

**BULLETIN OF THE INSTITUTE
FOR CHEMICAL RESEARCH**

KYOTO UNIVERSITY

Vol. 52, No. 2

*Commemoration Issue Dedicated to
Professor Waichiro Tsuji
On the Occasion of his Retirement*

Published bi-monthly by

**THE INSTITUTE FOR CHEMICAL RESEARCH
KYOTO UNIVERSITY
KYOTO, JAPAN**

March, 1974

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

INSTITUTE FOR CHEMICAL RESEARCH
KYOTO UNIVERSITY

Director

Eiji SUITO

Members of Council

Eiichi FUJITA	Osamu HAYAISHI	Hiroshi INAGAKI
Yuzo INOUE	Keinosuke KOBAYASHI	Naokazu KOIZUMI
Michio KURATA	Shinzaburo OKA	Masaya OKANO
Tatsuo OOI	Tsunenobu SHIGEMATSU	Sakae SHIMIZU
Eiji SUITO	Toshio TAKADA	Mitsuru TAKANAMI
Tohru TAKENAKA	Yoshimasa TAKEZAKI	Megumi TASHIRO
Waichiro TSUJI	Tatsuo YAMAMOTO	Takuji YANABU

Publication Committee

Soichi HAYASHI	Yuzo INOUE	Ryozo KITAMARU
Naokazu KOIZUMI	Tsunenobu SHIGEMATSU	Sakae SHIMIZU
Takuji YANABU		

Business Staff

Gon FUJII	Shigeo HOTTA	Toshio NISHIMURA
-----------	--------------	------------------

History of Publications

Term	Vol.	Title	Published
Jan., 1929- Dec., 1947	1-16	化学研究所講演集 (The Reports of the Institute for Chemical Research)	Indeterminately
April, 1933	—	10 Jahre Institut für chemische Forschung (化学研究所創立十周年記念号)	—
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	化学研究所報告 (Bulletin of the Institute for Chemical Research)	Quarterly
Dec., 1951	—	The Commemoration Volume for the Silver Jubilee (化学研究所創立二十五周年記念号)	—
Jan., 1953 onwards	31 No. 1-	Bulletin of the Institute for Chemical Research (化学研究所報告)	Bi-monthly



辻 和 一 郎 教 授

Professor Dr. W. Tsuji

Emeritus Professor Waichiro Tsuji

Dr. Waichiro Tsuji retired at the end of March in 1974, after having completed 33 years of service at Kyoto University. On the next day he was named an emeritus professor by the University.

Dr. Tsuji, a native of Kyoto city, was born on February 24 in 1911. He graduated from Kyoto University with his major in Industrial Chemistry in March, 1939 and entered the graduate school of the Faculty of Technology where he started his academic career in the field of fiber chemistry under the direction of Professor Ichiro Sakurada. His first achievement was the successful establishment of measuring methods for the mechanical and thermal properties of fibers. With his great store of knowledge of material dynamics he inquired into many basic properties of various fibers such as tensile properties, friction coefficients, and frictional electricity.

Dr. Tsuji was appointed a lecturer in June, 1941 and an assistant professor in June, 1945 at Kyoto University. On April 24, 1948, he received the doctoral degree of technology from Kyoto University for his study on the mechanical and thermal properties of fibers. In December, 1950, he was promoted to a full professorship and joined the Institute for Chemical Research, Kyoto University. For these years, he was mostly concerned with studies on the preparation of new synthetic fibers and the chemical modification of natural and synthetic fibers. His researches in these fields not only contributed to academic progress in fiber chemistry but also rendered great service to the fiber industry.

Since 1943, Dr. Tsuji has given lectures on fiber chemistry at the Faculty of Technology, Kyoto University. He has been a visiting lecturer at dozens of universities such as Osaka University, Nagoya University, Kyoto University of Industrial Arts and Textile Science, *etc.*

For three years since December 1967, Dr. Tsuji served as director of the Institute and contributed very much to the university administration. He not only served as chairman of the Sen-i Gakkai for two years from April 1972, but also served for many academic societies.

