Electronic Supplementary Material (ESI) for CrystEngComm.

Supporting Information

Stereocomplex Affected Crystallization Behavior of PDLA in PDLA/PLDLA blends

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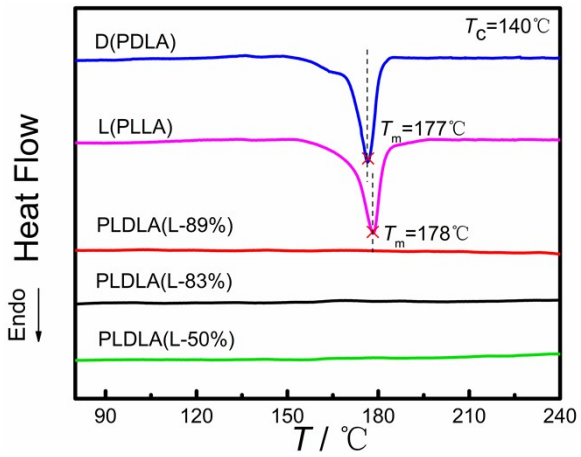

Figure S1 DSC melting curves at 10 °C/min of all the synthesized samples of PDLA (D), PLLA (L), and PLDLA copolymers (L-x=89, 83, 50 %) after isothermally crystallized at 140 °C for the same time.

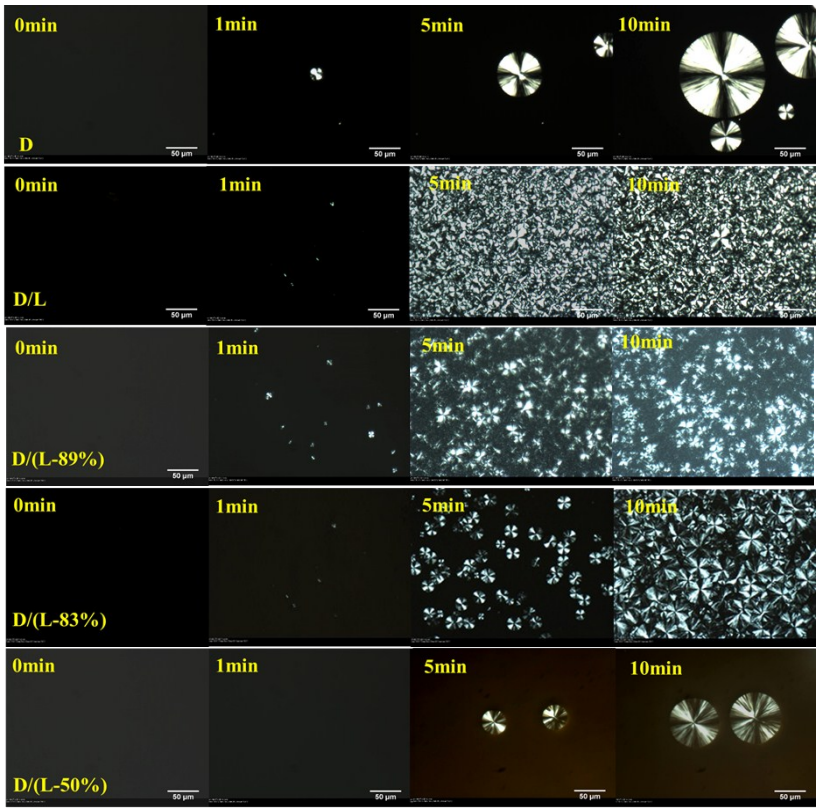

Figure S2 POM images of the samples as depicted crystallizing from melt during their isothermal crystallization processes at 130 ℃

