

the correlation between fungal secretory pathways and lignocellulose degradation; the production of cellulases and hemicellulases by fungi and the production of fermentable sugars from lignocelluloses; and lignocellulose biorefinery. Tables, charts, and figures feature heavily throughout, and an extensive reference section is provided.

TP248 978-1-4557-2834-3
Handbook of biopolymers and biodegradable plastics; properties, processing, and applications.

Title main entry. Ed. by Sina Ebnesajjad. (PDL handbook series)
 Elsevier Saunders, ©2013 462 p. \$249.00
 Contributors identified only by name provide information on plant-derived polymers, methods of manufacture, applications, and disposal. Among the topics are applications of poly(lactic acid), the state of the art in polymers from renewable resources, cellulose-based composites and nanocomposites, testing the biodegradability of compostable polymer materials, biopolymers in controlled-release drug delivery systems, and natural polymers in tissue engineering applications.

TP248 2012-010233 978-1-4398-1839-8
Introduction to bioMEMS.

Folch, Albert.
 CRC Press, ©2013 492 p. \$89.95
 For 11 consecutive years, Folch (bioengineering, U. of Washington-Seattle) has taught a course on biological microelectronic and mechanical systems (bioMEMS) and in two of those years students used early drafts of this textbook. In it, he introduces students to a set of problems in biology and medicine that benefit from—ideally require—the miniaturization of a certain device. He covers how we make small things, micropatterning of substrates and cells, microfluidics, molecular biology on a chip, cell-based chips for biotechnology, bioMEMS for cell biology, tissue microengineering, and implantable microdevices. The illustration is profuse, mostly in color, and the paper and binding are of very high quality.

TP248 2012-005816 978-1-119-99139-7
Practical methods for biocatalysis and biotransformations 2.

Title main entry. Ed. by John Whittall and Peter W. Sutton.
 John Wiley & Sons, ©2012 360 p. \$160.00
 Following upon the 2010 publication of this title, the second volume continues the service of providing postgraduate students and researchers in academia and industry with up-to-date information in the field, describing in detail developments that have arisen since Vol. 1. International contributors to a dozen chapters describe processes of reductive amination, enoate reductases for reduction of electron deficient alkenes, selective oxidation, and industrial carbonyl reduction, with individual sections on specific practices for each. An introductory section details the use of biocatalysis in the fine chemical and pharmaceutical industries.

TP248 2012-009762 978-1-4051-9826-4
Tissue and cell processing; an essential guide.

Title main entry. Ed. by Deirdre Fehily et al.
 Wiley-Blackwell, ©2012 345 p. \$130.00
 A pioneer in performing pulmonary allografts in the 1960s introduces this text as a comprehensive guide to developments in clinical applications involving donated tissues or cells (including stem cells). Fehily (National Transplant Centre, Rome) and other specialists working with tissue and blood banks worldwide treat techniques to preserve and process donated tissues and cells of various kinds. In historical and global contexts, they discuss regulations; risk management; principles/phases from cell and tissue collection to decontamination; biocompatibility testing for transplantation; coding for therapeutic products; and training of tissue bank personnel. Chapters include case studies with lessons learned, preservation methodologies, discussions of recovery and processing related issues and future R&D efforts, illustrations, further reading, and a color plate gallery.

TP270 2012-001628 978-3-11-027358-8
Chemistry of high-energy materials, 2d ed.

Klapötke, Thomas M. (De Gruyter graduate)
 De Gruyter, ©2012 257 p. \$49.95 (pa)
 Klapötke (inorganic chemistry, Ludwig-Maximilian U., Munich, Germany) presents a textbook based on a course he taught for over a decade introducing graduate chemistry students to the chemistry of high-energy materials. He focuses on the basics of chemical explosives and recent research into them, rather than the history or deep mathematics. The

first German edition appeared in 2009, and the first English edition in 2011. For this edition, he has added short chapters on co-crystallization and future energetic materials.

