

Two Component Gels of Immiscible Blends of Biscarbamates (Polyurethane Model Compounds) and Poly (ϵ -Caprolactone)

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Supplementary Information

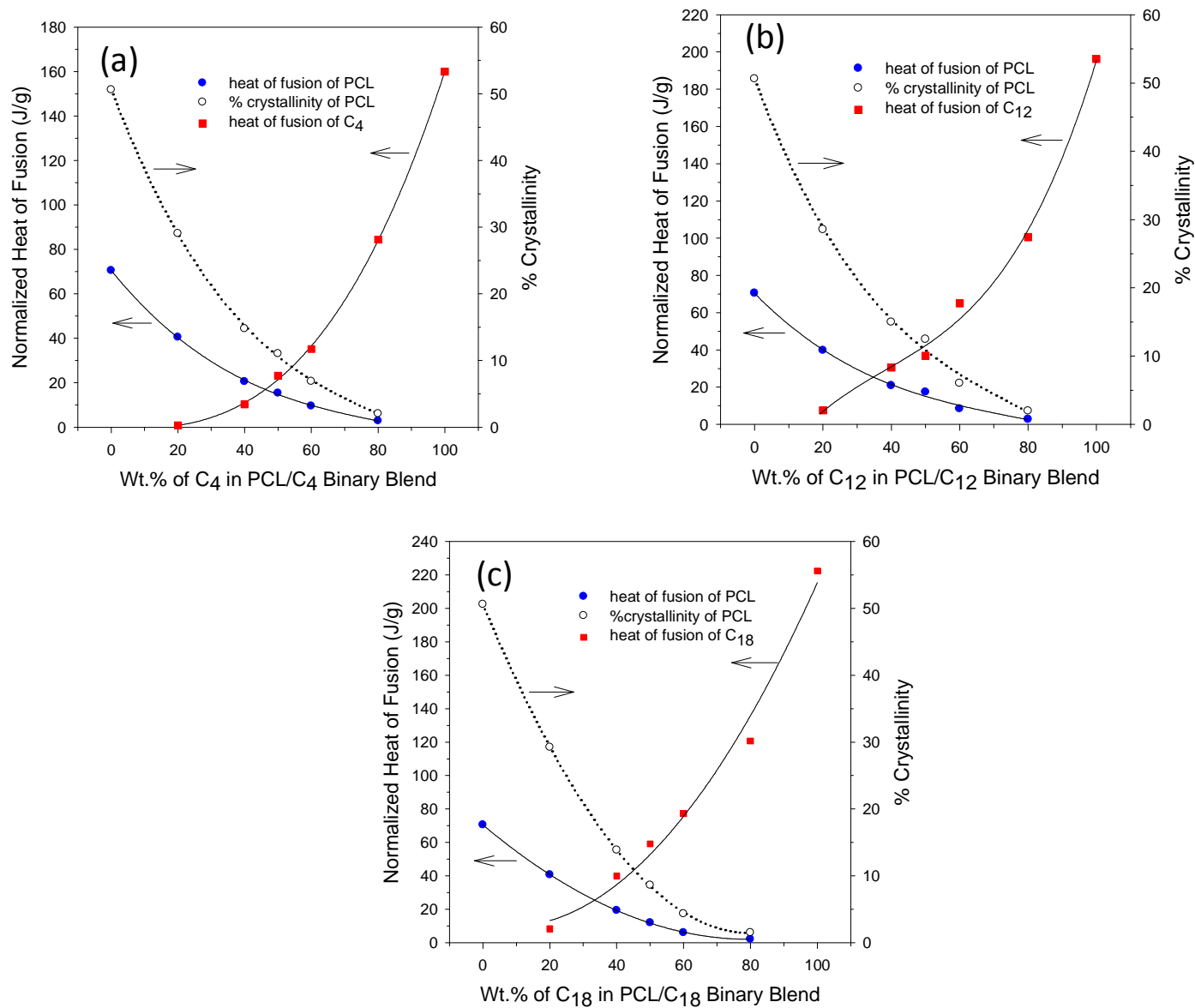


Fig. S1. Normalized heats of fusion of PCL/biscarbamate binary blends: (a) PCL/C₄, (b) PCL/C₁₂, and (c) PCL/C₁₈. The variation of crystallinity of PCL with the concentration of the biscarbamate is also shown (....).

