

DAFTAR PUSTAKA

- Adawiyah, D., 2015. Aplikasi Margarin Minyak Sawit Merah pada Produk Pound Cake dan Roti Manis.
- Ajani Sanusi, R., Eniola Adebisi, A., 2009. Beta Carotene Content of Commonly Consumed Foods and Soups in Nigeria. *Pakistan J. Nutr.* 8, 1512–1516.
- Ariane, G., 2018. Fortifikasi Yoghurt dengan Ekstrak Daun Kelor (*Moringa oleifera*) sebagai Sumber Kalium. Universitas Pendidikan Indonesia.
- Arum, A.P., Hidayat, C., Supriyanto, 2016. Sintesis Monoasilgliserol dan Diasilgliserol dari Refined Bleached Deodorized Palm Stearin dengan Cara Gliserolisis Kimia dalam Stirrer Tank Reactor Sistem Batch. Universitas Gadjah Mada.
- Ayustaningwarno, F., 2012. Proses Pengolahan Dan Aplikasi Minyak Sawit Merah Pada Industri Pangan II.
- Báez, G.D., Busti, P.A., Verdini, R., Delorenzi, N.J., 2013. Glycation of heat-treated β -lactoglobulin: Effects on foaming properties. *Food Res. Int.* 54, 902–909.
- Boswell, J., Johnson, S., 2002. Practical Sonochemistry. *Pract. Sonochemistry* i.
- Budiyanto, B., Silsia, D., Efendi, Z., Janika, R., 2010. Perubahan Kandungan B-Karoten, Asam Lemak Bebas dan Bilangan Peroksida Minyak Sawit Merah Selama Pemanasan. *Agritech* 30, 75–79.
- Bylund, G., 1995. *Dairy Processing Handbook* 1–442.
- Chantrapornchai, W., Clydesdale, F., McClements Julian, D., 1998. Influence of Droplet Size and Concentration on the Color of Oil-in-Water Emulsions.
- Demetriades, K., Coupland, J.N., McClements, D.J., 1997. Physicochemical Properties of Whey Protein-Stabilized Emulsions as affected by Heating and Ionic Strength. *J. Food Sci.* 62, 462–467.
- Dickinson, E., Euston, S.R., 1991. Stability of Food Emulsions Containing both Protein and Polysaccharide, Food Polymers, Gels and Colloids. The Royal Society of Chemistry.
- Dissanayake, M., Ramchandran, L., Donkor, O.N., Vasiljevic, T., 2013. Denaturation of whey proteins as a function of heat, pH and protein concentration. *Int. Dairy J.* 31, 93–99.
- 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.
- Drapala, K.P., Auty, M.A.E., Mulvihill, D.M., O'Mahony, J.A., 2016. Improving thermal stability of hydrolysed whey protein-based infant formula emulsions by protein-carbohydrate conjugation. *Food Res. Int.* 88, 42–51.
- El-Hadad, N., Abou-Gharbia, H.A., Abd El-Aal, M.H., Youssef, M.M., 2010. Red

