

PHARMACEUTICAL ROUND ROBIN FOR QUANTITATIVE PHASE ANALYSES

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A series of round robin measurements have been organized by the International Centre for Diffraction Data to provide comparisons between different instruments located throughout the world. Most of these have used corundum plates, SRM-1976, now routinely available from NIST. The idea of a round robin is to allow participants to compare their data with data collected in other laboratories using various instruments throughout the world.

In this talk, we will briefly discuss the results of several round robins as background preparation for a Pharmaceutical Round Robin. This invariably leads to a discussion and exploration of systematic errors of measurement and sample preparation techniques.

Several round robin programs have been carried out under the auspices of the International Union of Crystallography [1,2] and we recommend that this literature be reviewed as a necessary precursor to our Pharmaceutical Round Robin.

In our pharmaceutical round robin, we will focus on mixtures of an active pharmaceutical ingredient, excipient and silicon. In design, the silicon is used as an internal standard so that estimates of crystallinity can be made.

[1]. I. C. Madsen, Nicola V. Y. Scarlett, Lachlan M. D. Cranswick and Thaung Lwin, J. Appl. Cryst. 34, 409-426 (2001).

[2]. "Outcomes of the International Union of Crystallography Commission on Powder Diffraction Round Robin on Quantitative Phase Analysis: samples 2, 3, 4, synthetic bauxite, natural granodiorite and pharmaceuticals", Nicola V. Y. Scarlett, Ian C. Madsen, Lachlan M. D. Cranswick, Thaung Lwin, Edward Groleau, Gregory Stephenson, Mark Aylmore and Nicki Agron-Olshina, J. Appl. Cryst. 35, 383-400 (2002).