

眞岡孝至論文目録(2021年3月末現在)



眞岡孝至

昭和56年京都薬科大学大学院修士課程終了、同年京都薬科大学助手(天然物化学)、平成3年薬学博士、平成5年より生産開発科学研究所勤務。専門分野、天然物化学、特に天然カロテノイドの構造研究、代謝、活性の研究。日本カロテノイド研究会とアスタキサンチン研究会でそれぞれアワード受賞。

Original (原著) 査読あり

- 1) 松野隆男、永田誠一、勝山政明、松高寿子、眞岡孝至、秋田俊子、魚類のカロテノイドに関する比較生化学的研究 - XVIII. 養殖イワナ、カワマス、レークトラウト、ヤマメ、アマゴ、ニジマス、ブラウントラウトについて、日本水産学会誌、**46**, 473-478 (1980).
- 2) 松野隆男、眞岡孝至、坂口茂樹、魚類より β -caroten-2-ol の分離、日本水産学会誌、**46**, 1527-1531 (1980).
- 3) Takao Matsuno, Takashi Maoka and Katsuyuki Hiraoka, A new acetylenic carotenoid from sea mussels, *Bull. Jap. Soc. Sci. Fish.*, **47**, 143 (1981).
- 4) 松野隆男、眞岡孝至、イガイより新カロテノイド 3,4,3'-trihydroxy-7',8'-didehydro- β -carotene の分離、日本水産学会誌、**47**, 377-384 (1981).
- 5) 松野隆男、平岡勝行、眞岡孝至、ホタテガイ卵巣のカロテノイド、日本水産学会誌、**47**, 385-390 (1981).
- 6) 松野隆男、眞岡孝至、アカガイおよび近縁二枚貝3種より Diatoxanthin, pectenoxanthin, pectenolone および新カロテノイド 3,4,3'-trihydroxy-7',8'-didehydro- β -carotene の分離、日本水産学会誌、**47**, 495-499 (1981).
- 7) 松野隆男、平岡勝行、眞岡孝至、二枚貝よりえられた新カロテノイド 3,4,3'-trihydroxy-7',8'-didehydro- β -carotene の合成的証明、日本水産学会誌、**47**, 501-505 (1981).
- 8) Takao Matsuno and Takashi Maoka, Identity of tunaxanthin A with oxyxanthin 45, *Bull. Jap. Soc. Sci. Fish.*, **49**, 1299 (1983).
- 9) Takao Matsuno, Takashi Maoka, Kiyoshi Katagiri and Tadaaki Komori, A new carotenoid, isorenieradicistene from the sea sponge *Suberites sericeus*, *Bull. Jap. Soc. Sci. Fish.*, **50**, 1071-1075 (1984).

- 10) Takao Matsuno, Takashi Maoka and Masaaki Katsuyama, The identity of tunaxanthin A and (3R,6S,3'R,6'S)- ϵ,ϵ -carotene-3,3'-diol (oxyxanthin 58), *Bull. Jap. Soc. Sci. Fish.*, **50**, 1445 (1984).
- 11) Takao Matsuno, Takashi Maoka, Shigeki Sakaguchi and Tokuzi Nishizawa, Absolute configuration of pectenol, *Bull. Jap. Soc. Sci. Fish.*, **50**, 1251-1253 (1984).
- 12) Takao Matsuno, Kiyoshi Katagiri, Takashi Maoka and Tadaaki Komori, Carotenoids of the spindle shell *Fushinus perplexus*, *Bull. Jap. Soc. Sci. Fish.*, **50**, 1583-1588 (1984).
- 13) Takao Matsuno, Takashi Maoka, Masaaki Katsuyama, Masahiro Ookubo, Kiyoshi Katagiri and Hajime Jimura, The occurrences of enantiomeric and *meso*-astaxanthin in aquatic animals, *Bull. Jap. Soc. Sci. Fish.*, **50**, 1589-1592 (1984).
- 14) Takao Matsuno, Masaaki Katsuyama and Takashi Maoka, Isolation of lactucaxanthin from tilapia *Tilapia nilotica*, *Bull. Jap. Soc. Sci. Fish.*, **50**, 1735-1737 (1984).
- 15) Takao Matsuno, Masaaki Katsuyama, Takashi Maoka, Toshihiko Hirono and Tadaaki Komori, Reductive metabolic pathways of carotenoids in fish (3S,3'S)-astaxanthin to tunaxanthin A, B and C, *Comp. Biochem. Physiol.*, **80B**, 779-789 (1985).
- 16) Takao Matsuno, Kiyoshi Katagiri, Takashi Maoka and Tadaaki Komori, Novel reductive metabolic pathways of 4-oxo- β -end group in carotenoids of the spindle shell *Fushinus perplexus*, *Comp. Biochem. Physiol.*, **81B**, 905-908 (1985).
- 17) Takashi Maoka, Tadaaki Komori and Takao Matsuno, Direct diastereomeric resolution of carotenoids I. 3-Hydroxy-4-oxo- β -end group, *J. Chromatography*, **318**, 122-124 (1985).
- 18) Yoshihiro Ikuno, Takashi Maoka, Minoru Shimizu, Tadaaki Komori and Takao Matsuno, Direct diastereomeric resolution of carotenoids II. All ten stereo isomers of tunaxanthin (ϵ,ϵ -carotene-3,3'-diol), *J. Chromatography*, **328**, 387-391 (1985).
- 19) Takashi Maoka and Takao Matsuno, The first isolation and identification of tunaxanthin D [(3S,6R,3'R,6'S)- ϵ,ϵ -carotene-3,3'-diol] from marine fishes, *Bull. Jap. Soc. Sci. Fish.*, **51**, 1349-1351 (1985).
- 20) Takashi Maoka, Masaaki Katsuyama, Nobuyuki Kaneko and Takao Matsuno, Stereochemical investigation of carotenoids in the antarctic krill *Euphausia superba*, *Bull. Jap. Soc. Sci. Fish.*, **51**, 1671-1673 (1985).
- 21) Takao Matsuno, Shigeki Sakaguchi, Masahiro Ookubo, and Takashi Maoka, Isolation and identification of amarouciaxanthin A from the bivalve *Paphia euglypta* (Sudaregai in Japanese), *Bull. Jap. Soc. Sci. Fish.*, **51**, 1909 (1985).
- 22) Yoshihiro Ikuno, Minoru Shimizu, Yasuyo Koshino, Takashi Maoka and Takao Matsuno, Stereochemical investigation of carotenoids from yellow-tail rock fish *Sebastes flavidus*, *Bull. Jap. Soc. Sci. Fish.*, **51**, 2033-2035 (1985).
- 23) Takao Matsuno, Masaaki Katsuyama, Toshihiko Hirono, Takashi Maoka and Tadaaki Komori, The carotenoids of tilapia *Tilapia nilotica*, *Bull. Jap. Soc. Sci. Fish.*, **52**, 115-119 (1986).
- 24) Takao Matsuno, Takashi Maoka, Keiko Shiba and Masahiro Ookubo, Isolation of fucoxanthin from short-necked clam *Tapes philippinarum* [Asari in Japanese], *Bull. Jap. Soc. Sci. Fish.*, **52**, 167 (1986).

- 25) Takashi Maoka, Naoko Masuda, Yoshihiro Ikuno and Takao Matsuno, The first isolation and identification of tunaxanthin G and tunaxanthin H from carp *Cyprinus carpio*, *Bull. Jap. Soc. Sci. Fish.*, **52**, 357 (1986).
- 26) Takao Matsuno, Takashi Maoka and Yoshihiro Ikuno, Comparative biochemical studies of carotenoids in fish XXVII, Carotenoids in the eggs of three species of Cyprinidae, *Comp. Biochem. Physiol.*, **83B**, 335-337 (1986).
- 27) Takashi Maoka, Akihiro Arai, Minoru Shimizu and Takao Matsuno, The first isolation of enantiomeric and *meso*-zeaxanthin in nature, *Comp. Biochem. Physiol.*, **83B**, 121-124 (1986).
- 28) Kiyoshi Katagiri, Takashi Maoka and Tahao Matsuno, Carotenoids of shellfishes VIII. Comparative biochemical studies of carotenoids in three species of spindle shell, *Fushinus perplexus*, *F. perplexus ferrugineus* and *F. forceps*, *Comp. Biochem. Physiol.*, **84B**, 473-476 (1986).
- 29) Takao Matsuno, Toshihiko Hirono, Yoshihiro Ikuno, Takashi Maoka, Minoru Shimizu and Tadaaki Komori, Isolation of three new carotenoids and proposed metabolic pathways of carotenoids in hen's egg yolk, *Comp. Biochem. Physiol.*, **84B**, 477-481 (1986).
- 30) Takao Matsuno, Takashi Maoka, Masaaki Katsuyama, Toshihiko Hirono, Yoshihiro Ikuno, Minoru Shimizu and Tadaaki Komori, Comparative biochemical studies of carotenoids in fishes - XXIX Isolation of new luteins, lutein F and lutein G from marine fishes, *Comp. Biochem. Physiol.*, **85B**, 77-80 (1986).
- 31) Takao Matsuno, Yasuko Tani, Takashi Maoka, Kenji Matsuo and Tadaaki Komori, Isolation and structural elucidation of cucurbitaxanthin A and B from pumpkin *Cucurbita maxima*, *Phytochemistry*, **25**, 2837-2840 (1986).
- 32) Kiyoshi Katagiri, Yasuyo Koshino, Takashi Maoka and Takao Matsuno, Occurrence of pirardixanthin derivatives in the prawn, *Penaeus japonicus*, *Comp. Biochem. Physiol.*, **87B**, 161-163 (1987).
- 33) Takao Matsuno and Takashi Maoka, The carotenoids of crab *Paralithodes brevipes* (Hanasakigani in Japanese), *Nippon Suisan Gakkaishi*, **54**, 1437-1442 (1988).
- 34) Takashi Maoka and Takao Matsuno, Isolation and structural elucidation of three new acetylenic carotenoids from the Japanese sea mussel *Mytilus coruscus*, *Nippon Suisan Gakkaishi*, **54**, 1443-1447 (1988).
- 35) Takashi Maoka and Takao Matsuno, Metabolism of carotenoids in terrestrial snail *Euhadra callizona amaliae*, *Comp. Biochem. Physiol.*, **92B**, 41-43 (1989).
- 36) Takashi Maoka, Sachiko Yokoi and Takao Matsuno, Comparative biochemical studies of carotenoids in nine species of Cephalopoda, *Comp. Biochem. Physiol.*, **92B**, 247-250 (1989).
- 37) Miyuki Tsushima, Takashi Maoka and Takao Matsuno, Comparative biochemical studies of carotenoids on marine invertebrates. The first positive identification of ϵ,ϵ -carotene derivatives and isolation of two new carotenoids from chitons, *Comp. Biochem. Physiol.*, **93B**, 665-671 (1989).
- 38) Takashi Maoka, Miyuki Tsushima and Takao Matsuno, New acetylenic carotenoids from the starfishes *Asterina pectinifera* and *Asterias amurensis*, *Comp. Biochem. Physiol.*, **93B**, 829-834 (1989).

- 39) Takashi Maoka and Takao Matsuno, Diastereomeric resolution of carotenoids III. β , β -caroten-2-ol, β , β -carotene-2,2'-diol and 2-hydroxyechinenone, *J. Chromatography*, **478**, 379-386 (1989).
- 40) Takashi Maoka and Takao Matsuno, Diastereomeric resolution of carotenoids IV. Carotenoids with a 4-hydroxy- β -end group, *J. Chromatography*, **482**, 189-195 (1989).
- 41) Takao Matsuno, Takashi Maoka and Yutaka Toriiminami, Carotenoids in the Japanese stick insect *Neophirolesea japonica*, *Comp. Biochem. Physiol.*, **95B**, 583-587 (1990).
- 42) Takao Matsuno, Tetsuo Watanabe, Takashi Maoka and Yoshiko Takemura, Carotenoids of crustacea - VII. Carotenoids in the sea louse *Ligiaexotica* (Crustacea:Isopoda), *Comp. Biochem. Physiol.*, **95B**, 759-761 (1990).
- 43) Yasuhiro Fujiwara, Takashi Maoka, Masahiro Ookubo and Takao Matsuno, Crassostreaxanthin A and B, Novel marine carotenoids from the oyster *Crassostrea gigas*, *Tetrahedron Lett.*, **33**, 4941-4944 (1992).
- 44) Miyuki Tsushima, Takashi Maoka, Masaaki Katsuyama, Mutsuo Kozuka, Takao Matsuno, Harukuni Tokuda, Hoyoku Nishino and Akio Iwashima, Inhibitory effect of natural carotenoids on Epstein-Barr virus activation activity of a tumor promoter in Raji cells. A screening study for anti-tumor promoters, *Biol. Pharm. Bull.*, **18**, 227-233 (1995).
- 45) Akiyo Sakushima, Maksut Coskun and Takashi Maoka, Hydroxybenzoic acids from *Boreava orientalis*, *Phytochemistry*, **40**, 257-261 (1995).
- 46) Akiyo Sakushima, Makust Coskun and Takashi Maoka, Sinapinyl But-3-enylglucosinolate from *Boreava orientalis*, *Phytochemistry*, **40**, 483-485 (1995).
- 47) Kazuko Ida, Kazumori Masamoto, Takashi Maoka, Yasuhiro Fujiwara, Satomi Takeda and Emiko Hasegawa, The leaves of the common box, *Buxus sempervirens* (Buxaceae), Become red as the level of a red carotenoid, anhydroeschscholtzanthin, increase, *J. Plant Res.*, **108**, 369-376 (1995).
- 48) Keiji Hashimoto, Tsutomu Yaoi, Hiroyuki Koshiba, Tomoyuki Yoshida, Takashi Maoka, Yasuhiro Fujiwara, Yasuo Yamamoto and Kazuo Mori, Photochemical isomerization of piperine, a pungent constituent in pepper, *Food Sci. Technol. Int.*, **2**, 24-29 (1996).
- 49) 眞岡孝至、伊藤義博、藤原靖弘、橋本圭二、日本産イチイ (*Taxus cuspidata*) 果実のレトロタイプカロテノイドの構造と酸化防止作用, 日本油化学会誌, **45**, 641-646 (1996).
- 50) Takashi Maoka and Yasuhiro Fujiwara, Absolute configuration of mytiloxanthin and 9-*E*-mytiloxanthin, *J. Jpn. Oil. Chem. Soc.*, **45**, 667-670 (1996).
- 51) 眞岡孝至、佐久嶋明世、Makust Coskun, 伊藤義博, *Boreava orientalis* のフェノール化合物の抗酸化活性, 日本油化学会誌, **45**, 671-673 (1996).
- 52) 内野滋己、高橋進一、大栗直毅、眞岡孝至、高山史真子、橋本圭二、小塚睦夫, キューリーポイント直接導入装置を用いるTLC-MS法による生薬成分・天然有機化合物の迅速分析, *Chromatography*, **17**, 195-201(1996).
- 53) Akiyo Sakushima, Maksut Coskun, Takashi Maoka and Sansei Nishibe, Dihydrobenzofuran lignans from *Boreava orientalis*, *Phytochemistry*, **43**, 1349-1354 (1996).

