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Editorial

Nucleic Acids – Chemistry and Applications

The year 2013 marked the 60th anniversary of the elucidation of the structure of the DNA double helix by Watson and Crick. The double helical structure of DNA spawned the understanding of the molecular basis of life in terms of how the genetic code could both decode and propagate. However, it was unforeseen at that time that the supramolecular structure of DNA would some day lead chemists to design future drugs, diagnostics, and new materials, through chemical modifications and expanded functionality. Organic chemistry has been central in the development of enabling chemistry for affordable custom synthesis of any DNA/RNA sequence and in advancing super efficient methods to sequence DNA. This virtual issue seeks to highlight the frequently underestimated role of the exciting chemistry underlying nucleic acid biology. Twenty-five exciting papers from *The Journal of Organic Chemistry*, *Organic Letters*, and *Journal of the American Chemical Society* published between January 2012 and November 2013 are highlighted under four broad categories – chemical modifications and DNA/RNA analogues, gene silencing and delivery methods, fluorescent nucleic acids, and self-assembly derived DNA materials.

We encourage you to consult the more detailed Editorial that has been prepared for *The Journal of Organic Chemistry*, which comments in detail on the selected articles.

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