

Green Biotechnology

R&D Project Title: Functional Bioplastics and Biochemicals Based on Amino Acid Dimerization Biotechnology

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Summary :

Diverse functional bioplastics that complement petroleum-based plastics will promote the use of bioplastics and reduce carbon emissions. In this process, there is a need to expand monomer compounds and improve bioproduction efficiency. In this study, we will develop a novel biosynthesis platform for pyrazine aromatics combined with amino acid mass fermentation technology and amino acid dimerization pathway. We will make various functional bioplastics such as general-purpose plastics, highly heat-resistant polyamides, and polyimides from bio-based pyrazines. Further, we will develop pyrazine chemicals to control plant diseases and promote plant growth in order to increase biomass production.