- 54) Takashi Maoka, A new apocarotenoid from marine shellfish, *J. Nat. Prod.*, **60**, 616-617 (1997).
- 55) Takashi Maoka, Kooichi Mochida, Yoko Okuda, Yoshihiro Ito and Yasuhiro Fujiwara, A novel purple carotenoid, rhodobacterioxanthin, from *Rhodobacter capsulatus*, *Chem. Pharm. Bull.* **45**, 1225-1227 (1997).
- 56) Akiyo Sakushima, Maksut Coskun, Takashi Maoka and Sansei Nishibe, Coumarin and some phenolic compounds of *Boreava orientalis*, *Natural Medicines*, **51**, 383 (1997).
- 57) Takashi Maoka, Yoshihiro Ito, Akiyo Sakushima, Kosei Ohno, Maksut Coskun and Sansei Nishibe, Comparison of antioxidative activity of phenolic compounds in *Boreava orientalis* and their related compound, *J. Jpn. Oil Chem. Soc.* **46**, 1399-1402 (1997).
- 58) Akiyo Sakushima, Shozo Ohnishi, Harumi Kubo and Takashi Maoka, Study of sinapinyl but-3-enylglucosinolate (Boreavan A) and related compounds by mass spectrometry, *Phytochemical Analysis* **8**, 312-315 (1997).
- 59) Akiyo Sakushima, Makusut Coskun, Takashi Maoka and Sansei Nishibe, Separation of guaiacylglycerol-8'-vanilic acid ester isomers from *Boreava orientalis*, *Natural Products Letters*, **11**, 31-36 (1997).
- 60) 内野滋己、高橋進一、大栗直毅、眞岡孝至、小塚睦夫、嶋田康男、橋本圭二、熱分解及び燃焼ガスGC/MS法による香気成分の組成分析, *Chromatography* **19**, 255-231(1998).
- 61) K. Miyake, H. Sakurai, K. Kanamura, T. Maoka and Y. Ito, A biomimetic electron releasing device: capacitively connected glow discharge electrode, *Naturwissenschaften* **85**, 603-605 (1998).
- 62) Kenji Takii, Takashi Maoka, Manabu Seoka, Taizo Kondo, Motoji Nakamura, Hisao Kitano and Hidemi Kumai, Preliminary assessment of dietary yeast, *Saccharomyces cerevisiae*, Protein for red sea bream, *SUISANZOUSHOKU*, **47(1)**, 71-76 (1999).
- 63) Masahiro Ookubo, Miyuki Tsushima, Takashi Maoka and Takao Matsuno, Carotenoids and their metabolism in the goldfish *Carassius auratus*, *Comp. Biochem. Physiol.*, **124B**, 333-340 (1999).
- 64) Takao Matsuno, Masahiro Ohkubo, Yutaka Toriiminami, Miyuki Tsushima, Seiichi Sakaguchi, Toshio Minamai and Takashi Maoka, Carotenoids in food chain between freshwater fish and aquatic insects, *Comp. Biochem. Physiol.*, **124B**, 341-345 (1999).
- 65) Amelia P.Guevara, Carolyn Vargas, Hiromu Sakurai, Yasuhiro Fujiwara, Keiji Hashimoto, Takashi Maoka, Mutzuo Kozuka, Yoshihiro Ito, Harukuni Tokuda and Hoyoku Nishino, An antitumor promoter from *Moringa oleifera* Lam., *Mutation Research*, **440**, 181-188 (1999).
- 66) 秋元直茂、眞岡孝至、藤原靖弘、橋本圭二、FAB CID-MS/MSによるカロテノイドの分析、*J. Mass Spectrom. Soc. Jpn.*, **48**, 32-41(2000).
- 67) Akira Murakami, Mamiko Nakashima, Tetukuni Koshiba, Takashi Maoka, Hoyoku Nishino, Masamichi Yano, Takashi Sumida, Oe Kyung Kim, Koichi Koshimizu and Hajime Ohigashi, Modifying effects of carotenoids on superoxide and nitric oxide generation from stimulated leukocyte, *Cancer Lett.*, **149**, 115-123 (2000).
- 68) Tenji Konishi, Takao Konoshima, Takashi Maoka and Yasuhiro Fujiwara, Novel diterpenoids, excoecarins M and N from the resinous wood of *Excoecaria agallocha*, *Tetrahedron Lett.*, **41**, 3419-3422 (2000).

- 69) Miyuki Tsushima, Eisaku Mune, Takashi Maoka and Takao Matsuno, Isolation of stereoisomeric epoxy carotenoids and new acetylenic carotenoid from the common freshwater goby *Rhinogobius brunneus*, *J. Nat. Prod.*, **63**, 960-964 (2000).
- 70) Takashi Maoka, Yasuhiro Fujiwara, Keiji Hashimoto, Satomi Takeda, Sanae Takagagaki and Kazuko Ida, A new retro-carotenoid from the petals of the Californian yellow poppy *Eschscholtzia californica*, *J. Nat. Prod.*, **63**, 1288-1289 (2000).
- 71) 秋山真一, 滝井健二, 眞岡孝至, 中川雅雄, 北野尚男, 熊井英水, 酵母タンパク質に対するマダイの嗜好性と利用性, 水産増殖, **49**, 47-52 (2001).
- 72) Takashi Maoka, Yasuhiro Fujiwara, Keiji Hashimoto and Naoshige Akimoto, Isolation of a series of apocarotenoids from the fruits of the red paprika *Capsicum annuum* L. *J. Agric. Food Chem.*, **49**, 1601-1606 (2001).
- 73) Yasuhiro Fujiwara and Takashi Maoka, Structure of pittedosporumxanthins A1 and A2, a novel C₆₉ carotenoids from the seeds of *Pittosporum tobira*, *Tetrahedron Lett.*, **42**, 2693-2696 (2001).
- 74) Shinichi Takaichi, Takashi Maoka, Satoshi Hanada and Johannes F. Imhoff, Dihydroxylycopene diglucoside diesters : a novel class of carotenoids from the phototrophic purple sulfur bacteria *Halorhodospira abdelmalekii* and *Halorhodospira halochloris*, *Arch Microbiol*, **175**, 161-167 (2001).
- 75) Takao Matsuno, Miyuki Tsushima and Takashi Maoka, Salmoxanthin. Deepoxysalmoxanthin and 7,8-dideepoxysalmoxanthin from the salmon *Oncorhynchus keta*, *J. Nat. Prod.*, **64**, 507-510 (2001).
- 76) Takashi Maoka, Keiji Hashimoto, Naoshige Akimoto and Yasuhiro Fujiwara, Structures of five new carotenoids from the oyster *Crassostrea gigas*, *J. Nat. Prod.*, **64**, 578-581 (2001).
- 77) Takashi Maoka, Yukiko Goto, Kaori Isobe, Yasuhiro Fujiwara, Keiji Hashimoto and Kooichi Mochida, Antioxidative activity of capsorubin and related compounds from paprika (*Capsicum annuum*), *J. Oleo Sci.*, **50**, 663-665 (2001).
- 78) Takashi Maoka, Yasuhiro Fujiwara, Keiji Hashimoto and Naoshige Akimoto, Capsanthone 3, 6-epoxide, a new carotenoid from the fruits of the red paprika *Capsicum annuum* L. *J. Agric. Food Chem.*, **49**, 3965-3968 (2001).
- 79) Takashi Maoka, Kooichi Mochida, Mutsuo Kozuka, Yoshihiro Ito, Yasuhiro Fujiwara, Keiji Hashimoto, Fumio Enjo, Masakazu Ogata, Yoshitoshi Nobukuni, Harukuni Tokuda, and Hoyoku Nishino, Cancer chemopreventive activity of carotenoids in the fruits of red paprika *Capsicum annuum* L., *Cancer Lett.*, **172**, 103-109 (2001).
- 80) Yasuhiro Fujiwara, Hisashi Maruwaka, Fujio Toki, Keiji Hashimoto and Takashi Maoka, Structure of three new carotenoids with a 3-Methoxy-5-keto-5,6-seco-4,6-cyclo-β end group from the seeds of *Pittosporum tobira*, *Chem. Pharm. Bull.*, **49**, 985-987 (2001).
- 81) Shin-ichi Akiyama, Kenji Takii, Takashi Maoka, Kohodo Otaka, Yasunori Sano, and Hidemi Kumai, Dietary yeast protein, *Candida utilis* rather than *Rhodotorula glutinis*, sustains growth performance of juvenile red sea bream, *SUISANZOSHOKU*, **49**, 219-224 (2001).
- 82) Shinichi Takaichi, Takashi Maoka and Kazumori Masamoto, Myxoxanthophyll in *Synechocystis* sp. PCC 6803 is myxol 2'-dmethyl-fucoside, (3R,2'S)-myxol 2'-(2,4-di-O-methyl-α-

L-fucoside), not rhamnoside, *Plant Cell Physiol*, **42**, 756-762 (2001).

83) Philipp Krubasik, Shinichi Takaichi, Takashi Maoka, Miki Kobayashi, Kazumori Masamoto and Gerhard Sandmann, Detailed biosynthetic pathway to decaprenoxanthin diglucoside in *Corynebacterium glutamicum* and identification of novel intermediate, *Arch. Microbiol*, **176**, 217-223 (2001).

84) Miyuki Tsushima, Takashi Maoka and Takao Matsuno, Structure of carotenoids with 5,6-dihydro- β -end groups from the spindle shell *Fusinus perplexus*, *J. Nat. Prod.*, **64**, 1139-1142 (2001)

85) Shinichi Takaichi, Takashi Maoka, Mitsumori Yamada, Katsumi Matsuura, Yuji Haikawa and Satoshi Hanada, Absence of carotenes and presence of a tertiary methoxy group in a carotenoid from a *Thermophilic Filamentous* photosynthetic bacterium *Roseiflexus castenholzii*, *Plant Cell Physiol*, **42**, 1355-1362 (2001).

86) Takashi Maoka, Yasuhiro Fujiwara, Keiji Hashimoto and Naoshige Akimoto, Rapid Identification of carotenoids in a combination of liquid chromatography / UV-visible absorption spectrometry by photodiode-array detector and atmospheric pressure chemical ionization mass spectrometry (LC/PAD/APCI-MS), *J. Oleo Sci.*, **51**, 1-9 (2002).

87) Shusuke Nakazawa, Takashi Maoka, Haruki Uemura, Yoshihiro Ito and Hiroji Kanbara, Malaria parasites civing rise to recrudescence in vitro, *Antimicrob. Agents Chemother.*, **46**, 958-965 (2002).

88) Yukie Yoshii, Shinichi Takaichi, Takashi Maoka, Satoshi Hanada and Isao Inoue, Characterization of two unique carotenoid fatty acid esters from *Pterosperma cristatum* (Prasinophyceae, Chlorophyta), *J. Phycol.* **38**, 297-303 (2002).

89) Yasuhiro Fujiwara, Keiji Hashimoto, Kiyoshi Manabe and Takashi Maoka, Structures of tobiraxanthins A1, A2, A3, B, C and D, new carotenoids from seeds of *Pittosporum tobira*, *Tetrahedron Lett.*, **43**, 4385-4388 (2002).

90) Masayuki Horiuchi, Takashi Maoka, Noriyasu Iwase and Keiichiro Ohnishi, Reinvestigation of porritoxin, a phytotoxin of *Alternaria porri*, *J. Nat. Prod.*, **65**, 1204-1205 (2002).

91) Kodo Otaka, Kumi Hidaka, Atsuko Nakajima and Takashi Maoka, Chracterization and application of sugar components produced by autolysis of *Hansenula anomala* SB1020, *J. Biol. Macromol.*, **2**, 64-74 (2002).

92) Daizo Takahashi, Takashi Maoka, Miyuki Tsushima, Kazuyoshi Fujitani, Mutsuo Kozuka, Takao Matsuno and Tetsuro Shingu, New quinone sulfates from the crinoids *Tropiometra afra macrodiscus* and *Oxycomanthus japonicus*. *Chem. Pharm. Bull.* **50**, 1609-1612 (2002).

93) Takashi Maoka, Miyuki Tsushima and Hoyoku Nishino, Isolation and characterization of dinochrome A and B, Anti-carcinogenic active carotenoids from the fresh water red tide *Peridinium bipes*, *Chem. Pharm. Bull.* **50**, 1630-1633 (2002).

94) Shinichi Takaishi, Hirozo Oh-oka, Takashi Maoka, Deborah O. Jung, and Michael T. Madigan, Novel carotenoid glucoside esters from alkaliphilic heliobacteria, *Arch. Microbiol*, **179**, 95-100 (2003).

95) Tenji Konishi, Kiyonori Yamazoe, Takao Konoshima, Takashi Maoka, Yasuhiro Fujiwara, and Kazumoto Miyahara, New bis-secolabdane Ddterpenoids from *Excoecaria agallocha*, *J. Nat. Prod.*, **66**, 108-111 (2003).