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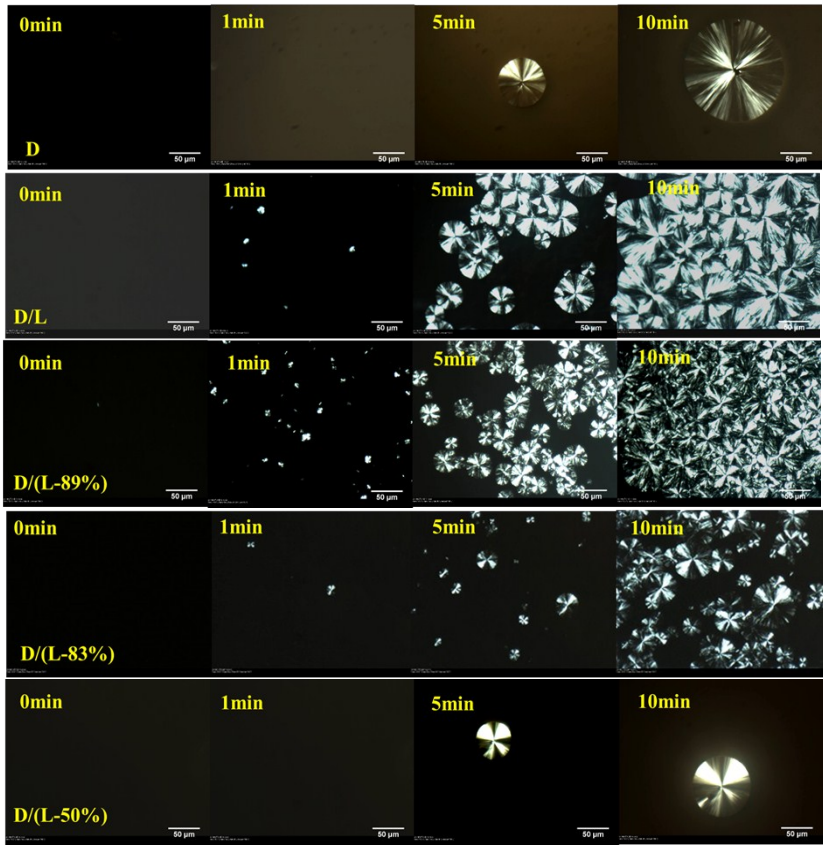

Figure S3 POM images of the samples as depicted crystallizing from melt during their isothermal crystallization processes at 140 ℃

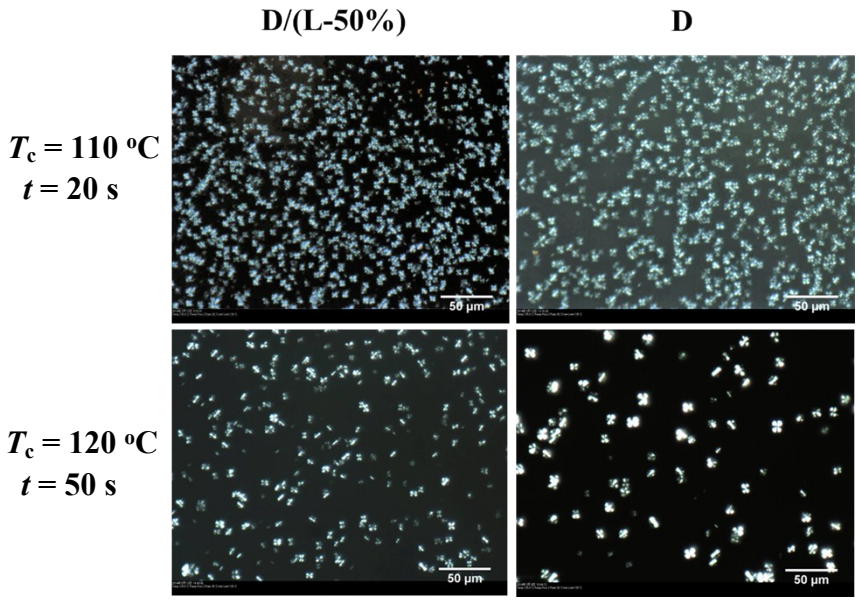

Figure S4 POM images of the samples as depicted after isothermally crystallizing from melt at 110 ℃ for 20 s and 120 ℃ for 50 s, respectively.

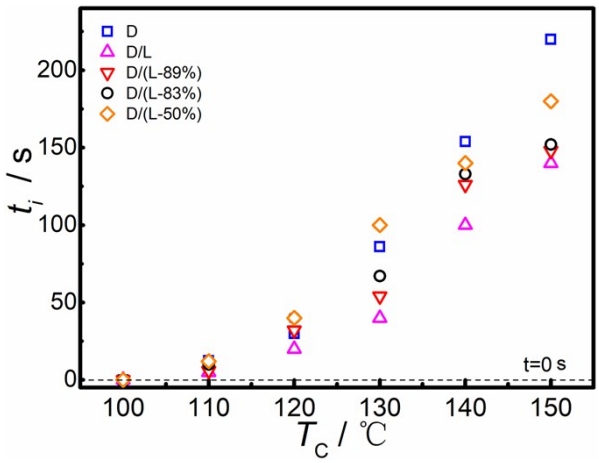

Figure S5 Induction periods of the samples as depicted while isothermally crystallizing from melt at various temperatures T_cs.

