

experiments only geronic acid semicarbazone could be isolated.⁵ It is unlikely that this acid is formed from rearrangement of the α -form during ozonization since α -ionone, α -ionylideneacetone, and the ethyl ionylideneacetate from α -ionone all give only isogeronic acid. In view of the fact that the β ester in question gives only geronic acid and the α ester gives only isogeronic acid while an equimolar mixture of these two esters gives a mixture of geronic and isogeronic acids, it is difficult for us to assign the same (α) structure to both esters. Although the yields of isogeronic and geronic acids obtained from the esters in this preliminary study were only 13–19%, they were consistent with those we obtained on the α - and β -ionones of known structure.

Further work on ozonization and polarographic studies of the ethyl α - and β -ionylideneacetates is in progress in order to establish unequivocally the structure of these substances.

Correction: In our previous publication, *THIS JOURNAL*, 66, 521 (1944), the data for the solid and liquid forms of β -ionylideneacetic acid are reversed in Table I. These items should read:

	λ max. $m\mu$	ϵ max. ^b
β -ionylideneacetic acid (solid) ^c	294, 260	13700, 12900
(liquid)	283	17700

(⁵) Karrer, Morf and Walker, *Helv. Chim. Acta*, 16, 975 (1933).

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THE REACTION OF BUTENYLMAGNESIUM BROMIDE WITH ACETOMESITYLENE

Sir:

In a study of the nature of the butenyl Grignard reagent it appeared that valuable information might be obtained from the composition of the butenes resulting from the enolization of ke-

tones by butenylmagnesium bromide. Acetomesitylene was chosen for this experiment as several investigators^{1a,b,c} have shown that organometallic compounds such as ethylmagnesium bromide, *n*-butyllithium and phenylsodium do not add to the carbonyl group of this compound but give enolization products exclusively.

Contrary to expectation, the reaction of butenylmagnesium bromide with acetomesitylene gave virtually no enolization products. Less than 3% of the calculated amount of butene was detected. From the reaction mixture was recovered less than 12% of the original ketone and the principal product was a compound which we believe to be *s*-butenylmesitylmethylcarbinol (I); b. p. 119–123° (2 mm.), n_D^{20} 1.5330; mol. wt. by hydrogenation, 214 (calcd. for $C_{15}H_{22}O$, 218); yield, 83%.

Anal. Calcd. for $C_{15}H_{22}O$: C, 82.54; H, 10.16. Found: C, 82.36; H, 10.23.

On distillation at atmospheric pressure, I cleaved smoothly to give butene and acetomesitylene. The latter compound was characterized by two derivatives. Ozonization of I gave formaldehyde, propionaldehyde and, apparently, acetomesitylene.

Benzylmagnesium chloride reacts with acetomesitylene to give benzylmesitylmethylcarbinol (II) in 52% yield. Enolization products amounted to 38%. The structure of II was established by oxidative degradation which gave benzoic acid. On strong heating, II did not cleave, but appeared to dehydrate.

Further studies of the addition of β,γ -unsaturated Grignard reagents and other organometallic compounds are in progress.

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(1) (a) Kohler and Baltzly, *THIS JOURNAL*, 54, 4015 (1932); (b) Kohler, Jacobs and Sonnichsen, *ibid.*, 62, 785 (1940); (c) Gilman and Jones, *ibid.*, 63, 1162 (1941).

NEW BOOKS

Fundamentals of Chemistry and Applications. By CHARLOTTE A. FRANCIS, A.M., Formerly Instructor in Chemistry, Teachers College, Columbia University, and EDNA C. MORSE, R.N., A.M., Instructor in Chemistry, Teachers College, Columbia University. Second edition. The Macmillan Company, 60 Fifth Avenue, New York, N. Y., 1943. xi + 537 pp. 98 figs. 15 × 22 cm. Price, \$3.50.

Relatively few college teachers of elementary chemistry realize how the "other half lives," and learns, until they have read carefully a text such as this, planned and written for students in nursing and similar schools. The time allotted to a student nurse's course is short, for study, class and laboratory, and she is expected to understand and retain a considerable amount of descriptive general, inorganic and organic chemistry, much of it of course by brute force

memory. The field covered is limited by time and rather closely prescribed by hospital practice and the "Curriculum Guide for Schools of Nursing"; the instruction usually is by members of the hospital staff, often trained previously in the same school.

This book comprises thirty-one chapters, the first nineteen (280 pages) dealing with: Substances, Mixtures, Physical and Chemical Change, Compounds, Elements, Oxygen, Catalytic Agents, Combustion, Energy Transformations, Chemical Measurements, Chemical Shorthand, Bases-Acids-Salts-Radicals, Valence, Within the Atoms, Water, Reactions of Acids, Bases and Salts, Solutions-Colloids-Emulsions, Electrolytes and Ionization, Weak Electrolytes-Equilibrium-Water, Oxidation-Reduction. The remainder takes up Organic Chemistry, twelve chapters (235 pages) on: Introduction, Hydrocarbons and