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Sommario/riassunto

This book addresses the critical challenge in cancer treatment, focusing on the precise delivery of therapeutic agents to cancer cells while sparing healthy tissue. It emphasizes the limitations of current cancer therapies and highlights the potential of nanotechnology to revolutionize cancer treatment. It discusses how core-shell nano constructs, with their enhanced stability, biocompatibility, and targeting capabilities, emerge as a promising solution. The book covers the synthesis of novel core-shell nano constructs while elaborating on the chemistry involved in their fabrication. It explores various therapeutic and diagnostic applications of these nano constructs in cancer treatment, considering different materials such as polymers, lipids, and metals and the importance of diagnostics, biosensors, and targeting strategies to achieve site-specific delivery while minimizing toxicity to healthy cells. Additionally, the book addresses regulatory and commercialization aspects,emphasizing the need for comprehensive characterization techniques to assess the effectiveness of core-shell nano constructs. This book is an invaluable resource for students, researchers, and professionals in the field.