

## [発表論文(英文の総説を含む)] (2011年度以降)

※最初の番号(83.～116.)は研究室創設時からの通し番号

83. Izumo, A., Fujiwara, S., Sakurai, T., Ball, S. G., Ishii, Y., Ono, H., Yoshida, M., Fujita, N., Nakamura, Y., Buléon, A., and Tsuzuki, M., Effects of granule-bound starch synthase I-defective mutation on the morphology and structure of pyrenoidal starch in *Chlamydomonas*. *Plant Sci.* **180**, 238-245 (2011).
84. Miyashita, S., Fujiwara, S., Tsuzuki, M., and Kaise, T., Rapid biotransformation of arsenate into oxo-arsenosugars by a freshwater unicellular green alga, *Chlamydomonas reinhardtii*. *Biosci. Biotechnol. Biochem.* **75**, 522-530 (2011). DOI: 10.1271/bbb.100751.
85. Suto, Y., Uchida, T., Kumata, H., Tsuzuki, M., and Fujiwara, K., Chemical sensing of metal ions using a silica-micelle mesophase doubly functionalized by a fluorogenic ionophore and a masking agent. *Analytical Sciences* **27**, 673-674 (2011). DOI: 10.2116/analsci.27.673.
86. Fujiwara, S. and M. Tsuzuki: Coccolith formation in the Haptophyta. In Marine Phytoplankton (Eds.: Kersey, W. T. & S. P. Munger, ISBN: 978-1-60741-087-4), Nova Science Publishers, Inc., (2011).
87. Kumata, H., Mori, M., Takahashi, S., Takamiya, S., Tsuzuki, M., Uchida, T., and Fujiwara, K., Evaluation of hydrogenated resin acids as molecular markers for tire-wear debris in urban environments. *Environ. Sci. Technol.*, **45** (23), 9990-9997 (2011). DOI: 10.1021/es202156f.
88. Aoki, M., Tsuzuki, M., and Sato, N., Involvement of sulfoquinovosyl diacylglycerol in DNA synthesis in *Synechocystis* sp. PCC 6803. *BMC Res. Notes* **5**, 98 (2012). DOI:10.1186/17560500-5-98.
89. Tabei, Y., Okada, K., Horii, E., Mitsui, M., Nagashima, Y., Sakai, T., Yoshida, T., Kamiya, A., Fujiwara, S., and Tsuzuki, M., Two regulatory networks mediated by light and glucose involved in glycolytic gene expression in cyanobacteria. *Plant Cell Physiol.* **53**, 1720-1727 (2012).
90. Murota, C., Matsumoto, H., Fujiwara, S., Hiruta, Y., Miyashita, S., Shimoya, M., Kobayashi, I., Hudock, M. O., Togasaki, R. K., Sato, N., and Tsuzuki, M., Arsenic tolerance in a Chlamydomonas photosynthetic mutant is due to reduced arsenic uptake even in light conditions. *Planta* **236**, 1395-1403 (2012).
91. Miyashita, S., Fujiwara, S., Tsuzuki, M., and Kaise, T., Cyanobacteria produce arenosugars. *Environ. Chem.* **9**, 474-484 (2012).
92. Hirokawa, Y., Matsuzuka, S., Itayama, S., Uchida, T., Fujiwara, S., Ozaki, N., Nagasawa, H., and

