

CARIG / ICS Literature Citations

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(2015) Proceedings of the 17th International Carotenoid Symposium, June 29-July 4, 2014, Park City, Utah, USA. Arch.Biochem.Biophys. 572: 1-212.

Abdallah, I. B., Tlili, N., Martinez-Force, E., Rubio, A. G., Perez-Camino, M. C., Albouchi, A., & Boukhchina, S. (2015) Content of carotenoids, tocopherols, sterols, triterpenic and aliphatic alcohols, and volatile compounds in six walnuts (*Juglans regia* L.) varieties. Food Chem. 173: 972-978.

Agarwal, S., Sharma, V., Kaul, T., Abdin, M. Z., & Singh, S. (2014) Cytotoxic effect of carotenoid phytonutrient lycopene on *P. falciparum* infected erythrocytes. Mol.Biochem.Parasitol. 197: 15-20.

Ahmed, I. A., Mikail, M. A., Bin, I. M., Bin, H. N., Rasad, M. S., Ghani, R. A., Wahab, R. A., Arief, S. J., & Yahya, M. N. (2015) Antioxidant activity and phenolic profile of various morphological parts of underutilised *Baccaurea angulata* fruit. Food Chem. 172: 778-787.

Aidoud, A., Ammouche, A., Garrido, M., & Rodriguez, A. B. (2014) Effect of lycopene-enriched olive and argan oils upon lipid serum parameters in Wistar rats. J.Sci.Food Agric. 94: 2943-2950.

Akhtar, P., Dorogi, M., Pawlak, K., Kovacs, L., Bota, A., Kiss, T., Garab, G., & Lambrev, P. H. (2015) Pigment interactions in light-harvesting complex II in different molecular environments. J.Biol.Chem. 290: 4877-4886.

Alvarez, R., Vicario, I. M., Melendez-Martinez, A. J., & Alcalde, M. J. (2014) Effect of different carotenoid-containing diets on the vitamin A levels and colour parameters in Iberian pigs' tissues: utility as biomarkers of traceability. Meat Sci. 98: 187-192.

Anese, M., Bot, F., Panozzo, A., Mirolo, G., & Lippe, G. (2015) Effect of ultrasound treatment, oil addition and storage time on lycopene stability and *in vitro* bioaccessibility of tomato pulp. Food Chem. 172: 685-691.

Apanasenko, I. E., Selyutina, O. Y., Polyakov, N. E., Suntsova, L. P., Meteleva, E. S., Dushkin, A. V., Vachali, P., & Bernstein, P. S. (2015) Solubilization and stabilization of macular carotenoids by water soluble oligosaccharides and polysaccharides. Arch.Biochem.Biophys. 572: 58-65.

Arguello, M. A., Schulze, K. J., Wu, L. S., Dreyfuss, M. L., Khatry, S. K., Christian, P., & West, K. P. (2015) Circulating IGF-1 may mediate improvements in haemoglobin associated with vitamin A status during pregnancy in rural Nepalese women. Asia Pac.J.Clin.Nutr. 24: 128-137.

Ascenso, A., Ribeiro, H., Marques, H. C., Oliveira, H., Santos, C., & Simoes, S. (2014) Chemoprevention of photocarcinogenesis by lycopene. Exp.Dermatol. 23: 874-878.

Aschoff, J. K., Kaufmann, S., Kalkan, O., Neidhart, S., Carle, R., & Schweiggert, R. M. (2015) *In vitro* bioaccessibility of carotenoids, flavonoids, and vitamin C from differently processed oranges and orange juices [*Citrus sinensis* (L.) Osbeck]. J.Agric.Food Chem. 63: 578-587.

Ashikhmin, A., Makhneva, Z., Bolshakov, M., & Moskalenko, A. (2014) Distribution of colored carotenoids between light-harvesting complexes in the process of recovering carotenoid biosynthesis in *Ectothiorhodospira haloalkaliphila* cells. J.Photochem.Photobiol.B. 141: 59-66.

- Ashor, A. W., Siervo, M., Lara, J., Oggioni, C., & Mathers, J. C. (2014) Antioxidant vitamin supplementation reduces arterial stiffness in adults: a systematic review and meta-analysis of randomized controlled trials. *J.Nutr.* 144: 1594-1602.
- Autenrieth, C. & Ghosh, R. (2015) Random mutagenesis and overexpression of rhodopin-3,4-desaturase allows the production of highly conjugated carotenoids in *Rhodospirillum rubrum*. *Arch.Biochem.Biophys.* 572: 134-141.
- Avdeeva, L. V., Nechypurenko, O. O., & Kharhota, M. A. (2015) [Probiotic features of carotene producing strains *Bacillus* sp. 1.1 and *B. amyloliquefaciens* UCM B-5113]. *Mikrobiol.Z.* 77: 22-27.
- Avula, B., Wang, Y. H., & Khan, I. A. (2015) Arsenic speciation and fucoxanthin analysis from seaweed dietary supplements using LC-MS. *J.AOAC Int.* 98: 321-329.
- Babin, A., Saciat, C., Teixeira, M., Troussard, J. P., Motreuil, S., Moreau, J., & Moret, Y. (2015) Limiting immunopathology: Interaction between carotenoids and enzymatic antioxidant defences. *Dev.Comp Immunol.* 49: 278-281.
- Backstrom, T., Heynen, M., Brannas, E., Nilsson, J., & Magnhagen, C. (2015) Dominance and stress signalling of carotenoid pigmentation in Arctic charr (*Salvelinus alpinus*): lateralization effects? *Physiol Behav.* 138: 52-57.
- Beck, W. F., Bishop, M. M., Roscioli, J. D., Ghosh, S., & Frank, H. A. (2015) Excited state conformational dynamics in carotenoids: dark intermediates and excitation energy transfer. *Arch.Biochem.Biophys.* 572: 175-183.
- Beekwilder, J., van Rossum, H. M., Koopman, F., Sonntag, F., Buchhaupt, M., Schrader, J., Hall, R. D., Bosch, D., Pronk, J. T., van Maris, A. J., & Daran, J. M. (2014) Polycistronic expression of a beta-carotene biosynthetic pathway in *Saccharomyces cerevisiae* coupled to beta-ionone production. *J.Biotechnol.* 192 Pt B: 383-392.
- Beltran, J., Kloss, B., Hosler, J. P., Geng, J., Liu, A., Modi, A., Dawson, J. H., Sono, M., Shumskaya, M., Ampomah-Dwamena, C., Love, J. D., & Wurtzel, E. T. (2015) Control of carotenoid biosynthesis through a heme-based *cis-trans* isomerase. *Nat.Chem.Biol.* 11: 598-605.
- Berni, P., Chitchumroonchokchai, C., Canniatti-Brazaca, S. G., de Moura, F. F., & Failla, M. L. (2015) Comparison of content and *in vitro* bioaccessibility of provitamin A carotenoids in home cooked and commercially processed orange fleshed sweet potato (*Ipomea batatas* Lam). *Plant Foods Hum.Nutr.* 70: 1-8.
- Bernstein, P. S., Khachik, F., & Frank, H. A. (2015) Highlights of carotenoid research from the 17th International Carotenoid Symposium. *Arch.Biochem.Biophys.* 572: 1.
- Beskow, G. T., Hoffmann, J. F., Teixeira, A. M., Fachinello, J. C., Chaves, F. C., & Rombaldi, C. V. (2015) Bioactive and yield potential of jelly palms (*Butia odorata* Barb. Rodr.). *Food Chem.* 172: 699-704.
- Beydoun, M. A., Fanelli-Kuczmarski, M. T., Kitner-Triolo, M. H., Beydoun, H. A., Kaufman, J. S., Mason, M. A., Evans, M. K., & Zonderman, A. B. (2015) Dietary antioxidant intake and its association with cognitive function in an ethnically diverse sample of US adults. *Psychosom.Med.* 77: 68-82.
- Boeira, S. P., Funck, V. R., Borges, F. C., Del'Fabbro, L., de Gomes, M. G., Donato, F., Royes, L. F.,

- Oliveira, M. S., Jesse, C. R., & Furian, A. F. (2015) Lycopene protects against acute zearalenone-induced oxidative, endocrine, inflammatory and reproductive damages in male mice. *Chem.Biol.Interact.* 230: 50-57.
- Bollati, V., Favero, C., Albetti, B., Tarantini, L., Moroni, A., Byun, H. M., Motta, V., Conti, D. M., Tirelli, A. S., Vigna, L., Bertazzi, P. A., & Pesatori, A. C. (2014) Nutrients intake is associated with DNA methylation of candidate inflammatory genes in a population of obese subjects. *Nutrients.* 6: 4625-4639.
- Bonet, M. L., Canas, J. A., Ribot, J., & Palou, A. (2015) Carotenoids and their conversion products in the control of adipocyte function, adiposity and obesity. *Arch.Biochem.Biophys.* 572: 112-125.
- Borel, P., Desmarchelier, C., Nowicki, M., & Bott, R. (2015) A combination of single-nucleotide polymorphisms is associated with interindividual variability in dietary beta-carotene bioavailability in healthy men. *J.Nutr.* 145: 1740-1747.
- Boronat, A. & Rodriguez-Concepcion, M. (2015) Terpenoid biosynthesis in prokaryotes. *Adv.Biochem.Eng Biotechnol.* 148:3-18. doi: 10.1007/10_2014_285.: 3-18.
- Bovier, E. R. & Hammond, B. R. (2015) A randomized placebo-controlled study on the effects of lutein and zeaxanthin on visual processing speed in young healthy subjects. *Arch.Biochem.Biophys.* 572: 54-57.
- Brazaityte, A., Sakalauskiene, S., Samuoliene, G., Jankauskiene, J., Virsile, A., Novickovas, A., Sirtautas, R., Miliauskienė, J., Vastakaite, V., Dabasinskas, L., & Duchovskis, P. (2015) The effects of LED illumination spectra and intensity on carotenoid content in *Brassicaceae microgreens*. *Food Chem.* 173: 600-606.
- Brenes-Soto, A. & Dierenfeld, E. S. (2014) Effect of dietary carotenoids on vitamin A status and skin pigmentation in false tomato frogs (*Dyscophus guineti*). *Zoo.Biol.* 33: 544-552.
- Bruno, M., Beyer, P., & Al Babili, S. (2015) The potato carotenoid cleavage dioxygenase 4 catalyzes a single cleavage of beta-ionone ring-containing carotenes and non-epoxidated xanthophylls. *Arch.Biochem.Biophys.* 572: 126-133.
- Caksen, H., Ozkan, M., Cemek, M., & Cemek, F. (2014) Oxidant and antioxidant status in children with subacute sclerosing panencephalitis. *J.Child Neurol.* 29: 1448-1452.
- Camacho-Cordova, D. I., Camacho-Ruiz, R. M., Cordova-Lopez, J. A., & Cervantes-Martinez, J. (2014) Estimation of bacterioruberin by Raman spectroscopy during the growth of halophilic archaeon *Haloarcula marismortui*. *Appl.Opt.* 53: 7470-7475.
- Capecchi, G., Goti, E., Nicolai, E., Bergonzi, M. C., Monnanni, R., & Bilia, A. R. (2015) Goji berry: quality assessment and crop adaptation of plants cultivated in Tuscany (Italy) by combination of carotenoid and DNA analyses. *Nat.Prod.Commun.* 10: 1035-1036.
- Cardoso, L. M., Pinheiro, S. S., da Silva, L. L., de Menezes, C. B., de Carvalho, C. W., Tardin, F. D., Queiroz, V. A., Martino, H. S., & Pinheiro-Sant'Ana, H. M. (2015) Tocochromanols and carotenoids in sorghum (*Sorghum bicolor* L.): diversity and stability to the heat treatment. *Food Chem.* 172: 900-908.
- Casagrande, S., Pinxten, R., Zaid, E., & Eens, M. (2014) Carotenoids, birdsong and oxidative status: administration of dietary lutein is associated with an increase in song rate and circulating antioxidants

(albumin and cholesterol) and a decrease in oxidative damage. PLoS.ONE. 9: e115899.

Castrillo, M. & Avalos, J. (2014) Light-mediated participation of the VIVID-like protein of *Fusarium fujikuroi* VvdA in pigmentation and development. Fungal.Genet.Biol. 71: 9-20.

Chen, F., Sun, Z. W., Ye, L. F., Fu, G. S., Mou, Y., & Hu, S. J. (2015) Lycopene protects against apoptosis in hypoxia/reoxygenation-induced H9C2 myocardioblast cells through increased autophagy. Mol.Med.Rep. 11: 1358-1365.

Chen, G., Wang, B., Han, D., Sommerfeld, M., Lu, Y., Chen, F., & Hu, Q. (2015) Molecular mechanisms of the coordination between astaxanthin and fatty acid biosynthesis in *Haematococcus pluvialis* (Chlorophyceae). Plant J. 81: 95-107.

Chen, H. & Zhong, Q. (2015) Thermal and UV stability of beta-carotene dissolved in peppermint oil microemulsified by sunflower lecithin and Tween 20 blend. Food Chem. 174: 630-636.