- Palm Olein: Characterization and Utilization in Formulating Novel Functional Biscuits. *J. Am. Oil Chem. Soc.* 87, 295–304.
- Esteban, L., Muñío, M. del M., Robles, A., Hita, E., Jiménez, M.J., González, P.A., Camacho, B., Molina, E., 2009. Synthesis of 2-monoacylglycerols (2-MAG) by enzymatic alcoholysis of fish oils using different reactor types. *Biochem. Eng. J.* 44, 271–279.
- Euston, S.R., Finnigan, S.R., Hirst, R.L., 2000. Aggregation kinetics of heated whey protein-stabilized emulsions. *Food Hydrocoll.* 14, 155–161.
- Fitria, K., Hidayat, D.I.C., 2015. Sintesis Biosurfaktan Ester Fruktosa Oleat Secara Enzimatis Menggunakan Lipase Amobil Pada Matrik Modifikasi Hidrofobik Dalam Fluidized Bed Reactor. Universitas Gadjah Mada.
- Fredrick, E., Moens, K., Heyman, B., Fischer, S., Van der Meeren, P., Dewettinck, K., 2013. Monoacylglycerols in dairy recombined cream: I. The effect on milk fat crystallization. *Food Res. Int.* 51, 892–898.
- Ghamgui, H., Miled, N., Rebaï, A., Karra-chaâbouni, M., Gargouri, Y., 2006. Production of mono-olein by immobilized *Staphylococcus simulans* lipase in a solvent-free system: Optimization by response surface methodology. *Enzyme Microb. Technol.* 39, 717–723.
- Goh, K.K.T., Sarkar, A., Singh, H., 2008. Milk Protein-Polysaccharide Interactions. In: *Milk Proteins*. Elsevier Inc., pp. 347–376.
- Gómez-Mascaraque, L.G., Perez-Masiá, R., González-Barrio, R., Periago, M.J., López-Rubio, A., 2017. Potential of microencapsulation through emulsion-electrospraying to improve the bioaccessibility of β -carotene. *Food Hydrocoll.* 73, 1–12.
- Happi Emaga, T., Ronkart, S.N., Robert, C., Wathelet, B., Paquot, M., 2008. Characterisation of pectins extracted from banana peels (*Musa AAA*) under different conditions using an experimental design. *Food Chem.* 108, 463–471.
- Hasenhuettl, G.L., Hartel, R.W., 2008. Food emulsifiers and their applications: Second edition, *Food Emulsifiers and Their Applications: Second Edition*. Springer New York.
- Hattori, K., Dupuis, B., Fu, B.X., Edwards, N.M., 2015. Effects of monoglycerides of varying fatty acid chain length and mixtures thereof on sponge-and-dough breadmaking quality. *Cereal Chem.* 92, 481–486.
- Hu, D.J., Chen, J.M., Xia, Y.M., 2013. A comparative study on production of middle chain diacylglycerol through enzymatic esterification and glycerolysis. *J. Ind. Eng. Chem.* 19, 1457–1463.
- Jensen, S., Rolin, C., Ipsen, R., 2010. Food Hydrocolloids Stabilisation of acidified skimmed milk with HM pectin 24, 291–299.
- Jun, W., Ping, C., Sulaiman, R., Lee, R., Jr, S., Hean, G., 2018.

- Microencapsulation of red palm oil as an oil-in-water emulsion with supercritical carbon dioxide solution-enhanced dispersion. *J. Food Eng.* 222, 100–109.
- Kamaruzaman, N., Salam Babji, A., 2014. Oxidative stability of red palm oils blended chicken nuggets during frozen storage. *AIP Conf. Proc.* 1614.
- Kim, H.-J., Decker, E.A., McClements, D.J., 2002. Role of Postadsorption Conformation Changes of β -Lactoglobulin on Its Ability To Stabilize Oil Droplets against Flocculation during Heating at Neutral pH. *Langmuir* 18, 7577–7583.
- Koubala, B.B., Christiaens, S., Kansci, G., Van Loey, A.M., Hendrickx, M.E., 2014. Isolation and structural characterisation of papaya peel pectin. *Food Res. Int.* 55, 215–221.
- Kralova, I., Sjöblom, J., 2009. Surfactants Used in Food Industry: A Review. *J. Dispers. Sci. Technol.* 30, 1363–1383.
- Kuntom, A., 2005. MPOB test methods : a compendium of test on palm oil products, palm kernel products, fatty acids, food related products and others. Malaysian Palm Oil Board, Kuala Lumpur.
- Kuroiwa, T., Kobayashi, I., Chuah, A.M., Nakajima, M., Ichikawa, S., 2015. Formulation and stabilization of nano-/microdispersion systems using naturally occurring edible polyelectrolytes by electrostatic deposition and complexation. *Adv. Colloid Interface Sci.*
- Loi, C.C., Eyres, G.T., Birch, E.J., 2019. Effect of mono- and diglycerides on physical properties and stability of a protein-stabilised oil-in-water emulsion. *J. Food Eng.* 240, 56–64.
- Mahony, J.A.O., Drapala, K.P., Mulcahy, E.M., Mulvihill, D.M., 2019. Whey Protein-Carbohydrate Conjugates. In: *Whey Proteins*. Elsevier Inc., pp. 249–280.
- Mannar, M.G.V., Wesley, A.S., 2016. Food Fortification. In: *International Encyclopedia of Public Health*. Elsevier Inc., pp. 143–152.
- Maphosa, Y., Jideani, V.A., 2018. Factors Affecting the Stability of Emulsions Stabilised by Biopolymers. In: *Science and Technology Behind Nanoemulsions*. InTech.
- Mayamol, P.N., Balachandran, C., Samuel, T., Sundaresan, A., Arumughan, C., 2007. Process technology for the production of micronutrient rich red palm olein. *JAOCS, J. Am. Oil Chem. Soc.* 84, 587–596.
- McClements, D.J., 2015. *Food Emulsions: Principles, Practices, and Technologies*. CRC Press.
- McClements, D.J., Jafari, S.M., 2018. Improving emulsion formation, stability and performance using mixed emulsifiers: A review. *Adv. Colloid Interface Sci.* 251, 55–79.

