBA is the majority phase, interfibrillar crystallization crystallization dominates. Replace this text with your abstract body.

Jerold Schultz
University of Delaware

Date submitted: 29 Nov 2008 Electronic form version 1.4