Cheng, T. Y., Goodman, G. E., Thornquist, M. D., Barnett, M. J., Beresford, S. A., LaCroix, A. Z., Zheng, Y., & Neuhouser, M. L. (2014) Estimated intake of vitamin D and its interaction with vitamin A on lung cancer risk among smokers. Int.J.Cancer. 135: 2135-2145.

Chew, E. Y., Clemons, T. E., Agron, E., Launer, L. J., Grodstein, F., & Bernstein, P. S. (2015) Effect of omega-3 fatty acids, lutein/zeaxanthin, or other nutrient supplementation on cognitive function: the AREDS2 randomized clinical trial. JAMA. 314: 791-801.

Chi, S. C., Mothersole, D. J., Dilbeck, P., Niedzwiedzki, D. M., Zhang, H., Qian, P., Vasilev, C., Grayson, K. J., Jackson, P. J., Martin, E. C., Li, Y., Holten, D., & Neil, H. C. (2015) Assembly of functional photosystem complexes in *Rhodobacter sphaeroides* incorporating carotenoids from the spirilloxanthin pathway. Biochim.Biophys.Acta. 1847: 189-201.

Chin, K. Y., Abdul-Majeed, S., Fozi, N. F., & Ima-Nirwana, S. (2014) Annatto tocotrienol improves indices of bone static histomorphometry in osteoporosis due to testosterone deficiency in rats. Nutrients. 6: 4974-4983.

Choi, J., Oh, E. T., & Koo, S. (2015) A chain extension method for apocarotenoids; lycopene and lycophyll syntheses. Arch.Biochem.Biophys. 572: 142-150.

Cocate, P. G., Natali, A. J., Alfenas, R. C., de Oliveira, A., dos Santos, E. C., & Hermsdorff, H. H. (2015) Carotenoid consumption is related to lower lipid oxidation and DNA damage in middle-aged men. Br.J.Nutr. 114: 257-264.

Colucci, R., Dragoni, F., Conti, R., Pisaneschi, L., Lazzeri, L., & Moretti, S. (2015) Evaluation of an oral supplement containing *Phyllanthus emblica* fruit extracts, vitamin E, and carotenoids in vitiligo treatment. Dermatol.Ther. 28: 17-21.

Corte-Real, J., Richling, E., Hoffmann, L., & Bohn, T. (2014) Selective factors governing *in vitro* beta-carotene bioaccessibility: negative influence of low filtration cutoffs and alterations by emulsifiers and food matrices. Nutr.Res. 34: 1101-1110.

Cortes-Olmos, C., Leiva-Brondo, M., Rosello, J., Raigon, M. D., & Cebolla-Cornejo, J. (2014) The role of traditional varieties of tomato as sources of functional compounds. J.Sci.Food Agric. 94: 2888-2904.

- Cortes, R. N., Guzman, I. V., & Martinez-Bustos, F. (2014) Effects of some extrusion variables on physicochemical characteristics of extruded corn starch-passion fruit pulp (*Passiflora edulis*) snacks. *Plant Foods Hum.Nutr.* 69: 365-371.
- Csambalik, L., Diveky-Ertsey, A., Pap, Z., Orban, C., Stegerne, M. M., Gere, A., Stefanovits-Banyai, E., & Sipos, L. (2014) Coherences of instrumental and sensory characteristics: case study on cherry tomatoes. *J.Food Sci.* 79: C2192-C2202.
- Csernetics, A., Toth, E., Farkas, A., Nagy, G., Bencsik, O., Vagvolgyi, C., & Papp, T. (2015) Expression of *Xanthophyllomyces dendrorhous* cytochrome-P450 hydroxylase and reductase in *Mucor circinelloides*. *World J.Microbiol.Biotechnol.* 31: 321-336.
- Daood, H. G., Bencze, G., Palotas, G., Pek, Z., Sidikov, A., & Helyes, L. (2014) HPLC analysis of carotenoids from tomatoes using cross-linked C18 column and MS detection. *J.Chromatogr.Sci.* 52: 985-991.
- Davidi, L., Levin, Y., Ben Dor, S., & Pick, U. (2015) Proteome analysis of cytoplasmatic and plastidic beta-carotene lipid droplets in *Dunaliella bardawil*. *Plant Physiol.* 167: 60-79.
- Davidson, M. H. & Bechtel, D. H. (2014) Assessment of the effect of esterified propoxylated glycerol (EPG) on the status of fat-soluble vitamins and select water-soluble nutrients following dietary administration to humans for 8 weeks. *Regul.Toxicol.Pharmacol.* 70 Suppl 2: S143-S157.
- de Carbon, C. B., Thurotte, A., Wilson, A., Perreau, F., & Kirilovsky, D. (2015) Biosynthesis of soluble carotenoid holoproteins in *Escherichia coli*. *Sci.Rep.* 5:9085. doi: 10.1038/srep09085.: 9085.
- de Munter, L., Maasland, D. H., van den Brandt, P. A., Kremer, B., & Schouten, L. J. (2015) Vitamin and carotenoid intake and risk of head-neck cancer subtypes in the Netherlands Cohort Study. *Am.J.Clin.Nutr.* 102: 420-432.
- Dequigiovanni, G., Ramos, S. L., Zucchi, M. I., Bajay, M. M., Pinheiro, J. B., Fabri, E. G., Bressan, E. A., & Veasey, E. A. (2014) Isolation and characterization of microsatellite loci for *Bixa orellana*, an important source of natural dyes. *Genet.Mol.Res.* 13: 9097-9102.
- Dey, C. J., Valcu, M., Kempenaers, B., & Dale, J. (2015) Carotenoid-based bill coloration functions as a social, not sexual, signal in songbirds (Aves: Passeriformes). *J.Evol.Biol.* 28: 250-258.
- Diaz, A. C., Velurtas, S. M., Espino, M. L., & Fenucci, J. L. (2014) Effect of dietary astaxanthin on free radical scavenging capacity and nitrite stress tolerance of postlarvae shrimp, *Pleoticus muelleri*. *J.Agric.Food Chem.* 62: 12326-12331.
- Dos Reis, L. C., de Oliveira, V. R., Hagen, M. E., Jablonski, A., Flores, S. H., & de Oliveira, R. A. (2015) Effect of cooking on the concentration of bioactive compounds in broccoli (*Brassica oleracea* var. Avenger) and cauliflower (*Brassica oleracea* var. Alphina F1) grown in an organic system. *Food Chem.* 172: 770-777.
- Duquette, S. C., Fischer, C. D., Feener, T. D., Muench, G. P., Morck, D. W., Barreda, D. R., Nickerson, J. G., & Buret, A. G. (2014) Anti-inflammatory effects of retinoids and carotenoid derivatives on caspase-3-dependent apoptosis and efferocytosis of bovine neutrophils. *Am.J.Vet.Res.* 75: 1064-1075.
- Eisenstein, M. (2014) Biotechnology: Against the grain. *Nature.* 514: S55-S57.

- El Maraghy, S. A., Rizk, S. M., & Shahin, N. N. (2015) Gastroprotective effect of crocin in ethanol-induced gastric injury in rats. *Chem.Biol.Interact.* 229: 26-35.
- Elgersma, A., Soegaard, K., & Jensen, S. K. (2015) Interrelations between herbage yield, alpha-tocopherol, beta-carotene, lutein, protein, and fiber in non-leguminous forbs, forage legumes, and a grass-clover mixture as affected by harvest date. *J.Agric.Food Chem.* 63: 406-414.
- Eliassen, A. H., Liao, X., Rosner, B., Tamimi, R. M., Tworoger, S. S., & Hankinson, S. E. (2015) Plasma carotenoids and risk of breast cancer over 20 y of follow-up. *Am.J.Clin.Nutr.* 101: 1197-1205.
- Englert, M., Hammann, S., & Vetter, W. (2015) Isolation of beta-carotene, alpha-carotene and lutein from carrots by countercurrent chromatography with the solvent system modifier benzotrifluoride. *J.Chromatogr.A.* 1388: 119-125.
- Ergun, N., Ozcubukcu, S., Kolukirik, M., & Temizkan, O. (2014) Effects of temperature - heavy metal interactions, antioxidant enzyme activity and gene expression in wheat (*Triticum aestivum L.*) seedlings. *Acta Biol.Hung.* 65: 439-450.
- Ermakov, I. V. & Gellermann, W. (2015) Optical detection methods for carotenoids in human skin. *Arch.Biochem.Biophys.* 572: 101-111.
- Fernandes, R. F., Maia, L. F., Couri, M. R., Costa, L. A., & de Oliveira, L. F. (2015) Raman spectroscopy as a tool in differentiating conjugated polyenes from synthetic and natural sources. *Spectrochim.Acta A Mol.Biomol.Spectrosc.* 134: 434-441.
- Fernandez-Marin, B., Milla, R., Martin-Robles, N., Arc, E., Kranner, I., Becerril, J. M., & Garcia-Plazaola, J. I. (2014) Side-effects of domestication: cultivated legume seeds contain similar tocopherols and fatty acids but less carotenoids than their wild counterparts. *BMC.Plant Biol.* 14:1599. doi: 10.1186/s12870-014-0385-1.: 1599-0385.
- Fischer, T. (2015) [Non-pharmacologic therapy of age-related macular degeneration, based on the etiopathogenesis of the disease]. *Orv.Hetil.* 156: 1128-1132.
- Ford, E. S., Li, C., Cunningham, T. J., & Croft, J. B. (2014) Associations between antioxidants and all-cause mortality among US adults with obstructive lung function. *Br.J.Nutr.* 112: 1662-1673.
- Freitas, A., Moldao-Martins, M., Costa, H. S., Albuquerque, T. G., Valente, A., & Sanches-Silva, A. (2015) Effect of UV-C radiation on bioactive compounds of pineapple (*Ananas comosus L. Merr.*) by-products. *J.Sci.Food Agric.* 95: 44-52.
- French, K. L., Rocher, D., Zumberge, J. E., & Summons, R. E. (2015) Assessing the distribution of sedimentary C40 carotenoids through time. *Geobiology.* 13: 139-151.
- Gao, S., Han, L., Zhu, L., Ge, M., Yang, S., Jiang, Y., & Chen, D. (2014) One-step integration of multiple genes into the oleaginous yeast *Yarrowia lipolytica*. *Biotechnol.Lett.* 36: 2523-2528.
- Garcia-de Blas, E., Mateo, R., & Alonso-Alvarez, C. (2015) Accumulation of dietary carotenoids, retinoids and tocopherol in the internal tissues of a bird: a hypothesis for the cost of producing colored ornaments. *Oecologia.* 177: 259-271.
- Garcia-Guinea, J., Furio, M., Sanchez-Moral, S., Jurado, V., Correcher, V., & Saiz-Jimenez, C. (2015) Composition and spectra of copper-carotenoid sediments from a pyrite mine stream in Spain.

Spectrochim.Acta A Mol.Biomol.Spectrosc. 135: 203-210.

Ge, W., Li, D., Chen, M., Wang, X., Liu, S., & Sun, R. (2015) Characterization and antioxidant activity of beta-carotene loaded chitosan-graft-poly(lactide) nanomicelles. Carbohydr.Polym. 117: 169-176.

Gelzinis, A., Butkus, V., Songaila, E., Augulis, R., Gall, A., Buchel, C., Robert, B., Abramavicius, D., Zigmantas, D., & Valkunas, L. (2015) Mapping energy transfer channels in fucoxanthin-chlorophyll protein complex. Biochim.Biophys.Acta. 1847: 241-247.

Geromichalos, G. D., Papadopoulos, T., Sahpazidou, D., & Sinakos, Z. (2014) Safranal, a *Crocus sativus* L constituent suppresses the growth of K-562 cells of chronic myelogenous leukemia. *In silico* and *in vitro* study. Food Chem.Toxicol. 74: 45-50.

Ghaeni, F. A., Amin, B., Hariri, A. T., Meybodi, N. T., & Hosseinzadeh, H. (2014) Antilithiatic effects of crocin on ethylene glycol-induced lithiasis in rats. Urolithiasis. 42: 549-558.

Giannelli, L., Yamada, H., Katsuda, T., & Yamaji, H. (2015) Effects of temperature on the astaxanthin productivity and light harvesting characteristics of the green alga *Haematococcus pluvialis*. J.Biosci.Bioeng. 119: 345-350.

Giraudieu, M. & McGraw, K. J. (2014) Physiological correlates of urbanization in a desert songbird. Integr.Comp Biol. 54: 622-632.

Golley, R. K., McNaughton, S. A., & Hendrie, G. A. (2015) A dietary guideline adherence score is positively associated with dietary biomarkers but not lipid profile in healthy children. J.Nutr. 145: 128-133.

Gong, X. & Rubin, L. P. (2015) Role of macular xanthophylls in prevention of common neovascular retinopathies: retinopathy of prematurity and diabetic retinopathy. Arch.Biochem.Biophys. 572: 40-48.

