

Book Review

Analytical Ultracentrifugation: Techniques and Methods
Edited by David J. Scott, Stephen E. Harding, and Arthur J. Rowe (University of Nottingham). Royal Society of Chemistry: Cambridge. 2005. xxiv + 588 pp. \$250.00. ISBN 0-85404-547-3.

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A meeting on the state of analytical ultracentrifugation (AUC) held in Oxford, England in 2004 stimulated the development of this book, which is a collection of invited papers from the meeting. Although the field is 85 years old, recent developments in instrumentation coupled with the vigorous fields of proteomics and genomics have given this technique new prominence. Recognizing that researchers who have recently adopted the AUC method generally do not have a fundamental knowledge of the underlying principles, the editors have judiciously selected a set of invited papers that form tutorial chapters at a level understandable to the beginner. These principles provide a thread of understanding for subsequent chapters that follow, where a mix of applications, rigorous theory, instrumentation development, and data analysis protocol gives an up-to-date overview of the field covering the full range of complexity. Consequently,

this book is a valuable reference for anyone involved or interested in all aspects of modern AUC with a good perspective of the “state-of-the-art”. The chapters cover a breadth of applications including large-scale properties of genomes, protein–DNA interactions, properties and interactions of polysaccharides, protein domains, membrane proteins, and colloids.

For the reader who has not followed the recent acceleration in AUC technology, efficiently documented in this book, it is not difficult to be impressed with the wealth of molecular-level information that can be gleaned from measuring how a particle traverses the ultracentrifuge cell. From this measurement linked with theory and dedicated AUC software, properties at the molecular level—difficult to measure by any other method—are extracted in surprising detail. This sentiment underlies the theme of this well-executed book.

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