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Advanced High-Throughput Platforms for Protein Crystallography. U. Honisch and N. Gottschlich, Greiner Bio-One GmbH, Maybachstr 2, D-72636 Frickenhausen, Germany.

With the introduction of automation and high-throughput techniques to protein crystallography, the amount of time and sample necessary to determine macromolecular structures has been significantly reduced. These developments are reflected by the design and properties of the platforms that are used in protein crystallography today.

High-density, non-birefringent 1536-well microplates are used for efficient crystal scoring with polarized light. They allow the detection of crystals difficult to distinguish under normal lighting conditions, like crystals hidden in precipitate or located at the edge of the drop.

In the effort to save time, money, and protein sample, plastic micro-structured devices are currently under investigation as an alternative to classical microplates.

We will present first results with plastic microfluidic devices for liquid-liquid diffusion and discuss the benefits of 1536-well low birefringent plates.