

## Ring-opening polymerization of aromatic cyclic esters derived from biomass

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Biodegradable synthetic polyester has been widely used in packaging materials, textiles, biomedicine and other fields, but the low glass transition temperature of the biodegradable polyester represented by polylactic acid limits their application range. Hydroxycarboxylic acids with phenyl as substituting groups have high glass transition temperature, high melting point, and high thermal decomposition temperature, and this kind of high heat resistance has attracted extensive attention of scientists. Because of the specificity of aryl, the controllability, stereoselectivity and sequence structure control of ring-opening polymerization of related monomers need further study.

In recent years, the research group has carried out polymerization and copolymerization of related cyclic esters such as mandelic acid, tropinic acid and salicylic acid [1-3], obtained a series of polyesters and copolyesters with controllable stereostructure and sequence structure, and realized the synthesis of some polymer polyesters. The microstructure of these polyesters has a certain effect on the polymer properties, its glass transition temperature, high melting point, and high thermal decomposition temperature.

### References

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## BIO

Wu Jincai, Professor, He received his PhD in Inorganic Chemistry from Lanzhou University in June 2003. From October 2003 to July 2005, he did postdoctoral research at Chung Hsing University in Taiwan. From 2006 to 2007, he did postdoctoral research at University of Bern in Switzerland. In September 2005, he was appointed as an associate professor in the School of Chemistry and Chemical Engineering of Lanzhou University. In May 2011, he was promoted to a professor, and in the same year, he was appointed as a doctoral supervisor. In 2022, he was awarded as a third-level Cui Ying Professor of Lanzhou University. He has long been engaged in catalytic chemistry, polymer synthesis methodology, and coordination chemistry research. Recent research focuses on biomass conversion chemistry, biodegradation polymer synthesis directions. He participated in a number of National Foundation projects of China. So far, he has published more than 100 papers in J. Am. Chem. Soc., Angew.Chem. Int.Edit., Macromolecules, ACS Macro Lett., etc.