

**SYNTHESIS OF NEW HYDROPHILIC
 γ -SUBSTITUTED POLY- ϵ -CAPROLACTONES**

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During the past few years, a steadily increasing attention was paid to the synthesis of aliphatic polyesters (poly(ϵ -caprolactone), polylactides) because of potential applications in the biomedical field. The modification of these polymers by pendent functional groups is an efficient tool to tailor the main properties, including biodegradation rate, bioadhesion, hydrophilicity, degree of crystallinity.

The strategy that has been implemented consists of the synthesis of γ -substituted ϵ -caprolactone followed by the ring-opening polymerization initiated by aluminum isopropoxide with the purpose to increase the hydrophilicity of poly- ϵ -caprolactone. Monomers substituted by a bromide, a hydroxyl protected group and a protected carboxylic acid group, respectively, have been synthesized and (co)polymerized. New hydrophilic and water-soluble polyesters of predictable molecular weight and narrow molecular weight distribution have accordingly been prepared and their properties are currently investigated.