

New Books and Publications

The Biogeochemistry of Iron in Seawater

David R. Turner and Keith A. Hunter

Series on Analytical and Physical Chemistry of Environmental Systems, Vol. 7

John Wiley & Sons, New York, 2001, pp. 396.
(ISBN 0-471-49068-7)

The proposal that a lack of iron can limit phytoplankton growth in the oceans was first put forward in the 1930s, but it was not until the 1980s that developments in clean sampling and analytical techniques had advanced sufficiently to allow accurate measurements of iron at trace levels. Intensive research carried out during the 1990s (known as the "Iron Age of Oceanography") provided a wealth of new information on the biogeochemistry of iron in seawater. The field has now advanced to a stage where a critical analysis of progress to date can be of considerable benefit to the research community as a whole.

This book, written by acknowledged experts and reviewed by international specialists, provides the authoritative and comprehensive review of the subject area. A joint venture between the Scientific Committee for Ocean Research and IUPAC, it expertly addresses the current state of knowledge on the subject and covers chemical speciation, analytical techniques, and the transformation of iron.

The book includes evidence for iron limitation of primary production of high-nutrient, low-chlorophyll areas in the ocean and offers a wealth of new information. It is ideal for marine scientists, oceanographers, environmental analytical chemists, and others studying the environmental impact of metals and their role in marine ecosystems.



[http://www.iupac.org/publications/
books/author/turner.html](http://www.iupac.org/publications/books/author/turner.html)

Polymerization Processes and Polymer Materials, Volumes I and II

Z. Florancyk, S. Penczek, S. Slomkowski (Eds.)

Macromolecular Symposia, Vol. 174 & 175.

Wiley-VCH, 2001, 434 pp. (Vol. I—ISBN 3-527-30336-7) and 428 pp. (Vol. II—ISBN 3-527-30337-5).

In 2000, over 1500 participants from 54 countries attended the World Polymer Congress—the 38th International Symposium on Macromolecules (sponsored by IUPAC), held 9-14 July at the Warsaw University of Technology. These books, Volumes 174 and 175 of the *Macromolecular Symposia*, contain 86

invited and plenary lectures from the Congress. The scientific program of the Congress—organized by the Department of Polymer Chemistry of the Centre of Molecular and Macromolecular Studies of the Polish Academy of Sciences in Lodz and the Chemistry Department of the Warsaw University of Technology—was divided into 16 Sections and covered such areas as synthesis, radical polymerization, ionic polymerization, polyolefins, branched and star-like macromolecules, biorelated and environmentally friendly polymers, and electrical, optical, and dielectric properties of polymers.



[http://www.iupac.org/publications/macro/
2001/174_preface.html](http://www.iupac.org/publications/macro/2001/174_preface.html)

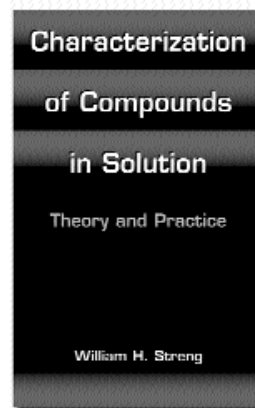
Characterization of Compounds in Solution: Theory and Practice

William H. Streng

Kluwer Academic/Plenum Publishers, New York, 2001.
(ISBN 3-306-46595-7)

The purpose of this book is to discuss concisely and comprehensively solution properties of compounds that are most important in the area of pharmaceuticals. While there are many topics that can be included in a discussion on solution properties of compounds, the following are the most critical in the area of pharmaceuticals: equilibrium constants, partition coefficients, general solubility, solubility in protic solvents, and solution stability. The ambitious concept of this book is to bring together these topics in a logical and concise manner.

After an introductory chapter on compound characterization, the theoretical chapters of Streng's book cover thermodynamics, kinetics, equilibrium constants, partition coefficient, solubility, solubility of weak acids and bases, solution stability, and instrumentation. Clearly, most of these chapters could easily fill a volume in itself, but the truly original idea of the book is the self-sufficient description of theory and practice used for characterizing compounds in solution. The remaining chapters cover procedures and examples for the practical investigation of equilibria, partitioning, solubility, and solution kinetics.



