

## DAFTAR PUSTAKA

- Aditya, N. P., Aditya, S., Yang, H., Kim, H. W., Park, S. O., and Ko, S. (2015). Co-delivery of hydrophobic curcumin and hydrophilic catechin by a water-in-oil-in-water double emulsion. *Food Chemistry*, 173, 7–13.
- Ajala, T. O., Abraham, A., Keck, C. M., Odeku, O. A., Elufioye, T. O., and Olopade, J. O. (2021). Shea butter (*Vitellaria paradoxa*) and Pentaclethra macrophylla oil as lipids in the formulation of Nanostructured lipid carriers. *Scientific African*, 13, 00965.
- Ajiboye, A. L., Nandi, U., Galli, M., and Trivedi, V. (2021). Olanzapine loaded nanostructured lipid carriers via high shear homogenization and ultrasonication. *Scientia Pharmaceutica*, 89, 25.
- Allen, L. V. (2002). The art science and technology of pharmaceutical compounding 2<sup>nd</sup> edition. American pharmaceutical association. USA. Pp. 236, 265 267, 275.
- Alkandari, S., Al-Hassawi, F., Aldughpassi, A., Sidhu, J. S., Al-Amiri, H. A., Al-Othman, A., Ahmed, N., & Ahmad, A. (2021). Pilot scale production of functional foods using red palm olein: Antioxidant, vitamins' stability and sensory quality during storage. *Saudi Journal of Biological Sciences*, 28(10), 5547–5554.
- Al-Maqtari, Q. A., Ghaleb, A. D. S., Mahdi, A. A., Al-Ansi, W., Noman, A. E., Wei, M., Al-Adeeb, A., and Yao, W. (2021). Stabilization of water-in-oil emulsion of *Pulicaria jaubertii* extract by ultrasonication: Fabrication, characterization, and storage stability. *Food Chemistry*. 350. 129249.
- Al-Sakkaf, M. K., and Onaizi, S. A. (2022). Rheology, characteristics, stability, and pH - responsiveness of biosurfactant - stabilized crude oil/water nanoemulsions. *Fuel*, 307, 121845.
- Amirdivani, S., and Baba, A. S. (2011). Changes in yoghurt fermentation characteristic, and antioxidant potential and in vitro inhabitation of angiotensin-1 converting enzyme upon the inclusion peppermint, dill, and basil. *Food science technology*. 44. 1458 – 1464.
- Anonim. (2019). Peraturan Badan Pengawas Obat dan Makanan. Nomor 11 Tahun 2019 tentang Bahan Tambahan Pangan.
- Anonim. (2019). Peraturan Badan Pengawas Obat dan Makanan. Nomor 34 Tahun 2019 tentang Kategori Pangan.
- Anonim. (2018). Codex Alimentarius International Food Standard : Standar for Fermented Milks. CXS 243-2003

- Apostolou, M., Assi, S., Fatokun, A. A., & Khan, I. (2021). The Effects of Solid and Liquid Lipids on the Physicochemical Properties of Nanostructured Lipid Carriers. *Journal of Pharmaceutical Sciences*, 110(8), 2859–2872.
- Ardabilchi Marand, M., Amjadi, S., Ardabilchi Marand, M., Roufegarinejad, L., and Jafari, S. M. (2020). Fortification of yogurt with flaxseed powder and evaluation of its fatty acid profile, physicochemical, antioxidant, and sensory properties. *Powder Technology*, 359, 76 – 84.
- Ariviani, S. (2009). Formulasi mikroemulsi  $\beta$ -karoten untuk menghambat kerusakan vitamin c dalam sistem aqueous akibat fotooksidasi. Tesis. Fakultas teknologi pertanian. Universitas Gadjah Mada.
- Aryana, K. J., and Olson, D. W. (2017). A 100 year review : yoghurt and other cultured dairy products. *Journal of dairy science*. 100. 9987 – 10013.
- Asgari, S., Saberi, A., McClements, D., and Lin, M. (2019). Microemulsion as nanoreactors for synthesis of biopolymer nanoparticles. *Trends Food Science Technology*. 86. 1010 – 1016.
- Ashokkumar, M., and Mason, T. J. (2007). In Kirk-othmer encyclopedia of chemical technology. Sonochemistry. John wiley & son.
- Ayustaningwarno, F. (2012). Proses pengolahan dan aplikasi minyak sawit merah pada industri pangan. *Vitasphere*. 2. 1-11.
- Azevedo, M. A., Cerqueira, M. A., Fuciños, P., Silva, B. F. B., Teixeira, J. A., and Pastrana, L. (2021). Rhamnolipids-based nanostructured lipid carriers: Effect of lipid phase on physicochemical properties and stability. *Food Chemistry*, 344. 128670.
- Baba, W. N., Jan, K., Punoo, H. A., Wani, T. A., Dar, M. M., and Masoodi, F. A. (2018). Techno-functional properties of yoghurts fortified with walnut and flaxseed oil emulsions in guar gum. *LWT - Food Science and Technology*, 92, 242–249.
- Babazadeh, A., Ghanbarzadeh, B., Hamishehkar, H. (2016). Novel nanostructured lipid carrier as a promising food grade delivery system for ruitin. *Journal of functional food*. 26. 167 – 175.
- Bandi, S. P., Kumbhar, Y. S., and Venuganti, V. V. K. (2020). Effect of particle size and surface charge of nanoparticles in penetration through intestinal mucus barrier. *Journal of nanoparticle research*. 22. 1 – 11.
- Bashiri, S., Ghanbarzadeh, B., Ayaseh, A., Dehghannya, J., and Ehsani, A. (2020). Preparation and characterization of chitosan-coated nanostructured lipid carriers (CH-NLC) containing cinnamon essential oil for enriching milk and anti-oxidant activity. *Lwt*, 119, 108836.

