

Sophisticated Dual-Discontinuity Periodic Bands of Poly(nonamethylene terephthalate)

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Supporting Information (SI)

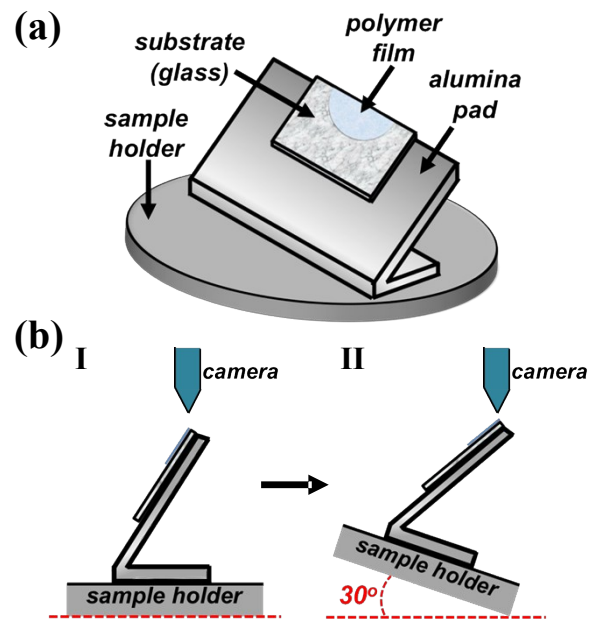


Fig. S1. Schematics for set-up of fractured PNT specimens relative to SEM electron beam for correlation between top surface and interior (a) front view, (b) lateral view.

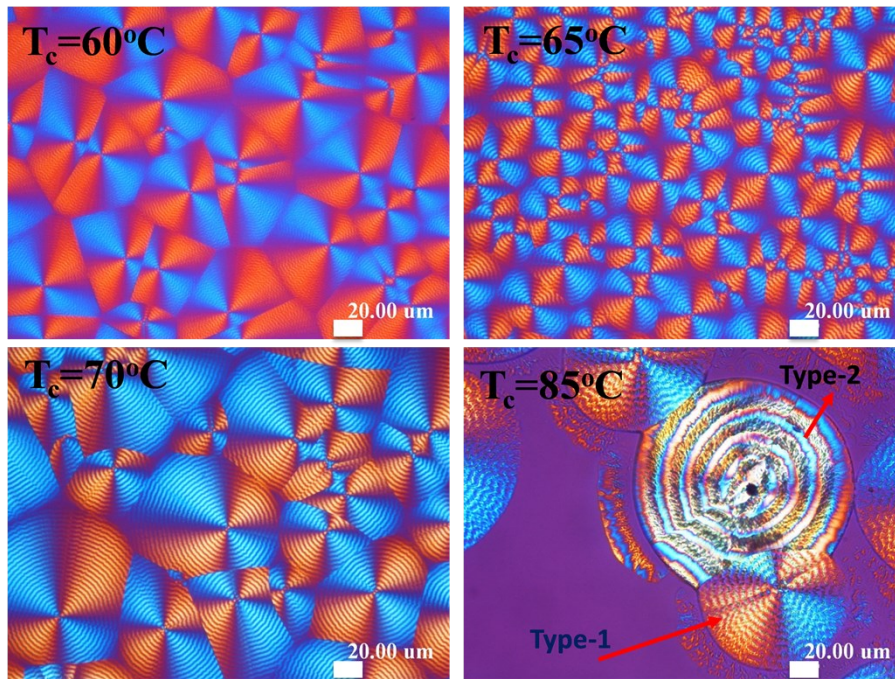


Fig. S2. POM micrographs of relative fractional variation of Type-1 vs. Type 2b banded PNT spherulites when crystallized at $T_c=60$, 65, 70, and 85°C (as labeled), respectively (quenching from $T_{max}=120^\circ\text{C}$ after being held for 2 min).

