Analysis of Hopanoids from the Bacterium *Clostridium acetobutylicum* ATCC 824

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Anaerobic fermentation using *C. acetobutylicum* recently regained marked interest for use in vehicle biofuel, biobutanol production, as a gasoline and diesel fuel replacement. One of the most critical problems in *C. acetobutylicum* fermentation is solvent toxicity. And the lipophilic solvent butanol is more toxic than other solvents as it disrupts the phospholipid components of the cell membrane causing an increase in membrane fluidity. Hopanoids which may exist in the membrane of *C. acetobutylicum* have a function to improve the membrane fluidity. In this study we try to prove the existence of hopanoids in the membrane of *C. acetobutylicum* and to determine the type and quantity of each kind of hopanoid using high-performed liquid chromatogram (HPLC).