- Tsuzuki, M., Localization and associative strength of acid polysaccharides in coccoliths of *Pleurochrysis* haptonemofera (Haptophyta) predicted from their extractability from partially decalcified coccoliths. *Open Journal of Marine Science* **3**, 48-54 (2013).
- 93. Mizuno Y, Sato A, Watanabe K, Hirata A, Takeshita T, Ota S, Sato N, Zachleder V, Tsuzuki M, Kawano S (2013) Sequential accumulation of starch and lipid induced by sulfur deficiency in *Chlorella* and *Parachlorella* species. *Bioresour Technol* **129**, 150-155.
  - 94. Shiratake T, Sato A, Minoda A, Tsuzuki M, Sato N (2013) Air-drying of cells, the novel conditions for stimulated synthesis of triacylglycerol in a Green Alga, *Chlorella kessleri*. *PLoS One* **8**, e79630.
  - 95. Kato, Y., Miyauchi, T., Abe, Y., Kojić, D., Tanaka, M., Chikazawa, N., Nakatake, Y., Ko, S. B. H., Kobayashi, D., Hazama, A., Fujiwara, S., Uchida, T., and Yasui, M., Unprecedented cellselection using ultra-quick freezing combined with aquaporin expression. *PLoS ONE* **9**, e87644. doi:10.1371/journal.pone.0087644 (2014).
  - 96. Sawada, T., Nakamura, Y., Ohdan, T., Saitoh, A., Francisco, P. B. Jr., Suzuki, E., Fujita, N., Shimonaga, T., Fujiwara, S., Tsuzuki, M., Colleoni, C., and Ball, S., Diversity of reaction characteristics of glucan branching enzymes and the fine structure of  $\alpha$ -glucan from various sources. *Arch. Biochem. Biophys.* **562**, 9-21 (2014).
  - 97. Sato A, Matsumura R, Hoshino N, Tsuzuki M, Sato N (2014) Responsibility of regulatory gene expression and repressed protein synthesis for triacylglycerol accumulation on sulfur-starvation in *Chlamydomonas reinhardtii*. *Front Plant Sci* **5**, 444.
  - 98. Okada, K., Horii, E., Nagashima, Y., Mitsui, M., Matsuura, H., Fujiwara, S., Tsuzuki, M., Genes for a series of proteins that are involved in glucose catabolism are upregulated by the Hik8cascade in *Synechocystis* sp. PCC 6803. *Planta* **241**, 1453-1462 (2015).
  - 99. Kobayashi S, Tsuzuki M, Sato N (2015) Sulfite-stress induced functional and structural changes in the complexes of photosystems I and II in a cyanobacterium, *Synechococcus elongatus* PCC 7942. *Plant Cell Physiol* **56**, 1521-1532.
  - 100. Sakurai, T., Aoki, M., Ju, X., Ueda, T., Nakamura, Y., Fujiwara, S., Umemura, T., Tsuzuki, M., and Minoda, A., Profiling of lipid and glycogen accumulations under different growth conditions in the sulfothermophilic red alga *Galdieria sulphuraria*. *Bioresour. Technol.* **200**, 861-866 (2016).
  - 101. Yamamoto, N., Kudo, T., Fujiwara, S., Takatsuka, Y., Hirokawa, Y., Tsuzuki, M., Takano, T., Kobayashi, M., Suda, K., Asamizu, E., Yokoyama, K., Shibata, D., Tabata, S., and Yano, K., Pleurochrysome: a web database of *Pleurochrysis* transcripts and orthologs among heterogeneous algae. *Plant Cell Physiol.* **57**, e6 (2016).

102. Miyashita, S., Murota, C., Kondo, K., Fujiwara, S., and Tsuzuki, M., Arsenic Metabolism in Cyanobacteria. *Environ. Chem.* **13**, 577-589 (2016).
103. Sato, N., R. Kamimura, M. Tsuzuki: Dispensability of a sulfolipid for photoautotrophic cell growth and photosynthesis in a marine cyanobacterium, *Synechococcus* sp. PCC 7002. *Biochem. Biophys. Res. Commun.* **477**, 854-860 (2016) doi: 10.1016/j.bbrc.2016.06.148
104. Aoki, M., M. Tsuzuki, N.Sato: Quantitation of cytochromes b559, b6, and f, and the core component of photosystem I P700 in cyanobacterial cells. *Bio-protocol* **6**, 21(2016) doi: 10.21769/BioProtoc.1991
105. Sato N, Kobayashi S, Aoki M, Umemura T, Kobayashi I, Tsuzuki M (2016) Identification of genes for sulfolipid synthesis in primitive red alga *Cyanidioschyzon merolae*. *Biochem Biophys Res Commun* 470, 123-129.
106. Hirai K, Hayashi T, Hasegawa Y, Sato A, Tsuzuki M, Sato N (2016) Hyperosmosis and its combination with nutrient-limitation are novel environmental stressors for induction of triacylglycerol accumulation in cells of *Chlorella kessleri*. *Sci Rep* 6, 25825.
107. Sato, N., Y. Ebiya, R. Kobayashi, Y. Nishiyama, M. Tsuzuki: Disturbance of cell-size determination by forced overproduction of sulfoquinovosyl diacylglycerol in the cyanobacterium *Synechococcus elongatus* PCC 7942. *Biochem. Biophys. Res. Commun.* **487**, 734-739 (2017) doi: 10.1016/j.bbrc.2017.04.129
108. Matsumoto, H., S. Fujiwara, H. Miyagi, N. Nakamura, Y. Shiga, T. Ohta, M. Tsuzuki: Carbonic anhydrase inhibitors induce developmental toxicity during zebrafish embryogenesis, especially in the inner ear. *Mar. Biotechnol.* **19**, 430-440 (2017) doi: 10.1007/s10126-017-9763-7
109. Ohkubo, K., N. Aburai, H. Miyauchi, M. Tsuzuki, K. Abe: CO<sub>2</sub> fixation and lipid accumulation in biofilms of the aerial microalga *Coccomyxa* sp. KGU-D001 (Trebouxiophyceae). *J. Appl. Phycol.* **29**, 1745-1753 (2017) doi: 10.1007/s10811-017-1123-5
110. Sato, N., R. Kamimura, K. Kaneta, M. Yoshikawa, M. Tsuzuki: Species-specific roles of sulfolipid metabolism in acclimation of photosynthetic microbes to sulfur-starvation stress. *PLoS ONE* **12**, e0186154. doi: 10.1371/journal.pone.0186154
111. Hayashi, T., R. Ohtaki, K. Hiorai, M. Tsuzuki, N. Sato: Optimization of seawater-based triacylglycerol accumulation in a freshwater green alga, *Chlorella kessleri*, through simultaneous imposition of lowered-temperature and enhanced-light intensity. *Algal Res.* **28**, 100-107 (2017) doi:10.1016/j.algal.2017.10.016
112. Aoki, M., N. Sato: Fatty acid content and composition of triacylglycerols of *Chlorella kessleri*. *Bio-protocol* **8**, 01 (2018) doi: 10.21769/BioProtoc.2676

