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Autore	Gurr M. I (Michael Ian)
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Nota di contenuto	Contents; Abbreviations; Preface; Acknowledgements; 1 Lipids: definition, isolation, separation and detection; 1.1 Introduction; 1.2 Definitions; 1.3 Structural chemistry and nomenclature; 1.4 Extraction of lipids from natural samples; 1.5 Likely components of the crude lipid extract; 1.6 General features of lipids important for their analysis; 1.7 Chromatographic techniques for separating lipids; 1.7.1 The two phases can be arranged in a variety of ways; 1.7.2 Gas-liquid chromatography is a particularly useful method for volatile derivatives of lipids 1.7.3 Absorption column chromatography is used for the separation of large amounts of lipids1.7.4 Thin layer absorption chromatography can achieve very good separation of small lipid samples; 1.8 Other useful methods; 1.9 Summary Further Reading; 2 Fatty acid structure and metabolism; 2.1 Structure and properties; 2.1.1 Saturated fatty acids; 2.1.2 Branched-chain fatty acids; 2.1.3 Unsaturated fatty acids; 2.1.3.1 Monoenoic (monounsaturated) fatty acids; 2.1.3.2 Polyenoic

(polyunsaturated) fatty acids; 2.1.4 Cyclic fatty acids; 2.1.5 Oxy acids; 2.1.6 Conjugated unsaturated fatty acids
2.1.7 Fatty aldehydes and alcohols2.1.8 Some properties of fatty acids; 2.1.9 Quantitative and qualitative fatty acid analysis; 2.1.9.1 General principles; 2.1.9.2 Determination of the structure of an unknown acid; 2.2 The biosynthesis of fatty acids; 2.2.1 Conversion of fatty acids into metabolically active thiolesters is often a prerequisite for their metabolism; 2.2.1.1 Acyl-CoA thiolesters were the first types of activated fatty acids to be discovered; 2.2.1.2 Acyl-acyl carrier proteins can be formed as distinct metabolic intermediates in some organisms 2.2.2 The biosynthesis of fatty acids can be divided into de novo synthesis and modification reactions2.2.3 De novo biosynthesis; 2.2.3.1 Acetyl-CoA carboxylase; 2.2.3.2 Fatty acid synthase; 2.2.3.3 Termination; 2.2.3.4 Elongation; 2.2.3.5 Branched-chain fatty acids; 2.2.4 The biosynthesis of hydroxy fatty acids results in hydroxyl groups in different positions along the fatty chain; 2.2.5 The biosynthesis of unsaturated fatty acids is mainly by oxidative desaturation; 2.2.5.1 Monounsaturated fatty acids; 2.2.5.2 Polyunsaturated fatty acids 2.2.5.3 Formation of polyunsaturated fatty acids in animals2.2.6 Biohydrogenation of unsaturated fatty acids takes place in rumen microorganisms; 2.2.7 The biosynthesis of cyclic acids provided one of the first examples of a complex lipid substrate for fatty acid modifications; 2.2.8 The control of fatty acid synthesis can take place at a number of enzyme steps; 2.2.8.1 Acetyl-CoA carboxylase (ACC) regulation in animals; 2.2.8.2 Acetyl-CoA carboxylase regulation in other organisms; 2.2.8.3 Regulation of fatty acid synthase; 2.2.8.4 Control of animal desaturases; 2.3 Degradation of fatty acids
2.3.1 -Oxidation is the most common type of biological oxidation of fatty acids

Sommario/riassunto

Since the publication of the first edition of this successful and popular book in 1970, the subject of lipid biochemistry has evolved greatly and this fifth up-to-date and comprehensive edition includes much new and exciting information. Lipid Biochemistry, fifth edition has been largely re-written in a user-friendly way, with chapters containing special interest topic boxes, summary points and lists of suggested reading, further enhancing the accessibility and readability of this excellent text. Contents include abbreviations and definitions used in the study of lipids, ro