- 96) Wataru Aoi, Yuji Naito, Kunishiro Sakuma, Masashi Kuchide, Harukuni Tokuda, Takashi Moaka, Shinya Toyokuni, Shigenori Oka, Masahiro Yasuda, and Toshikazu Yoshikawa, Astaxanthin limits exercise-induced skeletal and cardiac muscle damage in mice, *Antioxidants & Redox Signaling*, **5**, 139-144 (2003).
- 97) Yukie Yoshii, Shinichi Takaichi, Takashi Maoka, and Isao Inouye, Photosynthetic pigment composition in the primitive green alga *Mesostigma viride* (Prasinophyceae): Phylogenetic and evolutionary implications, *J. Phycol.* **39**, 570-576 (2003).
- 98) 井上弘明、立石亮、木村淑子、小沢裕子、磯部勝孝、野村和成、眞岡孝至、橋本秀樹、廣田才之、野菜類のクロロフィル含量とカロテノイド、ビタミンC・Eならびに無機質含量に関する研究、日本食生活学会誌、**13**, 271-278 (2003).
- 99) Tsunehiro Aki, Kazutaka Hachida, Megumi Yoshinaga, Yuko Katai, Takashi Yamada, Seiji Kawamoto, Toshihide Kakizono, Takashi Maoka, Seiko Shigeta, Osamu Suzuki, and Kazuhisa Ono, Thraustochytrid as a potential source of carotenoids, *J. Am. Oil. Chem. Soc.*, **80**, 789-794 (2003).
- 100) Masayuki Horiuchi, Naoshige Akimoto, Keiichi Ohnishi, Masakazu Yamashita, and Takashi Maoka, Rapid and simultaneous determination of tetra cyclic peptide phytotoxins, tentoxin, isotentoxin and dihydrotentoxin, from *Alternaria porii* by LC/MS, *Chromatography*, **24**, 109-116 (2003).
- 101) Takashi Maoka, Naoshige Akimoto, Yasuhiro Fujiwara, and Keiji Hashimoto, Structure of New carotenoids with the 6-oxo- κ end group from the fruits of paprika, *Capsicum annuum*, *J. Nat. Prod.*, **67**, 115-117 (2004).
- 102) Takashi Maoka, Yasuhiro Fujiwara, Keiji Hashimoto, and Naoshige Akimoto, Characterization of epoxy carotenoids by fast atom bombardment collision-induced dissociation MS/MS, *Lipids*, **39**, 179-183 (2004).
- 103) Yuji Naito, Kazuhiko Uchiyama, Wataru Aoi, Goji Hasegawa, Naoto Nakamura, Norimasa Yoshida, Takashi Maoka, Jiro Takahashi, and Toshikazu Yoshikawa, Prevention of diabetic nephropathy by treatment with astaxanthin in diabetic db/db mice, *BioFactors*, **20**, 49-59 (2004).
- 104) Yoshiko Satomi, Norimochi Misawa, Takashi Maoka, and Hoyoku Nishino, Production of phytoene, a carotenoid, and induction of connexin 26 in transgenic mice carrying the phytoene synthase gene *crtB*, *Biochem. Biophys. Res. Comm.*, **320**, 398-401 (2004).
- 105) Masayuki Horiuchi, Keiichiro Ohnishi, Masakazu Yamashita and Takashi Maoka, LC/PAD/APCI-MS for the characterization and analysis of porritoxin and its related compounds from *Alternaria porri*. *Chromatography*, **25**, 55-59 (2004).
- 106) Shinichi Takaichi, Takashi Maoka, Naoshige Akimoto, Dimitry Yu. Sorokin, Horia Banciu and J. Gijs Kuenen, Two novel yellow pigments natronochrome and chloronatronochrome from the natrono(alkali)philic sulfur-oxidizing bacterium *Thiobacillus versutus* strain ALJ 15, *Tetrahedron Lett.*, **45**, 8261-8427 (2004).
- 107) Sanae Kishimoto, Takashi Maoka, Masayoshi Nakayama and Akemi Ohmiya, Carotenoid composition in petals of chrysanthemum (*Dendranthema grandiflora* (Ramat.) Kitamura), *Phytochemistry*, **65**, 2781-2787 (2004).
- 108) Kenji Takii, Shin-ichi Akiyama, Takashi Maoka, Kumi Hidaka, Kodo Otaka, Manabu Seoka and Hidemi Kumai, Evaluation of dietary yeast autolysates from red sea bream, *Pagrus major*,

Suisanzoshoku, **52**, 387-394 (2004).

109) Shinichi Takaichi, Mari Mochimura, Takashi Maoka and Hiroshi Katho, Myxol and 4-ketomyxol 2'-fucosides, not rhamnosides, from *Anabaena* sp. PCC 7120 and *Nostoc punctiforme* PCC 73102, and proposal for the biosynthetic pathway of carotenoids, *Plant Cell Physiol.*, **46**, 497-504 (2005).

110) Tohru Tsuchiya, Shinichi Takaichi, Norihiko Misawa, Takashi Maoka, Hideaki Miyashita, and Mamoru Mimuro, The cyanobacterium *Gloeobacter violaceus* PCC 7421 uses bacterial-type phytoene desaturase in carotenoid biosynthesis, *FEBS Lett.*, **578**, 2125-2129 (2005).

111) Zhongcun Pang, Kodo Otaka, Takashi Moaka, Kumi Hidaka, Sumio Ishijima, Masayuki Oda, and Masatake Ohnishi, Structure of β -glucan oligomer from laminarin and its effect on human monocytes to inhibit the proliferation of U937 cells, *Biosci. Biotechnol. Biochem.*, **69**, 553-558 (2005).

112) Yukie Yoshii, Shinichi Takaichi, Takashi Moaka, Shoichiro Suda, Hiroshi Sekiguchi, Takeshi Nakayama, and Iso Inouye, Variation of siphonaxanthin series among the genus *Nephroselmis* (Prasinophyceae, Chlorophyta), including a novel primary methoxy carotenoid, *J. Phycol.*, **41**, 827-834 (2005).

113) Takashi Maoka, Yasuhiro Fujiwara, Keiji Hashimoto, and Naoshige Akimoto, Structures of new carotenoids with a 3,4-dihydroxy- β -end Group from the oyster *Crassostrea gigas*, *Chem. Pharm. Bull.*, **53**, 1207-1209 (2005).

114) Takashi Maoka, Yasuhiro Fujiwara, Keiji Hashimoto, and Naoshige Akimoto, Structure of new carotenoids from the corbicula clam *Corbicula japonica*, *J. Nat. Prod.*, **68**, 1341-1344 (2005).

115) Takashi Maoka, Yasuhiro Fujiwara, Keiji Hashimoto, and Naoshige Akimoto, Carotenoids in three species of corbicula Clams, *Corbicula japonica*, *Corbicula sandai*, and *Corbicula* sp. (Chinese freshwater corbicula clam), *J. Agric. Food Chem.*, **53**, 8357-8364 (2005).

116) Sanae Kishimoto, Takashi Maoka, Katsuhiko Sumitomo, and Akemi Ohmiya, Analysis of carotenoid composition in petals of calendula (*Calendula officinalis* L.) *Biosci. Biotechnol. Biochem.*, **69**, 2122-2128 (2005).

117) Shinichi Takaichi, Mari Mochimura, and Takashi Maoka, Presence of free myxol and 4-hydroxymyxol and absence of myxol glucosides in *Anabaena variabilis* ATCC 29413, and proposal of a biosynthetic pathway of carotenoids, *Plant Cell Physiol.*, **47**, 211-216 (2006).

118) Masayoshi Nakayama, Msami Miyashita, Takashi Maoka, Masafumi Yagi and Naoko Fukuta, A carotenoid-derived yellow *Eustoma* Screened under blue and ultraviolet lights, *J. Japan. Soc. Hort. Sci.* **75**, 161-165 (2006).

119) Ryo Yoshioka, Tsutomu Hayakawa, Kumiko Ishizuka, Aditya Kulkarni, Yukimasa Terada, Takashi Moaka and Hideo Etoh, Nitration reaction of astxanthin and β -carotene by peroxydinitrite, *Tetrahedron Lett.*, **47**, 3637-3640 (2006).

120) Masayuki Horiuchi, Harukuni Tokuda, Keiichiro Ohnishi, Masakazu Yamashita, Hoyoku Nishino and Takashi Maoka, Porritoxins, metabolites of *Alternaria porii*, as anti-tumor-promoting active compounds, *Nat. Prod. Res.*, **20**, 161-166 (2006).

121) 眞岡孝至、持田晃一、小塚睦夫、圓城文男、口出将司、信國好俊、徳田春邦、西野輔翼、パプリカ抽出物およびカプサンチンの一酸化窒素またはペルオキシナイトライトに

よって誘起される発がんに対する予防効果、食品・臨床栄養、**1**, 7-14 (2006).

122) 赤桐里美、日高久美、眞岡孝至、大高洽堂、谷本文男、森山達哉、小川 正、マウスに対する酵母 *Rhodotorula glutinis* および *Hansenula anomala* の免疫賦活活性、食品・臨床栄養、**1**, 15-22 (2006).

123) Takashi Maoka, Yasuhiro Fujiwara, Keiji Hashimoto and Naoshige Akimoto, 5-Hydroxy-*seco*-carotenoids from *Pittosporum tobira*, *Phytochemistry*, **67**, 2120-2125 (2006).

124) Takashi Maoka and Naoshige Akimoto, 2,3'-Dihydroxycanthaxanthin, a New carotenoid with a 2-hydroxy-4-oxo- β -end group from the hermit crab, *Paralithodes brevipes*, *Chem. Pharm. Bull.*, **54**, 1462-1464 (2006).

125) Shinichi Takaichi, Takashi Maoka, Naoshige Akimoto, Shams Tabrez Khan and Shigeaki Harayama, Major carotenoid isolated from *Paracoccus schoinia* NBRC 100637^T is adonixanthin diglucoside, *J. Nat. Prod.*, **69**, 1823-1825 (2006).

126) Takashi Maoka, Yasuhiro Fujiwara, Keiji Hashimoto, and Naoshige Akimoto, Characterization of fucoxanthin and fucoxanthinol esters in the Chinese surf clam, *Macra chinensis*, *J. Agric. Food Chem.*, **55**, 1563 – 1567 (2007).

127) Kazutoshi Shindo, Kanae Mikami, Emiko Tamesada, Shinich Takaichi, Kyoko Adachi, Norihiko Misawa and Takashi Maoka, Diapolycondionic acid xylosyl ester, a novel glyco-C₃₀-carotenoic acid produced by a new marine bacterium *Rubritalea squallenifaciens*, *Tetrahedron Lett.*, **48**, 2725-2727 (2007).

128) 和田孝、伊藤伸一、湯浅義三、眞岡孝至、HPLC によるヒト血清カロテノイドの分析、食品・臨床栄養、**2**, 15-26 (2007).

129) Takashi Maoka, Naoshige Akimoto, Koji Ishiguro, Masaru Yoshinaga and Makoto Yoshimoto, Carotenoids with a 5,6-dihydro-5,6-dihydroxy- β -end group, from yellow sweet potato “Benimasari”, *Ipomoea batatas* LAM, *Phytochemistry*, **68**, 1740-1745 (2007).

130) Takashi Maoka and Seiichi Ando, Isolation of purple nor-carotenoid, 2',3'-dihydroroserythrin, from crawfish *Procambarus clarkii*, *Fisheries Science*, **73**, 967-968 (2007).

131) Xiao-Feng Wang, Cong-Hang Zhan, Takashi Maoka, Yuji Wada and Yasuhiro Koyama, Fabrication of dye-sensitized solar cell using chlorophylls c1 and c2 and their oxidized forms c1' and c2' from *Undaria pinnatifida* (Wakame), *Chem. Phys. Lett.*, **447**, 79-85 (2007).

132) Tatushi Yoshida, Takashi Maoka, Swadesh K. Das, Kazuki Kanazawa, Mano Horinaka, Miki Wakada, Yoshiko Satomi, Hoyoku Nishino, and Toshiyuki Sakai, Halocynthiaxanthin and priedinin sensitize colon cancer cell lines to tumor necrosis factor-related apoptosis-inducing ligand. *Mol. Cancer Res.* **5**, 615-625 (2007).

133) Rie Suzuki, Aditya Kulkarni, Yuya Yomoda, Hirokazu Kawagishi, Yukimasa Terada, Takashi Maoka, and Hideo Etho, Reaction of retinal with peroxyxynitrite, *Biosci. Biotechnol. Biochem.*, **71**, 2596-2599 (2007).

134) Rondey A, Herbert, Andrew Gall. Takashi Maoka, Richard J. Cogdell, Bruno Robert, Shinichi Takaichi, and Stephanie Schwabe, Phototrophic pure sulfur bacteria as heat engines in the South Andors black hole, *Photosynth. Res.*, **95**, 261-263(2008).

