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Nota di contenuto	Introduction -- Polyrotaxane based on inclusion complexes of OH-PDMS-OH and Br-PDMS-Br with -cyclodextrin without utilizing sonic energy -- Synthesis and Characterization of PDMS based triblock and pentablock Copolymers -- Cobalt mediated radical polymerization of 4-bromo-2,6-dimethyl phenol and its copolymerization with poly (dimethyl siloxane) in the presence of Co(acac)2: DMF catalyst -- Novel Thermoreversible Block Copolymers: Silicone Macroinitiator in Atom Transfer Radical Polymerization.
Sommario/riassunto	Silicones have unique properties including thermal oxidative stability, low temperature flow, high compressibility, low surface tension, hydrophobicity and electric properties. These special properties have encouraged the exploration of alternative synthetic routes of well defined controlled microstructures of silicone copolymers, the subject of this Springer Brief. The authors explore the synthesis and characterization of notable block copolymers. Recent advances in controlled radical polymerization techniques leading to the facile synthesis of well-defined silicon based thermo reversible block

copolymers are described along with atom transfer radical polymerization (ATRP), a technique utilized to develop well-defined functional thermo reversible block copolymers. The brief also focuses on Polyrotaxanes and their great potential as stimulus-responsive materials which produce poly (dimethyl siloxane) (PDMS) based thermo reversible block copolymers.