
Shigeo Senda : Recent Movement of Analgesics and Antispasmodics (Review)

Takeshi Shimano, Shintaro Nomura and Masashi Yamamoto : Constituents of
Lobelia varicans Thunb. (Campanulaceae).

We obtained crystal (I), $[\alpha]_D^{15} - 42.85$ (alcohol), mp 130~131°, and crystal (II), optically inactive, mp 99°, from *Lobelia radicans Thunb.* Oxidation of crystal (I) with CrO₃ gave hydroxide (a), mp 188. Mixed-melting of both crystal (II') and (b) showed no depression of melting points. Oxidation of crystal (II') with CrO₃ gave Scopolinic acid. Therefore, crystal (I) is Lobeline, and crystal (II') is Lobelanine.

Takeshi Shimano and Yōki Ose : Components of Seeds
of *Hibiscus Manihot L.* 1

The components of Seeds of *Hibiscus Manihot L.* was studied.

(1) Analytical data of Seeds is shown in Table 1. (2) Constants of Seeds is shown in Table 2. (3) This oil was consisted of solid fatty acid in 29.9% and of liquid-fatty acid in 80.08%. Solid fatty acid contained palmitic acid (84.78%), stearic acid (7.34%) and myristic acid (5.08%). (4) Phosphatids were separated from this oil (5.2% in oil and 0.84% in Seeds), and most of them were kephalin, but lecithin was in small amount. (5) Defatted Seeds were extracted with hot alcohol, and then ether was added to the solution and divide into two fractions—ether-soluble-(I) and ether-insoluble (II). Fraction (I) was glucoside-like matter, and fraction (II) was seemed as its decomposed matter and the other decomposed matter was determined as the glucose-like sugar. (6) Seeds (not defatted) was extracted with hot alcohol, and then ether was added to the solution, from which a semi-solidal mass was obtained. This was acetylated and the acetylated matter was divided into two crystals utilising the difference of solubility in hot Benzene. From soluble fraction (III) recrystallized with alcohol a substance, mp 94.5~7°, was obtained, and similarly from insoluble fraction (IV) a substance, mp 60~62°, was obtained. The ether-alcohol solution contained also glucose-like sugar.

Masuo Akagi, Isamu Aoki : The Test Method of Permanent
Wave Preparations

In order to know the strength of the preparation for permanent wave by comparatively simple method, we studied on the relation between the preparation and putting condition of permanent wave. The results were as follows.

1. Preparations for Machine wave.

Generally K, Na salts put a sharp wave, but NH₄ salt puts a gentle one. The same is said as to SO₂ salt, too. Curling-grade is almost in proportion to the product of alcalinity of the solution (N-HCl cc. required to neutralize 100 cc of the solution) by the contents of SO₂ (%). The solution which the figure is less than 100, acts a little weakly; 100~200, does pretty strongly, 200~300, does very

strongly; and more than 300 does extremely strongly, 150 to 250, is for common use.

2. Preparation for cold wave.

The strength of the action depends on alkalinity (pH) and the contents of thioglycolic acid. In the case of pH 9.2~9.6 and thioglycolic acid contents of 5~8%, the action is proper. It is weak when pH is less than 8.8. Hair is hurt when pH is more than 10.5. It is weak when thioglycolic acid is less than 5%. Hair is hurt in the case of more than 8.5%.

Yûzô Nagase: Application to Analytical Reagents of Azo
Derivatives of 8-Hydroxyquinoline

Five kinds of azo derivatives of 8-hydroxyquinoline were synthesized. Each compound contains a special group which seems to be able to form an inner complex salt with the azo group.

Those reaction with metallic ions were studied and results were obtained as shown in Table I.

- (I) 5-(2-hydroxy-3-benzoic acid azo)-8-hydroxyquinoline
- (II) 5-(4-sulfaminophenyl azo)-8-hydroxyquinoline
- (III) 5-(4-hydroxy-3-benzoic acid azo)-8-hydroxyquinoline
- (IV) 5-(2-hydroxy-5-benzoic acid azo)-8-hydroxyquinoline
- (V) 5-azo-bis-8-hydroxyquinoline

Matatsugu Yokoyama and Kiyonori Iwata: The Study of Local Anesthetics I
On the Alkoxy-naphthylamine derivatives 1.

Chloroacetyl amino compounds were prepared by reacting chloroacetyl chloride on 1-amino-2-alkoxy-naphthalene, and six derivatives possessing dialkylaminoacetyl amino group in 1-position of 2-alkoxy-naphthalene were formed by condensation of dialkylamine to the chloroacetyl amino compounds. In general the anesthetic activity of these substances increased with the increase of the number of carbon atom in the alkoxy group.

Hisasi Nogami and Yosio Katô: On the Stability of Penicillin
Ophthalmic Solutions.

1.) We prepared penicillin ophthalmic solutions by using Plitzsch-, Gifford-, and Sørensen-Buffer solution and compared with the stability of these preparations by iodometric assay for penicillin of these on the lapse of days.

2.) We assayed in the same manner for preparations added preservatives (Methylparaben and Merzonin) to above preparations, because these became mouldy.

3.) We assayed similarly for the stability of each buffer solution containing penicillin by varied pH and found optimum pH of these solutions.

4.) We assayed in the same manner for the stability of several marketing eye solutions and compared with the above mentioned experiments.

5.) Results: The Palitzsch buffer solution (pH 6.77) is far better than others as the buffer solution of penicillin, because this solution is excellent in all our experiments.