- 135) Emiko Manabe, Osamu Hanada, Yuji Naito, Katura Mizushima, Satomi Akagiri, Satoko Adachi, Tomohisa Takagi, Satoshi Kokura, Takashi Maoka, and Toshikazu Yoshikawa, Astaxanthin protects mesangial cells from hyperglycemia-induced oxidative signaling, *J. Cell Biochem.* **103**, 1925-1937 (2008).
- 136) Takashi Maoka, Fumio Tanimoto, Mitsuhiro Sano, Kanji Tsurukawa, Takuo Tsuno, Satomi Tsujiwaki, Katsuya Ishimaru, and Kenji Takii, Effects of dietary supplementation of ferulic acid and γ -oryzanol on integument color and suppression of oxidative stress in cultured red sea bream, *Pagrus major*, *J. Oleo Sci.* **57**, 133-137 (2008).
- 137) Takashi Maoka and Naoshige Akimoto, Carotenoids and their fatty acid esters of spiny lobster *Panulirus japonicus*, *J. Oleo Sci.* **57**, 145-152 (2008).
- 138) Izumi Konishi, Masashi Hosokawa, Tokutake Sashima, Takashi Maoka, Kazuo Miyashita, Suppressing effects of alloxanthin and diatoxanthin from *Halocynthia roretzi* on LPS-induced expression on pro-inflammatory genes in RAW264.7 cells, *J. Oleo Sci.* **57**, 181-189 (2008).
- 139) Takashi Maoka, Naoshige Akimoto, Yoshihiro Kuroda, Keiji Hashimoto and Yasuhiro Fujiwara, Structure of a series of cycloaddition product of carotenoid with α -tocopherol, named pittosporumxanthins, from the seeds of *Pittosporum tobira*, *J. Nat. Prod.*, **71**, 622-627 (2008).
- 140) Kazutoshi Shindo, Tomohisa Hasunuma, Emiko Asagi, Aya Sano, Eri Hotta, Noriko Minemura, Chikahiro Miyake, Takashi Maoka, Norihiko Misawa, 4-Ketoantheraxanthin, a novel carotenoid produced by the combination of the bacterial enzyme β -carotene ketolase CrtW and endogenous carotenoid biosynthetic enzymes in higher plants, *Tetrahedron Lett.*, **49**, 3294-3296 (2008).
- 141) 中嶋貴司、和田 孝、樽井直子、伊藤伸一、湯浅義三、眞岡孝至、ヒト血清カロテノイドの Ultra Performance Liquid Chromatography による迅速分析、食品・臨床栄養, **3**, 11-18 (2008).
- 142) Kazuyoshi Shindo, Emiko Asagi, Aya Sano, Eri Hotta, Noriko Minemura, Kanae Mikami, Emiko Tamesada, Norihiko Misawa, Takashi Maoka, Diapolycopenedioic acid xylosyl esters A, B, and C, Novel antioxidative glyco-C₃₀-carotenoid acids produced by a new marine bacterium *Rhbritalea squalenifaciens*, *J. Antibiot.* **61**, 181-191 (2008).
- 143) Yukihiro Yamamoto, Masashi Hosokawa, Hideyuki Kurihara, Takashi Maoka, Kazuo Miyazawa, Synthesis of phosphatidylated-monoterpene alcohols catalyzed by phospholipase D and their antiproliferative effects in human cancer cells, *Bioorg. Medicinal Chem. Lett.*, **18**, 4044-4046 (2008).
- 144) Mari Mochimura, Hajime Masukawa, Takashi Maoka, Hatem E. Mohamed, Wim F. J. Vermaas, Shinichi Takaichi, Substrate specificities and availability of fucosyltransferase and β -carotene hydroxylase for myxol 2'-fucoside synthesis in *Anabaena* sp. Strain PCC 7120 compared with *Synechocystis* sp. strain PCC 6803, *J. Bacteriol.*, **190**, 6726-6733 (2008).
- 145) Shinichi Takaichi, Takashi Maoka, Naoshige Akimoto, Marvelisa L. Carmona, Yukihiro Yamaoka, Carotenoids in a Corynebacterineae, *Gordonia terrae* AIST-1: Carotenoid glucosyl mycoloyl esters, *Biosci. Biotechnol. Biochem.*, **72**, 2651-2622 (2008).
- 146) Tsutomu Hayakawa, Aditya Kulkarni, Yukimasa Terada, Takashi Maoka, Hideo Etoh, Reaction of Astaxanthin with peroxyxynitrite, *Biosci. Biotechnol. Biochem.*, **72**, 2716-2722 (2008).

- 147) Masako Iwai, Takashi Maoka, Masahiko Ikeuchi, Shinichi Takaichi, 2,2'- β -hydroxylase (Crt G) is involved in carotenogenesis of both neoxanthin and 2-hydroxymyxol 2'-fucoside in *Thermosynechococcus elongates* strain BP-1. *Plant Cell Physiol.*, **49**, 1678-1687 (2008).
- 148) Takashi Maoka, Naoshige Akimoto, Mi-Jin Yim, Masashi Hosokawa, Kazuo Miyashita, A new C₃₇-skeletal carotenoid from the clam, *Paphia amabilis*. *J. Agric Food Chem.*, **56**, 12069-12072 (2008).
- 149) Kumi Hidaka, Yasuko Iwakawa, Takashi Maoka, Fumio Tanimoto, and Akira Oka, Viable chemical recycling of poly(carbonate) as a phosgene equivalent illustrated by the coproduction of bisphenol A and carbohydrate carbonates, *J. Mater Cycles Waste Manag.*, **11**, 6-10 (2009).
- 150) Takashi Maoka, Sterically hindered carotenoids with 3Z,5Z configuration from the seeds of oriental bitter sweet, *Celastrus orbiculatus*, *Phytochemistry*, **70**, 920-923 (2009).
- 151) Takashi Hashimoto, Yoshiaki Ozaki, Mayuko Taminato, Swadesh K. Das, Masashi Mizuno, Kazuto Yoshimura, Takashi Maoka and Kazuki Kanazawa. The distribution and accumulation of fucoxanthin and its metabolites after oral administration in mice, *Br. J. Nutr.* **102**, 242-248 (2009) .
- 152) P. Anil Kumar, T. N. R. Srinivas, S. Takaichi, T. Maoka, Ch. Sasikala1, Ch. V. Ramana, *Phaeospirillum chandramohanii* sp. nov., a phototrophic alphaproteobacterium with carotenoid glycosides, *International Journal of Systematic and Evolutionary Microbiology*, **59**, 2089–2093 (2009).
- 153) Makoto Kusaba, Takashi Maoka, Ryouhei Morita, Shinichi Takaichi, A novel carotenoid derivative, lutein 3-acetate, accumulates in senescent leaves of rice, *Plant Cell Physiol.*, **50**, 1573-1577 (2009)
- 154) Shinichi Takaichi A Takashi Maoka, Mari Mochimaru, Unique carotenoids in the terrestrial cyanobacterium *Nostoc commune* NIES-24: 2-hydroxymyxol 20-fucoside, nostoxanthin and canthaxanthin, *Curr Microbiol, Curr. Microbiol.*, **59**, 413-419 (2009).
- 155) Yumika Okada, Masaharu Ishikura, and Takashi Maoka, Bioavailability of astaxanthin in *Haematococcus* algal extract: The effects of timing of diet and smoking habits, *Biosci. Biotechnol. Biochem.*, **73**, 1928-1932 (2009).
- 156) Chisato Tode, Takashi Maoka, Makiko Sugiura, Application of LC-NMR to analysis of carotenoids in foods, *J. Sep. Sci.* **32**, 3659–3663 (2009).
- 157) Makoto Tsuboi, Hideo Etoh, Yuya Yomoda, Kyuki Kato, Hideaki Kato, Aditya Kulkarni, Yukimasa Terada, Takashi Maoka , Hironobu Mori, Takahiro Inakuma, Nitration reaction of lutein with peroxyxynitrite, *Tetrahedron Lett.*, **51**, 676-678 (2010).
- 158) Shinich Takaichi, Takashi Maoka, Kazuto Takasaki, Satoshi Hanada , Carotenoids of *Gemmatimonas aurantiaca* (Gemmatimonadetes): identification of a novel carotenoid, deoxyoscillol 2-rhamnoside, and proposed biosynthetic pathway of oscillol 2,2'-dirhamnoside, *Microbiology*, **156**, 757-763 (2010).
- 159) Takashi Maoka, Naoshige Akimoto, Yukimasa Terada, Sadao Komemushi, Ryo Harada, Naomi

- Sameshima, Yoshikazu Sakagami, Structure of minor carotenoids from crown-of-thorns starfish, *Acanthaster planci*, *J. Nat. Prod.* **73**, 675-678 (2010).
- 160) Maoka, Takashi; Akimoto, Naoshige; Murakoshi, Michiaki; Sugiyama, Keikichi; Nishino, Hoyoku, Carotenoids in clams, *Ruditapes philippinarum* and *Meretrix petechialis*, *J. Agric Food Chem.*, **58**, 5784-5788 (2010).
- 161) Hisayuki Horai, Masanori Arita, Shigehiko Kanaya, Yoshito Nihei, Tasuku Ikeda, Kazuhiro Suwa, Yuya Ojima, Kenichi Tanaka, Satoshi Tanaka, Ken Aoshima, Yoshiya Oda, Yuji Kakazu, Miyako Kusano, Takayuki Tohge, Fumio Matsuda, Yuji Sawada, Masami Yokota Hirai, Hiroki Nakanishi, Kazutaka Ikeda, Naoshige Akimoto, Takashi Maoka, Hiroki Takahashi, Takeshi Ara, Nozomu Sakurai, Hideyuki Suzuki, Daisuke Shibata, Steffen Neumann, Takashi Iida, Ken Tanaka, Kimito Funatsu, Fumito Matsuura, Tomoyoshi Soga, Ryo Taguchi, Kazuki Saito and Takaaki Nishioka, MassBank: a public repository for sharing mass spectral data for life sciences, *J. Mass Spectrom.* **45**, 703-714 (2010).
- 162) Hiroshi Shimoda, Junji Tanaka, Shao-Jie Shan, and Takashi Maoka, Anti-pigmentary activity of fucoxanthin and its influence on skin mRNA expression of melanogenic molecules, *Journal of Pharmacy and Pharmacology* **62**, 1137-1145 (2010).
- 163) Ayako Osawa, Yoko Ishii, Nao Sasamura, Marie Morita, Hiroaki Kasai, Takashi Maoka and Kazutoshi Shindo, Characterization and antioxidative activities of rare C₅₀ carotenoids-sarcinaxanthin, sarcinaxanthin monoglucoside, and sarcinaxanthin diglucoside-obtained from *Micrococcus yunnanensis*, *J. Oleo. Sci.* **59**, 653-659 (2010).
- 164) Shinzo Hosoi, Takeyuki Tanaka, Yukiteru Katsumoto, Takashi Maoka, Toshio Fujiwara, Masayuki Yamashita and Manabu Node, Straightforward approach to the discrimination of (4R)- and (4S)- β -isocryptoxanthin from a conformationally insensitive CD Band, *Natural Product Communications*, **5**, 1733-1736 (2010).
- 165) Tsutomu Tsuchida, Ryuichi Koga, Mitsuyo Horikawa, Tetsuto Tsunoda, Takashi Maoka, Shogo Matsumoto, Jean-Christophe Simon and Takema Fukatsu: Symbiotic bacterium modifies aphid body color. *Science* **330**, 1102-1104 (2010).
- 166) Koji Ishiguro, Masaru Yoshinaga, Yumi Kai, Takashi Maoka, and Makoto Yoshimoto, Composition, content and antioxidative activity of the carotenoids in yellow-fleshed sweetpotato (*Ipomoea batatas* L.), *Breeding Science*, **60**, 324-329 (2010).
- 167) Takashi Maoka and Naoshige Akimoto, Structures of minor carotenoids from the Japanese common catfish, *Silurus asotus*, *Chem. Phram. Bull.* **59**, 140-145 (2011),
- 168) Takashi Maoka, Tetsuji Etho, Sanae Kishimoto and Syusaku Sakata, Carotenoids and their fatty acid esters in the petals of *Adonis aestivalis*, *J. Oleo. Sci.*, **60**, 47-52 (2011).
- 169) Hiroko. Negishi, Takashi Maoka. Maria Nielekela, Naomi Yasui, Sachiko Juman, Jacob Mtabaji, Tomohiro Miki, Yasuo Nara, Yukio Yamori, Katsumi Ikeda, New chromone derivatives terminalianone from african plant *Terminalia browni* Fresen (Combretaceae) in Tanzania, *J. Asian Natr. Prod. Res.*, **13**, 281-283 (2011).
- 170) Ponesakki Ganesan, Kenji Noda, Yuki Manabe, Takeshi Ohkubo, Yukihisa Tanakla, Takashi Maoka, Tatsuya Sugawara, Takashi Hirata, Siphonaxanthin, a marine carotenoid from green algae, effectively induces apoptosis in human leukemia (HL-60) cells, *Biochem. Biophys. Acta.* **1810**, 497-503 (2011).

- 171) Takashi Maoka, Tetsuji Etoh, Naoshige Akimoto, Hiroyuki Yasui, Novel carotenoid pyropheophorbide A esters from abalone, *Tetrahedron Lett.*, **52**, 3012-3015 (2011).
- 172) Shinichi Takaichi, Takashi Maoka, Ch. Sasikata, Ch. V. Ramana, Keizo Shimada, Genus specific unusual carotenoids in purple bacteria, *Phaeospirillum* and *Roseospira*: Structures and biosyntheses *Curr. Microbiol.*, **63**, 75-80 (2011).
- 173) Sho-ichi Tsujiyama, Tomoko Nitta and Takashi Maoka, Biodegradation of polyvinyl alcohol by *Flammulina velutipes* in an unsubmerged culture. *Journal of Bioscience and Bioengineering*, **112**, 58-62 (2011).
- 174) Takashi Maoka, Naoshige Akimoto, Miyuki Tsushima, Sadao Komemushi, Takuma Mezaki, Fumihito Iwase, Yoshimitsu Takahashi, Naomi Sameshima, Miho Mori, and Yoshikazu Sakagami, Carotenoids in Marine Invertebrates Living along the Kuroshio Current Coast, *Marine Drugs*, **9**, 1419-1427 (2011).
- 175) 大澤絢子、加藤友佳里、嶋谷真理、野寺和花、服部菜理、眞岡孝至、新藤一敏、ヤシガニに含まれるカロテノイドとその抗酸化活性、日本家政学会誌、**62**, 499-505 (2011).
- 176) Makoto Tsuboi, Hideo Etoh, Kyuki Kato, Hiroki Nakatugawa, Hideki Kato, Yasunori Maejima, Gaku Matumoto, Hironobu Mori, Masashi Hosokawa, Kazuo Miyashita, Harukuni Tokuda, Nobukuni Suzuki, Takashi Maoka, Nitrocapsanthin and Nitrofucoxanthin, Respective Products of Capsanthin and Fucoxanthin Reaction with Peroxynitrite, *J. Agric. Food. Chem.*, **59**, 10872-10578 (2011).
- 177) Yasunori Maejima, Hiroki Nakatugawa, Daiki Ichida, Mayumi Maejima, Yasuo Aoyagi, Takashi Maoka, Hideo Etoh, Functional compounds in fermented buckwheat sprouts. *Biosci. Biotech. Biochem.*, **75**, 1708-1712 (2011).
- 178) Takashi Hashimoto, Yoshiaki Ozaki, Masashi Mizuno, Masaru Yoshida, Yosuke Nishitani, Takeshi Azuma, Akitoshi Komoto, Takashi Maoka, Yuka Tanino, Kazuki Kanazawa, Pharmacokinetic of fucoxanthin in human plasma after the oral administration of kombu extract, *Br. J. Nutr.*, **107**, 1566-1569 (2011).
- 179) Shinzo Hosoi, Eri Shimizu, Muneaki Hidaka, Manabu Okumura, Kazuhiko Arimori, Mitsuko Yamada, Takashi Tanaka, Takashi Maoka, Isao Ohtsuka, Akiyo Sakushima, and Manabu Node, Analysis of CYP3A inhibitory compounds in the fruits of pomegranate, *Punica granatum*, using liquid chromatography/mass spectrometry, *Food Function*, **8**, 2-9 (2011).
- 180) Takashi Maoka, Tetsuji Etoh, Alexandra V. Borodina, and Alexander A. Soldatov A Series of 19'-Hexanoyloxyfucoxanthin Derivatives from the Sea Mussel, *Mytilus galloprovincialis*, Grown in the Black Sea, Ukraine, *J. Agric. Food Chem.*, **59**, 13059-13064 (2011).
- 181) Hideo Etoh, Mika Suhara, Sinji Tokuyama, Hideaki Kato, Rie, Nakahigashi, Yasunori Maejima, Masaharu Ishikura, Yukimasa Terada, and Takashi Maoka, Auto-Oxidation Products of Astaxanthin, *J. Oleo Sci.* **61**, 17-21 (2012).
- 182) Takashi Maoka, Junko Ochi, Miho Mori, and Yoshikazu Sakagami, Identification of Carotenoids in the Freshwater Shellfish *Unio douglasiae nipponensis*, *Anodonta lauta*, *Cipangopaludina chinensis laeta*, and *Semisulcospira libertina*, *J. Oleo Sci.* **61**, 69-74 (2012).

