Book Review

Synthesis in Lipid Chemistry

by J. Tynman, Ed.

Royal Society of Chemistry, Cambridge, UK. 1996. pp. 250. ISBN 0-85404-716-6 Price £59.50

One of the medium sized groups of The Royal Society of Chemistry, the Lipid Chemistry Group was started by the initiatives of Dr. Ray Aneja and Prof. Frank Gunstone. The Group has regular annual or sometimes biennial meetings and this book is the proceedings of such a meeting held in Bangor in 1994. The contributions are grouped into three sections – Glycerides and Fatty Acids, Phospholipids and Glycolipids and Biological, Biotechnological Transformations and Pheromones, with a view to balancing the multifaceted researches into lipids namely applied/industrial versus fundamental synthesis and structure determination.

The contribution from Bangor, University of Wales describes some elegant syntheses of cyclopropene fatty acids. These acids, found in naturally occurring oils, can cause major effects on metabolism when incorporated in animal diets because they inhibit fatty acid desaturases. Another chapter details the use of 4/5 carbon homologation reactions based on pyrylium salts. The application of the retrosynthetic methodology is well illustrated. One of the important tasks of the lipid synthetic chemist is to provide isotopically labelled compounds for metabolic studies. Prof. Crombie has explained the necessary precautions needed to insert deuterium or ^{18}O into lipids. The final chapter in this first section from Croda Universal Ltd shows that fatty acid derivatives are especially important in the oleochemical industry.

In the second section the group from National Institute for Medical Research describe the need to synthesise phosphatidylinositol phosphates which cause the release of calcium ions from intracellular stores. They describe the preparation of key chiral derivatives e.g. camphanates. From Germany, Schmidt reviews the large group of molecules i.e. sphingosines phosphosphingolipids and glycosphingolipids. Prof. Minnikin is a world authority in the chemistry of mycobacteria and his and Dr. Wallace's chapter demonstrates his command of this field. A wide selection of synthetic methods and protection techniques are given.

In the final section Prof. Harwood explains how, aryloxy phenoxy compounds and thio carbonates have been used to study lipid synthesis in plants. The fatty acid synthase can be inhibited and fatty acid elongation can be affected without altering the de novo synthesis. Dr. Gill from Reading explains how hydrolase and oxidase catalysed reactions may be used to produce specialty lipids from 2-ethylhexyl palmitate to lactones which act as aggregation pheromones to a Cucujid beetle. This brings us to the Editor Dr Tyman's last chapter which describes a wide range of pheromones with alcohol, aldehyde and ketone functional groups.

Each of the chapters has a good set of references. The book is well produced and an invaluable source for lipid scientists even those who do not wish to perform the syntheses for themselves.

R. Hamilton

Erratum

J. J. Pesek / M. T. Matyska / J. Ramakrishnan

Synthesis and Characterization of Titania Based Stationary Phases Using the Silanization/Hydrolisation Method

published in Vol. 44, pp. 538–544 (1997)

In our article reference [13] needs to be corrected.

In the Experimental section under **Synthetic Procedures** the first sentence should read: The basic synthetic procedure for titania is an adaptation of the method of Tani and Suzuki [13].

In the Reference section it should read: [13] *K. Tani, Y. Suzuki, Chromatographia* **38**, 291 (1994).

The authors