[wolf] OXYMETHYLENE AND FORMYL COMPOUNDS

a very great number of substances using the formula of Lorenz and Lorentz, and the numbers of Conrady, $R = \frac{(n^2-1) w}{(n^2+2) d}$. Where R is the

molecular refraction, n the refractive index, and d the density, and w the molecular weight, show that in substances of the formyl and oxymethylene types, the former possess, in consequence of the lack of a double bond, a much lower molecular refraction that could be accounted for by any errors of observation. The dispersion would also appear to stand in close relation with the constitution of these substances.

Perkin's work on the influence of the constitution of substances on the rotation which polarized light undergoes when passing through layers of substances in a strong magnetic field, has led to like results.

The selective absorption of substances has been another property which has been made use of for determining the presence or absence of hydroxyl groups in substances suspected to contain them, and the recent extremely interesting results of Spring would tend to show that there is a definite relation between this group and the colour of liquids observed in long layers.

The investigation of the molecular solution volume which is dependent on the determination of the specific gravity of solutions, is also a most useful method for the differentiation of isomers of the tautomeric type, and as Wislicenus remarks, it would be of much value, considering the behaviour of these compounds in solution, to determine quantitatively by this method, to what extent the dissociating capacity affects the compound, and, perhaps, although open to doubt, one might obtain results agreeing to some extent with those obtained by colorimetric means.

The last method is that of Drude, who in the course of an investigation into the dielectric constants of organic bodies, has shown that compounds containing hydroxyl display an anomalous absorption for electric oscillations of a definite period, but of high frequency.

The writer has had the advantage of examining some of the substances which are described in this paper in an apparatus constructed by Prof. Drude, and has been able to confirm results obtained chemically by this means.

The method, which is a beautiful qualitative one, possesses the advantage of giving immediate negative or positive results, of being easily used, and of requiring but small quantities of the substance under examination. The original papers will be found in Wiedemann's Annalen, 60, 500, and in the Berichte der deutschen chemischen Gesellschaft, 30, 940.

In contradistinction to the methods above described are the chemical, which, although giving results of the utmost value, are not attended with the same surety.

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