discussed in terms of the mechanisms of antioxidant activity. Sulphur dioxide inhibits non-enzymic browning, but, in addition, sulphite-mediated oxidation of, for example, unsaturated fats, methionine and $\beta$-carotene is possible; conditions promoting such oxidation are reviewed to reconcile the apparent antioxidative effect of the additive in many foods. Primary interactions of nitrites in foods include the formation of volatile nitrosamines and of nitrosylmyoglobin, but nitrite may also interact with proteins, carbohydrates, lipids, ascorbic acid, smoke components and bacteria. Other chapters include phenol/protein interactions and their significance in astringency, physico-chemical interactions in aroma transport processes from solution, interactions of non-volatile and volatile substances, the functional properties of pectins, and interactions of confectionery components. Finally, two chapters deserve special mention and the authors should be especially congratulated. One deals with numerous interactions of milk components in food systems and the other presents a review of protein–lipid interactions in bread dough. They are extremely comprehensive and well documented. In particular, the discovery and characterisation of the highly interactive wheat protein 'ligolin' (and its possible key rôle in gluten structure and baking performance of wheat flour) is, to me, the 'story' of the decade: an elegant piece of work, well conquered. This resumé surely shows that the book has something for everyone and a great deal for some, depending on individual research interests. Students alike will find useful material in concise chapters. The book is remarkably free of errors, the editing has been consistent, and authors, Editors and publishers have done well to achieve a reasonably speedy publication.

**Glesni MacLeod**

**Analysis of Oils and Fats.** Edited by R. J. Hamilton and J. B. Rossell. Elsevier Applied Science Publishers, London, 1986. x + 441 pp. Price: £52.00.

A vast number of analytical procedures have been reported over the years for the determination of the composition and quality of edible oils and fats. This book attempts to provide a central source of information for scientists involved in the analysis of these commodities.

Chapter 1 provides a discussion of classical methods for the analysis of oils and fats. Many of the methods described are specified by national and international standards organisations, and Chapter 2 discusses the need for standard methods and gives information about these bodies. The

following chapters deal with various aspects of gas chromatography for lipid analysis including packed columns, capillary columns and gas chromatography–mass spectrometry. Thin-layer chromatography and high performance liquid chromatography are covered in Chapter 6, and the analysis of the positional distribution of fatty acids in triglycerides is discussed in the following chapter. The book is completed by chapters on applications of wide-line and high resolution nuclear magnetic resonance spectroscopy.

This book is clearly aimed at scientists working in industrial laboratories. Theory is almost completely excluded, and the reader is expected to consult the references given for details of the theoretical principles of the techniques. Practical details of the analytical procedures are also not included, but the book achieves a very valuable function in providing a discussion of the vast majority of analytical procedures and techniques used in the analysis of oils and fats, together with supplying copious references.

The text appears to be extremely accurate and typographical errors are almost completely absent. The main criticism of the book is that it does not include discussion of procedures based on techniques other than gas chromatography that are used for analyses relevant to the nutritional properties of fatty foods. Procedures for the determination of fat content, *trans* unsaturated fatty acids and polyunsaturated fatty acids are either omitted or only mentioned by means of a reference with no discussion of the relative accuracy of the different techniques. Inconsistencies of nomenclature are also regrettable with fatty acids being referred to as $C_{18:2}$ or 18:2, and the position of double bonds being specified by *n*-6, *n*6 or 6.

However, despite these minor reservations, the book fills a gap in the literature, and it is highly recommended for purchase by all scientists involved in the analysis of oils and fats.

**M. H. Gordon**

**Immunoassays in Food Analysis**. By B. A. Morris and M. N. Clifford, Elsevier Applied Science Publishers, London. 1985. xxi + 222 pp. Price: £25.00.

This book is based on the Proceedings of a Symposium entitled 'Immunoassays in Food Analysis', organised by Clifford and Morris, which was held at the University of Surrey in 1983.

Although the specificity of the antibody/antigen agglutination reaction has been recognised and exploited in analysis for many decades, it is only