In-situ growth of Type-1, Type-2a, and Type-2b

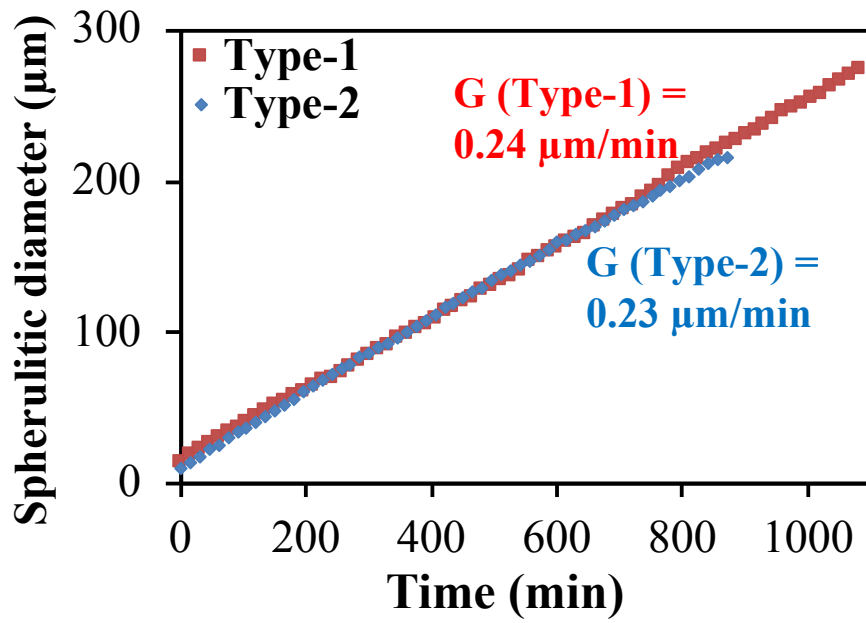


Fig. S3. Comparison of growth rates of Type-1 vs. Type-2 banded PNT spherulites crystallized at $T_c=85^\circ\text{C}$ by quenching from $T_{\text{max}}=120^\circ\text{C}$ after being held for 2 min. (Incubation time for first initiation of nuclei: ca. 2h at $T_c=85^\circ\text{C}$). Growth recorded only after initiation of the first trace of nuclei in specimens.

