

Hexanoic Acid Production by *Megasphaera* sp. BS-4 using *Jerusalem artichoke*

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As a bio-platform chemical, hexanoic acid has the advantage of being converted into the hexane, hexanol and hexyl-hexanoate by the chemical catalysts. Because some of anaerobic bacteria can convert the refined sugar into high concentration of hexanoic acid, fermentation process is regarded as the promising method of bio-hexanol production. But these carbon sources are too expensive to apply practical process. Therefore, hexanoic acid production using *Jerusalem artichoke*(JA), cheap and untreated biomass, was performed. JA is composed of inulin that is a polymer constituted with fructose and through hydrolysis, large amount of fructose is acquired. The dilute acid hydrolysis, a simple and fast method, was used. JA hydrolysate consisted of about 46 g/L fructose. In this study, *Megasphaera* sp. BS-4 from cow rumen was inoculated for hexanoic acid production in the culture medium containing the hydrolysate. The media contained 28.7 g/L fructose and sodium butyrate and sodium acetate were added as electron acceptors. The hexanoic acid production and its productivity with JA were compared with the culture condition containing fructose only.