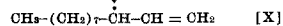
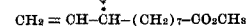
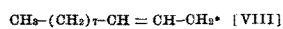
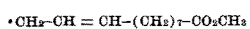
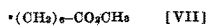
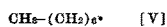
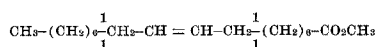


lished but decided to reject it on grounds of the following considerations:

- 1) β -cleavage, as suggested by the authors (Nawar and Dubraveic, *JAOCs* 45, 100, 1968), would give rise to two allyl radicals VI and VIII. Since allyl radicals are known to be resonance stabilized (Walling and Huyser in "Organic Reactions," John Wiley & Sons, New York, 1963, Vol. 13, p. 103), it is to be expected that a large part of VI and VIII would exist and react as IX and X. Reaction products of IX and X would invariably be branched chain compounds which we could not detect in the reaction mixture.



- 2) Resonance stabilized allyl radicals are furthermore known (Walling, "Free Radicals in Solution," John Wiley & Sons, New York, 1963, p. 47) to dimerize easily. Dimerization of VI, VIII-X would lead to C_{22} hydrocarbons and C_{22} dibasic acids neither of which could be detected among the decomposition products of methyl oleate.
- 3) The formation of methyl decanoate can hardly be explained by the assumption that radicals V and VII each lose a moiety of ethylene to give pentyl and ω -carbomethoxy butyl radicals which then combine (Nawar and Dubraveic, *JAOCs* 45, 100, 1968). Intercombination of V, VII, pentyl and ω -carbomethoxy butyl radicals must then logically be expected to give appreciable amounts of tetradecane, dodecane, decane, and the dimethylesters of C_{10} , C_{12} , C_{14} dibasic acids. This, however, was not observed.
- 4) The formation of the C_{26} -compounds is a re-

markable phenomenon in the thermal decomposition of methyl oleate. Our experimental evidence, particularly the formation of methyl 15-tetracosenoate on heating methyl palmitate with methyl oleate (Sen Gupta, Fette, Seifen, Anstrichmittel 68, 475, 1966) proves that the terminal ethyl group of esters or of hydrocarbons is converted to an unsaturated center which then adds octyl or carbomethoxy heptyl radicals to give the long chain compounds. This fact has been overlooked by the authors (Nawar and Dubraveic, *JAOCs* 45, 100, 1968) altogether. The formation of methyl 15-tetracosenoate cannot be explained by the suggested alternative mechanism.

- 5) Our work has shown that there is a great difference of reactivity between the vinyl radicals II and IV. II is a vinyl radical with an ester group in the molecule and this is converted by hydrogen abstraction to the saturated methyl decanoate in good yield while IV does not produce any appreciable amounts of decane. This is a fact of primary importance which should not be neglected. The presence of the ester group in methyl oleate may possibly diminish the energy required for a vinyl splitting of the aliphatic chain. As far as we know, no data on the energy of homolytic chain cleavage of fatty esters are available. These may be substantially lower than those determined for hydrocarbons. The validity of this argument is demonstrated by the fact that unsaturated hydrocarbons do not show any chain cleavage at 220°C (Sen Gupta, unpublished results on heating of 9-octadecene) at which temperature methyl oleate decomposes under chain cleavage (Sen Gupta, Fette, Seifen, Anstrichmittel 69, 907, 1967).

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Coconut Oil and Filled Milk

Sir: The article on coconut oil which appears on page 218A of the April, 1968, issue of *JAOCs* has been called to my attention.

The article states that coconut oil is assuming new status because of a new dairy product called "filled milk." The use of coconut oil, according to the article, provides "a milk product which has better keeping qualities, costs less and is lower in saturated fats which are usually connected with arteriosclerosis."

Aside from the fact that there is still a great deal of controversy about whether fats in the diet

are related to heart disease, it is also a fact that coconut oil is more highly saturated than butter fat. Further, coconut oil is more hypercholesteremic (causes a greater rise in blood cholesterol levels) than butterfat. Therefore, coconut oil could hardly be desirable for persons trying to reduce their intake of saturated fats or lower their blood cholesterol levels.

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