

BULLETIN OF THE INSTITUTE  
FOR CHEMICAL RESEARCH  
KYOTO UNIVERSITY

Vol. 31 No. 1

*Published bi-monthly by*

THE INSTITUTE FOR CHEMICAL RESEARCH  
KYOTO UNIVERSITY  
KYOTO, JAPAN

January, 1953

(*Bull. Inst. Chem. Res., Kyoto Univ.*)

INSTITUTE FOR CHEMICAL RESEARCH  
KYOTO UNIVERSITY

**Director**

Senji UCHINO

**Members of Council**

Kiyoshi ABE	Rempei GOTO	Masao HORIO
Katashi INOUE	Yoshiyuki INOUE	Masayoshi ISHIBASHI
Tatsuo KARIYONE	Hideo KATAGIRI	Kiichi KIMURA
Ren KIMURA	Shinjiro KODAMA	Kinsuke KONDO
Sango KUNICHika	Masao MINE	Hisateru MITSUDA
Risaburo NAKAI	RyuzaBuro NOZU	Ryohei ODA
Kikuo OGII	Ichiro SAKURADA	Nobuji SASAKI
Ikutaro SAWAI	Hiroshi SAWAMURA	Sakae SHIMIZU
Keiichi SHISHIDO	Eiji SUITO	Isamu TACHI
Hideo TAKAGI	Seishi TAKAGI	Tetsuro TANAKA
Sankichi TAKEI	Yoshimasa TAKEZAKI	Waichiro TSUJI
Hideki YUKAWA		

**Editors**

Junzo EBIHARA	Naokazu KOIZUMI	Risaburo NAKAI
Gisaburo TABUCHI	Yoshimasa TAKEZAKI	Teiji TSURUTA

**Treasurers**

Hideo KANO      Yagoro KAWAI

**History of Publications**

Term	Vol.	Title,	Published
Jan., 1929- Dec., 1947	1-16	化學研究所講演集 (The Reports of the Institute for Chemical Research)	Indeterminately
April, 1938	—	10 Jahre Institut für chemische Forschung (化學研究所創立十周年記念號)	—
March, 1949- Dec., 1949	17-19	化研講演集 (The Reports of the Institute for Chemical Research)	Indeterminately
March, 1950- Sept., 1952	20-30	化學研究所報告 (Bulletin of the Institute for Chemical Research)	Quarterly
Dec., 1951	—	The Commemoration Volume for the Silver Jubilee (化學研究所創立二十五周年記念號)	—
Jan., 1953 onwards	31 No. 1	Bulletin of the Institute for Chemical Research (化學研究所報告)	Bi-monthly

## FOREWORD

Since March, 1950, the Bulletin of the Institute for Chemical Research, Kyoto University, has been published quarterly. With the more intensified activities of the Institute followed by an increased number of reports, it has been desired for some time that the Bulletin be published bi-monthly. Also, it has been our desire from the beginning that the Bulletin be widely read abroad as well as in this country. For that purpose, however, we have had to satisfy ourselves under the circumstances only by suffixing English abstracts.

Fortunately, because of improved conditions we are able to publish the Bulletin once every two months starting January, 1953; at the same time we intend to publish our memoirs in European languages, as far as possible.

We shall be more than pleased if in this way our Bulletin will help the people in foreign lands understand our work, help bring about an increased number of those who can get in touch with us.

Starting with the present issue of the Bulletin, more space will be given to the abstracts of reports made at the meetings. It is hoped the change will serve our purpose even to a small degree.

Lastly, we sincerely hope that our Bulletin be given much support and encouragement so that it will contribute to the promotion of science.

Senji Uchino

Director

Institute for Chemical Research

Kyoto University

January, 1953

## CONTENTS

### Review

Tokio SASAI, Masaao EGAWA and Masao OKA: Polarographic Studies on the Essential Factor of the Blood Lability Tests, especially of the Heat Coagulation Tests (The Cobalt, Cadmium and Weltmann's Tests) .....	1
---	---

### Original Reports

1. Masaaki YANAGISAWA: On a Method of Producing Single Crystal and the Discrimination of Crystal Grains of Silver Chloride .....	19
2. Michiyasu SUGII and Atsushi SUGII: Studies on the Phytohormones. (I). On the Growth Promoting Activity for Plants of Aryl Thioglycolic Acid Derivatives .....	27

### Abstracts of Papers

1. Sakae SHIMIZU, Yoshio SAJI and Masakatsu SAKISAKA: Absolute $\beta$ -ray Counting. (I). On the Sensitive Volume of the Counter and the Geometrical Arrangement of the Sample .....	35
2. Kiichi KIMURA, Yoshio SAJI, Masakatsu SAKISAKA and Kozo MIYAKE: Absolute $\beta$ -ray Counting. (II). Analysis of Specific Activities .....	36
3. Isao KUMABE, Kiyoshi TANI and Masateru SONODA: On the Ammonia Proportional Counter .....	37
4. Toshio AZUMA, Kunihiko TSUMORI and Kiichi KIMURA: A Coil Current Stabilizer .....	39
5. Toshio AZUMA, Kunihiko TSUMORI and Kiichi KIMURA: The Probable Energy Loss of Electrons in Matter .....	39
6. Sakae SHIMIZU, Hidekuni TAKEGOSHI and Eiko TAKEGOSHI: Efficiency of a Liquid Scintillation Counter .....	41
7. Kiichi KIMURA, Masakatsu SAKISAKA, Sukeaki YAMASHITA, Kozo MIYAKE and Isao KUMABE: The Extraction of Some Radioisotopes: $P^{33}$ and $I^{128}$ .....	42
8. Eiji SURU and Kazuyoshi TAKIYAMA: Studies on the Formation and Aging of Precipitates. (I). Electron Microscopic Investigation of the Formation of Barium Sulfate Precipitate .....	43
9. Eiji SURU, Masafumi ARAKAWA and Teru ARAKAWA: Surface Area Measurement of Powders by Molecular Adsorption at Solid-Liquid Interface .....	44

