

## Contents

Preface .....	v
Measuring and Monitoring POPs: A Critique R. S. S. Wu, A. K. Y. Chan, B. Richardson, D. W. T. Au, J. K. H. Fong, P. K. S. Lam and J. P. Giesy .....	1
Fish Models in Impact Assessment of Carcinogenic Potential of Environmental Chemical Pollutants: An Appraisal of Hermaphroditic Mangrove Killifish <i>Kryptolebias marmoratus</i> S. Raisuddin and J.-S. Lee .....	7
Research on Ecotoxicology and Applications in Singapore: Description of the Sponge Aggregation Assay B. Goh .....	17
Perspective of Ecotoxicological Conduction for Water Quality Monitoring in Thailand N. Tapaneeyakul .....	31
Chronic Effects of Waterborne PFOS Exposure on Growth, Development, Reproduction and Hepatotoxicity in Zebrafish Y. Du, X. Shi, K. Yu, C. Liu and B. Zhou .....	37
Testicular Toxicity of Arsenic on Spermatogenesis in Fish F. T. Celino, S. Yamaguchi, C. Miura and T. Miura .....	55
Prostanoid Signaling Mediates Circulation Failure Caused by TCDD in Developing Zebrafish H. Teraoka, A. Kubota, Y. Kawai and T. Hiraga .....	61
Molecular Basis for Differential Dioxin Sensitivity in Birds: Characterization of Avian AHR Isoforms E.-Y. Kim, H. Iwata, T. Yasui, N. Inoue, J.-S. Lee, D. G. Franks, S. I. Karchner, M. E. Hahn and S. Tanabe .....	81
Application of Bioassays for the Detection of Dioxins and Dioxin-like Compounds in Wastes and the Environment H. Takigami, G. Suzuki and S. Sakai .....	87
Modulation of Expression of Oxidative Stress Genes of the Intertidal Copepod <i>Tigriopus japonicus</i> after Exposure to Environmental Chemicals J.-S. Lee and S. Raisuddin .....	95

Application of Ascidian DNA Microarray Analysis for Risk Assessment of Marine Chemical Pollutants K. Azumi, S. Amano, S. V. Sabau, A. Kamimura, N. Satoh and R. Koyanagi .....	107
Immune Gene Expression Levels Correlate with the Phenotype of Japanese Flounder Exposed to Heavy Oil J.-Y. Song, K. Nakayama, Y. Murakami and S.-I. Kitamura .....	111
Yeast OMICS System for Environmental Toxicology Y. Tanaka, T. Higashi, R. Rakwal, J. Shibato, S. Wakida and H. Iwahashi .....	123
Genomic Response in <i>Daphnia</i> to Chemical Pollutants H. Watanabe, K. Kobayashi, Y. Kato, S. Oda, R. Abe, N. Tatarazako and T. Iguchi .....	133
Medaka DNA Microarray: A Tool for Evaluating Physiological Impacts of Various Toxicants K. Kishi, E. Kitagawa, H. Iwahashi, K. Suzuki and Y. Hayashi .....	143
Sensing of Heavy Metals Using <i>Caenorhabditis elegans</i> DNA Microarray N. Tominaga, T. Matsuno, S. Kohra and K. Arizono .....	155
Application of Microarray Technology to Toxicity Evaluation in Wild Common Cormorants Contaminated with Persistent Organic Pollutants K. Nakayama, H. Iwata, L. Tao, K. Kannan, M. Imoto, E.-Y. Kim, K. Tashiro and S. Tanabe .....	163
Effects of Heavy Oil on the Developing Japanese Flounder <i>Paralichthys Olivaceus</i> H. Nokame, S.-I. Kitamura, K. Nakayama, S. Matsuoka, H. Sakaguchi and Y. Murakami .....	171
Genetic Polymorphisms Influencing Arsenic Metabolism in Human: Evidence from Vietnam T. Agusa, J. Fujihara, T. B. Minh, P. T. K. Trang, H. Takeshita, H. Iwata, P. H. Viet and S. Tanabe .....	179
Low Induction Potencies of Cytochrome P450 2B and 3A by Persistent Organic Pollutants in Baikal Seal ( <i>Pusa sibirica</i> ) H. Sakai, H. Iwata, E.-Y. Kim, E. A. Petrov and S. Tanabe .....	187
Effects of Dioxins and Related Compounds in the Liver of Wild Baikal Seals: An Implication from a Toxicogenomic Approach S. Hirakawa, D. Imaeda, K. Nakayama, E.-Y. Kim, T. Kunisue, S. Tanabe, E. A. Petrov, V. B. Batoev and H. Iwata .....	197
Interspecies Difference in Susceptibility of TCDD-induced Avian CYP1A5 Transactivation is Dependent on AHR1, not on CYP1A5 Promoter/Enhancer Region J.-S. Lee, E.-Y. Kim, H. Iwata and S. Tanabe .....	207

