

## 目 次

### 平成 10 年度学長所管研究奨励金

ペルフルオロ脂肪酸の生体作用を決定づける因子に関する研究 .....	1
研究代表者 薬学部衛生化学教室 教授 川嶋 洋一	
共同研究者 同 助手 工藤 なをみ	
原著論文要旨 .....	9

## CHEMICAL

### Inorganic or Physical

Chiral Discrimination in the Transport of Ketoprofen and Ibuprofen Esters through an Aqueous Phase Mediated by Various Serum Albumins .....	11
Hiroko Nakagawa (中川 弘子), Katsuyo Shimizu (清水 勝代), and Koh-ichi Yamada (山田 紘一)	

### Organic

AICl <sub>3</sub> -Mediated Aromatic Phenylthiation with N-Phenylthiophthalimide .....	12
Satoshi Suwa (諏訪 智士), Takeshi Sakamoto (坂本 武史), and Yasuo Kikugawa (菊川 靖雄)	
Synthesis of 5-Hydroxyindan-2-ones and Indol-5-ols from 1,4- Cyclohexanedione .....	13
Yutaka Ozaki (尾崎 裕), Zhe-Shan Quan, Kyouko Watabe (渡部 享子), and Sang-Won Kim (金 相元)	
Lewis Acid-Mediated Ring Expansion Reaction of 2,3-Metanochromanones with Silyl Enol Ethers .....	14
Yoshiaki Sugita (杉田 義昭), Kazuyoshi Kawai (川井 一良), Hiroki Hosoya (細谷 弘樹), and Ichiro Yokoe (横江 一朗)	

Radical Intensity and Cytotoxicity of Butylated Hydroxyanisole and its Orthobisphenol Dimer .....	15
Kazue Satoh, Toshihiko Atsumi, Hiroshi Sakagami, Yasushi Kashiwagi, Yoshiteru Ida, Takao Ueha, Yoshiaki Sugita (杉田 義 昭), Ichiro Yokoe (横江 一朗) and Seiichiro Fujisawa	
Application of bis-eugenol to a zinc oxide eugenol cement .....	16
S. Fujisawa, Y. Kashiwagi, T. Atsumi, I. Iwakura, T. Uehara, Y. Hibino, I. Yokoe (横江 一朗)	
Synthesis of Tetrahydrofurans by the Reaction of $\alpha,\beta$ -Epoxy Alcohol Derivatives with Allylsilanes .....	17
Yoshiaki Sugita (杉田 義昭), Yoko Kimura (木村 容子) and Ichiro Yokoe (横江 一朗)	
Four isoflavanones from roots of <i>Sophora tetraptera</i> .....	18
Yoshiaki Shirataki (白瀧 義明), Satoko Matsuoka (松岡 聡子), <sup>1</sup> Manki Komatsu (小松 曼耆), <sup>1</sup> Masayoshi Ohyama, Toshiyuki Tanaka, <sup>2</sup> and Munekazu Inuma <sup>2</sup>	
Inhibitory Effects of Isoflavones on Lipid Peroxidation by Oxygen Species .....	19
Shizuo Toda, and Yoshiaki Shirataki (白瀧 義明)	
Inhibitory effects of Astragali Radix, a crude drug in Oriental medicines, on lipid peroxidation and protein oxidative modification by copper .....	20
Shizuo Toda, and Yoshiaki Shirataki (白瀧 義明)	
Comparisons of Antioxidative and Chelating Effects of Daidzein and Daidzin .....	21
Shizuo Toda, and Yoshiaki Shirataki (白瀧 義明)	
Comparisons of the Inhibitory Effects of Genistein and Genistin on Lipid Peroxidation of Brain Homogenate <i>in vitro</i> .....	22
Shizuo Toda, and Yoshiaki Shirataki (白瀧 義明)	

