Supporting Information

Controlling the Isothermal Crystallization of Isodimorphic PBS-*ran*-PCL Random Copolymers by Varying Composition and Supercooling

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Table SI-1. Equilibrium melting temperatures for CoP(BS_xCL_y) compositions and their corresponding homopolymers.

Copolyester	T_m^0 (°C)
PBS	131
$BS_{91}CL_9$	118
$BS_{78}CL_{22}$	110
$BS_{66}CL_{34}$	100
$BS_{62}CL_{38}$	98
$BS_{55}CL_{45}$	87
$BS_{51}CL_{49}$	85
$BS_{45}CL_{55}$(BS-rich)	78
$BS_{45}CL_{55}$(CL-rich)	35
$BS_{38}CL_{62}$	38
$BS_{34}CL_{66}$	42
$BS_{27}CL_{73}$	47
$BS_{11}CL_{89}$	63
PCL	88

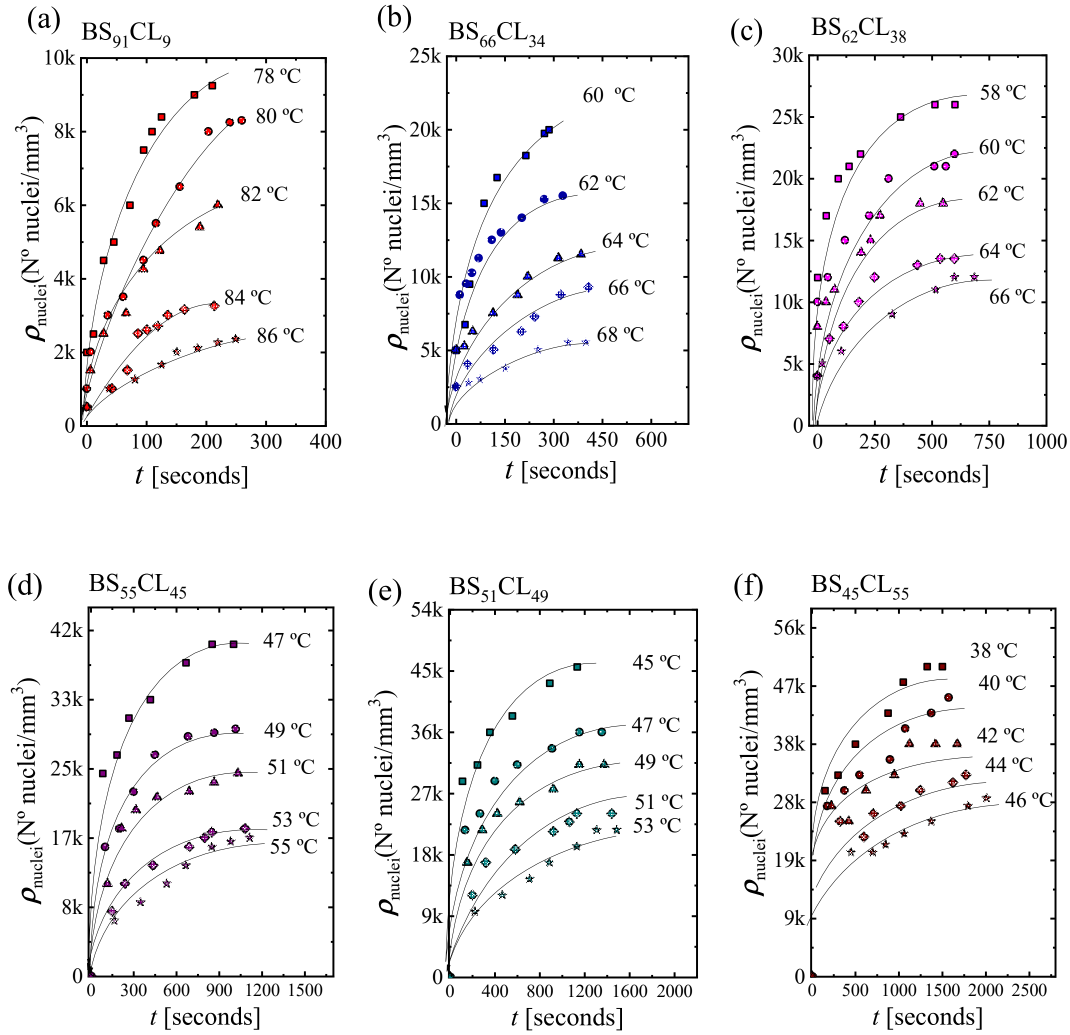


Figure SI-1. Nucleation kinetics studies by PLOM. Nuclei density as a function of time at different crystallization temperature for PBS-rich phase samples: (a) $BS_{91}CL_9$, (b) $BS_{66}CL_{34}$, (c) $BS_{62}CL_{38}$, (d) $BS_{55}CL_{45}$, (e) $BS_{51}CL_{49}$, and (f) $BS_{45}CL_{55}$. T_c employed are chosen so that ΔT = 40, 38, 36, 34, 32 °C for all samples.

