ABSTRACTS FROM THE ORIGINAL PAPERS.

A New Method for the Isolation of Diamines.

By Masakazu YAMADA.

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Recently A. Kossel and K. E. Gross, proposed a new method for the isolation of arginine with naphthol yellow. (Z. Physiol. Chem., 135, 167-174, 1924) The author applied the method to Saké and Shōyu and could obtain much crystalline precipitate in the latter, though none in the former. This precipitate was easily recrystallized from boiling water in beautiful rosettes, which were found to be the mixture of the double salts of putrescine and cadaverine with the naphthol yellow.

As it was suspected that the precipitation in the case of Shōyu might be due to "salting out", caused by the common salt which is present generally in an amount of 20 % in it, more salt was added to make the precipitation complete. Thus, the author's modified method for separating organic bases with naphthol yellow is carried out as follows:-

To the solution containing organic bases, for instance Saké, is added a large quantity of hot saturated solution of naphthol yellow and the mixture is shaken vigorously. After twenty four hours' standing, the precipitates, if they are formed as in the case of arginine, are filtered and may be investigated.

If not, the precipitation may be effected by the salting out with common salt. Then the precipitates are filtered off by suction and thoroughly washed with saturated salt solution. After that, they are treated in the same way as was given by Kossel and Gross: namely the precipitates are decomposed by dissolving them in sulphuric acid (33 volume per cent) and the coloring matter, which crystallizes out on cooling, is filter off. The process is repeated again. Both the filtrates are mixed and decolorized with animal charcoal. Sulphuric acid is then

removed by baryta and excess of the latter is removed by carbon dioxide. The carbonates of the bases then can be easily converted into convenient derivatives like picrate etc.

Ammonium-sulphate also salts out the double salts of the coloring matter with bases, but magnesium sulphate has no such property.

As a rule, the author does not use basic lead acetate or other reagents to remove albuminous matter from the liquid, to which the naphthol yellow was to be added. It might be suspected that this abridgment might cause too high value for the bases. That, in reality, it is not the case, can be deduced from the following comparative test with Shōyu.

Total nitrogen precipitated by naphthol yellow in 100c.c. of Shōyu without preliminary treatment of basic lead acetate: 0.02388 g.

Total nitrogen precipitated by naphthol yellow in 100c.c. of Shōyu with preliminary treatment of basic lead acetate: 0.02236 g.

The naphthol yellow method seems to be very suitable for the separation of diamines like putrescine and cadaverine as well as arginine, but as regards the other bases, the further experiments are indispensable to reach some conclusion. The results of actual separation from solutions containing bases are compared in the following table.

P. T. : Bases precipitated with phosphotungstic acid

N. Y. : " " " Naphthol yellow by the author.

Substance	Reagent	Amount of Substance observed	Bases isolated	Observer
Shōyu	P. T.	2 L.	Newbase $C_6H_9N_3$ 1g. Lysine 2.6g. $C_4H_{11}N_2$ 0.2g.	Suzuki, Asō, Mitarai, 1907
	N. Y.	2 L.	Putrescine picrate 0.16g. Cadaverine picrate 0.4g.	1925
Tamari Shōyu	P. T.	2 L.	$C_6H_9N_3$ 1.4g. Putrescine 0.6g. Ornithine 1.4g.	Yoshimura 1909
	N. Y.	5 L.	Putrescine picrate 3.96g. Cadaverine picrate 2.42g.	1925
Miso	Hatchō-miso	P. T.	Lysine hydrochloride 9.6 g.	Takahashi, Shinohe 1908
		N. Y.	Cadaverine picrate 1.18 g.	1925
	Inaka-miso	N. Y.	Cadaverine picrate 1.18 g.	1925

Sendai-miso	N. Y.	500 g.	Cadaverine picrate 9.28 g.	1925
Nattō*	P. T.	6.8 kg.	Guanine, Xanthine, Hypoxanthine	Yabe, 1894
	P. T.	4 kg.	Xanthine, Hypoxanthine and a base-Its Gold-salt melts at 118-120°C and contains Au 41.42%, Picrate melts at 193-144°C	Itō, 1925
	N. Y.	1 kg.	Cadaverine picrate 1.08 g.	1925
Putrid Saké	P. T.	18 L.	Choline picrate 2.5 g. Histamine pic. 0.52g. Cadaverine pic. 0.14 g.	Kurono, 1917
	N. Y.	5 L.	Codaverine picrate 0.37 g.	1925
Saké	P. T.	10 L.	Lysine picrate 1.1 g. (F. 230°C)	Takakashi 1913
	P. T.	25 L.	Lysine picrate 3.8 g. Histamine pic. 0.15 g. Lysine pic. 0.5 g.	Kurono 1917
	N. Y.	5 L.	Cadaverine picrate 0.65 g.	1925

* Nattō is a steamed soy-bean upon which *Bacillus Nattō* from the straw has been developed

Studies on Enzyme II.

The influence of glycocoll upon the urease action.

By Matsunosuke KITAGAWA.

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The favourable influence of glycocoll upon the soy-bean urease action is well known, but mechanism has not yet been established. The soy urease used in the present experiments was purified by adsorption method or dialysis in order to remove proteins and diffusable substances as much as possible.

The conclusions from my experiments are as follows:—

- (1) That the glycocoll has no influence upon the action of a crude urease preparation is due to the existence of a pretty amount of proteins and diffusable substances in the preparation.
- (2) The less the quantity of proteins and some diffusable substances in reaction system, the greater is the decrease of activity of the purified urease in