

not furnish any clue to the constitution of diallyl, as by its oxidation carbonic anhydride and acetic acid are the only volatile products.

Idem, No. 3.

Researches upon Strychnine, H. GAL and A. ETARD.—By acting upon strychnine with baric hydrate in a closed tube at a temperature of 135–140°, and precipitating the baryta with carbonic anhydride, by crystallizing, a new hydrate, called dihydrostrychnine, is formed:



From the mother liquor trihydrostrychnine is obtained:



On Succinic Fermentation, PIERRE MIGUEL.—Experiments prove that pure asparagine, if protected from the germs of the atmosphere, will remain unaltered for a long time. If, however, it is exposed to unfiltered air or to a drop of common water, it will ferment. This change is produced by a species of bacteria. Nearly all the nitrogen of the asparagine is changed to ammonia in eight or ten days. A constant supply of air is necessary to the growth of this ferment, the action being similar to the oxidation of alcohol by the *mycoderma aceti*.

Dextrogyric Amylic Alcohol, J. A. LE BEL.—A continuation of a discussion in reference to the action of mould in changing the polarity of amylic alcohol.

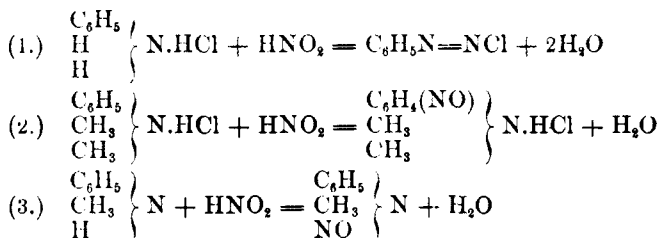
On the Action of Diastase, of Saliva and of the Pancreatic Juice on Starch and Glycogen, F. MUSCULUS and J. DE MERING.—(See *Jour. Amer. Chem. Soc.*, Vol. I, No. 5, p. 173.)

Methylaniline, Methyltoluidine, and Coloring Matters Derived from them, P. MONNET, F. REVERDIN and E. NOELTING.

I.

To obtain monomethylaniline, methyl alcohol, aniline and hydrochloric acid are heated to 200°, and the product, after being made alkaline, is distilled. The methylaniline thus obtained is then mixed with hydrochloric acid and water, and gradually treated with a cold solution of nitrite of soda. This changes the aniline to chloride of diazobenzol, the dimethylaniline, to chlorhydrate of nitrosodimethylaniline, which remains in solution, while the monomethylaniline

changes to nitrosomethylphenylamine, which separates as a yellowish oily substance. The reactions are represented thus :



As soon as nitrous acid ceases to be absorbed, ether is added, the residue dried and evaporated. This is methylphenylnitrosamine. The nitrosamine is reduced with tin and hydrochloric acid, and the product of the reaction, after being treated with soda, is distilled with water, and the monomethylaniline is decanted off. The purified product boils at 192° .

II.

Dimethylaniline, $\left. \begin{array}{l} \text{C}_6\text{H}_5 \\ \text{C}_6\text{H}_5 \\ \text{C}_6\text{H}_5 \end{array} \right\} \text{N}$, is obtained from the commercial product by changing it to chloride of trimethylphenyl ammonium, and subjecting to dry distillation. It boils at 192° .

III.

Monomethylorthotoluidine, $\left. \begin{array}{l} \text{C}_7\text{H}_7 \\ \text{CH}_3 \\ \text{H} \end{array} \right\} \text{N}$, is prepared by the reduction of methylorthocresylnitrosamine. Boiling point, $207-208^\circ$.

IV.

Dimethylorthotoluidine, $\left. \begin{array}{l} \text{C}_7\text{H}_7 \\ \text{CH}_3 \\ \text{CH}_3 \end{array} \right\} \text{N}$, is made by heating under pressure for two days at $200-220^\circ$, orthotoluidine, methyl alcohol and hydrochloric acid. The residue is distilled with water, and the dimethylorthotoluidine passes over at $182-184^\circ$.

V.

Monomethylmetatoluidine, $\left. \begin{array}{l} \text{C}_7\text{H}_7 \\ \text{CH}_3 \\ \text{H} \end{array} \right\} \text{N}$, is made by treating metatoluidine with iodide of methyl; the reaction being as follows :



From the product of this reaction the meta compound is indirectly obtained. It boils at 206–207°.

VI.

Dimethylmetatoluidine, $\left. \begin{matrix} C_7H_7 \\ CH_3 \\ CH_3 \end{matrix} \right\}$ N, is obtained by treating metatoluidine with iodide of methyl, in the presence of an alkali, and the ethereal solution yields the pure base. It boils at 206–208°.

VII.

Monomethylparatoluidine, $\left. \begin{matrix} C_7H_7 \\ CH_3 \\ H \end{matrix} \right\}$ N, is prepared by Thomsen's method, or the method described by the authors for the preparation of monomethylaniline, may be followed.

VIII.

Dimethylparatoluidine, $\left. \begin{matrix} C_7H_7 \\ CH_3 \\ CH_3 \end{matrix} \right\}$ N, may be prepared by several methods.

The products of oxidation of these aniline and toluidine compounds, and the coloring matters thus obtained, are discussed and arranged in tabular form.

On the Serpentine of Venayes (Vallee d'Aoste), ALFONSO COSSA.—The result of the analysis is as follows :

| | |
|--------------------------------|--------|
| Silica | 40.86 |
| Phosphoric anhydride | trace. |
| Magnesia | 41.37 |
| Oxide of Iron | 4.59 |
| “ Chromium | 0.03 |
| “ Nickel | 0.09 |
| Lime | 0.03 |
| Oxide of Manganese | trace. |
| Water | 13.08 |

Idem, No. 4.

Synthesis of Uric Derivatives of the Alloxan Series, EDOUARD GRIMAUX.—By the action of oxichloride of phosphorus upon a mixture of malonic acid and urea, malonylurea, or barbituric acid, is formed. This may be represented thus :