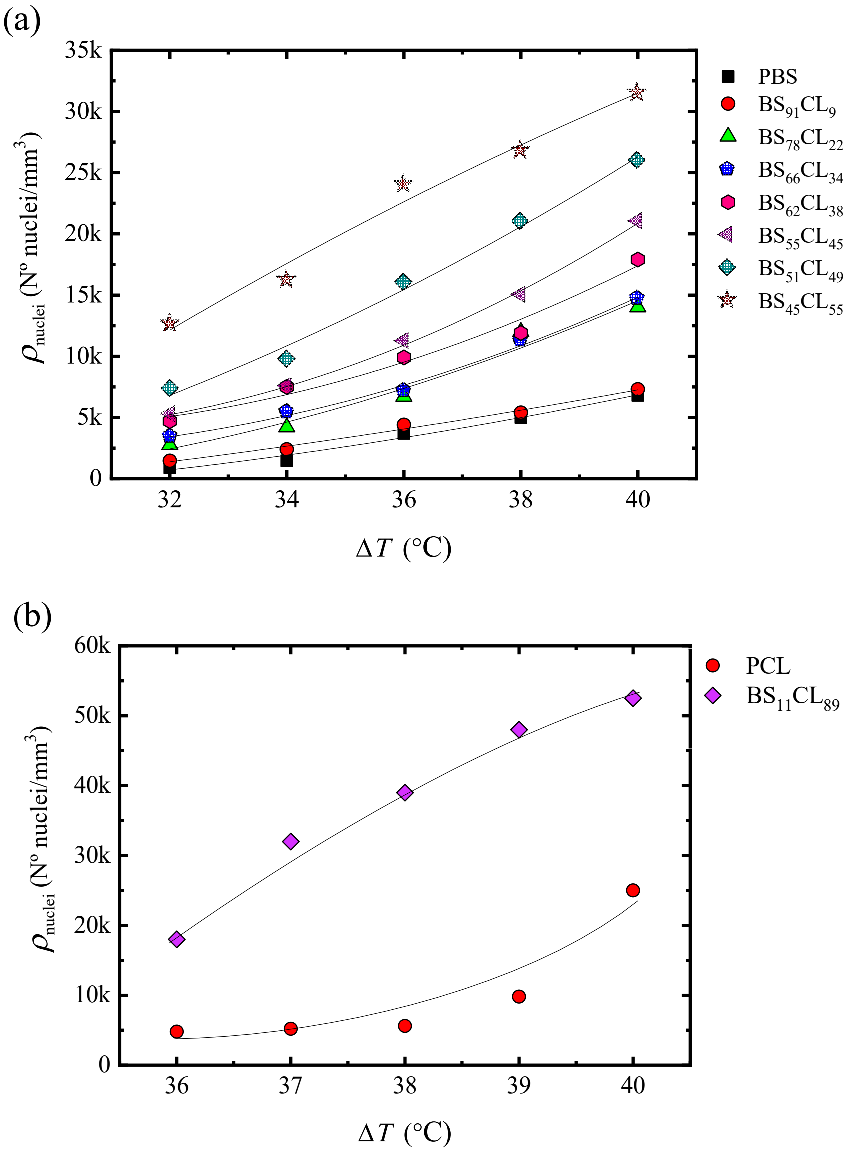


Figure SI-2. Nuclei density during isothermal crystallization as a function of Δ*T* for PBS-rich (a) and for PCL-rich (b) copolyesters.

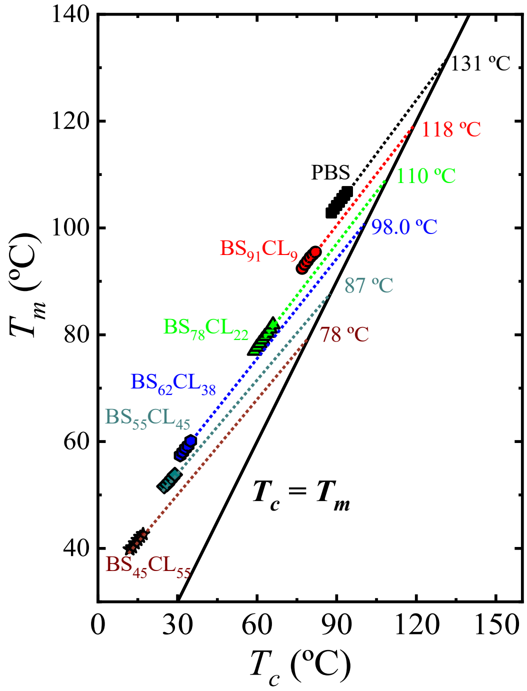


Figure SI-3. Hoffman–Weeks plots for PBS-*ran*-PCL compositions. The black solid line represents the thermodynamic equilibrium line T_m=T_c.

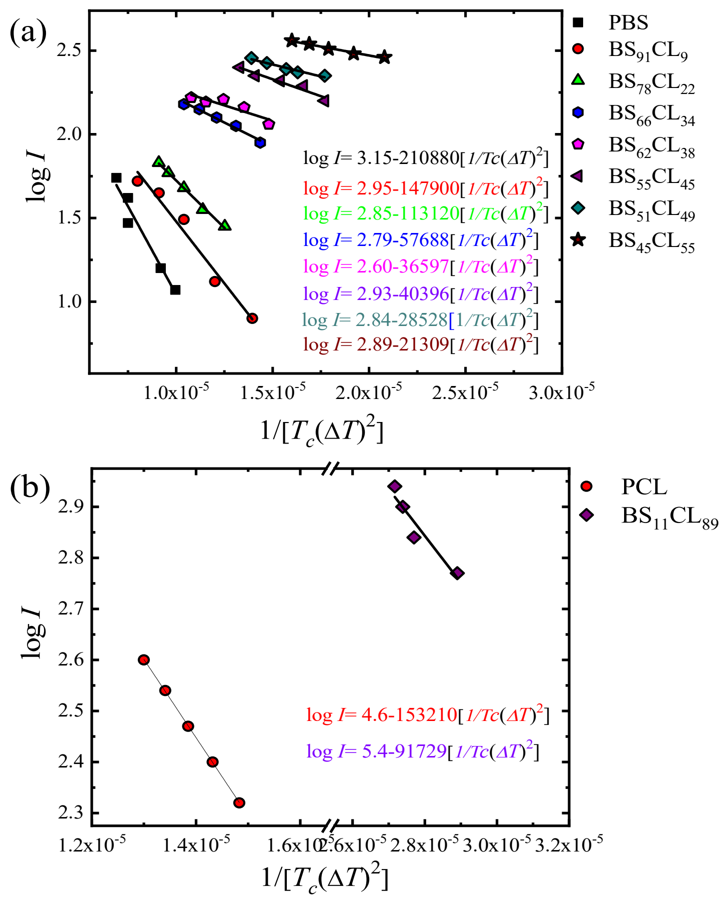
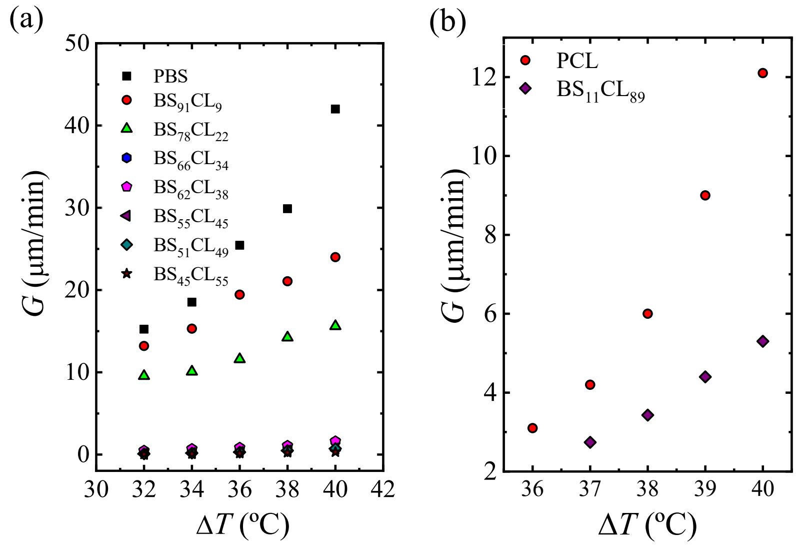


Figure SI-4. Plot of *log I* versus $1/T(\Delta T)^2$ and fitting to Turnbull–Fisher equation (Eq. 1) for PBS-rich (a) and PCL-rich (b) compositions.



Figures SI-5. Spherulitic growth rates *G* determined by PLOM for neat PBS and PBS-rich (a) and for neat PCL and PCL-rich (b) copolymers as a function of supercooling.

