

DAFTAR PUSTAKA

- Afifah, S. O. (2021). Aplikasi Kompleks Elektrostatis Microparticulated Whey Protein-Low Methoxyl Pectin sebagai Fat Mimetics untuk Mayones Rendah Lemak. *Skripsi*. Yogyakarta: Universitas Gadjah Mada.
- Andarwulan, N., Kusnandar, F., & Herawati, D. (2011). *Analisis Pangan*. Jakarta: PT Dian Rakyat.
- AOAC. (2005). *Official Methods of Analysis of AOAC International* (18th ed.). USA: AOAC International.
- Bendtsen, L. Q., Lorenzen, J. K., Bendtsen, N. T., Rasmussen, C., & Astrup, A. (2013). Effect of Dairy Proteins on Appetite, Energy Expenditure, Body Weight, and Composition: A Review of the Evidence from Controlled Clinical Trials. *Advances in Nutrition*, 4(4), 418–438. <https://doi.org/10.3945/an.113.003723>
- Bouyer, E., Mekhloufi, G., Rosilio, V., Grossiord, J.-L., & Agnely, F. (2012). Proteins, polysaccharides, and their complexes used as stabilizers for emulsions: Alternatives to synthetic surfactants in the pharmaceutical field? *International Journal of Pharmaceutics*, 436(1–2), 359–378. <https://doi.org/10.1016/j.ijpharm.2012.06.052>
- Çakır-Fuller, E. (2015). Enhanced heat stability of high protein emulsion systems provided by microparticulated whey proteins. *Food Hydrocolloids*, 47, 41–50. <https://doi.org/10.1016/j.foodhyd.2015.01.003>
- Chan, S. Y., Choo, W. S., Young, D. J., & Loh, X. J. (2017). Pectin as a rheology modifier: Origin, structure, commercial production and rheology. *Carbohydrate Polymers*, 161, 118–139. <https://doi.org/10.1016/j.carbpol.2016.12.033>
- Charles, A. L., Abdillah, A. A., Saraswati, Y. R., Sridhar, K., Balderamos, C., Masithah, E. D., & Alamsjah, M. A. (2021). Characterization of freeze-dried microencapsulation tuna fish oil with arrowroot starch and maltodextrin. *Food Hydrocolloids*, 112, 106281. <https://doi.org/10.1016/j.foodhyd.2020.106281>
- Chen, Y., Jiang, S., Chen, Q., Liu, Q., & Kong, B. (2019). Antioxidant activities and emulsifying properties of porcine plasma protein hydrolysates modified by oxidized tannic acid and oxidized chlorogenic acid. *Process Biochemistry*, 79, 105–113. <https://doi.org/10.1016/j.procbio.2018.12.026>
- Choi, S. J., & McClements, D. J. (2020). Nanoemulsions as delivery systems for lipophilic nutraceuticals: Strategies for improving their formulation,

- stability, functionality and bioavailability. *Food Science and Biotechnology*, 29(2), 149–168. <https://doi.org/10.1007/s10068-019-00731-4>
- Chung, C., Smith, G., Degner, B., & McClements, D. J. (2016). Reduced Fat Food Emulsions: Physicochemical, Sensory, and Biological Aspects. *Critical Reviews in Food Science and Nutrition*, 56(4), 650–685. <https://doi.org/10.1080/10408398.2013.792236>
- Dian, N. L. H. M., Hamid, R. A., Kanagaratnam, S., Isa, W. R. A., Hassim, N. A. M., Ismail, N. H., Omar, Z., & Sahri, M. M. (2017). Palm Oil and Palm Kernel Oil: Versatile Ingredients for Food Applications. *Journal of Oil Palm Research*, 29(4), 487–511. <https://doi.org/10.21894/jopr.2017.00014>
- Fennema, O. R. (1996). *Food Chemistry 3rd Edition*. New York (USA): Marcel Dekker, Inc.
- Fishman, M. L., Chau, H. K., Qi, P. X., Hotchkiss, A. T., Garcia, R. A., & Cooke, P. H. (2015). Characterization of the global structure of low methoxyl pectin in solution. *Food Hydrocolloids*, 46, 153–159. <https://doi.org/10.1016/j.foodhyd.2014.12.021>
- Gutiérrez, F. J., Albillos, S. M., Casas-Sanz, E., Cruz, Z., García-Estrada, C., García-Guerra, A., García-Reverter, J., García-Suárez, M., Gatón, P., González-Ferrero, C., Olabarrieta, I., Olasagasti, M., Rainieri, S., Rivera-Patiño, D., Rojo, R., Romo-Hualde, A., Sáiz-Abajo, M.-J., & Mussons, M.-L. (2013). Methods for the nanoencapsulation of β -carotene in the food sector. *Trends in Food Science & Technology*, 32(2), 73–83. <https://doi.org/10.1016/j.tifs.2013.05.007>
- Kiokias, S., Proestos, C., & Varzakas, T. (2016). A Review of the Structure, Biosynthesis, Absorption of Carotenoids-Analysis and Properties of their Common Natural Extracts. *Current Research in Nutrition and Food Science Journal*, 4(1), 25–37. <https://doi.org/10.12944/CRNFSJ.4.Special-Issue1.03>
- Li, C., Huang, X., Peng, Q., Shan, Y., & Xue, F. (2014). Physicochemical properties of peanut protein isolate–glucomannan conjugates prepared by ultrasonic treatment. *Ultrasonics Sonochemistry*, 21(5), 1722–1727. <https://doi.org/10.1016/j.ultsonch.2014.03.018>
- Li, H., Zhao, T., Li, H., & Yu, J. (2021). Effect of Heat Treatment on the Property, Structure, and Aggregation of Skim Milk Proteins. *Frontiers in Nutrition*, 8, 714869. <https://doi.org/10.3389/fnut.2021.714869>
- Lioe, H. N., Andarwulan, N., & Rahmawati, D. (2018). Karakteristik Fisikokimia dan Sensori Mayonnaise pada Berbagai Komposisi Asam Lemak dari Penggunaan Minyak Nabati Berbeda. *Jurnal Mutu Pangan*, 5(1), 1–9. ISSN 2355-5017

