

Crystal structures, crystallization and II-I transition behaviors of iPB-1 in iPB-1/UHMWPE blends - Part 1. Crystal structures and crystallization behaviors

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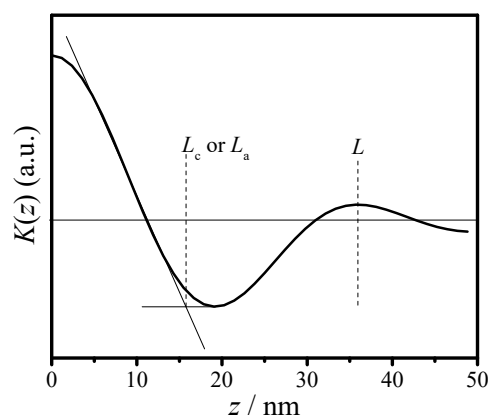


Figure S1 Schematics of crystalline lamella thickness d_c determination from the one dimension electron density correlation function as shown in Equation (1).

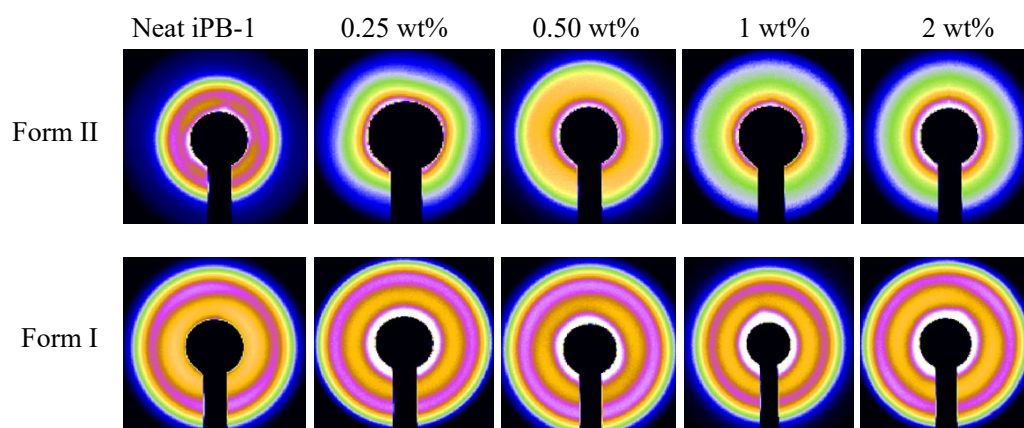


Figure S2 The 2D-SAXS patterns of the non-isothermally as-crystallized form II and of the transitioned form I of iPB-1 in the iPB-1/PE4012 blends with various PE4012 weight proportions collected at 100 °C and at room temperature, respectively.

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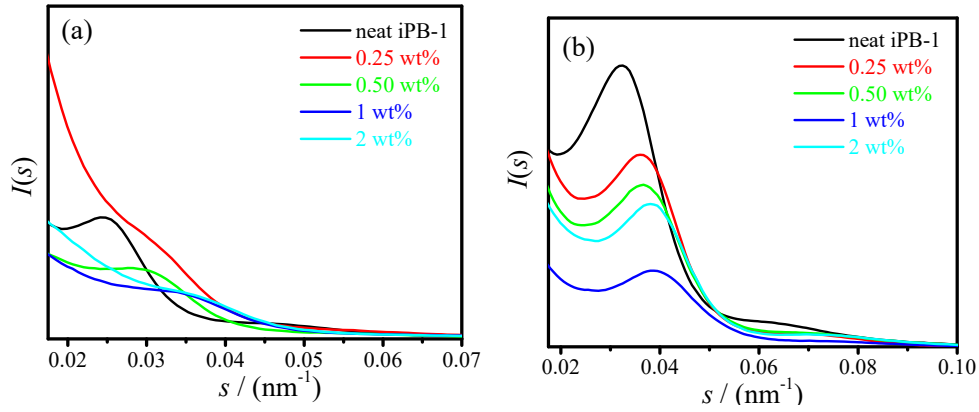


Figure S3 1D-SAXS profiles of the non-isothermally as-crystallized form II (a) and transited form I (b) of iPB-1 in the iPB-1/PE4012 blends with various PE4012 weight proportions.

