

**ENRICHMENT OF LAURIC ACID FROM COCONUT OIL BY MEANS  
SOLUBILITY DIFFERENCES**

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## ABSTRACT

### ENRICHMENT OF LAURIC ACID FROM COCONUT OIL BY MEANS SOLUBILITY DIFFERENCES

Coconut oil undergo first method which was saponification process to produce a viscous solvent of FFA. Next, the fatty acids were undergoing crystallization to filter liquid form and solid form. The crystallization process involving ratio of FFA and methanol (w/w) which starting from 0.5:10 (g/g), 1.0:10 (g/g), 1.5:10 (g/g), 2.0:10 (g/g) and 2.5:10 (g/g). The cool temperature at  $-5^{\circ}\text{C}$  until  $-7^{\circ}\text{C}$  were required during crystallization to make the solution separated by its own concentration. After the solution was filtered, the liquid form was taken and kept in the small vials without capped so when that vials were placed in the oven, the methanol was removed or evaporated itself. The samples were left in an oven for an overnight. Then, FFA was proceeded with methylation so FFA was converted into FAMES. This FAMES were important as it used to inject in gas chromatography instrument. From that, the compounds of fatty acids were classified based on their retention time and the percentage each of fatty acids can be determined. As the result was observed, the major part of saturated fatty acids that contained in coconut oil was lauric acid. The percentage of lauric acid in FFA is 48.23% before crystallization. The percentage of lauric acids after crystallization in FFA at ratio (0.5: 10 w/w) is 50.79%. The other percentage of lauric acid are 46.88%, 51.39%, 47.93%, 51.69% with ratio (1.0:10 w/w), (1.5:10 w/w), ratio (2.0:10 w/w), ratio (2.5:10 w/w) respectively.