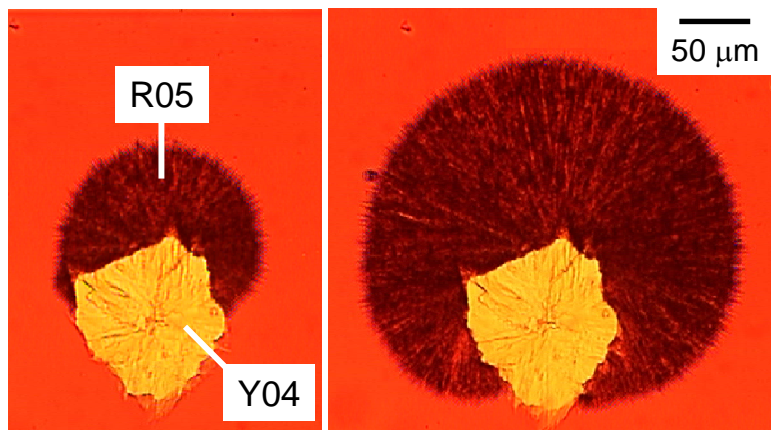


Nucleation of One Polymorph by Another

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Contrary to common view, crystallization in polymorphic systems is not necessarily defined by the initial nucleation. Fast-nucleating polymorph may grow slowly (Y04 in the example to the left), allowing fast-growing polymorph (R05) to nucleate on it and dominate the product.

We elucidated how cross-nucleation is controlled by thermodynamic and kinetic factors and how it can aid the discovery of new polymorphs. In the example to the right, cross-nucleation is used to nucleate the rarest of the three outcomes of crystallizing a racemic liquid – the solid solution of enantiomers.