113. Sakurada, S., S. Fujiwara, M. Suzuki, T. Kogure, T. Uchida, T. Umemura, M. Tsuzuki: Involvement of acidic polysaccharide Ph-PS-2 and protein in initiation of coccolith mineralization, as demonstrated by in vitro calcification on the base plate. *Mar. Biotechnol.* 20, 304-312 (2018) doi: 10.1007/s10126-018-9818-4
114. Murota C., S. Fujiwara, M. Tsujishita, K. Urabe, S. Takayanagi, M. Aoki, T. Umemura, J. J.Eaton-Rye, F. D. Pitt, M. Tsuzuki: Hyper-resistance to arsenate in the cyanobacterium *Synechocystis* sp. PCC 6803 is influenced by the differential kinetics of its pst-ABC transporters and external phosphate concentration exposure.. *Algal. Research.* 38, 101410 (2019) doi.org/10.1016/j.algal.2019.101410
115. Tsuzuki M., K. Okada, H. Isoda, M. Hirano, T. Odaka, H. Saijo, R. Aruga, H. Miyauchi, S. Fujiwara: Physiological Properties of Photoautotrophic Microalgae and Cyanobacteria Relevant to Industrial Biomass Production.. *Mar. Biotechnol.* 21, 406-415 (2019) doi: 10.1007/s10126019-09890-1
116. Otaki R., Y. Oishi, S. Abe, S. Fujiwara, N. Sato: Regulatory carbon metabolism underlying seawater-based promotion of triacylglycerol accumulation in Chlorella kessleri.. *Bioresour Technol.* 289, :121686 (2019) doi: 10.1016/j.biortech.2019.121686
117. Hirai, K., M. Nojo, Y. Sato, M. Tsuzuki, N. Sato: Contribution of protein synthesis depression to poly- $\beta$ -hydroxybutyrate accumulation in *Synechocystis* sp. PCC 6803 under nutrient-starved conditions. *Sci. Rep.* 9: 19944. (2019) <https://doi.org/10.1038/s41598-019-56520-w>
118. Miyauchi, H., K. Okada, S. Fujiwara, M. Tsuzuki: Characterization of CO<sub>2</sub> fixation on algal biofilms with an infrared gas analyzer and importance of a space-rich structure on the structure. *Algal Res.* 46: 101814. (2020) doi: 10.1007/s10126-019-09890-1
119. Okada, K., S. Fujiwara, M. Tsuzuki: Energy conservation in photosynthetic microorganisms. *J. Gen. Appl. Microbiol.* 66: 59-65. (2020) doi: 10.2323/jgam.2020.02.002
120. Hirosaki, T., K. Oyanagi, T. Niki, S. Fujiwara, N. Sato: Requirement of the exopolyphosphatase gene for cellular acclimation to phosphorus starvation in a cyanobacterium, *Synechocystis* sp. PCC 6803. *Biochem. Biophys. Res. Commun.* 540: 16-21. (2021) doi: 10.1016/j.bbrc.2020.12.095
121. Miyauchi, H., K. Harada, Y. Suzuki, K. Okada, M. Aoki, T. Umemura, S. Fujiwara, M. Tsuzuki: Development of an algal cell-attached solid surface culture system for simultaneous wastewater treatment and biomass production. *Algal Res.* 58: 102394. (2021) doi: 10.1016/j.algal.2021.102394

122. Matsumoto, H., H. Miyagi, N. Nakamura, Y. Shiga, T. Ohta, S. Fujiwara, M. Tsuzuki: Carbonic anhydrase inhibitor induces otic hair cell apoptosis via an intrinsic pathway and ER stress in zebrafish larvae. *Toxicol. Rep.* 8: 1937-1947. (2021) doi: 10.1016/j.toxrep.2021.11.018
123. Oishi, Y., R. Otaki, Y. Iijima, E. Kumagai, M. Aoki, M. Tsuzuki, S. Fujiwara, N. Sato: Diacylglycerol-N,N,N-trimethylhomoserine-dependent lipid remodeling in a green alga, *Chlorella kessleri*. *Commun. Biol.* 5: 19. (2022) doi: 10.1038/s42003-021-02927-z