solids is plotted against the optical density at 440 mμ (Fig. 3) it is clear that far more carbon dioxide is produced per unit optical density at 100° than at 56.5°. The carbon dioxide-producing reaction therefore may not follow the same course at the two different temperatures, though the color-producing parts of the two reactions appear to be similar. This suggests the carbon dioxide liberation in amino acid–sugar reactions may not be essential for color production, which is substantiated by the fact that brown pigments retained after dialysis[6] contain less carboxyl carbon when browning occurs at 100° than when it takes place at 56.5°. It is significant that considerable amounts of carboxyl carbon from glycine become associated with the brown pigment produced.[5] CO_2 liberation may therefore take place subsequent to pigment formation.

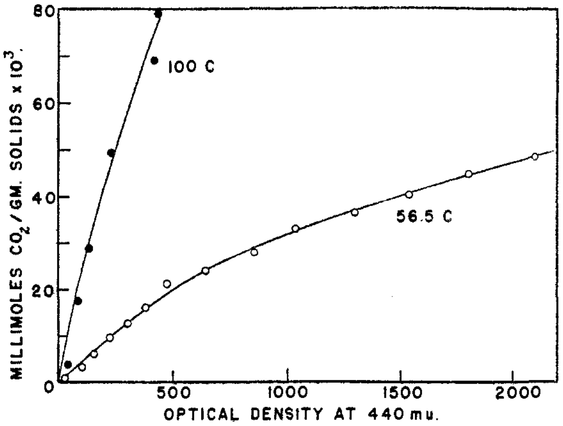

Fig. 3.—Carbon dioxide production in relation to pigment production at the two temperatures.

The results obtained with C^{14}-labeled glucose show that some CO_2 is derived from the sugar as well as the amino acid, Fig. 4. The major portion, well over 80%, is derived from the carboxyl group of the amino acid, as Maillard suggested, and somewhat less than 10% comes from the sugar. The rather unlikely possibility that the methyl carbon of the glycine contributes to the CO_2 will be checked, and the fate of the amino acid residue will be determined, through the use of methyl-labeled glycine.

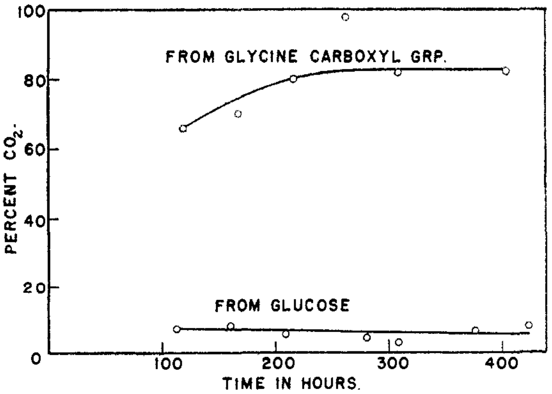

Fig. 4.—The percentages of carbon dioxide derived from glucose and glycine as a function of time.

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[6] C. O. Chichester, F. H. Stadtman and G. Mackinney, THIS JOURNAL, **74**, in press (1952).

N-Methyl-6,7,8-trimethoxy-1,2,3,4-tetrahydroisoquinoline

BY E. P. TAYLOR

RECEIVED MARCH 11, 1952

In an attempt to synthesize trichocereine, *i.e.*, N-dimethylmescaline, by methylation of mescaline with formic acid–formaldehyde, Reti and Castrillón[1] found that the product was a tetrahydroisoquinoline base. This has now been identified by Castrillón[2] as N-methyl-6,7,8-trimethoxy-1,2,3,-4-tetrahydroisoquinoline. Oxidation of the hydrochloride to the known N-methyl-3,4,5-trimethoxyphthalimide confirms the structure of the base, which is claimed as a new compound. May I point out that this substance has already been prepared and described[3]: its constitution has been established by a Bischler–Napieralski reaction upon N-formylmescaline, followed by reduction of the methiodide of the resultant 6,7,8-trimethoxy-3,4-dihydroisoquinoline. In addition, reduction of the ethiodide of this base yielded the corresponding N-ethyl-1,2,3,4-tetrahydroisoquinoline.

(1) L. Reti and J. A. Castrillón, THIS JOURNAL, **73**, 1767 (1951).
(2) J. A. Castrillón, *ibid.*, **74**, 558 (1952).
(3) E. P. Taylor, *J. Chem. Soc.*, 1153 (1951).

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The Reaction of Silyl Bromide with Magnesium

BY E. R. VAN ARTSDALEN[1] AND JEROME GAVIS

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The preparation of compounds of the type SiH_3MgX, analogous to organic Grignard reagents, should offer many interesting new possibilities for syntheses of compounds containing the silyl group. Emeleus, Maddock and Reid[2] in conjunction with their studies on the synthesis and properties of silyl iodide, SiH_3I, describe a reaction between SiH_3I and magnesium in diisoamyl ether. The reaction yielded hydrogen, silane and silicon but no stable addition compound. Complete reaction took place. These results were attributed to the formation of an unstable Grignard-type compound.

This note describes an attempt to prepare a Grignard compound using silyl bromide. It was hoped that use of the bromide would impart greater stability to the desired product, which was then to be used in synthesis of other silyl compounds.

We were unable to obtain any stable Grignard compound, nor did any easy reaction of the type found by Emeleus, Maddock and Reid take place. Indeed, no reaction occurred between Mg and

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(1) Chemistry Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee.
(2) H. J. Emeleus, A. G. Maddock and C. Reid, *Nature*, **144**, 328 (1939); *J. Chem. Soc.*, 353 (1941).