Heterocyclization of 4-Trifluoroacetyl-2,3-dihydropyrroles with Hydrazines and Amidines: A New Access to Trifluoromethylated Pyrazoles and Pyrimidines Bearing a $\beta$ -Aminoethyl Side Chain .....	23
Masami Kawase (河瀬 雅美), Michitaka Hirabayashi (平林 岐岳), Setsuo Saito (齋藤 節生), and Katsumi Yamamoto (山本 勝美)	
Site-Selective Trifluoroacetylation of Dimethylamino-Substituted Pyridines and Its Use as a Building Block for Trifluoromethyl-Containing Heterocycles .....	24
Masami Kawase (河瀬 雅美)*, Junichi Koyanagi (小柳 順一), and Setsuo Saito (齋藤 節生)	
Synthesis of Highly Functionalized Pyrrolidinones From Mesoionic 4-Trifluoroacetyl-1,3-oxazolium-5-olates and Aminomalonate .....	25
Masami Kawase (河瀬 雅美)*, Hiroshi Miyamae, and Setsuo Saito (齋藤 節生) <sup>1</sup>	
<i>In Vitro</i> Susceptibility of <i>Helicobacter pylori</i> to Trifluoromethyl Ketones .....	26
Masami Kawase (河瀬 雅美)*, Hiromi Harada (原田 裕美), <sup>1</sup> Setsuo Saito (齋藤 節生), <sup>1</sup> Jiongmo Cui, and Satoru Tani (谷 覚) <sup>1</sup>	
$\alpha$ -Trifluoromethylacyloins Induce Apoptosis in Human Tumor Cell Lines.....	27
Masami Kawase (河瀬 雅美)*, Hiroshi Sakagami, Kaoru Kusama, <sup>2</sup> Noboru Motohashi, and Setsuo Saito (齋藤 節生) <sup>1</sup>	
Plasmid Elimination and Immunomodulation by 3-Benzazepines <i>In Vitro</i> .....	28
Noboru Motohashi,* Masami Kawase (河瀬 雅美), Setsuo Saito (齋藤 節生), <sup>2</sup> Csilla Miskoler, Livia Bosek, <sup>3</sup> and Joseph Molnar <sup>3</sup>	
Relationship between Radical Intensity and Biological Activity of Cacao Husk Extracts .....	29
Noboru Motohashi,* Masami Kawase (河瀬 雅美), Teruo Kurihara, Yoshiaki Shirataki (白瀧 義明), <sup>2</sup> Kunio Kamata, Hideki Nakashima, Mariappan Premanathan, <sup>5</sup> Rieko Arakaki, <sup>5</sup> Kenji Kanbara, <sup>5</sup> Kazue Satoh, Hiroshi Sakagami, Setsuo Saito (齋藤 節生), <sup>2</sup> and Tetsuo Nakamura	

Effects of Amounts of Additives on Peptide Coupling Mediated by a Water-soluble Carbodiimide in Alcohols.....	30
Sukekatsu Nozaki (野崎 祐勝)	

Facile Synthesis of Furobenzothiazepines .....	31
Masayuki Ogawa, Junichi Koyanagi (小柳 順一), Katsuya Sakuma, Akira Tanaka (田中 昭), and Katsumi Yamamoto (山本 勝美)	

### Analytical

Production of 2-phenylethylamine by Decarboxylation of L-Phenylalanine in Alkaliphilic <i>Bacillus cohnii</i> .....	32
Koei Hamana and Masaru Niitsu (新津 勝)	

Preparation and Usefulness of Some Fluorogenic Substrates for Assay of Arginyl-tRNA-Protein Transferase by HPLC .....	33
Koichi Takao (高尾 浩一), Yong Ji Xu (許 泳吉), Keijiro Samejima (鮫島 啓二郎), Akira Shirahata (白幡 晶), and Masaru Niitsu (新津 勝)	

Primary Structure of Rat Spermidine Synthase: An Example of Refining the cDNA-Derived Amino Acid Sequence .....	35
Makiko Wada (和田 牧子), Daisuke Amano (天野 大介), Harumi Hosoda (細田 晴美), Akira Shirahata (白幡 晶), Keijiro Samejima (鮫島 啓二郎), and Anthony E. Pegg	

Arginyl-tRNA-Protein Transferase Activities in Crude Supernatants of Rat Tissues.....	36
Koichi Takao (高尾 浩一) and Keijiro Samejima (鮫島 啓二郎)	

### Biological (Biochemical)

Alterations by perfluorooctanoic acid of glycerolipid metabolism in rat liver .....	37
Naomi Kudo (工藤 なをみ), Hiroki Mizuguchi (水口 博樹), and Yoichi Kawashima (川嶋 洋一)	

Effects of tiadenol and di(ethyhexyl)phtalate in the liver of rats .....	38
Hiroki Mizuguchi (水口 博樹), Naomi Kudo (工藤 なをみ), Takeshi Ohya (大谷 武司), and Yoichi Kawashima (川嶋 洋一)	
Increase in hepatic content of oleic acid induced by dehydroepiandrosterone in the rat.....	39
Koichi Imai (今井 浩一), Matazirou Koyama (小山 又次郎), Naomi Kudo (工藤 なをみ), Akira Shirahata (白幡 晶), and Yoichi Kawashima (川嶋 洋一)	
Effects of fish oil alone and in combination with clofibrlic acid on serum levels of triacylglycerol and cholesterol in rats .....	40
Naomi Kudo (工藤 なをみ), and Yoichi Kawashima (川嶋 洋一)	
Ionic and Structural Specificity Effects of Natural and Synthetic Polyamines on the Aggregation and Resolubilization of Single-, Double-, and Trile- Stranded DNA.....	42
Muthusamy Saminathan, Thomas Antony, Akira Shirahata (白幡 晶), Leonard H. Sigal, Thresia Thomas, and T.J. Thomas	
Activation of Nuclear Factor $\kappa$ B by Polyamines In Breast Cancer Cells .....	44
Neha Shah, Thresia Thomas, Akira shirahata (白幡 晶) , Leonard H. Sigal, and T. J. Thomas	
Antitumor effect of bis(ethyl)polyamine analogs on mammary tumor development in FVB /NTgN (MMTV <i>neu</i> ) transgenic mice .....	46
Neha Shah, Thomas Antony, Salim Haddad, Peter Amenta, Akira Shirahata (白幡 晶), T.J. Thomas , Thresia Thomas	
Biosynthesis and turnover of anandamide and other N-acylethanolamines in peritoneal macrophages .....	47
Toyoyasu Kuwae (桑江 豊保), Yasuo Shiota (塩田 泰生), Patricia C. Schmid, Randy Krebsbach, Harald H.O. Schmid	

The Relationship Between Tyrosinase Inhibitory Action and Oxidation-Reduction Potential of Cosmetic Whitening Ingredients and Phenol Derivatives .....	48
Katsuya Sakuma, Masayuki Ogawa, Kenji Sugibayashi (杉林 堅次), Koh-ichi Yamada (山田 紘一) and Katsumi Yamamoto (山本勝美)	
Pharmaceutical	
Effect of Secretable SOD Delivered by Genetically Modified Cells on Xanthine/xanthine Oxidase and Paraquat - Induced Cytotoxicity in Vitro. ....	49
F. Komada (駒田 富佐夫), K. Nishiguchi, Y. Tanigawara, S. Iwakawa, & K. Okumura.	
Cellular Pharmacokinetic Aspects of Reversal Effects of Itraconazole on P-Glycoprotein- Mediated Resistance Anticancer Drugs.....	51
K. Takara, Y. Tanigawara, F. Komada (駒田 富佐夫), K. Nishiguchi, T. Sakaeda & K. Okumura.	
Interaction of Docetaxel (“Taxotere”) with Human P-Glycoprotein. ....	53
K. Shirakawa, K. Takara, Y. Tanigawara, N. Aoyama, M. Kasuga, F. Komada (駒田 富佐夫) , T. Sakaeda & K. Okumura.	
CYP2C19 Genotype-related Efficacy of Omeprazole for The Treatment of Infection Caused by <i>Helicobacter pylori</i> . ....	54
Y. Tanigawara, N. Aoyama, T. Kita, K. Shirakawa, F. Komada (駒田 富佐夫), M. Kasuga, & K. Okumura.	
Sufficient Effect of 1-week Omeprazole and Amoxicillin Dual Treatment for <i>Helicobacter Pylori</i> Eradication in Cytochrome P-450 2C19 poor Metabolizers.....	55
N. Aoyama, Y. Tanigawara, T. Kita, T. Sakai, K. Shirakawa, D. Shirasaka, F. Komada (駒田 富佐夫), K. Okumura, & M. Kasuga.	
TDX、IMXによる血中ジゴキシン濃度測定における問題点.....	57
槇本 博雄, 喜多 知子, 船越 順子, 西口 工司, 駒田 富佐夫 (Fusao Komada), 谷川原 祐介, 奥村 勝彦	

Selectivity of Spermine Homologs on Triplex DNA Stabilization .....	59
Thomas Antony, Thresia Thomas, Akira Shirahata (白幡 晶), Leonard H. Sigal, and T.J. Thomas	
Selectivity of Polyamines on the Stability of RNA-DNA Hybrids Containing Phosphodiester and Phosphorothioate Oligodeoxyribonucleotides .....	60
Thomas Antony, Thresia Thomas, Akira Shirahata (白幡 晶), and T.J. Thomas	
Cytotoxicity and Pharmacokinetics of 1-β-D-Arabinofuranosyl-2- thiocytosine, a 2-Sulphur Substituted Derivative of Cytarabine .....	62
Takeo Kawaguchi (川口 健夫), Tomohisa Ichikawa (市川 智久), Tetsuya Hasegawa (長谷川 哲也), Mineo Saneyoshi, Ayako Yukita, Makoto Asano, Toshiyuki Wakayama, Hisatoyo Kato and Toshiyuki Nagata.	
Evaluation of Bile Acids and Fusidate Derivative as Nasal Absorption Enhancers Using an Electrophysiological Technique .....	63
Ken-ichi Hosoya, Hiroyuki Kubo, Hideshi Natsume (夏目 秀視), Kenji Sugibayashi (杉林 堅次), and Yasunori Morimoto (森本 雍 憲)	
Drug Permeation through the Three Layers of the Human Nail Plate .....	65
Yoichi Kobayashi (小林 洋一) , Misao Miyamoto, Kenji Sugibayashi (杉林 堅次) and Yasunori Morimoto (森本 雍憲)	
Screening of Cationic Compounds as an Absorption Enhancer for Nasal Drug Delivery .....	66
Hideshi Natsume (夏目 秀視), Satoko Iwata (岩田 聡子), Kazuo Ohtake (大竹 一男), Misao Miyamoto, Masatoshi Yamaguchi, Ken- ichi Hosoya, Daisuke Kobayashi (小林 大介), Kenji Sugibayashi (杉林 堅次), Yasunori Morimoto (森本 雍憲)	
Skin disposition of drugs after topical application in hairless rats .....	68
Go Yanagimoto (柳本 剛), Teruaki Hayashi (林 輝朗), Tetsuya Hasegawa (長谷川 哲也), Toshinobu Seki (関 俊暢), Kazuhiko Juni (從二 和彦), Kenji Sugibayashi (杉林 堅次) and Yasunori Morimoto (森本 雍憲)	

