Original Reports (Abstracts)

Etsuo Miyamichi, Yōki Ose and (Miss) Masae Ōtake: Biochemical Reduction of Organic Compounds. (II)*. Studies on the Fading of Tar-Dyestuff by Discoloring Bacteria.

Relation between color-fading and chemical structure of tar-dyestuffs was Studied. Tested dyestuffs and their fading strength is shown in Table 1. Diazo compounds faded remarcabley and nitro compounds and indigoid dyestuffs followed, pyrone-, acidic tripheylmethane- and hydroxypyrazolone dyestuffs comparatively stable, while sulfit- and basic dystuffs were most stable. So we think that generally the compounds with have reducible group strongly fade by reduction. We expect there are some enzymes concerning this reduction. But some dyestuffs containing a reducible group are stable, owing presumably to the degree of oxidation-reduction potencial.

*(I) K. Hirose, Y. Ose, Z. Kitamura and Y. Yamnaka : This Journal, 5, 26 (1955)

Etsuo Miyamichi and Yōki Ose: Biochemical Reduction of Organic Compounds. (III). Studies on the Dystuff-Reductase in Discoloring Bacteria.

1. We confirmed that the fading of dyestuffs (in this case diazo-dyestuff) was caused by an enzyme.
2. The discoloring bacteria proved to contain dehydrogenase of glucose, ethanol, methanol, lactic acid, acetic acid and formic acid, but not succinic acid, citric acid and fumaric acid.
3. The optimum pH of ethanol dehydrogenase was 6.8 at 37°C (phosphoric acid buffer).
4. The reduction of the diazo radical proceeds via two systems, first by dehydrogenase system of substrate and then by reducing of the diazo radical, the latter related closely to the former by the middle-acceptor as methyleneblue.

Takeshi Shimano, Mizuo Mizuno and Sumio Inoue: Studies on Triterpenoids. V～VI** Examinations of the Triterpenoids by Paper Electrophoresis. (2, 3)

Various ratio butter of the *n*-BuOH-HAcO-H_2O system were examind by paper electrophoresis. Oleanolic acid indicated the largest valency of flow of 13 mm in the *n*-BuOH : HAcO : H_2O (=1 : 1 : 1.25)-ratio solution by passing current of 800 Volts two hours. Also the existence of triterpenoids and sapogenines in various drugs was determined as in Table I.

**(IV) T. Shimano, M. Mizuno and S. Inoue : This Journal, 5. 7 (1955)

Yūzō Nagase, Ushiho Matsumoto, Daigi Takagi and Hiromi Takada: Preparation of Naphthalene-1,6-disulfonic Acid. On the Method by Disulfonation of Naphthalene.

The disulfonation of naphthalene according to the Fierz-David and Hasler's method was examined to prepare naphthalene-1,6-disulfonic acid (I).

1) It was found that I prepared by their method was very impure.

2) Monosulfonation of naphthalene at 165°C and disulfonation at 40°C were examind on the concentrations of resp. sulfuric acid and oleum, reaction temperatures, and methods of neutralization and salt-formations. It was found that the neutralization of mass of sulfonation had to carry out at room temperature to avoid migration of sulfonic acid groups.

3) The method of preparation of dipotassium salt of I with 74% yield was described.

Yūzō Nagase, Ushio Matsumoto, Hiromi Takada and Daigi Takagi: Preparation of 1,6-Dihydroxynaphthalene. On the Method by Alkali Fusion of Naphthalene-1,6-disulfonic Acid.

The alkali fusion of naphthalen-1,6-disulfonic acid was investigated under several conditions to prepare 1,6-dihydroxynaphthalene (I).

1) It was found that the best yield (44%) of I was obtained at 220~230°C in about thirty minutes.

2) When alkali fusion was carried out in melted paraffin, the yield of I was somewhat decreased in spite of the effective prevention of reaction mixtures from air-oxidation.

3) The method of preparation of I with average yield 42% in larger scale was described.

Yūzō Nagase and (Miss) Masumi Kogiso: Determination of 4-α-dimethylamino-propionylaminoantipyrine.

1. 4 - α - dimethylamino - propionylaminoantipyrine (Aminopropylone) formed stable green compounds with Cu^{+2}. The molar ratio of aminopropylones and Cu^{+2} in the complex was now confirmed to be 2 : 1.

2. In the colorimetry of aminopropylone with Cu^{+2}, Lambert-Beer's Law is valid for aminopropylone concentrations from 10^{-3} to 10^{-5} M, and follows quantitatively in the range of experimental error. In this case, the effect of aminopyrine and benzylalcohol was able to disregard.

