

REFERENCES

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BOOK REVIEW

Annual Reports in Organic Synthesis-1970; ed. by J. McMurry and R. B. Miller, Academic Press, New York, 1971, xvi + 399 pages (paperback), \$7.50.

Organometallic chemistry has come to play an important role in organic synthesis; organometallic compounds are finding valuable application both as stoichiometric and catalytic reagents. The book under discussion is the first volume of an intended annual series whose purpose is to survey current developments in organic synthesis. The authors' approach is similar to that of "*Reactionae Organicae*" published in "*Synthesis*", only even more streamlined: the information is conveyed almost solely by means of chemical equations. The obvious advantage of this method of presentation is that it allows rapid skimming of the material presented since an equation can convey much information and requires only little reading time. However, a brief, informative title and a few lines of text for each reference thus "abstracted" (as in "*Reactionae Organicae*") would be helpful; the first to state the nature of the conversion involved, the second to provide a minimum of information concerning scope and mechanism and any unusual reaction conditions. But, as the authors point out, it is the principal purpose of this series merely to alert the interested chemist to new chemistry; for details, the reader is urged to consult the original literature.

As an organometallic chemist active at the periphery of synthetic organic chemistry, your reviewer has found this an interesting and useful book. Many examples of the application of organometallics in organic synthesis escape us because they are hidden away in long organic papers that the organometallic chemist rarely reads in detail. This volume makes it possible and easy to become aware of many of these new applications. In this book one finds examples of the use in synthesis of many organometallic reagents and intermediates, such as organolithium and organomagnesium reagents, organoboranes and organoalanes, organometallic and metal hydrides, metal carbonyls, halomethylmercury and -zinc compounds, inorganic complexes such as $(\text{Ph}_3\text{P})_3\text{RhCl}$, to mention just a few. Many of the reactions cited indeed are useful or potentially useful in synthesis, but some are not, despite the authors' claim to include only "reactions and methods which are new, synthetically useful and reasonably general." For instance, the reduction of carboxylic acids and ketones with $(\pi\text{-C}_5\text{H}_5)_2\text{ZrH}_2$ is an interesting, but hardly a useful reaction.

The present volume surveys the literature of 1970 and the authors have covered 38 major journals which publish original papers and 9 review journals. The authors' manuscript appears to have been reproduced directly by photo-offset and thus minor errors are minimized but not entirely eliminated.

A word of caution is, however, necessary. Errors more serious than those typographical do occur, and the authors' judgment in assessing the contents of a paper to be reviewed is not always without fault. An example of both these points is provided, alas!, by their handling of one of your reviewer's papers (on p. 168). First of all, the single equation given is incorrect (Friedel-Crafts acetylation and subsequent oxidation of $\text{PhCCo}_3(\text{CO})_9$ gives $p\text{-CH}_3\text{COC}_6\text{H}_4\text{CO}_2\text{H}$, not, as they state, $\text{CH}_3\text{-COPh}$), and furthermore, the more synthetically interesting and useful aspect of that paper—the first use of the $\text{Co}_2(\text{CO})_6$ moiety as a protecting group for the $\text{C}\equiv\text{C}$ bond—was not reported.

All in all, however, this relatively cheap paperback volume will prove a useful aid to the chemist who finds that lack of time and the press of other duties make keeping up with the ever-growing volume of original literature increasingly more difficult with every year.

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J. Electroanal. Chem., 35 (1972)