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PREFACE

The chemistry and physics of organic radical ions is experiencing a period of continuing rapid development as documented by 1500 publications on the subject over the past ten years. In the early 1960s the radical ion field had reached a new level of understanding due mostly to two developments: the introduction of electron paramagnetic resonance and the recognition that the hyperfine pattern of an intermediate is related to its electron spin density distribution. Since then, additional methods of radical ion generation have been newly developed or more generally applied: radiolysis, electrochemical oxidation and reduction, photoionization, and photoinduced electron transfer. Continuing progress is being achieved in detection methods based on quantitative electrochemistry, optical spectroscopy, and magnetic resonance spectroscopy. The combination of these techniques has allowed access to radical ions with ever decreasing lifetimes and has led to new insights into their reactivity patterns and to the recognition of new structure types.

This Symposium in Print is an attempt to highlight some of the many facets of this interesting field. As *Tetrahedron* is a journal dedicated to organic chemistry, the bulk of the contributions deal with organic aspects of radical ion chemistry, either exploring their wide range of reactions or elucidating their varied mechanisms. Other papers deal with more physical aspects of radical ions, utilizing physical techniques to illuminate various facets of their structures. About one half of the contributions focus on radical ions in fluid solution; the balance deal with their characterization and their reactions in frozen solutions, at the solid/solution interphase, or in the gas phase, where many new techniques are being developed and rapid progress is being made.

By its very nature this Symposium in Print must be incomplete. Such important areas as electron transfer in bioorganic systems, photosynthesis or vision are not covered; the "classic", relatively stable radical ions such as semiquinones, ketyls, semidiones, or those derived from aromatic π systems are not included; and many long standing contributors to the radical ion field are not represented here. However, it is hoped that all the contributions reflect the interesting variety of organic radical ion chemistry and transmit the fascination of a continuously evolving field of research.

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