Supporting Information

Preferential Stereocomplex Crystallization in Enantiomeric Blends of Cellulose Acetate-*g*-Poly(lactic acid)s with Comblike Topology

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Measurement of Polarized Optical Microscopy (POM)

Spherulitic morphology and spherulitic growth rate of PLLA/PDLA racemic blends were measured on a polarized optical microscopy (Eclipse E600 POL, Nikon Co., Tokyo, Japan). The sample was sandwiched between two glass slides and melted at 250 ℃ for 2 min on a Linkam THMS600 hot stage. In the melting process, the sample was slightly pressed to spread into a thin film (thickness ~ 50 μm). It was then fast cooled to the desired T_c at 100 °C/min for isothermal crystallization. During isothermal crystallization, spherulitic morphology was recorded by taking photo at a fixed time interval. Average radial growth rate (dR/dt) was estimated from the slope of spherulitic radius (R) *vs* crystallization time (t) plot.

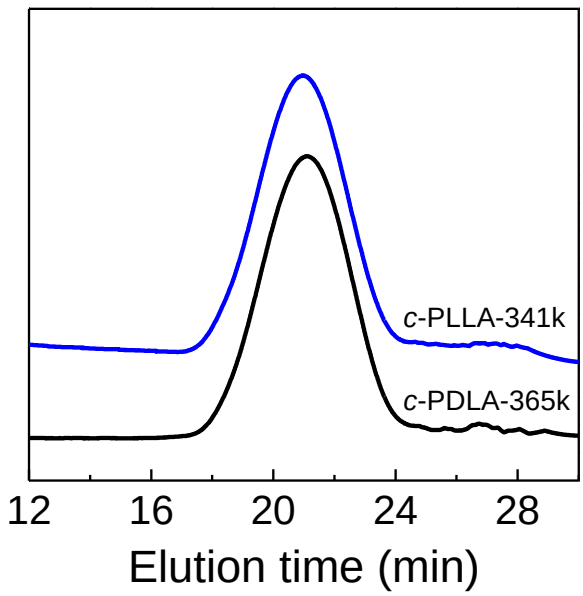

Figure S1. GPC traces of comblike PLLA and PDLA.

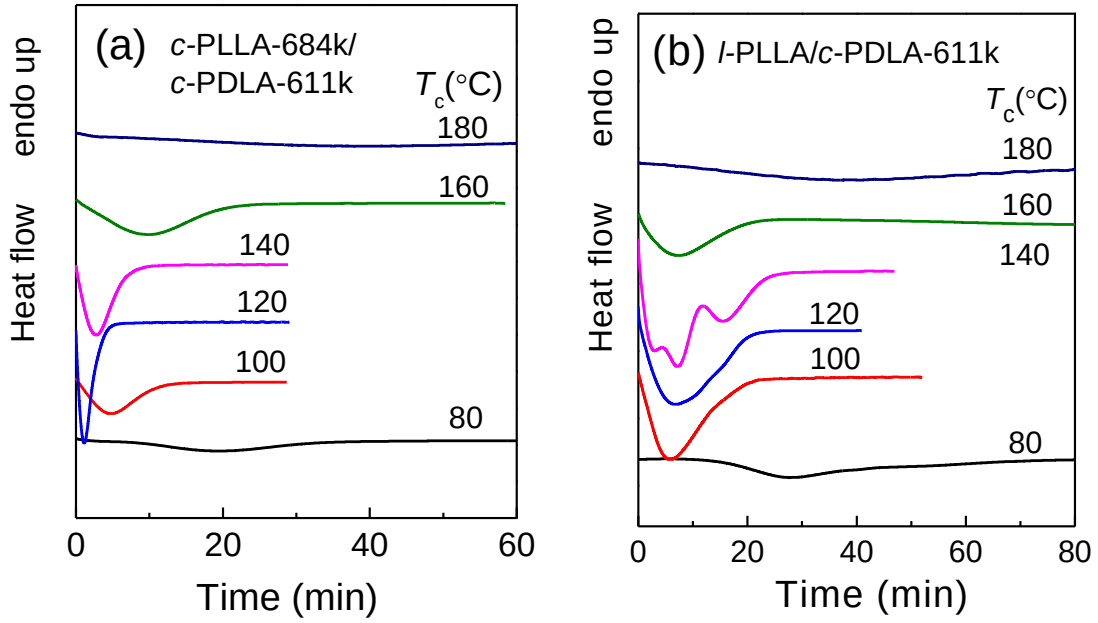

Figure S2. DSC curves of PLLA/PDLA racemic blends recorded in isothermal melt-crystallization at different T_cs: (a) *c*-PLLA-684k/*c*-PDLA-611k, (b) *l*-PLLA/*c*-PDLA-611k.

