

New Books

J. F. Gerecht, Book Review Editor

Progress in the Chemistry of Fats and Other Lipids, Vol. XIII, Part 2, Edited by R.T. Holman (Pergamon Press, Inc., February 1973, \$6.75, paperback).

This addition to the *Progress* series consists of two sections: (1) "Spin Labeling with Nitroxide Compounds: a New Approach to the *in vivo* and *in vitro* study of Lipid Protein Interactions," W.T. Roubal; and (2) "The Effect of Ionizing Radiation on Lipids," W.W. Nawar.

In the first section, a review of ESR will serve the newcomer as an adequate introduction to the technique. The author covers this well, without extensive mathematical treatment. Discussion of the organic synthesis of the pertinent spin labels used with lipids, proteins and lipoproteins is included. Work concerning the application of this technique to lipids, membrane models, membrane ordering, drug membrane interactions, as well as both high and low density lipoproteins, is discussed. This section should be useful to those studying lipid and lipid protein interactions.

The second section is devoted to consideration of the effects of ionizing radiation in free radical production in lipids. The application of ESR to the study of the free radicals produced is discussed, from the basic theory involved, to the results obtained with irradiated fats. A comprehensive discussion of the molecular products formed through irradiation of fats covers these products formed from natural fats, and model systems composed of free fatty acids, fatty acid esters and triglycerides. The mechanisms of radiolytic decomposition and the role of irradiation in polymerization are treated in detail. A brief discussion of induced isomerization and the role of lipids in irradiation-induced off-flavors follows. This section would be of interest to chemists involved in research on oxidized fats and radiation-treated fats and fatty products.

The volume contains numerous references from 1970-71 and a few from 1972, and seems reasonably up to date. The volume does not contain an index, although each section includes both major and subsection headings in individual tables of content. The volume is relatively free of typographical error and quite readable.

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