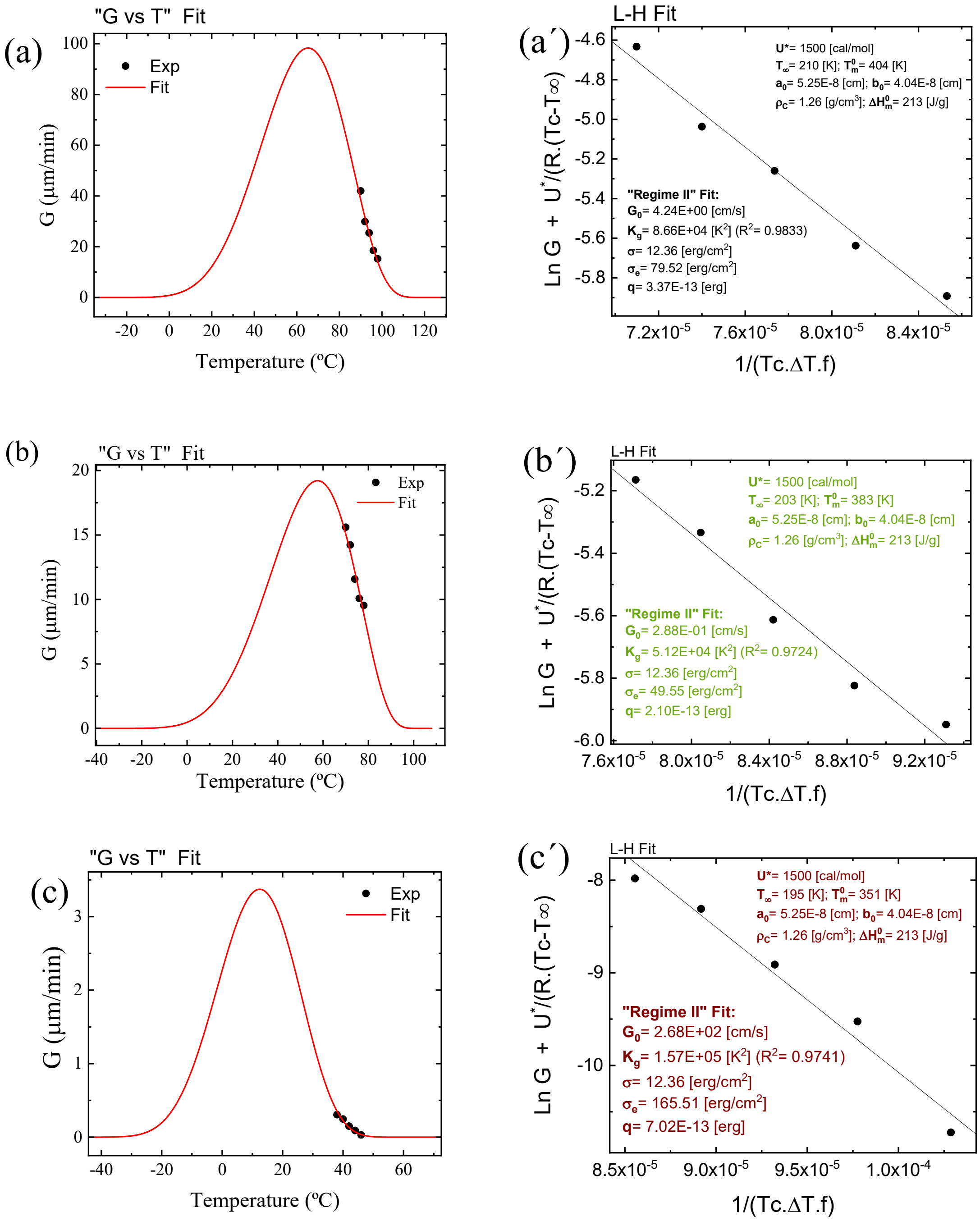


Figure SI-6. The fits to the Lauritzen-Hoffman equation using the free Origin plug-in developed by Lorenzo et al. [1] and the experimental data for the (a-a´) PBS, (b-b´) $BS_{78}CL_{22}$, and (c-c´) $BS_{45}CL_{55}$.

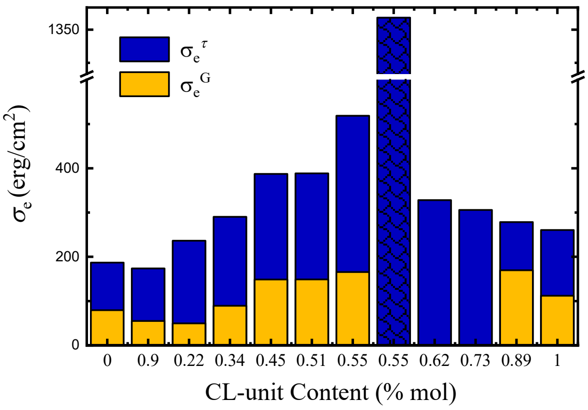


Figure SI-7. The σ_e value versus CL-unit molar fraction that obtained for PLOM experiments (σ_e^G) and DSC experiments (σ_e^τ).

References

1. Lorenzo, A. T.; Arnal, M. L.; Albuerne, J.; Müller, A. J., DSC isothermal polymer crystallization kinetics measurements and the use of the Avrami equation to fit the data: Guidelines to avoid common problems. Polymer testing 2007, 26 (2), 222-231.