Cyclic Olefin ring-opening metathesis polymerization

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The Cyclic Olefin ring-opening metathesis polymers with excellent thermal and optical properties were synthesized from norbornene and tetracyclododecene monomer. The catalyst systems that induce ring-opening metathesis polymerizations derived from Zigler type of titanium tetrachloride(TiCl4) and metathesis type of tungsten hexachloride(WCl6). The polymerization yield is not less than 90%. These Polymers has been used in a wide variety of applications, such as optical lenses, optical films, and optical fiber.