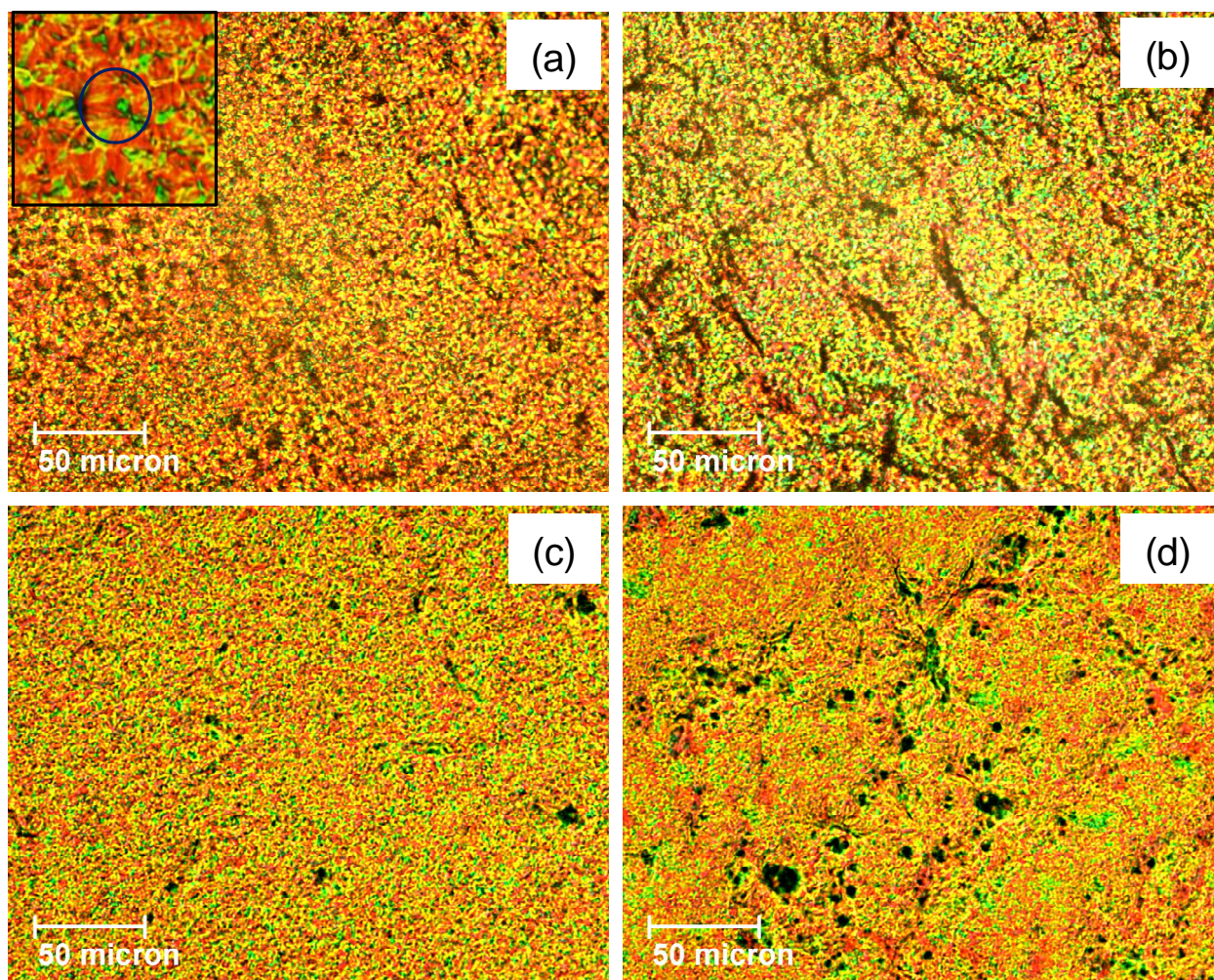


Figure S2 Optical micrographs of blend films cast from chloroform solutions. (a, b): PCL/ C₁₂ biscarbamate: 99/1 and 98/2 (wt%), respectively; (c, d): PCL/ C₁₈ biscarbamate: 99/1 and 98/2 (wt%), respectively. The inset in (a) shows an enlarged OM view of a spherulite.

