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A Compact Automated Liquid Handler for Microbatch Protein Crystallography. Joan Stevens, Bob Widholm, Gary Scharrer, Kirby Reed, Gilson, Inc., 3000 West Beltline Hwy, Middleton, WI 53562, www.gilson.com

Automating the process used in protein crystallization, namely microbatch, is extremely advantageous especially in high throughput laboratories. In general, automation improves throughput, decreases error within and between experiments, and generates a report of the steps performed. The liquid handler employed in this work is an X, Y, Z robot, with 4 independent probes and varying pitch capable of automating protein crystallization; microbatch experiments. The liquid handler is capable of performing a wide range of experiments both through variations of constituents and plate accessibility. The use of disposable tips make the liquid handler very versatile not only for protein crystallization, but also other liquid handling techniques performed in the lab. The software provides a user-friendly interface to the liquid handler. The capabilities and performance specifications for the liquid handler will be presented in regard to protein crystallization for microbatch, and common liquid handling practices used in crystallography laboratories.