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Book review

TRANSITION METAL HYDRIDES (Advances in Chemistry Series No. 167), R. Bau, ed., American Chemical Society, Washington, D.C., 1978, ix + 429 pages, \$ 42.00

This reviewer usually does not welcome volumes of symposium proceedings since often they are composed of a potpourri of papers which, because of delays in manuscript submission and the publication process, are rather out of date when they finally appear. The present book is an exception in that it is really a good and a useful book. The symposium, whose proceedings are presented in this volume, was organized by Robert Bau for the 2nd Joint Conference of the Chemical Institute of Canada and the American Chemical Society at Montreal in 1977. It was a well-conceived conference which covered the subject of transition metal hydrides in breadth and in some depth.

This volume brings a collection of 26 papers which spans the entire currently important field of transition metal hydride chemistry. The first seven papers are devoted to results of structural studies of molecular transition metal hydrides by X-ray and neutron diffraction techniques. The chemistry of this compound class, including catalytic applications, is discussed in the next seven contributions. Spectroscopy and bonding are the subjects of four further papers on molecular hydrides. The remaining eight papers deal with those binary and ternary transition metal hydrides which form diverse types of solids ranging from ionic crystals through semiconductors to metals. These are the domain of the solid state chemist and physicist, but in view of their applications in catalysis and their hydrogen storage capability, some of these hydrides will be of interest to the inorganic chemist as well.

Many of the workers in the United States and Canada who are active in these areas are represented in this book: Dahl, Ibers, Bau, James, Bercau, Roundhill, Norton, Kaesz, Shriver, Churchill, Ginsburg. Two newcomers to the molecular transition metal hydride area, Geoffroy and Labinger, have provided very nice contributions on the photochemistry of such hydrides and on niobium carbonyl hydrides, respectively.

This book will be of interest to inorganic, organometal-

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lic and solid state chemists since it is a useful, well-balanced "state-of-the-art" report on an interesting and important area of modern chemistry. An author index and a detailed subject index are provided, and Bau's preface steers the reader to more general reviews and books on transition metal hydrides.

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