

Book Reviews

Inorganic Chemistry Concepts. Editors: C.K. Jorgensen, M.F. Lappert, S.J. Lippard, J.L. Margave, K. Niedenzu, H. Noth, R.W. Parry and J.H. Yamatera. Vol. 10, by K. Sone and Y. Fukuda, *Inorganic Thermochromism*. Springer-Verlag, Berlin–Heidelberg–New York–London–Paris–Tokyo. 1987, 71 figs., 16 tables, pp. xi + 134, 390 g, hard cover, DM 168. ISBN 3-540-17662-4.

This book is Volume 10 in a series of *Inorganic Chemistry Concepts* published by Springer-Verlag.

This is an unusual, indeed unique book, covering for the first time the field of thermochromism. The authors deal in considerable depth with (i) cobalt chloride/solvent systems, (ii) the very extensive thermal equilibria observed in nickel complexes involving interconversion of octahedral nickel with tetrahedral, planar or five-coordinate nickel, (iii) thermochromic copper complex systems and (iv) a range of other miscellaneous topics including spin cross-over, solvatochromic systems etc. There is also a chapter on solid state phenomena.

The discussion is intensive with many figures displaying the phenomena. Solvatochromic/thermochromic systems are related to the Gutmann donor/acceptor terminology. Coordination chemists interested in the effect of temperature on structure and equilibria will find this book fascinating. The presentation is lucid and easy to follow.

This reviewer does, however, feel bound to say that he regrets the use of the word thermochromism to cover such a wide field. In essence, the word is defined here to be valid for any $A + X \rightleftharpoons AX$ system where spectroscopic changes can be observed with change of temperature. This must, in effect, cover millions of systems, especially if the temperature change concerned can be varied from cryogenic to hundreds of degrees above ambient. Such a wide definition of thermochromism has little value. Rather the term might have been retained for single molecules whose spectroscopic properties change as a consequence of thermally variable bond lengths, outer-sphere solvation etc.

Nevertheless it is an interesting book!

The Editor's desk