DESCRIPTION

Brings together, analyzes, and contextualizes the latest findings and practical applications

Polyphosphazenes, an emerging class of polymers, include macromolecules, which have been proven to be biocompatible, biodegradable, and bioactive. Their unprecedented structural diversity and unique properties make them suitable as vaccine adjuvants, microencapsulating agents, biodegradable materials, scaffolds for tissue engineering, biocompatible coatings, and carriers for gene delivery.

Polyphosphazenes for Biomedical Applications offers a thorough review of polyphosphazene research findings in the life sciences, chemistry, and chemical engineering. It emphasizes biomedical applications as well as recent advances in polyphosphazene development such as high-throughput discovery and the latest controlled methods of synthesis. The book brings together, analyzes, and contextualizes a wealth of knowledge that previously could only be found scattered throughout the scientific literature.

Following two introductory chapters, the book reviews:

- Vaccine delivery and immunomodulation
Biomaterials


Drug delivery systems


Biodetection


Well-defined polyphosphazenes: synthetic aspects and novel molecular architectures

All the chapters have been written by leading researchers in the field. Editor Alexander Andrianov, who has led the effort to commercialize polyphosphazenes for biomedical applications, has carefully reviewed and edited all chapters to ensure readability, accuracy, and thoroughness.

*Polyphosphazenes for Biomedical Applications* is not only intended for researchers working in polyphosphazene chemistry, but also for all researchers seeking solutions to problems arising in the areas of biomaterials, drug delivery systems, and controlled release formulations.

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**ABOUT THE AUTHOR**

*Alexander K. Andrianov, PhD,* is a Vice President of Research and Development at Apogee Technology, Inc. Dr. Andrianov has more than 25 years of experience in the discovery and development of novel polymers for biological applications, including biodegradable materials, vaccine adjuvants, macromolecules for microencapsulation, controlled release formulations, and transdermal drug delivery systems. He is an author of over 60 research manuscripts, review articles, and book chapters and an inventor with 41 issued and pending patents. Dr. Andrianov has been involved in all aspects of technology development and commercialization.

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