

W0160

Fully Automated Workstation for Vapor Diffusion and Microbatch Protein Crystallography. Kirby Reed, Niki Popp, Joan Stevens, Marketing, Gilson, Inc., 3000 W. Beltline Hwy., Box 620027, Middleton, WI 53562 USA.

Automating the protein crystallography process is extremely advantageous in high throughput laboratories. In general, automation improves throughput, decreases error, and minimizes scale and reaction costs. This study will focus on automating two types of protein crystallography, sitting drop vapor diffusion and microbatch under oil, via a 925 PC Workstation. The Workstation is a cartesian X, Y, Z robot that can accommodate up to five different tools which are adapted to handle either disposable tips or fixed probes. The Workstation also has the ability to integrate third party accessories and devices into the deck design which allows application flexibility. In addition to automating these two processes, this study will also examine the effects of various crystallography factors in an attempt to optimize each method. The capabilities of the Workstation and the results of the experiments in relation to vapor diffusion and microbatch protein crystallography will be presented.