

The solution was titrated with standard 0.1 N aqueous sodium hydroxide solution to a phenolphthalein end point. The end point was approached rapidly, the first pink color that permeated the entire solution being taken as the end point. The pink color faded quickly.

Iodine Titration: From 0.3 to 0.5 gram of ester was dissolved in 100 cc. of ethyl alcohol, and 25 cc. of 10-per cent sulfuric acid was added. The solution was titrated with standard 0.1 N iodine solution, a 0.2-per cent starch solution being used as an external indicator. A blank titration was also run. The theoretical equivalent weight is equal to one-half the molecular weight, since two hydrogen atoms are removed from the enediol group of the ester during the iodine titration.

Furfural Test: The furfural test was carried out in the usual manner (17), 12-per cent alcoholic hydrochloric acid being used as the solvent.

Summary

Fat-soluble fatty acid monoesters of l-ascorbic acid (vitamin C) and d-isoascorbic acid have been prepared from lauric, myristic, palmitic, and stearic acids in 40-50 per cent yields.

Evidence has been presented to show that only the primary hydroxyl group of each of the ascorbic acids has been esterified.

Antioxidant properties of these esters are being studied.

Preliminary tests on the esters have indicated that they may have useful properties as interfacial modifiers.

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FAC Color Standards for Commercial Fats

Governmental agencies have established trading grades for tallows and greases based upon FAC colors. Considerable confusion has been caused since the FAC color set as originally devised was not based on colors progressively darker as the number of tubes increased.

A.O.C.S. methods define the set as follows:

"This set consists of 26 color standards, numbered with odd numbers from 1 to 45 and divided into 5 series. Numbers 1 to 9, inclusive, for light colored fats; numbers 11, 11A, 11B, 11C, for very yellow fats; numbers 13 to 19, inclusive, for comparatively dark fats of a reddish cast; numbers 21 to 29, inclusive, for fats with a greenish cast; numbers 31 to 45, inclusive, for very dark fats."

The tube numbering was done arbitrarily to identify the tubes on the basis of hue, so that in many cases a tube of higher number is *not darker* but distinctly *lighter* than tubes of lower number. Obviously, since all the FAC color numbers were not included when the governmental grades were established, there is much misunderstanding as to where fats of various FAC readings should be classified.

The Fat Analysis Committee, a joint committee of the American Oil Chemists' Society and of the American Chemical Society, and originators of the present FAC color standards, prescribe the following interpretation of the relationship of FAC color standards:

COMMITTEE ON ANALYSIS OF COMMERCIAL FATS AND OILS

L. B. PARSONS	W. J. REESE
W. D. HUTCHINS	M. L. SHEELY
J. FITELSON	L. M. TOLMAN
C. P. LONG	H. P. TREVITHICK
K. S. MARKLEY	M. L. LAING
H. A. SCHUETTE	F. C. WOEKEL
J. E. MARONEY	S. O. SORENSON
V. C. MEHLENBACHER, <i>Chairman</i>	

FAC Tube Number	Tubes Listed Below Are Equal to or Lighter Than the Corresponding Tube in the Left-Hand Column
1	1
3	1, 3
5	1, 3, 5
7	1, 3, 5, 7
9	1, 3, 5, 7, 9
11	1, 3, 5, 7, 9, 11
11A	1, 3, 5, 7, 9, 11, 13, 11A
11B	1, 3, 5, 7, 9, 11, 13, 15, 11A, 11B
11C	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 11A, 11B, 11C
13	1, 3, 5, 7, 9, 11, 13, 11A
15	1, 3, 5, 7, 9, 11, 13, 15, 11A, 11B
17	1, 3, 5, 7, 9, 11, 13, 15, 17, 11A, 11B
19	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 11A, 11B, 11C
21	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 31, 33, 11A, 11B, 11C
23	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 31, 33, 35, 11A, 11B, 11C
25	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 31, 33, 35, 37, 11A, 11B, 11C
27	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 31, 33, 35, 37, 39, 11A, 11B, 11C
29	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 11A, 11B, 11C
31	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 31, 11A, 11B, 11C
33	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 31, 33, 11A, 11B, 11C
35	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 31, 33, 35, 11A, 11B, 11C
37	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 31, 33, 35, 37, 11A, 11B, 11C
39	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 31, 33, 35, 37, 39, 11A, 11B, 11C
41	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 31, 33, 35, 37, 39, 41, 11A, 11B, 11C
43	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 11A, 11B, 11C
45	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 11A, 11B, 11C