

Preface

The present volume examines the coherent scientific community devoted to the study of Silicon Containing Copolymers. It starts with a series of studies of silicone and silicon-based block copolymers that were important in the synthesis of new polymeric materials with new properties.

Recent advances in controlled radical polymerization techniques have led to facile synthesis of well-defined block copolymers with a wide range of functional monomers. The excellent properties of silicone polymers include high stabilities toward heat and ultraviolet radiation, very low glass transition and melting temperatures, and good gas permeability and low surface tension, and most importantly, polysiloxanes are nontoxic and environmentally compatible. The association between polysiloxanes and various polymers open the way to various industrial applications. Block and graft copolymers were prepared using ATRP. This volume describes the synthesis of novel triblock and pentablock copolymers based on PDMS macroinitiators with various vinyl monomers.

A history of the Amiri Discussions that led up to this event is presented. The book concludes with an essay on the history of silicone-based polymers' synthesis and characterization. The factors that influenced this history form a fascinating study of new findings in synthesis of various Poly(dimethyl siloxane)-based copolymers via atom transfer radical polymerization (ATRP) or cobalt-mediated radical polymerization (CMRP), the formation of a now thriving scientific research community.

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