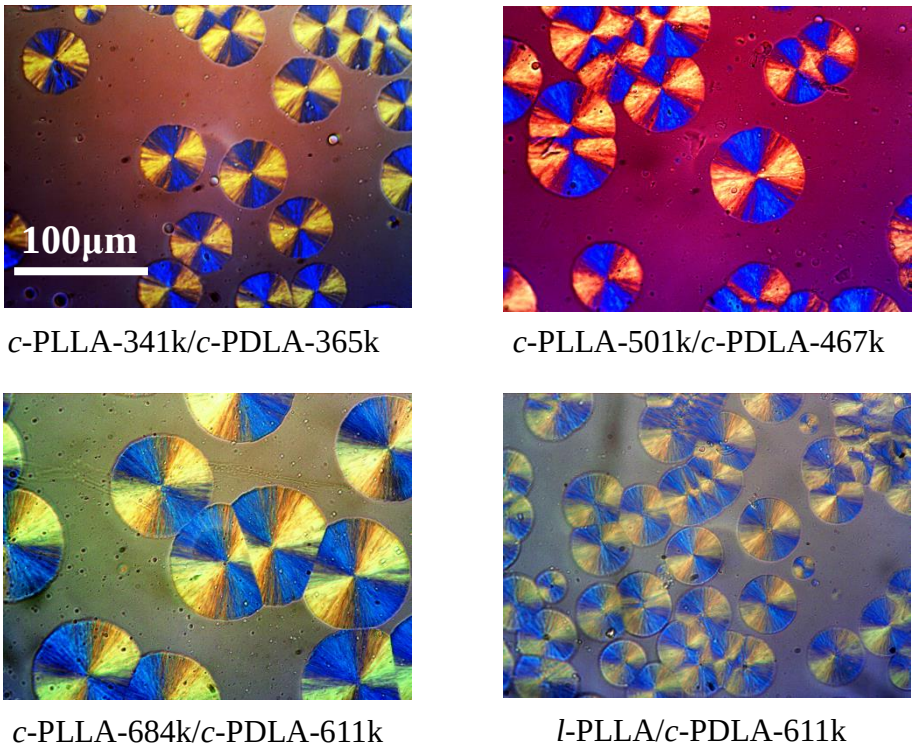

Figure S3. POM micrographs of PLLA/PDLA racemic blends recorded in isothermal melt-crystallization at 160 °C.

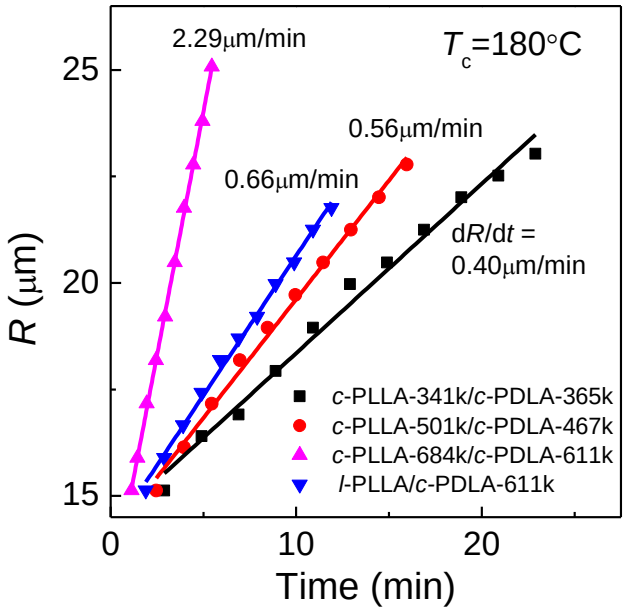

Figure S4. Spherulitic radius (*R*) of PLLA/PDLA racemic blends after isothermal melt-crystallization at 180 °C for different time (*t*).