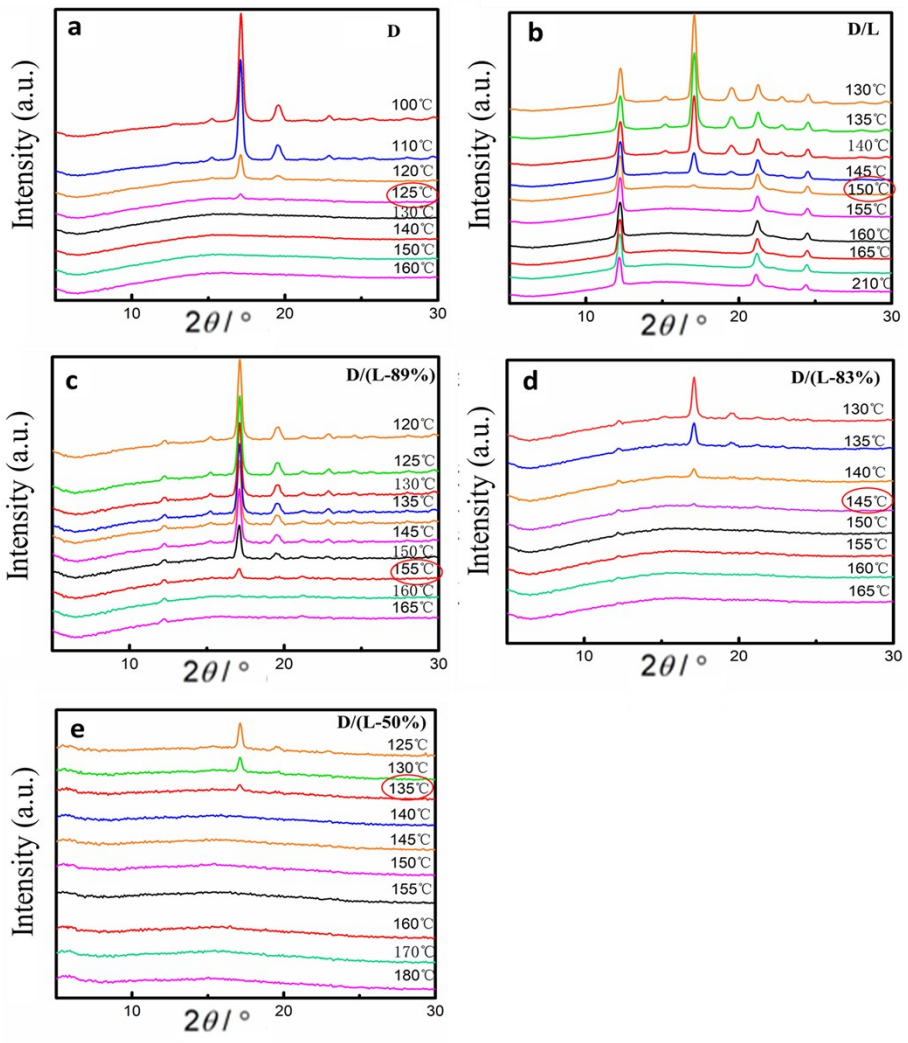

Figure S6 In-situ 1D-WAXS profiles collected during the non-isothermal crystallization processes at cooling rates of 10 ℃/min of the samples including D (a), D/L (b), D/(L-89%) (c), D/(L-83%) (d), and D/(L-50%) (e) as depicted.

