

Book review

Low-Frequency Vibrations of Inorganic and Coordination Compounds; by John R. Ferraro, Plenum Press, New York, 1971 (distributed in Europe by Heyden & Son Ltd., London, and Heyden and Son, GmbH, Rheine/Westf., Germany), 309 + xiv, price £8.75 (D.M. 75.00).

This book is the latest of several which describe the applications of far infrared spectroscopy to inorganic and coordination compounds. It differs in some respects from the others in that there is no attempt to provide an introduction to normal coordinate analysis, nor is the literature coverage comprehensive, but rather representative.

The early chapters (in which wavenumbers and microns are used interchangeably) deal with instrumentation and practical aspects. The historical introduction is of slight value, and the discussion of current commercial instruments refers to 1969, but is a useful survey of the large variety of machines available. The chapter on sampling techniques and instrument calibration is of value, but might well have been expanded.

One short chapter is devoted to slow-neutron scattering and high-pressure methods. This is also rather too superficial. It is annoying in so expensive a book to find a section headed "Theory" containing only the following: "A discussion of the theory of slow-neutron scattering is beyond the scope of this book. The interested reader is referred to. . . ." We are left in general ignorance of how slow-neutron scattering leads to the results quoted.

The final chapters (by far the greater part of the book) deal with metal-ligand vibrations. An understanding of symmetry and group theory is assumed in the text, although factor group analysis is treated in one of the appendices. These chapters, which cover the literature up to some time during 1969, provide a valuable general guide to the interpretation of far infrared data, and complement the book by Adams, which only goes as far as 1966, at best.

In summary, this is a useful book, which is a good introduction for a chemist starting work in the far infrared spectroscopy of inorganic compounds, but which will require supplementation for detailed theoretical treatments and for full literature coverage. The price, which is about normal for such books today, seems high, particularly for a work with a preface dated January 1970, but published in March, 1971.

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