

Glycans—carbohydrate biomolecules that are often conjugated—modulate processes like cancer progression, immune response, and cell-to-cell communication. However, deciphering their molecular processes is difficult because carbohydrates have complex structures, and the variety in their assembly and syntheses has always been challenging. There have been many advances over the past couple of decades in glycochemistry that reduce time and materials lost during purification and procedures. With new technologies and updated techniques in the field, scientists continue to better understand the role of sugars, especially in applications like drug development, candidate vaccine preparations, and probing mechanisms in living systems. As research sheds more light on the field of glycochemistry, the advances also become more available and useful to general chemists and biologists.

Offering a comprehensive and concise review on principles, strategies, and crucial advances in glycochemistry, *Glycochemical Synthesis: Strategies and Applications* emphasizes the advances and updates from the last few years and illustrates them with key examples. It begins with fundamental synthetic aspects and expands to specific solutions to challenges in oligosaccharide assembly, strategies to the design and synthesis of sugars, techniques in the preparation of glycoconjugates, and the contributions of carbohydrate synthesis to understanding structure–activity relationships and multivalency.

A valuable and complete reference about techniques and synthetic design for a major class of biomolecule, *Glycochemical Synthesis* offers a number of key benefits:

- Notable examples such as solution-based one-pot methods and automated methods for sugar assembly, to illustrate important concepts and advances in a rapidly emerging field
- Discussion of practical applications of carbohydrates, like medicine, therapeutics, and drug and vaccine development
- A comprehensive and concise resource for readers interested in synthetic carbohydrate chemistry

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