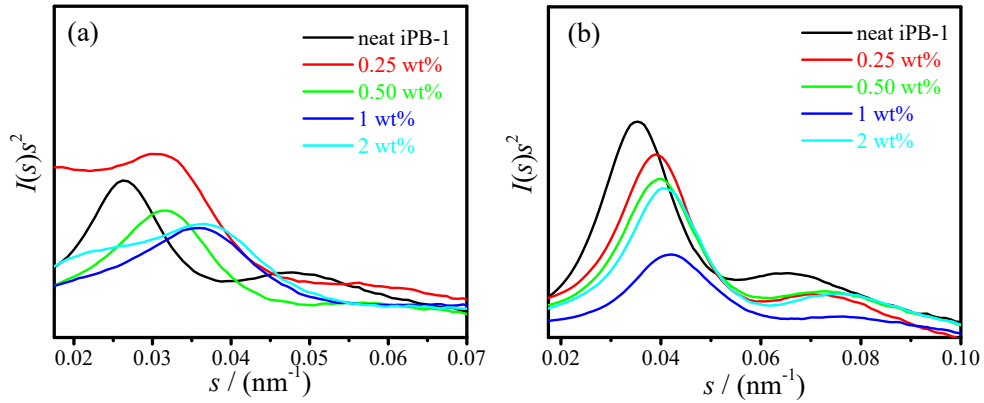


Figure S4 Lorentz-corrected SAXS data of the non-isothermally as-crystallized form II (a) and transited form I (b) of iPB-1 in the iPB-1/PE4012 blends with various PE4012 weight proportions.

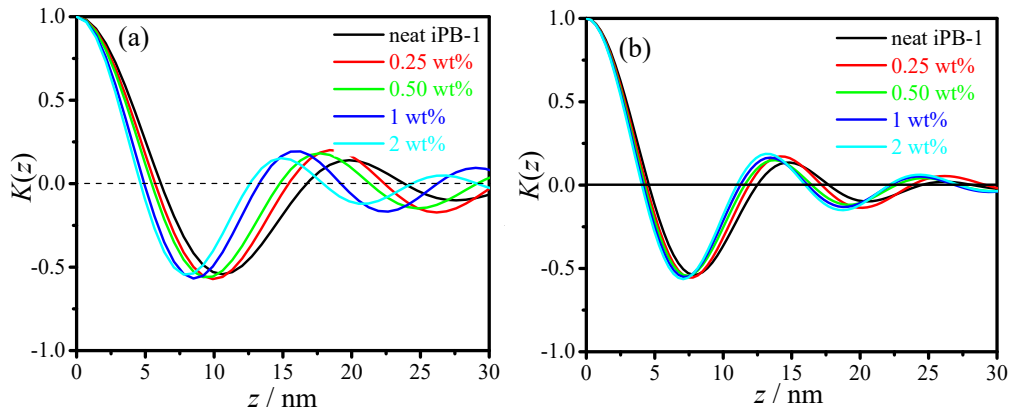


Figure S5 One dimension electron density correlation function plots of the non-isothermally as-crystallized form II (a) and transited form I (b) of iPB-1 in the iPB-1/PE4012 blends with various PE4012 weight proportions.