- Liu, Y., Hou, Z., Yang, J., & Gao, Y. (2014). Effects of antioxidants on the stability of β -Carotene in O/W emulsions stabilized by Gum Arabic. *Journal of Food Science and Technology*. <https://doi.org/10.1007/s13197-014-1380-0>
- Lubis, N. A. (2018). Pengaruh Kekentalan Cairan Terhadap Waktu Jatuh Benda Menggunakan Falling Ball Method. *Jurnal Ilmu Fisika dan Teknologi*, 2(2), 26–32. ISSN: 2580-6661
- Marliyati, S. A., Rimbawan, & Harianti, R. (2021). Karakteristik Fisikokimia dan Fungsional Minyak Sawit Merah. *JGMI: The Journal of Indonesian Community Nutrition*, 10(1), 83-94.
- McClements, D. J. (2004). *Food Emulsions: Principles, Practices, and Techniques, Second Edition* (0 ed.). CRC Press. <https://doi.org/10.1201/9781420039436>
- McClements, D. J. (2007). Critical Review of Techniques and Methodologies for Characterization of Emulsion Stability. *Critical Reviews in Food Science and Nutrition*, 47(7), 611–649. <https://doi.org/10.1080/10408390701289292>
- McClements, D. J. (2014). *Nanoparticle- and Microparticle-based Delivery Systems* (0 ed.). CRC Press. <https://doi.org/10.1201/b17280>
- McClements, D. J. (2015). *Food Emulsions: Principles, Practices, and Techniques, Third Edition* (0 ed.). CRC Press. <https://doi.org/10.1201/b18868>
- McClements, D. J., Decker, E. A., Park, Y., & Weiss, J. (2009). Structural Design Principles for Delivery of Bioactive Components in Nutraceuticals and Functional Foods. *Critical Reviews in Food Science and Nutrition*, 49(6), 577–606. <https://doi.org/10.1080/10408390902841529>
- Muhoza, B., Karangwa, E., Duhoranimana, E., Zhang, X., & Xia, S. (2016). Influence of Pectin on the Stability of Whey Protein Isolate Stabilized Emulsion for Encapsulating Lutein. *Advance Journal of Food Science and Technology*, 12(11), 617–626. <https://doi.org/10.19026/ajfst.12.3320>
- Naqash, F., Masoodi, F. A., Rather, S. A., Wani, S. M., & Gani, A. (2017). Emerging concepts in the nutraceutical and functional properties of pectin—A Review. *Carbohydrate Polymers*, 168, 227–239. <https://doi.org/10.1016/j.carbpol.2017.03.058>
- Nawaz, M. A., Singh, T. K., Stockmann, R., Jegasothy, H., & Buckow, R. (2021). Quality Attributes of Ultra-High Temperature-Treated Model Beverages Prepared with Faba Bean Protein Concentrates. *Foods*, 10(6), 1244. <https://doi.org/10.3390/foods10061244>
- Noreen, A., Nazli, Z.-H., Akram, J., Rasul, I., Mansha, A., Yaqoob, N., Iqbal, R., Tabasum, S., Zuber, M., & Zia, K. M. (2017). Pectins functionalized biomaterials; a new viable approach for biomedical applications: A review. *International Journal of Biological Macromolecules*, 101, 254–272. <https://doi.org/10.1016/j.ijbiomac.2017.03.029>

