

SPECIAL FEATURE SECTION: POLYMORPHISM AND CRYSTALLIZATION

Editorial

Interest in the important topic of crystallisation and polymorphism, and related issues, continues to grow, particularly in the pharmaceutical industry. The increasing complexity of new drug molecules presents a challenge for the process chemist and engineer, not only in synthesis, but also in control of crystal form and the physical properties of the solid that are important for consistent formulation and drug delivery. Control of impurities is seen as an issue which not only affects the specification but also can affect the form of the product crystallising, and we hear at industrial conferences, as well as in academic circles, many tales of appearing and disappearing polymorphs possibly arising after impurities at low levels have been removed after an improved process has been developed.

This is the fourth special issue on Crystallisation and Polymorphism, the last one being in 2005. This issue contains 22 papers on a wide variety of topics, some of which will be educational and thought provoking, as well as describing new science. I would like to thank all the authors who submitted papers to this special issue for their contributions. In addition, I should also mention the reviewers who have, by their criticism and comments, enhanced all of the submitted articles by weeding out inaccuracies or pointing out sections which were unclear to the reader, adding important references etc., and in many cases challenging the author to produce a better manuscript. The reviewers do a sterling job, and I thank them all for their service to the journal.

That crystallisation and polymorphism is of increasing importance is evidenced by the appearance of two new books in 2009, both of which are highly recommended; of course, detailed book reviews will appear in *Organic Process Research & Development* (OPRD), but I would like readers to be made aware of them now. *Crystallization of Organic Compounds - An Industrial Perspective* is written by four chemists/engineers from Merck (Tung, Paul, Midler, McCauley) and published by

Wiley. It is different from any other book on crystallisation in that it contains detailed case studies, all from Merck U.S.A., which will be invaluable to the process chemist/engineer involved in scale up of such processes. There are lots of practical tips, too.

The second book to appear in 2009 is the much awaited second edition of Harry Brittain's *Polymorphism in Pharmaceutical Solids*. This is an expanded and enhanced version of the well-received first edition and also makes excellent reading.

Further evidence of the importance of this subject is in the increasing number of conferences devoted to crystallisation, polymorphism, cocrystals, etc.—some scientists have suggested there are too many events with the same speakers and likened them to a travelling circus! Training courses are also on the increase, since scientists—often organic chemists—need to embrace a new discipline which is quite difficult to keep up with, since papers can appear in engineering, analytical chemistry, or pharmacy journals as well as OPRD and *Crystal Growth & Design*. The multidisciplinary nature of the subject makes it all the more fascinating to me and also makes it open to different approaches for solving crystallisation/polymorphism problems in industry.

We can all benefit from the ideas emanating from other disciplines and by reading articles written by scientists and engineers from these disciplines. This special issue provides a forum where the different disciplines can publish together, and readers will hopefully find this attractive.

Once again, thanks to all authors and reviewers, and to the companies sponsoring the work, for allowing the papers to be published.

Trevor Laird
Editor

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