Supporting information for:

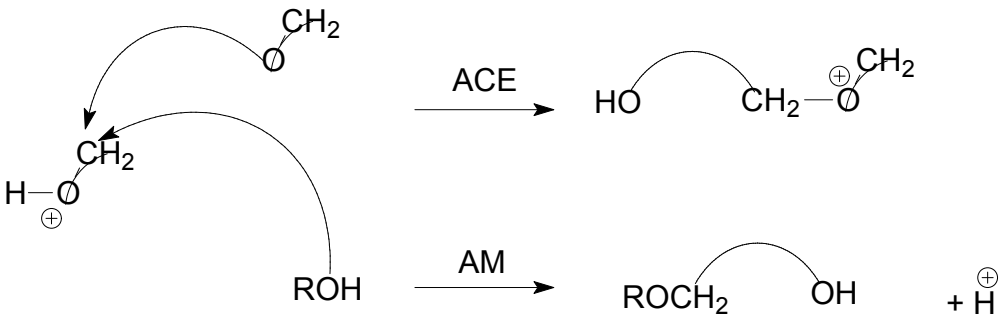
# Synthesis and properties of L-lactide/1,3-dioxolane copolymers: preparation of polyesters with enhanced acid sensitivity

B. Kost, M. Basko*

Centre of Molecular and Macromolecular Studies, Polish Academy of Sciences, Sienkiewicza 112, 90-363 Lodz, Poland

*Email: baskomeg@cbmm.lodz.pl

**Table of contents:**




**Scheme 1.** Propagation according activated chain end (ACE) mechanism versus activated monomer (AM) mechanism in cationic polymerization of heterocyclic monomers. In order to enhance the contribution of AM, the instantaneous concentration of the non-protonated monomer should be kept as low as possible (monomer should be introduced slowly to the polymerization mixture).