- 183) József Molnár, Julianna Serly, Rozália Pusztai, Irèn Vincze, Péter Molnár, Györgyi Horváth, József Deli, Takashi Maoka, Attila Zalatnai, Harukuni Tokuda, and Hoyoku Nishino, Putative Supramolecular Complexes Formed by Carotenoids and Xanthophylls with Ascorbic Acid to Reverse Multidrug Resistance in Cancer Cells. *Anticancer Research* **32**, 507-518 (2012).
- 184) Takashi Maoka, Harukuni Tokuda, Nobutaka Suzuki, Hideaki Kato, and Hideo Etoh, Anti-oxidative, Anti-tumor-promoting, and Anti-carcinogenesis Activities of Nitroastaxanthin and Nitrolutein, the Reaction Products of Astaxanthin and Lutein with Peroxynitrite, *Marine Drugs*, **10**, 1391-1399 (2012).
- 185) Takashi Maoka, Tetsuji Etoh, Ayako Osawa, Kazutoshi Shindo Characterization and Singlet Oxygen Quenching Activity of (3R)-3-Hydroxy-4-Ketotorulene and (3R)-3-Hydroxy-4-Ketoto- γ -carotene from the Yeast *Xanthophyllomyces dendrorhous*, *J. Oleo Sci.* **61**, 401-406 (2012).
- 186) Hiroshi Shimoda, Shao-Jie Shan, Junji Tanaka and Takashi Maoka, β -Cryptoxanthin suppresses UVB-induced melanogenesis in mouse: involvement of the inhibition of prostaglandin E2 and melanocyte-stimulating hormone pathways, *Journal of Pharmacy and Pharmacology*, **64**, 1165–1176 (2012).
- 187) Shinich Takaichi, Mari Mochimaru, Hiroko Uchida, Akio Murakami, Euichi Hirose, Takashi Maoka, Tohru Tsuchiya, Mamoru Mimuro, Opposite chirality of α -carotene in unusual Cyanobacteria with unique chlorophylla, *Acaryochloris* and *Prochloroccus*, *Plant Cell Physiol.*, **53**, 1881-1888 (2012).
- 188) 成田正直、眞岡孝至、蛭谷幸司、西野輔翼、オホーツク海のホタテガイ赤橙色貝柱における一般成分および赤色色素の同定と抗酸化作用について、日本水産学会誌, **79**, 48-54 (2013).
- 189) Takashi Maoka, Hiroyuki Yasui, Aya Ohmori, Harukuni Tokuda, Nobutaka Suzuki, Ayako Osawa, Kazutoshi Shindo, and Takashi Ishibashi, Anti-oxidative, anti-tumor-promoting, and anti-carcinogenic activities of adonirubin and adonixanthin, *J. Oleo. Sci.* **62**, 181-186 (2013).
- 190) Hayato Maeda, Shuuichi Saito, Nozomi Nakamura, and Takashi Maoka, Paprika pigments attenuate obesity-Induced Inflammation in 3T3-L1 adipocytes, *ISRN Inflammation*, 2013, Article ID 763758, 9 pages
- 191) T. Kuroki, S. Ikeda, T. Okada, T. Maoka, A. Kitamura, M. Sugimoto, S. Kume, Astaxanthin ameliorates heat stress-induced impairment of blastocyst development In Vitro: –astaxanthin colocalization with and action on mitochondria– *J. Assist Reprod Genet*, **30**, 623-631 (2013).
- 192) Harukuni Tokuda, Takashi Maoka, Nobutaka Suzuki, Judit Hohmann, Andrea Vasas, Helga Engi, Iliona Mucsi, Ulrike Olszewski, Gerhard Hamilton, Leonard Ameral and Joseph Molnar, Effects of Two Disiloxanes ALIS-409 and ALIS-421 on Chemoprevention in Model Experiments AR4, *Anticancer Reserch*, **33**, 2021-2028 (2013).
- 193) Seon-Kang Choi, Ayako Osawa, Takashi Maoka, Jun-ichiro Hattan, Kei Ito, Ai Uchiyama, Mai Suzuki, Kazutoshi Shindo, and Norihiko Misawa 3- β -Glucosyl-3- β -quinovosyl zeaxanthin, a novel carotenoid glycoside synthesized by *Escherichia coli* cells expressing the *Pantoea ananatis* carotenoid biosynthesis gene cluster. *Appl Microbiol Biotechnol*, **97**, 8479-8486 (2013).
- 194) 大澤絢子、伊東桂衣、内山 愛、鈴木真衣、伊東久美子、福尾菜美、眞岡孝至、新藤一敏、十脚目甲殻類に含有されるカロテノイドに関する研究、日本家政学会誌, **64**, 443-450 (2013).

- 195) Hisashi Harada, Takashi Maoka, Ayako Osawa, Jun-ichiro Hattan, Hirosuke Kanamoto, Kazutoshi Shindo, Toshihiko Otomatsu, Norihiko Misawa, Construction of transplastomic lettuce (*Lactuca sativa*) dominantly producing astaxanthin fatty acid esters and detailed chemical analysis of generated carotenoids, *Transgenic Res.* **23**, 303-315 (2014).
- 196) Miho Takemura, Takashi Maoka, Norihiko Misawa, Carotenoid analysis of a liverwort *Marchantia polymorpha* and functional identification of its lycopene β - and ϵ -cyclase genes, *Plant Cell Physiol.* **55**, 194-200 (2014).
- 197) 成田正直, 坂東忠男, 眞岡孝至, 麻生真悟, 佐藤暁之, 宮崎亜希子, 清水茂雅, 宗谷産イシモズクを用いた冷凍食品の開発, *水産技術*, **6**, 185-192 (2014).
- 198) Takashi Maoka, Takashi Kuwahara, and Masanao Narita, Carotenoids of sea angels *Clione limacina* and *Paedoclione doliiformis*, from the perspective of food chain, *Marine Drugs*, **12**, 1460-1470 (2014).
- 199) T. Takahashi, K. Nishida, T. Sawabe, T. Maoka, K. Miyashita, H. Hosokawa, Identification of a novel carotenoid, 2-isopentenylsaxoxyanthin, by *Jejuia pallidilutea* strain 11shimoA1 and its increased production under alkaline condition, *Appl. Microbiol Biotechnol*, **98**, 6633-6640 (2014).
- 200) Yumiko Yamano, Takashi Maoka, Akimori Wada, Synthesis of (3*S*,3'*S*)- and *meso*-Stereoisomers of Alloxanthin and Determination of Absolute Configuration of Alloxanthin Isolated from Aquatic Animals, *Marine Drugs*, **12**, 2623-2632 (2014).
- 201) Chikako Tani, Takashi Maoka, Mineto Tani, Yasuo Moritomo, Toru Okada, Go Kitahara and Hiromu Katamoto, Accumulation of Xanthophylls from the *Phaffia* Yeast (*Xanthophyllomyces dendrorhous*) in *Calves*. *J. Oleo Sci.* **63**, 943-951 (2014).
- 202) Ayako Osawa, Kumiko Ito, Nami Fukuo, Takashi Maoka, Hideki Tsuruoka, Kazutoshi Shindo, Changes of carotenoids in Atlantic salmon by heat cooking and the singlet oxygen quenching activities of the artificially produced carotenoids. *Journal of Food Processing & Technology* 2014;5:332.
- 203) Tohru Ariizumi, Sanae Kishimoto, Ryo Kakami, Takashi Maoka, Hideki Hirakawa, Yutaka Suzuki, Yuko Ozeki, Kenta Shirasawa; Stephane Bernillon, Yoshihiro Okabe, Annick Moing, Erika Asamizu, Chridtophe Rothan, Akemi Ohmiya, Hiroshi Ezura, Identification of the Carotenoid Modifying Gene PALE YELLOW PETAL as an Essential Factor in Xanthophyll Esterification and Yellow Flower Pigmentation in Tomato (*Solanum lycopersicum*). *The Plant Journal*, **79**, 453-465 (2014).
- 204) Masashi Yuasa, Akitoshi Kitamura, Takashi Maoka, Takashi, Sakudoh, Toru Shimada, and Kozo Tsuchida, Astaxanthin and lutein compete for accumulation into the middle silk gland and produce a red cocoon of *Bombyx mori* via Yellowcocoon gene-dependent control. *Journal of Insect Biotechnology and Sericology*, **83**, 1-11 (2014).
- 205) Takashi Maoka, Miho Takemura, Harukuni Tokuda, Nobutaka Suzuki, and Norihiko Misawa, 4-Ketozeinoxanthin, a novel carotenoid produced in *Escherichia coli* through metabolic engineering using carotenogenic genes of bacterium and liverwort, *Tetrahedron Lett*, **55**, 6708-6710 (2014).
- 206) Mifo Takemura, Takashi Maoka, and Norihiko Misawa, Biosynthetic routes of hydroxylated carotenoids (xanthophylls) in *Marchantia polymorpha*, and production of novel and rare xanthophylls through pathway engineering in *Escherichia coli*, *Planta* (2014).

- 207) Akihiko Nagao, Takashi Maoka, Hiroshi Ono, Eiichi Kotake-Nara, Miyuki Kobayashi, and Mie Tomita A 3-hydroxy β -end group in xanthophylls is preferentially oxidized to a 3-oxo ϵ -end group in mammals *J. Lipid Res.* **56**, 449-462 (2015).
- 208) Yumiko Yamano, Kotaro Ematsu, Hiromasa Kurimoto, Takashi Maoka, and Akimori Wada, Total synthesis of gobiuxanthin stereoisomers and their application to determination of absolute configurations of natural products: Revision of reported absolute configuration of epigobiuxanthin, *Mar. Drugs*, **13**, 159-172 (2015).
- 209) Takashi Maoka, Yumiko Yamano, Akimori Wada, Tetsuji Etho, Yukimasa Terada, Harukuni Tokuda, and Hoyoku Nishino, Oxidative Metabolites of Lycopene and γ -Carotene in Gac (*Momordica cochinchinensis*), *J. Agric. Food Chem.* **63**, 1622-1630 (2015).
- 210) Yasuteru Sano, Yuta Nakano, Masatoshi Omoto, Masatoshi Takao, Eiji Ikeda, Atsunori Oga, Kazuo Nakamichi, Masayuki Saijo M, Takashi Maoka, Hironori Sano, Motoharu Kawai, Takashi Kanda, Rituximab-associated progressive multifocal leukoencephalopathy derived from non-Hodgkin lymphoma: neuropathological findings and results of mefloquine treatment. *Intern Med.* **54**, 965-970 (2015).
- 211) Shinich Takaichi and Takashi Maoka, Identification and spectroscopic characterization of neurosporene, *Biotechnol Lett.* **37**, 2027-2031 (2015).
- 212) Makiko Furubayashi, Mayu Ikezumi, Shinichi Takaichi, Takashi Maoka, Hisashi Hemmi, Takuya Ogawa, Kyoichi Saito, Alexander V. Tobias, and Daisuke Umeno, A highly selective biosynthetic pathway to non-natural C50 carotenoids assembled from moderately selective enzymes. *Nature Communications* 6:7534 DOI:10.1038 (2015).
- 213) Azusa Nishino, Takashi Ichihara, Takeshi Takaha, Takashi Kuriki, Hideko Nihei, Kazuhisa Kawamoto, Hiroyuki Yasui, and Takashi Maoka, Accumulation of paprika carotenoids in human plasma and erythrocytes. *J. Oleo Sci.* **64**, 1135-1142 (2015).
- 214) Miho Takemura, Takashi Maoka, Ayako Osawa, Haruka Higashinaka, Hiroshi Shimada, Kazutoshi Shindo, and Norihiko Misawa, (6E) and (6Z)-9'-Aporhodoxanthinone, novel carotenoids produced in zeaxanthin-synthesizing-*Escherichia coli* by redox stress *Tetrahedron Letters*, **56**, 6063-6055 (2015).
- 215) Takashi Maoka, Syu Nakachi, Ryouhei Kobayashi, Miho Mori, and Yoshikazu Sakagami, A new carotenoid, 9Z,9'Z-tetrahydroastaxanthin, from the sea cucumber *Plesiocolochirus minutus*, *Tetrahedron Letter*, **56**, 5954-5955 (2015).
- 216) Azusa Nishino, Takashi Maoka, and Hiroyuki Yasui, Analysis of reaction products of astaxanthin and its acetate with reactive oxygen species using LC/PDA ESI-MS and ESR spectrometry, *Tetrahedron Letters*, **57**, 1967-1970 (2016).
- 217) Yoko Yoshihisa, Tsugunobu Andoh, Kenji Matsunaga, Mati UrRehman, Takashi Maoka, and Tadamichi Shimizu, Efficacy of astaxanthin for the treatment of atopic dermatitis in a murine model, PLOS ONE DOI:10.1371/journal.pone.0152288 March 29, 2016.
- 218) Takashi Maoka, Azusa Nishino, Hiroyuki Yasui, Yumiko Yamano, and Akimori Wada, Anti-oxidative Activity of Mytiloxanthin, a Metabolite of Fucoxanthin in Shellfish and Tunicates, *Marine Drugs*, **14** (5), 93; doi:10.3390/md1450093, 2016
- 219) Azusa Nishino, Hiroyuki Yasui, and Takashi Maoka, Reaction of Paprika Carotenoids