Gontero, P., Marra, G., Soria, F., Oderda, M., Zitella, A., Baratta, F., Chiorino, G., Gregnanin, I., Daniele, L., Cattel, L., Frea, B., & Brusa, P. (2015) A randomized double-blind placebo controlled phase I-II study on clinical and molecular effects of dietary supplements in men with precancerous prostatic lesions. Chemoprevention or "chemopromotion"? Prostate. 75: 1177-1186.

Gonzalez-Guardia, L., Yubero-Serrano, E. M., Delgado-Lista, J., Perez-Martinez, P., Garcia-Rios, A., Marin, C., Camargo, A., Delgado-Casado, N., Roche, H. M., Perez-Jimenez, F., Brennan, L., & Lopez-Miranda, J. (2015) Effects of the Mediterranean diet supplemented with coenzyme Q10 on metabolomic profiles in elderly men and women. J.Gerontol.A Biol.Sci.Med.Sci. 70: 78-84.

Goo, Y. M., Han, E. H., Jeong, J. C., Kwak, S. S., Yu, J., Kim, Y. H., Ahn, M. J., & Lee, S. W. (2015) Overexpression of the sweet potato IbOr gene results in the increased accumulation of carotenoid and confers tolerance to environmental stresses in transgenic potato. C.R.Biol. 338: 12-20.

Gotze, J. P., Kröner, D., Banerjee, S., Karasulu, B., & Thiel, W. (2014) Carotenoids as a shortcut for chlorophyll Soret-to-Q band energy flow. Chemphyschem. 15: 3392-3401.

Grace, M. H., Yousef, G. G., Esposito, D., Raskin, I., & Lila, M. A. (2014) Bioactive capacity, sensory properties, and nutritional analysis of a shelf stable protein-rich functional ingredient with concentrated fruit and vegetable phytoactives. Plant Foods Hum.Nutr. 69: 372-378.

Guan, Y. & Zhong, Q. (2014) Gum arabic and Fe(2)(+) synergistically improve the heat and acid

stability of norbixin at pH 3.0-5.0. J.Agric.Food Chem. 62: 12668-12677.

Ha, T. V., Kim, S., Choi, Y., Kwak, H. S., Lee, S. J., Wen, J., Oey, I., & Ko, S. (2015) Antioxidant activity and bioaccessibility of size-different nanoemulsions for lycopene-enriched tomato extract. Food Chem. 178: 115-121.

Hameed, A., Shahina, M., Lai, W. A., Lin, S. Y., Liu, Y. C., Hsu, Y. H., & Young, C. C. (2015) *Hanstruepera neustonica* gen. nov., sp. nov., a zeaxanthin-producing member of the family *Flavobacteriaceae* isolated from estuarine water, and emendation of *Sediminibacter furfurosus* Khan et al. 2007 emend. Kwon et al. 2014, *Mangrovimonas yunxiaonensis* Li et al. 2013, *Antarcticimonas flava* Yang et al. 2009 and *Hoppeia youngheungensis* Kwon et al. 2014. Int.J.Syst.Evol.Microbiol. 65: 336-345.

Han, R. M., Cheng, H., Feng, R., Li, D. D., Lai, W., Zhang, J. P., & Skibsted, L. H. (2014) beta-Carotene as a lipophilic scavenger of nitric oxide. J.Phys.Chem.B. 118: 11659-11666.

He, Q., Zhou, W., Xiong, C., Tan, G., & Chen, M. (2015) Lycopene attenuates inflammation and apoptosis in post-myocardial infarction remodeling by inhibiting the nuclear factor-kappaB signaling pathway. Mol.Med.Rep. 11: 374-378.

Helmer, S. H., Kerbaol, A., Aras, P., Jumarie, C., & Boily, M. (2015) Effects of realistic doses of atrazine, metolachlor, and glyphosate on lipid peroxidation and diet-derived antioxidants in caged honey bees (*Apis mellifera*). Environ.Sci.Pollut.Res.Int. 22: 8010-8021.

Henriksen, B. S. & Chan, G. M. (2014) Importance of carotenoids in optimizing eye and brain development. J.Pediatr.Gastroenterol.Nutr. 59: 552.

Heying, E. K., Tanumihardjo, J. P., Vasic, V., Cook, M., Palacios-Rojas, N., & Tanumihardjo, S. A. (2014) Biofortified orange maize enhances beta-cryptoxanthin concentrations in egg yolks of laying hens better than tangerine peel fortificant. J.Agric.Food Chem. 62: 11892-11900.

Ho, W. J., Simon, M. S., Yildiz, V. O., Shikany, J. M., Kato, I., Beebe-Dimmer, J. L., Cetnar, J. P., & Bock, C. H. (2015) Antioxidant micronutrients and the risk of renal cell carcinoma in the Women's Health Initiative cohort. Cancer. 121: 580-588.

Holt, E. W., Wei, E. K., Bennett, N., & Zhang, L. M. (2014) Low skin carotenoid concentration measured by resonance Raman spectroscopy is associated with metabolic syndrome in adults. Nutr.Res. 34: 821-826.

Honda, M., Igami, H., Kawana, T., Hayashi, K., Takehara, M., Inoue, Y., & Kitamura, C. (2014) Photosensitized E/Z isomerization of (all-E)-lycopene aiming at practical applications. J.Agric.Food Chem. 62: 11353-11356.

Horibe, T., Qian, P., Hunter, C. N., & Hashimoto, H. (2015) Stark absorption spectroscopy on the carotenoids bound to B800-820 and B800-850 type LH2 complexes from a purple photosynthetic bacterium, *Phaeospirillum molischianum* strain DSM120. Arch.Biochem.Biophys. 572: 158-166.

Hu, H. S., Bhaskaran-Nair, K., Apra, E., Govind, N., & Kowalski, K. (2014) Toward enabling large-scale open-shell equation-of-motion coupled cluster calculations: triplet states of beta-carotene. J.Phys.Chem.A. 118: 9087-9093.

Huang, Y., Andueza, D., de Oliveira, L., Zawadzki, F., & Prache, S. (2015) Visible spectroscopy on

carcass fat combined with chemometrics to distinguish pasture-fed, concentrate-fed and concentrate-finished pasture-fed lambs. Meat Sci. 101: 5-12.

Hussain, M. I. & Reigosa, M. J. (2015) Characterization of xanthophyll pigments, photosynthetic performance, photon energy dissipation, reactive oxygen species generation and carbon isotope discrimination during artemisinin-induced stress in *Arabidopsis thaliana*. PLoS.ONE. 10: e0114826.

Igielska-Kalwat, J., Goscianska, J., & Nowak, I. (2015) [Carotenoids as natural antioxidants]. Postepy Hig.Med.Dosw.(Online.). 69: 418-428.

Inoue, K., Tanada, C., Nishikawa, H., Matsuda, S., Tada, A., Ito, Y., Min, J. Z., Todoroki, K., Sugimoto, N., Toyo'oka, T., & Akiyama, H. (2014) Evaluation of gardenia yellow using crocetin from alkaline hydrolysis based on ultra high performance liquid chromatography and high-speed countercurrent chromatography. J.Sep.Sci. 37: 3619-3624.

Ip, B. C., Liu, C., Lichtenstein, A. H., Von Lintig, J., & Wang, X. D. (2015) Lycopene and apo-10'-lycopenoic acid have differential mechanisms of protection against hepatic steatosis in beta-carotene-9',10'-oxygenase knockout male mice. J.Nutr. 145: 268-276.

Ip, B. C., Liu, C., Ausman, L. M., Von Lintig, J., & Wang, X. D. (2014) Lycopene attenuated hepatic tumorigenesis via differential mechanisms depending on carotenoid cleavage enzyme in mice. Cancer Prev.Res.(Phila). 7: 1219-1227.

Islam, K. M. & Schweigert, F. J. (2015) Comparison of three spectrophotometric methods for analysis of egg yolk carotenoids. Food Chem. 172: 233-237.

Jagruthi, C., Yogeshwari, G., Anbazahan, S. M., Mari, L. S., Arockiaraj, J., Mariappan, P., Sudhakar, G. R., Balasundaram, C., & Harikrishnan, R. (2014) Effect of dietary astaxanthin against *Aeromonas hydrophila* infection in common carp, *Cyprinus carpio*. Fish.Shellfish.Immunol. 41: 674-680.

Jaime, L., Vazquez, E., Fornari, T., Lopez-Hazas, M. C., Garcia-Risco, M. R., Santoyo, S., & Reglero, G. (2015) Extraction of functional ingredients from spinach (*Spinacia oleracea* L.) using liquid solvent and supercritical CO₂ extraction. J.Sci.Food Agric. 95: 722-729.

Jati, I. R., Widmer, C., Purwestri, R. C., Wirawan, N. N., Gola, U., Lambert, C., & Biesalski, H. K. (2014) Design and validation of a program to identify inadequate intake of iron, zinc, and vitamin A. Nutrition. 30: 1310-1317.

Jeong, J. S. & Kim, I. H. (2014) Effect of astaxanthin produced by *Phaffia rhodozyma* on growth performance, meat quality, and fecal noxious gas emission in broilers. Poult.Sci. 93: 3138-3144.

Jeurnink, S. M., Ros, M. M., Leenders, M., van Duijnhoven, F. J., Siersema, P. D., Jansen, E. H., van Gils, C. H., Bakker, M. F., Overvad, K., Roswall, N., Tjonneland, A., Boutron-Ruault, M. C., Racine, A., Cadeau, C., Grote, V., Kaaks, R., Aleksandrova, K., Boeing, H., Trichopoulou, A., Benetou, V., Valanou, E., Palli, D., Krogh, V., Vineis, P., Tumino, R., Mattiello, A., Weiderpass, E., Skeie, G., Castano, J. M., Duell, E. J., Barricarte, A., Molina-Montes, E., Arguelles, M., Dorronsoro, M., Johansen, D., Lindkvist, B., Sund, M., Crowe, F. L., Khaw, K. T., Jenab, M., Fedirko, V., Riboli, E., & Bueno-de-Mesquita, H. B. (2015) Plasma carotenoids, vitamin C, retinol and tocopherols levels and pancreatic cancer risk within the European Prospective Investigation into Cancer and Nutrition: a nested case-control study: plasma micronutrients and pancreatic cancer risk. Int.J.Cancer. 136: E665-E676.

- Jin, Y., Gordon, M. H., Alimbetov, D., Chong, M. F., George, T. W., Spencer, J. P., Kennedy, O. B., Tuohy, K., Minihane, A. M., & Lovegrove, J. A. (2014) A novel combined biomarker including plasma carotenoids, vitamin C, and ferric reducing antioxidant power is more strongly associated with fruit and vegetable intake than the individual components. *J.Nutr.* 144: 1866-1872.
- Johnston, J. B., Nickerson, J. G., Daroszewski, J., Mogg, T. J., & Burton, G. W. (2014) Biologically active polymers from spontaneous carotenoid oxidation: a new frontier in carotenoid activity. *PLoS.ONE.* 9: e111346.
- Julia, C., Galan, P., Touvier, M., Meunier, N., Papet, I., Sapin, V., Cano, N., Faure, P., Hercberg, S., & Kesse-Guyot, E. (2014) Antioxidant status and the risk of elevated C-reactive protein 12 years later. *Ann.Nutr.Metab.* 65: 289-298.
- Karioti, A., Bergonzi, M. C., Vincieri, F. F., & Bilia, A. R. (2014) Validated method for the analysis of goji berry, a rich source of zeaxanthin dipalmitate. *J.Agric.Food Chem.* 62: 12529-12535.
- Katz, O., Reifen, R., & Lerner, A. (2015) beta-Carotene can reverse dysregulation of iron protein in an *in vitro* model of inflammation. *Immunol.Res.* 61: 70-78.
- Kaulmann, A. & Bohn, T. (2014) Carotenoids, inflammation, and oxidative stress--implications of cellular signaling pathways and relation to chronic disease prevention. *Nutr.Res.* 34: 907-929.
- Kaur, S. & Spillane, C. (2015) Reduction in carotenoid levels in the marine diatom *Phaeodactylum tricornutum* by artificial microRNAs targeted against the endogenous phytoene synthase gene. *Mar.Biotechnol.(NY).* 17: 1-7.
- Kaya, H., Koc, A. K., Sayin, I., Gunes, S., Altintas, A., Yegin, Y., & Kayhan, F. T. (2015) Vitamins A, C, and E and selenium in the treatment of idiopathic sudden sensorineural hearing loss. *Eur.Arch.Otorhinolaryngol.* 272: 1119-1125.
- Kehoe, S. H., Chopra, H., Sahariah, S. A., Bhat, D., Munshi, R. P., Panchal, F., Young, S., Brown, N., Tarwande, D., Gandhi, M., Margetts, B. M., Potdar, R. D., & Fall, C. H. (2015) Effects of a food-based intervention on markers of micronutrient status among Indian women of low socio-economic status. *Br.J.Nutr.* 113: 813-821.
- Kilcrease, J., Rodriguez-Uribe, L., Richins, R. D., Arcos, J. M., Victorino, J., & O'Connell, M. A. (2015) Correlations of carotenoid content and transcript abundances for fibrillin and carotenogenic enzymes in *Capsicum annuum* fruit pericarp. *Plant Sci.* 232: 57-66.
- Kim, H. W., Kim, J. B., Poovan, S., Chung, M. N., Cho, S. M., Lee, Y. M., Cho, Y. S., Kim, J. H., & Kim, H. R. (2014) Effect of processing conditions on the content of *cis/trans* carotene isomers as provitamin A carotenoids in Korean sweet potato varieties. *Int.J.Food Sci.Nutr.* 65: 821-826.
- Kim, J. E., Gordon, S. L., Ferruzzi, M. G., & Campbell, W. W. (2015) Effects of egg consumption on carotenoid absorption from co-consumed, raw vegetables. *Am.J.Clin.Nutr.* 102: 75-83.
- Kim, Y. K., Zuccaro, M. V., Costabile, B. K., Rodas, R., & Quadro, L. (2015) Tissue- and sex-specific effects of beta-carotene 15,15' oxygenase (BCO1) on retinoid and lipid metabolism in adult and developing mice. *Arch.Biochem.Biophys.* 572: 11-18.
- Kirilovsky, D. (2015) Photosynthesis: Dissipating energy by carotenoids. *Nat.Chem.Biol.* 11: 242-243.

