

Enzymatic synthesis of fatty hydroxamic acids from palm oil

ABSTRACT

Fatty hydroxamic acids (FHA) have been successfully synthesized from palm oils by a one-step lipase catalyzed reaction. The use of immobilized lipase as the catalyst for the preparation reaction provides an easy isolation of the enzyme from the products and other components in the reaction mixture. In addition, it also allows the reaction to be carried out under mild conditions, which reduces the reaction's side products. The percentages of conversion of commercial palm olein (CPO_n), RBD (refined, bleached and deodorized) palm olein (PO_n), RBD palm oil (PO), RBD palm stearin (PS) and RBD palm kernel olein (PKO_n) into their fatty hydroxamic acids are 89, 79, 77, 90 and 98, respectively.

Keyword: Enzymatic synthesis; Fatty hydroxamic acid; Lipase; Palm oil