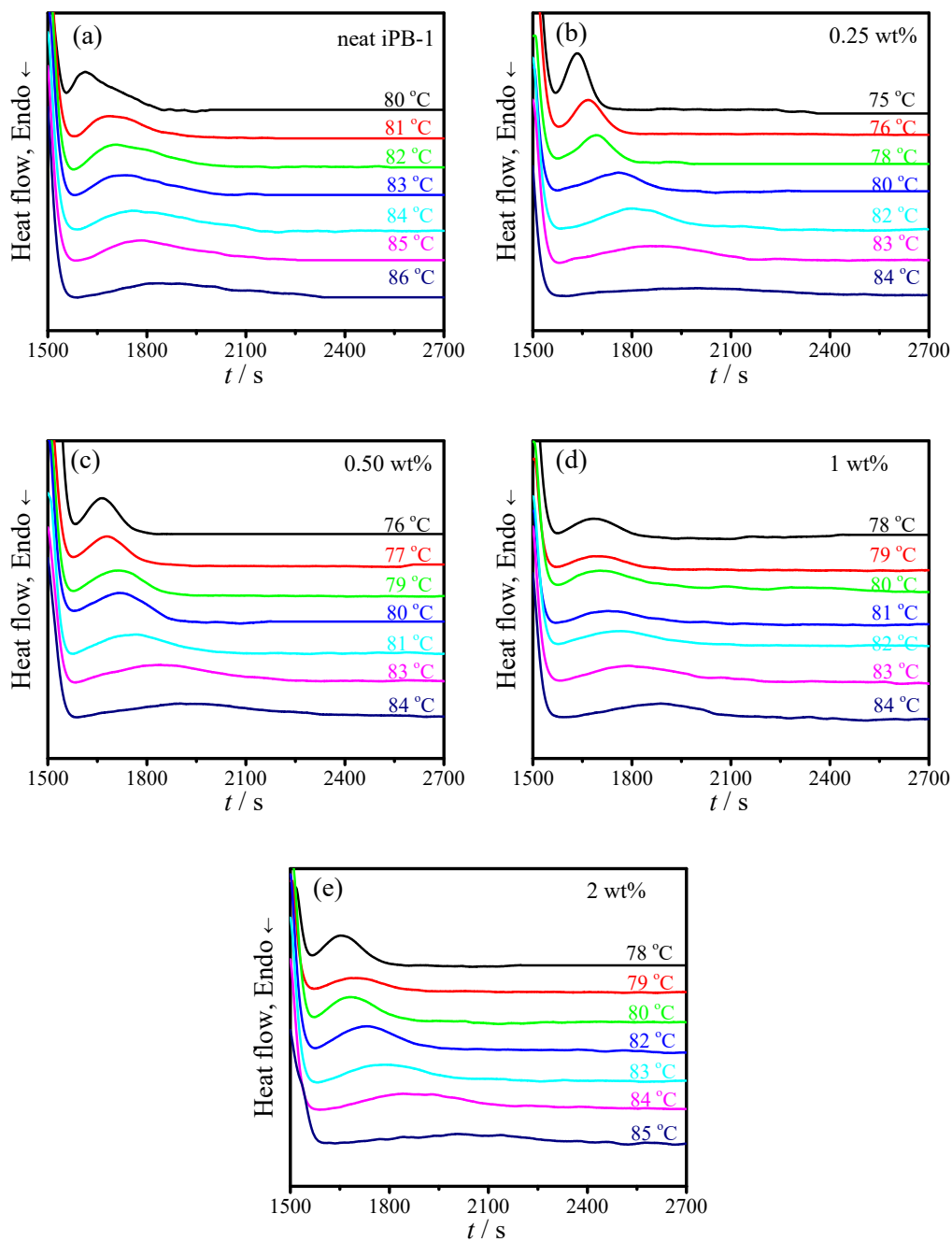


Figure S6 DSC isothermal crystallization curves collected at typical isothermal crystallization temperatures T_c s of iPB-1 in the iPB-1/PE4012 blend samples with various PE4012 weight proportions. (a) neat iPB-1, (b) 0.25 wt%, (c) 0.50 wt%, (d) 1 wt% and (e) 2 wt%.

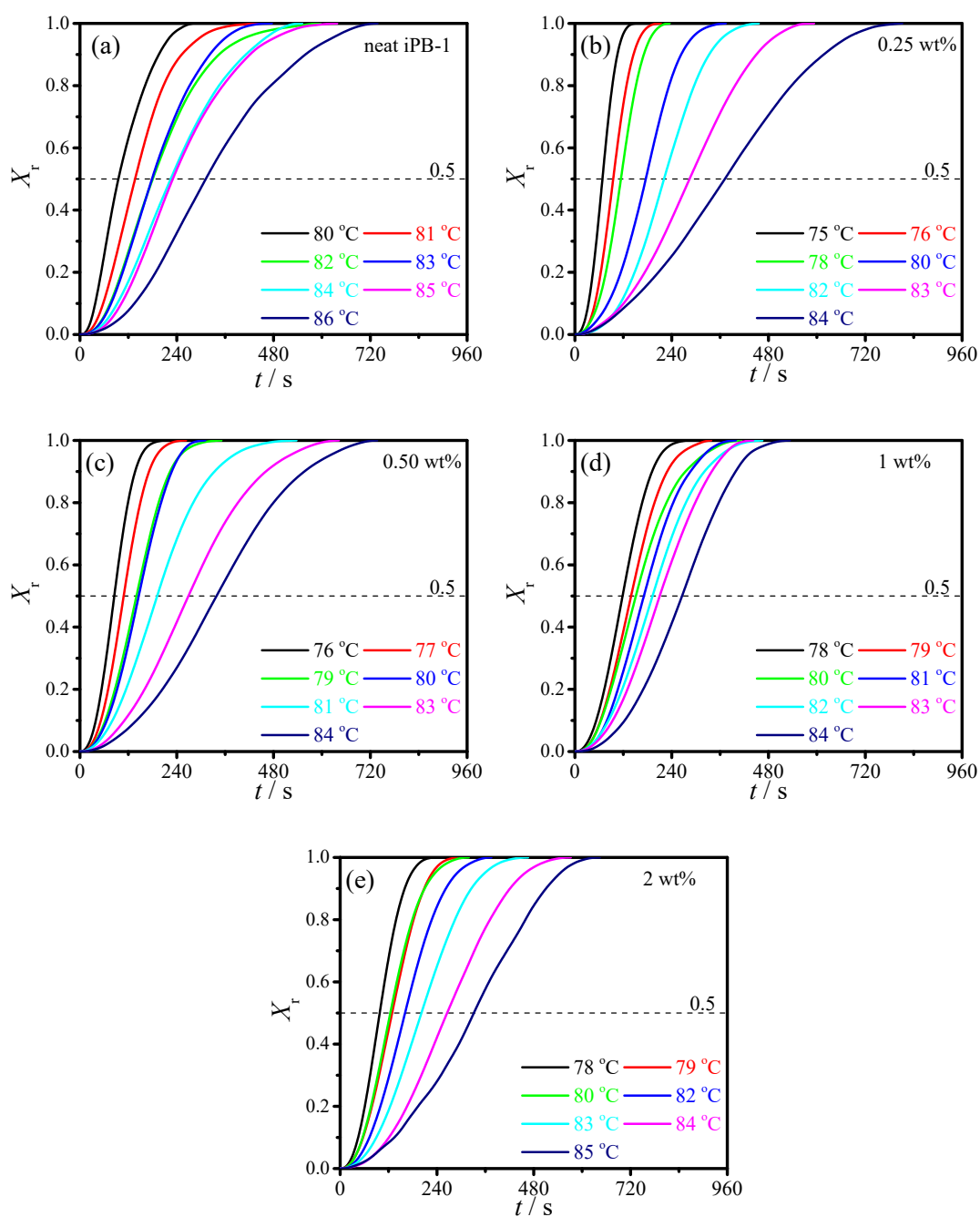


Figure S7 The relative crystallinity degrees X_r varying with the isothermal crystallization time t at various isothermal crystallization temperatures T_c s of iPB-1 in the iPB-1/PE4012 blend samples containing various PE4012 weight proportions. (a) neat iPB-1, (b) 0.25 wt%, (c) 0.50 wt%, (d) 1 wt% and (e) 2 wt%.

