

**Growth Profile Study of Escherichia Coli K12 by Optical Density Measurement**

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**Abstract**

Bioconversion by microorganisms plays an important role worldwide over chemical transformation. Thus, microbial fermentation offers a significant advantage in producing value-added products. The biodiesel industry's primary by-product is crude glycerol. The glycerol waste from the biodiesel industry was used as the carbon source for the fermentation process. The biodiesel industry will benefit from the bioconversion of glycerol into valuable chemicals because it is a widely accepted renewable fuel. For the fermentation process for conversion of valuable product, bacteria's stability and growth conditions were monitored using the glycerol as a substrate. Therefore the growth of E.coli cells were required so bacterial growth are commonly analysed using optical density measurements in microbiology. Hence, in the present research focussed on the growth profile study of Escherichia coli K12 by optical density measurement using the spectrophotometer.

**Keywords:** Bioconversion; E.coli; Fermentation; Growth; Glycerol; LB medium.