

ISOPROPYL ALCOHOL-PRODUCING BACTERIUM HAVING IMPROVED PRODUCTIVITY BY GNTR DESTRUCTION

ABSTRACT

An isopropyl alcohol-producing *Escherichia coli* includes an isopropyl alcohol production system, wherein an activity of transcriptional repressor GntR is inactivated, and the isopropyl alcohol-producing *Escherichia coli* preferably further includes a group of auxiliary enzymes having an enzyme activity expression pattern with which isopropyl alcohol production capacity achieved by the inactivation of the GntR activity is maintained or enhanced. A method of producing isopropyl alcohol includes producing isopropyl alcohol from a plant-derived raw material using the isopropyl alcohol-producing *Escherichia coli*. A method of producing acetone includes contacting the isopropyl alcohol obtained by the isopropyl alcohol production method with a complex oxide that includes zinc oxide and at least one oxide containing a Group 4 element, and that is prepared by coprecipitation. A method of producing propylene includes contacting isopropyl alcohol and acetone obtained by the production method with a solid acidic substance and a Cu-containing hydrogenation catalyst as catalysts.

(No Suitable Figures)