

## Book reviews

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*Houben—Weyl, Methoden der Organischen Chemie, 4th Edition, Vol. IV, Part 1b, Oxidation II*; edited by Eugen Muller, xxxii + 1244 pages, 5 figures and 174 tables; Georg Thieme Verlag, Stuttgart, 1975, DM 660.

The present volume of the well-known "Houben—Weyl" deals with oxidation reactions. Especially oxidations with metallic organic reagents are presented. A chapter each is devoted to anodic oxidations and inhibition of oxidation reactions. The material is presented in a total of 18 chapters with the individual chapters being: Oxidations and dehydrations in an alkali melt and alkaline solutions (A. Stemmig and O. Bayer); Cu, Ag, and Au compounds as oxidizing agents (D. Manegold); Hg compounds as oxidizing agents (A. Friedrich); Tl compounds as oxidizing agents (G.W. Rotermund); Ce(IV) and Sn(IV) salts as oxidizing and dehydrating agents (G. Mathias); Pb compounds as oxidizing agents (G.W. Rotermund); Bi and V compounds as oxidizing agents (A. Stossel); Cr compounds as oxidizing agents (H.G. Bosche); Mn compounds as oxidizing agents (D. Arndt); Fe(III) compounds as oxidizing agents (G.W. Rotermund and R. Seubert); Co, Ni, and Ru, Rh, Pd, Os, and Pt compounds as oxidizing agents (G.W. Rotermund, K.H. Stecher, and H. Wistuba); oxidations and dehydrations with quinones (H.H. Stechel); oxidations and dehydrations with carbonyl compounds; Oppenauer oxidation (H. Lehmann); organic iodine compounds as oxidizing agents (H. Küppers); organic nitroso compounds as oxidizing agents (T. Burger); organic nitro compounds as oxidizing agents (L. Golser); electronic oxidations and dehydrations (A. Friedrich); inhibition of oxidations (R. Stroh).

The chapters generally begin with a review of the type of oxidations which can be done with the particular oxidizing agent, followed by a fairly detailed discussion of the mechanism of the oxidizing reaction. The bulk of the examples of oxidations is often presented in form of tables; thus the results are easily accessible. A commendable feature is the fact that frequently different oxidizing agents are compared as far as product formation and yields are concerned. Oxidation with manganese compounds (208 pages) as well as Pb(IV) compounds (247 pages) are rather comprehensively discussed. The concluding chapter on oxidation inhibitors contains a rather useful section on the theory of the action of antioxidants. Of note is also the citation of a significant number of patents in this chapter. A cursory check of the references reveals that the literature is covered up to 1974.

In summary then, this volume is absolutely indispensable for any laboratory in which organic syntheses are performed; it is a must for industrial and academic libraries.