Laboratory Preparation of Conjugated Linoleic Acids

Sir:

Christie et al. (1) are quite correct to point out that commercial supplies of conjugated linoleic acid (CLA) may contain isomeric conjugated systems other than the expected 9c,11t and 10t,12c groups. Some may be tempted to prepare their own materials for research or standards and should be aware that this problem, as suggested by Christie et al. (1), is mostly a matter of conditions for the alkali isomerization. The definitive study by Mounts et al. (2) in 1970 used oxidative fission to show that, with potassium-t-butoxide catalyst at 60°C (20 h) and 90°C (4 h), there was "no scattering of the conjugated system." Unreacted 9c,12c-18:2 amounted to 34% at 60°C. At 140°C (2 h), ca. 20% total additional positional isomers were observed in addition to the principal products, as well as trans, trans isomer formation. The alkali isomerization procedure of AOCS Official and Tentative Method Cd 7-58 (4) is standardized at 180°C. However, the temperature of 90°C and the time of 4 h appear to be proven satisfactory for the specific CLA products usually desired to facilitate gas-liquid chromatographic identification and quantitation of CLA in foods (3).

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