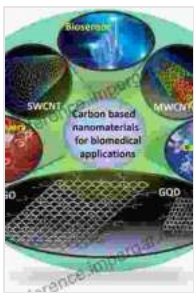


Smart Materials for Biomedical Applications: Advances in Biochemical Engineering

Smart materials are materials that can change their properties in response to external stimuli. These stimuli can include temperature, light, pH, or electrical fields. Smart materials are being used in a wide range of biomedical applications, such as drug delivery, tissue engineering, and medical devices.



Tunable Hydrogels: Smart Materials for Biomedical Applications (Advances in Biochemical Engineering/Biotechnology Book 178)

★★★★★ 5 out of 5

Language : English
File size : 30459 KB
Text-to-Speech : Enabled
Screen Reader : Supported
Enhanced typesetting : Enabled
Print length : 491 pages



Drug Delivery

Smart materials can be used to deliver drugs in a controlled and targeted manner. This can improve the efficacy and reduce the side effects of drugs. For example, pH-sensitive polymers can be used to deliver drugs to specific tissues or organs. These polymers will only release the drug when they reach the desired pH level.

Tissue Engineering

Smart materials can be used to create scaffolds for tissue engineering. These scaffolds provide a temporary structure for cells to grow on and can be designed to release specific factors to promote cell growth and differentiation. For example, biodegradable polymers can be used to create scaffolds for bone regeneration. These polymers will slowly break down over time, allowing the new bone to grow in its place.

Medical Devices

Smart materials can be used to create medical devices with improved performance and functionality. For example, self-healing materials can be used to create medical devices that can withstand repeated use and damage. Shape-memory alloys can be used to create medical devices that can change their shape in response to temperature changes.

Smart materials are a promising new class of materials for biomedical applications. They offer the potential to improve the efficacy and reduce the side effects of drugs, create new and improved tissue engineering scaffolds, and develop new medical devices with enhanced performance and functionality.



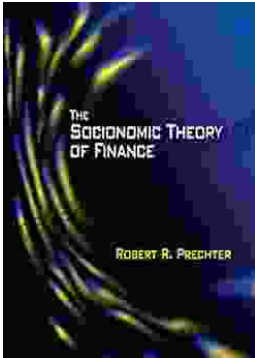
Tunable Hydrogels: Smart Materials for Biomedical Applications (Advances in Biochemical Engineering/Biotechnology Book 178)

★★★★★ 5 out of 5

Language : English
File size : 30459 KB
Text-to-Speech : Enabled
Screen Reader : Supported
Enhanced typesetting : Enabled
Print length : 491 pages

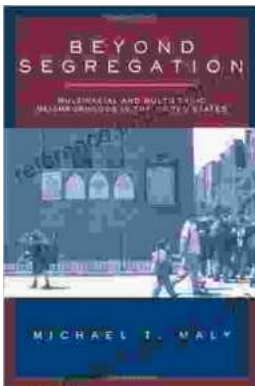
FREE

DOWNLOAD E-BOOK



Unlock Your Financial Future: Discover the Transformative Power of The Socioeconomic Theory of Finance

In a tumultuous and ever-evolving financial landscape, understanding the underlying forces that drive market behavior is paramount. The Socioeconomic Theory of Finance (STF)...



Beyond Segregation: Multiracial and Multiethnic Neighborhoods

The United States has a long history of segregation, with deep-rooted patterns of racial and ethnic separation in housing and neighborhoods. However, in recent...