

W0019

Low Birefringence Plates for Crystal Scoring with Polarized Light. Ulrike Honisch, Guenther Knebel., R & D, Greiner Bio-One GmbH, Maybachstrasse 2, Frickenhausen 72636, GERMANY.

In the post-genomic era structure determination by X-ray diffraction becomes more and more important in connection with structural genomics and structure-based drug design. Protein crystallization is still a major bottleneck in structure determination and therefore automation in this area is proceeding constantly. Whereas the setup of high throughput screens for the identification of proper crystallization conditions has been subject to automation for some time, automated image acquisition, data analysis and crystal scoring are relatively recent projects.

A powerful tool for crystal identification is the utilization of polarized light. On the basis of its birefringent properties crystalline material can easily be distinguished from amorphous precipitate. A major obstacle in utilizing birefringence for crystal scoring is the interference of plastic crystallization plates with polarized light.

This presentation will address the current drawbacks with standard crystallization plates with polarized light, and solutions due to unique resins in combination with a sophisticated manufacturing process. The performance of these new low birefringent plates will be shown in sitting drop and microbatch crystallization under oil.