ABSTRACT

A METHOD OF PRODUCING VALUE-ADDED CHEMICALS BY USING CLOSTRIDIUM AND BACILLUS CO-CULTURES

The present invention relates to a composition for the production of butanol and isopropanol, comprising an acetone-butanol-ethanol (ABE)-producing *Clostridium* strain and a genetically engineered *B. subtilis* strain, wherein said genetically engineered *B. subtilis* strain has been transformed by at least one polynucleotide molecule; the at least one polynucleotide molecule comprising a secondary alcohol dehydrogenase gene operably linked to at least one promoter. The invention also relates to a composition for the production of isopropyl butyrate and/or butyl acetate and/or butyl butyrate comprising a first isopropanol-producing *Clostridium* strain and a second butyrate-producing *Clostridium* strain, a method of producing butanol and isopropanol in a co-culture, and a method of producing butyrate, isopropanol and butanol in a co-culture. At least one of the co-culture strains may be genetically engineered to express lipase.