

Lipase-Mediated Formation of Peroxyoctanoic Acid Used in Catalytic Epoxidation of α -Pinene

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Abstract : This work describes the lipase-mediated synthesis of α -pinene oxide at ambient temperature. The immobilized lipase from *Pseudomonas aeruginosa* is used to generate peroxyoctanoic acid directly from octanoic acid and hydrogen peroxide. The peroxy acid formed is then applied for in situ oxidation of α -pinene. High conversion of α -pinene to α -pinene oxide (approximately 78%) was achieved when using 0,1 g enzim lipase, 6 mmol H₂O₂, dan 5 mmol octanoic acid. Various parameters affecting the conversion of α -pinene to α pinene oxide were studied.

Keywords : α -Pinene; *P. aeruginosa*; Octanoic acid

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