

book reviews

Works intended for this column should be sent direct to the Book-Review Editor, whose address appears in this issue. All reviews are also available from **Crystallography Journals Online**, supplemented where possible with direct links to the publisher's information.

books received

The following books have been received by the Editor. Uncritical notices are given under this heading instead of reviews in order to facilitate rapid communication.

Macromolecular Crystallization and Crystal Perfection. By Naomi E. Chayen, John R. Helliwell and Edward H. Snell. Pp. xi+221. Oxford: Oxford University Press, 2010. International Union of Crystallography Book Series, Monographs on Crystallography 24. Price (hardback) £65. ISBN-13: 9780199213252.

This book aims to address the science behind obtaining the best and most complete structural data possible for biological macromolecules so that the detailed structural biology and chemistry of these important molecules can emerge. Crystal imperfections such as twinning and lattice disorders are also described. The small-crystal frontier in microcrystal crystallography, crystallites in powders right down to the proposed single-molecule structure determination using X-ray lasers,

are covered. Overall this interdisciplinary book will interest crystal growers, X-ray and neutron physicists as well as biological, chemical and physical crystallographers. *Contents:* 1, Introduction; 2, Crystallization theory; 3, Practical methods of crystallization; 4, Screening; 5, Optimization; 6, Strategies to apply when high-quality crystals cannot be obtained; 7, Membrane proteins; 8, Alternative approaches; 9, Experimental aspects; 10, Analysis of the molecular short-range order; 11, Analysis of long-range order; 12, Macromolecular crystals and twinning; 13, Other macromolecular crystal diffraction disorders; 14, Degradation and improvement of crystal perfection; 15, Unusual diffraction geometries; 16, Making the most of difficult crystals – beamline and detector optimization; 17, Protein powders – making the most of tiny crystallites in bulk; 18, Complementary techniques; 19, The X-ray laser and the single molecule – crystal needed?; 20, Overall summary and future thoughts.