

HIGH THROUGHPUT SCREENING:
DIFFRACTION ANALYSIS OF BRAND NAME DRUGS AND THEIR GENERIC
COUNTERPARTS

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With the evolution of combinatorial synthesis in new material development, high throughput screening by XRD is an increasing topic of interest in the pharmaceutical industry. Using the latest diffraction technology, full diffraction patterns can be obtained as fast as 30 milliseconds [1]. However, until recently, interpretation of those diffraction patterns has been restricted to user intervention. The role of the individual user has been changed with the development of new software technology resulting in overall data analysis times being drastically reduced.

In this study, brand name drugs were analyzed in concert with generic counterparts for variations in crystalline quality, quantity and overall composition. An automated procedure for screening the material was developed, based on user-defined criteria, resulting in a significant reduction in analysis time over previous analysis methods.

[1] Rapid XRD Screening for Combinatorial Chemistry on the Millisecond Time Scale, J.B. Litter, U. Preckwinkel, B. Nechkash, B.B. He, K. Smith, Denver X-Ray Conference 2001