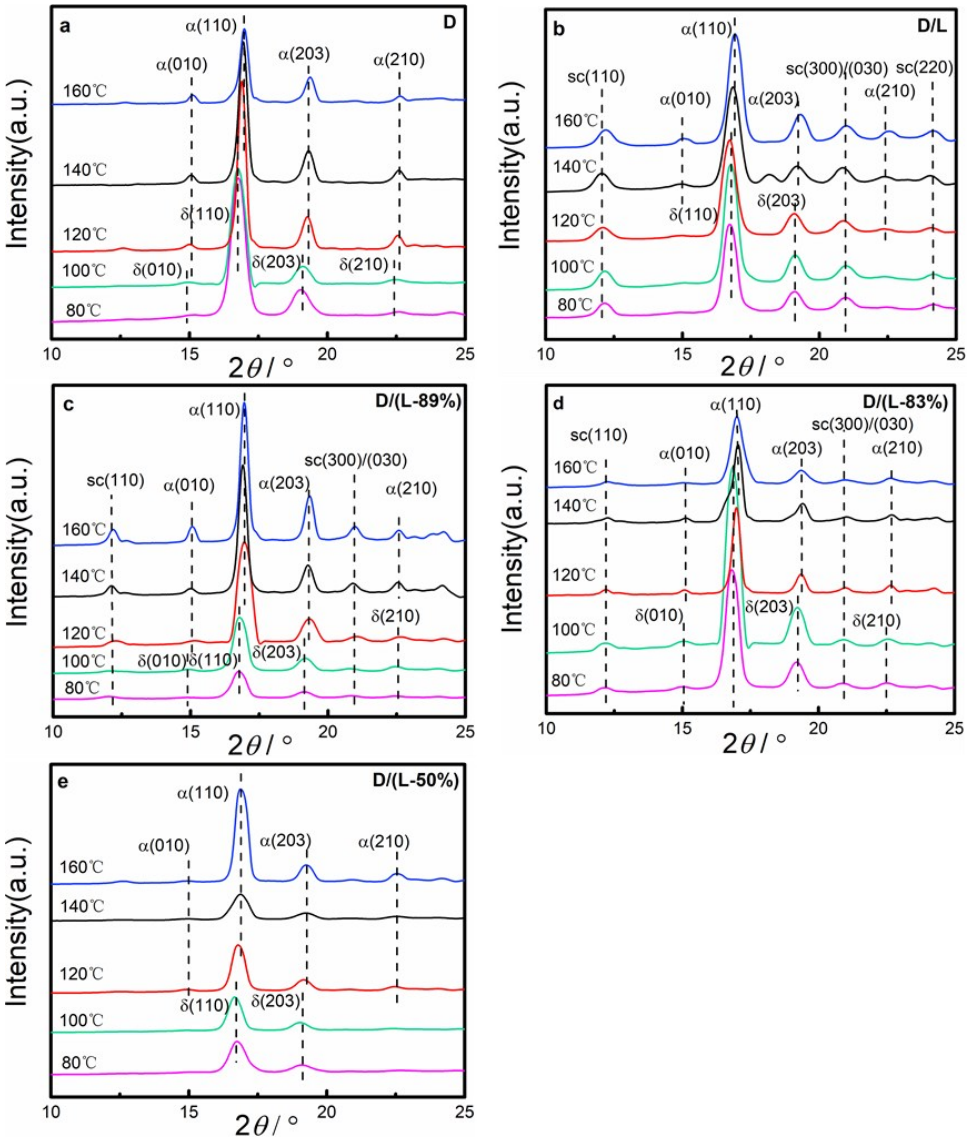

Figure S7 XRD profiles of D (a), D/L (b), D/(L-89%) (c), D/(L-83%) (d), an D/(L-50%) (e) isothermally crystallized at the depicted various temperatures.

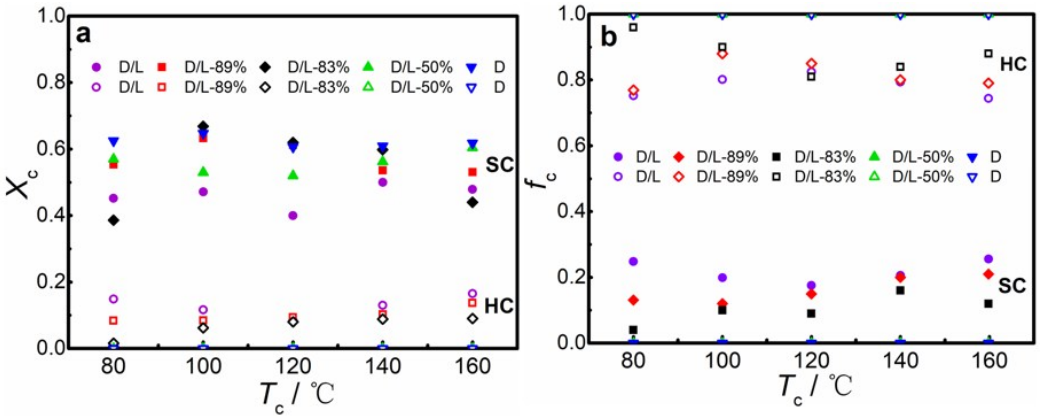

Figure S8 T_c-dependent relative crystallinity of the depicted samples isothermally crystallized from the melt at T_cs for 6 hours (a) and the formed SC and HC crystals fractions (b). The open and solid symbols refer to HC and SC crystals in the samples.

