

## *Additions and Corrections*

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**Two Crystalline Forms of Low-Spin [Fe(TMP)(5-MeHIm)<sub>2</sub>][ClO<sub>4</sub>. Relative Parallel and Perpendicular Axial Ligand Orientations** [*J. Am. Chem. Soc.* **1999**, *121*, 11144–11155]. ORDE Q. MUNRO,\* JUDITH A. SERTH-GUZZO, ILONA TUROWSKA-TYRK, K. MOHANRAO, TATJANA KH. SHOKHIREVA, F. ANN WALKER,\* PETER G. DEBRUNNER,\* AND W. ROBERT SCHEIDT\*

Page 11154, bottom left-column paragraph: The four occurrences of “ $\Delta/\lambda$ ” should all read “ $V/\lambda$ ”.

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## *Book Reviews* \*

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**Modern Electrochemistry 1. Volume 1. Ionics. Second Edition.**

By John O'M. Bockris (Molecular Green Technology, TX) and Amulya K. N. Reddy (International Energy Initiative, Bangalore). Plenum: New York. 1998. iii + 767 pp. \$95.00. ISBN 0-306-45554-4 (Hardbound). \$49.50. ISBN 0-306-45555-2 (Paperback).

Ions play an important role in electrochemical reactions, making it essential to learn ionics in order to understand electrochemistry. Thus, there is a clear need for a book such as this that outlines the theories and measurements of the behavior of ions in solution. This second edition, which follows the very successful and influential first edition, covers both classic models and theories of ionics as well as new technologies, discoveries, and challenges to the field.

The book includes five chapters. Chapter 1 gives an introduction and overview of electrochemistry from its birth to its future prospects. This interesting chapter includes new advances in the field that were not discussed in the first edition. The role of electrochemistry as a distinct interdisciplinary field in modern sciences is also discussed. Chapter 2 describes ion–solvent interactions. Classic models and theories of the solvation of ions, traditional and modern tools for measurements of solvation, and computer simulation approaches to the study of ionic solvation are well presented. Chapter 3 discusses ion–ion interactions. Debye–Hückel theories of ion–ion interactions and activity coefficients, computer simulation in the theory of ionic solution, and spectroscopic approaches to the study of ionic solution are introduced. Chapter 4 describes ion transport in solution. Basic concepts and theories of diffusion and conduction are presented in a clear step-by-step fashion, giving the readers a broad sense of ion transport as well as in-depth information. Chapter 5 is devoted to ionic liquids and gives a good overview and introduction to new exploration and development in the field of room-temperature molten salts. The distinguishing features and special characteristics of melts are compared with those of other solvents, and the future prospects of ionic liquids are discussed.

As pointed out in the preface of the book, lucidity is the goal of the authors, and they have succeeded admirably in this. The complex nature of ionics with its required understanding of mathematics, physical chemistry, and quantum mechanics is presented and explained in a clear and easily understood style. Nonetheless, the background required in these subjects makes this book difficult for readers lacking it.

The literature citations of the book are comprehensive and include classic articles and experiments as well as research papers and review articles on new advances and developments in the field. Although several new technologies and tools for the study of ions in solution are introduced in this book, single-molecule detection is not. This is a regrettable omission given the interest in real-time measurement of single-molecule (ions) diffusion in solution and single-electron transfer

at interfaces and the potential impact of these extraordinarily powerful tools on the study of ionics. Perhaps the third edition will include them.

In conclusion, this is an excellent book that outlines basic theories and measurements of ions in solution and ionic liquids. There is no doubt that readers from a variety of research areas will benefit from it. The book is well suited to serve as a reference book or reading material for electrochemistry courses. It should also serve as a very useful and important handbook for electrochemists who are engaged in active research or teaching.

Xiaohong Nancy Xu, *Old Dominion University*

JA9857110

10.1021/ja9857110

**Houben-Weyl. Methods of Organic Chemistry. Additional and Supplementary Volumes to the 4th Edition. Volume E 10 b/ Part 1. Organo-Fluorine Compounds.** Edited by Bernd Baasner (Bayer AG, Leverkusen), H. Hagemann (Bayer AG, Leverkusen), and J. C. Tatlow (Birmingham). Georg Thieme Verlag: Stuttgart. 1999. xvi + 722 pp. DM 3300. ISBN 3-13-220304-1.

Written by leading experts in the field, this valuable source book surveys the academic and patent literature of the synthesis of fluorinated compounds through the 1990s.

JA995799X

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**Current Trends in Organic Synthesis.** Edited by Carol Scolastico and Francesco Nicotra (University of Milan). Kluwer Academic: New York. 1999. x + 370 pp. \$99.50. ISBN 0-306-46130-7.

This book reports on new developments in the field of organic synthesis, with particular emphasis on combinatorial chemistry, as presented at the XII International Conference on Organic Synthesis in 1998. The following topics are included: combinatorial chemistry, new synthetic methods, stereoselective synthesis, metal-mediated synthesis, and target-oriented synthesis.

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\*Unsigned book reviews are by the Book Review Editor.