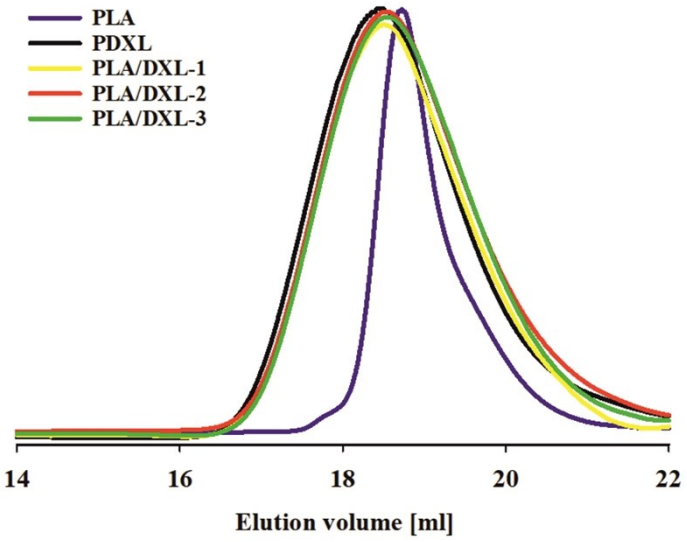



**Figure 1S.** Representative GPC traces of purified PLA, PDXL and PLA/PDXL copolymers

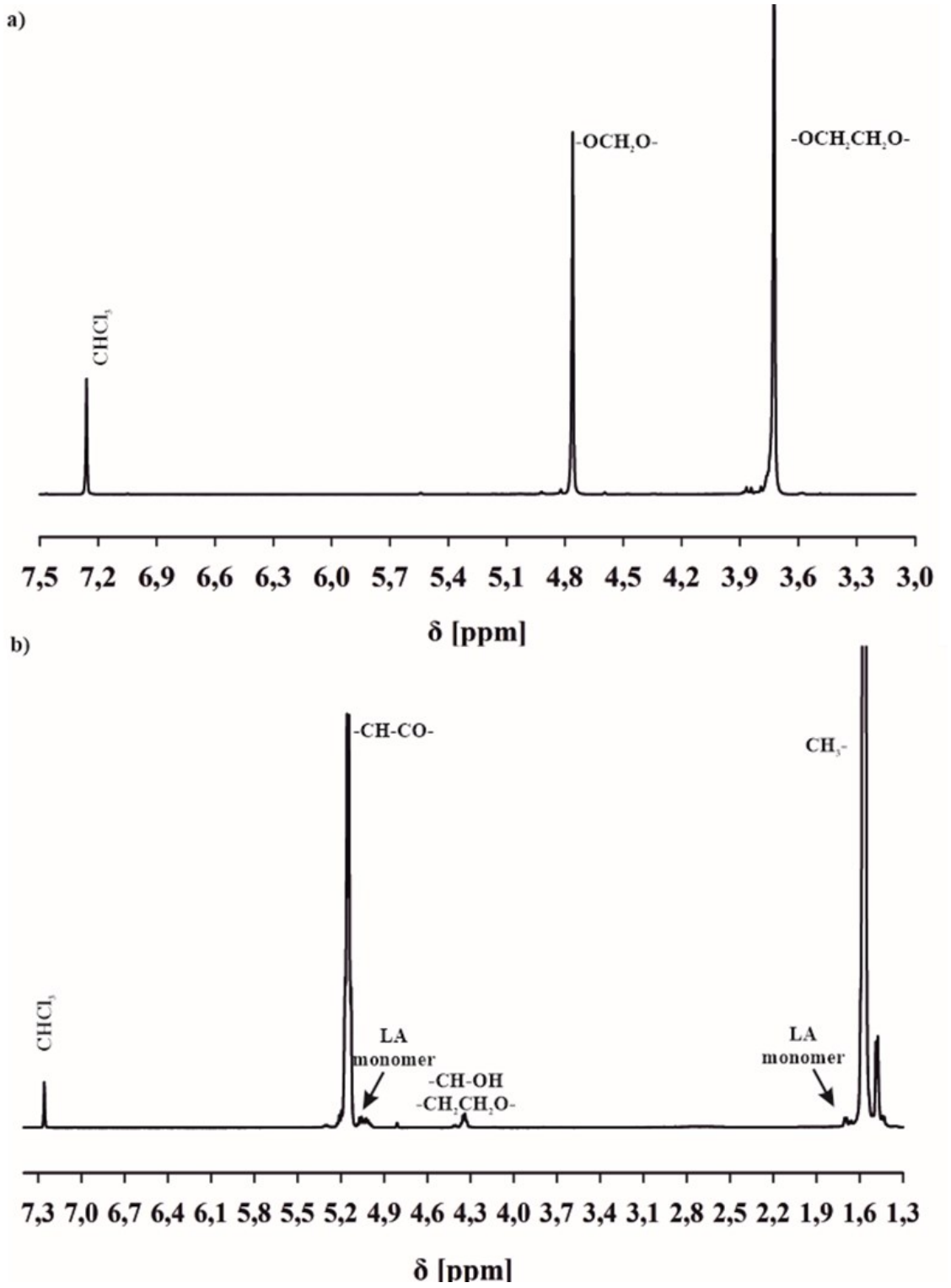



**Figure 2S**. $^{1}H$ NMR spectrum of a) DXL and b) LA homopolymer (500 MHz, $CDCl_3$)

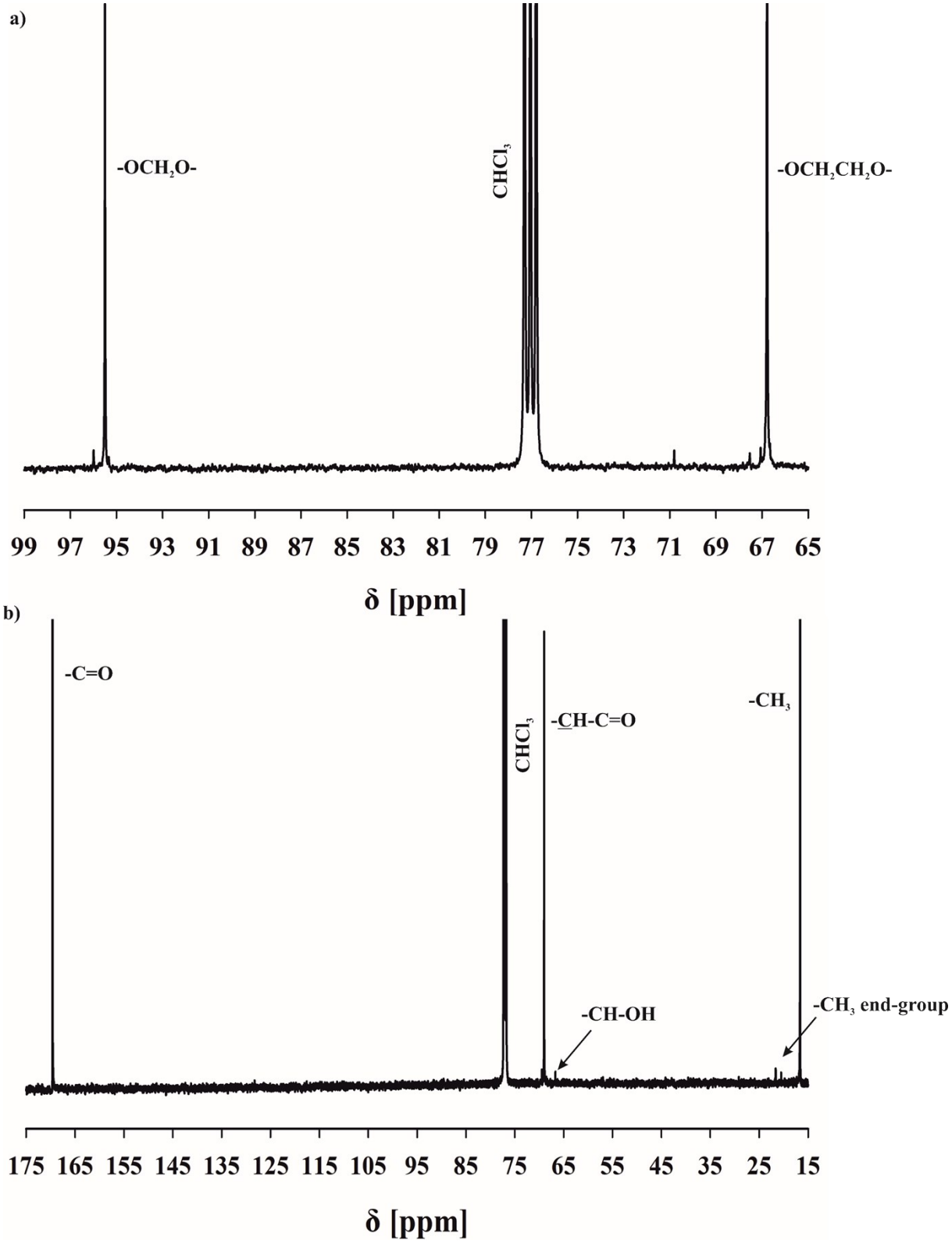



