Evidently the curves are not very accurate in this region. The inaccuracy may be due to the fact that ethylene bromide takes up moisture from the atmosphere with extreme rapidity. This, of course, would affect the physical properties of the mixtures rich in this component to a considerable extent. But, as the analyses show, the errors even in that region do not exceed half a per cent. Since the completion of the work I have further used the method in a large number of cases, with similarly satisfactory results.

It seemed desirable to see how the curves would appear if drawn according to the Roozeboom method of representation, in equilateral triangles. Figs, 6, 7, and 8 represent, respectively, curves of equal boiling points, of equal refractive angles, and of equal specific volumes.

In conclusion, I wish to express my most sincere gratitude to Professor M. A. Rosanoff, at whose suggestion and under whose guidance this work was carried out. My thanks are also due to my friend, H. M. Potter, Assistant Professor of the Oklahoma Agricultural and Mechanical College, for a great deal of assistance in the experimental work.

WORCESTER, MASS.

NOTE.

An Efficient Boiling Rod.—We have found the following forms of boiling rods very effective and having several advantages over the boiling capillaries and other means usually employed to prevent bumping. Crush a small piece of an alundum crucible or of a porous porcelain plate in a mortar to small particles about one-half millimeter in diameter. The material should not, however, be finely powdered. Place this coarse powder in a small porcelain crucible and heat it red hot over the blast lamp. Heat one end of a small glass rod 10–12 centimeters in length until it softens and dip it into the alundum particles, which will adhere to the rod. Heat the rod again and repeat two or three times until a suitable amount of alundum particles have gathered on the end of the rod. Finally heat the rod in the lamp until the particles adhere to the glass. Cool slowly and rub off any loose particles by rubbing the porous end through the fingers in a cloth or towel.

Another form of rod can be prepared by fusing one end of a narrow rectangular or trianglar piece of alundum or porous procelain into the end of a glass rod and bending the end of the rod in such a manner at the joint that the piece of alundum will lie on the bottom of the beaker or flask. The size of the plate can be varied and for some purposes larger plates may be used but for quantitative work it is best to have the piece as small as possible, because porcelain plates or alundum absorb acids and generally require repeated washings with hot water before they become neutral to the taste or to litmus. The boiling rod should be put in the solution when it reaches the boiling point, not before. GREGORY TOROSSIAN.

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CORRECTION.

Page 228, line 4, should read "... $\gamma = 1.530-1.535$; .....".

Page 228, line 26–7, should read "...parallel to the α-γ plane".

GEORGE W. MOREY.

[CONTRIBUTION FROM THE CHEMICAL LABORATORIES OF COLUMBIA UNIVERSITY. No. 230.]

THE PREPARATION AND PROPERTIES OF CERTAIN METHOXYLATED CARBINOLS, OLEFINS AND KETONES, DERIVED FROM TRIMETHYLGALLIC ACID.

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1. Introductory.

In secondary and tertiary carbinols of types I and II, the introduction of methoxyl groups in place of one or more of the hydrogens of their

I. $C_6H_5.CH(OH)R$. II. $C_6H_5.C(OH)R_2$.

phenyl nuclei causes interesting alterations in their properties.

As compared with triphenyl carbinol itself, von Baeyer and Villiger,[1] Kauffmann,[2] and others have shown that methoxylated triphenyl carbinols exhibit increased halochromism and increased basicity, and are more easily reduced to the corresponding methoxylated triphenyl methane.

Hell[3] attempted to prepare carbinols of type III by the action of the Barbier-Grignard reagent upon anisic aldehyde and upon p-methoxybenzophenone, but found that the expected carbinols were so unstable, that when the magnesium compounds were hydrolyzed with dilute acid, the corresponding olefins (IV) were obtained, and not the carbinols at all.

III. $CH_3O.C_6H_4.CR(OH)CH_2R_1$ ($R = H$ or C_6H_5).

IV. $CH_3O.C_6H_4.CR : CH.R_1$ ($R = H$ or C_6H_5).

The instability of these secondary and tertiary carbinols, he attributed to the influence of the para methoxyl group. He noted also that anisyl phenyl propene and other methoxylated olefins of similar structure, do not give dibromo addition products when treated with bromine, but yield preferably monobromo substitution products (V), apparently by

V. $CH_3O.C_6H_4.C(C_6H_5) : CBr.CH_3$.

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[1] *Ber.*, 35, 3013 (1902).

[2] *Ibid.*, 38, 2702 (1905); 41, 4423 (1908); 45, 766 (1912); 46, 3779, 3788 (1913).

[3] *Ibid.*, 37, 225, 457, 1429, 4188 (1904).