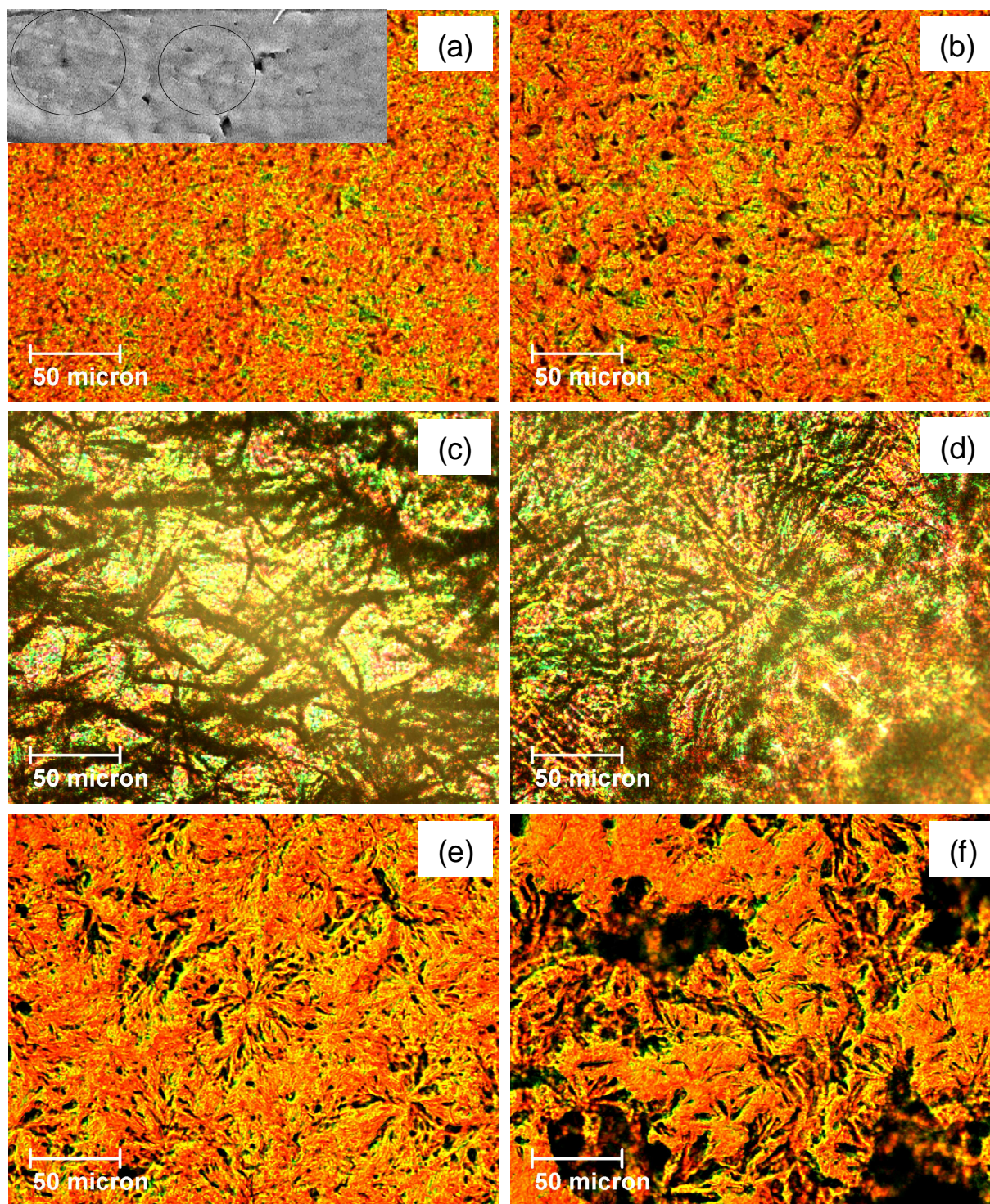


Fig. S3. Optical micrographs of PCL/biscarbamate blend films cast from chloroform solutions with 5% (wt) (left column) and 10% (right column) of biscarbamate. (a, b): C₄ biscarbamate; (c, d): C₁₂ biscarbamate, and (e, f): C₁₈ biscarbamate. The inset in (a) shows a SEM image of the spherulites.

