Radical and Radical Ion Reactivity in Nucleic Acid Chemistry

Michael D. Greenberg (Editor)

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DESCRIPTION

Comprehensive coverage of radical reactive intermediates in nucleic acid chemistry and biochemistry

The Wiley Series on Reactive Intermediates in Chemistry and Biology investigates reactive intermediates from the broadest possible range of disciplines. The contributions in each volume offer readers fresh insights into the latest findings, emerging applications, and ongoing research in the field from a diverse perspective.

The chemistry and biochemistry of reactive intermediates is central to organic chemistry and biochemistry, and underlies a significant portion of modern synthetic chemistry. Radical and Radical Ion Reactivity in Nucleic Acid Chemistry provides the only comprehensive review of the chemistry and biochemistry of nucleic acid radical intermediates.

With contributions by world leaders in the field, the text covers a broad range of topics, including:

• A discussion of the relevant theory
• Ionization of DNA
• Nucleic acid sugar radicals
• Halopyrimidines
• Oxidative, reductive, and low energy electron transfer
• Electron affinity sensitizers
• Photochemical generative of reactive oxygen species
• Reactive nitrogen species
• Enediyne rearrangements
• Phenoxy radicals

A unique compilation on the cutting edge of our understanding, *Radical and Radical Ion Reactivity in Nucleic Acid Chemistry* provides an unparalleled resource to student and professional researchers in such fields as organic chemistry, biochemistry, molecular biology, and physical chemistry, as well as the industries associated with these disciplines.

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### ABOUT THE AUTHOR

**Marc M. Greenberg** is a Professor of Chemistry and Director of the Chemistry Biology Interface Graduate Training Program at Johns Hopkins University. His research uses chemistry, biochemistry, and biology to fundamentally understand how DNA is oxidatively damaged, and what the effects of that damage are.

**Steven E. Rokita, PhD**, is Professor in the Department of Chemistry and Biochemistry at the University of Maryland. His research interests lie in sequence and conformation specific reactions of nucleic acids, enzyme-mediated activation of substrates and coenzymes, halogenation and dehalogenation reactions in biology, aromatic substitution and quinone methide generation in bioorganic chemistry, and copper- and nickel-mediated reactions in bioinorganic chemistry.

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### SERIES

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