- Capsanthin and Capsorubin with Reactive Oxygen Species *J. Agric Food Chem.* **64**, 4786-4792 (2016).
- 220) Muhammad Zubair Khan, Miho Takemura, Takashi Maoka, Motoyasu Otani, and Norihiko Misawa, Carotenoid analysis of sweetpotato *Ipomoea batatas* and functional identification of its lycopene β - and ϵ -cyclase genes, *Naturforschung C*, **71**, 313-322 (2016).
- 221) Takashi Maoka, Motoyasu Otani, Muhammad Zubair Khan, Miho Takemura, Jun-ichiro Hattan, and Norihiko Misawa, Novel carotenoids produced on the interaction of the foreign carotenoid ketolase CrtW and endogenous epoxy-carotenoids unique to sweetpotato tubers, *Tetrahedron Letters* **57**, 4746-4748 (2016).
- 222) Azusa Nishino, Hiroyuki Yasui, Takashi Maoka, Reaction and scavenging mechanism of β -carotene and zeaxanthin with reactive oxygen species. *J. Oleo. Sci.*, **66**, 77-84 (2017).
- 223) Yumiko Yamano, Yuya Nishiyama, Atsushi Aoki, Takashi Maoka, and Akimori Wada, Total synthesis of lycopene-5,6-diol and γ -carotene-5',6'-diol stereoisomers and their HPLC separation, *Tetrahedron*, **73**, 2043-2052 (2017).
- 224) 眞岡孝至、安井菜穂美、根岸裕子、池田克己、天海智博、麴菌発酵大豆培養物（イムバランス）の Th2 サイトカイン抑制作用とその活性成分について、食品・臨床栄養、e2017, 1-9 (2017).
- 225) Takashi Maoka, Wataru Sato, Hidetada Nagai, and Toshiyuki Takahashi, Carotenoids of Red, Brown, and Black Specimens of *Plectropomus leopardus*, the Coraal Trout (Suziara in Japanese), *J. Oleo Science*, **66**, 579-584 (2017).
- 226) Yuki Inoue, Masamitsu Shimazawa, Ryota Nagano, Yoshiki Kuse, Kei Takahashi, Kazuhiro Tsuruma, Masahiro Hayashi, Takashi Ishibashi, Takashi Maoka, Hideaki Hara, Astaxanthin analogs, adonixanthin and lycopene, activate Nrf2 to prevent light-induced photoreceptor degeneration, *Journal of Pharmacological Sciences* **134**, 147-157 (2017).
- 227) 成田正直、眞岡孝至、栗原泰裕、蝦谷幸司、オホーツク海に生息するアカボヤ *Halocynthia aurantium* の一般成分とカロテノイド組成、日本水産学会誌、82, 996-1004 (2017).
- 228) Yuki Fukaya, Miho Takemura, Takashi Koyanagai, Takashi Maoka, Kazutoshi Shindo, Norihiko Misawa, Structural and functional analysis of the carotenoid biosynthesis genes of a *Pseudomonas* strain isolated from the excrement of Autumn Darter, *Biosci. Biotech. Biochem.*, **82**, 1043-1052 (2018).
- 229) Wataru Aoi, Takashi Maoka, Ryo Abe, Mayuko Fujishita, Kumi Tominaga, Comparison of the effect of non-esterified and esterified astaxanthins on endurance performance in mice *J. Clin. Biochem. Nutrition*. **62**, 161-166 (2018).
- 230) Masahiro Hayashi, Takashi Ishibashi, Takashi Maoka, Effect of astaxanthin-rich extract derived from *Paracoccus carotinifaciens* on cognitive function in middle-aged and older individuals, *J. Clin. Biochem. Nutrition*. **62**, 195-205 (2018).
- 231) Takashi Ichikawa, Azusa Nishino, Takeshi Takaha, Takashi Kuriki, Hideko Nihei, Hiroyuki Yasui, Takashi Maoka, and Kazuhisa Kawamoto, Effect of paprika xanthophylls supplementation on oxygen uptake in athletes: a randomized double-blind, placebo-controlled study, *J. Phys. Fitness Sports Med*, **7**, 247-252 (2018).

- 232) Ryo Kakutani, Saori Hokari, Azusa Nishino, Takashi Ichikawa, Kazuhisa Sigimoto, Takeshi Takaha, Takashi Kuriki, and Takashi Maoka, Effect on oral paprika xanthophyll intake on abdominal fat in healthy overweight humans: A randomized, double-blinded, placebo-controlled study. *J. Oleo Science*. **97**, 1149-1162 (2018).
- 233) Takashi Maoka, New acetylenic carotenoid 6'-epimomadoxanthin from the rosary goby *Gymnogobius castaneus*. *J. Oleo Science*. **97**, 1259-1263 (2018).
- 234) Takashi Maoka, Yuki Kawashima, and Mikihiro Takaki. Structures of yellow xanthophylls and metabolism of astaxanthin in the prawn *Penaeus japonicus*. *J. Oleo Science*. **97**, 1425-1433 (2018).
- 235) Jiro Koizumi, Naoki Takatani, Noritoki Kobayashi, Koji Mikami, Kazuo Miyashita, Yumiko Yamano, Akimori Wada, Takashi Maoka, and Masashi Hosokawa, Carotenoid profiling of a red seaweed *Pyripia yezoensis*: Insights into biosynthetic pathways in the order Bangiales, *Marin Drugs*, **16**, 426- (2018).
- 236) Azusa Nishino, Takashi Ichihara, Kazuhisa Sugimoto, Takashi Kuriki, Hiroyuki Yasui, and Takashi Maoka, Predicting organ carotenoids levels from analysis of plasma could lead to errors: A study in cynomolgus monkeys. *Nutrition Research*, **61**, 95-101 (2019).
- 237) Ling Li, Maiko Furubayashi, Shifei Wang, Takashi Maoka, Shigeko Kawai-Noma, Kyoichi Saito, Daisuke Umeno, Genetically engineered biosynthetic pathways for nonnatural C60 carotenoids using C5-elongases and C50-cyclases in *Escherichia coli*. *Scientific Reports*, (2019) **9**:2982 <https://doi.org/10.1038/s41598-019-39289-w>
- 238) Shingo Ueno, Park Ryoyun, Yukio Tosa, Takashi Maoka, Naoto Kojima, Masayuki Yamashita, Masafumi Inoue, and Tamio Ueno, Mosquito laevicidal and antifungal isoquinoline alkaloids from Papaveraceae. *Jpn. J. Environ. Entomol. Zool.* **30**, 51-61 (2019).
- 239) Ling Li, Maiko Furubayashi, Yusuke Otani, Takashi Maoka, Norihiko Misawa, Shigeko Kawai-Noma, Kyoichi Saito, and Daisuke Umeno, Nonnatural biosynthetic pathway for 2-hydroxylated xanthophylls with C50-carotenoid backbone, *J. Bioscience and Bioengineering*, **128**, 438-444 (2019).
- 240) Miho Takemura, Akiko Kubo, Yuki Higuchi, Takashi Maoka, Takehiko Sahara, Katsuro Yaoi, Kohji Ohdan, Daisuke Umeno, Norihiko Misawa, Pathway engineering for efficient biosynthesis of violaxanthin in *Escherichia coli*, *Applied Microbiology and Biotechnology*, **103** (203-27), 1-7 (2019)
- 241) Masahiro Hayashi, Moe Kawamura, Yuki Kawashima, Takeshi Uemura and Takashi Maoka Effect of astaxanthin-rich extract derived from *Paracoccus carotinifaciens* on the status of stress and sleep in adults, *J. Clin. Biochem. Nutr.* **66**, 92-102 (2020).
- 242) Takashi Maoka, Naoki Kawase, Tetsuyuki Ueda, Ritsuo Nishida, Carotenoids of dragonflies, from the perspective of comparative biochemical and chemical ecological studies, *Biochem. Syst. Ecol.* **89** (2020) 104001.
- 243) Shun Tamaki, Yuri Tanno, Shota Kato, Kazunari Ozasa, Mayumi Wakazaki, Mayuko Sato, Kiminori Toyooka, Takashi Maoka, Takahiro Ishikawa, Mizuo Maeda, Tomoko Shinomura, Carotenoid accumulation in the eyespot apparatus required for phototaxis is independent of chloroplast development in *Euglena gracilis*, *Plant Science*, **298**, (2020) 110564

244) Shinsuke Nakamura, Takashi Maoka, Yoshiki Kuse, Aomi Muramatsu, Yuta Yoshino, Masamitsu Shimazawa, Hideaki Hara, Distribution of carotenoids and protective effects of zeaxanthin on retina of Ayu sweetfish (*Plecoglossus altivelis*), *J. Oleo Science* in press (2020).

245) Takashi Maoka, A new carotenoid, 5,6-dihydrocrustaxanthin, from prawns and the distribution of yellow xanthophylls in shrimps, *Biochem. Syst. Ecol.* **92** (2020). 104083

246) Shinsuke Nakamura, Takashi Maoka, Yoshiki Kuse, Aomi Muramatsu, Yuta Yoshino, Masamitsu Shimazawa, and Hideaki Hara, Distribution of carotenoids and protective effects of zeaxanthin on retina of ayu sweetfish (*Plecoglossus altivelis*), *J. Oleo Sci.*, **69**, 1095-1105 (2020).

247) Takashi Maoka, Shinsuke Nakamura, Hideaki Hara, Carotenoids of land-locked and sea-run types of masu salmon *Oncorhynchus masou ishikawae* inhabiting in the Nagara River, Japan, from the perspective of chemical ecological study, *Biochemical Systematic and Ecology* (2020).

248) Chiharu Takagi, Momoka Abe, Yumi Kaneko, Akane Sasaki, Ayumi Ito, Yuka Sakemi, Takashi Maoka, Jürgen Breitenbach, Gerhard Sandmann, Kazutoshi Shindo, Structures of new C41 carotenoids produced using recombinant *Escherichia coli* expressing genes encoding isopentenyl pyrophosphate, methyltransferase, and carotenoid biosynthetic enzymes, *Tetrahedron Letters* **61**, Issue 51 (2020) 152633.

249) Aleksander V. Prazukin, Yuri K. Firsov, Elena V. Gureeva, Sergey V. Kapranov, Svetlana N. Zheleznova, Takashi Maoka, Mikhail V. Nekhoroshev, Biomass of green filamentous alga *Cladophora* (Chlorophyta) from a hypersaline lake in Crimea as a prospective source of lutein and other pigments. *Algal Research* **54**, (2021) 102195

250) Takashi Maoka, Naoki Kawase, Mantaro Hironaka, Ritsuo Nishida, Carotenoids of hemipteran insects, from the perspective of chemo-systematic and chemical ecological studies. *Biochem. Syst. Ecol.* **95**, (2021) 104241,

プロシーディング

1) 眞岡孝至、持田晃一、伊藤義弘、光合成バクテリア *Rhodobacter capusulatus* の産生するカロテノイドの抗酸化作用, 医学と生物学, **128(3)**, 149-153 (1994).

2) 眞岡孝至、伊藤義弘、 β -カロテンとクエルシトリンの相乗的抗酸化作用, 医学と生物学, **129(2)**, 69-73 (1994).

3) 眞岡孝至、持田晃一、伊藤義弘、ワムシ類のカロテノイド, 医学と生物学, **139(1)**, 1-3 (1995).

4) 眞岡孝至、三宅一司、伊藤義弘、グロー放電による脂質過酸化抑制作用, 医学と生物学, **130(6)**, 193-195 (1995).

5) 日野宏一郎、山口茂治、伊田喜光、佐藤陽子、小塚睦夫、徳田春邦、眞岡孝至、伊藤義弘、黄柏のエプスタインバールウイルス活性化抑制作用, 医学と生物学, **131(1)**, 1-4 (1995).

6) 日野宏一郎、山口茂治、伊田喜光、佐藤陽子、眞岡孝至、伊藤義弘、黄柏の抗酸化作用, 医学と生物学, **131(2)**, 59-62 (1995).