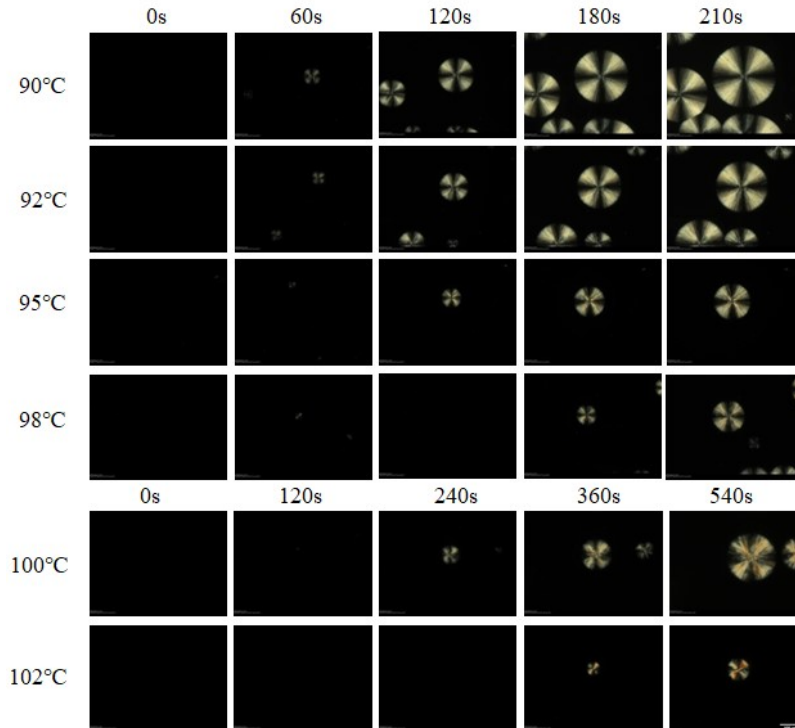


Figure S8 POM images of neat iPB-1 obtained at various isothermal crystallization temperatures T_c s for different time after melting at 200 °C for 5 min and rapidly cooling to the T_c s.

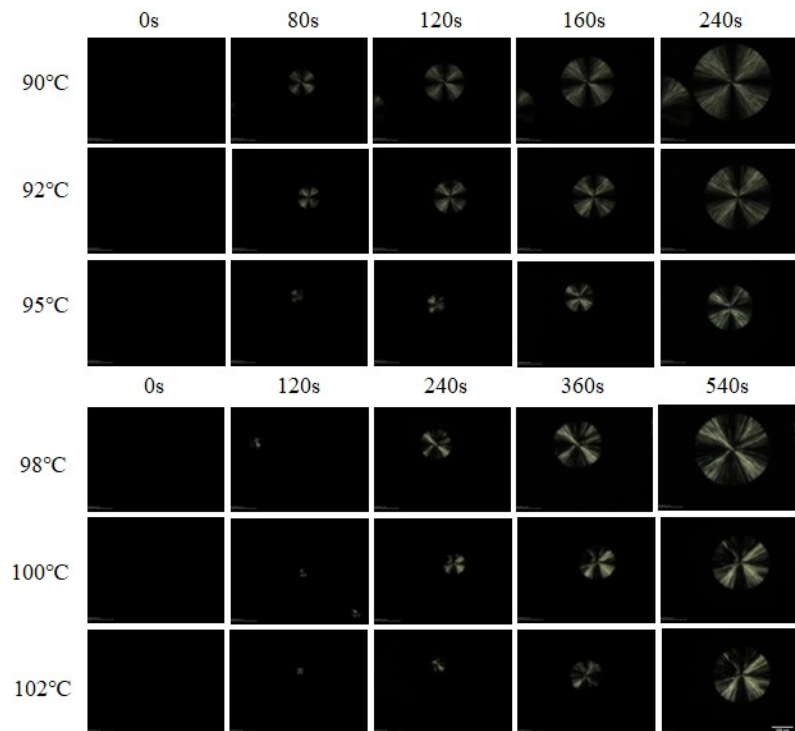


Figure S9 POM images of the iPB-1/PE4012 with PE4012 weight proportion of 0.25 wt% obtained at various isothermal crystallization temperatures T_c s for different time after melting at 200 °C for 5 min and rapidly cooling to the T_c s.

