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3.8 Cation Movement within G-Quadruplexes 3.9 Summary; Acknowledgements; References; 4: Supramolecular Chemistry of Metal-Nucleobase Complexes; 4.1 Introduction; 4.2 Discrete Architectures; 4.3 Infinite Architectures; 4.4 Overview of Metal Coordination Sites and Base-Base Hydrogen Bonding; 4.5 M-DNA; 4.6 Conclusion; Acknowledgements; References; Part B: Medical Applications; 5: Platinum Drugs, Nucleotides and DNA: The Role of Interligand Interactions; 5.1 Introduction; 5.2 Internucleotide Interactions; 5.3 Guanine cis Amine Interactions; 5.4 Solid-State Structures of Dynamic Nucleotides
5.5 Conformer Distribution in Cisplatin Adducts of G Derivatives 5.6 Retro Models Applied to Adducts with Tethered Guanine Bases; 5.7 Conclusions and Perspectives; Acknowledgements; References; 6: Role of DNA Repair in Antitumour Effects of Platinum Drugs; 6.1 Introduction; 6.2 Human DNA Repair Systems; 6.3 Specific Binding of Repair Proteins to DNA Modified by Antitumour Platinum Compounds; 6.4 Repair of DNA Damage by Antitumour Platinum Compounds; 6.5 Implications for Design of Antitumour Platinum Compounds; Acknowledgements; References
7: Telomeres and Telomerase: Potential Targets for Platinum Complexes 7.1 Function of Telomeres; 7.2 Structure of Telomeres; 7.3 Telomerase; 7.4 G-Quadruplex Structures and Small Molecules; 7.5 Cisplatin; 7.6 Interaction of Cisplatin and Related Platinum Complexes with G-Quadruplex Structures; 7.7 Interaction of Cisplatin and Related Platinum Complexes with Telomeric DNA Duplexes; 7.8 Interaction of Cisplatin and Related Platinum Complexes with Telomerase; 7.9 Conclusion; Acknowledgements; Abbreviations; References
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Sommario/riassunto

Metal ions and metal complexes have long been recognized as critically important components of nucleic acid chemistry, both in regulation of gene expression and as promising therapeutic agents. Understanding how metal complexes interact with DNA has become an active research area at the interface between chemistry, molecular biology and medicine. Metal Complex - DNA Interactions provides a comprehensive overview of this increasingly diverse field, presenting recent developments and the latest research with particular emphasis on metal-based drugs and metal ion toxicity. The text is di
