Special Issue

Modified Oligonucleotides: Design, Synthesis and Application

Message from the Guest Editor

Oligonucleotides, which by virtue of their intrinsic ability to recognize specific sequences of intracellular nucleic acids, primarily RNAs, through complementary base-pairing, are able to modulate their biological functions, have become an indispensable tool not only in molecular biology research but also in modern medicine as precision instruments for molecular diagnostics and therapy. As natural oligonucleotides are susceptible to enzymatic digestion when introduced into a living organism, the need for their stabilization through chemical modification is understood very early in their history. This Special Issue is aimed at providing a snapshot of contemporary modified oligonucleotide synthesis and applications, commemorating the 40th anniversary of the seminal paper by Beaucage and Caruthers that heralded the advent of the phosphoramidite chemistry (*Tet. Let.* **1981**, *22*, 1859–1862, doi:10.1016/S0040-4039(01)90461-7).

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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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