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# Advanced Gas Chromatography in Food Analysis

Peter Q Tranchida University of Messina, Italy

## Synopsis

Gas chromatography is widely used in applications involving food analysis. Typical applications pertain to the quantitative and/or qualitative analysis of food composition, natural products, food additives, flavor and aroma components, a variety of transformation products, and contaminants, such as pesticides, fumigants, environmental pollutants, natural toxins, veterinary drugs, and packaging materials. This book is an up-to-date look at the significant advances in the technology and is suitable for professionals and postgraduate students learning about the technique in the food industry and research.

## Brief Contents

- Headspace sampling: an "evergreen" method in constant evolution to characterize food flavours through their volatile fraction
- Sample preparation for the gas chromatography analysis of semi-volatiles and non-volatile compounds in food samples
- Conventional gas chromatography: basic principles and instrumental aspects
- Conventional gas chromatography: mass spectrometry hyphenation and applications in food analysis
- High-speed gas chromatography: basic theory, general principles, practical aspects and food analysis

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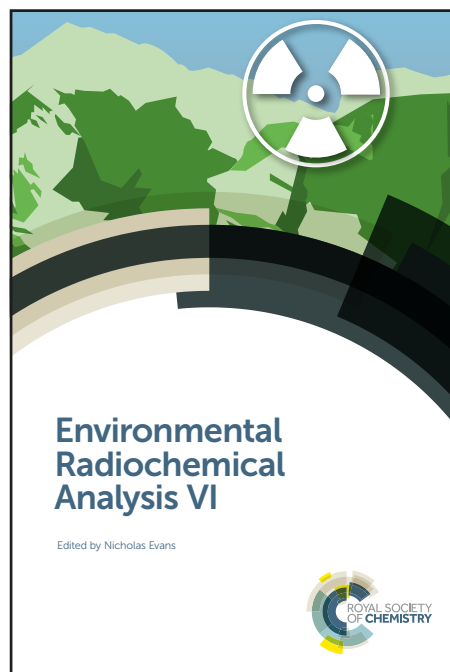
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# Environmental Radiochemical Analysis VI

Nicholas Evans Nottingham Trent University, UK

## Synopsis

Anthropogenic radionuclides have been introduced into the environment by incidents such as nuclear weapon tests, accidents in nuclear power plants, transport accidents and accidental or authorised discharges from nuclear facilities. Scientists need accurate analysis of these radionuclides in order to estimate the risk to the public from released radioactivity. This book is a snapshot of the work of leading scientists from across the globe on environmental radiochemistry and radioecology, nuclear forensics and radiation detection, radioanalytical techniques and nuclear industry applications. The research contributions were first presented at the 13th International Symposium on Nuclear and Environmental Radiochemical Analysis in September 2018. This essential work provides a key reference for graduates and professionals who work across fields involving analytical chemistry, radiochemistry, environmental science and technology, and waste disposal.

## Brief Contents

- Environmental Radiochemistry and Radioecology
- Nuclear Forensics and Radiation Detection
- Radioanalytical Techniques
- Nuclear Industry Applications
- Subject Index

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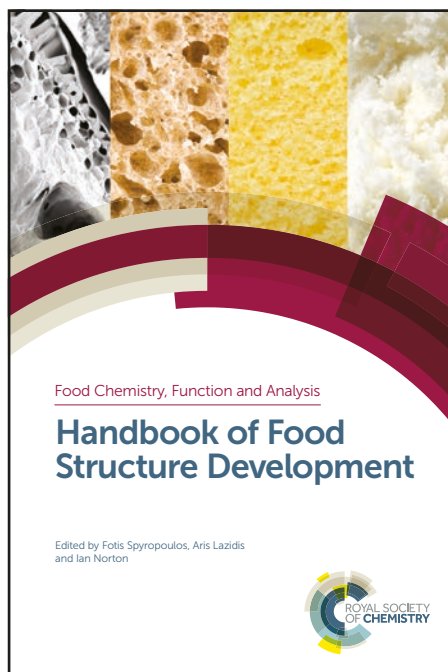
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# Handbook of Food Structure Development

**Fotis Spyropoulos** University of Birmingham, UK  
**Aris Lazidis** University of Birmingham, UK  
**Ian Norton** University of Birmingham, UK

## Synopsis

The most useful properties of food, i.e. those detected through sight, touch and taste, are a manifestation of the food's structure. Studies about how this structure develops or can be manipulated during food production and processing are a vital part of research in food science. This book provides, in detail, the status of research on food structure and how this has developed through the interplay between processing routes and formulation elements. With world class and up-to-date contributions, it brings current knowledge on the subject together and points towards some exciting areas of research for the future. Every chemistry, chemical engineering, food processing and food and nutrition department needs to have a copy.

## Brief Contents

- The Role of Hydrocolloids in the Development of Food Structure
- The Role of Proteins in the Development of Food Structure
- Food Structure Development in Emulsion Systems
- Food Structure Development in Liquid and Solid Foam Systems
- Food Structure Development in Oil and Fat Systems
- Food Structure Development in Chocolate and
- Sugar-based Confectionery Systems
- Food Structure Development in Cereal and Snack Products
- Food Structure Development for Rheological/Tribological Performance
- Developing Food Structure for Mechanical Performance

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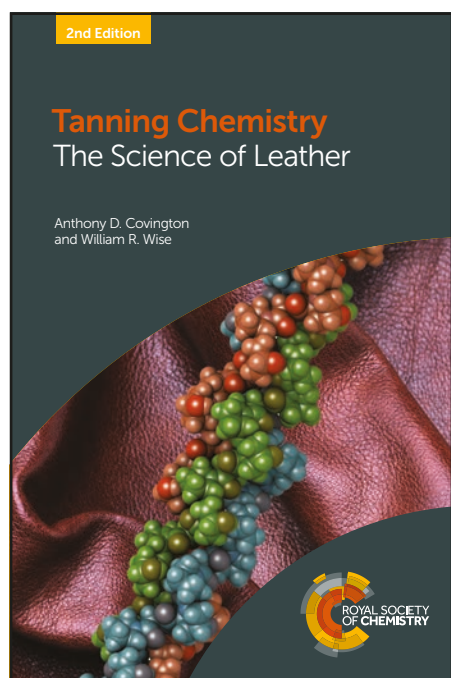
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# Tanning Chemistry

## The Science of Leather

**Anthony D Covington** The University of Northampton, UK  
**William R Wise** The University of Northampton, UK

### Synopsis

Providing excellent insight into the role of science in leather production, the first edition of this textbook was adopted for students and leather chemists. With a new co-author added, the text has been reviewed and brought up to date with regards to developments in technology and science over the last ten years. The revised text importantly reflects changes in the industry and deals with the need to increase sustainable production. Five new chapters are added, dealing with new science and technologies of reagent delivery, the polymer science of finishing (surface coatings), environmental impact and the future of processing.

### Brief Contents

- Collagen and Skin Structure
- Skin and its Components
- Curing and Preservation of Hides and Skins
- Soaking
- Unhairing
- Liming
- Deliming
- Bating
- Pickling
- Tanning

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