Because of his sincere, thoughtful and warm personality, Dr. Tsuji wins the respect of all people who come in contact with him.

This collection of papers by his colleagues, former and present associates, and students is dedicated to Dr. Tsuji in honor of his retirement.

April, 1974



Yoshimasa Takezaki
Director
Institute for Chemical Research
Kyoto University

CONTENTS

Commemoration Issue Dedicated to Professor Waichiro Tsuji on the Occasion of his Retirement

Akio Nakajima and Takashi Korenaga: Micro-Heterophase Structure in Membrane of Vinylpyridine-Styrene-Vinylpyridine Block Copolymers and their Quaternized Products	295
Keisuke Kaji, Ichiro Sakurada, Katsuhiko Nakamae, Tadashi Shintaku, and Eizo Shikata: Elastic Moduli of Isotactic Poly(4-methyl-1-pentene) Crystals.....	308
Yoshito Ikada, Fumitaka Horii, and Ichiro Sakurada: Solvent Effects on the Radiation Graft Copolymerizations onto Poly(Vinyl Alcohol).....	318
Tadao Kotaka, Nobuo Donkai, and Tae Ik Min: Compositional Heterogeneity and Molecular Weight Distribution of Copolymer Systems. I. Simple Statistical Analysis of the Heterogeneities of Block and Graft Copolymers.....	332
Kaoru Shimamura, Shozo Murakami, and Keinosuke Kobayashi: X-ray Small Angle Scattering Study on the Density of Interlamellar Regions of Drawn Polyethylene under Tensile Stress	359
Shigeharu Onogi, Tadahiro Asada, Yoshiharu Fukui, and Isao Tachinaka: The Mechanical and Rheo-Optical Properties of Nylon 11 and 12	368
Fumio Kamiyama and Hiroshi Inagaki: Some Fundamental Properties of Developer Solvents in Thin Layer Chromatography Applied to Polymer Separations	393
Tsunetaka Matsumoto, Katsuhiko Nakamae, Tsukasa Ochiiumi, Tatsuo Tamura, and Tsutomu Shioyama: The Solubility and the Wet Spinning of Ethylene-Vinyl Alcohol Copolymers	403
Norio Ise, Tsuneo Okubo, Tsuruhiko Sekiguchi, and Kazuei Mita: Carbamoylated Poly-L-Lysine and its Helix-Coil Transition	416
Toshio Okada, Yasunao Shimano, and Ichiro Sakurada: Radiation-Induced Impregnation Grafting of Acrylic Acid onto Polyester Fibers	425
Ryozo Kitamaru, Chikashi Tuchiya, and Suong Hyu Hyon: The Preparation of a New Type of Synthetic Fiber from Linear Polyethylene by Irradiation Cross-Linking	436
Masao Hosono, Osamu Kusudo, Sinji Sugii, and Waichiro Tsuji: Polyelectrolyte Complexes I. Ionic Bonding between Sulfated and Aminoacetalized Derivatives of Polyvinyl Alcohol	442
Motohisa Oobatake and Tatsuo Ooi: Flexibility of Tertiary Structures of Proteins: Lysozyme and Myoglobin	456
Michio Kurata, Yoshiyuki Einaga, Kunihiro Osaki, and Hisashi Odani: A Note on the Chain Entanglement in Concentrated Polymer Solutions	464
Review	
Junji Furukawa, Shunro Taniguchi, and Eiichi Kobayashi: Mechanism of Cationic Copolymerization of Styrene and its Derivatives.....	472
Munenori Sakamoto and Hiroaki Tonami: Factors Involved in Reversible Disulfide Cross-Linking in Cellulose.....	482

京都大学化学研究所報告 第52卷 第2号

昭和49年9月5日 印刷

【非売品】

昭和49年9月13日 発行

京都府宇治市五ヶ庄
京都大学化学研究所

編集兼 水 渡 英 二
発行人

京都市上京区下立売通小川東入
印刷所 中西印刷株式会社

京都市上京区下立売通小川東入
印刷者 中 西 亭