- Protte, K., Bollow, C., Sonne, A., Menéndez-Aguirre, O., Weiss, J., & Hinrichs, J. (2016). Impacts on Micro- and Macro-Structure of Thermally Stabilised Whey Protein-Pectin Complexes: A Fluorescence Approach. *Food Biophysics*, 11(3), 226–234. <https://doi.org/10.1007/s11483-016-9433-8>
- Qian, C., Decker, E. A., Xiao, H., & McClements, D. J. (2012). Physical and chemical stability of β -carotene-enriched nanoemulsions: Influence of pH, ionic strength, temperature, and emulsifier type. *Food Chemistry*, 132(3), 1221–1229. <https://doi.org/10.1016/j.foodchem.2011.11.091>
- Rodzic, A., Pomastowski, P., Sagandykova, G. N., & Buszewski, B. (2020). Interactions of Whey Proteins with Metal Ions. *International Journal of Molecular Sciences*, 21(6), 2156. <https://doi.org/10.3390/ijms21062156>
- Roohinejad, S., Greiner, R., Oey, I., & Wen, J. (Ed.). (2018). *Emulsion-based systems for delivery of food active compounds: Formation, application, health and safety*. John Wiley & Sons, Inc.
- Salminen, H., & Weiss, J. (2014a). Effect of Pectin Type on Association and pH Stability of Whey Protein—Pectin Complexes. *Food Biophysics*, 9(1), 29–38. <https://doi.org/10.1007/s11483-013-9314-3>
- Salminen, H., & Weiss, J. (2014b). Electrostatic adsorption and stability of whey protein–pectin complexes on emulsion interfaces. *Food Hydrocolloids*, 35, 410–419. <https://doi.org/10.1016/j.foodhyd.2013.06.020>
- Shankaranarayanan, J., Arunkanth, K., & Dinesh, K. C., (2018). Beta Carotene-Therapeutic Potential and Strategies to Enhance Its Bioavailability. *Nutrition and Food science International Journal*, 7, 1-7. <https://doi.org/10.19080/NFSIJ.2018.07.555716>
- Shi, D., Li, C., Stone, A. K., Guldiken, B., & Nickerson, M. T. (2023). Recent Developments in Processing, Functionality, and Food Applications of Microparticulated Proteins. *Food Reviews International*, 39(3), 1309–1332. <https://doi.org/10.1080/87559129.2021.1933515>
- Smith, J. S., & Hui, Y. H. (Ed.). (2004). *Food processing: Principles and applications* (1st ed). Blackwell Pub.
- Soukoulis, C., & Bohn, T. (2018). A comprehensive overview on the micro- and nano-technological encapsulation advances for enhancing the chemical stability and bioavailability of carotenoids. *Critical Reviews in Food Science and Nutrition*, 58(1), 1–36. <https://doi.org/10.1080/10408398.2014.971353>
- Sun, C., Liang, B., Sheng, H., Wang, R., Zhao, J., Zhang, Z., & Zhang, M. (2018). Influence of initial protein structures and xanthan gum on the oxidative stability of O/W emulsions stabilized by whey protein. *International Journal of Biological Macromolecules*, 120, 34–44. <https://doi.org/10.1016/j.ijbiomac.2018.08.070>

- Sun, C., Liu, R., Liang, B., Wu, T., Sui, W., & Zhang, M. (2018). Microparticulated whey protein-pectin complex: A texture-controllable gel for low-fat mayonnaise. *Food Research International*, 108, 151–160. <https://doi.org/10.1016/j.foodres.2018.01.036>
- Ulfah, M., Riswanto, A., & Ngatirah, N. (2016). KARAKTERISTIK MINYAK CAMPURAN RED PALM OIL DENGAN PALM KERNEL OLEIN (Characteristics of Oil Blends from Red Palm Oil and Palm Kernel Olein). *Jurnal Agritech*, 36(02), 145. <https://doi.org/10.22146/agritech.12858>
- Virk, B. S., & Sogi, D. S. (2004). Extraction and Characterization of Pectin from Apple (*Malus Pumila*. Cv Amri) Peel Waste. *International Journal of Food Properties*, 7(3), 693–703. <https://doi.org/10.1081/JFP-200033095>
- Xu, D., Wang, X., Jiang, J., Yuan, F., Decker, E. A., & Gao, Y. (2013). Influence of pH, EDTA, α -tocopherol, and WPI oxidation on the degradation of β -carotene in WPI-stabilized oil-in-water emulsions. *LWT - Food Science and Technology*, 54(1), 236–241. <https://doi.org/10.1016/j.lwt.2013.05.029>
- 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. <https://doi.org/10.1016/j.foodhyd.2012.01.002>
- Yuan, Y., Gao, Y., Zhao, J., & Mao, L. (2008). Characterization and stability evaluation of β -carotene nanoemulsions prepared by high pressure homogenization under various emulsifying conditions. *Food Research International*, 41(1), 61–68. <https://doi.org/10.1016/j.foodres.2007.09.006>
- Zhang, Y., Lu, Y., Zhang, R., Gao, Y., & Mao, L. (2021). Novel high internal phase emulsions with gelled oil phase: Preparation, characterization and stability evaluation. *Food Hydrocolloids*, 121, 106995. <https://doi.org/10.1016/j.foodhyd.2021.106995>