

DAFTAR PUSTAKA

- Adsare, S. R., & Annapure, U. S. (2021). Microencapsulation of curcumin using coconut milk whey and Gum Arabic. *Journal of Food Engineering*, 298, 110502.
- Akinola, F. F., Oguntibeju, O. O., Adisa, A. W., & Owojuyigbe, O. S. (2010). Physico-chemical properties of palm oil from different palm oil local factories in Nigeria. *Journal of Food, Agriculture & Environment*, 8(3 & 4), 264–269.
- Amorim-Carrilho, K. T., Cepeda, A., Fente, C., & Regal, P. (2014). Review of methods for analysis of carotenoids. *TrAC Trends in Analytical Chemistry*, 56, 49–73.
- AOAC. (2005). *Official Methods of Analytical of The Association of Official Analytical Chemist*. AOAC.
- AOAC International. (2016). *Official methods of analysis of AOAC International (20th ed.)*.
- Arnold, A. R., & Chassaing, B. (2019). Maltodextrin, modern stressor of the intestinal environment. *Cellular and Molecular Gastroenterology and Hepatology*, 7(2), 475–476.
- Arogundade, L. A., Mu, T.-H., Zhang, M., & Khan, N. M. (2021). Impact of dextran conjugation on physicochemical and gelling properties of sweet potato protein through Maillard reaction. *International Journal of Food Science and Technology*, 56(4), 1661–1670.
- Avaltroni, F., Bouquerand, P.-E., & Normand, V. (2004). Maltodextrin molecular weight distribution influence on the glass transition temperature and viscosity in aqueous solutions. *Carbohydrate Polymers*, 58(3), 323–334.
- Ayeleso, A. O., Oguntibeju, O. O., & Brooks, N. L. (2012). Effects of dietary intake of red palm oil on fatty acid composition and lipid profiles in male Wistar rats. *African Journal of Biotechnology*, 11(33), 8275–8279.
- Ayustaningwarno, F. (2012). Proses pengolahan dan aplikasi minyak sawit merah pada industri pangan. *Journal Vitasphere*, 2(1), 1–11.
- Badan Standardisasi Nasional. (2010). *Maltodekstrin (SNI 7599:2010)*.
- Bakry, A. M., Abbas, S., Ali, B., Majeed, H., Abouelwafa, M. Y., Mousa, A., & Liang, L. (2016). Microencapsulation of oils: A comprehensive review of benefits, techniques, and applications. *Comprehensive Reviews in Food Science and Food Safety*, 15(1), 143–182.
- Balakrishnan, M., Gayathiri, S., Preetha, P., Pandiselvam, R., Jeevarathinam, G., Delfiya, D. S. A., & Kothakota, A. (2021). Microencapsulation of bixin pigment by spray drying: Evaluation of characteristics. *LWT*, 145, 111343.
- Bora, A. F. M., Ma, S., Li, X., & Liu, L. (2018). Application of microencapsulation for the safe delivery of green tea polyphenols in food systems: Review and recent advances. *Food Research International*, 105, 241–249.
- Budiyanto, B., Silsia, D., Efendi, Z., & Janika, R. (2010). Perubahan kandungan β -karoten, asam lemak bebas dan bilangan peroksida minyak sawit merah selama pemanasan. *Agritech*, 30(2).

- Candraningrum, R. G. S., Setiowati, A. D., & Hidayat, C. (2023). Electrostatic-Maillard formation of coconut protein Concentrate-Pectin conjugate for Oil-in-Water Emulsion: Effects of Ratio, Temperature, and pH. *Journal of the Saudi Society of Agricultural Sciences*, 22(1), 18–24. <https://doi.org/10.1016/j.jssas.2022.05.004>
- Castro, N., Durrieu, V., Raynaud, C., & Rouilly, A. (2016). Influence of DE-value on the physicochemical properties of maltodextrin for melt extrusion processes. *Carbohydrate Polymers*, 144, 464–473.