- 7) 眞岡孝至、伊藤義弘、金村聖志、岡 茂範、三宅一司、桜井 弘、グロー放電素子を用いるDPPHラジカルの消去作用, 磁気共鳴と医学 **7**, 62-65 (1996).
- 8) 眞岡孝至、伊藤義弘、金村聖志、岡 茂範、日野唯行、川西伸也、三宅一司、 桜井弘、容量結合型グロー放電を用いるラジカル反応, 磁気共鳴と医学, **8**, 97-100 (1997).
- 9) Amelia P. Guevara, Carolyn Vagas, Hiromu Sakurai, Keiji Hashimoto, Yasuhiro Fujiwara and Takashi Maoka, A new rhamnosyl carbamate from the seeds of *Moringa oleifera* LAM., *ACGC Chemical Research Communications*, **10**, 48-51 (2000).
- 10) Takashi Maoka, Yasuhiro Fujiwara, Keiji Hashimoto and Naoshige Akimoto, Isolation of a series of apocarotenoids from the fruits of the red paprika *Capsicum annuum* L. *Carotenoid Science*, **4**, 91-92 (2001).
- 11) Naoshige Akimoto, Takashi Maoka, Yasuhiro Fujiwara and Keiji Hashimoto, Characterization of epoxy carotenoids by FAB CID-MS/MS, *Carotenoid Science*, **4**, 93-94 (2001).
- 12) Takashi Maoka, Yasuhiro Fujiwara, Keiji Hashimoto and Naoshige Akimoto, Apocarotenoids from lily *Lilium lancifolium*, *Carotenoid Science*, **5**, 19-20 (2002).
- 13) Yoshiko Satomi, Norihiko Misawa, Takashi Maoka, and Hoyoku Nishino, Production of phytoene, an anti-tumor promoting carotenoids, in mice by introducing a phytoene synthase gene *crtB*, *Carotenoid Science*, **5**, 26-27 (2002).
- 14) Shinichi Takaichi, Philipp Krubasik, Takashi Maoka, Kazumori Masamoto, and Gerhard Sandmann, Detailed biosynthetic pathway to decaprenoxanthin diglucoside in *Corynebacterium glutamicum* and identification of novel intermediates, *Carotenoid Science*, **5**, 34-35 (2002).
- 15) Shinich Takaichi, Norihiko Misawa, Masayoshi Ito, Yumiko Yamano, Takashi Maoka, and Akihiro Yokoyama, LIPID_{Bank} for web, a newly developed lipid database in Japan: Carotenoid Class, *Carotenoid Science*, **5**, 44-51 (2002).
- 16) Hiroaki Inoue, Akira Tateishi, Yoshiko Kimura, Yuko Ozawa, Katunori Inoue, Kazunari Nomura, Takashi Maoka, Hideki Hashimoto, Jieping Shi, Kunxia Zhao, and Saishi Hirata, Contents and compositions of chlorophylls, carotenoids, vitamin C, vitamin E, and minerals in deep color and light color vegetable crops and their correlation, *Carotenoid Science*, **6**, 5-8 (2003).
- 17) Miyuki Tsushima, Takashi Maoka, and Hoyoku Nishino, Isolation and characterization of dinochromes A and B, Anti-carcinogenic active carotenoids from the fresh water red tide *Peridinium bipes*, *Carotenoid Science*, **6**, 38-39 (2003).
- 18) Fumio Enjo, Takashi Maoka, Harukuni Tokuda, Masashi Kuchide, Masakazu Ogata, Teruo Mukainaka, Junko Takayasu and Hoyoku Nishino Regulation of the cycle progression of A-549 human lung cancer cell treatment by paprika carotenoids, capsanthin and capsorubin, *Carotenoid Science*, **7**, 49-50 (2004).
- 19) Saishi Hirota, Tetuya Arinobu, Zhao Kunxia, Shi Jiping, Luo Yunbo, Cui Yulin, Takashi Maoka and Michiaki Murakoshi, Studies of *cis-trans* carotenoids in red, yellow and tangerine strains of tomato and their biosynthetic considerations, *Carotenoid Science*, **8**, 1-5 (2005).
- 20) Sanae Kishimoto, Takashi Maoka, Katsuhiko Aumitomo, Masayoshi Nakayama and Akemi Ohmiya, Carotenoid composition in petals of two Compositate plants, chrysanthemum

(*Dendranthema grandiflorum* (Ramat.) Kitamura) and calendula (*Calendula officinalis* L.), *Carotenoid Science*, **8**, 6-8 (2005).

21) Takashi Maoka and Naoshige Akimoto, Combined HPLC and FAB MS/MS for analysis of natural carotenoids, *Carotenoid Science*, **8**, 11-13 (2005).

22) Fumio Enjo, Takashi Maoka, Kooichi Mochida, Harukuni Tokuda and Hoyoku Nishino, Growth inhibitory effect of capsorubin and β -carotene in prostatic cancer cell line, *Carotenoid Science*, **8**, 75-76 (2005).

23) Takashi Maoka, Shinichi Ito and Takashi Wada, Analysis of carotenoids in Japanese human serum by Using HPLC with photodiode array detection, *Carotenoid Science*, **8**, 81-83 (2005).

24) Takashi Moka, Kumi Hidaka, Atsuko Nkakajima, Fumio Tanimoto, Mitsuhiro Sano, Kanji Tsurukawa, Takuo Tsuno, Satomi Tsujiwaki and Keiji Takii, Improvement of the integumentary color and suppression of oxidative stress for cultured red sea bream by ferulic acid and γ -orizanol, *Carotenoid Science*, **8**, 84-86 (2005).

25) Takashi Maoka, Yasuhiro Fujiwara, Keiji Hashimoto, and Naoshige Akimoto, Carotenoids in corbicula clams, *Corbicula japonica*, *Corbicula sandai*, and Chinese corbicula clam, *Carotenoid Science*, **10**, 81-84 (2006).

26) 滝井健二、石丸克也、吉田幸助、井上修一、日高久美、眞岡孝至、谷本文男、伏木省三、アユ用配合飼料への自己消化酵母 *Hansenula anomala* の利用、近畿大学水産研究所報告、**10**、11-18 (2006).

27) Takashi Maoka and Naoshige Akimoto, Fucoxanthin and fucoxanthinol ester in clam, *Carotenoid Science*, **11**, 6-9 (2006).

28) Koji Ishiguro, Masaru Yoshinaga, Makoto Yoshimoto, Naoshige Akimoto, and Takashi Maoka, Structures of new carotenoids with 5,6-didehydro-5,6-dihydro- β -end group, named ipomoeaxanthin A, B, C1 and C2 from yellow sweetpotato "Benimasari", *Ipomoea batatas* L., *Carotenoid Science*, **11**, 64-67 (2007).

29) Takashi Maoka and Naoshige Akimoto, Isolation of a new 2-hydroxy carotenoids, 2,3'-dihydroxycanthaxanthin from the hermit crab, *Paralithodes brevipes*, *Carotenoid Science*, **11**, 68-70 (2007).

30) Takashi Moaka, Kooichi Mochida, Fumio Enjo, Harukuni Tokuda, Hoyoku Nishino, Growth inhibitory effects of paprika carotenoids, capsorubin for human cancer cells, *J. Clin. Biochem. Nutr.*, **43** Supple. 1, 281-284 (2008).

31) Takashi Maoka and Naoshige Akimoto, Natural Product Chemistry in carotenoid some experimental techniques for structural elucidation and analysis of natural carotenoids, *Carotenoid Science*, **13**, 10-17 (2008).

32) Takashi Maoka, Naoshige Akimoto, Keiji Hashimoto, Yasuhiro Fujiwara, Isolation and characterization of pittosporumxanthins 3'-esters from the seeds of *Pittosporum tobira*, *Carotenoid Science*, **13**, 18-19 (2008).

33) Chisato Tode, Takashi Maoka, and Makiko Sugiura, The DOSY measurement of the extract lipid including carotenoids from marine products –Part 1- *Carotenoid Science*, **13**, 31-32 (2008).

- 34) Takashi Maoka, Structural studies of natural carotenoids by our research group during the three decade, *Carotenoid Science*, **14**, 26-36 (2009).
- 35) Takashi Nakajima, Takashi Wada, Naoko Tarui, Shin-ichi Ito, Yoshizoh Yuasa, and Takashi Maoka, Analysis of carotenoids in human serum and erythrocyte by ultra performance liquid chromatography (UPLC) , *Carotenoid Science*, **14**, 46-49 (2009).
- 36) Takashi Maoka, Makoto Tsuboi, Aditya Kulkarni, Yukimasa Terada, Kyuki Kato, Hiroki Nakatsugawa, Hironobu Mori, Takahiro Inakuma, and Hideo Etoh, Nitrocarotenoid and oxazinecarotenoid, Reaction products of carotenoids with peroxyxynitrite, *Carotenoid Science*, **15**, 6-13 (2010).
- 37) Takashi Maoka, Masanao Narita, and Hoyoku Nishino, Identification of red pigment in the red adductor muscle of Japanese Scallop (*Mizuhopecten yessoensis*), *Carotenoid Science*, **15**, 18-20 (2010).
- 38) Shinzo Hosoi, Yukiteru Katsumoto, Takeyuki Tanaka, Takashi Maoka, Toshio Fujiwara, and Manabu Node, CD spectra of (4R)- β -isocryptoxanthin and its benzoate: A quantum chemical approach for estimation of the absolute configuration, *Carotenoid Science*, **15**, 39-43 (2010).
- 39) Chisato Tode, Takashi Maoka, and Makiko Sugiura, Analysis of carotenoid component in food using LC-NMR-part1-, *Carotenoid Science*, **15**, 49-50 (2010).
- 40) 眞岡孝至 アンチエイジングを目指した水産物の利用 水産物由来アンチエイジング素材、カロテノイドとその利用、日本水産学会誌、**77**、262 (2011) .
- 41) Takashi Maoka, Naoshige Akimoto, Sadao Komemushi, Yoshimitsu Takahashi, Ryo Harada, Naomi Sameshima, Miho Mori. And Yoshikazu Sakagami, Carotenoids in corals and crown-of-thorns starfish-From the perspective of the food chain of marine animals- *Carotenoid Science*, **16**, 1-5 (2011).
- 42) Takahiro Wakahama, Hidetoshi Okuyama, Takashi Maoka, and Shinichi Takaichi, Unique carotenoid lactoside, P457, in *Symbiodinium* sp. of dinoflagellate, *Acta Biochimica Polonica*, **59**, 155-157 (2012).
- 43) Hideo Etoh, Yasunori Maejima, Yukari Imaeda, Satomi Sugiyama, Shinji Tokuyama, Hideaki Kato, Aditya Kulkarni, and Takashi Maoka, Extraction of Astaxanthin by Sub-Critical Water from the Green Algae *Haematococcus pluvialis* *Carotenoid Science* **17**, 13-15 (2012).
- 44) Takashi Maoka and Naoshige Akimoto, ϵ -Cryptoxanthin, the First Report of ϵ,ϵ -Carotene-mono-ol, from the Japanese Common Catfish, *Silurus asotus*, *Carotenoid Science* **17**, 46-47 (2012).
- 45) Takashi Maoka, Tetsuji Etoh, Naoshige Akimoto, Harukuni Tokuda, Nobutaka Suzuki, and Hiroyuki Yasui, Carotenoid Pyropheophorbide A Esters from Abalones, *Haliotis diversicolor aquatilis* and *Haliotis discus*, *Carotenoid Science* **17**, 48-51 (2012).
- 46) Ayako Osawa, Yoko Ishii, Asami Kasahara, Nao Sasamura, Shoko Mastuoka, Marie Morita, Hiroaki Kasai, Takashi Maoka, Gerhard Sandmann, and Kazutoshi Shindo, Antioxidative Carotenoids from Bacteria, *Carotenoid Science* **17**, 52-54 (2012).

- 47) Takashi Maoka, Takashi Kuwahara, and Masanao Narita, Carotenoids of nymph of sea ice, Clione, Proceedings of the 28th international symposium on Okhotsk sea&ice, 31-33 (2013).
- 48) Yuki Kawashima, Hideaki Nagai, Michihisa Ikarashi, Takashi Maoka, Development of oanaferd-ZX: Zeaxanthin enriched dry cell using *Praracoccus carotenifaciens*, *Carotenoid Science*, **18**, 110 (2014).
- 48) Takashi Maoka and Wataru Miki, Micro-scale analysis of carotenoids using LC/MS method, *Carotenoid Science* **19**, 1-6 (2014).
- 49) Takashi Maoka and Tetsuji Etho, Identification of capsanthone, an oxidative metabolites of capsanthin in hen's egg yolk, *Carotenoid Science* **19**, 17-20 (2014).
- 50) Toru Okada, Takashi Maoka, Mineto Tani, Chikako Tani, Yasuo Moritomo, Go Kitahara, Hiromu Katamoto, Accumulation of xanthophylls from the phaffia yeast (*xanthophyllomyces dendrorhous*) in cattle, *Carotenoid Science* **19**, 24-27 (2014).
- 51) Takashi Maoka, Takashi Kuwahara, Masanao Narita, Carotenoids of sea angels, *Carotenoid Science*, **19**, 33-37 (2014).
- 52) Fumio Sato, Eiji Yamashita, and Takashi Maoka, Absorption of orally administered astaxanthin in horse, *Carotenoid Science*, **20**, 40-41 (2015).
- 53) Takashi Maoka, Yukiko Yamano, and Akimori Wada, Distribution of stereoisomers of alloxanthin in aquatic animals, *Carotenoid Science*, **20**, 42-45 (2015).
- 54) Takashi Moka, Tetsuji Etho, Yumiko Yamano, and Akimori Wada, Isolation and characterization of lycopene-5,6-diols and γ -carotene-5',8'-diols from gac (*Momordica cochinchinensis*), *Carotenoid Science*, **20**, 46-50 (2015).
- 55) Takashi Maoka, Carotenoids of insects, grasshoppers, crickets, mantises, and stic insects, *Carotenoid Science*, **20**, 51-54 (2015).
- 56) Miho Takemura, Takashi Maoka, and Norihiko Misawa, Evolution of carotenoid biosynthesis genes in land plants: from the viewpoint of liverwort, *Carotenoid Science*, **20**, 55-58 (2015).
- 57) Takashi Maoka, History of Carotenoid Research in Japan Before 1990, *Carotenoid Science*, **21**, 5-8 (2016).
- 58) Takashi Maoka, Azusa Nishino, Hiroyuki Yasui, Yumiko Yamano, and Akimori Wada, Marine Carotenoid Mytiloxanthin, a Metabolite of Fucoxanthin in Shellfish and Tunicates, *Carotenoid Science*, **21**, 20-27 (2016).
- 59) Takashi Maoka, Syu Nakachi, Ryouhei Kobayashi, Miho Mori, and Yoshikazu Sakagami, Carotenoids in the sea cucumber *Plesiocolochirus minutus* belonging to Cucumariidae (dendrochirotida), *Carotenoid Science*, **21**, 28-31 (2016).
- 60) Motoko Fukuda, Takashi Ishibashi, and Takashi Maoka, Analysis of Adonixanthin and Adonirubin in Human Serum by Ultra Performance Liquid Chromatography (UPLC)-MS/MS, *Carotenoid Science*, **21**, 42-46 (2016).
- 61) Takashi Maoka, Miyuki Tsushima, and Hiroyuki Yasui, History of carotenoid research in Kyoto Pharmaceutical University, *Carotenoid Science*, **22**, 6-8 (2017).

