

### Enzyme selection for coproduction of FAME and GC from vegetable oil

성필제, 김덕기<sup>1</sup>, Quang Anh Tuan Le, 조대행, 김용환,

박철환\*

광운대학교; <sup>1</sup>GS칼텍스

(chpark@kw.ac.kr\*)

Study on the utilization of glycerol has significantly increased because of the surplus of glycerol from the biodiesel production process. Glycerol carbonate is a multifunctional compound employed as the intermediate for many chemicals, emulsifier for cosmetics, additives in lithium battery, and liquid membrane. We investigated the coproduction of biodiesel and glycerol carbonate to minimize the production of glycerol. Through the literature survey and a preliminary examination, Novozym 435 (immobilized lipase B from *Candida antarctica*) was selected as an biocatalyst for coproduction of biodiesel and glycerol carbonate. The effect of different concentration of biocalyst was investigated to find the optimal enzyme loading amount. Production trend of biodiesel was similar to that of glycerol carbonate.