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Simulations of Stress Relaxation of Fraenkel Chains - Nonlinear Viscoelasticity of Entanglement-Free Polymers; Index

Sommario/riassunto   This book covers in great detail the Rouse-segment-based molecular theories in polymer viscoelasticity - the Rouse theory and the extended reptation theory (based on the framework of the Doi-Edwards theory) - that have been shown to explain experimental results in a consistently quantitative way. The explanation for the 3.4 power law of viscosity, quantitative line-shape analyses of viscoelastic responses and agreements between different sorts of viscoelastic responses, the consistency between the viscoelasticity and diffusion results, the clarification of the onset of entangelement,