Relationship between Solubility of Chitosan in Alcoholic Solution and Its Gelation .....	70
Motohiko Sano (佐野 元彦), Osamu Hosoya, Shose Taoka, Toshinobu Seki (関 俊暢), Takeo Kawaguchi (川口 健夫), Kenji Sugibayashi (杉林 堅次), Kazuhiko Juni (從二 和彦), and Yasunori Morimoto (森本 雍憲)	
Simultaneous transport and metabolism of ethyl nicotinate in hairless rat skin after its topical application: the effect of enzyme distribution in skin .....	71
Kenji Sugibayashi (杉林 堅次), Teruaki Hayashi (林 輝朗) and Yasunori Morimoto (森本 雍憲)	
Analysis of skin disposition of flurbiprofen after topical application in hairless rats .....	73
Kenji Sugibayashi (杉林 堅次), Go Yanagimoto (柳本 剛), Teruaki Hayashi (林 輝朗), Toshinobu Seki (関 俊暢), Kazuhiko Juni (從二 和彦) and Yasunori Morimoto (森本 雍憲)	
Effect of cathode and anode positions, frequency of applied pulse, and electrode materials at electroporation on the in vitro skin permeation of mannitol: Comparison with iontophoresis マンニトールの in vitro 皮膚透過性に及ぼすエレクトロポレーションの効果:イオントフォレーシスとの比較 .....	75
Kenji Mori, Tetsuya Watanabe (渡邊 哲也), Tetsuya Hasegawa (長谷川 哲也), Shuji Sato, Kenji Sugibayashi (杉林 堅次) and Yasunori Morimoto (森本 雍憲)	
薬の写真をのせた薬袋による情報提供の有用性評価:写真入り情報提供せんととの比較 .....	77
久津間 信明, 山下 伸樹, 中山 恵, 吉田 博之 (Hiroyuki Yoshida), 沼尻 幸彦 (Sachihiko Numajiri), 夏目 秀視 (Hideshi Natsume), 小林 大介 (Daisuke Kobayashi), 荻原 政彦 (Masahiko Hagihara), 森本 雍憲 (Yasunori Morimoto)	

平成10年度「日本薬局方の試験法に関する研究」研究報告 一貼付剤の放出試験法に関する研究— .....	78
森本 雅憲 (Yasunori Morimoto), 小林 大介 (Daisuke Kobayashi), 夏目 秀視 (Hideshi Natsume), 沼尻 幸彦 (Sachihiko Numajiri)	

## Pharmacological

Regulation of Gastric Mucosal Pepsinogen and Intrinsic Factor Contents, and Their mRNA Levels during Starvation and Refeeding in Rats .....	79
Toru Tanaka (田中 享), Shin-ichiro Yasunami (安波 紳一郎), Kunio Ohtani (大谷 邦夫), Jun Nakano (中野 潤), and Satoru Tani (谷 覺)	

Transforming growth factor- $\beta_1$ inhibits the growth of primary adult rat hepatocyte cultures by increasing cAMP levels .....	80
Mitsutoshi Kimura (木村 光利), and Masahiko Hagihara (荻原 政彦)	

Stimulation by transforming growth factor- $\alpha$ of DNA synthesis and proliferation of adult rat hepatocytes in primary cultures: Modulation by $\alpha$ - and $\beta$ -adrenoceptor agonists .....	81
Mitsutoshi Kimura (木村 光利), and Masahiko Hagihara (荻原 政彦)	

口頭発表及びシンポジウム .....	85
--------------------	----

著書・総説・Proceedings 類 .....	94
---------------------------	----

学位論文要旨 .....	95
--------------	----

大学院薬学研究科修士論文要旨 .....	101
----------------------	-----

著者索引 .....	138
------------	-----