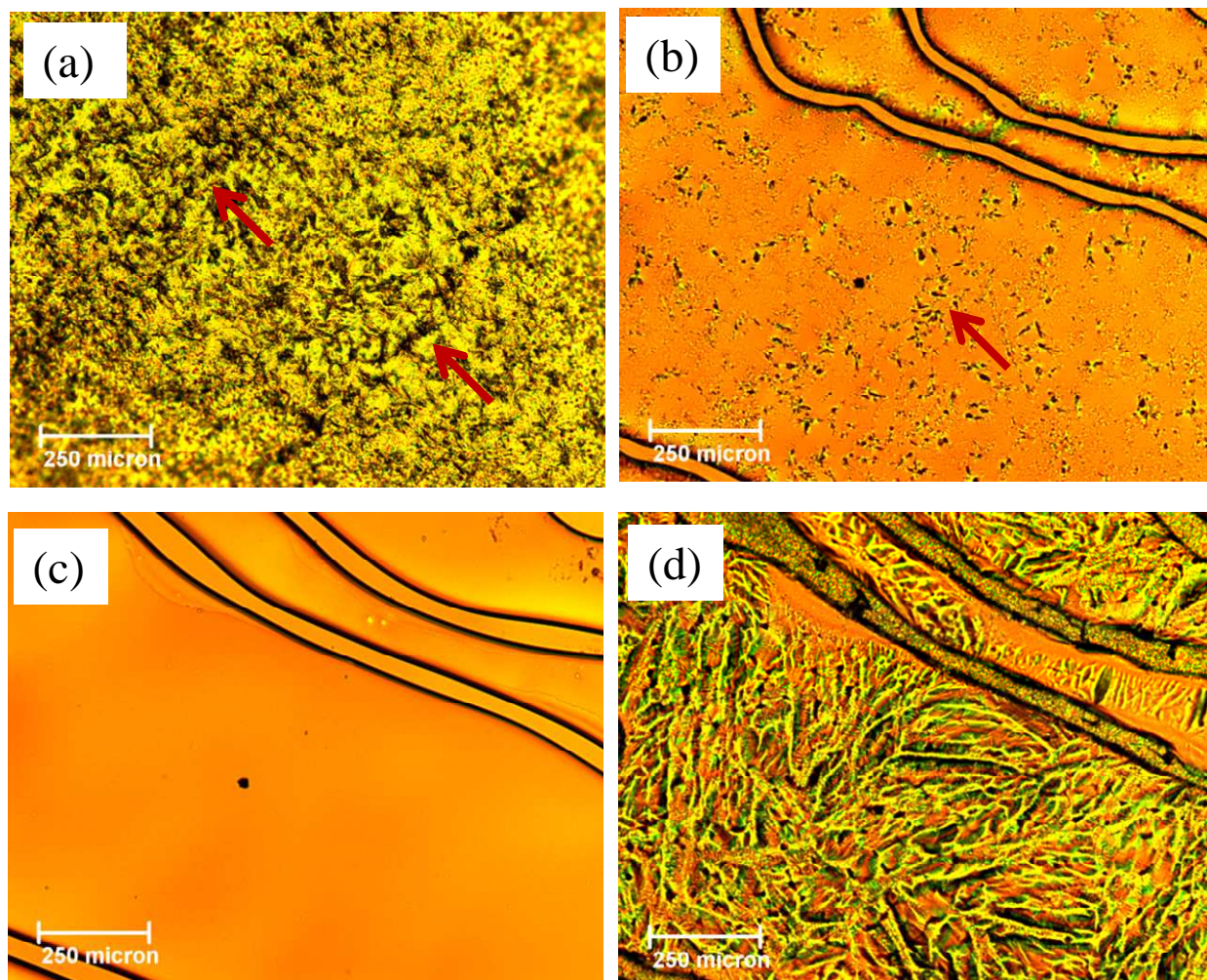


Fig. S4. Optical micrographs of PCL/5%C₁₈ biscalbamate films at different temperatures: (a) At 25 °C, aggregates of C₁₈ crystals are seen in the PCL matrix. The arrows point to the crystalline aggregates of C₁₈. (b) At 110 °C PCL had melted, and channels arise (seen from top left to right) due to the phase separated, molten polymer. (c) At 125 °C, C₁₈ has also melted. Upon cooling to 104 and 70 °C, C₁₈ crystallized as radiating lamellae (not shown). and (d) Upon further cooling to 25 °C PCL crystallized along the channels and also as aggregate crystals between the lamellae of C₁₈. The channels running from top left to right in (b) – (d) are the trenches separating the domains created upon melting of the polymer at elevated temperatures.

