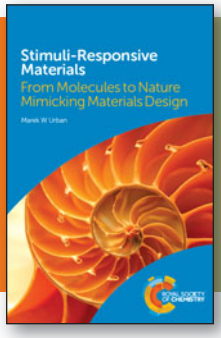
technologies for organic electronic devices. Chapter 9 discusses applications and future prospects of printed electronics. Printing combined with organic and inorganic electronic materials and flexible substrates will create new applications, markets, and industries. References are listed at the end of each chapter, and an index is provided at the end of the book.

The authors have compiled a comprehensive set of information and knowledge in this book. Readers will gain a general understanding of printed electronics, from the materials and technologies involved to potential applications. The figures and tables are adequate, and there are worked examples in this book. Those who have a general knowledge of physics, chemistry, or electronics will be able to comprehend the contents of this book. It is a good monograph for researchers and can also be used as a textbook for graduate students. I recommend this book to anyone who is interested in printed electronics, as well as microelectronics, transparent electronics, and flexible electronics.

Reviewer: Jianguo Lu *is an associate professor at Zhejiang University, China.*



Stimuli-Responsive Materials: From Molecules to Nature Mimicking Materials Design

Marek W. Urban

Royal Society of Chemistry, 2016
488 pages, $112.00
ISBN 978-1-84973-656-5

This book focuses on designing stimuli-responsive materials by mimicking nature—an excellent source of inspiration for conceiving new products with tailored properties and desired functions. The book is structured into 12 chapters and covers a wide range of topics, from controlled synthesis of polymers to various aspects of stimuli responsiveness in macromolecular blocks, polymer brushes, surfaces, and interfaces, to nano- and micro-materials, and photochromic and photorefractive polymers.

The common essence of these stimuli-responsive materials resides in their heterogeneity at the nanoscale—the origin of energy excess able to be converted into other energy forms as a result of various external stimuli: temperature, solvent polarity, pH, ultraviolet/visible light, electrical potential, magnetic field, or combinations of these.

Starting from biologically responsive polymers, special attention is paid to stimuli-responsive materials applied in medical therapy, nanomedicine, enhancing imaging and target delivery, and self-healing and shape-memory materials, with a perspective for these materials to shape the future of human existence.

Most of the illustrations are appropriate and enable a deeper understanding of the scientific arguments.

Chapters are on topics such as tissue engineering, microfluidics, biosensors, molecular electronics, and photochromic devices. Each chapter starts with short definitions of terms or phenomena and provides clear explanations based on physicochemical proofs, combining structural characteristics given by molecular interactions with adequate thermodynamic and kinetics approaches. Each chapter ends with a reference list. The book is accessible to senior undergraduate and graduate students in materials chemistry and physics. At the same time, this monograph is also useful for specialists in materials science and engineering, providing stimulating ideas for further advances in materials design mostly needed in nanofabrication.

Reviewer: Aurelia Meghea *is Emeritus Professor at the University Politehnica of Bucharest, Romania.*

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