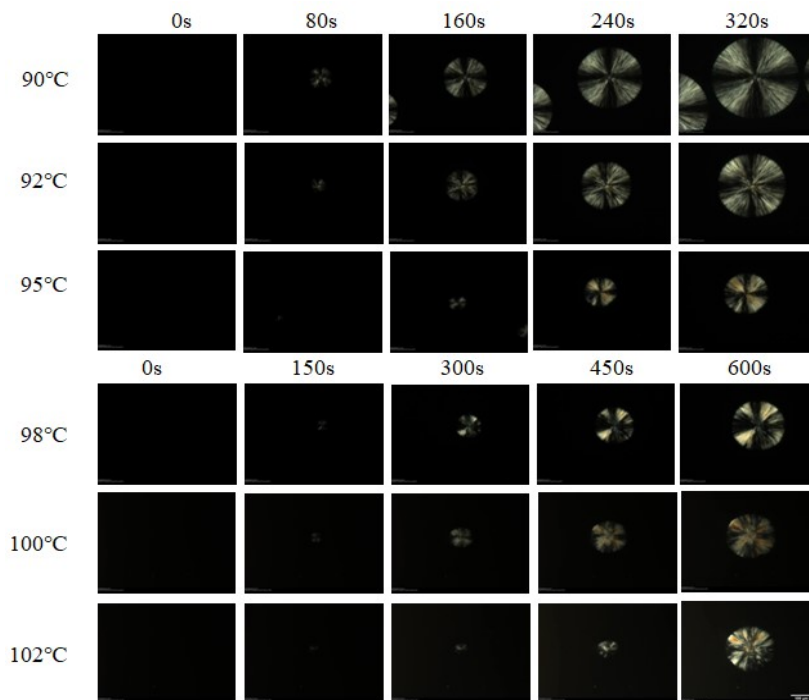


Figure S10 POM images of the iPB-1/PE4012 with PE4012 weight proportion of 0.50 wt% obtained at various isothermal crystallization temperatures T_c s for different time after melting at 200 °C for 5 min and rapidly cooling to the T_c s.

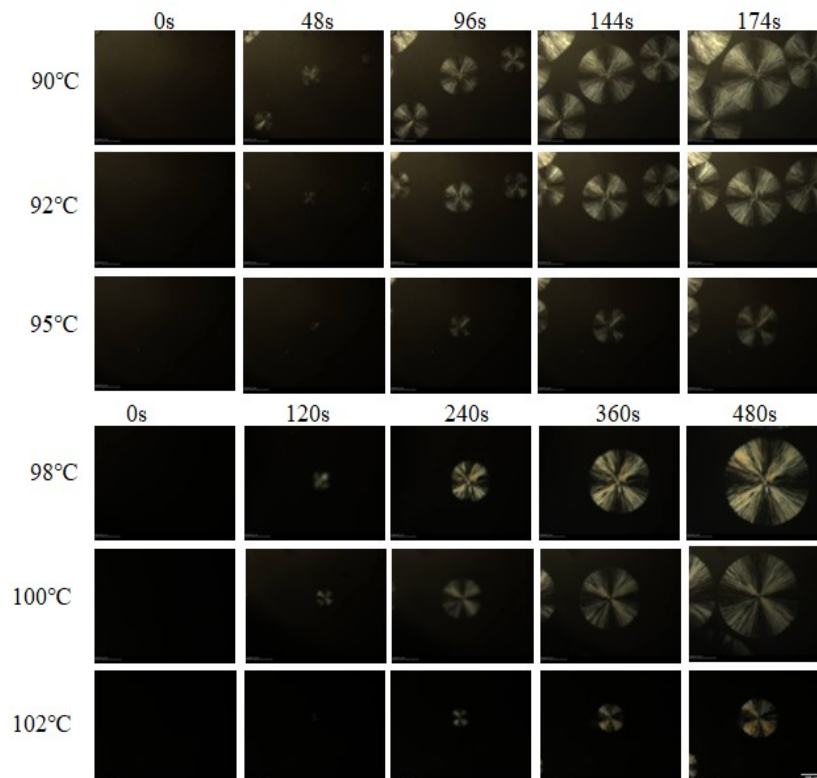


Figure S11 POM images of the iPB-1/PE4012 with PE4012 weight proportion of 1 wt% obtained at various isothermal crystallization temperatures T_c s for different time after melting at 200 °C for 5 min and rapidly cooling to the T_c s.

