Additions and Corrections

Diastereomeric 1,4,7,10-Tetrakis((*S*)-2-hydroxypropyl)-1,4,7,10-tetraazacyclododecane and Its Alkali Metal Complex Ions. A Nuclear Magnetic Resonance, Potentiometric Titration, and Molecular Orbital Study [*J. Am. Chem. Soc.* **1997**, *119*, 6126−6134]. RAMESH S. DHILLON, SAMER E. MADBAK, FRANK G. CICCONE, MARK A. BUNTINE, STEPHEN F. LINCOLN,* AND KEVIN P. WAINWRIGHT

In Table 2 the twist angles of the C_4 systems should read −2, −2.5, and +13, respectively, consistent with Λ chirality for Λ*S*-thpc12 and Λ[Na(*S*-thpc12)]$^+$ as stated and Δ chirality instead of Λ chirality for Δ[K(*S*-thpc12)]$^+$. The latter correction applies throughout the paper.

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Diastereomeric Δ-1,4,7,10-Tetrakis((*R*)-2-hydroxy-2-phenylethyl)-1,4,7,10-tetraazacyclododecane and Its Alkali Metal Complex Ions. A Potentiometric Titration, Nuclear Magnetic Resonance, and Molecular Orbital Study [*J. Am. Chem. Soc.* **1998**, *120*, 2862−2869]. SONYA L. WHITBREAD, PETER VALENTE, MARK A. BUNTINE, PHILIP CLEMENTS, STEPHEN F. LINCOLN,* AND KEVIN P. WAINWRIGHT*

In the Molecular Orbital Calculations section, in the captions to Figures 7 and 8, and in Table 3 the *R* designation of the stereocenters should read *S*. In Table 3 the twist angles of the C_4 systems should read −2.5, −2.5, +14.5, +13.5, and +12, respectively, consistent with the stated Δ chiralities with the exception of the free ligand and the Na^+ complex, which should be designated Λ*S*-thpec12 and Λ[Na(*S*-thpec12)]$^+$ here and also in Figures 7 and 8. Elsewhere, Δ[M(*R*-thpec12)]$^+$ should read Λ[M(*R*-thpec12)]$^+$ where $M^+ = K^+$, Rb^+, and Cs^+.

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Book Reviews

Clathrate Hydrates of Natural Gases, 2nd ed., Revised and Expanded. Chemical Industries Series/73. By E. Dendy Sloan, Jr. Marcel Dekker, Inc.: New York. 1998. 754 pages. $195.00. ISBN 0-8247-9937-2.

Clathrate hydrates of natural gases are crystalline inclusion compounds, where water forms a crystalline "host" lattice with small gas molecules such as methane, trapped in the crystal's interstices. Because of their unique physical structure and their importance to many industries, these compounds have fascinated scientists and engineers for many decades. For those interested in gas hydrates, the second edition of *Clathrate Hydrates of Natural Gases*, by E. Dendy Sloan Jr., an updated and expanded version of the superb first edition, can be a valuable asset as a reference for the experienced researcher, or as an introduction for the novice. The author has been conducting research on gas hydrates for more than twenty years and his expertise shows in the book's organization and content. Both editions provide broad and detailed overviews of our understanding of clathrate gas hydrates, particularly in the context of the petroleum and natural gas industries. As in the first edition, this volume covers the history of gas hydrate research and applications, the structure of gas hydrates, the kinetics of hydrate formation, phase behavior including experimental methods and prediction of conditions where hydrates are formed (a floppy disk allows the user to easily calculate conditions of hydrate formation), the formation of hydrates in the earth, and the effect of hydrates on production, transportation, and processing of natural gas. The second edition adds the results of research conducted since 1990 with important new information on hydrate crystallization, growth, and inhibition and a new overview of structure H hydrates.

The section of hydrate kinetics, for example, has doubled in size. It contains new information on models for nucleation and crystallization, and a section on hydrate kinetic inhibitors, compounds which do not prevent nucleation, but do prevent growth of the crystals. Because inhibition of hydrates is of great interest this addition is quite valuable. There are also some beautiful and elucidating photographs in this section showing the metamorphosis of hydrate covered drops of liquid and hydrate single crystals.

While I particularly appreciate the thoroughness of the compiled experimental data, the extensive bibliography, and the comprehensive computer programs, there are many other resources available in this monograph for both the basic scientist and the engineer. Overall, this book is well-written, well-organized, and an essential resource for anyone in the field.

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