3. Aminopropylone and aminopyrine was able to determine quantitatively by the potentiometric titration with N/10 HCl.

Kichitarō Takatori, Shigeru Hara and Yasuo Yamada: Syntheses of *p*-Hydroxybenzene sulfonamide Derivatives. II. *

1) For the screening of virus chemotherapeutica, *p*-amino-diphenylether-*p'*-sulfon (2-amido-thiazole) and related compounds have been prepared.

2) Sulfonation of *p*-nitrodiphenylether and *p*-acetamido-diphenylether was studied.

*(I) J. Pharm. Soc. Japan II, 1371 (1951)

Yoshio Katō and Mamoru Sugiura: Studies on the Stability of Vitamin C. I. On the Influence of the Trace of Metals.

The influence of the trace of metals in the state of vitamin C powder was studied and compared it with the studies of vitamin C solution researched in the past.

The sulfates of copper, iron, cobalt, manganese and zinc were used as the metals compounded directly with vitamin C.

These compound powders were stored both in the tight containers and in the well-closed containers.

We quantified vitamin C of these powders every two or three days during the period of 28 days.

As the results, the order of metals influencing the decomposition of vitamin C was Cu > Co > Mn > Zn > Fe and, on the stability of vitain C in the store, the Vitamin C in the tight comtainers was 3 per cent more than that in the well-closed containers.

Yoshio Katō and Mamoru Sugiura: Studies on the Stability of Vitamin C. II. On the Granules Containing Vitamin C.

The granules of vitamin C were prepared by using water, 50% alcohol, simple syrup, 10% or 20% glucose, 1% or 2% CMC, 1% sodium alginate, 1% tragacanth mucilage, 5% acacia mucilage, and 1% starch as the moistening agents (containing binders) of vitamin C powder (V.C 50 mg in 1 g).

These granules were classified into drying in room-temperature on long time and in drier of lower temerature on short time.

We quantified vitamin C in those granules on every five days by A.K.A. photo-etectric tube colorimeter.

As the results of this studies, we found that 10% or 20% glucose and alcohol added simple syrup (1 : 1) were better than others as the mistening agents and 10% glucose solutions containing sodium bisulfite, sodium thiosulfate and thiourea as the stabilizers were some effective results, while 5% meta-phosphoric acid acid solution was the most effective moistening agent for the stability of the granules containing vitamin C.

The drying method of these granules was better in lower tempereture drier on short time.

Kazuo Hirose, Yōki Ose and Zirō Kitamura: Antibacterial Property of Antioxidants.

Antibacterial property of antioxidats was tested. The reults is shown in table 1. As some antioxidants have strong antbacterial activity for food poisoning bacteria, so they are expected to cause the anti-bacterialpoisoning action when added in foods.

Kazumi Toyoshi: Studies on the Productive Conditions of Phenylmercuriacetate. I.

By studing a standard productive method of phenylmercuriacetate in our laboratory, the results in Table I was obtained as my expectation. In this method molecular weight ratio of raw material as follow; benzene : mercuriacetate : glacialaceticacid=6 : 1 : 16.3 and phenylmercuriacetate was obtained in 40.45% yield. This is a improvement of Costin D. Nenitzescu, Dimitrie A. Isāsescu and Carol Gruescu's method, the purity of the product being higher. As the Rf value 0.7~0.8 of pure phenylmercuriacetate was determined by paper chromatography, the purity of the product can easily be controlled.

Kazumi Toyoshi: Studies on the Productive Conditions of Phenylmercuriacetate. II.

The influence of pyridine or piperidine to the yield of phenylmercuriacetate by our standard productive method was studied. On analysis of variance, we could not found the significance at the 5% level between the method adding pyridine and piperidine respectively in 0.1—0.3% of mercuriacetate, but the significance at the same level has revealed between the method adding pyridine 0.2% of mercuriacetate and the standard productive method. Phenylmercuriacetate was obtained 40.19~40.66% yield by the standard productive method, while by adding pyridine in 0.2% of mercuriacetate, the latter was obtained in 42.10~43.96% yield.

Zirō Kitamura, (Miss) Satiko Arai and (Miss) Takako Okada: Studies on the Metabolic Products of *Aspergillus chevalieri* (Mangin) Thom et Church. II*.

The medium of *Aspergillus chevalieri* (Mangin) Thom et Church cultivated on Czapek-Dox medium with 10% sucrose was treated according to Fig. 1 to isolate the products and obtained four fractions.

Dist. A : Formic and acetic acid were ascertained by paperchromatography.

Dist. B : Tollen's, Fehling's and Schiff's reactions gave the positive results, but alcohol, acetone and furfurol proved to be negative.

Res. A : Oxalic, citric, malic and succinic acid were ascentained by paperchromatography.

* (I) Z. Kitamura, U. Kurimoto and M. Yokoyama : J. Pharm. Soc. Japan, **76**, 972 (1956)