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Sommario/riassunto

Nanotechnology has emerged as a groundbreaking field with immense potential in various industries, particularly in biomedicine and food science. One of its most promising applications is the encapsulation of bioactive compounds at the nanoscale. This innovative technique offers numerous advantages, including enhanced stability, controlled release, and targeted delivery, thereby revolutionizing the utilization of bioactive compounds for health promotion, disease prevention, and beyond. This book explores the valorization of nanoencapsulated bioactive compounds, delving into the science, technology, applications and implications of this cutting-edge approach. Harnessing Nanoencapsulation: Valorization of Bioactive Compounds for Health and Beyond explores cutting-edge nanoencapsulation techniques for enhancing the delivery of bioactive compounds, ensuring their stability and bioavailability for improved health benefits. The book discusses the customization of nanoencapsulation formulations to optimize the protection, release, and targeting of specific bioactive compounds, catering to diverse applications in healthcare and beyond. The text examines how nanoencapsulation can amplify the bioactivity of encapsulated compounds, enabling controlled release kinetics and sustained effects for enhanced therapeutic outcomes and functional food applications. The chapters highlight the potential synergies achieved by combining nanoencapsulation with various bioactive compounds, unlocking new possibilities for multifunctional formulations with enhanced efficacy and versatility. The diverse applications of nanoencapsulation are explored, plus cutting-edge nanoencapsulation techniques for enhancing the delivery of bioactive compounds, ensuring their stability and bioavailability for improved health benefits.