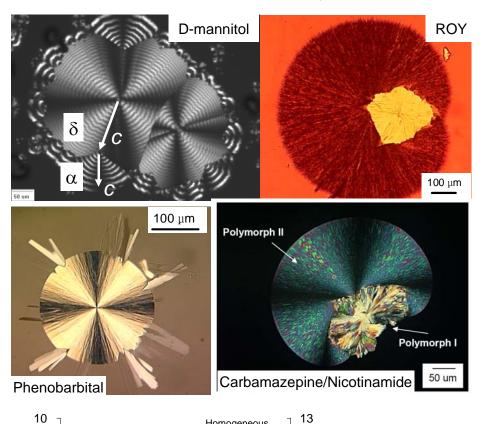
Nucleation of One Polymorph by Another

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Homogeneous

112

12

°-111 N-1 11-8

, 10 go 10 V,

114

nucleation (multiplied

by 1x10²³⁰)

9

Cross-nucleation

Growth-front nucleation

106

108

T.°C

110

log J_{α/δ}, s⁻¹m⁻² Δ 8 6

6

104

Cross-nucleation has very different kinetics from other types of nucleation. Data shown are for D-mannitol

Contrary to standard view, crystallization is not always defined by the initial nucleation. In each of the systems shown to the left, the fastnucleating structure grows slowly, allowing a fast-growing structure (new polymorph) to nucleate on it and dominate the product. The phenomenon expands the classes of nucleation:

