

Takeshi Shimano, Kazuko Taki and Mitsuo Azuma : Studies
on Triterpenoids. I. A Color Reaction of Triterpenoids.

We have found that benzoyl chloride and conc. sulfuric acid reacted with triterpenoids, appearing peculiar colours. The reaction, combined with reactions of Liebermann, Liebermann-Burchard, Salkowsky etc., would be applied for the assumption of the constitution of triterpenoids.

Takeshi Shimano, Shintarō Nomura and Kazuo Yamakawa : A Pharmacognostical
study of the Foreign Matters in Cutting-Mokutsū (Mu'tung).

Cutting-Mokutsū (Mu'tung) [Market drug on Nagoya and Gifu] contained approximately 6% of the foreign matters. On microscopical and capillar analytical observation, about 80% of the foreign matters were considered as the **Cutting Stems** of *Quereus acutissima* CARRUTHER, and small amount of, *Q. serrata* THUNBERG, *Q. dentata* THUNBERG, *Q. variabris* BLUME and *Q. monogolia* BLUME (FAGACEAE).

Takeshi Shimano, Mizuo Mizuno and Sumio Inoue : Studies on Triterpenoides.
IV. Examination of the Triterpenoides by Paper Electrophoresis. I.

Some triterpenoids as that β -amyrin, oleanolic acid and hederagenin were examined by the paper electrophoresis with home-made equipment. (Fig. I. II. III.)

An example of experiments is illustrated in Table III. β -amyrin, oleanolic acid and hederagenin pointed out the most valency of flow, respectibly 22.5 mm, 21.0 mm and 17 mm, in the BuOH : HAcO : H₂O (5 : 2 : 5)-buffer solution, passed current five hours at the 800 Voltage.

Yūzō Nagase and Ushiho Matsumoto : Detection of Magnesium with
Stilbene-diazo Dyestuffs.

1) Reactions between stilbene-disazo dyestuffs (Stilbene violet, Stilbene purple (Hessian purple N) and Stilbene blue (Hessian bordeaux)) and Mg⁺⁺ in alkaline media were examined as compared with Brilliant yellow.

2) It was pointed out that Stilbene purple and Stilbene blue are of interest as the detection reagent for Mg⁺⁺. Each realizable limit and limit concentration were as follow respectively.

Stilbene purple	2.5 γ in 1cc.	1 : 400,000 ;
	0.18 γ in 0.05cc.	1 : 280,000.
Stilbene blue	7.5 γ in 1cc.	1 : 130,000 ;
	0.13 γ in 0.05cc.	1 : 400,000.

These detection reactions consist of color lake formation of $Mg(OH)_2$ with the dyes.

3) Sereal separation and masking methods of interfering ions were discussed.

**Matatsugu Yokoyama and Kiyonori Iwata : The study of Local Anesthetics, II.
on the Alcoxynaphthylamine Derivatives. II.**

Eight derivatives of 1-dialkylaminoethylamino-2-alcxynaphthalene were formed by condensation of dialkylaminoethyl chloride with 1-amino-2-alcxynaphthalene.

**Shigeo Senda, Ken Kanematu and Makoto Honda : Synthesis
of Diphenyl Acetone.**

We investigated four synthetic methods of diphenyl acetone as follows.

- (1) Reaction of the Grignard reagent ($CH_3Mg I$) and diphenyl acetonirile.
- (2) Reaction of diphenylacetyl chloride and ethoxymagnesium malonic ester.
- (3) Condensation of α -bromo- α -phenyl acetone and benzene with $AlCl_3$.
- (4) Acetylation of diphenyl methane.

On the method (1), diphenyl acetonitril as starting material was studied about several synthetic methods. In these methods, the dehydration of diphenyl acetamide was the best. By the Grignard reaction of diphenyl acetonitrile, diphenyl acetone was prepared in 48.7% yield.

On the method (2), we prepared diphenyl acetone in 82% yield and on the method (3), in 69% yield. These two methods were good.

By the acetylation of diphenylmethane, we could not prepare.

**Kazuo Hirose, Zirō Kitamura, Yōki Ose and Toshie Mishima : Studies on the
mechanism of Antibacterial Action by Quinones V. Relation between
Antibacterial Properties of Quinones and their Chemical Structures. III.
On the Functional Derivates of Benzoquinone.**

Relation between antibacterial property of functional derivates of benzoquinone and its Chemical structure was studied. Tested microbes were *St. aureus*, *St. albus*, *Sal. typhi*, *Sal. typhi murium*, *Sh. flexneriae 1b*, *E. coli commuuior*, *E. coli commuuis*, *Tricophytou gypsium asteroid*.

Kazuo Hirose, Yōki Ose, Zirō Kitamura and Yoshiko Yamanaka :
Biochemical Reduction of Organic Compound. I Studies on the
Discoloring Bacteria for Esculent Pigment.

We found bacteria which discolored esculent pigment. These stem was isolated from "Fukujinzuke" (sliced vegetables preserved in soy sauce). Their biochemical behavior is shown in Table 1. Some esculent pigment had antibacterial action against discoloring bacteria as shown in Table 2. We found some pigments discolored by those bacteria, but some were stable. Stability of pigment against bacteria is shown in Table 3.

