Special Issue

Natural Products Synthesis: From Carbohydrate Building Blocks to Bioactive Conjugates

Message from the Guest Editors

Carbohydrates serve as fundamental building blocks for the synthesis of various bioactive compounds, including glycoderivatives, glycomimetics, glycosides, polysaccharides, and their conjugates, which exhibit therapeutic potential in areas such as anti-cancer, anti-inflammatory, and antimicrobial treatments. Recent advancements in synthetic chemistry have enabled the development of novel carbohydrate-based compounds with enhanced bioactivity and selectivity, addressing the growing need for sustainable and effective pharmaceuticals. We invite contributions that highlight innovative synthetic strategies, structural elucidation, and biological evaluation of these compounds. Topics of interest include the following: -- Synthesis and characterization of carbohydrate-based bioactive compounds; -- Development of novel synthetic methods for glycoside and polysaccharide derivatives; -- Exploration of the biological activities of carbohydrate conjugates, including their mechanisms of action; -- Application of carbohydrate-derived compounds in drug delivery systems and functional foods; -- Use of renewable carbohydrate resources for the sustainable production of bioactive materials.

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Message from the Editor-in-Chief

As the premier open access journal dedicated to molecular chemistry, now in its 30th year of publication, the papers published in *Molecules* span from classical synthetic methodology to natural product isolation and characterization, as well as physicochemical studies and the applications of these molecules as pharmaceuticals, catalysts, and novel materials. Pushing the boundaries of the discipline, we invite papers on all major fields of molecular chemistry and multidisciplinary topics bridging chemistry with biology, physics, and materials science, as well as timely reviews and topical issues on cutting-edge fields in all of these areas.

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