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Further studies on the constitution of inosinic acid.

By **WALTER A. JACOBS** and **P. A. LEVENE.**

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In a former paper[1] we have already communicated that the inosin which we obtained from inosinic acid was identical with that obtained from karnin by Haiser and Wenzel.[2] We have now succeeded in isolating from inosin the pentose in a crystalline state. The properties of this sugar are as follows: Melting point 87° C. Its rotation in aqueous solution is $(d)_D = -19°.4$. The osazone melts at 163°–164° C. and shows a rotation when 0.2 gram are dissolved in 10 c.c. of a mixture of four parts pyridine to six parts of alcohol of $(d)_D = -0°.92$. The benzylphenylhydrazone melts at 128° C. and in absolute alcoholic solution rotates $(d)_D = -26°.46$.

We therefore conclude that this sugar is neither xylose nor arabinose as stated by Neuberg and Brahm[3] and Bauer[4] respectively. We hope, by further study, to establish its exact nature.

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The effect of heat on the anaphylactic properties of proteins.

By **JOHN F. ANDERSON** and **M. J. ROSENAU.**

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We have demonstrated that horse serum, egg-white and milk when dried, then heated and redissolved, possess unaltered powers of sensitizing and poisoning guinea-pigs in the sense of hypersusceptibility.

The above named substances, when thoroughly dried, were heated to 130° C. for two hours, 150° C. for ten minutes, or 170° C. for ten minutes. We have previously shown that both the sensitizing and toxic properties of liquid horse serum are gradually in-

[1] PROC. SOC. EXP. MED. AND BIOL., 1909, vi, 56. *Ber. d. deutschen chem. Gesell.*, 1909, xlii, 335.

[2] *Monatshefte für Chemie*, 1909, xxix, 157.

[3] *Ber. d. deutschen chem. Gesell.*, 1908, xli, 3376.

[4] *Beiträge zur chem. Physiol. und Path.*, 1908, x, 345.

fluenced by heat and are practically destroyed at about 100° C. The difference probably depends upon coagulation of the protein and consequent failure of absorption.

Dried sensitive guinea-pig blood serum, containing anaphylactin, withstands at least 100° C. for ten minutes.

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A skin reaction in carcinoma from the subcutaneous injection of human red blood cells.

By **CHARLES A. ELSBERG.**

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Numerous investigators have shown that if the blood serum of a patient suffering from carcinoma be mixed with normal human red blood cells hemolysis occurs. The reaction takes place in from 50 per cent. to 80 per cent. of patients with malignant disease. It occurs with considerable frequency in tuberculosis, and more rarely in other diseases.

It occurred to the writer, that, by the injection of red blood cells under the skin of the carcinoma patient, it might be possible to produce a local reaction at the site of the injection. Logically, a local hemolysis should take place. Theoretically, such a reaction might prove to be a delicate one ; it might give more positive and definite results than the test-tube method. In the technique which is used for the test-tube method the presence and degree of hemolysis is indicated by the amount of laking of the red cells — that is, by the amount of hemoglobin which has been set free. The tube reaction gives no evidence of other substances than the hemoglobin which have been liberated. A small amount of hemolysin in the serum which is being tested might not be capable of detection. If normal human blood cells are injected under the skin of a patient whose serum is hemolytic, fresh quantities of hemolysin would be continually carried to the cells, and therefore even a small amount of hemolysin might cause hemolysis of the cells. Every organic substance which was set free would enter the tissues and might there have its effect.

Accordingly, after some experimentation, normal blood was in-