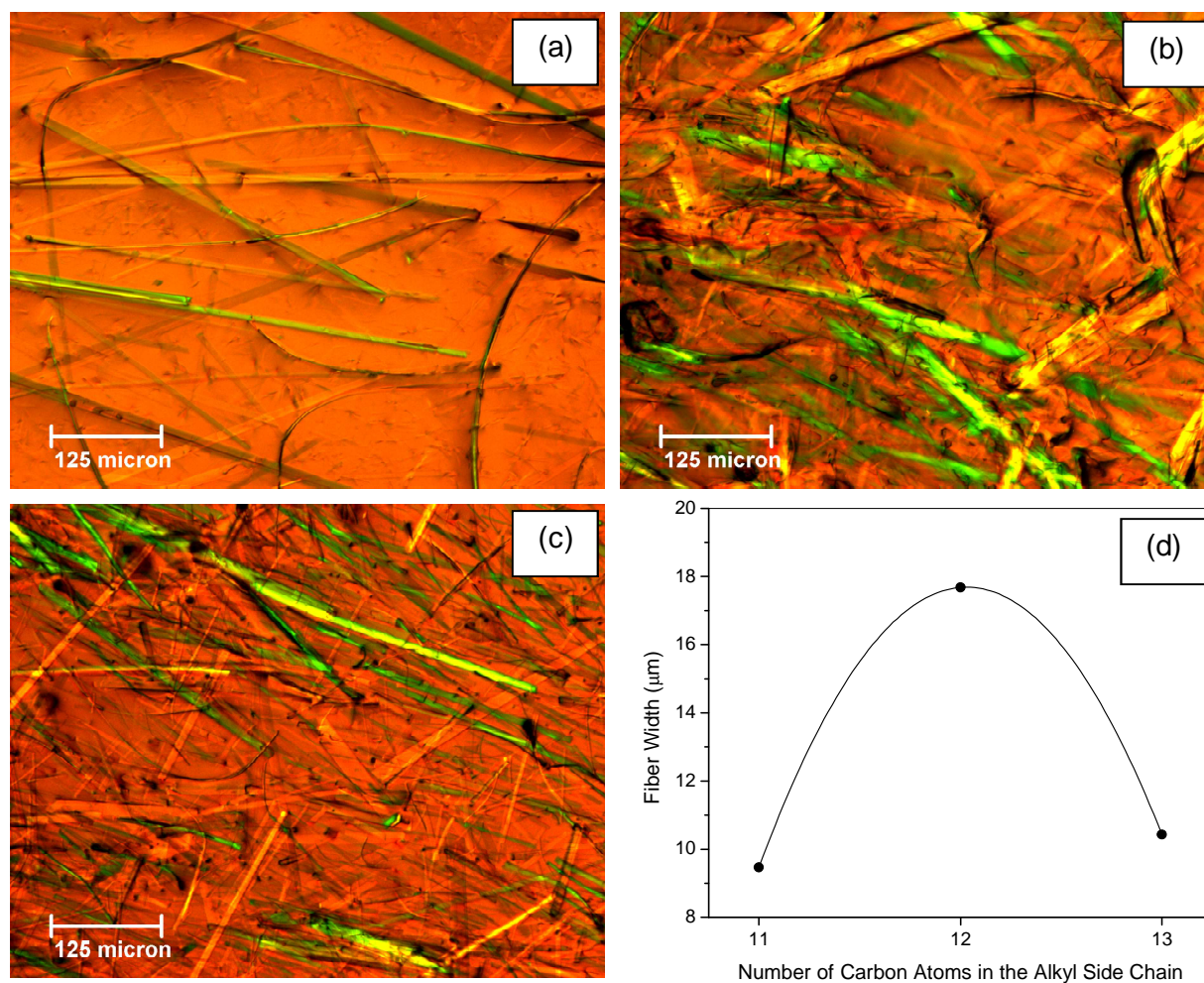


Fig. S5. Optical micrographs showing the change in the fiber width as a function of alkyl side chain length at a constant (15 wt%) composition: (a) C_{11} , (b) C_{12} , and (c) C_{13} . A graph of the variation is shown in (d).