DESCRIPTION

Iminosugars form undoubtedly the most attractive of carbohydrate mimics reported so far. In these structures, the substitution of the endocyclic oxygen of sugars by a basic nitrogen atom leads to remarkable biological properties and raises many challenges in organic synthesis. Since the discovery of their biological activity as glycosidase inhibitors in the 1970’s, these polyvalent molecules have progressively made their way from the laboratory to the clinic.

The impressive series of discoveries in the field over the past ten years indicates clearly that it is “a boom time” for iminosugar chemistry and biology. The scope of their profile as inhibitors has been extended to a number of enzymes such as phosphorylases, glycosyltransferases or metalloproteinases, and iminosugars now constitute lead compounds for the development of new therapeutic agents for a wide range of diseases including diabetes, viral infections, lysosomal storage disorders and tumor metastasis.

Latest developments, from iminosugar synthesis to their use in clinical studies, are presented in this book, which contains contributions from over fifteen of the major chemists, biochemists and drug developers in this rapidly expanding field. An extensive table correlating the structures of more than 600 iminosugars of therapeutic interest with their biological activities is also included in the book and should prove particularly useful to aid with the design and the discovery of novel bioactive substances.

Iminosugars: From Synthesis to Therapeutic Application provides a unique resource for academic and industrial researchers working in the field of iminosugars and glycomimetics of biological and/or therapeutic interest: organic chemists, medicinal chemists, carbohydrate chemists and medical scientists.
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