**Figure 3S**. $^{13}C$ NMR spectrum of a) DXL and b) LA homopolymer (500 MHz, $CDCl_3$)

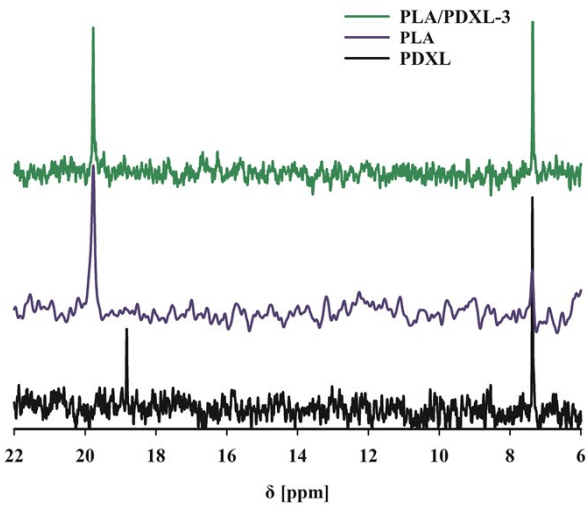



**Figure 4S**. $^{29}$Si NMR spectra of: green line: PLA homopolymer, blue line : PDXL homopolymer, black line: PLA/PDXL-3 copolymer.