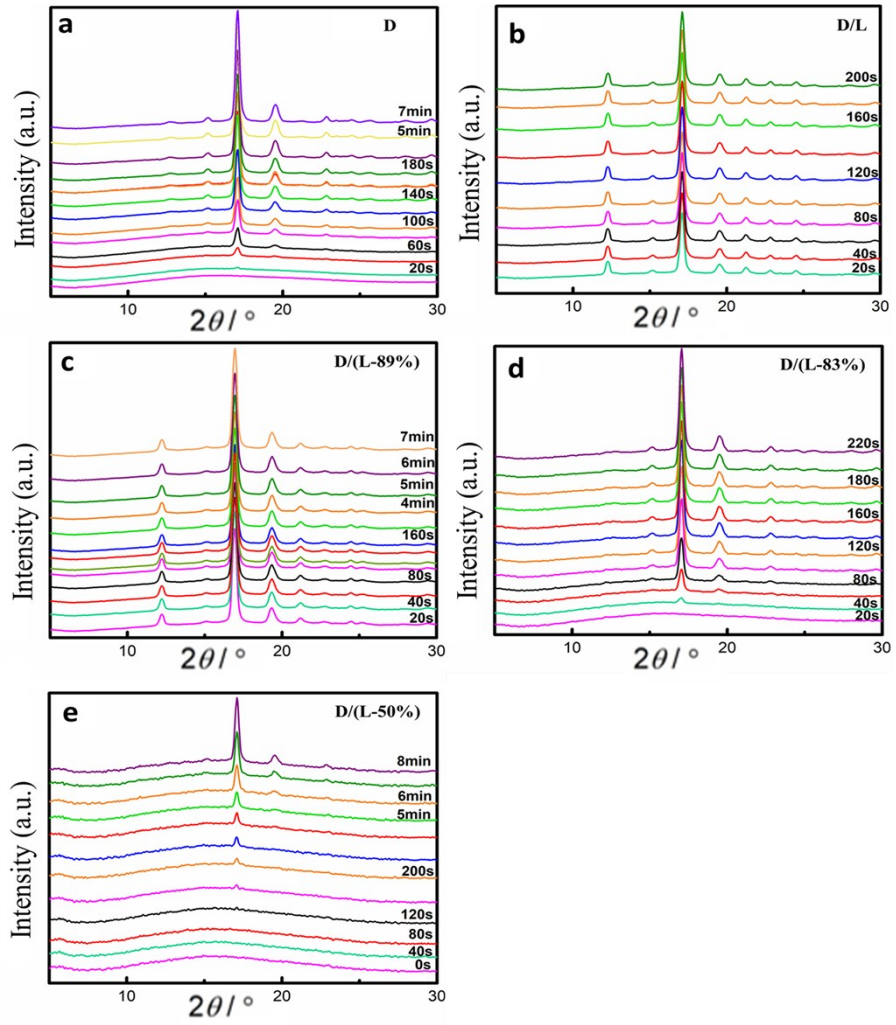

Figure S9 In-situ 1D-WAXS profiles of the isothermally crystallizing PDLA (a), D/L (b), D/(L-89%) (c), D/(L-83%) (d), and D/(L-50%) (e) at 130 ℃.