- 62) Chikako Tani, Mineto Tani, Yasuo Moritomo, Go Kitahara, Takeshi Osawa, Hiromu Katamoto, Toru Okada, and Takashi Maoka, Comparison of carotenoid content (β -carotene and lutein) in the blood and follicular fluid of Japanese barown cattle during and after the grazing period, *Carotenoid Science*, **22**, 23-28 (2017).
- 63) Takashi Maoka, A new acetylemic carotenoid 6'-epimonadoxanthin from the Rosary Goby *Gymnogobius castaneus*, *Carotenoid Science*, **22**, 42-44 (2017).
- 64) Hayato Maeda, Shohei Mikami, Saori Hokari, Azusan, Nishino, Takeshi Takaha, and Takashi Maoka, Effect of paprika xanthophyll on chronic inflammation in adipocyte, *Carotenoid Science*, **22**, 45-46 (2017).
- 65) Massano Narita, Takashi Maoka, Yasuhiro Kuwahara, and Kohji Ebitani, Seasonal variation in the proximate composition and carotenoid profile of *Halocynthia austrantium* in the Pkhotsuku Sea, *Carotenoid Science*, **22**, 47-53 (2017).
- 66) Takashi Maoka, Yuki Kawashima, and Mikihiro Takagi, Yellow carotenoids, as metabolites of astaxanthin, in the prawn *Penaeus japonicus*, *Carotenoid Science*, **22**, 61-63 (2017).
- 67) Shota Seto, Tomoko Horibe, Chiasa Uragami, Yuko Sugai, Takashi Maoka, Taenori Nishioka, and Hodeki Hashimoto, Isolation and purification of capsanthin from red paprika (*Capsium annuum* L.) and its application to the stark spectroscopic measurements, *Carotenoid Science*, **22**, 76-79 (2017).
- 68) Takashi maoka, The possible mechanisms of the chiral conversion of astaxanthin in the prawn. *Carotenoid Science*, **23**, 15-18 (2019).
- 69) Shota Watanabe, Toru Okada, Hideo ookita, Kyoichi Sakamoto, Kengo Suzuki, Takashi Maoka, Accumulation of the euglena-derived carotenoids in egg yolk. *Carotenoid Science*, **23**, 19-23 (2019).
- 70) Keisuke Kawakami, Takashi Maoka, Yuhei O Tahara, Junko Shiomi, Makoto Miyata, Nobuo Kamiya, Daisuke Kosumi, Photosynthetic megacomplexes by a novel sample preparation method and identification of carotenoids interesting with photosystem II from *Thermosynechoccus vulcanus*. *Carotenoid Science*, **23**, 41-44 (2019).
- 71) Azusa Nishino, Takahashi Ichihara, Kazuhisa Kawamoto, Takashi Maoka, Detailed chromatographic and spectral data of capsanthone in paprika intake human plasma and erythrocytes. *Carotenoid Science*, **23**, 50-53 (2019).
- 72) Keisuke Kawakami, Yuma Hirota, Yuhei Tahara, Junko Shimomi, Takashi Maoka, Susumu Takio, Makoto Miyata, Nobuo Kamiya, Daisuke Kosumi, Towards elucidation of light energy transfer mechanism of the photosynthetic supercomplexes from algae, *Carotenoid Science*, **23**, 57-58 (2019).
- 73) Wataru Matsumoto, Haruka Nanaura, Miho Takemura, Takashi Maoka, Norihiko Misawa, Isolation and functional analysis of carotenoid biosynthesis genes from human gut and probiotic bacteria, *Carotenoid Science*, **23**, 69-70 (2019).
- 74) Takashi Maoka, Naoki Kawase, Origin of carotenoids in dragonfly. *Carotenoid Science*, **23**, 75 (2019).
- 75) Takashi Maoka, Yuki Kawashima, Mikihiro Takagi, Structure of yellow xanthophylls and metabolism of chiral conversion of hydroxy group in astaxanthin in the prawn. *Carotenoid Science*, **23**, 76 (2019).

76) Takashi Maoka, Structures of carotenoids determined by our research group during 2009 to 2019, *Carotenoid Science*, **24**, 12-18 (2020).

77) Chisato Tode, Takashi Maoka, and Atsuko Takeuchi, Application of DOSY experiment to analysis of astaxanthin and its analogues, *Carotenoid Science*, **24**, 24-34 (2020).

78) Takashi Maoka, Structural determination of a minor yellow carotenoid, 5,6-dihydrospiraxanthin from the prawns *Penaeus japonicus* and *P. vannamei*, *Carotenoid Science*, **24**, 41-43 (2020).

プロシーディング (天然有機化合物討論会要旨)

1) 眞岡孝至、松野隆男、藤原靖弘、第35回天然有機化合物討論会(京都)要旨集 401-407 (1993).

2) 眞岡孝至、秋元直茂、橋本圭二、黒田義弘、藤原靖弘、トベラ種子の新規カロテノイド *pittosporumxanthins* B1, B2, C1, C2 のMS/MS法を用いた構造研究、第37回天然有機化合物討論会(徳島)要旨集 373-378 (1995)

3) 眞岡孝至、橋本圭二、眞鍋潔司、藤原靖弘、トベラ種子の新規赤色カロテノイド *tobiraxanthin* の構造研究、第39回天然有機化合物討論会(札幌)要旨集 487-492 (1997).

4) 藤原靖弘、橋本圭二、秋元直茂、眞岡孝至、マガキ(*Crassostrea gigas*)の新規カロテノイドの構造研究、第41回天然有機化合物討論会(名古屋)要旨集 541-546 (1999).

5) 眞岡孝至、秋元直茂、藤原靖弘、橋本圭二、パプリカ (*Capsicum annuum* L.) の新規カロテノイドのMS/MSを用いた構造研究、第45回天然有機化合物討論会(京都)要旨集 611-616 (2003).

6) 細井信造、勝本之晶、田中丈幸、眞岡孝至、野出學、(4R)- β -Iscryptoxanthin及びそのベンゾエート体のCDスペクトル:量子化学的アプローチによるカロテノイドの絶対配置推定について、第51回天然有機化合物討論会(名古屋)要旨集 479-484 (2009)

7) 衛藤英男、眞岡孝至、加藤久喜、中津川広樹、坪井 誠、寺田幸正、松本 岳、森 啓信、細川雅史、宮下和夫カロテノイドによる活性窒素種消去の検討ーカロテノイドとペルオキシナイトライトの反応物について、第52回天然有機化合物討論会(静岡)要旨集 499-504 (2010)

8) 竹村美保、眞岡孝至、徳田春邦、鈴木信孝、三沢典彦、細菌 *Pantoea ananatis* とゼニゴケ *Marchantia polymorpha* のカロテノイド生合成遺伝子の組み合わせによる大腸菌での機能性カロテノイドの生産、第55回天然有機化合物討論会(京都)要旨集 615-620 (2013).

総説 (Review)

1) 眞岡孝至、高速液体クロマトグラフィーによるカロテノイド立体異性体の分離、*Jasco Report*, **34**, 59-61 (1992).

- 2) 伊藤義弘、眞岡孝至、ドクダミと β -カロチンの相乗的抗酸化作用、バイオインダストリー **12 (9)**, 14-23 (1995).
- 3) Takashi Maoka, Analysis of carotenoids by combined HPLC, UV-Vis and APCI-MS, *Lipid Technology*, **15**, 39-42 (2003).
- 4) 眞岡孝至、秋元直茂、橋本圭二、HPLC, UV-Vis, MSを組み合わせた天然カロテノイドのオンライン分析、*FFI JOURNAL*, **208**, 623-630 (2003).
- 5) 眞岡孝至、圓城文雄、徳田春邦、西野輔翼、パプリカ (*Capsicum annuum* L.) カロテノイドの発がん予防効果を中心とした生理作用、*FFI JOURNAL*, **209**, 203-210 (2004).
- 6) 眞岡孝至、カロテノイドの多様な生理作用、食品・臨床栄養、**2**, 3-14 (2007).
- 7) 眞岡孝至、カロテノイドと健康 - その多様な生理作用 - 環境と健康、**20**, 318-328 (2007).
- 8) Valery M. Dembitsky and Takashi Maoka, Allenic and cumulenenic lipids, *Progress in Lipid Research*, **46**, 328-375 (2007).
- 9) Takashi Maoka, Recent progress in structural studies of carotenoids in animals and plants, *Archiv. Biochem. Biophys.*, **483**, 191-195 (2009).
- 10) 眞岡孝至、カロテノイドー天然色素の役割とその機能ー Functional Food, 12号, Vol. 4, 182-188 (2010).の多様な生理作用、食品・臨床栄養、**2**, 3-14 (2007).
- 11) 眞岡孝至、カロテノイドー天然色素の役割とその機能 カロテノイドの概説と歴史、最近の注目点、Functional Food, 12, (Vol. 4 No. 2) 182-188 (2010).
- 12) Takashi Maoka, Carotenoids in marine animals, *Mar. Drugs* **9**, 278-293 (2011).
- 13) 眞岡孝至、カロテノイドー天然における分布とその役割、Food Reserch, 2011,3, 21-25 (2011).
- 14) 眞岡孝至、安井裕之、カプサンチン、Functional Food, 16, (Vol. 5 No. 2) 177-182 (2011).
- 15) 眞岡孝至、天然カロテノイドの分析と構造研究、オレオサイエンス、**12**, 485-494 (2012).
- 16) 衛藤英男、眞岡孝至、リコペンとがん予防、Functional Food, 20, (Vol. 6 No. 2) 115-120 (2012).
- 17) 眞岡孝至 食品と疾病ーカロテン 構造と分布、Functional Food, 21, (Vol. 6 No. 3) 150-155 (2013).
- 18) 眞岡孝至 概論：フコキサンチン-その化学構造の特徴、天然における分布と代謝 Functional Food, 6, 220-225 (2013).
- 19) 眞岡孝至 カロテノイド-天然色素とその役割 ENEOS Technical Review, **56**, 88-95 (2014).

- 20) 眞岡孝至、日本におけるカロテノイド研究 その歴史と現状、*FFI JOURNAL*, **220**, 99-100 (2015).
- 21) 眞岡孝至、天然カロテノイドの多様性とその役割、*FFI JOURNAL*, **220**, 118-124 (2015).
- 22) 眞岡孝至、自然を彩るカロテノイドの世界 カロテノイドの分析と構造解析 (1), *Food Style 21*, **21**, (No. 8), 46-52 (2017).
- 23) 眞岡孝至、自然を彩るカロテノイドの世界 カロテノイドの分析と構造解析 (2), *Food Style 21*, **21**, (No. 9), 34-39 (2017).
- 24) 西野梓、市原敬司、安井裕之、眞岡孝至、パプリカカロテノイドの血中動態と抗酸化機構の解析、*オレオサイエンス*, **18**, 91-97 (2018).
- 25) 眞岡孝至 カロテノイド研究40年 —天然色素に魅せられて—科学・技術研究, **7**, 93-100 (2018).
- 26) Takashi Maoka Carotenoids as natural functional pigments, *J. Natural Medicines*. **74**, 1-16 (2020). DOI 10.1007/s11418-019-01364-x (2019).
- 27) 眞岡孝至、天然色素カロテノイドの生理機能 その1、*医と食*, **12**, 76-80 (2020).
- 28) 眞岡孝至、天然色素カロテノイドの生理機能 その2、*医と食*, **12**, 138-143 (2020).
- 29) 眞岡孝至、カロテノイドの機構研究と応用開発、月刊 *ファインケミカル*, **49**, No. 7, 13-21 (2020).

著書

- 1) 伊藤義弘、眞岡孝至、ドクダミと β -カロチンの相乗的抗酸化作用、新しい食品素材と機能 シーエムシー pp. 94-104、東京、1997.
- 2) Mari Mochimaru, Hajime Masukawa, Takashi Maoka, and Shinichi Takaichi, Functional identification of GDP-fucose synthase gene in *Anabaena* sp. PCC 7120. J.F. Allen, E. Gantt, J.H. Golbeck, and B. Osmond (Eds.) *Photosynthesis. Energy from the Sun* PP. 331-334. Springer, 2008.
- 3) 眞岡孝至、第1章 カロテノイドの構造と生物界における分布、カロテノイドの科学と最新応用技術、宮下和夫編、pp. 3-14、シーエムシー、東京、2009.
- 4) 眞岡孝至、第2章 カロテノイドの分析と構造研究、カロテノイドの科学と最新応用技術、宮下和夫編、pp. 15-26、シーエムシー、東京、2009.
- 5) 眞岡孝至、第2章 アスタキサンチンとは、アスタキサンチンの科学、矢澤一良編、pp.11-27、成山堂書店、東京、2009.
- 6) Takashi Maoka and Hideo Etoh, Some biological functions of carotenoids in Japanese food, in *Functional Foods of the East* John Shi, Chi-Tang Ho, Fereidoon Shahidi eds. CRC Press Boca Raton, pp. 85-97. 2010.
- 7) 眞岡孝至、カロテノイドとその利用、アンチエイジングをめざした水産物の利用、水

産学シリーズ171、平田孝、菅原達也編、pp. 97-111,恒星社厚生閣、東京、2011.

- 8) 眞岡孝至、アスタキサンチンの化学、アスタキサンチンの機能と応用、吉川敏一、内藤祐二監修、pp. 37-47、シーエムシー、東京、2012.
- 9) Takashi Maoka and Hideo Etoh, Biological Antioxidation Mechanism: Quenching of Peroxynitrite, in Japanese food, in Functional Food Ingredients and Nutraceuticals Processing Technologies (2nd Ed) John Shi ed. CRC Press Boca Raton, pp. 589-607. 2016.
- 10) Takashi Maoka, Structural studies of carotenoids in plants, animals, and food products, in Carotenoids Nutrition, Analysis and Technology, Edited by Agnieszka Kaczor and Malgorzata Baranska, Wiley Blackwell, UK, pp. 103-129, 2016.
- 11) 眞岡孝至、小暮健太郎、アスタキサンチン、寺尾啓二監修、食品成分の安定化技術、シーエムシー出版、東京、2016、pp. 195-205.