What is in your pill? What about theirs?

Peter W. Stephens
Department of Physics & Astronomy, SUNY, Stony Brook, NY 11794-3800
and
National Synchrotron Light Source, Brookhaven National Laboratory, 11973

X-ray powder diffraction is an extremely powerful technique for assay and quantification of crystalline phases. It is particularly important when applied to various aspects of the pharmaceutical industry, from the initial phases of research and development to patent protection and avoidance.

I will review recent experience in the following topics, with a particular emphasis on the use of synchrotron radiation.

- Pitfalls of using databases for reference information.
- Advantages of using high resolution (synchrotron) data for analysis of mixtures and pure phases.
- Indexing is usually trivial with high resolution data.
- Advantages and complications of using intact pills as samples for x-ray measurements.
- The International Union of Crystallography Commission on Powder Diffraction Round Robin on Quantitative Phase Analysis: why were there so few takers on the pharmaceuctial samples, and why were the results so bad?
- Access for newcomers.

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