Cisplatin : chemistry and biochemistry of a leading anticancer drug

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Abstrak

30 years after its discovery as an antitumor agent, cisplatin represents today one of the most successful drugs in chemotherapy. This book is intended to reminisce this event, to take inventory, and to point out new lines of development in this field. Divided in 6 sections and 22 chapters, the book provides an up-to-date account on topics such as
- the chemistry and biochemistry of cisplatin,
- the clinical status of Pt anticancer drugs,
- the impact of cisplatin on inorganic and coordination chemistry,
- new developments in drug design, testing and delivery.
It also includes a chapter describing the historical development of the discovery of cisplatin. The book addresses the problem of mutagenicity of Pt drugs and raises the question of the possible relevance of the minor DNA adducts, e.g. of interstrand cross-links, and the possible use of trans-(NH3)2Pt(II)-modified oligonucleotides in antisense and antigene strategies. The final section of the book is concerned with new developments such as novel di- and trinuclear Pt(II) drugs with DNA binding properties different from those of cisplatin, with orally active Pt(IV) drugs which are presently in clinical studies, and with attempts to modify combinatorial chemistry in such a way that it may become applicable to fast screening of Pt antitumor drugs. The potential of including computational methods in solving questions of Pt-DNA interactions is critically dealt with in the concluding chapter.