

### Chemical Kinetics

By Prof. Keith J. Laidler. (International Chemical Series.) Pp. ix+408. (London: McGraw-Hill Publishing Co., Ltd., 1950.) 47s.

THERE has been a real need for a modern and intelligible book on chemical kinetics, and the present volume seems to provide such a book. It includes what may be called the classical material, in which it is pleasing to find that the contributions of those who laid the foundations of the subject are adequately recognized. The style is clear and concise, so that a large amount of information is presented in a readable form. Adequate references to literature are given, not confined to American publications.

All the important topics are covered, and special mention may be made of the clear accounts of the theory of absolute reaction-rates, which many students find difficult, and of chain reactions. Photochemical processes are included, and there is a good summary of polymerization. The experimental methods are briefly explained. It might have been mentioned on p. 34 that 'Pyrex' glass often gives anomalous results; the point is brought out later, but it could have been emphasized, since some apparent contradictions in results are due to this fact, as is mentioned on p. 52. There are useful short tables of results, and a selection of problems at the end of each chapter will be useful to students and teachers.

The chapter on catalysis is to some extent rather confused by the contradictory results of different workers, and in such cases it might have been better in an elementary work to wait until the subject is a little more clarified in such parts. They are more suited to a report than a text-book. All the same, it may be hoped that students beginning research may be stimulated by such contradictions to undertake work in the field. The book is one which can be warmly recommended as giving a modern and adequate account of its subject within its standard.

J. R. P.

### Substances naturelles de synthèse

Préparations et méthodes de laboratoire. Collection publiée sous la direction de Dr. Léon Velluz. Vol. 3. Par J. Mathieu, P. Poirier, A. Petit et Dr. L. Velluz. Pp. 156. (Paris: Masson et Cie., 1951.) 1,750 francs.

THE third volume of this series follows the same plan as the two previous volumes (see *Nature*, 169, 169; 1952). It gives details, taken from current chemical literature, for the small-scale laboratory preparation of the following compounds: *dl*-glutamic acid from methyl acrylate and sodio ethyl acetamidomalonate (Snyder, Steckleton and Lewis, *J. Amer. Chem. Soc.*, 1945); *dl*-3:4-dihydroxyphenylalanine from piperonal (Barry, Mattocks and Hartung, *J. Amer. Chem. Soc.*, 1948); œstradiol from the acetate of dehydroandrosterone (Wilds and Djerassi, *J. Amer. Chem. Soc.*, 1946); *dl*-ornithine from acrylonitrile and ethyl acetamidomalonate (Albertson and Archer, *J. Amer. Chem. Soc.*, 1945); and thiamin (vitamin B<sub>1</sub>) (Gravin, *J. Chim. App. U.R.S.S.*, 1943). There are many additional notes on the preparation of intermediates, and on a variety of topics connected with the syntheses, including the Michael reaction, aliphatic nitroso compounds, bromination of 3-ketosteroids, syntheses of equilenin and œstrone, the Stobbe reaction, cyanoethylation, the synthesis of pyrimidines and thiazoles, the preparation of alcohols from amines, and oxythiamine.

Two sections deal at some length with the preparation of thiazoles and benzthiazoles, and with the synthesis of  $\alpha$ -amino-acids. These articles tabulate many thiazoles and amino-acids, with their methods of preparation and the relevant references. There is finally a short article on the determination of melting points, and the book is completed by a table of contents, and author and compound indexes to the experimental sections.

W. BAKER

### Treatise on Powder Metallurgy

By Dr. Claus G. Goetzel. Vol. 3: Classified and Annotated Bibliography. Pp. xxiv+899. (New York: Interscience Publishers, Inc., 1952.) 22 dollars.

THIS is the third, and last, volume of Dr. C. G. Goetzel's "Treatise" (see *Nature*, 168, 133; 1951), and its appearance crowns a magnificent achievement. It consists of a classified and annotated bibliography and comprises, with indexes, etc., 899 pages. After a short preface, with acknowledgments and a section on the use of the bibliography, there is a full contents table giving the sub-divisions of chapters and sections. The bibliography follows the same order and divisions of subject as that in the preceding volumes. The literature survey comprises 5,535 separate references, each accompanied by a short annotation indicating the main subject and sufficient to indicate the necessity or otherwise of further study. References are complete to January 1, 1950, and careful search has failed to disclose any important gap.

The patent index cites 6,330 patents, including American and British, and many French, German and other Continental countries. There is a complete subject index, and the very full name index differentiates between literature and patents by using Arabic numerals for the former and italic numerals for the latter.

Now that the complete treatise on powder metallurgy is available, it is possible to appreciate the magnitude of Dr. Goetzel's work and to assess, in part at least, the nature of the contribution he has made to all present and future workers in this field. There can be no question that this "Treatise" will provide the standard work on the subject for many years to come and will be indispensable in every reference library on metallurgy.

H. W. GREENWOOD

### Preparation of Organic Intermediates

By Prof. David Allen Shirley. Pp. x+328. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1951.) 48s. net.

ALTHOUGH the range of organic chemicals offered by chemical manufacturers is ever increasing, more often than not a certain intermediate which is needed for a synthesis is not available, and the laboratory worker has to resort to its preparation. Usually, he first refers to "Organic Syntheses" to see whether preparative details are given in one of the several volumes of the series. If not, he has to search the original literature and often make a judicious selection. This book contains specific preparative information on more than five hundred useful organic compounds. The preparations listed are all taken directly from the literature, but the author is to be congratulated on the selection of compounds included and the preparative methods adopted. The criteria which determined his choice