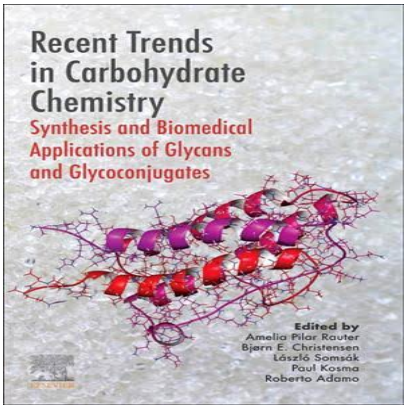

Recent Trends in Carbohydrate Chemistry

Description

Recent Trends in Carbohydrate Chemistry: Synthesis and Biomedical Applications of Glycans and Glycoconjugates covers biomedically relevant bacterial cell wall carbohydrates including recent findings on biosynthetic aspects, advances in the chemical assembly of bacterial lipopolysaccharide fragments and teichoic acids and modern NMR approaches to unravel structural details.
The first part introduces and provides the relevant background for synthetic glycoconjugate vaccines. The second section focuses on synthetic carbohydrate-based vaccines of therapeutic potential that are licensed or under development.

This second volume of Recent Trends in Carbohydrate Chemistry is ideal for researchers working as synthetic organic chemists, as well as those interested in glycoconjugation, protein chemists, immunologists, and microbiologists, in academia as well as in industry.

I. Monosaccharide chemistry toward molecular diversity–Recent findings
1. Perspective on the transformation of carbohydrates under green and sustainable reaction conditions
2. Hydroxymethylfurfural (HMF) and glucosyloxymethylfurfural (GMF) in multi-component reactions
3. Alkynedicobalt complexes in carbohydrates: Synthetic applications
4. Gold-catalyzed methodologies in carbohydrate synthesis
5. Glycomimetics with unnatural glycosidic linkages
6. Advancements in synthetic and structural studies of septanoside sugars
7. N- and c-glycopyranosyl heterocycles as glycogen phosphorylase inhibitors
8. Recent developments in synthetic methods for sugar phosphate analogs
II. Structure-function relationships in polysaccharides
9. Synthetic polysaccharides
10. Linear and cyclic amyloses: Beyond natural
11. Modification of xanthan in the ordered and disordered states
12. Derivatized polysaccharides on silica and hybridized with silica in chromatography and separation: A mini review

II. Advances in chemical synthesis and biosynthesis of bacterial glycans
1. Prokaryotes: Sweet proteins do matter

2. Glycan ligation reactions in the periplasmic space
3. Synthesis of bioactive lipid A and analogues
4. Synthesis of lipopolysaccharide core fragments
5. Synthesis of oligosaccharides related to potential bioterrorist pathogens
6. Synthetic teichoic acid chemistry for vaccine applications
7. NMR characterization of bacterial glycans and glycoconjugate vaccines
II. Synthetic carbohydrate-based vaccines: present and future
8. Glycoconjugate vaccines, production and characterization
9. Antifungal glycoconjugate vaccines
10. Site-selective conjugation chemistry for synthetic glycoconjugate vaccine development
11. Glyconanoparticles as versatile platforms for vaccine development: A mini review

Category

1. News