- Chen, L., Chen, J., Ren, J., & Zhao, M. (2011). Modifications of soy protein isolates using combined extrusion pre-treatment and controlled enzymatic hydrolysis for improved emulsifying properties. *Food Hydrocolloids*, 25(5), 887–897.
- Chronakis, I. S. (1998). On the molecular characteristics, compositional properties, and structural-functional mechanisms of maltodextrins: a review. *Critical Reviews in Food Science and Nutrition*, 38(7), 599–637.
- Codex Alimentarius Commission. (1989). *Codex standard for soy protein products (CXS 175–1989)*.
- Comunian, T. A., & Favaro-Trindade, C. S. (2016). Microencapsulation using biopolymers as an alternative to produce food enhanced with phytosterols and omega-3 fatty acids: A review. *Food Hydrocolloids*, 61, 442–457.
- Cui, H., Yu, J., Zhai, Y., Feng, L., Chen, P., Hayat, K., Xu, Y., Zhang, X., & Ho, C.-T. (2021). Formation and fate of Amadori rearrangement products in Maillard reaction. *Trends in Food Science & Technology*, 115, 391–408.
- Dabestani, M., Kadkhodae, R., Phillips, G. O., & Abbasi, S. (2018). Persian gum: A comprehensive review on its physicochemical and functional properties. *Food Hydrocolloids*, 78, 92–99.
- De Oliveira, F. C., Coimbra, J. S. dos R., de Oliveira, E. B., Zuñiga, A. D. G., & Rojas, E. E. G. (2016). Food protein-polysaccharide conjugates obtained via the Maillard reaction: A review. *Critical Reviews in Food Science and Nutrition*, 56(7), 1108–1125.
- Díaz-Montes, E. (2023). Wall materials for encapsulating bioactive compounds via spray-drying: A review. *Polymers*, 15(12), 2659.
- Dong, S., Xia, H., Wang, F., & Sun, G. (2017). The effect of red palm oil on vitamin A deficiency: A meta-analysis of randomized controlled trials. *Nutrients*, 9(12), 1281.
- Du, Q., Zhou, L., Lyu, F., Liu, J., & Ding, Y. (2022). The complex of whey protein and pectin: Interactions, functional properties and applications in food colloidal systems—A review. *Colloids and Surfaces B: Biointerfaces*, 210, 112253.
- El-Hadad, N. N. M., Youssef, M. M., Abd El-Aal, M. H., & Abou-Gharbia, H. H. (2011). Utilisation of red palm olein in formulating functional chocolate spread. *Food Chemistry*, 124(1), 285–290.
- Evans, M., Ratcliffe, I., & Williams, P. A. (2013). Emulsion stabilisation using polysaccharide–protein complexes. *Current Opinion in Colloid & Interface Science*, 18(4), 272–282.

- Fäldt, P., & Bergenståhl, B. (1996). Spray-dried whey protein/lactose/soybean oil emulsions. 1. Surface composition and particle structure. *Food Hydrocolloids*, 10(4), 421–429.
- Feng, J., Berton-Carabin, C. C., Fogliano, V., & Schroën, K. (2022). Maillard reaction products as functional components in oil-in-water emulsions: A review highlighting interfacial and antioxidant properties. *Trends in Food Science & Technology*, 121, 129–141.
- Fernandes, L. P., Turatti, I. C. C., Lopes, N. P., Ferreira, J. C., Candido, R. C., & Oliveira, W. P. (2008). Volatile retention and antifungal properties of spray-dried microparticles of Lippia sidoides essential oil. *Drying Technology*, 26(12), 1534–1542.
- Gharsallaoui, A., Saurel, R., Chambin, O., Cases, E., Voilley, A., & Cayot, P. (2010). Utilisation of pectin coating to enhance spray-dry stability of pea protein-stabilised oil-in-water emulsions. *Food Chemistry*, 122(2), 447–454.
- Goëlo, V., Chaumun, M., Gonçalves, A., Estevinho, B. N., & Rocha, F. (2020). Polysaccharide-based delivery systems for curcumin and turmeric powder encapsulation using a spray-drying process. *Powder Technology*, 370, 137–146.
- Hadnađev, M., Kalić, M., Krstonošić, V., Jovanović-Lješkovčić, N., Erceg, T., Škrobot, D., & Dapčević-Hadnađev, T. (2023). Fortification of chocolate with microencapsulated fish oil: Effect of protein wall material on physicochemical properties of microcapsules and chocolate matrix. *Food Chemistry: X*, 17, 100583.
- Hasibuan, H. A. (2021). Potensi minyak sawit merah sebagai pangan fungsional dan nutrasetikal. *WARTA Pusat Penelitian Kelapa Sawit*, 26(3), 178–184.
- Hasibuan, H. A., & Ijah, I. (2018). Peningkatan Kesukaan Minyak Sawit Merah Dengan Penambahan Minyak Nabati Atau Flavor Dan Stabilitasnya Dalam Penggorengan Berulang. *Jurnal Penelitian Kelapa Sawit*, 26(1), 1–9.
- Hasrini, R. F., Zakaria, F. R., Adawiyah, D. R., & Suparto, I. H. (2017). Mikroenkapsulasi minyak sawit mentah dengan penyalut maltodekstrin dan isolat protein kedelai. *Jurnal Teknologi Dan Industri Pangan*, 28(1), 10–19.
- Hogan, S. A., McNamee, B. F., O’Riordan, E. D., & O’Sullivan, M. (2001). Emulsification and microencapsulation properties of sodium caseinate/carbohydrate blends. *International Dairy Journal*, 11(3), 137–144.
- Huang, G.-Q., Wang, H.-O., Wang, F.-W., Du, Y.-L., & Xiao, J.-X. (2020). Maillard reaction in protein–polysaccharide coacervated microcapsules and its effects on microcapsule properties. *International Journal of Biological Macromolecules*, 155, 1194–1201.
- Huang, X., Gao, Y., Zhi, X., Ta, N., Jiang, H., & Zheng, J. (2016). Association between vitamin A, retinol and carotenoid intake and pancreatic cancer risk: Evidence from epidemiologic studies. *Scientific Reports*, 6(1), 38936.
- Hussain, Arif, Hussain, Muhammad, Ashraf, W., Ali, K., Hussain, Abid, Phyto, H. M., Khalid, M. U., Hussain, Mudassar, & Lianfu, Z. (2024). Encapsulation, optimization, and characterization of lycopene using soy protein isolate-peach gum conjugate as wall material. *Food Bioscience*, 62, 105548.

- Imoisi, O. B., Ilori, G. E., Agho, I., & Ekhatior, J. O. (2015). Palm oil, its nutritional and health implications. *Journal of Applied Sciences and Environmental Management*, 19(1), 127–133.
- Irwanto, R., Adawiyah, D. R., & Zakaria, F. R. (2016). Peran fisiologis sari kedelai hitam diperkaya mikroenkapsulan minyak sawit mentah pada penderita diabetes melitus tipe-2. *Jurnal Teknologi Dan Industri Pangan*, 27(1), 1–9.
- Juarez-Enriquez, E., Olivas, G. I., Zamudio-Flores, P. B., Ortega-Rivas, E., Perez-Vega, S., & Sepulveda, D. R. (2017). Effect of water content on the flowability of hygroscopic powders. *Journal of Food Engineering*, 205, 12–17.
- Kan, X., Hu, Y., Huang, Y., Fan, X., Chen, G., Ye, H., & Zeng, X. (2023). Characterization of whey protein isolate-gum Arabic Maillard conjugate and evaluation of the effects of conjugate-stabilized emulsion on microbiota of human fecal cultures. *Food Hydrocolloids*, 134, 108060.
- Karagozlu, M., Ocak, B., & Özdestan-Ocak, Ö. (2021). Effect of tannic acid concentration on the physicochemical, thermal, and antioxidant properties of gelatin/gum Arabic-walled microcapsules containing *Origanum onites* L. essential oil. *Food and Bioprocess Technology*, 14(7), 1231–1243.
- Khan, T. A., Amani, S., & Naeem, A. (2012). Glycation promotes the formation of genotoxic aggregates in glucose oxidase. *Amino Acids*, 43, 1311–1322.
- Kim, S. H., Kim, M. S., Lee, B. Y., & Lee, P. C. (2016). Generation of structurally novel short carotenoids and study of their biological activity. *Scientific Reports*, 6(1), 21987.
- Kouravand, F., Shahidi, F., Koocheki, A., & Fathi, M. (2024). Characterization and emulsifying properties of whey protein isolate-basil seed gum conjugates prepared by Maillard reaction. *Journal of Dispersion Science and Technology*, 45(11), 2226–2239.
- Kusumastuti, M. R., Yuliani, S., Hidayat, C., & Setiowati, A. D. (2024a). Modification techno-functional properties of spirulina protein concentrates (*Arthrospira Platensis*) as O/W emulsifier by conjugation and electrostatic complexations. *Innovative Food Science and Emerging Technologies*, 95. <https://doi.org/10.1016/j.ifset.2024.103727>
- Kusumastuti, M. R., Yuliani, S., Hidayat, C., & Setiowati, A. D. (2024b). Modification techno-functional properties of spirulina protein concentrates (*Arthrospira Platensis*) as O/W emulsifier by conjugation and electrostatic complexations. *Innovative Food Science & Emerging Technologies*, 103727.
- Kutzli, I., Weiss, J., & Gibis, M. (2021). Glycation of plant proteins via maillard reaction: reaction chemistry, technofunctional properties, and potential food application. *Foods*, 10(2), 376.
- Lazim, N. A. M., & Muhamad, I. I. (2017). Encapsulation of vitamin E using maltodextrin/sodium caseinate/selenomethionine and its release study. *Chemical Engineering Transactions*, 56, 1951–1956.
- Lee, W. J., Tan, C. P., Sulaiman, R., Smith Jr, R. L., & Chong, G. H. (2018). Microencapsulation of red palm oil as an oil-in-water emulsion with supercritical carbon dioxide solution-enhanced dispersion. *Journal of Food Engineering*, 222, 100–109.

- Li, C., An, F., Sun, S., Huang, Q., He, H., & Song, H. (2024). Micro-encapsulation of garlic oil using esterified-wheat porous starch and whey protein isolate: Physicochemical properties, release behavior during in vitro digestion. *International Journal of Biological Macromolecules*, 272, 132843.
- Liu, J., Ru, Q., & Ding, Y. (2012). Glycation a promising method for food protein modification: Physicochemical properties and structure, a review. *Food Research International*, 49(1), 170–183.
- Liu, Y., Fan, Y., Wu, X., Lu, Y., & Yi, J. (2020). Colloidal characteristics, emulsifying activities, and interfacial properties of α -lactalbumin–chitosan electrostatic complexes: effects of mass ratio and pH. *Food & Function*, 11(2), 1740–1753.
- Loganathan, R., & Tiu, T. K. (2017a). Red Palm Oil: A Natural Source of Vitamin A. *Palm Oil Developments*, 66, 18–27.
- Loganathan, R., & Tiu, T. K. (2017b). Red Palm Oil: A Natural Source of Vitamin A. *Palm Oil Developments*, 66, 18–27.
- Ma, X., Chi, C., Pu, Y., Miao, S., & Liu, D. (2022a). Conjugation of soy protein isolate (SPI) with pectin: effects of structural modification of the grafting polysaccharide. *Food Chemistry*, 387, 132876.
- Ma, X., Chi, C., Pu, Y., Miao, S., & Liu, D. (2022b). Conjugation of soy protein isolate (SPI) with pectin: effects of structural modification of the grafting polysaccharide. *Food Chemistry*, 387, 132876.
- Ma, X., Hou, F., Zhao, H., Wang, D., Chen, W., Miao, S., & Liu, D. (2020). Conjugation of soy protein isolate (SPI) with pectin by ultrasound treatment. *Food Hydrocolloids*, 108, 106056.
- Mahdi, A. A., Mohammed, J. K., Al-Ansi, W., Ghaleb, A. D. S., Al-Maqtari, Q. A., Ma, M., Ahmed, M. I., & Wang, H. (2020). Microencapsulation of fingered citron extract with gum arabic, modified starch, whey protein, and maltodextrin using spray drying. *International Journal of Biological Macromolecules*, 152, 1125–1134.
- Marliyati, S. A., & Harianti, R. (2021). Physicochemical And Functional Characteristics Of Red Palm Oil. *Jurnal Gizi Masyarakat Indonesia (The Journal of Indonesian Community Nutrition)*, 10(1).
- Martinez-Alvarenga, M. S., Martinez-Rodriguez, E. Y., Garcia-Amezquita, L. E., Olivas, G. I., Zamudio-Flores, P. B., Acosta-Muniz, C. H., & Sepulveda, D. R. (2014). Effect of Maillard reaction conditions on the degree of glycation and functional properties of whey protein isolate–Maltodextrin conjugates. *Food Hydrocolloids*, 38, 110–118.
- Muhammad, G. N., Rahayu, W. P., & Andarwulan, N. (2015). *Stabilitas Fotooksidasi Minyak Goreng Sawit Yang Difortifikasi Dengan Minyak Sawit Merah*.
- Mustapa, A. N., Manan, Z. A., Azizi, C. Y. M., Setianto, W. B., & Omar, A. K. M. (2011). Extraction of β -carotenes from palm oil mesocarp using sub-critical R134a. *Food Chemistry*, 125(1), 262–267.
- Nagaraju, P. G., Sindhu, P., Dubey, T., Chinnathambi, S., CG, P. P., & Rao, P. J. (2021). Influence of sodium caseinate, maltodextrin, pectin and their Maillard conjugate on the stability, in vitro release, anti-oxidant property and cell

- viability of eugenol-olive oil nanoemulsions. *International Journal of Biological Macromolecules*, 183, 158–170.
- Nesterenko, A., Alric, I., Silvestre, F., & Durrieu, V. (2013). Vegetable proteins in microencapsulation: A review of recent interventions and their effectiveness. *Industrial Crops and Products*, 42, 469–479.
- Nooshkam, M., Varidi, M., & Verma, D. K. (2020). Functional and biological properties of Maillard conjugates and their potential application in medical and food: A review. *Food Research International*, 131, 109003.
- Phoon, K. Y., Ng, H. S., Zakaria, R., Yim, H. S., & Mokhtar, M. N. (2018). Enrichment of minor components from crude palm oil and palm-pressed mesocarp fibre oil via sequential adsorption-desorption strategy. *Industrial Crops and Products*, 113, 187–195.
- Prakash, B., Kujur, A., Yadav, A., Kumar, A., Singh, P. P., & Dubey, N. K. (2018). Nanoencapsulation: An efficient technology to boost the antimicrobial potential of plant essential oils in food system. *Food Control*, 89, 1–11.
- Prince, M. V., Thangavel, K., Meda, V., Visvanathan, R., & Ananthakrishnan, D. (2014). Effect of carrier blend proportion and flavor load on physical characteristics of nutmeg (*Myristica fragrans* Houtt.) oleoresin microencapsulated by spray drying. *International Food Research Journal*, 21(5), 2039.
- Purnama, K., Setyaningsih, D., Hambali, E., & Taniwiryono, D. (2020). Processing, Characteristics, and Potential Application of Red Palm Oil - A review. *International Journal of Oil Palm*, 3, 40–55. <https://doi.org/10.35876/ijop.v3i2.47>
- Qi, X., & Tester, R. F. (2018). Is starch or maltodextrin “glucose?” *Starch-Stärke*, 70(9–10), 1700304.
- Quintero Quiroz, J., Rojas Camargo, J. J., & Ciro Gómez, G. L. (2018). *Vegetable proteins as potential encapsulation agents: a review*.
- Ramadhani, A. D., Setiowati, A. D., & Hidayat, C. (n.d.). Development of Coconut Protein Concentrate-Xanthan Gum Conjugate by Wet-Dry Heating Method for Red Palm Oil Emulsification. *AgriTECH*, 44(1), 50–58.
- Ramadhani, A. D., Setiowati, A. D., & Hidayat, C. (2024). Development of Coconut Protein Concentrate-Xanthan Gum Conjugate by Wet-Dry Heating Method for Red Palm Oil Emulsification. *AgriTECH*, 44(1), 50. <https://doi.org/10.22146/agritech.76632>
- Rayhani, Z., Kurniasih, E., & Fadhilah, R. (2018). Classification of dextrose equivalent analysis maltodextrin starch seeds through enzymatic hydrolysis reaction. *IOP Conference Series: Materials Science and Engineering*, 420(1), 012072.
- Riyadi, A. H., Muchtadi, T. R., Andarwulan, N., & Haryati, T. (2016). Pilot plant study of red palm oil deodorization using moderate temperature. *Agriculture and Agricultural Science Procedia*, 9, 209–216.
- Rokka, S., & Rantamäki, P. (2010). Protecting probiotic bacteria by microencapsulation: challenges for industrial applications. *European Food Research and Technology*, 231, 1–12.

- Rong, Y., Sillick, M., & Gregson, C. M. (2009). Determination of dextrose equivalent value and number average molecular weight of maltodextrin by osmometry. *Journal of Food Science*, 74(1), C33–C40.
- Roos, Y. (1995). Characterization of food polymers using state diagrams. *Journal of Food Engineering*, 24(3), 339–360.
- Rosenberg, M., Rosenberg, Y., & Frenkel, L. (2016a). Microencapsulation of model oil in wall matrices consisting of SPI and maltodextrins. *AIMS Agriculture and Food*, 1(1), 33–51.
- Rosenberg, M., Rosenberg, Y., & Frenkel, L. (2016b). Microencapsulation of model oil in wall matrices consisting of SPI and maltodextrins. *AIMS Agriculture and Food*, 1(1), 33–51.
- Rutz, J. K., Borges, C. D., Zambiazzi, R. C., Crizel-Cardozo, M. M., Kuck, L. S., & Noreña, C. P. Z. (2017). Microencapsulation of palm oil by complex coacervation for application in food systems. *Food Chemistry*, 220, 59–66.
- Sadeghi, A., Shahidi, F., Mortazavi, S., & Nassiri-Mahallati, M. (2008). Evaluation of Different Parameters Effect on Maltodextrin Production by α -amylase Termamyl 2-x. *World Appliance Sciences Journal*, 3.
- Salama, A. H. (2020). Spray drying as an advantageous strategy for enhancing pharmaceuticals bioavailability. *Drug Delivery and Translational Research*, 10(1), 1–12.
- Saputri, N. E., & Ngatirah, N. (n.d.). MIKROENKAPSULASI MINYAK SAWIT MERAH DENGAN VARIASI SUHU PENGERINGAN DAN JENIS BAHAN PENYALUT DENGAN METODE FOAM-MAT DRYING. *FoodTech: Jurnal Teknologi Pangan*, 2(2), 35–51.
- Setyani, H., Setiowati, A. D., Rahayoe, S., Hidayat, C., & Saputro, A. D. (2025). Microencapsulation of red palm oil with soy protein concentrate–carrageenan conjugates for compound dark chocolate applications. *Sustainable Food Technology*, 3(6), 2337–2351. <https://doi.org/10.1039/d5fb00278h>
- Siemons, I., Politiek, R. G. A., Boom, R. M., Van der Sman, R. G. M., & Schutyser, M. A. I. (2020). Dextrose equivalence of maltodextrins determines particle morphology development during single sessile droplet drying. *Food Research International*, 131, 108988.
- Singh, P., Kumar, R., Sabapathy, S. N., & Bawa, A. S. (2008). Functional and edible uses of soy protein products. *Comprehensive Reviews in Food Science and Food Safety*, 7(1), 14–28.
- Sulihatimarsyila, A. W. N., Lau, H. L. N., Nabilah, K. M., & Azreena, I. N. (2019). Refining process for production of refined palm-pressed fibre oil. *Industrial Crops and Products*, 129, 488–494.
- Supriyadi, S., & Rujita, A. S. (2013). Characteristics of galangal essential oil microencapsulation using maltodextrin encapsulant. *J Teknol Industri Pangan*, 24, 201–208.
- Takeiti, C. Y., Kieckbusch, T. G., & Collares-Queiroz, F. P. (2008). Optimization of the jet steam instantizing process of commercial maltodextrins powders. *Journal of Food Engineering*, 86(3), 444–452.
- Tang, C.-H., Sun, X., & Foegeding, E. A. (2011). Modulation of physicochemical and conformational properties of kidney bean vicilin (phaseolin) by glycation

- with glucose: Implications for structure–function relationships of legume vicilins. *Journal of Agricultural and Food Chemistry*, 59(18), 10114–10123.
- Tarigan, I. L., & Ananda, H. D. (2022). Pengembangan Produk Kelapa Sawit Merah Sebagai Sumber Pangan Fungsional dan Nutrasetikal. *Jurnal Khazanah Intelektual*, 6(2), 1395–1414.
- Tarigan, I. L., Nelson, Nuralang, & Ananda, H. D. (2022). PENGEMBANGAN PRODUK KELAPA SAWIT MERAH SEBAGAI SUMBER PANGAN FUNGSIONAL DAN NUTRASETIKAL. *Jurnal Khazanah Intelektual*, 6(2), 1409–1427. <https://doi.org/10.37250/newkiki.v6i2.158>
- Ton, N. M. N., Tran, T. T. T., & Le, V. V. M. (2016). Microencapsulation of rambutan seed oil by spray-drying using different protein preparations. *International Food Research Journal*, 23(1), 123.
- Urango, A. C. M., Meireles, M. A. A., & Silva, E. K. (2024). Maillard conjugates produced from proteins and prebiotic dietary fibers: Technological properties, health benefits and challenges. *Trends in Food Science & Technology*, 104438.
- Valenzuela, C., & Aguilera, J. M. (2015). Effects of maltodextrin on hygroscopicity and crispness of apple leathers. *Journal of Food Engineering*, 144, 1–9.
- Van, C. K., Nguyen, P. T. N., Nguyen, T.-T. T., & Bach, L. G. (2024). Microencapsulation of Citrus latifolia peel essential oil by spray-drying using maltodextrin: Characterization, antimicrobial activities, and release profile. *LWT*, 115825.
- Wallert, M., Schmölz, L., Galli, F., Birringer, M., & Lorkowski, S. (2014). Regulatory metabolites of vitamin E and their putative relevance for atherogenesis. *Redox Biology*, 2, 495–503.
- Wang, F., Dai, S., Ye, J., Yang, X., Xu, J., Zhang, S., Qiu, S., Chen, C., Xu, H., & Deng, G. (2025). Soy protein isolate/dextran glycation conjugates: Fabrication through ultrasound-assisted cyclic continuous reaction and their applications as carriers of anthocyanins. *International Journal of Biological Macromolecules*, 294, 139485.