- Kochi, T., Shimizu, M., Sumi, T., Kubota, M., Shirakami, Y., Tanaka, T., & Moriwaki, H. (2014) Inhibitory effects of astaxanthin on azoxymethane-induced colonic preneoplastic lesions in C57/BL/KsJ-db/db mice. *BMC.Gastroenterol.* 14:212. doi: 10.1186/s12876-014-0212-z.: 212-0212.
- Kongkachuichai, R., Charoensiri, R., Yakoh, K., Kringkasemsee, A., & Insung, P. (2015) Nutrients value and antioxidant content of indigenous vegetables from Southern Thailand. *Food Chem.* 173: 838-846.
- Kopena, R., Lopez, P., & Martin, J. (2014) What are carotenoids signaling? Immunostimulatory effects of dietary vitamin E, but not of carotenoids, in Iberian green lizards. *Naturwissenschaften.* 101: 1107-1114.
- Kowshik, J., Baba, A. B., Giri, H., Deepak, R. G., Dixit, M., & Nagini, S. (2014) Astaxanthin inhibits JAK/STAT-3 signaling to abrogate cell proliferation, invasion and angiogenesis in a hamster model of oral cancer. *PLoS.ONE.* 9: e109114.
- Kujawska, M., Ewertowska, M., Adamska, T., Sadowski, C., Ignatowicz, E., & Jodynis-Liebert, J. (2014) Antioxidant effect of lycopene-enriched tomato paste on N-nitrosodiethylamine-induced oxidative stress in rats. *J.Physiol Biochem.* 70: 981-990.
- Kumar, S., Matange, N., Umapathy, S., & Visweswariah, S. S. (2015) Linking carbon metabolism to carotenoid production in mycobacteria using Raman spectroscopy. *FEMS Microbiol.Lett.* 362: 1-6.
- Ladygin, V. G. (2014) [Isolation and physiological and biochemical characterization of the *Chlamydomonas reinhardtii* C-41 mutant, a superproducer of xi-carotene]. *Prikl.Biokhim.Mikrobiol.* 50: 578-586.
- LaFountain, A. M., Frank, H. A., & Yuan, Y. W. (2015) Carotenoid composition of the flowers of *Mimulus lewisii* and related species: Implications regarding the prevalence and origin of two unique, allenic pigments. *Arch.Biochem.Biophys.* 573: 32-39.
- LaFountain, A. M., Prum, R. O., & Frank, H. A. (2015) Diversity, physiology, and evolution of avian plumage carotenoids and the role of carotenoid-protein interactions in plumage color appearance. *Arch.Biochem.Biophys.* 572: 201-212.
- Lai, G. Y., Weinstein, S. J., Albanes, D., Taylor, P. R., Virtamo, J., McGlynn, K. A., & Freedman, N. D. (2014) Association of serum alpha-tocopherol, beta-carotene, and retinol with liver cancer incidence and chronic liver disease mortality. *Br.J.Cancer.* 111: 2163-2171.
- Lai, G. Y., Weinstein, S. J., Taylor, P. R., McGlynn, K. A., Virtamo, J., Gail, M. H., Albanes, D., & Freedman, N. D. (2014) Effects of alpha-tocopherol and beta-carotene supplementation on liver cancer incidence and chronic liver disease mortality in the ATBC study. *Br.J.Cancer.* 111: 2220-2223.
- Lai, J. S., Attia, J., McEvoy, M., & Hure, A. J. (2014) Biochemical validation of the older Australian's food frequency questionnaire using carotenoids and vitamin E. *Nutrients.* 6: 4906-4917.
- Lautenschlager, M., Sendker, J., Huwel, S., Galla, H. J., Brandt, S., Dufer, M., Riehemann, K., & Hensel, A. (2015) Intestinal formation of *trans*-crocetin from saffron extract (*Crocus sativus* L.) and *in vitro* permeation through intestinal and blood brain barrier. *Phytomedicine.* 22: 36-44.
- Lee, J. J., Chen, L., Shi, J., Trzcinski, A., & Chen, W. N. (2014) Metabolomic profiling of *Rhodosporidium toruloides* grown on glycerol for carotenoid production during different growth

phases. J.Agric.Food Chem. 62: 10203-10209.

Lee, S. A., Jiang, H., Trent, C. M., Yuen, J. J., Narayanasamy, S., Curley, R. W., Jr., Harrison, E. H., Goldberg, I. J., Maurer, M. S., & Blaner, W. S. (2014) Cardiac dysfunction in beta-carotene-15,15'-dioxygenase-deficient mice is associated with altered retinoid and lipid metabolism. Am.J.Physiol Heart Circ.Physiol. 307: H1675-H1684.

Leenders, M., Leufkens, A. M., Siersema, P. D., van Duijnhoven, F. J., Vrieling, A., Hulshof, P. J., van Gils, C. H., Overvad, K., Roswall, N., Kyro, C., Boutron-Ruault, M. C., Fagerhazzi, G., Cadeau, C., Kuhn, T., Johnson, T., Boeing, H., Aleksandrova, K., Trichopoulou, A., Klinaki, E., Androulidaki, A., Palli, D., Grioni, S., Sacerdote, C., Tumino, R., Panico, S., Bakker, M. F., Skeie, G., Weiderpass, E., Jakuszyn, P., Barricarte, A., Maria, H. J., Molina-Montes, E., Arguelles, M., Johansson, I., Ljuslinder, I., Key, T. J., Bradbury, K. E., Khaw, K. T., Wareham, N. J., Ferrari, P., Duarte-Salles, T., Jenab, M., Gunter, M. J., Vergnaud, A. C., Wark, P. A., & Bueno-de-Mesquita, H. B. (2014) Plasma and dietary carotenoids and vitamins A, C and E and risk of colon and rectal cancer in the European Prospective Investigation into Cancer and Nutrition. Int.J.Cancer. 135: 2930-2939.

Lefevre, C. E. & Perrett, D. I. (2015) Fruit over sunbed: carotenoid skin colouration is found more attractive than melanin colouration. Q.J.Exp.Psychol.(Hove.). 68: 284-293.

Leverenz, R. L., Sutter, M., Wilson, A., Gupta, S., Thurotte, A., Bourcier, d. C., Petzold, C. J., Ralston, C., Perreau, F., Kirilovsky, D., & Kerfeld, C. A. (2015) A 12 A carotenoid translocation in a photoswitch associated with cyanobacterial photoprotection. Science. 348: 1463-1466.

Li, D., Xiao, Y., Zhang, Z., & Liu, C. (2015) Light-induced oxidation and isomerization of all-trans-beta-cryptoxanthin in a model system. J.Photochem.Photobiol.B. 142: 51-58.

Li, K., Zhao, C., Yue, H., & Yang, S. (2014) A unique low light adaptation mechanism in *Rhodobacter azotoformans*. J.Basic Microbiol. 54: 1350-1357.

Li, X., Ning, X., Dou, J., Yu, Q., Wang, S., Zhang, L., Wang, S., Hu, X., & Bao, Z. (2015) An SCD gene from the *Mollusca* and its upregulation in carotenoid-enriched scallops. Gene. 564: 101-108.

Li, X., Wang, G., Chen, D., & Lu, Y. (2015) beta-Carotene and astaxanthin with human and bovine serum albumins. Food Chem. 179: 213-221.

Li, Z. S., Noda, K., Fujita, E., Manabe, Y., Hirata, T., & Sugawara, T. (2015) The green algal carotenoid siphonaxanthin inhibits adipogenesis in 3T3-L1 preadipocytes and the accumulation of lipids in white adipose tissue of KK-Ay mice. J.Nutr. 145: 490-498.

Ligia, F. A., Magyar, A., & Kispert, L. D. (2015) Chemistry of carotenoid neutral radicals. Arch.Biochem.Biophys. 572: 167-174.

Limon, P., Malheiro, R., Casal, S., Acien-Fernandez, F. G., Fernandez-Sevilla, J. M., Rodrigues, N., Cruz, R., Bermejo, R., & Pereira, J. A. (2015) Improvement of stability and carotenoids fraction of virgin olive oils by addition of microalgae *Scenedesmus almeriensis* extracts. Food Chem. 175: 203-211.

Linnewiel-Hermoni, K., Motro, Y., Miller, Y., Levy, J., & Sharoni, Y. (2014) Carotenoid derivatives inhibit nuclear factor kappa B activity in bone and cancer cells by targeting key thiol groups. Free Radic.Biol.Med. 75: 105-120.

- Linnewiel-Hermoni, K., Khanin, M., Danilenko, M., Zango, G., Amosi, Y., Levy, J., & Sharoni, Y. (2015) The anti-cancer effects of carotenoids and other phytonutrients resides in their combined activity. *Arch.Biochem.Biophys.* 572: 28-35.
- Lipkie, T. E., Banavara, D., Shah, B., Morrow, A. L., McMahon, R. J., Jouni, Z. E., & Ferruzzi, M. G. (2014) Caco-2 accumulation of lutein is greater from human milk than from infant formula despite similar bioaccessibility. *Mol.Nutr.Food Res.* 58: 2014-2022.
- Liu, C., Liu, W., Chen, W., Yang, J., & Zheng, L. (2015) Feasibility in multispectral imaging for predicting the content of bioactive compounds in intact tomato fruit. *Food Chem.* 173: 482-488.
- Liu, C., Yan, F., Gao, H., He, M., Wang, Z., Cheng, Y., Deng, X., & Xu, J. (2015) Features of citrus terpenoid production as revealed by carotenoid, limonoid and aroma profiles of two pummelos (*Citrus maxima*) with different flesh color. *J.Sci.Food Agric.* 95: 111-119.
- Liu, J., Shi, W. Q., Cao, Y., He, L. P., Guan, K., Ling, W. H., & Chen, Y. M. (2014) Higher serum carotenoid concentrations associated with a lower prevalence of the metabolic syndrome in middle-aged and elderly Chinese adults. *Br.J.Nutr.* 112: 2041-2048.
- Liu, L., Shao, Z., Zhang, M., & Wang, Q. (2015) Regulation of carotenoid metabolism in tomato. *Mol.Plant.* 8: 28-39.
- Liu, S., Zhang, G., Li, X., Wu, P., & Zhang, J. (2015) Enhancement of *Rhodobacter sphaeroides* growth and carotenoid production through biostimulation. *J.Environ.Sci.(China)*. 33: 21-28.
- Liu, Y., Lei, F., Yuan, F., & Gao, Y. (2014) Effects of milk proteins on release properties and particle morphology of beta-carotene emulsions during *in vitro* digestion. *Food Funct.* 5: 2940-2947.
- Lopez-Munoz, G. A., Antonio-Perez, A., & Diaz-Reyes, J. (2015) Quantification of total pigments in citrus essential oils by thermal wave resonant cavity photopyroelectric spectroscopy. *Food Chem.* 174: 104-109.
- Lopez-Raez, J. A., Fernandez, I., Garcia, J. M., Berrio, E., Bonfante, P., Walter, M. H., & Pozo, M. J. (2015) Differential spatio-temporal expression of carotenoid cleavage dioxygenases regulates apocarotenoid fluxes during AM symbiosis. *Plant Sci.* 230: 59-69.
- Lu, Y., Xie, T., He, X. X., Mao, Z. F., Jia, L. J., Wang, W. P., Zhen, J. L., & Liu, L. M. (2015) Astaxanthin rescues neuron loss and attenuates oxidative stress induced by amygdala kindling in adult rat hippocampus. *Neurosci.Lett.* 597: 49-53.
- Luengo, E., Condon-Abanto, S., Alvarez, I., & Raso, J. (2014) Effect of pulsed electric field treatments on permeabilization and extraction of pigments from *Chlorella vulgaris*. *J.Membr.Biol.* 247: 1269-1277.
- Lv, J. C., Wang, G., Pan, S. H., Bai, X. W., & Sun, B. (2015) Lycopene protects pancreatic acinar cells against severe acute pancreatitis by abating the oxidative stress through JNK pathway. *Free Radic.Res.* 49: 151-163.
- Lv, P., Li, N., Liu, H., Gu, H., & Zhao, W. E. (2015) Changes in carotenoid profiles and in the expression pattern of the genes in carotenoid metabolisms during fruit development and ripening in four watermelon cultivars. *Food Chem.* 174: 52-59.
- Maeda, H. (2015) Nutraceutical effects of fucoxanthin for obesity and diabetes therapy: a review.

- J.Oleo.Sci. 64: 125-132.
- Mai, H. C., Truong, V., & Debaste, F. (2014) Carotenoids concentration of Gac (*Momordica cochinchinensis* Spreng.) fruit oil using cross-flow filtration technology. J.Food Sci. 79: E2222-E2231.
- Mancini, A., Serrano-Diaz, J., Nava, E., D'Alessandro, A. M., Alonso, G. L., Carmona, M., & Llorens, S. (2014) Crocetin, a carotenoid derived from saffron (*Crocus sativus* L.), improves acetylcholine-induced vascular relaxation in hypertension. J.Vasc.Res. 51: 393-404.
- Maoka, T., Yamano, Y., Wada, A., Etho, T., Terada, Y., Tokuda, H., & Nishino, H. (2015) Oxidative metabolites of lycopene and gamma-carotene in gac (*Momordica cochinchinensis*). J.Agric.Food Chem. 63: 1622-1630.
- Marklund, M., Magnusdottir, O. K., Rosqvist, F., Cloetens, L., Landberg, R., Kolehmainen, M., Brader, L., Hermansen, K., Poutanen, K. S., Herzig, K. H., Hukkanen, J., Savolainen, M. J., Dragsted, L. O., Schwab, U., Paananen, J., Uusitupa, M., Akesson, B., Thorsdottir, I., & Risérus, U. (2014) A dietary biomarker approach captures compliance and cardiometabolic effects of a healthy Nordic diet in individuals with metabolic syndrome. J.Nutr. 144: 1642-1649.
- Markussen, M. S., Veierod, M. B., Sakhi, A. K., Ellingjord-Dale, M., Blomhoff, R., Ursin, G., & Andersen, L. F. (2015) Evaluation of dietary patterns among Norwegian postmenopausal women using plasma carotenoids as biomarkers. Br.J.Nutr. 113: 672-682.
- Marri, V. & Richner, H. (2014) Yolk carotenoids increase fledging success in great tit nestlings. Oecologia. 176: 371-377.
- Martin-Sanchez, A. M., Ciro-Gomez, G. L., Zapata-Montoya, J. E., Vilella-Esplà, J., Perez-Alvarez, J. A., & Sayas-Barbera, E. (2014) Effect of date palm coproducts and annatto extract on lipid oxidation and microbial quality in a pork liver pate. J.Food Sci. 79: M2301-M2307.
- Martinez-Flores, H. E., Garnica-Romo, M. G., Bermudez-Aguirre, D., Pokhrel, P. R., & Barbosa-Canovas, G. V. (2015) Physico-chemical parameters, bioactive compounds and microbial quality of thermo-sonicated carrot juice during storage. Food Chem. 172: 650-656.
- Masisi, K., Diehl-Jones, W. L., Gordon, J., Chapman, D., Moghadasi, M. H., & Beta, T. (2015) Carotenoids of aleurone, germ, and endosperm fractions of barley, corn and wheat differentially inhibit oxidative stress. J.Agric.Food Chem. 63: 2715-2724.
- Melendez-Martinez, A. J., Mapelli-Brahm, P., Benitez-Gonzalez, A., & Stinco, C. M. (2015) A comprehensive review on the colorless carotenoids phytoene and phytofluene. Arch.Biochem.Biophys. 572: 188-200.
- Melendez-Martinez, A. J., Paulino, M., Stinco, C. M., Mapelli-Brahm, P., & Wang, X. D. (2014) Study of the time-course of *cis/trans* (Z/E) isomerization of lycopene, phytoene, and phytofluene from tomato. J.Agric.Food Chem. 62: 12399-12406.
- Mendez, M. A. (2015) Invited commentary: Dietary misreporting as a potential source of bias in diet-disease associations: future directions in nutritional epidemiology research. Am.J.Epidemiol. 181: 234-236.
- Minatel, I. O., Han, S. I., Aldini, G., Colzani, M., Matthan, N. R., Correa, C. R., Fecchio, D., & Yeum, K. J. (2014) Fat-soluble bioactive components in colored rice varieties. J.Med.Food. 17: 1134-1141.

- Miranda-Vilela, A. L., Grisolia, C. K., Longo, J. P., Peixoto, R. C., de Almeida, M. C., Barbosa, L. C., Roll, M. M., Portilho, F. A., Estevanato, L. L., Bocca, A. L., Bao, S. N., & Lacava, Z. G. (2014) Oil rich in carotenoids instead of vitamins C and E as a better option to reduce doxorubicin-induced damage to normal cells of Ehrlich tumor-bearing mice: hematological, toxicological and histopathological evaluations. *J.Nutr.Biochem.* 25: 1161-1176.
- Mondloch, S., Gannon, B. M., Davis, C. R., Chileshe, J., Kaliwile, C., Masi, C., Rios-Avila, L., Gregory, J. F., III, & Tanumihardjo, S. A. (2015) High provitamin A carotenoid serum concentrations, elevated retinyl esters, and saturated retinol-binding protein in Zambian preschool children are consistent with the presence of high liver vitamin A stores. *Am.J.Clin.Nutr.* 102: 497-504.
- Mondul, A., Mancina, R. M., Merlo, A., Dongiovanni, P., Rametta, R., Montalcini, T., Valenti, L., Albanes, D., & Romeo, S. (2015) PNPLA3 I148M variant influences circulating retinol in adults with nonalcoholic fatty liver disease or obesity. *J.Nutr.* 145: 1687-1691.
- Motilva, M. J., Macia, A., Romero, M. P., Labrador, A., Dominguez, A., & Peiro, L. (2014) Optimisation and validation of analytical methods for the simultaneous extraction of antioxidants: application to the analysis of tomato sauces. *Food Chem.* 163: 234-243.
- Mun, S., Kim, Y. R., & McClements, D. J. (2015) Control of beta-carotene bioaccessibility using starch-based filled hydrogels. *Food Chem.* 173: 454-461.
- Muthukrishnan, S. D., Kaliyaperumal, A., & Subramaniyan, A. (2015) Identification and determination of flavonoids, carotenoids and chlorophyll concentration in *Cynodon dactylon* (L.) by HPLC analysis. *Nat.Prod.Res.* 29: 785-790.
- Muthusamy, V., Hossain, F., Thirunavukkarasu, N., Choudhary, M., Saha, S., Bhat, J. S., Prasanna, B. M., & Gupta, H. S. (2014) Development of beta-carotene rich maize hybrids through marker-assisted introgression of beta-carotene hydroxylase allele. *PLoS.ONE.* 9: e113583.
- Nadeem, N., Woodside, J. V., Neville, C. E., McCall, D. O., McCance, D., Edgar, D., Young, I. S., & McEneny, J. (2014) Serum amyloid A-related inflammation is lowered by increased fruit and vegetable intake, while high-sensitive C-reactive protein, IL-6 and E-selectin remain unresponsive. *Br.J.Nutr.* 112: 1129-1136.
- Nadukoroor, N. & Yallapragada, P. R. (2015) Carotenoid as a sensitive indicator of sub lethal cadmium toxicity in *Penaeus monodon* post larvae. *Ecotoxicology.* 24: 339-345.
- Nagai, N., Izumi-Nagai, K., Suzuki, M., Shinoda, H., Koto, T., Uchida, A., Mochimaru, H., Tomita, Y., Miyake, S., Kobayashi, S., Sasaki, M., Tsubota, K., & Ozawa, Y. (2015) Association of macular pigment optical density with serum concentration of oxidized low-density lipoprotein in healthy adults. *Retina.* 35: 820-826.
- Nagao, A., Maoka, T., Ono, H., Kotake-Nara, E., Kobayashi, M., & Tomita, M. (2015) A 3-hydroxy beta-end group in xanthophylls is preferentially oxidized to a 3-oxo epsilon-end group in mammals. *J.Lipid Res.* 56: 449-462.
- Nagao, T., Warnakulasuriya, S., Nakamura, T., Kato, S., Yamamoto, K., Fukano, H., Suzuki, K., Shimozato, K., & Hashimoto, S. (2015) Treatment of oral leukoplakia with a low-dose of beta-carotene and vitamin C supplements: a randomized controlled trial. *Int.J.Cancer.* 136: 1708-1717.
- Nechypurenko, O. O., Kharhota, M. A., & Avdeeva, L. V. (2015) [Efficiency of introducing carotene

producing strains *bacillus* sp. 1.1 and *B. amyloliquefaciens* ucm b-5113 into the chikens diet]. Mikrobiol.Z. 77: 2-8.

Nguyen, L. M., Scherr, R. E., Linnell, J. D., Ermakov, I. V., Gellermann, W., Jahns, L., Keen, C. L., Miyamoto, S., Steinberg, F. M., Young, H. M., & Zidenberg-Cherr, S. (2015) Evaluating the relationship between plasma and skin carotenoids and reported dietary intake in elementary school children to assess fruit and vegetable intake. Arch.Biochem.Biophys. 572: 73-80.

Ni, Y., Nagashimada, M., Zhan, L., Nagata, N., Kobori, M., Sugiura, M., Ogawa, K., Kaneko, S., & Ota, T. (2015) Prevention and reversal of lipotoxicity-induced hepatic insulin resistance and steatohepatitis in mice by an antioxidant carotenoid, beta-cryptoxanthin. Endocrinology. 156: 987-999.

Niedzwiedzki, D. M., Dilbeck, P. L., Tang, Q., Mothersole, D. J., Martin, E. C., Bocian, D. F., Holten, D., & Hunter, C. N. (2015) Functional characteristics of spirilloxanthin and keto-bearing analogues in light-harvesting LH2 complexes from *Rhodobacter sphaeroides* with a genetically modified carotenoid synthesis pathway. Biochim.Biophys.Acta. 1847: 640-655.

Niesor, E. J., Chaput, E., Mary, J. L., Staempfli, A., Topp, A., Stauffer, A., Wang, H., & Durrwell, A. (2014) Effect of compounds affecting ABCA1 expression and CETP activity on the HDL pathway involved in intestinal absorption of lutein and zeaxanthin. Lipids. 49: 1233-1243.

Nimalaratne, C., Savard, P., Gauthier, S. F., Schieber, A., & Wu, J. (2015) Bioaccessibility and digestive stability of carotenoids in cooked eggs studied using a dynamic *in vitro* gastrointestinal model. J.Agric.Food Chem. 63: 2956-2962.

Ningrum, A. & Schreiner, M. (2014) Carotenoid-cleavage activities of crude enzymes from *Pandanous amyllifolius*. Chem.Biodivers. 11: 1871-1881.

Nisar, N., Li, L., Lu, S., Khin, N. C., & Pogson, B. J. (2015) Carotenoid metabolism in plants. Mol.Plant. 8: 68-82.

Nooyens, A. C., Milder, I. E., van Gelder, B. M., Bueno-de-Mesquita, H. B., van Boxtel, M. P., & Verschuren, W. M. (2015) Diet and cognitive decline at middle age: the role of antioxidants. Br.J.Nutr. 113: 1410-1417.

Nyekiova, M., Ghaderi, S., & Han, T. S. (2014) Carotenoderma in a young woman of normal body mass index with hypothalamic amenorrhoea: a 2-year follow-up case report. Eur.J.Clin.Nutr. 68: 1362-1364.

O'Hare, T. J., Fanning, K. J., & Martin, I. F. (2015) Zeaxanthin biofortification of sweet-corn and factors affecting zeaxanthin accumulation and colour change. Arch.Biochem.Biophys. 572: 184-187.

Okonogi, S. & Riangjanapatee, P. (2015) Physicochemical characterization of lycopene-loaded nanostructured lipid carrier formulations for topical administration. Int.J.Pharm. 478: 726-735.

Oliveira, A., Gomes, M. H., Alexandre, E. M., Almeida, D. P., & Pintado, M. (2014) Impact of pH on the phytochemical profile of pasteurized peach puree during storage. J.Agric.Food Chem. 62: 12075-12081.

Ordoudi, S. A. & Tsimidou, M. Z. (2015) Measuring antioxidant and prooxidant capacity using the Crocin Bleaching Assay (CBA). Methods Mol.Biol. 1208: 329-344.

- Ouellette, C. D., Yang, M., Wang, Y., Vance, T., Fernandez, M. L., Rodriguez, N., & Chun, O. K. (2014) Number of days required for assessing usual nutrient and antioxidant intakes in a sample from a U.S. healthy college population. *Nutrition*. 30: 1355-1359.
- Owens, B. F., Lipka, A. E., Magallanes-Lundback, M., Tiede, T., Diepenbrock, C. H., Kandianis, C. B., Kim, E., Cepela, J., Mateos-Hernandez, M., Buell, C. R., Buckler, E. S., DellaPenna, D., Gore, M. A., & Rocheford, T. (2014) A foundation for provitamin A biofortification of maize: genome-wide association and genomic prediction models of carotenoid levels. *Genetics*. 198: 1699-1716.
- Ozaki, T., Nakazawa, M., Kudo, T., Hirano, S., Suzuki, K., & Ishiguro, S. (2014) Protection of cone photoreceptor M-opsin degradation with 9-cis-beta-carotene-rich alga *Dunaliella bardawil* in Rpe65(-/-) mouse retinal explant culture. *Curr.Eye Res.* 39: 1221-1231.
- Pacia, M. Z., Turnau, K., Baranska, M., & Kaczor, A. (2015) Interplay between carotenoids, hemoproteins and the "life band" origin studied in live *Rhodotorula mucilaginosa* cells by means of Raman microimaging. *Analyst*. 140: 1809-1813.
- Pantavos, A., Ruiter, R., Feskens, E. F., de Keyser, C. E., Hofman, A., Stricker, B. H., Franco, O. H., & Kiefte-de Jong, J. C. (2015) Total dietary antioxidant capacity, individual antioxidant intake and breast cancer risk: the Rotterdam Study. *Int.J.Cancer*. 136: 2178-2186.
- Papa, T. B., Pinho, V. D., do Nascimento, E. S., Santos, W. G., Burtoloso, A. C., Skibsted, L. H., & Cardoso, D. R. (2015) Astaxanthin diferulate as a bifunctional antioxidant. *Free Radic.Res.* 49: 102-111.
- Park, J. C., Choi, S. P., Hong, M. E., & Sim, S. J. (2014) Enhanced astaxanthin production from microalga, *Haematococcus pluvialis* by two-stage perfusion culture with stepwise light irradiation. *Bioprocess.Biosyst.Eng.* 37: 2039-2047.
- Park, S. C., Kim, S. H., Park, S., Lee, H. U., Lee, J. S., Park, W. S., Ahn, M. J., Kim, Y. H., Jeong, J. C., Lee, H. S., & Kwak, S. S. (2015) Enhanced accumulation of carotenoids in sweetpotato plants overexpressing IbOr-Ins gene in purple-fleshed sweetpotato cultivar. *Plant Physiol Biochem*. 86: 82-90.
- Perenlei, G., Tojo, H., Okada, T., Kubota, M., Kadowaki, M., & Fujimura, S. (2014) Effect of dietary astaxanthin rich yeast, *Phaffia rhodozyma*, on meat quality of broiler chickens. *Anim Sci.J.* 85: 895-903.
- Peters-Wendisch, P., Gotker, S., Heider, S. A., Komati, R. G., Nguyen, A. Q., Stansen, K. C., & Wendisch, V. F. (2014) Engineering biotin prototrophic *Corynebacterium glutamicum* strains for amino acid, diamine and carotenoid production. *J.Biotechnol.* 192 Pt B: 346-354.
- Poojary, M. M. & Passamonti, P. (2015) Extraction of lycopene from tomato processing waste: kinetics and modelling. *Food Chem.* 173: 943-950.
- Poonkum, W., Powtongsook, S., & Pavasant, P. (2015) Astaxanthin induction in Microalga *H. pluvialis* with flat panel airlift photobioreactors under indoor and outdoor conditions. *Prep.Biochem.Biotechnol*. 45: 1-17.
- Potdar, R. D., Sahariah, S. A., Gandhi, M., Kehoe, S. H., Brown, N., Sane, H., Dayama, M., Jha, S., Lawande, A., Coakley, P. J., Marley-Zagar, E., Chopra, H., Shivshankaran, D., Chheda-Gala, P., Muley-Lotankar, P., Subbulakshmi, G., Wills, A. K., Cox, V. A., Taskar, V., Barker, D. J., Jackson, A.

- A., Margetts, B. M., & Fall, C. H. (2014) Improving women's diet quality preconceptionally and during gestation: effects on birth weight and prevalence of low birth weight--a randomized controlled efficacy trial in India (Mumbai Maternal Nutrition Project). Am.J.Clin.Nutr. 100: 1257-1268.
- Prakash, A. & Kumar, A. (2014) Implicating the role of lycopene in restoration of mitochondrial enzymes and BDNF levels in beta-amyloid induced Alzheimers disease. Eur.J.Pharmacol. 741: 104-111.
- Prema, A., Janakiraman, U., Manivasagam, T., & Thenmozhi, A. J. (2015) Neuroprotective effect of lycopene against MPTP induced experimental Parkinson's disease in mice. Neurosci.Lett. 599: 12-19.
- Qin, X., Suga, M., Kuang, T., & Shen, J. R. (2015) Photosynthesis. Structural basis for energy transfer pathways in the plant PSI-LHCl supercomplex. Science. 348: 989-995.
- Quaas, T., Berteotti, S., Ballottari, M., Flieger, K., Bassi, R., Wilhelm, C., & Goss, R. (2015) Non-photochemical quenching and xanthophyll cycle activities in six green algal species suggest mechanistic differences in the process of excess energy dissipation. J.Plant Physiol. 172: 92-103.
- Rafi, M. M., Kanakasabai, S., Gokarn, S. V., Krueger, E. G., & Bright, J. J. (2015) Dietary lutein modulates growth and survival genes in prostate cancer cells. J.Med.Food. 18: 173-181.
- Ragnoni, E., Di Donato, M., Iagatti, A., Lapini, A., & Righini, R. (2015) Mechanism of the intramolecular charge transfer state formation in all-trans-beta-apo-8'-carotenal: influence of solvent polarity and polarizability. J.Phys.Chem.B. 119: 420-432.
- Rahman, M. M., Gasparini, C., Turchini, G. M., & Evans, J. P. (2015) Testing the interactive effects of carotenoids and polyunsaturated fatty acids on ejaculate traits in the guppy *Poecilia reticulata* (Pisces: Poeciliidae). J.Fish.Biol. 86: 1638-1643.
- Ramprasath, V. R., Jenkins, D. J., Lamarche, B., Kendall, C. W., Faulkner, D., Cermakova, L., Couture, P., Ireland, C., Abdulnour, S., Patel, D., Bashyam, B., Srivastava, K., de Souza, R. J., Vidgen, E., Josse, R. G., Leiter, L. A., Connelly, P. W., Frohlich, J., & Jones, P. J. (2014) Consumption of a dietary portfolio of cholesterol lowering foods improves blood lipids without affecting concentrations of fat soluble compounds. Nutr.J. 13:101. doi: 10.1186/1475-2891-13-101.: 101-113.
- Rao, M. P., Manjunath, K., Bhagawati, S. T., & Thippeswamy, B. S. (2014) Bixin loaded solid lipid nanoparticles for enhanced hepatoprotection--preparation, characterisation and *in vivo* evaluation. Int.J.Pharm. 473: 485-492.
- Razavi, B. M., Hosseinzadeh, H., Abnous, K., & Imenshahidi, M. (2014) Protective effect of crocin on diazinon induced vascular toxicity in subchronic exposure in rat aorta ex-vivo. Drug Chem.Toxicol. 37: 378-383.
- Read, A., Wright, A., & Abdel-Aal, e. (2015) *In vitro* bioaccessibility and monolayer uptake of lutein from wholegrain baked foods. Food Chem. 174: 263-269.
- Recht, L., Topfer, N., Batushansky, A., Sikron, N., Gibon, Y., Fait, A., Nikoloski, Z., Boussiba, S., & Zarka, A. (2014) Metabolite profiling and integrative modeling reveal metabolic constraints for carbon partitioning under nitrogen starvation in the green algae *Haematococcus pluvialis*. J.Biol.Chem. 289: 30387-30403.
- Renju, G. L., Muraleedhara, K. G., & Bandugula, V. R. (2014) Effect of lycopene isolated from

Chlorella marina on proliferation and apoptosis in human prostate cancer cell line PC-3. *Tumour.Biol.* 35: 10747-10758.

Rhee, J. J., Sampson, L., Cho, E., Hughes, M. D., Hu, F. B., & Willett, W. C. (2015) Comparison of methods to account for implausible reporting of energy intake in epidemiologic studies. *Am.J.Epidemiol.* 181: 225-233.

Rigano, M. M., Raiola, A., Tenore, G. C., Monti, D. M., Del Giudice, R., Frusciante, L., & Barone, A. (2014) Quantitative trait loci pyramiding can improve the nutritional potential of tomato (*Solanum lycopersicum*) fruits. *J.Agric.Food Chem.* 62: 11519-11527.

Rizzello, F., De Paolis, A., Durante, M., Blando, F., Mita, G., & Caretto, S. (2014) Enhanced production of bioactive isoprenoid compounds from cell suspension cultures of *Artemisia annua* L. using beta-cyclodextrins. *Int.J.Mol.Sci.* 15: 19092-19105.

Roding, A., Dietzel, L., Schlicke, H., Grimm, B., Sandmann, G., & Buchel, C. (2015) Production of ketocarotenoids in tobacco alters the photosynthetic efficiency by reducing photosystem II supercomplex and LHCII trimer stability. *Photosynth.Res.* 123: 157-165.

Rodriguez-Maturino, A., Troncoso-Rojas, R., Sanchez-Estrada, A., Gonzalez-Mendoza, D., Ruiz-Sanchez, E., Zamora-Bustillos, R., Cecena-Duran, C., Grimaldo-Juarez, O., & Aviles-Marin, M. (2015) [Antifungal effect of phenolic and carotenoids extracts from chiltepin (*Capsicum annum* var. *glabriusculum*) on *Alternaria alternata* and *Fusarium oxysporum*]. *Rev.Argent Microbiol.* 47: 72-77.

Rodriguez-Neira, L., Lage-Yusty, M. A., & Lopez-Hernandez, J. (2014) Influence of culinary processing time on saffron's bioactive compounds (*Crocus sativus* L.). *Plant Foods Hum.Nutr.* 69: 291-296.

Roohinejad, S., Oey, I., Wen, J., Lee, S. J., Everett, D. W., & Burritt, D. J. (2015) Formulation of oil-in-water beta-carotene microemulsions: effect of oil type and fatty acid chain length. *Food Chem.* 174: 270-278.

Roukas, T., Varzakakou, M., & Kotzekidou, P. (2015) From cheese whey to carotenes by *Blakeslea trispora* in a bubble column reactor. *Appl.Biochem.Biotechnol.* 175: 182-193.

Saha, S., Walia, S., Kundu, A., Sharma, K., & Paul, R. K. (2015) Optimal extraction and fingerprinting of carotenoids by accelerated solvent extraction and liquid chromatography with tandem mass spectrometry. *Food Chem.* 177: 369-375.

Sahin, K., Cross, B., Sahin, N., Ciccone, K., Suleiman, S., Osunkoya, A. O., Master, V., Harris, W., Carthon, B., Mohammad, R., Bilir, B., Wertz, K., Moreno, C. S., Walker, C. L., & Kucuk, O. (2015) Lycopene in the prevention of renal cell cancer in the TSC2 mutant Eker rat model. *Arch.Biochem.Biophys.* 572: 36-39.

Sandmann, G. (2015) Carotenoids of biotechnological importance. *Adv.Biochem.Eng Biotechnol.* 148: 449-467.

Santabarbara, S., Agostini, A., Casazza, A. P., Zucchelli, G., & Carbonera, D. (2015) Carotenoid triplet states in photosystem II: coupling with low-energy states of the core complex. *Biochim.Biophys.Acta.* 1847: 262-275.

Schmidl, D., Garhofer, G., & Schmetterer, L. (2015) Nutritional supplements in age-related macular

degeneration. *Acta Ophthalmol.* 93: 105-121.

Schwab, S., Zierer, A., Schneider, A., Heier, M., Koenig, W., Kastenmuller, G., Waldenberger, M., Peters, A., & Thorand, B. (2015) Vitamin E supplementation is associated with lower levels of C-reactive protein only in higher dosages and combined with other antioxidants: The Cooperative Health Research in the Region of Augsburg (KORA) F4 study. *Br.J.Nutr.* 113: 1782-1791.

Selahle, K. M., Sivakumar, D., Jifon, J., & Soundy, P. (2015) Postharvest responses of red and yellow sweet peppers grown under photo-selective nets. *Food Chem.* 173: 951-956.

Shekhar, S., Mishra, D., Buragohain, A. K., Chakraborty, S., & Chakraborty, N. (2015) Comparative analysis of phytochemicals and nutrient availability in two contrasting cultivars of sweet potato (*Ipomoea batatas* L.). *Food Chem.* 173: 957-965.

Shi, M. Y., Liu, Y., Wang, D., Lu, F. P., Huang, L. Q., Dai, Z. B., & Zhang, X. L. (2014) [Construction of *Saccharomyces cerevisiae* cell factories for lycopene production]. *Zhongguo Zhong.Yao Za Zhi.* 39: 3978-3985.

Sila, A., Ghilissi, Z., Kamoun, Z., Makni, M., Nasri, M., Bougatef, A., & Sahnoun, Z. (2015) Astaxanthin from shrimp by-products ameliorates nephropathy in diabetic rats. *Eur.J.Nutr.* 54: 301-307.

Simons, M. J., Maia, R., Leenknecht, B., & Verhulst, S. (2014) Carotenoid-dependent signals and the evolution of plasma carotenoid levels in birds. *Am.Nat.* 184: 741-751.

Soltysiak, P. & Folwarczna, J. (2015) [Effects of lycopene on the skeletal system]. *Postepy Hig.Med.Dosw.(Online).* 69: 243-251.

Song, X., Wang, B., Lin, S., Jing, L., Mao, C., Xu, P., Lv, C., Liu, W., & Zuo, J. (2014) Astaxanthin inhibits apoptosis in alveolar epithelial cells type II *in vivo* and *in vitro* through the ROS-dependent mitochondrial signalling pathway. *J.Cell Mol.Med.* 18: 2198-2212.

Souverein, O. W., de Vries, J. H., Freese, R., Watzl, B., Bub, A., Miller, E. R., Castenmiller, J. J., Pasman, W. J., van Het, H. K., Chopra, M., Karlsen, A., Dragsted, L. O., Winkels, R., Itsopoulos, C., Brazionis, L., O'Dea, K., Loo-Bouwman, C. A., Naber, T. H., Van, d., V, & Boshuizen, H. C. (2015) Prediction of fruit and vegetable intake from biomarkers using individual participant data of diet-controlled intervention studies. *Br.J.Nutr.* 113: 1396-1409.

Spinas, E., Saggini, A., Kritas, S. K., Cerulli, G., Caraffa, A., Antinolfi, P., Pantalone, A., Frydas, A., Tei, M., Speziali, A., Saggini, R., Pandolfi, F., & Conti, P. (2015) Can vitamin A mediate immunity and inflammation? *J.Biol.Regul.Homeost.Agents.* 29: 1-6.

Stajcic, S., Cetkovic, G., Canadianovic-Brunet, J., Djilas, S., Mandic, A., & Cetojevic-Simin, D. (2015) Tomato waste: Carotenoids content, antioxidant and cell growth activities. *Food Chem.* 172: 225-232.

Staleva, H., Komenda, J., Shukla, M. K., Slouf, V., Kana, R., Polivka, T., & Sobotka, R. (2015) Mechanism of photoprotection in the cyanobacterial ancestor of plant antenna proteins. *Nat.Chem.Biol.* 11: 287-291.

Steiger, S., Perez-Fons, L., Cutting, S. M., Fraser, P. D., & Sandmann, G. (2015) Annotation and functional assignment of the genes for the C30 carotenoid pathways from the genomes of two bacteria: *Bacillus indicus* and *Bacillus firmus*. *Microbiology.* 161: 194-202.

- Stice, C. P., Liu, C., Aizawa, K., Greenberg, A. S., Ausman, L. M., & Wang, X. D. (2015) Dietary tomato powder inhibits alcohol-induced hepatic injury by suppressing cytochrome p450 2E1 induction in rodent models. *Arch.Biochem.Biophys.* 572: 81-88.
- Su, Y., Wang, J., Shi, M., Niu, X., Yu, X., Gao, L., Zhang, X., Chen, L., & Zhang, W. (2014) Metabolomic and network analysis of astaxanthin-producing *Haematococcus pluvialis* under various stress conditions. *Bioresour.Technol.* 170: 522-529.
- Suen, Y. L., Tang, H., Huang, J., & Chen, F. (2014) Enhanced production of fatty acids and astaxanthin in *Aurantiochytrium* sp. by the expression of *Vitreoscilla* hemoglobin. *J.Agric.Food Chem.* 62: 12392-12398.
- Sullivan, M., Brown, A. C., & Clotfelter, E. D. (2014) Dietary carotenoids do not improve motility or antioxidant capacity in cichlid fish sperm. *Fish.Physiol Biochem.* 40: 1399-1405.
- Sun, B., Chen, C., Wang, W., Ma, J., Xie, Q., Gao, Y., Chen, F., Zhang, X., & Bi, Y. (2015) Effects of lycopene supplementation in both maternal and offspring diets on growth performance, antioxidant capacity and biochemical parameters in chicks. *J.Anim Physiol Anim Nutr.(Berl)*. 99: 42-49.
- Sun, B., Ma, J., Zhang, J., Su, L., Xie, Q., Gao, Y., Zhu, J., Shu, D., & Bi, Y. (2014) Lycopene reduces the negative effects induced by lipopolysaccharide in breeding hens. *Br.Poult.Sci.* 55: 628-634.
- Sun, J., Narayanasamy, S., Curley, R. W., Jr., & Harrison, E. H. (2014) beta-Apo-13-carotenone regulates retinoid X receptor transcriptional activity through tetramerization of the receptor. *J.Biol.Chem.* 289: 33118-33124.
- Sun, L. L., Li, B. L., Xie, H. L., Fan, F., Yu, W. Z., Wu, B. H., Xue, W. Q., & Chen, Y. M. (2014) Associations between the dietary intake of antioxidant nutrients and the risk of hip fracture in elderly Chinese: a case-control study. *Br.J.Nutr.* 112: 1706-1714.
- Sutthiwong, N. & Dufosse, L. (2014) Production of carotenoids by *Arthrobacter arilaitensis* strains isolated from smear-ripened cheeses. *FEMS Microbiol.Lett.* 360: 174-181.
- Suwarno, W. B., Pixley, K. V., Palacios-Rojas, N., Kaepller, S. M., & Babu, R. (2015) Genome-wide association analysis reveals new targets for carotenoid biofortification in maize. *Theor.Appl.Genet.* 128: 851-864.
- Sweedman, M. C., Hasjim, J., Schafer, C., & Gilbert, R. G. (2014) Structures of octenylsuccinylated starches: effects on emulsions containing beta-carotene. *Carbohydr.Polym.* 112: 85-93.
- Sy, C., Dangles, O., Borel, P., & Caris-Veyrat, C. (2015) Stability of bacterial carotenoids in the presence of iron in a model of the gastric compartment - comparison with dietary reference carotenoids. *Arch.Biochem.Biophys.* 572: 89-100.
- Szczubial, M. (2015) Effect of supplementation with vitamins E, C and beta-carotene on antioxidative/oxidative status parameters in sows during the postpartum period. *Pol.J.Vet.Sci.* 18: 299-305.
- Takano, H., Mise, K., Hagiwara, K., Hirata, N., Watanabe, S., Toriyabe, M., Shiratori-Takano, H., & Ueda, K. (2015) Role and function of litr, an adenosyl B12-bound light-sensitive regulator of *Bacillus megaterium* qm b1551, in regulation of carotenoid production. *J.Bacteriol.* 197: 2301-2315.

- Takemoto, M., Yamaga, M., Furuichi, Y., & Yokote, K. (2015) Astaxanthin improves nonalcoholic fatty liver disease in Werner syndrome with diabetes mellitus. *J.Am.Geriatr.Soc.* 63: 1271-1273.
- Talaei, A., Hassanpour, M. M., Sajadi Tabassi, S. A., & Mohajeri, S. A. (2015) Crocin, the main active saffron constituent, as an adjunctive treatment in major depressive disorder: a randomized, double-blind, placebo-controlled, pilot clinical trial. *J.Affect.Disord.* 174: 51-56.
- Tan, C., Zhang, Y., Abbas, S., Feng, B., Zhang, X., & Xia, S. (2014) Modulation of the carotenoid bioaccessibility through liposomal encapsulation. *Colloids Surf.B Biointerfaces.* 123: 692-700.
- Tang, Y., Li, X., Chen, P. X., Zhang, B., Hernandez, M., Zhang, H., Marcone, M. F., Liu, R., & Tsao, R. (2015) Characterisation of fatty acid, carotenoid, tocopherol/tocotrienol compositions and antioxidant activities in seeds of three *Chenopodium quinoa* Willd. genotypes. *Food Chem.* 174: 502-508.
- Tang, Y., Li, X., Chen, P. X., Zhang, B., Hernandez, M., Zhang, H., Marcone, M. F., Liu, R., & Tsao, R. (2014) Lipids, tocopherols, and carotenoids in leaves of amaranth and quinoa cultivars and a new approach to overall evaluation of nutritional quality traits. *J.Agric.Food Chem.* 62: 12610-12619.
- Tennant, D. R., Davidson, J., & Day, A. J. (2014) Phytonutrient intakes in relation to European fruit and vegetable consumption patterns observed in different food surveys. *Br.J.Nutr.* 112: 1214-1225.
- Teramoto, M. & Nishijima, M. (2015) *Flavicella marina* gen. nov., sp. nov., a carotenoid-producing bacterium from surface seawater. *Int.J.Syst.Evol.Microbiol.* 65: 799-804.
- Thushara, R. M., Hemshekhar, M., Paul, M., Shanmuga, S. M., Shankar, R. L., Kempuraju, K., & Girish, K. S. (2014) Crocin prevents sesamol-induced oxidative stress and apoptosis in human platelets. *J.Thromb.Thrombolysis.* 38: 321-330.
- Tian, S. L., Li, L., Chai, W. G., Shah, S. N., & Gong, Z. H. (2014) Effects of silencing key genes in the capsanthin biosynthetic pathway on fruit color of detached pepper fruits. *BMC.Plant Biol.* 14:314. doi: 10.1186/s12870-014-0314-3.: 314-0314.
- Tian, Y., Kijlstra, A., van der Veen, R. L., Makridaki, M., Murray, I. J., & Berendschot, T. T. (2015) Lutein supplementation leads to decreased soluble complement membrane attack complex sC5b-9 plasma levels. *Acta Ophthalmol.* 93: 141-145.
- Tizkar, B., Seidavi, A., Ponce-Palafox, J. T., & Pourashoori, P. (2014) The effect of astaxanthin on resistance of juvenile prawns *Macrobrachium nipponense* (Decapoda: Palaemonidae) to physical and chemical stress. *Rev.Biol.Trop.* 62: 1331-1341.
- Tsuchida, K. & Sakudoh, T. (2015) Recent progress in molecular genetic studies on the carotenoid transport system using cocoon-color mutants of the silkworm. *Arch.Biochem.Biophys.* 572: 151-157.
- Tuncer, P. B., Buyukleblebici, S., Eken, A., Tasdemir, U., Durmaz, E., Buyukleblebici, O., & Coskun, E. (2014) Comparison of cryoprotective effects of lycopene and cysteamine in different cryoprotectants on bull semen and fertility results. *Reprod.Domest.Anim.* 49: 746-752.
- Turkez, H., Geyikoglu, F., Yousef, M. I., Togar, B., Gurbuz, H., Celik, K., Akbaba, G. B., & Polat, Z. (2014) Hepatoprotective potential of astaxanthin against 2,3,7,8-tetrachlorodibenzo-p-dioxin in cultured rat hepatocytes. *Toxicol.Ind.Health.* 30: 101-112.

- Vachali, P. P., Li, B., Bartschi, A., & Bernstein, P. S. (2015) Surface plasmon resonance (SPR)-based biosensor technology for the quantitative characterization of protein-carotenoid interactions. *Arch.Biochem.Biophys.* 572: 66-72.
- Valdivielso, I., Bustamante, M. A., Ruiz de Gordoa, J. C., Najera, A. I., de Renobales, M., & Barron, L. J. (2015) Simultaneous analysis of carotenoids and tocopherols in botanical species using one step solid-liquid extraction followed by high performance liquid chromatography. *Food Chem.* 173: 709-717.
- Vandersee, S., Beyer, M., Lademann, J., & Darvin, M. E. (2015) Blue-violet light irradiation dose dependently decreases carotenoids in human skin, which indicates the generation of free radicals. *Oxid.Med.Cell Longev.* 2015:579675. doi: 10.1155/2015/579675..
- Vergara, P., Fargallo, J. A., & Martinez-Padilla, J. (2015) Genetic basis and fitness correlates of dynamic carotenoid-based ornamental coloration in male and female common kestrels *Falco tinnunculus*. *J.Evol.Biol.* 28: 146-154.
- Vishwanathan, R., Kuchan, M. J., Sen, S., & Johnson, E. J. (2014) Lutein and preterm infants with decreased concentrations of brain carotenoids. *J.Pediatr.Gastroenterol.Nutr.* 59: 659-665.
- Wan, L., Tan, H. L., Thomas-Ahner, J. M., Pearl, D. K., Erdman, J. W., Jr., Moran, N. E., & Clinton, S. K. (2014) Dietary tomato and lycopene impact androgen signaling- and carcinogenesis-related gene expression during early TRAMP prostate carcinogenesis. *Cancer Prev.Res.(Phila)*. 7: 1228-1239.
- Wang, A., Han, J., Jiang, Y., & Zhang, D. (2014) Association of vitamin A and beta-carotene with risk for age-related cataract: a meta-analysis. *Nutrition*. 30: 1113-1121.
- Wang, C. X., Jiang, H., Yuen, J. J., Lee, S. A., Narayanasamy, S., Curley, R. W., Jr., Harrison, E. H., & Blaner, W. S. (2015) Actions of beta-apo-carotenoids in differentiating cells: differential effects in P19 cells and 3T3-L1 adipocytes. *Arch.Biochem.Biophys.* 572: 2-10.
- Wang, K., Zhang, L., Rao, W., Su, N., Hui, H., Wang, L., Peng, C., Tu, Y., Zhang, S., & Fei, Z. (2015) Neuroprotective effects of crocin against traumatic brain injury in mice: Involvement of notch signaling pathway. *Neurosci.Lett.* 591: 53-58.
- Wang, L., Zeng, Y., Liu, Y., Hu, X., Li, S., Wang, Y., Li, L., Lei, Z., & Zhang, Z. (2014) Fucoxanthin induces growth arrest and apoptosis in human bladder cancer T24 cells by up-regulation of p21 and down-regulation of mortalin. *Acta Biochim.Biophys.Sin.(Shanghai)*. 46: 877-884.
- Wang, Q., Feng, L. R., Luo, W., Li, H. G., Zhou, Y., & Yu, X. B. (2015) Effect of inoculation process on lycopene production by *Blakeslea trispora* in a stirred-tank reactor. *Appl.Biochem.Biotechnol.* 175: 770-779.
- Wang, X., Liu, F., Liu, L., Wei, Z., Yuan, F., & Gao, Y. (2015) Physicochemical characterisation of beta-carotene emulsion stabilised by covalent complexes of alpha-lactalbumin with (-)-epigallocatechin gallate or chlorogenic acid. *Food Chem.* 173: 564-568.
- Wang, Y., Sun, J., Liu, C., & Fang, C. (2014) Protective effects of crocetin pretreatment on myocardial injury in an ischemia/reperfusion rat model. *Eur.J.Pharmacol.* 741: 290-296.
- Wang, Y., Yoshimura, R., Manabe, H., Schretter, C., Clarke, R., Cai, Y., Fitzgerald, M., & Lee, K. S. (2014) Trans-sodium crocetinate improves outcomes in rodent models of occlusive and hemorrhagic

stroke. *Brain Res.* 1583: 245-254.

Wassem, L., Shete, V., Costabile, B., Rodas, R., & Quadro, L. (2015) High preformed vitamin A intake during pregnancy prevents embryonic accumulation of intact beta-carotene from the maternal circulation in mice. *J.Nutr.* 145: 1408-1414.

Weaver, T. R. & Beaumont, P. E. (2015) The effect of intensive education on concordance with the Age-Related Eye Disease Study (AREDS) recommendations in a tertiary referral practice. *Ophthalmologica*. 233: 61-65.

Weesepoel, Y., Gruppen, H., de Bruijn, W., & Vincken, J. P. (2014) Analysis of palmitoyl apo-astaxanthinols, apo-astaxanthinones, and their epoxides by UHPLC-PDA-ESI-MS. *J.Agric.Food Chem.* 62: 10254-10263.

Wei, X., Chen, C., Yu, Q., Gady, A., Yu, Y., Liang, G., & Gmitter, F. G., Jr. (2014) Comparison of carotenoid accumulation and biosynthetic gene expression between Valencia and Rohde Red Valencia sweet oranges. *Plant Sci.* 227: 28-36.

Wisutiamonkul, A., Promdang, S., Ketsa, S., & van Doorn, W. G. (2015) Carotenoids in durian fruit pulp during growth and postharvest ripening. *Food Chem.* 180: 301-305.

Wood, A. D., Strachan, A. A., Thies, F., Aucott, L. S., Reid, D. M., Hardcastle, A. C., Mavroeidi, A., Simpson, W. G., Duthie, G. G., & Macdonald, H. M. (2014) Patterns of dietary intake and serum carotenoid and tocopherol status are associated with biomarkers of chronic low-grade systemic inflammation and cardiovascular risk. *Br.J.Nutr.* 112: 1341-1352.

Wu, J., Ji, J., Wang, G., Li, Z., Diao, J., & Wu, G. (2014) Cloning and characterization of a novel beta-carotene hydroxylase gene from *Lycium barbarum* and its expression in *Escherichia coli*. *Biotechnol.Appl.Biochem.* 61: 637-645.

Wu, J. L., Wang, H. Y., Cheng, Y. L., Du, C., & Qian, H. (2015) Neuroprotective effects of torularhodin against H₂O₂-induced oxidative injury and apoptosis in PC12 cells. *Pharmazie*. 70: 17-23.

Xia, D. (2015) Ovarian cancer HO-8910 cell apoptosis induced by crocin *in vitro*. *Nat.Prod.Commun.* 10: 249-252.

Xu, Y., Zhang, J., Jiang, W., & Zhang, S. (2015) Astaxanthin induces angiogenesis through Wnt/beta-catenin signaling pathway. *Phytomedicine*. 22: 744-751.

Yamamoto, A. & Yuzawa, M. (2015) [Protection effect of astaxanthin against light-induced retinal damage in rat]. *Nihon Ganka Gakkai Zasshi*. 119: 55-62.

Yamano, Y., Ematsu, K., Kurimoto, H., Maoka, T., & Wada, A. (2014) Total synthesis of gobiusxanthin stereoisomers and their application to determination of absolute configurations of natural products: revision of reported absolute configuration of epigobiusxanthin. *Mar.Drugs*. 13: 159-172.

Yang, J. & Guo, L. (2014) Biosynthesis of beta-carotene in engineered *E. coli* using the MEP and MVA pathways. *Microb.Cell Fact.* 13:160. doi: 10.1186/s12934-014-0160-x.: 160-0160.

Yang, S., Zhou, Q., Yang, L., Xue, Y., Xu, J., & Xue, C. (2015) Effect of thermal processing on astaxanthin and astaxanthin esters in pacific white shrimp *Litopenaeus vannamei*. *J.Oleo.Sci.* 64: 243-253.

- Yang, Y., Pham, T. X., Wegner, C. J., Kim, B., Ku, C. S., Park, Y. K., & Lee, J. Y. (2014) Astaxanthin lowers plasma TAG concentrations and increases hepatic antioxidant gene expression in diet-induced obesity mice. *Br.J.Nutr.* 112: 1797-1804.
- Yang, Y., Yatsunami, R., Ando, A., Miyoko, N., Fukui, T., Takaichi, S., & Nakamura, S. (2015) Complete biosynthetic pathway of the C50 carotenoid bacterioruberin from lycopene in the extremely halophilic archaeon *Haloarcula japonica*. *J.Bacteriol.* 197: 1614-1623.
- Ye, G., Lu, Q., Zhao, W., Du, D., Jin, L., & Liu, Y. (2014) Fucoxanthin induces apoptosis in human cervical cancer cell line HeLa via PI3K/Akt pathway. *Tumour.Biol.* 35: 11261-11267.
- Yin, Q., Ma, Y., Hong, Y., Hou, X., Chen, J., Shen, C., Sun, M., Shang, Y., Dong, S., Zeng, Z., Pei, J. J., & Liu, X. (2014) Lycopene attenuates insulin signaling deficits, oxidative stress, neuroinflammation, and cognitive impairment in fructose-drinking insulin resistant rats. *Neuropharmacology.* 86: 389-396.
- Yong, J. J., Scott, I. U., & Greenberg, P. B. (2015) Ocular nutritional supplements: are their ingredients and manufacturers' claims evidence-based? *Ophthalmology.* 122: 595-599.
- You, J. S., Jeon, S., Byun, Y. J., Koo, S., & Choi, S. S. (2015) Enhanced biological activity of carotenoids stabilized by phenyl groups. *Food Chem.* 177: 339-345.
- Yousef, G. G., Grace, M. H., Medina, J. L., Neff, S., Guzman, I., Brown, A. F., Raskin, I., & Lila, M. A. (2014) Concentrating immunoprotective phytoactive compounds from fruits and vegetables into shelf-stable protein-rich ingredients. *Plant Foods Hum.Nutr.* 69: 317-324.
- Yu, R. X., Kocher, W., Darvin, M. E., Buttner, M., Jung, S., Lee, B. N., Klotter, C., Hurrelmann, K., Meinke, M. C., & Lademann, J. (2014) Spectroscopic biofeedback on cutaneous carotenoids as part of a prevention program could be effective to raise health awareness in adolescents. *J.Biophotonics.* 7: 926-937.
- Yu, X., Cui, H., Cui, Y., Wang, Y., Li, X., Liu, Z., & Qin, S. (2014) Gene cloning, sequence analysis, and expression profiles of a novel beta-ring carotenoid hydroxylase gene from the photoheterotrophic green alga *Chlorella kessleri*. *Mol.Biol.Rep.* 41: 7103-7113.
- Yue, R., Xia, X., Jiang, J., Yang, D., Han, Y., Chen, X., Cai, Y., Li, L., Wang, W. E., & Zeng, C. (2015) Mitochondrial DNA oxidative damage contributes to cardiomyocyte ischemia/reperfusion-injury in rats: cardioprotective role of lycopene. *J.Cell Physiol.* 230: 2128-2141.
- Zanghi, B. M., Middleton, R. P., & Reynolds, A. J. (2015) Effects of postexercise feeding of a supplemental carbohydrate and protein bar with or without astaxanthin from *Haematococcus pluvialis* to exercise-conditioned dogs. *Am.J.Vet.Res.* 76: 338-350.
- Zhang, B., Deng, Z., Tang, Y., Chen, P. X., Liu, R., Ramdath, D. D., Liu, Q., Hernandez, M., & Tsao, R. (2014) Effect of domestic cooking on carotenoids, tocopherols, fatty acids, phenolics, and antioxidant activities of lentils (*Lens culinaris*). *J.Agric.Food Chem.* 62: 12585-12594.
- Zhang, L. Z. & Liu, R. H. (2015) Phenolic and carotenoid profiles and antiproliferative activity of foxtail millet. *Food Chem.* 174: 495-501.
- Zhang, P. Y., Xu, X., & Li, X. C. (2014) Cardiovascular diseases: oxidative damage and antioxidant protection. *Eur.Rev.Med.Pharmacol.Sci.* 18: 3091-3096.

- Zhang, X. S., Zhang, X., Wu, Q., Li, W., Wang, C. X., Xie, G. B., Zhou, X. M., Shi, J. X., & Zhou, M. L. (2014) Astaxanthin offers neuroprotection and reduces neuroinflammation in experimental subarachnoid hemorrhage. *J.Surg.Res.* 192: 206-213.
- Zheng, K., Wang, C., Xiao, M., Chen, J., Li, J., & Hu, Z. (2014) Expression of bkt and bch genes from *Haematococcus pluvialis* in transgenic *Chlamydomonas*. *Sci.China Life Sci.* 57: 1028-1033.
- Zheng, S. G., Zhao, M. Q., Ren, Y. N., Yang, J. R., & Qian, Z. Y. (2015) [Effects of crocetin on VCAM-1 expression in human umbilical vein endothelial cells and monocyte-endothelial cell adhesion]. *Yao Xue.Xue.Bao.* 50: 34-38.
- Zheng, X., Xie, Z., Zhu, K., Xu, Q., Deng, X., & Pan, Z. (2015) Isolation and characterization of carotenoid cleavage dioxygenase 4 genes from different citrus species. *Mol.Genet.Genomics.* 290: 1589-1603.
- Zhou, L., Gao, M., Xiao, Z., Zhang, J., Li, X., & Wang, A. (2015) Protective effect of astaxanthin against multiple organ injury in a rat model of sepsis. *J.Surg.Res.* 195: 559-567.
- Zhou, Q., Zhang, P., & Zhang, G. (2014) Biomass and carotenoid production in photosynthetic bacteria wastewater treatment: effects of light intensity. *Bioresour.Technol.* 171: 330-335.
- Zhou, X., Welsch, R., Yang, Y., Alvarez, D., Riediger, M., Yuan, H., Fish, T., Liu, J., Thannhauser, T. W., & Li, L. (2015) Arabidopsis OR proteins are the major posttranscriptional regulators of phytoene synthase in controlling carotenoid biosynthesis. *Proc.Natl.Acad.Sci.U.S.A.* 112: 3558-3563.
- Zimpita, T., Biggs, C., & Faber, M. (2015) Gardening practices in a rural village in South Africa 10 years after completion of a home garden project. *Food Nutr.Bull.* 36: 33-42.
- Zolberg, R. N., Bechor, S., Harari, A., Ben Amotz, A., Kamari, Y., Harats, D., & Shaish, A. (2015) The inhibition of macrophage foam cell formation by 9-cis beta-carotene is driven by BCMO1 activity. *PLoS.ONE.* 10: e0115272.
- Zou, Y., Sun, Q., Li, J., Yang, C., Yang, J., & Zhang, L. (2014) Effects of E/Z isomers of lycopene on experimental prostatic hyperplasia in mice. *Fitoterapia.* 99: 211-217.
- Zubair, N., Kooperberg, C., Liu, J., Di, C., Peters, U., & Neuhouser, M. L. (2015) Genetic variation predicts serum lycopene concentrations in a multiethnic population of postmenopausal women. *J.Nutr.* 145: 187-192.