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Conjugation is the overlap of one π-orbital with another across an intervening σ-bond. π-Conjugated objects, constructed from a conjugated frame, contain connected π-orbitals with delocalized electrons in compounds with alternating single and multiple bonds. Examples of the largest conjugated objects are graphene, graphite, conducting polymers, and carbon nanotubes.

Conjugated Objects: Development, Synthesis, and Application comprises 17 chapters written by young researchers and discusses the current trends in π-conjugated systems for successful development and application in broad research areas, such as new design of unique π-conjugation, catalysts, self-assembly, charge transfer complexes, liquid crystals, supramolecules, and nanostructures, by using π-conjugated small and/or macro-objects organically or electrochemically. This book can be used as a textbook of basic learning by undergraduate and graduate students of chemistry, electrical and electronics engineering, and materials science and by supramolecular researchers in nanotechnology and biotechnology.

Atsushi Nagai is visiting assistant professor at the University of Texas, Southwestern Medical Center, USA. He obtained his PhD in polymerization mechanisms and polymerizable monomer structure design from Yamagata University, Japan, in 2005. The activities pursued during his postdoctoral fellowship at Kyoto University, Japan, gave him the idea of teaching how fundamental scientific discoveries can translate into actual functional materials such as conjugated polymers. In 2010, Dr. Nagai joined the Institute for Molecular Science (IMS), Japan, as assistant professor and co-taught many international students and postdoctors at the Graduate University for Advanced Studies. He was also responsible for the design and concept of the project "Chemical, Optical Chemical, and Polymer Synthetic." Since 2015, he is the editor of *International Journal of Global Advanced Materials and Nanotechnology* and *SM Journal of Biomedical Engineering*.

Koji Takagi is associate professor at the Nagoya Institute of Technology, Japan. He started his academic career at the Nagoya Institute of Technology and launched several research themes, including controlled radical polymerization by utilizing chalcogen compounds, the synthesis of hyperbranched polymers based on triazine chemistry, and the development of π-conjugated oligomeric and polymeric materials. He also developed a novel living coordination polymerization of allene derivatives by the π-allyl nickel catalyst and gained many experimental skills, not only for polymerization but also for organic synthesis. Dr. Takagi's research focuses on the precision spatial arrangement of chromophores using well-defined scaffolds, the controlled synthesis of 2D polythiophene derivatives, and the manipulation of electron donor–acceptor interaction in fused π-conjugated imidazolium compounds.

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ISBN 978-981-4774-03-1
9 789814 774031

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