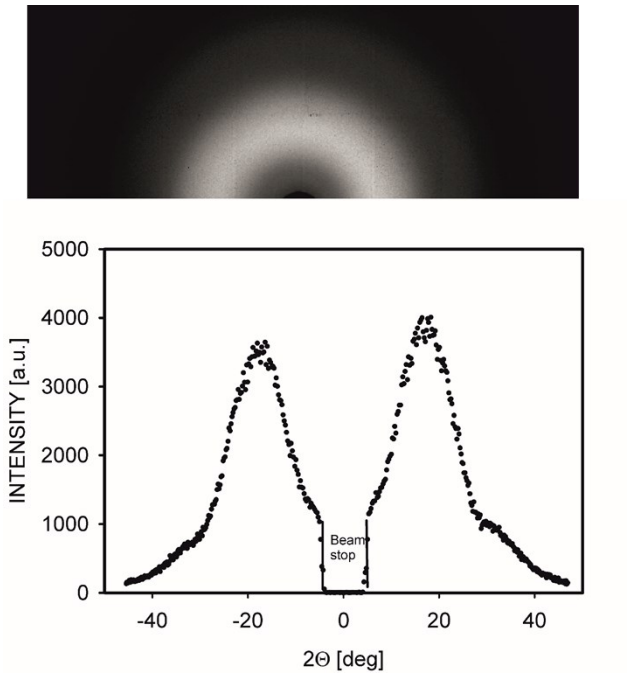



**Figure 5S**. Wide angle X-ray scattering (WAXS) analysis of sample containing 7% mol of DXL unit at PLA chain (PLA/PDXL-1)

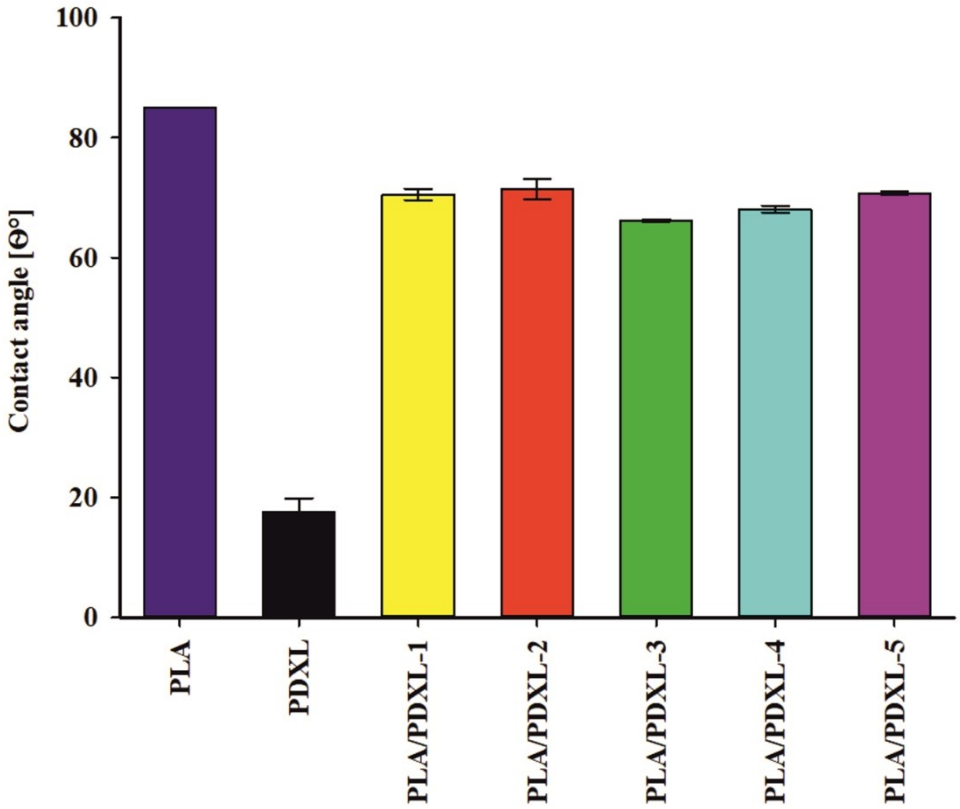



**Figure 6S.** Contact angles measured for of neat PLA and PDXL and PLA/PDXL copolymers with different content of comonomers (films on a glass plate with water as a reference liquid)