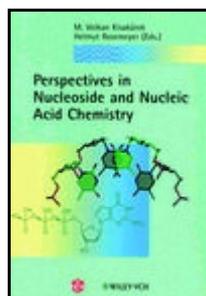


*Book Received\**

**Perspectives in Nucleoside and Nucleic Acid Chemistry.** By M. Volkan Kısakürek and Helmut Rosemeyer (Editors), Wiley-VCH, Weinheim, January 2001. Pages: 432, Hardcover. Price: \$105.00. ISBN: 3-90639-021-7

*Received: 1 December 2001*



The chemistry of nucleosides and nucleic acids is a rapidly developing field. Many of the most important recent advances in medicinal chemistry have occurred in this field with the development of novel nucleoside- and nucleotide-based antiviral and antitumor drugs. New synthesis strategies involving novel protecting groups have helped spur progress in drug-development and genome-sequencing research.

This volume, comprised of contributions written by internationally recognized experts, covers cutting-edge developments in current nucleoside and nucleic acid research. The most recent synthesis innovations, including combinatorial approaches, spectroscopy and structural studies, thermodynamic and computational investigations, stability assessments, and medicinal applications are presented. Synthetic, physical, organic, bioorganic, and medicinal chemists working on all aspects of nucleoside and nucleic acid research will value this comprehensive state-of-the-art overview.

Table Of Contents:

NUCLEOSIDES AND NUCLEOTIDES

The Synthesis of Bicyclic N<sup>4</sup>-Amino-2'-deoxycytidine Derivatives  
(D Loakes, et al.).

Synthesis and Biological Activity of 2'-Fluoro-D-arabinofuranosylpyrazolo-  
[3,4-d]pyrimidine Nucleosides (A. Shortnacy-Fowler, et al.).

A Novel Route for the Synthesis of Deoxy Fluoro Sugars and Nucleosides

(I. Mikhailopulo & G. Sivets).

A Practical Synthesis of 3'-Thioguanosine and of Its 3'-Phosphoramidothioite  
(a Thiophosphoramidite) (J. Matulic-Adamic & L. Beigelman).

Novel Nucleoside Analogues with Fluorophores Replacing the DNA Base (C. Strässler, et al.).

2-(Glucosylthio)ethyl Groups as Potential Biolabile Phosphate-Protecting Groups of Mononucleo-  
tides (N. Schlienger, et al.).

New 2-(4-Nitrophenyl)ethyl(Npe)- and 2-(4-Nitrophenyl)ethoxycarbonyl-(Npeoc)-Protected 2'-  
Deoxyribonucleosides and Their 3'-Phosphoramidites - Versatile Building Blocks for Oligonucleotide  
Synthesis (H. Lang, et al.).

Synthesis of Conformationally Restricted Carbocyclic Nucleosides: The Role  
of the O(4')-Atom in the Key Hydration Step of Adenosine Deaminase (V. Marquez, et al.).

Studies on the Adamantylation of N-Heterocycles and Nucleosides (Z. Kazimierczuk, et al.).

Six-Membered Carbocyclic Nucleosides with a Purine Base Moiety:  
Synthesis, Conformational Analysis, and Antiviral Activity (J. Wang & P. Herdewijn).

Individual Isomers of Dinucleoside Boranophosphates as Synthons for  
Incorporation into Oligonucleotides: Synthesis and Configurational  
Assignment (Z. Sergueeva, et al.).

Synthesis of Boron-Containing ADP and GDP Analogues:  
Nucleoside 5'-(Pa-Boranodiphosphates) (J. Lin, et al.).

Isonucleosides with Exocyclic Methylene Groups (S. Bera & V. Nair).

## OLIGONUCLEOTIDES

Oligonucleotides Fuctionalized by Fluorescein and Rhodamine Dyes:  
Michael Addition of Methyl Acrylate to 2'-Deoxypseudouridine (N. Ramzaeva, et al.).

Base-Pairing Properties of 8-Aza-7-deazaadenine Linked via the 8-Position to  
the DNA Backbone (F. Seela, et al.).

Nucleic-Acid Analogs with Restricted Conformational Flexibility in the Sugar-  
Phosphate Backbone ('Bicyclo-DNA'). Part 7. Synthesis and Properties of Oligodeoxynucleotides  
Containing [(3'S,5'S,6'R)-6'-Amino-2'-deoxy-3',5'-  
ethano-b-D-ribofuranosyl]thymine (= (6'R)-6'-Amino-bicyclo-thymidine) (R. Meier, et al.).

