DESCRIPTION

Many small molecules occur naturally as “messenger” chemicals which regulate the behaviour and functions of microbes, plants, insects and animals. Examples include hormones, pheromones, phytoalexins, and antifeedants. These biofunctional molecules are of great interest to researchers in helping develop our understanding of biological function and in the development of new drugs. However extracting them from nature can be prohibitively expensive, so there is great interest in devising methods of synthesising them from simple starting materials in the laboratory.

Chemical Synthesis of Hormones, Pheromones and Other Bioregulators is an introduction to the techniques and strategies for the synthesis of biofunctional small molecules. Topics include:

• what are biofunctional molecules?

• why must biofunctional molecules be synthesized?

• how can we synthesize biofunctional molecules?

• the synthesis of phytohormones, phytoalexins and other biofunctional molecules of plant origin

• the synthesis of insect juvenile hormones and antifeedants

• the synthesis of pheromones and the significance of chirality in pheromone science

• the synthesis of microbial hormones and pheromones, antibiotics, and other biofunctional molecules of microbial origin
• the synthesis of marine antifeedants and medicinal candidates

• a synthetic examination of incorrectly proposed structures of biomolecules

• reflections on science as a human endeavor

Drawing on a career of almost 50 years researching and teaching this subject, Kenji Mori's *Chemical Synthesis of Hormones, Pheromones and Other Bioregulators* is a must-have textbook for students and researchers of organic synthesis and natural products, and a stimulating and inspiring account of a distinguished chemical career.

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**ABOUT THE AUTHOR**

**Professor Kenji Mori** has nearly 50 years experience researching and teaching the synthesis of biofunctional small molecules. He has been awarded the Japan Academy Prize (1981), the Silver Medal of the International Society of Chemical Ecology (1996), the American Chemical Society's Ernest Guenther Award in the Chemistry of Natural Products (1999), the Special Prize of the Society of Synthetic Organic Chemistry, Japan (2003), and the Frantisek Sorm Memorial Medal of the Academy of Sciences of the Czech Republic (2003). He is the author of “The Total Synthesis of Natural Products, Vol. 9” (Wiley, 1992), considered by many to be the authoritative volume on pheromone synthesis, and over 750 peer-reviewed research papers.

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