Coffee
Production, Quality and Chemistry
Adriana Farah Universidade Federal do Rio de Janeiro, Brazil

Coffee is one of the most popular drinks in the world but how does the chemistry influence the quality and what are the health advantages or disadvantages from consuming it? This book is unique in covering coffee production, quality, chemistry, and the health implications from its consumption in one volume. Written by an international collection of contributors in the field who concentrate on coffee research, it is aimed at advanced undergraduates, postgraduates and researchers. It provides an accessible reference to the current research in the field and information on the health aspects for nutritionists and other health professionals.

Hardback | 836 pages | ISBN 9781782620044 | £99.99 | $140.00 | 14/01/2019

Coffee
Consumption and Health Implications
Adriana Farah Universidade Federal do Rio de Janeiro, Brazil

Coffee is one of the most popular drinks in the world but what are the health advantages or disadvantages from consuming it? This book covers how health is influenced by the consumption of coffee from protective effects to potential contributions of bioactive compounds to health and potential risks involved. Written by an international collection of contributors in the field who concentrate on coffee research, it is edited expertly to ensure consistency and organisation across the chapters.

Hardback | 590 pages | ISBN 9781788014977 | £99.99 | $140.00 | 31/01/2019

Tomato Chemistry, Industrial Processing and Product Development
Sebastiano Porretta Experimental Station for the Food Preserving Industry, Italy

This book looks at the many changes that are taking place in the tomato market and industry; producers are combining origin, tradition, territory, quality, service and supply chain to adapt to the needs of the new consumers. It deals with the topics that are pertinent to the current industry, for example rheology and mechanical properties; origin determination; innovation and new product development; volatile compounds and aroma; functional and healthy compounds; and sustainability and traditional products. Providing a comprehensive overview of the actual tomato industry; how it ensures product authenticity; consumer demand for new products; the presence of bio-active substances able to prevent chronic diseases (carotenoids, phenolic and flavonoids); and how to convert industrial waste into added value by-products; it will appeal to professionals and food product developers.

Hardback | 335 pages | ISBN 9781788013963 | £159.00 | $220.00 | 09/01/2019
Quantum Effects in Small Molecular Systems
Faraday Discussion 212
This Faraday Discussion addresses the quantum dynamical properties of small molecules, both in isolation where extraordinarily detailed and precise measurements and calculations are now emerging, and when embedded in complex media such as molecular clusters, quantum fluids and bulk liquids.

Electrochromic Smart Materials
Fabrication and Applications
Jian Wei Xu Institute of Materials Research and Engineering, Singapore
Ming Hui Chua Institute of Materials Research and Engineering, A*STAR, Singapore
Kwok Wei Shah National University of Singapore, Singapore
Electrochromic devices have a wide range of applications, including displays, self-dimming mirrors for automobiles, electrochromic e-skins, textiles, and smart windows for energy-efficient buildings. This title covers major topics related to the phenomenon of electrochromism, highlighting a broad range of existing and potential applications of electrochromic materials and devices. Providing a comprehensive overview of the field, it will be of interest to postgraduate students and researchers in both academia and industry interested in smart design, materials science and engineering.

Polymer-modified Liquid Crystals
Ingo Dierking University of Manchester, UK
Bridging soft matter physics, materials science and engineering, polymer-modified liquid crystals are an exciting class of materials. They represent a vibrant field of research, promising advances in display technologies, as well as non-display uses. Describing all aspects of polymer-dispersed and polymer-stabilized liquid crystals, the broad coverage of this book makes it a must-have resource for anyone working in the area. The reader will find expert accounts covering basic concepts, materials synthesis and polymerization techniques, properties of various dispersed and stabilized phases, and critical overviews of their applications.
Coffee Complete Set
Adriana Farah Universidade Federal do Rio de Janeiro, Brazil

Coffee is one of the most popular drinks in the world but how does the production influence the chemistry and quality and what are the health advantages or disadvantages from consuming it? This two-volume set covers Coffee: Production, Quality, and Chemistry, and Coffee: Consumption and Health Implications. Written by an international collection of contributors in the field who concentrate on coffee research, these books are aimed at advanced undergraduates, postgraduates and researchers. Expertly edited to ensure the content and coverage is cross-referenced for consistency, quality and organization across the chapters, they provide an accessible reference to the current research in the field and information on the health aspects for nutritionists and other health professionals.

Hardback | 1150 pages | ISBN 9781782621065 | £180.00 | $250.00 | 31/01/2019

Biofabrication and 3D Tissue Modeling
Dong-Woo Cho Pohang University of Science and Technology (POSTECH), Korea

3D tissue modelling is an emerging field used for the investigation of disease mechanisms and drug development. The two key drivers of this upsurge in research lie in its potential to offer a way to reduce animal testing with respect to biotoxicity analysis, preferably on physiology recapitulated human tissues and, additionally, it provides an alternative approach to regenerative medicine. Integrating physics, chemistry, materials science, and stem cell and biomedical engineering, this book provides a complete foundation to this exciting, and interdisciplinary field.

Hardback | 352 pages | ISBN 9781788011983 | £159.00 | $220.00 | 03/01/2019

Legumes
Nutritional Quality, Processing and Potential Health Benefits
Maria Angeles Martin-Cabrejas Universidad Autónoma de Madrid, Spain

Legumes have high potential for improving the nutritional quality of foods, but limited data on their bioactive compounds exists. This book provides a comprehensive overview of the antioxidant activity and health aspects of legumes. The international spread of contributors will describe the key factors that influence consumer acceptance of legumes in the diet, as well as the known functional properties of legumes and legume based food products. It will serve as an excellent and up-to-date reference for food scientists, food chemists, researchers in human nutrition, dietetics and the chemistry of natural compounds.

Hardback | 353 pages | ISBN 9781788011617 | £169.00 | $235.00 | 03/01/2019

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Good Enough to Eat?
Next Generation GM Crops
Ian D Godwin The University of Queensland, Australia

How are genetically modified (GM) crops created and why? How will crops evolve in future with scientists using new gene editing tools? Ian Godwin, a professor in plant molecular genetics, explores these questions in a fun and accessible style in Good Enough to Eat. The book delves into the social, political, and philosophical arguments for and against GM crops as well as the science behind them and puts this knowledge into the context of global food security and sustainability. Godwin interviews biologists and farmers, nutritionists and activists along the way.

Paperback | 322 pages | ISBN 9781788010856 | £24.00 | $35.00 | 15/01/2019

Genomics and Clinical Diagnostics
David Whitehouse University of Hertfordshire, UK
Ralph Rapley University of Hertfordshire, UK

With large genome initiatives being announced around the world, this book provides a timely graduate level introduction to molecular diagnostics technologies and applications to enable readers to embrace the subject and original literature. The first of four sections delivers readily accessible introductory information on the purposes, properties and drawbacks of diagnostic tests followed by chapters on the principal molecular technologies that underpin the information in the later sections. The following two sections provide more specialised examples of currently used diagnostic technologies and insights into selected key diagnostic challenges including specific examples, automation and point of care testing. The book concludes with a section on future prospects focusing on mutation detection for personalised medicine, for example in cancer.

Hardback | 574 pages | ISBN 9781782628217 | £90.00 | $126.00 | 29/01/2019