In-situ growth of Type 1 vs. Type-2

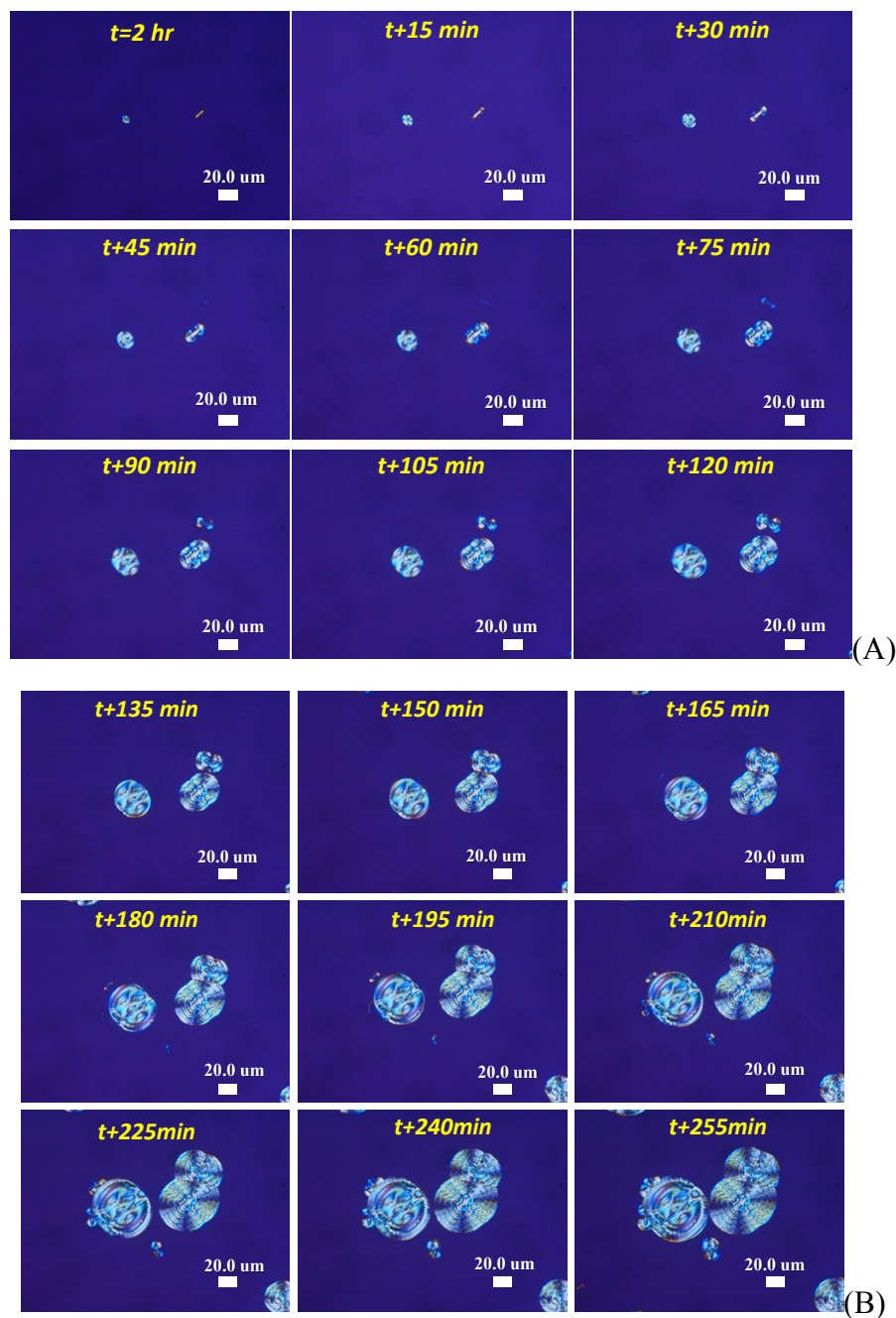


Fig. S4. In-situ monitoring of two different shapes and geometries of nuclei of Type-1 (elongated-rod nuclei) vs. Type-2 (well-rounded dot-like nuclei) for growing into banded PTT spherulites at $T_c=85^\circ\text{C}$: (A) $t_0=2\text{ h}$ to $t_0+120\text{ min}$; and (B) $t_0+135\text{ min}$ to $t_0+255\text{ min}$. [Incubation time for first initiation of nuclei: ca. 2h at $T_c=85^\circ\text{C}$]

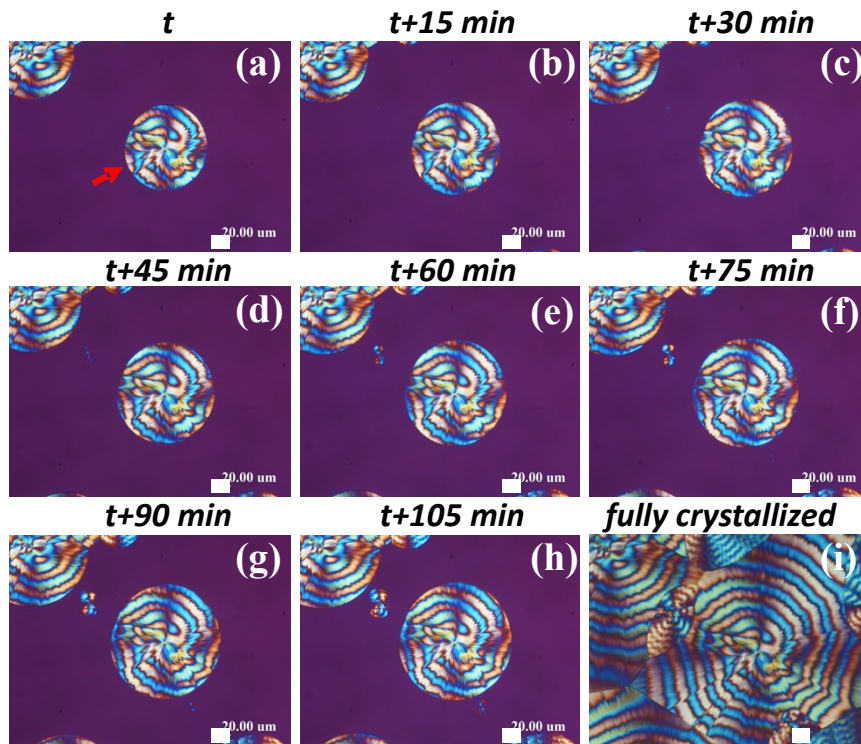


Fig. S5 In-situ polarized-light optical microscopy images by monitoring only Type-2b (Fermat-spiral ring-banded) PNT spherulites as indicated by red arrow at different times as depicted on each graph (started from $t_0 = 2$ h. for initiation of nuclei to 17 h for full crystallization completion) at $T_c=85^\circ\text{C}$ after being quenched from $T_{\text{max}} = 120^\circ\text{C}$. (scale bar = 20 μm)