- McSweeney, S.L., Healy, R., Mulvihill, D.M., 2008. Effect of lecithin and monoglycerides on the heat stability of a model infant formula emulsion. *Food Hydrocoll.* 22, 888–898.
- Mehrad, B., Ravanfar, R., Licker, J., Regenstein, J.M., 2018. Enhancing the physicochemical stability of β -carotene solid lipid nanoparticle (SLNP) using whey protein isolate. *Food Res. Int.* 105, 962–969.
- O’Sullivan, J., Murray, B., Flynn, C., Norton, I., 2015. Comparison of batch and continuous ultrasonic emulsification processes. *J. Food Eng.* 167, 114–121.
- Ogut, F.O., Mu, T.-H., 2017. Ultrasonic degradation of sweet potato pectin and its antioxidant activity. *Ultrason. Sonochem.* 38, 726–734.
- Oliveira, P.D., Rodrigues, A.M.C., Bezerra, C. V., Silva, L.H.M., 2017. Chemical interesterification of blends with palm stearin and patawa oil. *Food Chem.* 215, 369–376.
- Qiu, D., Chen, Z.-R., Li, H.-R., 2009. Effect of heating on solid β -carotene. *Food Chem.* 112, 344–349.
- Sabariman, M., 2007. Sifat Reologi dan Sifat Fisik Minuman Emulsi Kaya Beta Karoten dari Minyak Sawit Merah dengan Menggunakan Beberapa Pengemulsi. Institut Pertanian Bogor.
- Salminen, H., Weiss, J., 2014. Electrostatic adsorption and stability of whey protein–pectin complexes on emulsion interfaces. *Food Hydrocoll.* 35, 410–419.
- Schick, M.J., Hubbard, A.T., 2006. *Emulsions and Emulsion Stability Second Edition.*
- Scrimshaw, NS, E., 2000. Special Issue on Dietary Approaches to Vitamin A Deficiency. *Food Nutr. Bull.* 21, 115–248.
- Setiowati, A.D., Saeedi, S., Wijaya, W., Van der Meeren, P., 2017. Improved heat stability of whey protein isolate stabilized emulsions via dry heat treatment of WPI and low methoxyl pectin: Effect of pectin concentration, pH, and ionic strength. *Food Hydrocoll.* 63, 716–726.
- Setiowati, A.D., Vermeir, L., Martins, J., De Meulenaer, B., Van der Meeren, P., 2016. Improved heat stability of protein solutions and O/W emulsions upon dry heat treatment of whey protein isolate in the presence of low-methoxyl pectin. *Colloids Surfaces A Physicochem. Eng. Asp.* 510, 93–103.
- Sharif, H.R., Goff, H.D., Majeed, H., Liu, F., Nsor-Atindana, J., Haider, J., Liang, R., Zhong, F., 2017. Physicochemical stability of β -carotene and α -tocopherol enriched nanoemulsions: Influence of carrier oil, emulsifier and antioxidant. *Colloids Surfaces A Physicochem. Eng. Asp.* 529, 550–559.
- Stan, C., 1999. Codex General Standard 1–5.
- Subroto, E., Wisamputri, M.F., Supriyanto, Utami, T., Hidayat, C., 2018. Enzymatic and chemical synthesis of high mono- and diacylglycerol from

