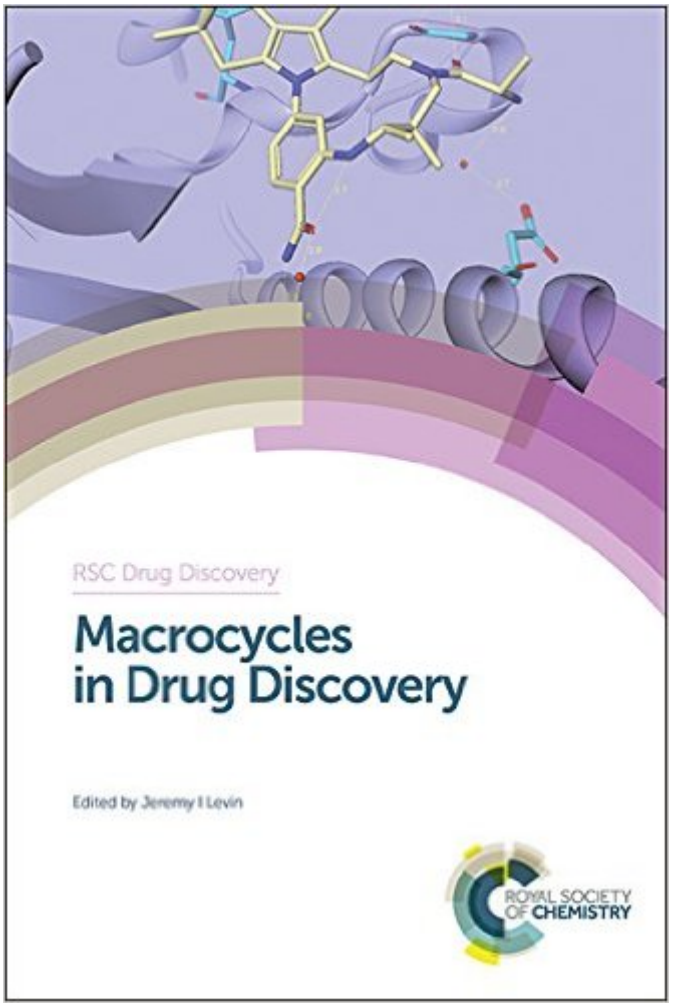
Macrocycles In Drug Discovery



Synopsis

This book reviews macrocycles in drug discovery, both those of natural origin and semi-synthetic derivatives of natural products, and those designed and synthesized based on principles of medicinal chemistry. The medicinal chemistry of macrocyclic natural products is interesting in itself, but lessons learned from these compounds, in terms of the relationship between structure and desirable physicochemical properties, are now informing the design of fully synthetic macrocyclic drug candidates against a variety of targets including kinases, ATPases, proteases, GPCRs and others. Furthermore, as more non-classical drug targets, such as proteinâ “protein interactions, are pursued in the pharmaceutical industry, macrocyclic molecules are generating increasing interest as they offer a way to provide drugâ “protein interactions that cover a larger surface area than traditional small molecules.A variety of macrocycles have become important drugs or have been identified as leads to marketed drugs. This text will discuss these compounds, their pharmacology and synthesis, in the context of their broad chemotype as compounds composed of large rings. Providing a wide reaching review of this important area in a single volume, this book will be of interest to biochemists, pharmaceutical scientists and medicinal chemists working in industry or academia.

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