Temperature-Responsive Polymers: Chemistry, Properties, and Applications
Vitaliy V. Khutoryanskiy (Editor), Theoni K. Georgiou (Editor)

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DESCRIPTION

An authoritative resource that offers an understanding of the chemistry, properties and applications of temperature-responsive polymers

With contributions from a distinguished panel of experts, Temperature-Responsive Polymers puts the focus on hydrophilic polymers capable of changing their physicochemical properties in response to changes in environmental temperature. The contributors review the chemistry of these systems, and discuss a variety of synthetic approaches for preparation of temperature-responsive polymers, physicochemical methods of their characterisation and potential applications in biomedical areas.

The text reviews a wide-variety of topics including: The characterisation of temperature-responsive polymers; Infrared and Raman spectroscopy; Applications of temperature-responsive polymers grafted onto solid core nanoparticles; and much more. The contributors also explore how temperature-responsive polymers can be used in the biomedical field for applications such as tissue engineering. This important resource:

• Offers an important synthesis of the current research on temperature-responsive polymers
• Covers the chemistry, the synthetic approaches for presentation and the physiochemical method of temperature-responsive polymers
• Includes a review of the fundamental characteristics of temperature-responsive polymers
• Explores many of the potential applications in biomedical science, including drug delivery and gene therapy
Written for polymer scientists in both academia and industry as well as postgraduate students working in the area of stimuli-responsive materials, this vital text offers an exploration of the chemistry, properties and current applications of temperature-responsive polymers.

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