two principal types of food biopolymers. The final chapter deals with legal aspects and specifications of biopolymers targeted for use in foods.

This book is well presented, each chapter having its own extensive set of references. It is highly recommended as an invaluable aid to anyone working in food product development and fundamental research.

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Food Product Design
R. Hu; Technomic Publishing Co. Inc., Lancaster (PA), 2000, 240 pages, ISBN 1-56676-743-1, £122.00

Successful food product design is targeted towards achieving product excellence at the lowest overall cost. This encompasses a number of key areas: optimisation of food products and/or processes, acceleration of food development cycles, reduction of research costs to facilitate transition from R & D to manufacturing, and effective troubleshooting of manufacturing problems. With the advent and rapid development of computer-aided statistical methods there is a need for food product developers to appreciate their utility and application, whether or not they have extensive statistics or computer training.

Food Product Design is aimed at familiarising the reader with the method of statistical product design and encouraging its application in food product design with the aid of widely available, up-to-date computer software. In addition to basic concepts of statistical food product design, the book presents the most effective techniques for trial design, modelling and experimental data analysis. Numerous small BASIC computer programs are included with original codes and worked examples from real-life research situations. The first chapter introduces common problems in food product design, and compares and contrasts the traditional and modern statistical approaches for solving them: general steps in the statistical approach are explained. Succeeding chapters cover problems of food product design, food process modelling and optimisation, and modelling and optimisation for combined food recipe and process design. The final chapter introduces a new aspect of computer applications, an expert system for food product development, including an introduction to fuzzy logic and neural networks.

This book describes the use of computer software to solve the real problems that occur in product design. It is recommended as a tool for food engineers, technologists, scientists and others to both expand and update their knowledge of computer-aided statistical methods for food product design.

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Chemical Analysis
F. Rouessac, A. Rouessac; Wiley, Chichester, 2000, 445 pages, ISBN 0-471-98137-0, £65.00

Over recent decades, there has been phenomenal evolution and innovation in the field of chemical analysis. Rapid advances in both electronics and computing have led to the development of many new approaches based on physical measurements. There is a vast array of instrumental techniques available today that are more sensitive, precise and accurate than many of their predecessors. These can be applied to analytical problems in many areas in which structure determination and quantitation of chemical species are needed. Furthermore, the combination of two or more instrumental techniques has led to the advent of 'hyphenated methods' that are extremely powerful but require understanding of the basic principles. There is a need to acquire the knowledge necessary to not only understand the novel techniques, but also to gain an overview of their potential areas of application.

Chemical Analysis provides the reader with an insight into many of the modern instrumentation methods and techniques, focusing on the instrumental side rather than attempting to cover all the background theory. The book is carefully structured into three parts: the first covers separation methods, the second spectral methods, and the

latter more specialised methods. There is comprehensive coverage of a wide range of techniques and instrumentation, with a good balance between depth and breadth of coverage, with many examples and applications. The scope, strengths and limitations of the various techniques are illustrated via applied examples.

The book provides the analyst with a reference manual to understand techniques and their applications, while at the same time allowing the reader to find additional information on specialised techniques in more advanced works. This English version is highly recommended, not only to its original target, undergraduate students in chemistry, but to anyone using instrumental techniques throughout the sciences, engineering, medicine and numerous other disciplines.

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