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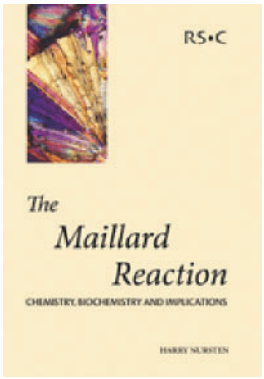

The Maillard Reaction: chemistry, biochemistry and implications

by Harry Nursten
Royal Society of Chemistry
2005, 214 pp
ISBN 0-85404-964-9
Softcover, £85

The Maillard reaction is not really a reaction at all, but a catch-all term for an extremely complex network of chemical transformations. The starting materials include any reactive carbonyl moiety, often derived from a sugar molecule, and an amine; the products are mixtures derived from a vast catalogue of molecules, of many different structures, the majority of which are brown. In short, it is most organic chemist's worse nightmare, and the very mention of the word 'Maillard' sends even the bravest of them into shudders of horror. Not so Harry Nursten, the doyen of Maillard chemistry, who has not only dedicated his professional life to unravelling its subtle niches, but recognized the importance of the reactions in a variety of contexts, from food science to medicine. Thus it was with considerable anticipation that I opened his new book and eagerly read it from cover to cover.

This slim volume provides a wealth of information on Maillard chemistry and is a far more comprehensive treatise than one might guess from the size. It is thoroughly referenced throughout, and provides an authoritative entry into the field for anyone serious about getting to grips with the full complexities of the chemistry involved in phenomena as diverse as cataract formation and barbequing chicken.

Given the author's background in food chemistry, it is not surprising that the greater focus in the book is on those aspects of the reaction that take place in food. Recent advances in colour formation, flavour and off-flavour formation, and toxicological and nutritional aspects are reviewed in detail, making the book a fantastic resource for all food chemists, not just specialists in the field. However, other aspects of the Maillard world, including more biochemical and physiological aspects, are also included, albeit with less coverage than a less food-oriented author might have offered. I was very pleased to see the addition of a chapter on implications of the Maillard reaction in other fields, including soil science, textiles, and pharmacology, as the importance of this chemistry in more and more spheres becomes more widely acknowledged.

The style of writing is very old school, so lovers of commas, such as myself, will not be disappointed, far from it. In summary, *The Maillard Reaction: chemistry, biochemistry and implications* is a significant contribution from a master in the field and should be read by everyone with an interest in this fascinating science.

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