

Understanding the Polymorph Landscape of an API



The challenge

A polymorph screen was performed to gain better understanding of the polymorph landscape of an API. The process was complex and the API was poorly crystalline. Solvent choice was limited due to poor solubility, gelling and solvation.



How?

Information from previous screens work was assessed and the known forms were prepared. From this, an additional polymorph screen was performed using slurring, evaporation, and recrystallisation techniques. Novel XRPD patterns were characterised by DSC, TGA and microscopy.



The achievement

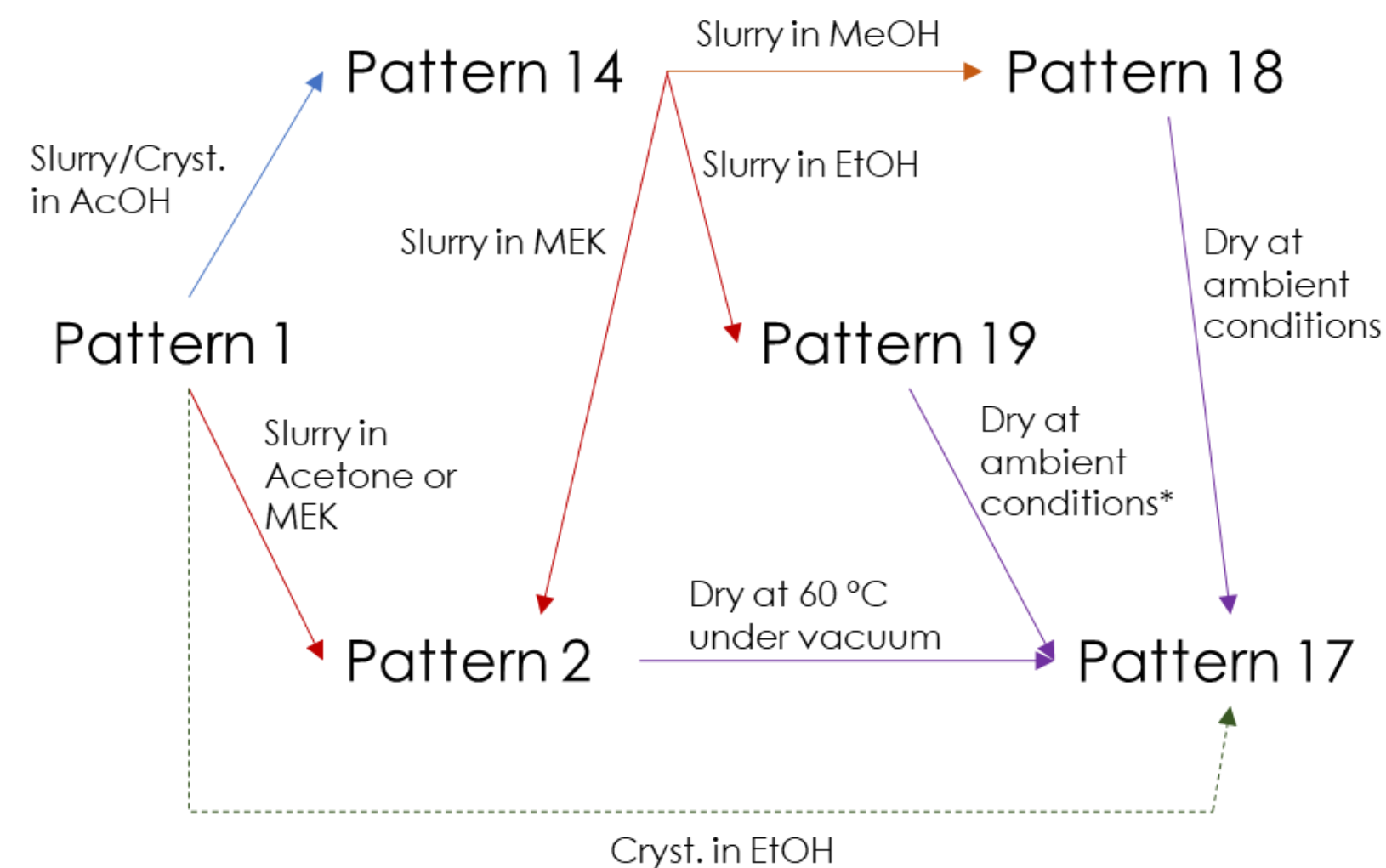
Through CatSci's successful polymorph screening:

- 19 discrete XRPD patterns were identified, including many solvates.
- An inter-relationship diagram was produced detailing complex inter-conversion between 6 forms.
- A crystalline mono-hydrate was identified as a development candidate.



The team: Dr Philip Lynch & Dr Robert Dennehy

Polymorph screening



In-Process image taken during a Mono-hydrate crystallisation

