

# Synthesis of Aliphatic Polyesters by “Click” Chemistry and Ring-Opening Polymerization

Philippe Lecomte, Raphaël Riva, Jiri Zednik, Haiying Li, Stéphanie Schmeits, Robert Jérôme

Center for Education and Research on Macromolecules (CERM), Liège University B6a, Sart-Tilman, B-4000 Liège, Belgium (e-mail: [philippe.lecomte@ulg.ac.be](mailto:philippe.lecomte@ulg.ac.be))

During the last decade, a wide range of biodegradable and biocompatible aliphatic polyesters have been synthesized by ring-opening polymerization (ROP) of lactides and lactones. In parallel, extension of the “click” copper-mediated Huisgen 1,3-cycloaddition reaction of azides and alkynes to macromolecular chemistry has proved to be successful.<sup>1,2</sup> This lecture aims at reporting the recent progress made in our laboratory in the synthesis of new aliphatic polyesters by ring-opening polymerization and assistance of “click” chemistry. A special attention will be paid on the synthesis of high molecular weight tadpolye-, sun- and height-shaped polyesters by an original method based on the intramolecular cross-linking of unsaturated end-groups of chains precyclic by the initiation.<sup>3</sup>

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  - 2) Ph. Lecomte, R. Riva, S. Schmetis, J. Rieger, K. Van Butsele, Ch. Jérôme, R. Jérôme, Macromol. Symposia 2006, **240**, 157-165.
  - 3) H. Li, A. Debuigne, R. Jérôme, Ph. Lecomte, Ang. Chem. Int. Ed. 2006, **45**, 2264-2267.