Oligonucleotides Containing Novel 4'-C- or 3'-C-(Aminoalkyl)-Branched Thymidines (H. Pfundheller, et al.).

1H'-Benzotriazole as Synthetic Auxiliary in a Facile Route to N6-(Arylmethyl)-2'-deoxyadenosines: DNA Intercalators Inserted into Three-Way Junctions (S. El-Kafrawy, et al.).

Dipyrido[3,2-a:2',3'-c]phenazine-Tethered Oligo-DNA Synthesis and Thermal Stability of Their DNA · DNA and DNA · RNA Duplexes and DNA · DNA · DNA Triplexes (D. Ossipov, et al.).

Synthesis and Properties of Oligothymidylates Incorporating an Artificial Bend Motif (K. Seio, et al.).

Synthesis of the Anticodon Hairpin RNA<sub>f</sub><sup>Met</sup> Containing N-{[9-(b-D-Ribofuranosyl)-9H-purin-6-yl]carbonyl}-L-threonine (= N<sup>6</sup>-{[(1S,2R)-1-Carboxy-2-hydroxypropyl]amino}carbonyl}adenosine, t<sup>6</sup>A) (V. Boudou, et al.).

Stepwise Solid-Phase Synthesis of Peptide-Oligonucleotide Conjugates on New Solid Supports (M. Antopolsky & A. Azhayev).

Influence of the Type of Junction in DNA-3'-Peptide Nucleic Acid (PNA) Chimeras on Their Binding Affinity to DNA and RNA (B. Greiner, et al.).

Triple Helices of Optimally Capped Duplex DNA with Homopyrimidine DNA and RNA at Neutral pH (W. Bannwarth & P. Iaiza).

Synthesis of 5'-C- and 2'-O-(Bromoalkyl)-Substituted Ribonucleoside Phosphoramidites for the Post-synthetic Functionalization of Oligonucleotides on Solid Support (X. Wu & S. Pitsch).

Synthesis and Stability of GNRA-Loop Analogs (K. Wörner, et al.).

Synthesis of 3'-Thioamido-Modified 3'-Deoxythymidine 5'-Triphosphates by Regioselective Thionation and Their Use as Chain Terminators in DNA Sequencing (C. Wojczewski, et al.).

Hydrolysis of Phosphodiester Bonds within RNA Hairpin Loops in Buffer Solutions: the Effect of Secondary Structure on the Inherent Reactivity of RNA Phosphodiester Bonds (I. Zagorowska, et al.).

Duplex-Stabilization Properties of Oligodeoxynucleotides Containing

N<sub>2</sub>-Substituted Guanine Derivatives (R. Eritja, et al.).

Use of the Fluorescent Nucleoside Analogue Benzo[g-]quinazoline  
2'-O-Methyl-b-D-ribofuranoside to Monitor the Binding of HIV-1 Tat Protein or of Antisense Oli-  
gonucleotides to the TAR RNA Stem-Loop  
(A. Arzamanov, et al.).

Solution Structure of a RNA Decamer Duplex, Containing  
9-[2-O-(b-D-ribofuranosyl)-b-D-ribofuranosyl]adenine, a Special Residue in Lower Eukaryotic Ini-  
tiator tRNAs (I. Layten, et al.).

Solution Structure of a Hexitol Nucleic Acid Duplex with Four Consecutive T-T Base Pairs (E.  
Lescrinier, et al.).

Nonenzymatic Oligomerization Reactions on Templates Containing Inosinic Acid or Diaminopurine  
Nucleotide Residues (I. Kozlov & L. Orgel).

Index.

*\*Editor's Note:* The brief summary and the contents of the books are reported as provided by the author or the publishers. Authors and publishers are encouraged to send review copies of their recent books of potential interest to readers of *Molecules* to the Editor-in-Chief (Dr. Shu-Kun Lin, MDPI, Saengergasse 25, CH-4054 Basel, Switzerland. Tel. +41 79 322 3379, Fax +41 61 302 8918, E-mail: molinfo@mdpi.org). Some books will be offered to the scholarly community for the purpose of preparing full-length reviews.

© 2001 by MDPI (<http://www.mdpi.org>).