

Orthogonal Smectic Layers Favour Nucleation through Diffusion-controlled Transformations: A Systematic Crystallization Kinetics Study

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Systematic investigations of the crystallization kinetics of two representative compounds of *p*-phenylbenzylidene-*p'*-alkylanilines are performed, using differential scanning calorimetry, to study the influence of the kinetophase (occurs prior to the crystal phase) on the nucleation process. The dimensionality of the crystal growth and the related crystallization process are discussed in terms of the Avrami parameters n and b . The trend in the magnitude of the Avrami exponent n supports the occurrence of temperature-dependent transformations in the orthorhombic molecular array.

Key words: Crystallization Time; Kinetophase; Nucleation Process.