Takachiyo Okuda, Zirō Kitamura and Kiyoko Azika : Antibacterial Activity of
p-Aminothiobenzamide Derivatives I. Syntheses and Antibacterial Activity *in vitro*.

p-Aminothiobenzamide derivatives, corresponding to sulfa drugs, such as in Table I were synthesized for use in antibacterial test and as an antagonist to *p*-aminobenzoic acid.

It was found however that antibacterial activities of these compounds, including intermediates, against *E. coli* and *St. aureus* were practically ineffective and their action were all bacteriostatic. (cf. Table II)

Zirō Kitamura and Takachiyo Okuda : Antibacterial Activity of *p*-Aminothiobenzamide Derivatives II. Influence upon Respiration of Resting Cell.

Influence of *p*-Aminothiobenzamide derivatives, such as in Table I, upon the respiration of *E. coli* were observed by Warburg's manometer.

The inhibiting effects of all drugs were 36~49% of normal respiration.

Jinkichi Yoshida : On the Status quo of the Business of Peddling
Proprietary Medicine on Credit.

The business of peddling proprietary medicine (nostrum) on credit have thrived since the 18th century in Toyama and the other several prefectures. In this peddling, peddlers visit to consumers' houses, place their proprietary medicine in consumers' hands, and receive its price for the consumed part only and replenish it, when they visit again one or a half year after. We described this business mainly from its production and selling in present day, but also we treated of its future, and concluded as follows ;

1. This business have steadily recovered since the 2nd world war ended.
2. The value of peddled proprietary medicine in 1954 was about ¥400~500 million (\$ 11~14 million), that is 6~7% of the total value of all consumers' medicine.
3. It is doubtful that this business will develop as rapidly as it have experienced, because it must face many difficult problems, such as modernization of business management and development of social security for free or cheap medicine treatment.

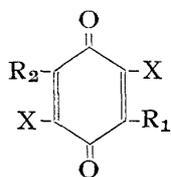
Minoru Kawabe : Das moderne System in der Theorie des Artikels. (cf. Japanese Section)

Yōki Ose : Studies on Quinones as Antibacterial Compounds.

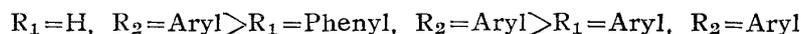
It has been known that quinone has antibacterial activity. About eight hundred compounds have been tested about their activity, and from these results, the mechanism of antibacterial action and relationship between their activity and chemical structure have been studied. But any theory has not yet been confirmed.

I tested the activity about one hundred quinones—forty arybenzoquinones, thirty quinone-thioethers and twenty quinone functional derivatives, and I obtained the following results:—

- 1) Arylbenzoquinones had only weak activity. On structure (I), between the substituted



group R_1 , R_2 and their activity, I found the relation as follows:



between the substituted group X, as follows:



and their activity parallel to their solubility.

- 2) Many quinone thioethers had strong activity. I supposed that in these compounds, lower thioalkyl groups, such as $-\text{SCH}_3$, $-\text{SC}_2\text{H}_5$, were effective groups, but $-\text{SC}_4\text{H}_9$, $-\text{SC}_6\text{H}_4\cdot\text{CH}_3$ (*p*-) had an inhibiting effect.

- 3) Quinone functional compounds, such as $\text{O}=\text{C}_6\text{H}_4=\text{NSO}_2\text{C}_6\text{H}_{11}\text{R}$, showed weak activity contrary to my expectation. I supposed that quinoid structure would be the only effective structure in quinone. I studied on the mechanism of antibacterial action by quinones, too.

Quinone inhibited glucose dehydrogenase and ethanoldehydrogenase, and surface active agents increased the activity of quinone. From these points of view, the mechanism will concern to the inhibition of the hydrocarbon metabolism.

Kōsuke Kusuda : Studies on the Acylation of Phenol by Means of Carboxylic Acids in the Presence of Polyphosphoric Acid.*

Nuclear acylation of phenol by carboxylic acids and formation of nuclear-substituted products

by rearrangement of phenyl esters were examined. Phenol is easily acylated by lower fatty acids while the reaction becomes difficult with higher acids, with increase of ester formation. Nuclear acylation with phenyl fatty acids were more difficult than the corresponding fatty acids, becoming increasingly difficult as the phenyl group approached the carboxyl group. Rearrangement of the phenyl esters showed the same trend, that of esters of lower fatty acids being facile and that of phenyl benzoate being more difficult.

Shigeo Baba : Studies on the Acylation of Phenol by Means of Substituted Benzoic Acids in the Presence of Polyphosphoric Acid.*

Fifteen kinds of mono-substituted benzoic acid with OCH₃, OH, CH₃, Cl, or NO₂ in the *ortho*-, *meta*-, or *para*-position of the carboxyl were reacted respectively with phenol, in the presence of polyphosphoric acid. It was found that the nuclear substitution became difficult in the order of OCH₃, OH, CH₃, H, Cl, and NO₂, and the influence of substituents on the nuclear substitution appeared more clearly in the *ortho*- and *para*-substituted acids. Nitrobenzoic acids were most resistant to substitution.

* A part of this study had published in **Nakazawa, Matsuura and Kusuda**: J. Pharm. Soc., Japan **74**, 495 (1954) and **Nakazawa and Kusuda**: *ibid.*, **75**, 257 (1955).

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