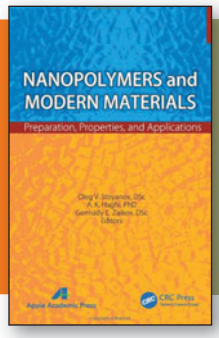
success of these materials, especially in the automotive industry. In regard to characterization, all types of microscopies, including electron microscopy, atomic force microscopy, and optical microscopy, are treated in detail. Also, methods for detailed analysis of the structure at different stages of synthesis (i.e., x-ray diffraction and small-angle x-ray scattering) are explained. For characterization of the organic phase, nuclear magnetic resonance and infrared spectroscopy are discussed. Most importantly for the production of technical parts, the rheology of these composites is treated in detail.

At the end of each chapter, the author gives a long list of references as well as an adequate and helpful index at the end of the book. Independent of any scientific or technical background, the reader will be able to gain a huge amount of information from this excellent book. However, there are two deficiencies: the author uses a lot of acronyms likely known only to the specialist, so the non-expert is always searching for the meaning of these letter combinations. Furthermore, considering the technological importance of these materials, four out of nearly 400 pages describing applications and suppliers are not adequate.

***Reviewer: Dieter Vollath** is CEO of NanoConsulting, Stutensee, Germany.*



Nanopolymers and Modern Materials: Preparation, Properties, and Applications
Editors: Oleg V. Stoyanov, A.K. Haghi, and Gennady E. Zaikov

Apple Academic Press, 2013
$49.95, 664 pages
ISBN 9781926895475

This book makes a clever attempt to discuss bio- and chemical interactions and modifications involving new polymer formation. At a high level, the book is poorly organized, with no flow or smooth transition from one chapter to the next. Most of the chapters are written keeping a specific journal in mind, and not considering either the quality of the end product, the book, or the end users/readers.

Chapter 1 talks about the Ni-based catalyst and its hydrogen bond stabilities. Chapters 2, 3, and 4 cover materials on new polymer processing and formation (PS-PPO, oxyethylated polytetrafluoroethylene, polypropylene, high-pressure phase equilibrium, and conductive electroactive polymers, quaternary ammonium salt-modified cellulose esters, and ethers), which is valuable for scientists with prior knowledge of this field. However, for ordinary readers or students, the organization could have been more useful if all three chapters were instead merged into one, starting with theory or equations, then processing steps, and finally examples of specific applications.

Chapter 5 describes different aspects of transformations of high-energy bonds in ATP (adenosine triphosphate). Chapter 6 explains energy transfer processes in depth between carbocyanine and DNA. Chapter 7 talks about quantum chemical modeling, and chapter 8 discusses the kinetics model of methyl acetate hydrolysis. These chapters could have been condensed into one chapter for a smoother flow. Chapter 9 eloquently discusses the influence of a growth regulator to metabolic pathways of animal cells. Chapters 10 and 11 discuss biochemical treatments very effectively, but these could have also been merged into one.

Chapters 12, 15, 16, and 19 cover useful information regarding electrospinning of new polymeric fibers, which shows the depth of knowledge and expertise of the respective authors; however, there is almost no discussion on why electrospinning was chosen over conventional spinning. There could be a strong case for electrospinning, but some explanation should have been provided for a broader audience. Again, all of these chapters on electrospinning could have been merged into one, starting with the theory of electrospinning, process details, and a few specific applications/case studies.

Chapters 17 and 18 discuss topics on bioactive substances, and the book ends at chapter 20 with an appropriate discussion on composites of these new classes of polymers.

This book contains useful information suitable for professionals with prior subject knowledge. It could have been improved for non-specialists if it were structured differently.

***Reviewer: Sudip Mukhopadhyay** is a Technology Fellow at Honeywell, Calif., USA.*

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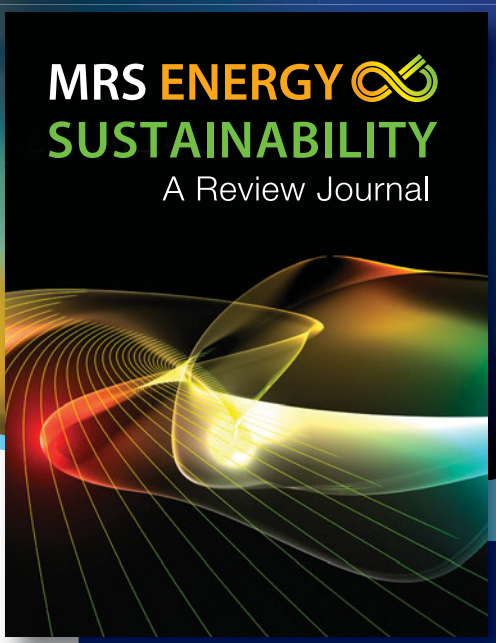

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