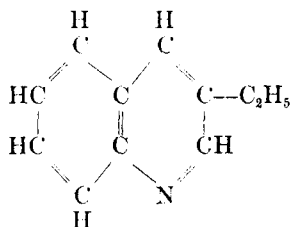


Abstracts from American and Foreign Journals.

Berichte der Deutschen Chemischen Gesellschaft.

ABSTRACTOR, H. ENDEMANN, PH.D.

On the Synthesis of the Homologues of Hydrocarbostyrile and Chinolene, ADOLF BAEYER and O. R. JACKSON (13, 115).—Hydrocarbostyrile must be looked upon as the anhydride of ortho-amidohydrocinnamic acid, which as such, is not known, but which stands to the first in the same relation as orthocumaric acid to cumarine. Homologues of the orthocumaric acid were prepared by Perkin, by the action of salicylic aldehyde upon propionic, butyric and valerianic acids and sodium; and these, after nitration and reduction, should furnish homologues of hydrocarbostyrile. The latter are derived from the orthonitro acids merely, and if the crude product of nitration undergoes the process of reduction, amido acids are likewise formed from those nitro acids, wherein the nitro group is not in the ortho position. Thus the hydrocarbostyrile of phenylvalerianic acid was produced from phenylangelic acid. This, by the action of phosphorus pentachloride, gives a body of the composition, $C_{11}H_{10}NCl$, which, with HI , gives a base, $C_{11}H_{11}N$, of the character of chinolene, and which must be looked upon as an ethylchinolene, the constitution of which is represented by the following graphic formula.



As regards further theoretical reasonings, and the description of the various reactions, mentioned above, the reader is referred to the original.

On Diphenyldiamidonaphthol, B. GOES (13, 123).—Martins' yellow, or dinitronaphthol potassium, under the influence of reducing agents forms diamidonaphthol. If its hydrochloric acid salt be heated with aniline to 100–130°, ammonia is developed and a diphenyl derivative is produced, which can easily be purified. Toluidine reacts in an analogous manner; the reaction, however, does not proceed with the same ease and regularity as the one mentioned above.

The Constitution of Nitrosodimethylmetatoluidine, C. RIEDEL (**13**, 126).

On the Action of Phosphonium Iodide, upon Bisulphide of Carbon, HANS. JAHN (**13**, 127).—The reaction is carried out in hermetically sealed tubes, at a temperature of from 120–140° C. The gaseous product of the reaction consists mainly of CH₄. A peculiar red crystalline substance, which contains phosphorus, carbon, sulphur, hydrogen and oxygen, in proportions corresponding nearest to the following formula, C₅S₇P₆H₆O₁₂, is likewise formed.

Some Derivatives of Ortho- and Paratoluidine, G. STAATS (**13**, 135).—This article contains the genesis and description of the following compounds:

Ortho- and paratolyl mustard oil.

Orthotolylsulpho-urea and paratolylsulpho-urea.

Orthotolylglycol.

Aceto-orthohomoparoxybenzaldehyde.

On the Heat Evolved in the Formation of Cuprous Chloride, JULIUS THOMSEN (**13**, 138).—The author defends and furnishes further proof for his figure 59,625° C., against Berthelot's results, 54,200° C.

Niobite of the Iser Mountains, J. V. JANOVSKY (**13**, 139).—A niobite found by the author, associated with iserite and iserene, proved to be, on examination, a columbite, containing 16.25 per cent. of tantallic acid, and 62.64 per cent. of niobic acid. Iserite is represented by the formula, FeTi₂O₅. Iserene is a mixture, containing mainly titanates of iron, manganese and magnesia. Analyses of red and blue spinell and of zircon, from the same locality, are also given.

On a New Method to Determine the Specific Gravity of Liquids, H. SOMMERKORN (**13**, 143).—Will be noticed elsewhere.

Anethole Derivatives, F. LANDOLPH (**13**, 144).—The author describes the following derivatives of anethole or allyl-anisole; dihydro-anethole; tetrahydro-anethole; hexahydro-anethole; and some substances obtained by the action of potassium hydrate in alcoholic solution, upon anethole and monochlor-anethole.

Determination of Moisture in Air, F. RUEDORFF (**13**, 149).—Will be noticed elsewhere.

On the Heat Absorbed during the Formation of Cyanogen, JULIUS THOMSEN (**13**, 152).—The author calls attention to the fact, that he announced in 1854 (*Poggendorf's Annalen*, **92**, 55) that, in

the formation of cyanogen, a considerable quantity of heat is absorbed, which he calculates to $39,200^{\circ}$ C., for the now accepted atomic weights. This is cited to meet a statement of Berthelot to the effect, that he had first called attention to this hitherto unknown fact, in 1864.

Contributions to the Knowledge of Pyridinetricarbonic Acid from the Alkaloids of the Quinine Group, S. HOOGWERFF and W. A. VAN DORP (13, 152).—Skraup oxidized cinchoninic acid with potassium permanganate, and obtained a tricarbopyridinic acid, which he considered identical with the same obtained by the direct oxidation of the alkaloids of the quinine group, described by the authors. Experiments were made with the view to obtain further details, especially as regards the composition of the salts of the tricarbonic acid, whether obtained from quinine, or any of the other alkaloids of this group. They were invariably found to be identical, and, as far as could be ascertained, also identical with those obtained from Skraup's acid.

Determination of Oxygen Dissolved in Water, J. KOENIG (13, 154).—Will be noticed elsewhere.

Reactions in the presence of Aluminium Chloride and Bromide, G. GUSTAVEON (13, 157).—The author gives a short abstract of his discovery that aluminium chloride and bromide unite with unsaturated hydrocarbons; the products are either stable, and as such, easily prepared, or they may prove to be merely compounds which, under other influences, are easily transformed. This gives rise to what may be called the catalytic action of these aluminium compounds.