- Castro, S. R., Ribeiro, L. N. M., Breitzkreitz, M. C., Guilherme, V. A., Rodrigues da Silva, G. H., Mitsutake, H., Alcântara, A. C. S., Yokaichiya, F., Franco, M. K. K. D., Clemens, D., Kent, B., Lancellotti, M., de Araújo, D. R., and de Paula, E. (2021). A pre-formulation study of tetracaine loaded in optimized nanostructured lipid carriers. *Scientific Reports*, 11(1), 1–15.
- Cazzonelli, C. I. (2011). Carotenoids in nature: insights from plants and beyond. *Function Plant Biologi*. 38 (11). 833 – 847.
- Chen, Y., Wang, Y., Jin, J., Jin, Q., Akoh, C. C., & Wang, X. (2022). Formation of dark chocolate fats with improved heat stability and desirable miscibility by blending cocoa butter with mango kernel fat stearin and hard palm-mid fraction. *Lwt*, 156(July 2021), 113066.
- Chaijan, M., & Panpipat, W. (2021). Pre-neutralized crude palm oil as natural colorant and bioactive ingredient in fish sausage prepared from tilapia (*Oreochromis niloticus*). *Lwt*, 135(June 2020), 110289.
- Chandan, R. C., and Kilara, A. 2013. Manufacturing yoghurt and fermented milks (2<sup>nd</sup> edition). Wiley. Chichester.
- Chaudhari, V. S., Murty, U. S., and Banerjee, S. (2021). Nanostructured lipid carriers as a strategy for encapsulation of active plant constituents: Formulation and in vitro physicochemical characterizations. *Chemistry and Physics of Lipids*, 235, 105037.
- Cheow, W.S., and Hadinoto, K., (2011). Factors affecting drug encapsulation and stability of lipid–polymer hybrid nanoparticles. *Colloids Surfaces B Biointerfaces* 85, 214–220.
- Choi, K. O., Choi, S. J., & Lee, S. (2021). Characterization of phase and diffusion behaviors of oil, surfactant, and co-surfactant ternary systems for lipid-based delivery carriers. *Food Chemistry*, 359(March), 129875.
- D’Onofre Couto, B., Novaes da Costa, R., Castro Laurindo, W., Moraes da Silva, H., Rocha da Silva, C., Sélia dos Reis Coimbra, J., Barbosa Mageste, A., de Cássia Dias, S., and José Boggione Santos, I. (2021). Characterization, techno-functional properties, and encapsulation efficiency of self-assembled  $\beta$ -lactoglobulin nanostructures. *Food Chemistry*, 356.129719.
- Das, S., Ng W. K., and Tan, R. B. H. (2012). Are nanostructured lipid carriers (NLCs) better than solid lipid nanoparticles (SLNs) : development, characterizations and comparative evaluation of clotrimazole loaded SLNs and NLCs. *European journal of pharmaceutical science*.