TP339 2012-021353 978-1-4200-8955-4
Biofuels and bioenergy; processes and technologies.

Lee, Sunggyu and Y.T. Shah. (Green chemistry and chemical engineering)
 CRC Press, ©2013 323 p. \$149.95
 Lee (Ohio U., Athens) and Shah (Norfolk State U., Virginia) set out the background science and technology for fuels and energy from living or recently living biological sources, in contrast to fossils. They cover crop oils, biodiesel, and algae fuels; ethanol from corn; ethanol from lignocellulose; fast pyrolysis and gasification of biomass; converting waste to biofuels, bioproducts, and bioenergy; and mixed feedstock. Readers should need no more than a college-level knowledge of chemistry, biology, physics, and engineering. The book could be used in a one-semester undergraduate course, or as a desk reference for professionals involved in renewable energy.

TP359 2012-014456 978-1-4665-0743-2
Practical handbook on biodiesel production and properties.

Ahmad, Mushtaq et al. (Chemical industries; 133)
 CRC Press, ©2013 151 p. \$89.95 (pa)
 Four plant scientists from Quaid-i-Azam University in Pakistan assemble and analyze practical research information about making biodiesel fuel from oil seed plants. They consider the history of biodiesel and its market, advantages, and impacts. Then they look at sources, the chemistry, extracting oil at laboratory and commercial scales, biodiesel synthesis, factors affecting the transesterification reaction, fuel properties, and technical aspects. A final section surveys 18 plants that yield biodiesel and properties of that oil as fuel.

TP360 978-2-7108-0983-8
Biofuels; meeting the energy and environmental challenges of the transportation sector.

Ballerini, D. (Energies nouvelles publications)
 Editions Technip, ©2012 355 p. \$86.00 (pa)
 Ballerini (biotechnology and biomass chemistry, IFP Energies nouvelles, France) presents an updated edition of a work first published in January 2006 as *Les biocarburants. État des lieux, perspectives et enjeux du développement*. It addresses the global situation of biofuels as a resource for transport, reviews the state of the art in proven production processes and technologies, and addresses economic and environmental aspects. Reducing competition between agriculture as a food source versus for energy purposes is a key objective of the proceedings. Distributed in the US by Atlas Books.

TP370 2012-004157 978-0-8138-0894-9
Handbook of fruits and fruit processing, 2d ed.

Title main entry. Ed. by Nirmal K. Sinha et al.
 Wiley-Blackwell, ©2012 694 p. \$229.95
 This second edition handbook (first edition, 2006) offers a clearly organized, thorough presentation of information important to fruit growers, handlers, processors, and marketers. Edited by five food technology experts based in five countries, the 35 chapters were written by an international roster of contributors based in several European countries (many from Hungary and Spain); several Asian countries (India, Pakistan, Bangladesh, Taiwan); Africa; the Middle East (Kuwait); and the US. Organization of chapters is according to the broad themes of biology, biochemistry, nutrition, and microbiology; postharvest handling and preservation technologies; processed fruit products and packaging; processing plant safety and regulation; and commodity processing. Each chapter begins with an outline, an abstract, and an introduction and concludes with extensive references.

TP370 2012-009138 978-1-4398-6267-4
Innovation in healthy and functional foods.

Title main entry. Ed. by Dilip Ghosh et al.
 CRC Press, ©2013 598 p. \$139.95
 Noting that today's consumers are interested in foods that promote health and prevent disease, Ghosh, a biomedical scientist, et al. assemble 34 chapters by specialists in biology, food science, engineering, marketing, regulation, law, finance, sustainability, and management from Europe, Asia, North America, Australia, and New Zealand, who examine innovation processes in healthy and functional foods, consumer insights and trends, and technological developments in foods and ingredients, as well as the drivers of affordability, sustainability, and government regulation. They focus on functional foods in which a component has been added to