

Special Issue

Discovery, Design, Synthesis, and Application of Nucleoside/Nucleotides

Message from the Guest Editors

For decades, nucleosides and nucleotides have formed the cornerstone of antiviral and anticancer therapeutics. In addition, some analogues have also made progress against parasites and bacteria and in other areas. This phenomenon is a direct result of their close structural similarity to naturally occurring nucleosides. As such, any changes to their diverse scaffolds can have profound effects. In general, nucleoside and nucleotide analogues target key biological pathways in the replication cycles of many diseases; However, some have also been shown to target human enzymes, which can sometimes result in deleterious consequences. In this regard, the primary issue with this class of drugs involves selectivity and the rapid development of resistance. As a result, there is a constant need for new and more effective analogues to fight emerging and reemerging infectious diseases and cancers.

This Special Issue will focus on some of the leading approaches to design, synthesis, and biological investigations, as well as the various applications for this highly relevant class of compounds and their corresponding prodrugs.

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As the premier open access journal dedicated to experimental organic chemistry, and now in its 25th 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 multidisciplinary topics bridging biochemistry, biophysics and materials science, as well as timely reviews and topical issues on cutting edge fields in all these areas.

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