10. Eiji SUITO, Natsu UYEDA and Yoshiaki SASAKI: Studies on Micro-crystals by Electron Microscope and Electron Diffraction. (III). On the Colloidal Particles formed by Ultrasonic Stripping Method .....	46
11. Eiji SUITO and Natsu UYEDA: Studies on Organic Pigments by Electron Microscope .....	47
12. Eiji SUITO, Kazuyoshi TAKIYAMA and Hiroshi SHIBANUMA: On the Relation between the Color and the Quantity of Iron in Paper Clay .....	49
13. Kiyoshi ABE, Tetsuro TANAKA and Koji Uo: Study on High Dielectric Constant Ceramics. (XV). Coupled Vibration in Electrostrictive Vibrators .....	51
14. Kiyoshi ABE, Tetsuro TANAKA, Shigeru MIURA and Kiyoshi OKAZAKI: Study on High Dielectric Constant Ceramics. (XVI). Langevin Type BaTiO <sub>3</sub> Ceramic Vibrator .....	52
15. Shizuo UEDA, Akira WATANABE, Fukuju TSUJI and Kazuo NISHIZAWA: Study on Surface Electricity. (XIV). ....	54
16. Shizuo UEDA, Akira WATANABE, Fukuju TSUJI and Kazuo NISHIZAWA: Study on Surface Electricity. (XV). On Counter U-effect .....	55
17. Toshio NAIKI, Tetsuya HANAI and Sakae SHIMIZU: Measurement of Viscosity of Liquid Air .....	56
18. Teizo WATANABE and Naokazu KORZUMI: High Frequency Titration. (III). Induction Period in the Gold Sol Formation .....	58
19. Itsuro YAMAKITA and Hiroshi AIDA: Thermoproperties of Higher Fatty Acids in Organic Solvents .....	59
20. Hiroshi SAWAMURA and Taiji OGINO: Protecting Methods against the Blistering on the Galvanized Steel Plate .....	60
21. Ryohei ODA, Kazuhiko TERAMURA and Hiroshi ITAGAKI: Synthesis of Some Fatty Acid Derivatives .....	61
22. Wataru FUNASAKA and Chikao YOKOKAWA: Artificial Coalication of the Mixtures of Cellulose and Lignin .....	63
23. Waichiro TSUJI, Masazo IMAI and Atsuji MATSUMOTO: The Effect of the Oiling on Viscose Rayon Yarn. (II) .....	64
24. Hideo KATAGIRI and Yoshio ICHIKAWA: Studies on the <i>Propionibacterium</i> . (IV) .....	65
25. Tokio SASAI, Mosao EGAWA and Hajime MORI: Polarographic Studies on the Urinal Colloids. (II) .....	67

## 編 集 後 記

本號を以つて化研報告も從來の季刊から隔月刊行に飛躍しました。之に伴い内容の一新をはかり、本號では総報以外はすべて歐文になつています。これは本誌に、より高い國際性を期待する所長以下職員一同の意圖に基くものに他なりません。歐文原報をどしどし投稿されて本誌隔月刊行の主旨を有意義ならしめるよう御協力下さい。講演要旨は制限紙數が從來よりも増していますから最大限の御利用を願います。

尙本號より表紙その他體裁を改めましたが不備の點も少くないことを存じます。お氣付の點はその都度御指摘下されば幸甚であります。

(鶴田)

### 化學研究所報告第31卷第1號

昭和28年1月25日 印刷  
昭和28年1月30日 発行 【非賣品】

大阪府高槻市吉曾部  
京都大學化學研究所  
編集兼發行人 内野仙治

京都市中京區西ノ京上合町十ノ一  
印刷所 前田進行堂印刷所

京都市中京區西ノ京上合町十ノ一  
印刷者 前田政吉

京都大學  
化學研究所報告

第 31 卷 第 1 號

(通卷 第 31 集)

1953 年 1 月

總 報

- 塙井外喜男・江川昌男・岡正夫： 血清不安定反応とくに熱凝析型反応 (Cobalt 反応・Cadmium 反応・Weltmann 反応等) の本態に關するポーラログラフ的研究 ..... 1

原 報

1. Masaaki YANAGISAWA: On a Method of Producing Single Crystal and the Discrimination of Crystal Grains of Silver Chloride. ... 19  
2. Michiyasu SUGII and Atsushi SUGII: Studies on the Phytohormones. (I). On the Growth Promoting Activity for Plants of Aryl Thioglycolic Acid Derivatives ..... 27

研究報告 (1~25) ..... 35~67

京都大學化學研究所  
(化研報 31 卷 1 號)