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(54) Title: METHODS FOR PRODUCING DICARBOXYLIC ACIDS

(57) Abstract: The present invention provides methods of producing dicarboxylic acids. The methods involve incubating a fatty acid or hydrocarbon substrate with an enzyme to produce a dicarboxylic acid product. The enzyme acts on the substrate to produce a product that has been both over-oxidized and has undergone cleavage of a C-C bond. In some embodiments the enzymes having these useful characteristics are mutants of a cytochrome P450 enzyme, for example an enzyme of the class CYP102 or a mutant thereof. The invention provides enzymes where these desirable characteristics can be found in a single enzyme, and thus in some embodiments the methods can be performed through the action of a single enzyme.

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