

研究综述

## 甲壳型液晶高分子研究进展与展望

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**摘要** 简要介绍了甲壳型液晶高分子的模型理论, 概述了当前国内外对甲壳型液晶高分子设计、液晶相态、性质及基于甲壳型液晶高分子的嵌段共聚物体系的设计和自组装性质等研究进展, 展望了今后的研究方向。

**关键词** [甲壳型液晶高分子](#) [超分子液晶态](#) [刚柔嵌段共聚物](#) [自组装](#)

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## Review and Progress in the Study of Mesogen-Jacketed Liquid Crystalline Polymer

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**Abstract** Progress in the study of molecular structure and property relationship of mesogen-jacketed liquid crystalline polymers(MJLCPs) was reviewed. Different from traditional side chain liquid crystalline polymers, MJLCPs have semirigid polymer chain conformation due to the strong interaction between the side chain mesogens and the polymer backbone. Supramolecular liquid crystalline columnar phases are thus formed in most of MJLCPs systems. The self-assembly behavior of the block copolymers containing MJLCPs as rod segments have been studied as well both in melt and in solutions. Lamellar and perforated lamellar microphase separated structures could be found in diblock copolymers, while in solutions micelles with MJLCP core surrounded by the coil corona were easily formed. Meanwhile, MJLCPs and the related block copolymers could be exploited as the functional materials with unique electro-optical properties. An outlook for the future development in this area is proposed in the last part of this review.

**Key words** [Mesogen-jacketed liquid crystalline polymer](#) [Supramolecular liquid crystal](#) [Rod-coil block copolymers](#) [Self-assembly](#)

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