Record Nr. UNINA9910145422003321 DNA interactions with polymers and surfactants [[electronic resource] /] **Titolo** / edited by Rita Dias and Bjorn Lindman Pubbl/distr/stampa Hoboken, N.J., : John Wiley, c2008 **ISBN** 1-281-28527-7 9786611285272 0-470-28636-9 0-470-28635-0 Descrizione fisica 1 online resource (436 p.) Altri autori (Persone) LindmanBjorn <1942-> DiasRita 572.8/6 Disciplina 572.86 Soggetti DNA **Polymers** Surface active agents Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references and index. Nota di contenuto DNA INTERACTIONS WITH POLYMERS AND SURFACTANTS: CONTENTS: Preface: Contributors: 1 Polyelectrolytes. Physicochemical Aspects and Biological Significance; 1.1 Introduction; 1.2 Polyelectrolytes and Biological Function; 1.3 Electrostatic Interactions; 1.3.1 Ion Distributions and the Poisson-Boltzmann Equation; 1.3.2 Debye-Huckel Theory; 1.4 Solution Properties; 1.5 Flexibility; 1.5.1 The Concept of Persistence Length; 1.5.2 Interactions and the Separation of Length Scales: 1.5.3 Polyelectrolyte Behavior: Electrostatic Persistence Length; 1.5.4 DNA Persistence Length; References 2 Solution Behavior of Nucleic Acids2.1 Biological Function of Nucleic Acids; 2.2 Discovery of DNA; 2.3 Structure of Nucleic Acids; 2.3.1 DNA; 2.3.2 RNA; 2.3.3 Analogues of Nucleic Acids; 2.4 Nuclei Acids Nanostructures; 2.4.1 DNA; 2.4.2 RNA; 2.5 Behavior of DNA in Solution; 2.5.1 Ionization Equilibrium; 2.5.2 Flexibility of Nucleic Acids; 2.6 Melting of Double-Stranded DNA: 2.6.1 Effect of Base Composition:

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## Sommario/riassunto

A broad overview of the interaction of DNA with surfactants and polymers Due to the potential benefits of biotechnology, interest in the interaction between DNA and surfactants and polymers has become increasingly significant. Now, DNA Interactions with Polymers and Surfactants provides an extensive, up-to-date overview of the subject, giving readers a basis for understanding the factors leading to complexation between DNA and different cosolutes, including metal ions, polyelectrolytes, spermine, spermidine, surfactants and lipids, and proteins. Topical coverage includes: