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Nota di contenuto	; Lipases. The exploitation of lipase selectivities for the production of acylglycerols / Rob Diks and John Bosley -- Fractionation of fatty acids and other lipids using lipases / Kumar D. Mukherjee -- Lipid modification in water-in-oil microemulsions / Douglas G. Hayes -- Cloning, mutagenesis and biochemical properties of a lipase from the fungus rhizopus delemar / Michael J. Haas...[et al.] -- Molecular basis of specificity and stereoselectivity of microbial lipases toward triacylglycerols / Jurgen Pleiss -- Lipase-catalyzed synthesis of regioisomerically pure mono- and diglycerides / B. Aha...[et al.] -- Lipase-catalyzed peroxy fatty acids generation in lipid oxidation / M. Rusch gen. Klaas and Siegfried Warwel -- Production of functional lipids containing polyunsaturated fatty acids with lipase / Yuji Shimada, Akio Sugihara and Yoshio Tominaga -- Lipase-catalyzed synthesis of structured triacylglycerols containing polyunsaturated fatty acids-- monitoring of the reaction and increasing the yield / Tsuneo Yamane -- Enrichment of lipids with EPA and DHA by lipase / Gudmundur G. Haraldsson -- Modification of oils and fats by lipase-catalyzed

interesterification: aspects of process engineering / Xuebing Xu -- ; Phospholipases. Phospholipases used in lipid transformations / Renate Ulbrich-Hofmann -- Preparation and application of immobilized phospholipases / Peter Grunwald -- Enzymatic conversions of glycerophospholipids / Patrick Adlercreutz -- ; Lipoxygenases. Application of lipoxygenases and related enzymes for the preparation of oxygenated lipids / Ivo Feussner and Hartmut Kuehn / Properties and applications of lipoxygenases / Gilles Iacazio and Dominique Martini-Iacazio -- ; Miscellaneous enzymes. Enzymatic synthesis and modification of glycolipids / Siegmund Lang, Christoph Syldatk and Udo Rau -- Fatty acid hydroxylations using P450 monooxygenases / Ulrich Schwaneberg and Uwe T. Bornscheuer.

Sommario/riassunto

Enzymatic methods of lipid modification, particularly of fats and oils, have developed rapidly since the 1980s. In parallel to the rapid progress in research a wide range of applications have emerged, e.g. in the food industry.; The book is written by leading experts in the field and reflects the state-of-the-art of enzymatic lipid modification. It provides the reader with guidelines how to select suitable enzymes and how to apply them efficiently.; Applications of lipases and phospholipases, lipoxygenases and P450-monooxygenases and the use of whole-cell systems in lipid modification are described. Cloning, expression and mutagenesis as well as attempts to understand the molecular basis of specificity and stereoselectivity are outlined. In addition engineering aspects and the choice of solvent systems are addressed.
