

Carbon-Centered Free Radicals and Radical Cations: Structure, Reactivity, and Dynamics. Edited by Malcolm D. E. Forbes (University of North Carolina, Chapel Hill). John Wiley & Sons, Inc.: Hoboken, NJ. 2010. xxii + 370 pp. \$125. ISBN: 978-0-470-39009-2.

This excellent volume is part of the “Wiley Series on Reactive Intermediates in Chemistry and Biology”. The focus of this volume is clearly on the chemistry of carbon-centered radicals and radical cations as well as methods of their characterization and detection. It certainly meets the editor’s goals by covering the most advanced computational and experimental methods for studying radical intermediates.

What this reviewer particularly enjoyed was Forbes’s historical coverage of carbon-centered free radicals, starting with a discussion of Gay-Lussac and Bunsen and others in the early 1800s. The history brings us up to Zavoisky’s important demonstration of EPR in 1945, over one year before the complementary demonstration of NMR by the groups of Purcell and Bloch. Forbes enlisted an esteemed group of contributors whose writings are clear and impressive. The presentation is pedagogical, by and large, with easy to understand, descriptive

diagrams and figures, particularly in topics such as magnetic field effects, CIDNP, CIDEF, radical pair chemistry, and various EPR and optical techniques. The book also meets the goal of helping readers exploit the synthetic utility of these intermediates. The information provided in this book will help us to understand more thoroughly the role of carbon-centered free radicals in complex atmospheric, chemical, and polymer reactions. In his own words, Forbes certainly has provided a “cradle to grave” understanding of a free-radical reaction, from characterization of excited-state precursors to structure and dynamics and eventually kinetics of product formation by the most modern spectroscopic and analytical techniques. Although not a criticism, the coverage regarding biological systems was essentially nil; however, this would most likely fill another volume. Overall this volume is relevant to both students and accomplished researchers alike and is highly recommended. The price is certainly affordable.

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