- Wu, L., Guo, X., Wang, W., Medeiros, D. M., Clarke, S. L., Lucas, E. A., Smith, B. J., & Lin, D. (2016). Molecular aspects of β , β -carotene-9', 10'-oxygenase 2 in carotenoid metabolism and diseases. *Experimental Biology and Medicine*, 241(17), 1879–1887.
- Xiao, Z., Xia, J., Zhao, Q., Niu, Y., & Zhao, D. (2022). Maltodextrin as wall material for microcapsules: A review. *Carbohydrate Polymers*, 298, 120113.
- Xu, D., Wang, X., Jiang, J., Yuan, F., & Gao, Y. (2012). Impact of whey protein–Beet pectin conjugation on the physicochemical stability of β -carotene emulsions. *Food Hydrocolloids*, 28(2), 258–266.
- Xue, F., Li, C., Zhu, X., Wang, L., & Pan, S. (2013). Comparative studies on the physicochemical properties of soy protein isolate-maltodextrin and soy protein isolate-gum acacia conjugate prepared through Maillard reaction. *Food Research International*, 51(2), 490–495. <https://doi.org/10.1016/j.foodres.2013.01.012>
- Yakdhane, A., Labidi, S., Chaabane, D., Tolnay, A., Nath, A., Koris, A., & Vatai, G. (2021). Microencapsulation of flaxseed oil—State of art. *Processes*, 9(2), 295.

- Ye, Q., Georges, N., & Selomulya, C. (2018). Microencapsulation of active ingredients in functional foods: From research stage to commercial food products. *Trends in Food Science & Technology*, 78, 167–179.
- Yuliani, S. (2011). Mikroenkapsulasi: Pendekatan strategis untuk fortifikasi pangan. *Bogor: Balai Besar Penelitian Dan Pengembangan Pascapanen Pertanian*.
- Yuliasari, S. (2016). Karakteristik enkapsulat minyak sawit merah dengan pengayaan β -karoten. *Informatika Pertanian*, 25(1), 107–116.
- Zha, F., Dong, S., Rao, J., & Chen, B. (2019). Pea protein isolate-gum Arabic Maillard conjugates improves physical and oxidative stability of oil-in-water emulsions. *Food Chemistry*, 285, 130–138.
- Zha, F., Yang, Z., Rao, J., & Chen, B. (2020). Conjugation of pea protein isolate via Maillard-driven chemistry with saccharide of diverse molecular mass: Molecular interactions leading to aggregation or glycation. *Journal of Agricultural and Food Chemistry*, 68(37), 10157–10166.
- Zhang, C., Li, Y., Wang, P., Li, J., Weiss, J., & Zhang, H. (2020). Core-shell nanofibers electrospun from O/W emulsions stabilized by the mixed monolayer of gelatin-gum Arabic complexes. *Food Hydrocolloids*, 107, 105980.
- Zhang, Z., Chen, W., Zhou, X., Deng, Q., Dong, X., Yang, C., & Huang, F. (2021). Astaxanthin-loaded emulsion gels stabilized by Maillard reaction products of whey protein and flaxseed gum: Physicochemical characterization and in vitro digestibility. *Food Research International*, 144, 110321.
- Zhang, Z., Holden, G., Wang, B., & Adhikari, B. (2023). Maillard reaction-based conjugation of Spirulina protein with maltodextrin using wet-heating route and characterisation of conjugates. *Food Chemistry*, 406. <https://doi.org/10.1016/j.foodchem.2022.134931>
- Zhang, Z., Wang, B., & Adhikari, B. (2022). Maillard reaction between pea protein isolate and maltodextrin via wet-heating route for emulsion stabilisation. *Future Foods*, 6, 100193.
- Zhao, S., Huang, Y., McClements, D. J., Liu, X., Wang, P., & Liu, F. (2022). Improving pea protein functionality by combining high-pressure homogenization with an ultrasound-assisted Maillard reaction. *Food Hydrocolloids*, 126, 107441.