Adding preservatives to this solution accomplished not only the purpose of preservation, but also increased the stability of this solution. Methylparaben is better than the other as preservatives. This ophthalmic solution is far better than the marketing eye solutions on the stability of penicillin.

The Sørensen buffer solution which was recommended as satisfactory prescription of penicillin ophthalmic solution by Hind and Goyan was not stabler than other buffer solution in our experiments.

The optimum pH of each buffer solution that was necessary for penicillin ophthalmic solution was Gifford-; pH 6.24, Palitzsch-; pH 6.77, and Sørensen-buffer solution; pH 6.47.

We can recommend using of Plitzsch-Buffer Solution pH 6.77 as best preparations of penicillin ophthalmic solutions.

Yosio Katô & Mamoru Sugiura: The Stability of Liquid Preparations Containing Pepsin.

We studied on the stability of liquid preparations containing pepsin by assaying for decreasing pepsin on the lapse of days about the liquid preparations containing pepsin added acids (diluted hydrochloric acid, diluted phosphoric acid, lactic acid, citric acid, tartaric acid, aminoacetic acid and glutamic acid) and preservatives (methylparaben, merzonin, alcohol, propylene glycol and glycerin) and about the elixirs (Pepsin Elixir. N.F. and Compound Pepsin Elixir. N.F.).

The results were as follows:

1.) Acids: Diluted hydrochloric acid has been used to liquid preparations containing pepsin until now, and it has proved to be better than other acids by our experiments.

It had the stability of containing pepsin of 85.2% after eight days and 77.5% after fifteen days.

2.) Preservatives: 10v/v% Ethyl alcohol had the greatest stability of these liquids and the stability of containing pepsin of 79.0% after fourteen days and 78.1% after seventeen days.

Methylparaben and merzonin could be used as preservatives but not as a stabilizer.

3.) Amino acids: Aminoacetic acid and gultamic acid had nothing to do with the stability of this liquid but interfered its stability.

4.) Elixirs: Pepsin Elixir (pH. 4.2) and Compound Pepsin Elixir (pH. 5.0) had the most excellent stability of this liquid.

We consider satisfactorily that liquid preparations containing pepsin are prescribed as elixirs.

5.) pH: The pH of liquid preparations containing pepsin are not necessary to have strong acidity. This facts indicate to pH of elixir above mentioned.

We considered that preservatives were more important than the pH values for the stability of liquid preparations containing pepsin.

Kenji Kaji and Hiromu Nagashima: Studies on the Syntheses of Amino Derivatives of Indole Series.

As ethylenediamine compounds of indole series assumed to possess antihistamic properties, two kinds of N-(β -diethyl-aminoethyl)- α -methylindoles and four kinds of N-(β -diethylaminoethyl)- α -aryl indoles

were prepared by heating sodium salts of α -substituted indoles and β -diethylaminoethyl chloride in anhydrous toluene or xylene in the presence of sodium amide.

Toshikazu Harada and Tomoo Kato: The Effect of Nutritional Conditions
on the Alkaloidal Content of *Stephania Cepharantha Hayata*.

In experiments to observe the effect of two principles of fertilizers on the alkaloid formation of rhizome of *Stephania Cepharantha Hayata*, it had been found that, the maximum yields of the alkaloidal contents was recognized in the plants cultivated in the soil containing 0.004 mol Ca (NO₃)₂, 0.002 mol KH₂PO₄, 0.002 mol Na₂SO₄ and 0.001 mol NH₄NO₃.

Takeshi Shimano, Kazuko Taki and Keiko Goto: Studies on the
Components of Fungi I. On the Constituents of *Polystictus versicolor Fr.*

Thelephoric acid, emodin, glucose and crystal I was isolated from the *Polystictus versicolor (L.) Fr.* with colour of black, dark violet, black brown, or dark brown violet. Crystal I is bright dark violet needle and slowly decomposed above 330°. The alcoholic solution showed a splendid red fluorescence; absorption maxima in ethyl acetate 597, 553, 516 m μ ; it is resemble to hypericin.

Takeshi Shimano, Mizuo Mizuno and Tadashi Bito: On the Cantharidine
and free Amino Acids of *Epicauta gorhami Marseul* and Similar Insects.

In experiments to determine cantharidine quantitatively, it was found that in *Epicauta gorhami* produced in Niigata prefecture showed the maximum content of 1.75%, and furthermore more than 94% of cantharidine was included in its abdomen of a living body. But we could not find cantharidine in *Cicindela chinensis*, *Athemus vitellinus*, *Popilla japonica*, *Anomala rufocuprea* and *Meloe auriculatus*.

Paper partition chromatography method proved that free amino acid in a living body was proline, leucine, valine, glucosamine, alanine, tyrosine, serine, glutamic acid and aspartic acid.

Koichi Nakazawa, Shin Matsuura: Studies on the Application
of Polyphosphoric Acid as a Condensation Agent.

Authors have found that polyphosphoric acid, an efficient intramolecular dehydrating agent, may also be applied as an intermolecular condensation agent: 4-methoxy- (I) 4-hydroxy- (II). 3, 4-dimethoxy- (III) and 3, 4, 2', 4', 6'-pentamethoxy-desoxybenzoin (V) have been prepared easily, purely and in good yield by heating corresponding phenylacetic acids and phend ethers (also phenol) with polyphosphoric acid on the boiling water-bath.