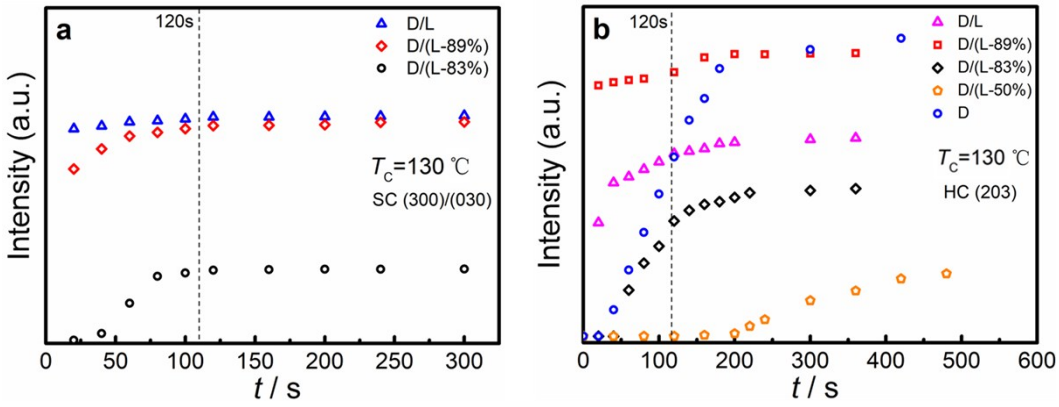

Figure S10 Diffraction peaks intensity of the samples as depicted representing the SC and HC crystallinities dependent on crystallization time *t* during isothermal crystallization process characterized by in-situ WAXS at 130 ℃.

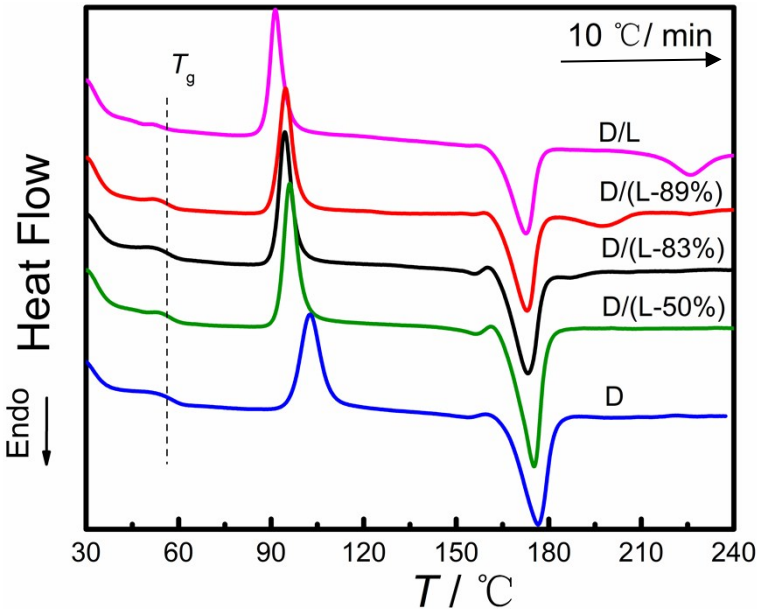

Figure S11 The glass transition temperature of the melt-quenched amorphous-made samples D/L, D/(L-89 %), D/(L-83 %), and D/(L-50 %) blends as depicted in comparison with that of neat PDLA determined by DSC with a heating rate of 10 ℃/min.

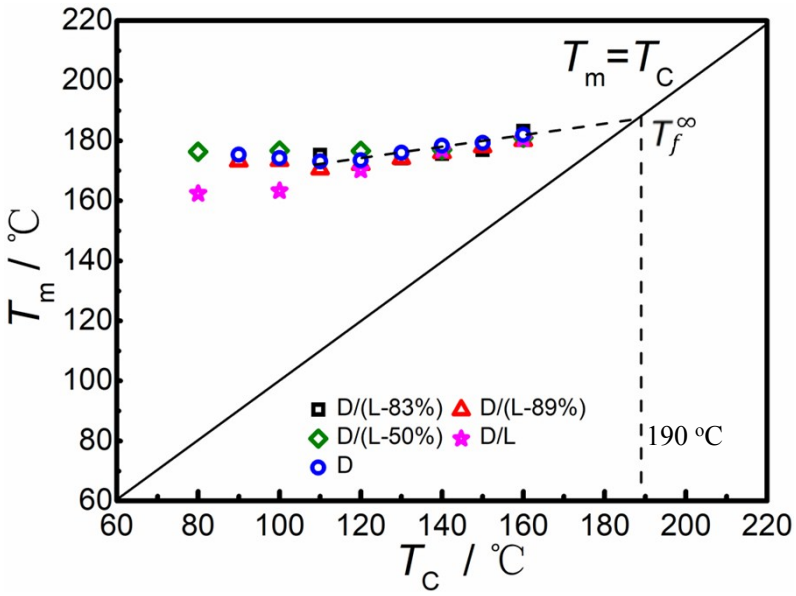

Figure S12 Equilibrium melting point of PDLA HC crystals in the D/L, D/(L-89 %), D/(L-83 %), and D/(L-50 %) blends as depicted in comparison with that of neat PDLA.