Microlytic Crystal Former

The Microlytic Crystal Former is the first high output microfluidic capillary crystallization system designed to take advantage of the continuous gradient effect. This vastly increases the crystallization space explored in each condition, comparable to doing hundreds of individual experiments using vapor diffusion or hanging drop methods.

- ★ High output redefined—maximum crystallization probability on one plate
- ★ Simple to use, no external equipment is required, automatable, ready to add to any workflow
- ★ Low protein consumption
- ★ Direct access to crystals for harvesting

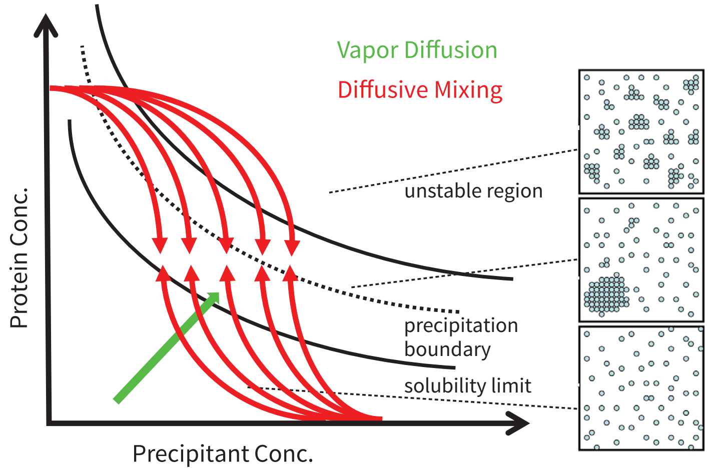
How does the Crystal Former return high output crystallization data?

The Crystal Former comprises 96 U-shaped channels in which protein crystallization is driven by liquid-liquid diffusion. The protein sample is first loaded into the channel, which fills only by capillary action. The crystallization reagent is then loaded into the opposing inlet. Equilibration of these solutions occurs through diffusion within the microchannels, during which a complex gradient of all the mixture components is transiently established (continuous gradient effect).

Through this gradient, the behavior of the protein target is explored with infinite conditions. This continuous exploration of crystallization space for a discrete condition is virtually impossible to capture in other crystallization formats. It returns a tremendous amount of information on a per-trial basis, allowing the user to observe all possible experimental outcomes in a single microchannel.

As seen in the phase diagram below, the coverage of phase space in the Crystal Former is more complex and complete compared to conventional crystallization methods such as vapor diffusion.

Exploring the Phase Diagram



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