- Das, S., Ghosh, S., De, A. K., and Bera, T. (2017). Oral delivery of ursolic acid loaded nanostructured lipid carrier coated with chitosan oligosaccharide : development, characterization, in vitro and in vivo assessment for the therapy of leishmaniasis. *International journal of biological macromolecules*. 102. 996 – 1008.
- Day, R. A., dan Underwood, A. L. (1989). *Analisa Kimia Kuantitatif*. Edisi kelima. Jakarta. Erlangga. 383 - 406.
- de Campo, C., Queiroz Assis, R., Marques da Silva, M., Haas Costa, T. M., Paese, K., Stanisçuaski Guterres, S., de Oliveira Rios, A., and Hickmann Flôres, S. (2019). Incorporation of zeaxanthin nanoparticles in yogurt: Influence on physicochemical properties, carotenoid stability and sensory analysis. *Food Chemistry*. 301. 125230.
- De Oliveira, G. M., Ribeiro, A. P. B., Kieckbutsch, T. G. (2015). Hard fat improve technological properties of palm oil for application in fat-based products. *LWT – Food Science and Technology*. 63. 1155 – 1162.
- Ding, M., Zhang, T., Zhang, H., Tao, N., Wang, X., & Zhong, J. (2020). Gelatin-stabilized traditional emulsions: Emulsion forms, droplets, and storage stability. *Food Science and Human Wellness*, 9(4), 320–327.
- Dizaj, S. M. (2013). Preparation and study of vitamin A palmitate microemulsion drug delivery system and investigation of co-surfactant effect. *Journal of nanostructured in chemistry*. 3. 19 – 25.
- Eid, R. K., Ashour, D. S., Essa, E. A., El Maghraby, G. M., and Arafa, M. F. (2020). Chitosan coated nanostructured lipid carriers for enhanced in vivo efficacy of albendazole against *Trichinella spiralis*. *Carbohydrate Polymers*, 232, 115826.
- Elmowafy, M., and Mohammad, M. A. (2021). Nanostructured lipid carrier (NLCs) as drug delivery platform: advances in formulation and delivery strategies. *Saudi pharmaceutical journal*. 29. 999 – 1012.
- Ergun K, Tiriyaki-Gunduz G, Sakin-Yilmazer M, Nur Dirim S, and Kaymak-Ertekin F. (2013). Freeze drying of yoghurt with candied chestnut puree :survival of lactid acid bacteria and determination of physical properties. *Italian Journal of Food Science*. 25. 470 - 475.
- Fang, C., Saleh, A. A., and Jia-You, F. (2013). Nanostructured lipid carriers (NLCs) for drug delivery and targeting. *Recent patents on nanotechnology*. 7. 41 – 55.
- Fathi, M., Mozafari, M. R., Mohebbi, M. (2012). Nanoencapsulation of food ingredients using lipid based delivery system. *Trends Food Science Technology*. 23. 13-27.

- Flanagan, J. dan Singh, H. (2006). Microemulsion : a potensial delivery system for bioactives in food. *Critical reviews in food science and nutrition*. 4. 221 – 237.
- Fletcher, P. D. I., and Suhling, K. (1998). Interaction between weakly charged oil in watermicroemulsion droplets. *Langmuir*. 14. 4065 – 4069.
- Grampurohit, N., Padmini, R., and Rashmi, M. (2011). Microemulsions for topical use – a review. *Indian journal of pharmaceutical education and research*.
- Gu, L., Sun, R., Wang, W., and Xia, Q. (2022). Nanostructured lipid carriers for the encapsulation of phloretin: preparation and in vitro characterization studies. *Chemistry and Physics of Lipids*, 242, 105150.
- Gumus, C. E., and Gharibzahedi, S. M. T. (2021). Yogurts supplemented with lipid emulsions rich in omega-3 fatty acids: New insights into the fortification, microencapsulation, quality properties, and health-promoting effects. *Trends in Food Science and Technology*. 110. 267–279.
- Hamed, R., Al - Adhami, Y., and Abu-Huwaij, R. (2019). Concentration of a microemulsion influences the mechanical properties of ibuprofen in situ microgels. *International Journal Pharmaceutics*. 570.
- Hasibuan, H. A., dan Ijah. (2018). Peningkatan kesukaan minyak sawit merah dengan penambahan minyak nabati atau flavor dan stabilitasnya dalam penggorengan berulang. *Jurnal Penelitian Kelapa Sawit*. 26. 1-9.
- Hassan, T. H., Salman, S. S., Elkhoudary, M. M., and Gad, S. (2021). Refinement of Simvastatin and Nifedipine combined delivery through multivariate conceptualization and optimization of the nanostructured lipid carriers. *Journal of Drug Delivery Science and Technology*, 64, 102570.
- Houacine, C., Adams, D., and Singh, K. K. (2020). Impact of liquid lipid on development and stability of trimyrustin nanostructured lipid carriers for oral delivery of resveratrol. *Journal of Molecular Liquids*, 316, 113734.
- Huang, W., Dou, H., Wu, H., Sun, Z., Wang, H., and Huang, L. (2017). Preparation and characterizataion of nobiletin loaded nanostructured lipid carriers. *Journal of nanomaterials*. 215. 1 – 12.
- Huang, Z., Guo, B., Deng, C., Tang, C., Liu, C., and Hu, X. (2021). Fabrication and characterization of the W/O/W multiple emulsion through oleogelation of oil. *Food Chemistry*, 358, 129856.
- Hutkins, R. W. (2006). *Microbiology and technology of fermented food*. Hoboken, NJ: Wiley Blackwell.
- Jatmika, A. dan Guritno, P. (1997). Sifat fisikokimiawi minyak goreng sawit merah dan minyak goreng sawit biasa. *Jurnal Penelitian Kelapa Sawit*. 5. 127 – 138.
- Jensen, S., Rolin, C., and Ipsen, R. (2010). Stabilization of acidified skimmed milk with HM pectin. *Food hydrocolloids*. 24. 291 – 299.

