ARTIFICIAL NUCLEOSIDES

This research area involves the design, synthesis, and the study of the biological activity of artificial (modified) nucleosides and nucleotides. Such compounds have been largely used for medicinal chemistry (e.g. antiviral and anticancer agents) and chemical biology (e.g. study of enzyme reactions) applications. Furthermore, oligonucleotides containing modified nucleotides have been employed for advanced gene therapy studies and as probes for molecular recognition interactions.

GOALS

- Synthesis of nucleoside-conjugates of bile acid derivatives.
- Synthesis of artificial glycosylnucleotide analogues.
- Solid phase synthesis of highly modified oligonucleotides for in vitro and in vivo (animal model) applications.

INSTRUMENTS AND METHODS

Fully automated oligonucleotide synthesizer for synthesis in 1-50 µM and 150 µM-9 mmol ranges. HPLC systems. Mass (MS) spectrometry, UV spectroscopy and nuclear magnetic resonance (NMR).

MAIN SUBJECTS

Organic chemistry, pharmacology, molecular biology

RESEARCH GROUP

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COLLABORATIONS

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