Ultrahigh field NMR for studying triacylglycerols

The 13C linewidths ν₁/₂ and spin-lattice relaxation times of T₁ of each of the signals in the spectrum of trilinolein were found to have values consistent with the different degrees of motional freedom expected for the various 13C nuclei. For each chain, the ν₁/₂ and T₁ measurements indicated a small reversal in mobility at C-10 relative to C-9, before motional freedom showed steady increases on each chain starting at C-11. The T₁ measurement was found to give unambiguous assignments of the C-8 signal and C-14 signal that differed by only 0.010 ppm. The conclusion was reached that similar measurements of 13C ν₁/₂ and T₁ values on other triacylglycerols or related compounds might prove useful in making chemical shift assignments and detecting any discontinuities in motional freedom along a chain.

Quantification of monoepoxy fatty acids

Analytical problems of interfering compounds such as methyl monoester of azelaic acid and methyl docosanolate on the gas–liquid chromatography of monoepoxy fatty acid methyl esters (MFAME) in thermoxidized oils have been addressed. A second methylation step with diazomethane and elimination of nonpolar fatty acid methyl esters by adsorption chromatography has been adopted. Six MFAME were identified and quantified in olive oil and sunflower oils heated at 180°C for 15 h. Repeatability has been found to be excellent with relative standard deviations within the range of 2.2 to 5.1% for on-column injection and 0.1 to 2.0% for automatic split injection.

CLA formation from ricinoleic acid

Effect of Emulsion Temperature on Physical Properties of Palm Oil-Based Margarine, M.S. Miskandar, Y.B. Che Man, M.S.A. Yusoff, and R. Abdul Rahman

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Effect of FA Chain Length on Normal- and Reversed-Phase HPLC of Phospholipids, Dongmei Zhai and Peter J. Reilly

Observations on the Estimation of Scavenging Activity of Phenolic Compounds Using Rapid 1,1-Diphenyl-2-picrylhydrazyl (DPPH•) Tests, Nikolaos Nenadis and Maria Tsimidou

Comparison of a Low-Linolenic and a Partially Hydrogenated Soybean Oil Using Pan-Fried Hash Browns, Kambiz C. Soheili, Preeyanooch Tippayawat, and William E. Artz

Antioxidant Activity of Phytosterols, Oryzanol, and Other Phytosterol Conjugates, Xi Wang, Kevin B. Hicks, and Robert Moreau

Composition and Sensory Qualities of Minimum-Refined Soybean Oils, Xi Wang, Tong Wang, and Lawrence A. Johnson

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Synthesis of Triglyceride Estolides from Lesquerella and Castor Oils, Terry A. Ishell and Steven C. Cermak
Surface Modification of Vesicles with Methylol Urea, Jin-Chul Kim and Jong-Duk Kim

Hydrogenated Vegetable Oils as Candle Wax, Karamatollah Rezaei, Tong Wang, and Lawrence A. Johnson


Concentration of Sterols and Tocopherols from Olive Oil with Supercritical Carbon Dioxide, Elena Ibáñez, Andrés M. Hurtado Benavides, Francisco J. Señoráns, and Guillermo Reglero

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