

Enzymatic omega-oxidation and omega-amination of fatty acids

Abstract

5 The invention relates to a method for oxidizing a fatty acid or an ester thereof of formula
(I) $\text{H}_3\text{C} - (\text{CH}_2)_n - \text{COOR}$, wherein R is selected from the group that comprises H, methyl, ethyl,
propyl, and butyl, wherein n is 0 to 30, preferably 6 to 24, comprising the step of oxidizing the
fatty acid or the ester thereof by contacting the fatty acid or the ester thereof with a cytochrome
P450 monooxygenase of the CYP153 family in the presence of molecular oxygen and NAD(P)H
10 and a whole-cell catalyst that expresses a recombinant cytochrome P450 monooxygenase of
the CYP153 family, a recombinant alcohol dehydrogenase, a recombinant transaminase, and
optionally one or more than one recombinant enzyme from the group comprising alanine
dehydrogenase, ferredoxin, and ferredoxin reductase, and the use of said whole-cell catalyst to
oxidize a fatty acid or an ester thereof.

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(no suitable figure)