



Photochromic Materials

By Tian, He / Zhang, Junji

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Summarizing all the latest trends and recent topics in one handy volume, this book covers everything needed for a solid understanding of photochromic materials. Following a general introduction to organic photochromic materials, the authors move on to discuss not only the underlying theory but also the properties of such materials. After a selection of applications, they look at the latest achievements in traditional solution-phase applications, including photochromic-based molecular logic operations and memory, optically modulated supramolecular system and sensors, as well as light-tunable chemical reactions. The book then describes the hotspot areas of photo-switchable surfaces and nanomaterials, photochromic-based luminescence/electronic devices and bulk materials together with light-regulated biological and bio-chemical systems. The authors conclude with a focus on current industrial applications and the future outlook for these materials. Written with both senior researchers and entrants to the field in mind. | INTRODUCTION: ORGANIC PHOTOCHROMIC MOLECULES Photochromic Systems Organic Photochromic Molecules: Main Families Molecular Design to Improve the Performance Conclusion PHOTOCHROMIC TRANSITIONAL METAL COMPLEXES FOR PHOTOSENSITIZATION Introduction Photosensitization of Stilbene- and Azo-Containing Ligands Photosensitization of Spirooxazine-Containing Ligands Photosensitization of Diarylethene-Containing Ligands Photosensitization of Photochromic N₂C-Chelate Organoboranes Conclusion MULTI-ADDRESSABLE PHOTOCHROMIC MATERIALS Molecular Logic Gates Data Storage and Molecular Memory Gated Photochromes PHOTOSWITCHABLE SUPRAMOLECULAR SYSTEMS Introduction Photoreversible Amphiphilic Systems Photoswitchable Host? Guest Systems Photochromic Metal Complexes and...



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