Dimethyl 9-octadecenedioate and 9-oktadecene from methyl oleate via a ruthenium-catalyzed homo olefin metathesis reaction

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Abstrak

Oleic acid, one of the major components of palm oil, has attracted much interest in modern oleochemistry. The internal olefin group in oleic acid is a useful functional group in the transformation of a fatty acid to other functional chemicals and materials. In this paper, we discuss the application of the olefin metathesis reaction by preparing a long-chain dicarboxylic acid and alkene from the ester of oleic acid. The internal olefin metathesis reaction of methyl oleate produced dimethyl 9-oktadecendioate and 9-octadecene in the presence of a ruthenium Grubbs II (second generation) catalyst with a 51% yield. We also found that there was a higher amount of the E isomer products than the Z isomer products.