The strength of this book lies in the chapters on instrumentation and solution kinetics. Here the author draws from his scientific experience and convincingly shows how a general knowledge in physical chemistry is applied to obtain experimentally reliable information and theoretically sound interpretations.

The digressions in some of the introductory remarks of the individual chapters are doubtless a matter of taste. For example, the comparison of chemical kinetics with a road between two cities that are separated by a small or a tall mountain seems—from the reviewer's point of view—a bit too simplistic.

In addition, some misleading statements in the theoretical chapters should be eliminated in the next edition. For example, in one section a catalyst is described as "shifting the equilibrium to the right." However, catalysts increase the rate at which equilibrium is attained, but do not effect its position.

To summarize, it can be said that Streng's book covers compactly a wide variety of theoretical and practical aspects of characterizing compounds of pharmaceutical relevance using physicochemical methods. It will be most beneficial to readers who plan to set up their own experimental investigations to characterize compounds in solution.

Reviewed by Heinz Gamsjäger, Montanuniversität Leoben, Austria.



<http://www.wkap.nl/prod/b/0-306-46595-7>

CRC Handbook of Optical Resolutions via Diastereomeric Salt Formation

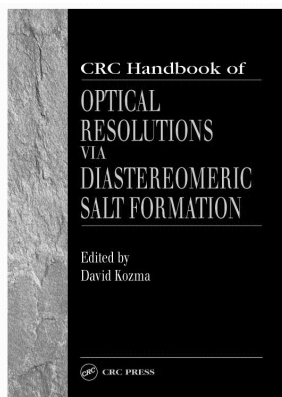
Dávid Kozma (Ed.)

CRC Press, September 2001, pp. 800.

(ISBN 0-8493-0019-3)

Optically active compounds are gaining ever-increasing importance in organic chemistry, both in the academic and the industrial arenas. The rational synthesis of the growing number of chiral chemicals, drugs, and natural products demands efficient methods for producing these compounds in an enantiomerically, highly pure form. Despite the available alternative techniques, optical resolution via diastereomeric salt formation remains the most widely used method of preparing pure enantiomers.

This is the first book to exclusively address this important organic chemical process. It provides fast, one-stop access to a



wealth of information, including all of the available data on 100 resolving agents, a list of 500 optically active compounds available in bulk and a list of their suppliers, data on more than 3500 resolutions, and 4200 citations. With an abundance of analyzed examples, this single, authoritative reference provides all of the information necessary to perform, develop, and optimize optical resolutions via diastereomeric salt formation.



<http://www.crcpress.com>

New Books from the World Health Organization

Water Quality: Guidelines, Standards, and Health-Assessment of Risk and Risk Management for Water-Related Infectious Disease

L. Fewtrell and J. Bartram (Eds.)

World Health Organization, Geneva, Switzerland, 2001.

(ISBN 92-4-154533-X)

Evaluation of Certain Food Additives and Contaminants: Fifty-Fifth Report of the Joint FAO/WHO Expert Committee on Food Additives WHO Technical Report Series, No. 901. World Health Organization, Geneva, Switzerland, 2001.

(ISBN 9-241-20901-1)

WHO Model Prescribing Information: Drugs Uses in Bacterial Infections

World Health Organization, Geneva, Switzerland, 2001, (ISBN 9-241-40107-9)

Current Challenges in Pharmaco-vigilance: Pragmatic Approaches-Report of CIOMS Working Group V

Council for International Organizations of Medical Sciences, Geneva, Switzerland, 2001.

(ISBN 9-290-36074-7)



<http://www.who.int/dsa/justpub/justpub.htm>

New Books from the American Oil Chemists' Society Press

Proceedings of the World Conference on Oilseed Processing and Utilization

Richard Wilson (Ed.)

American Oil Chemists' Society Press, Champaign, IL, USA, 2001. (ISBN 1-893-99720-0)

Soy Protein Products: Characteristics, Nutritional Aspects, and Utilization (Revised and Expanded)

Joseph G. Endres (Ed.)

American Oil Chemists' Society, Champaign, IL, USA, 2001. (ISBN 1-893-99727-8)



<http://www.aocs.org>