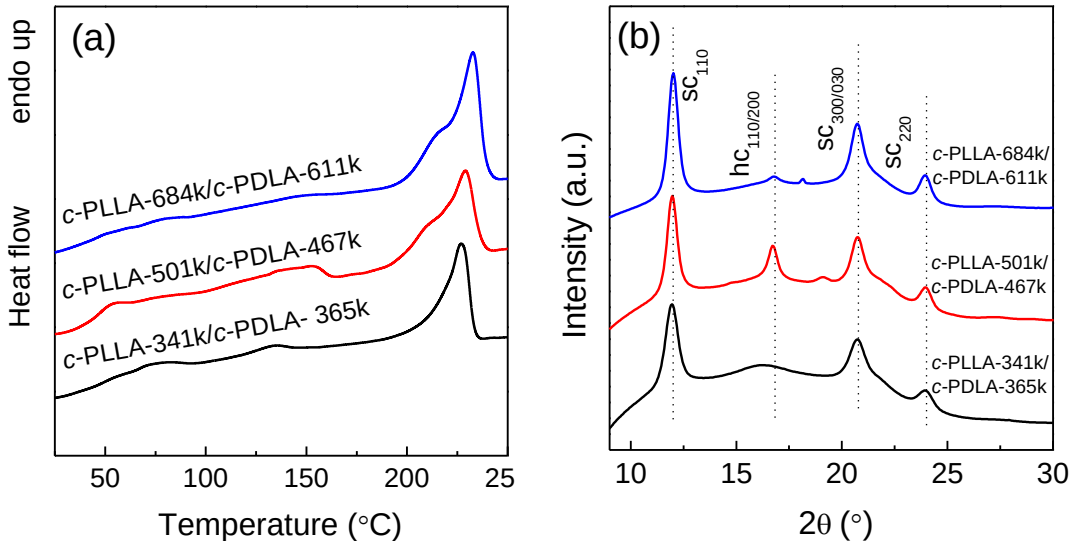

Figure S5. (a) DSC heating curves at 10 ℃/min and (b) WAXD patterns of solvent-cast comblike PLLA/PDLA racemic blends. The wavelength of X-ray is 0.154 nm. In solvent casting, the blends were dried at 40 °C under vacuum for 24 h after the evaporation of solvent under ambient conditions.

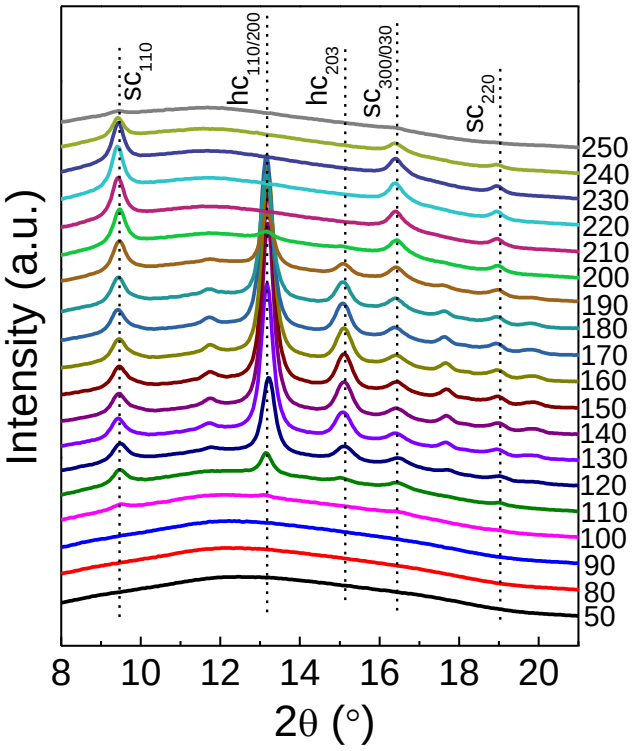

Figure S6. Temperature-dependent WAXD patterns of melt-quenched *l*-PLLA/*l*-PDLA blend collected upon heating. The wavelength of X-ray is 0.124 nm.