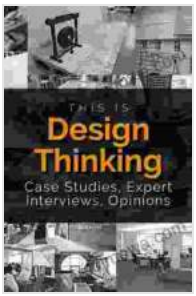
Practical Medicinal Chemistry With Macrocycles: A Comprehensive Guide for Drug Discovery and Development

Delve into the fascinating world of macrocycles and their remarkable applications in medicinal chemistry with our authoritative guidebook. This comprehensive resource provides a thorough understanding of macrocyclic compounds, their unique properties, and their immense potential in drug design and development.



Practical Medicinal Chemistry with Macrocycles: Design, Synthesis, and Case Studies by Abigail B. Calkin

4.5 out of 5

Language	: English
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Text-to-Speech	: Enabled
Screen Reader	: Supported
Enhanced typesetting	: Enabled
Print length	: 596 pages
Lending	: Enabled

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Unveiling the Power of Macrocycles

Macrocycles, cyclic compounds with large ring structures, have emerged as a captivating class of molecules with exceptional properties that make them ideal for drug discovery. Their unique structural features, such as rigidity, high binding affinity, and versatile functionalizationsmöglichkeiten,

offer a wide range of opportunities for the rational design of novel therapeutics.

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Chapter Highlights

to Macrocycles

This chapter introduces the concept of macrocycles, their classification, and their significance in medicinal chemistry. It provides an overview of the historical development of macrocycles and their increasing importance in drug discovery.

Synthesis and Characterization of Macrocycles

Explore the various synthetic strategies employed to construct macrocyclic compounds. This chapter covers cyclization reactions, macrocyclization techniques, and the characterization methods used to confirm the structure and purity of macrocycles.

Physicochemical Properties of Macrocycles

Discover the physicochemical properties that make macrocycles unique and suitable for drug design. Learn about their solubility, lipophilicity, stability, and conformational flexibility.

Macrocycles in Drug Design

This chapter delves into the principles of macrocycle-based drug design. It discusses the different binding modes, target interactions, and structure-activity relationships that guide the development of macrocyclic therapeutics.

Pharmacology and Toxicology of Macrocycles

Gain insights into the pharmacological and toxicological properties of macrocycles. This chapter covers their absorption, distribution, metabolism, excretion, and toxicity, providing essential information for drug development.

Clinical Applications of Macrocycles

Explore the therapeutic applications of macrocycles in various disease areas. From antibiotics and antifungals to anticancer agents and antiviral drugs, this chapter showcases the clinical successes of macrocyclic compounds.

Emerging Trends in Macrocycle Research

Stay abreast of the latest advancements in macrocycle research. This chapter discusses novel macrocyclic scaffolds, innovative synthetic approaches, and emerging therapeutic applications.

Why This Book Is Essential

- Provides a comprehensive overview of macrocycles and their applications in medicinal chemistry.
- Features contributions from leading experts in the field, ensuring authoritative and up-to-date information.
- Covers all aspects of macrocycle research, from synthesis to clinical applications.
- Includes case studies and examples to illustrate the practical application of macrocycles in drug discovery.
- Serves as an invaluable resource for researchers, students, and professionals involved in drug design and development.

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Unlock the transformative potential of macrocycles in drug discovery and development. Free Download your copy of 'Practical Medicinal Chemistry With Macrocycles' today and empower yourself with the knowledge and expertise to create innovative therapeutics.

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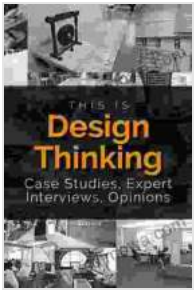

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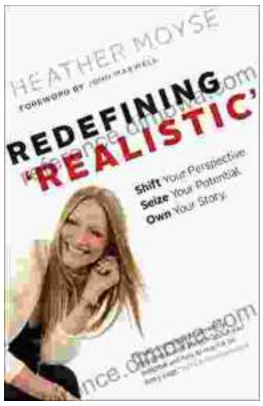

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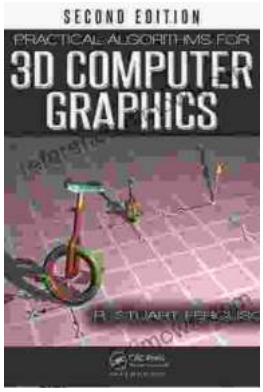

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