- palm stearin and olein blend at different type of reactor stirrers. *J. Saudi Soc. Agric. Sci.*
- Tangsuphoom, N., Coupland, J.N., 2008. Effect of pH and ionic strength on the physicochemical properties of coconut milk emulsions. *J. Food Sci.* 73.
- van Rooyen, J., Esterhuysen, A.J., Engelbrecht, A.-M., du Toit, E.F., 2008. Health benefits of a natural carotenoid rich oil: a proposed mechanism of protection against ischaemia/ reperfusion injury. *Asia Pac. J. Clin. Nutr.* 17 Suppl 1, 316–9.
- Walstra, P., Wouters, J.T.M., Geurts, T.J., 2006. *Dairy Science and Technology, Facilities.*
- Wan Mohamad, W.A.F., Buckow, R., Augustin, M.A., McNaughton, D., 2017. In situ quantification of β -carotene partitioning in oil-in-water emulsions by confocal Raman microscopy. *Food Chem.* 233, 197–203.
- Wang, Q., Ismail, B., 2012. Effect of Maillard-induced glycosylation on the nutritional quality, solubility, thermal stability and molecular configuration of whey protein. *Int. Dairy J.* 25, 112–122.
- Wang, W., Chen, W., Zou, M., Lv, R., Wang, D., Hou, F., Feng, H., Ma, X., Zhong, J., Ding, T., Ye, X., Liu, D., 2018. Applications of power ultrasound in oriented modification and degradation of pectin: A review. *J. Food Eng.* 234, 98–107.
- Wang, W., Li, T., Ning, Z., Wang, Y., Yang, B., Yang, X., 2011. Production of extremely pure diacylglycerol from soybean oil by lipase-catalyzed glycerolysis. *Enzyme Microb. Technol.* 49, 192–196.
- Wei, Z., Gao, Y., 2016. Physicochemical properties of β -carotene bilayer emulsions coated by milk proteins and chitosan-EGCG conjugates. *Food Hydrocoll.* 52, 590–599.
- WHO, FAO, U.F., 2011. *Codex Milk and Milk Products Second edition.* Rome.
- Xiang, J., Liu, F., Fan, R., Gao, Y., 2015. *Colloids and Surfaces A : Physicochemical and Engineering Aspects* Physicochemical stability of citral emulsions stabilized by milk proteins (lactoferrin , α -lactalbumin , β -lactoglobulin) and beet pectin. *Colloids Surfaces A Physicochem. Eng. Asp.* 487, 104–112.
- 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 Hydrocoll.* 28, 258–266.
- Xu, Y., Zhang, L., Bailina, Y., Ge, Z., Ding, T., Ye, X., Liu, D., 2014. Effects of ultrasound and/or heating on the extraction of pectin from grapefruit peel. *J. Food Eng.* 126, 72–81.
- 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 Res. Int.* 41, 61–68.

Yuliarti, O., Goh, K.K.T., Matia-Merino, L., Mawson, J., Brennan, C., 2015. Extraction and characterisation of pomace pectin from gold kiwifruit (*Actinidia chinensis*). *Food Chem.* 187, 290–296.

Zhang, Y., Wang, Xiaosan, Xie, D., Zou, S., Jin, Q., Wang, Xingguo, 2018. Synthesis and concentration of 2-monoacylglycerols rich in polyunsaturated fatty acids. *Food Chem.* 250, 60–66.

Zhu, D.A.N., Damodaran, S., Lucey, J.A., 2010. Physicochemical and emulsifying properties of whey protein isolate (WPI)-dextran conjugates produced in aqueous solution. *J. Agric. Food Chem.* 58, 2988–2994.