Special Issue

Beyond the Canonical DNA Double-Helix: Supramolecular Assemblies of Chemically Modified Nucleic Acids and their Applications

Message from the Guest Editor

Nucleic acids and more particularly DNA are central for life on Earth. Beyond the central dogma of molecular biology that converts the double-stranded DNA into mRNAs followed by proteins, nucleic acids were later found to serve many other roles such as enzymes (ribozymes), receptors (natural riboswitchs and artificial aptamers) and regulators of genetic expression (RNA interference, etc.). Many of these phenomena do not necessarily rely on the traditional Watson–Crick base pairing scheme. While the level of control and complexity achieved by nature in the building of nucleic acid-based supramolecular assemblies is outstanding, chemists have long sought to improve or impart these assemblies with new properties through chemical modification and/or conjugation to other molecules. This SI intends to cover all aspects of chemically modified supramolecular assemblies of artificial nucleic acids and their applications that do not primarily capitalize on conventional Watson–Crick base pairing; or when the biophysics of the DNA duplexes are purposely altered—for instance, in nanoparticle–DNA conjugates.

Guest Editor

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Message from the Editor-in-Chief

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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