

ABSTRACTS OF PAPERS PUBLISHED IN OTHER JOURNALS

CHEMISTRY

ANALYTICAL

Aldehydes, Determination of, with Hydrazine. L. Fuchs and O. Matzke. (*Scientia pharm.*, 1949, **17**, 1.) Hydrazine sulphate may be used for the acidimetric determination of aldehydes, details being similar to that of the hydroxylamine method, with methyl red as indicator. Examples are given of the application to benzaldehyde, piperonal, and vanillin.

G. M.

Atropine, Determination of Small Concentrations of. M. Tonnesen. (*Acta Pharmacol. Toxicol.*, 1948, **4**, 186.) The colorimetric reaction of Vitali as modified by Allport and Wilson is recommended for the chemical determination of small concentrations (50 μg . or more) of atropine, although the substance must be fairly pure. The conditions and precautions necessary to make the reaction quantitative are discussed and standard curves of extinction and time are given. Details of a biological assay depending on the dilatation of the mouse's eye are described, the technique being based on the method worked out by Pulewka (*Arch. exp. Path. Pharmacol.*, 1935, **178**, 439). The alkaloid is injected subcutaneously into each of 10 male white mice in an amount that in mydriatic effect corresponds to 0.75 μg . of *l*-hyoscyamine and the pupil diameter is measured microscopically after 1 hour. Dose response curves are given for atropine sulphate, hyoscyamine sulphate and scopolamine hydrobromide. A statistical analysis of results obtained using less than 10 mice has been made. After a large number of determinations it was found that a pupil diameter of 2 mm. corresponded to a minimum of 1.75 μg . and a maximum of 2.0 μg . of atropine sulphate. In forensic analysis an ether extract from an alkaline solution of the urine should be made evaporated to dryness, the residue dissolved in 0.001N hydrochloric acid and injected. An extraction of the contents of stomach and intestines with 0.001N hydrochloric acid should also be made, this procedure being more reliable than the "Stas-Otto" process. The untreated urine can also be injected. Amounts as small as 0.5 μg . can be determined by this method.

R. E. S.

Digitoxin and Digitoxigenin; Baljet Reaction. F. K. Bell and J. C. Krantz, Jr. (*J. Amer. pharm. Ass., Sci. Ed.*, 1949, **38**, 107.) The Baljet test was applied using the original method, in which sodium hydroxide is the alkali, and the modified method, in which tetraethylammonium hydroxide is the alkali. The results indicate that under the conditions described there is no difference on a molar basis in the sensitivities of digitoxin and digitoxigenin towards the reagent, particularly if allowance is made for the digitoxose portion of digitoxin. If, therefore, digitoxin contaminated with digitoxigenin, which is physiologically less active, is assayed by the method described, erroneously high results will be obtained. Comparison of the results of the two methods supported the previous conclusions that the use of tetraethylammonium hydroxide as the alkali resulted in an increase of about 100 per cent. in the colour intensity.

G. R. K.