

Synthesis of Self-organized Side-Chain Polymers with π -Conjugated Backbone *via* GRIM Metathesis

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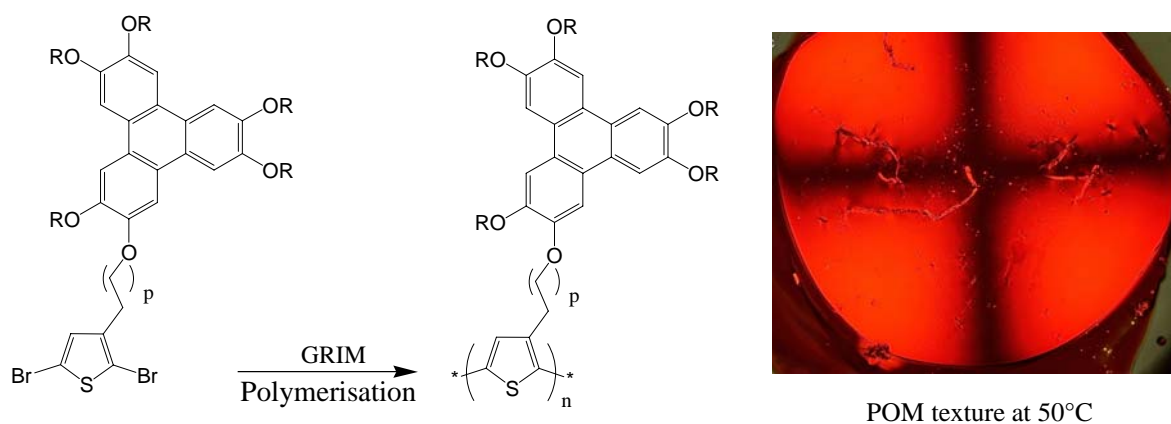
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Self-organized π -conjugated small molecules and polymers have emerged as a promising class of materials due to their high charge carrier mobility related to their high electrical and structural anisotropy⁽¹⁾. Consequently, semiconductor liquid crystal compounds are now used for applications in optoelectronics⁽²⁾, as for example liquid crystal polymers for Organic Field Effect Transistor application⁽³⁾.

However, to the best of our knowledge, no lamello-columnar side-chain liquid crystal polymers consisting of both a π -conjugated backbone and discotic mesogens (see figure below) have yet been reported in the literature.



In this work, we report on the design and synthesis (adapted of the McCullough's procedure⁽⁴⁾) of an example of this new semiconducting polymer type, based on triphenylene mesogen side-chain groups and regioregular and well defined polythiophene backbones⁽⁵⁾. The chemical characterizations (SEC-GPC, NMR) and photophysical properties (absorption and emission) are presented. The thermotropic properties, studied by DSC, POM and XRD, are also shown and discussed.

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- (5) Pattern N° 08 03265 CEA/UPMC/CNRS