

Smart polymers and their applications / edited by Maria Rosa Aguilar and Julio San Roman

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Abstrak

Smart polymers are polymers that respond to different stimuli or changes in the environment. Smart Polymers and their Applications reviews the types, synthesis, properties, and applications of smart polymers. Chapters in part one focus on types of polymers, including temperature-, pH-, photo-, and enzyme-responsive polymers. Shape memory polymers, smart polymer hydrogels, and self-healing polymer systems are also explored. Part two highlights applications of smart polymers, including smart instructive polymer substrates for tissue engineering; smart polymer nanocarriers for drug delivery; the use of smart polymers in medical devices for minimally invasive surgery, diagnosis, and other applications; and smart polymers for bioseparation and other biotechnology applications. Further chapters discuss the use of smart polymers for textile and packaging applications, and for optical data storage.