Molecular Characterization of Avian Metallothionein (MT) 1 and 2 Isoforms: mRNA Expression, Transactivation Potency, and Detoxification Potential Associated with Element Exposure D.-H. Nam, E.-Y. Kim and H. Iwata .....	225
Vacuolar-type H <sup>+</sup> -Translocating ATPase is the Target of Tributyltin Chloride K. Akiyama, S. Chardwiriyaapreecha, T. Chahomchuen, N. Sugimoto, T. Sekito, S. Nishimoto, T. Sugahara and Y. Kakinuma .....	241
Characterization of the Vacuolar Transporters for Amino Acid Recycling in Yeast Autophagy T. Chahomchuen, T. Sekito, K. Hondo, S. Nishimoto, T. Sugahara and Y. Kakinuma .....	251
The Structure-Activity Relationships of Flaxseed Lignan, Secoisolariciresinol T. Sugahara, S. Yamauchi, S. Nishimoto, A. Kondo, F. Ohno, S. Tominaga, Y. Nakashima, T. Kishida, K. Akiyama, M. Maruyama and Y. Kakinuma .....	263
Risk Assessment of Heavy Oil on Terrestrial Mammals S. Nishimoto, M. Yamawaki, S.-I. Kitamura, K. Akiyama, Y. Kakinuma and T. Sugahara .....	269
The Role of the Earthworm, <i>Pheretima (Metaphire) hilgendorfi</i> , in Terrestrial Ecosystem Nutrient Cycling M. Nozaki, C. Miura, Y. Tozawa and T. Miura .....	275
Toxicological Effects of Heavy Oil on Carp by NMR-based Metabolic Profiling of Plasma S. Uno, E. Kokushi and J. Koyama .....	281
<i>In vitro</i> and <i>in vivo</i> Estrogenic Effects of Fluorotelomer Alcohols in Medaka ( <i>Oryzias latipes</i> ) H. Ishibashi, R. Yamauchi, M. Matsuoka, J.-W. Kim, M. Hirano, A. Yamaguchi, N. Tominaga and K. Arizono .....	291
Expression Analysis of Ecdysone Receptor and Ultraspiracle through Molting Period in Mysid Crustacean, <i>Americamysis bahia</i> M. Hirano, H. Ishibashi, R. Yamauchi, J.-W. Kim and K. Arizono .....	303
Temporal Variation of PCDDs, PCDFs and PCBs in Baikal Seals ( <i>Pusa sibirica</i> ) D. Imaeda, T. Kunisue, Y. Ochi, H. Iwata, O. Tsydenova, S. Takahashi, M. Amano, E. A. Petrov, V. B. Batoev and S. Tanabe ..	311
Hydroxylated Polychlorinated Biphenyls in the Blood of Cetacean Species Stranded along the Japanese Coast S. Murata, T. Kunisue, S. Takahashi, T. K. Yamada and S. Tanabe ....	321
Polybrominated Diphenyl Ethers and Hexabromocyclododecanes in Japanese Human Adipose Tissues T. Isobe, H. Oda, N. Takayanagi, T. Kunisue, M. Nose, T. Yamada, H. Komori, N. Arita, N. Ueda, S. Takahashi and S. Tanabe .....	331

Spatial Distribution and Accumulation of Organohalogen Compounds in Human Breast Milk from the Philippines G. Malarvannan, T. Kunisue, T. Isobe, A. Sudaryanto, S. Takahashi, M. Prudente and S. Tanabe .....	339
Cell-to-cell Contact is Required for Transfer of Tetracycline Resistance Gene <i>tet(M)</i> in Marine Bacteria F. A. Neela, N. Nagahama and S. Suzuki .....	349
Occurrence Rates of Sulfamethoxazole and Erythromycin-Resistant Bacteria and Drug Concentrations in Wastewater of Integrated Aquaculture-Agriculture (VAC) Sites in Northern Vietnam P. T. P. Hoa, S. Managaki, N. Nakada, H. Takada, D. H. Anh, P. H. Viet and S. Suzuki .....	355
Comparative Study of Pesticide Effects (Herbicide and Fungicide) on Zooplankton Community K.-H. Chang, M. Sakamoto, J.-Y. Ha, T. Murakami, Y. Miyabara, S. Nakano, H. Imai, H. Doi and T. Hanazato .....	361
Succession of Harmful Algae <i>Microcystis</i> (Cyanophyceae) Species in a Eutrophic Pond H. Imai, K.-H. Chang, M. Kusaba and S. Nakano .....	367