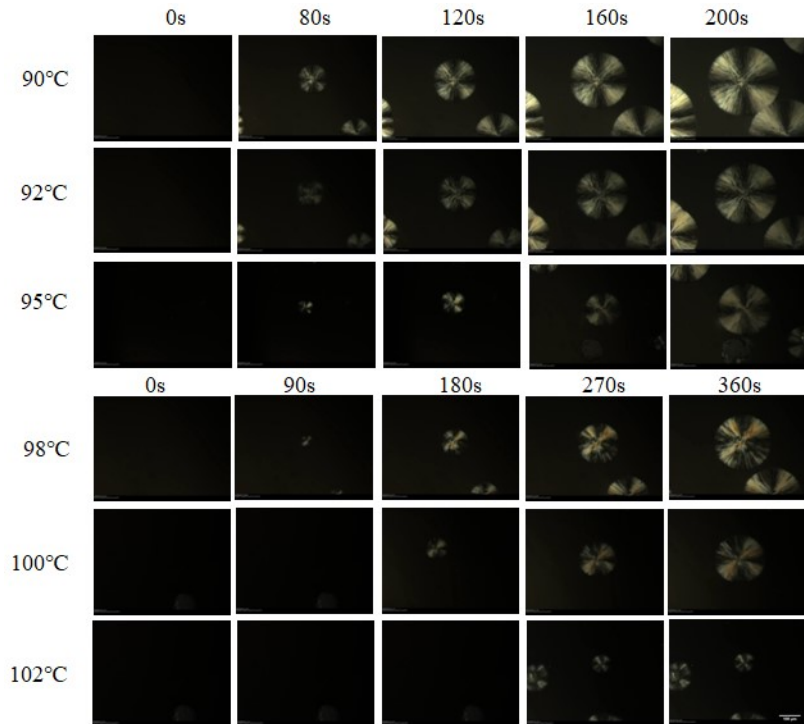


Figure S12 POM images of the iPB-1/PE4012 with PE4012 weight proportion of 2 wt% obtained at various isothermal crystallization temperatures T_c s for different time after melting at 200 °C for 5 min and rapidly cooling to the T_c s.

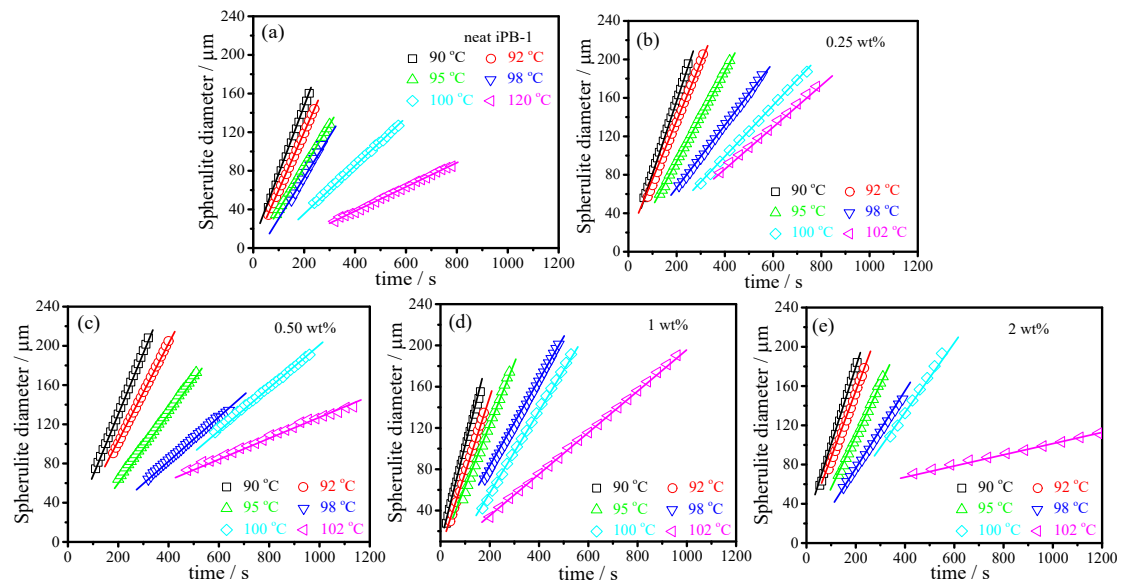


Figure S13 The spherulite sizes linearly dependent on the isothermal crystallization time at various isothermal crystallization temperatures T_c s for the iPB-1/PE4012 blends with various PE4012 weight proportions after melting at 200 °C for 5 min and then rapidly cooling to the T_c s. (a) neat iPB-1, (b) 0.25 wt%, (c) 0.50 wt%, (d) 1 wt% and (e) 2 wt%.