Table 1 shows that the range of cetane index estimated by Eq. [6] covered most of the experimental values. The cetane indexes calculated by Klopfenstein (1) also are included.

DISCUSSION

Eq. [6] is a linear equation which quantitatively relates cetane index of vegetable oil methyl esters to their chemical structures. It provides a simple method of estimating the cetane indexes of fatty acid methyl esters by their saponification and iodine numbers. However, these two numbers of vegetable oils vary slightly according to seasons and varieties. Thus, cetane indexes of any particular oil methyl ester might have different values. Table 1 shows that the ranges of the calculated cetane indexes are very close to those determined experimentally. When individual fatty acid methyl esters from C_8 to C_{24} were tested, a parallel straight line three units higher than that of Klopfenstein's was obtained (Fig. 1). Because the general validity of Klopfenstein's equation has not been tested, this difference was not of concern.

Triglycerides and fatty acid methyl esters have almost the same saponification and iodine numbers, but cetane indexes of the oil are much lower than those of methyl ester derivatives (3). Thus, Eq. [6] cannot be used for estimation of cetane index of the oil unless some other terms (eg. viscosity, molecular weight) are introduced to correct the differences.

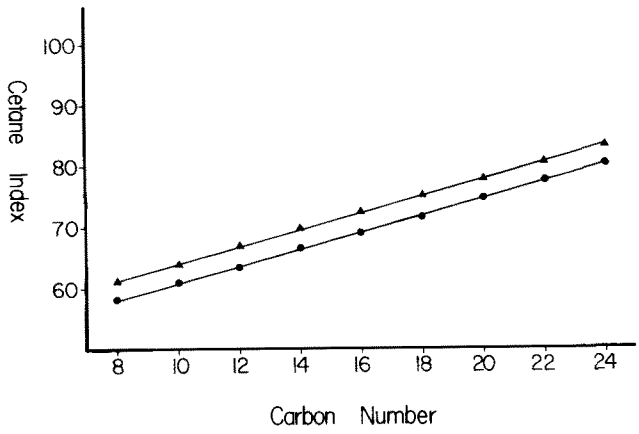

FIG. 1. Cetane indexes of fatty acid methyl esters calculated by Eq. 6 (▲—▲) and by Klopfenstein's equation (●—●).

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ERRATUM

An error occurred in "Crystallization and Transformation of α, β- and γ-Polymorphs of Ultra-Pure Oleic Acid," which appeared on pages 1600 through 1604 of the November 1985 issue of the *J. Am. Oil Chem. Soc.*

On pages 1603–1604 of the paper, a comparison of the X-ray diffraction data of Abrahamsson et al. and of the authors was made incorrectly. The correct description is as follows: The data of Abrahamsson et al. (3) for the low-melting form was found to be consistent with those of the metastable γ polymorph.

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