Preparation of Bioryfumaric Acid, S. TANATAR (13, 159).

Maleic and Malic Acids from Alphabromopropionic Acid, S. TANATAR (13, 159).

Etherification of the Non-saturated Monobasic Acids, N. MENSCHUTKIN (13, 162).—If acids and alcohols are allowed to react, ethers are formed up to a certain point, when the acid and alcohol remain uncombined. This limit for the reaction differs somewhat for various acids, but is generally found in the neighborhood of 70 per cent., 30 per cent. remaining uncombined.

The reaction, however, differs greatly, if we observe the initial velocity with which the reaction proceeds. It is greater for acids with low atomic weight; and in the case of acids with the same atomic weight, it is greatest with the primary, less with the secondary, and least with the tertiary acids.

This initial velocity, in a number of acids examined and given in this paper, was, for instance, in the neighborhood of 46 for primary, in the neighborhood of 12 for secondary, and 7 for tertiary acids. Thus we have a means of determining the structural formula of an acid by determining the initial velocity of etherification.

The Structural Formula of Sorbinic and Hydrosorbinic Acids, N. MENSCHUTKIN (13, 163).—The initial velocity of sorbinic acid was found to be 7.96 per cent.; it must, therefore, be looked upon as a tertiary acid—as propylmethylene carbonic acid. Sodium amalgam produces hydrosorbinic acid, which, having an initial velocity of 43.0 per cent., is a primary acid.

Belladonnine, K. KRAUT (13, 165).—The author found in commercial atropine, a base which he described in *Liebig's Annalen*, 148, 236, and which he had called belladonnine. From later investigation he inclines to the belief, that belladonnine must be isomeric with atropine.

A New Chemical Photometer, JOSEF MARIA EDER (13, 166).—Will be noticed elsewhere.

On the Chemical Composition of Pyroxyline and the Formula of Cellulose, J. M. EDER (13, 169).—The author has come to the conclusion, that all pyroxylines must be looked upon as nitric ethers, for the following reasons:

1. Alkalies remove variable quantities of nitric acid, but also some nitrous acid, the formation of which is due to secondary reactions.

2. Pyroxyline, treated with oil of vitriol, forms a cellulose sulpho acid, losing all nitric acid.

3. Iron proto salts produce with it the same reactions as with other nitrates.

4. Pyroxyline, with sulphuric acid, over mercury, produces nitrogen oxide.

5. Reducing agents produce no amides, but simply reproduce cellulose.

The author produced the following compounds:

Cellulose hexanitrate,	$C_{12}H_{14}O_4(NO_3)_6$,	14.14 per cent. N.
Cellulose pentanitrate,	$C_{12}H_{15}O_5(NO_3)_5$,	12.75 " "
Cellulose tetranitrate,	$C_{12}H_{16}O_6(NO_3)_4$,	11.11 " "
Cellulose trinitrate,	$C_{12}H_{17}O_7(NO_3)_3$,	9.15 " "
Cellulose dinitrate,	$C_{12}H_{18}O_8(NO_3)_2$,	6.76 " "

Cellulose hexanitrate is insoluble in a mixture of alcohol and ether, while the others are all soluble. The lower nitrates may be produced

from the higher nitrates, by treatment with a fixed alkali or ammonia. A cellulose mononitrate could not, however, be obtained. If the dinitrate be acted upon by alkalis, resinous substances and various organic acids are produced. Gun-cotton is, therefore, the hexanitrate, while for the production of collodion, the tetranitrate is employed.

On the Synthesis of Methylketole, an Isomere of Skatole, A. BAEYER and O. R. JACKSON (13, 187).

Contributions to the Knowledge of the Products formed by the Putrefaction of Albumen, E. SALKOWSKI and H. SALKOWSKI (13, 187).

Justus Liebig's Annalen der Chemie.

Abstractor, GEO. A. PROCHAZKA, Ph.D.

The boiling points of the Esters and Ether esters of the Oxi-acids, LUDWIG SCHREINER (197, 1-26).—The article refers to the preparation and regularities with regard to the boiling points (see also this JOURNAL, I, 290), of a series of esters and ether esters of glycolic, lactic, α -oxibutyric and salicylic acids.

The simple esters (oxi-acid compounds, with alkyl substituted in place of the hydrogen of the acid, OH) of glycolic, lactic and oxibutyric acid, are neutral colorless liquids, which are immediately decomposed by water. An increase of the alkyl by CH_2 is attended by a rise of the boiling point, by about 10° .

The esters of glycolic acid were obtained by the reaction of dry sodium glycolate, monochloroacetic ester and the absolute alcohol in sealed tubes at 160° . $\text{CH}_2\text{OH.COONa} + \text{CH}_2\text{Cl.COOC}_2\text{H}_5 + \text{C}_2\text{H}_5\text{OH} = 2(\text{CH}_2\text{OH.COOC}_2\text{H}_5) + \text{NaCl}$.

Oxibutyric ethyl ester was obtained in like manner, in the reaction of sodium α -oxibutyrate, from butyric ethyl ester and alcohol, at 180° .

Lactic esters were obtained by heating pure lactic acid and absolute alcohol to 160° .

The glycolic ether esters are colorless neutral liquids, heavier than water, readily volatile with water vapor. They are very difficultly saponified. The compound lactic esters are partly insoluble in water. The α -oxibutyric ether esters are neutral liquids, of disagreeable odor, which are very sparingly soluble in water. The boiling points of the methyl esters are lower by about 19° than those of the corresponding oxi-acid ethers. An increase by CH_2 of the acid