Research Institute of Innovative Technology for the Earth (RITE)

Development of Multi-Lock Biopolymers Degradable in Ocean from Non-Food Biomass

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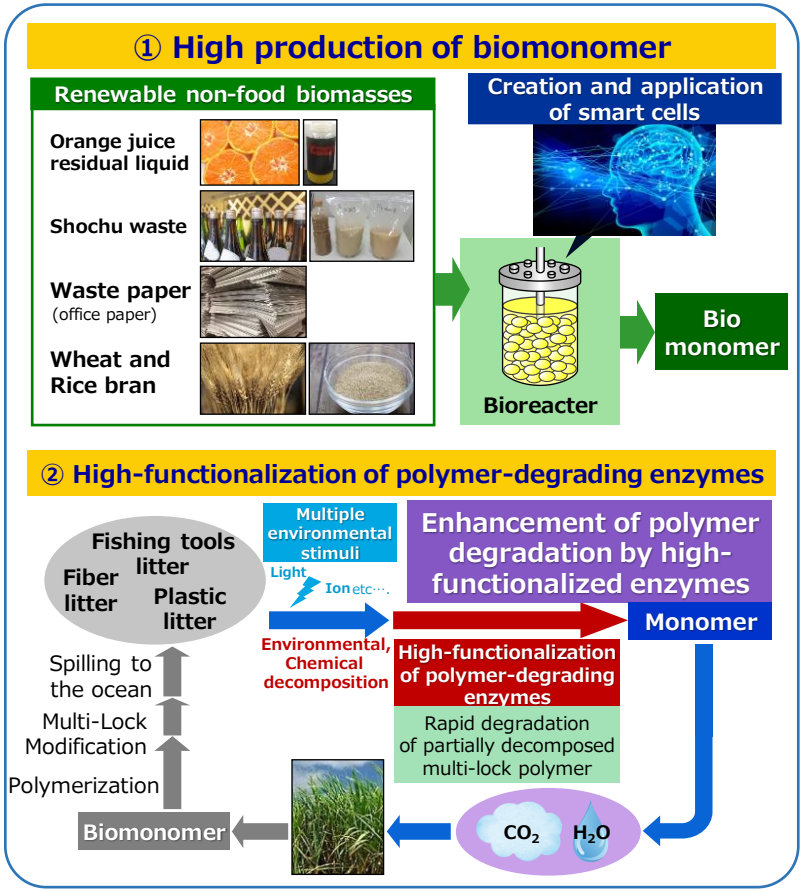
① High production of biomonomers

We designed synthetic pathways for fermentative production of biomonomers such as dicarboxylic acids demanded by several companies for polymer production. We established integrated-production of biomonomers and their precursors from glucose as the starting material.

② High-functionalization of polymer-degrading enzymes

We established heterologous expression of three polymer-degrading enzymes in *Escherichia coli* as active-forms. Furthermore, we increased activity of polymer-degrading enzymes at broad range of temperatures by means of structure-guided mutagenesis.



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