- Jomova, K., Valko, M. (2013). Health protective effects of carotenoids and their interactions with other biological antioxidant. *Europe Journal Medicine Chemistry*. 102 - 110.
- Joshi, M., and Patravale, V. (2006). Formulation and evaluation of nanostructured lipid carrier (NLCs) – based gel valdecocixib. *Drug development and industrial pharmacy*. 32. 911 – 918.
- Kang, K. K., Hyeonjin, J., In-Hwan, K., and Byung, H. K. (2012). Cocoa butter equivalents prepared by blending fractioned palm stearin and sha stearin. *Food science and biotechnology*. 22. 347 – 352.
- Karamsetty, V. M., Surya, T., Afrasim, M. D. V., Gowda, A. G. K., Nikhil, P. P., and Samudra, S. K. (2016). Nanostructured lipid carrier based drug delivery system. *Jefferson county parks and recreation commission*. 8. 627 – 643.
- Karimi Khorrami, N., Radi, M., Amiri, S., and McClements, D. J. (2021). Fabrication and characterization of alginate-based films functionalized with nanostructured lipid carriers. *International Journal of Biological Macromolecules*, 182, 373–384.
- Khan, A. S., ud Din, F., Ali, Z., Bibi, M., Zahid, F., Zeb, A., Mujeeb-ur-Rehman, and Khan, G. M. (2021). Development, in vitro and in vivo evaluation of miltefosine loaded nanostructured lipid carriers for the treatment of Cutaneous Leishmaniasis. *International Journal of Pharmaceutics*, 593, 120109.
- Khan, I. T., Nadeem, M., Imran, M., Ayaz, M., Ajmal, M., Yaqoob, E. and Khalique, A. (2017). Antioxidant capacity and fatty acid characterization of heat treated cow and buffalo milk. *Lipid health disease*. 16. 163.
- Khor, Y.P., Koh, S.P., and Long, K. (2014). A comparative study of the physicochemical properties of a virgin coconut oil emulsion and commercial food supplement emulsion. *Molecules*. 19. 9187 – 9202.
- Khosa, A., Reddi, S., and Saha, R. N. (2018). Nanostructured lipid carrier for site-specific drug delivery. *Journal of Biomedicine Pharmacoter*. 103. 598 – 613.
- Kim, S., Weon-Taek, S., and Young-Hoon, P. (1997). Enhanced production of B-carotene from *Blakeslea trispora* with span 20. *Biotechnology Letters*. 19. 561-562.
- Krambeck, K., Silva, V., Silva, R., Fernandes, C., Cagide, F., Borges, F., Santos, D., Otero-Espinar, F., Lobo, J. M. S., and Amaral, M. H. (2021). Design and characterization of Nanostructured lipid carriers (NLC) and Nanostructured lipid carrier-based hydrogels containing *Passiflora edulis* seeds oil. *International Journal of Pharmaceutics*, 600, 120444.
- Lawless, H. T., and Hildegarde, H. (2010). Sensory evaluation of food – principle and practices. Second edition. Springer.



- Lee, Y., Tarte, R., and Acevedo, N. C. (2021). Synergistic effect of starch nanoparticles and chitin nanofibers on the stability of oil-in-water pickering emulsion. *Food chemistry*. 363. 130301.
- Leonardi, A., Bucolo, C., Romano, G. L., Platania, C. B. M., Drago, F., Puglisi, G., and Pignatello, R. (2014). Influence of different surfactant on the technological properties and in vivo ocular tolerability of lipid nanoparticles. *International journal of pharmaceutical*. 470. 133 - 140.
- Lin, C. H., Chen, C. H., Lin, Z. C., Fang, J. Y. (2017). Recent advances in oral delivery of drugs and bioactive natural product using solid lipid nanoparticles as the carriers. Review article. *Journal of food and drug analysis*. 25. 219 – 234.
- Lin, D., Kelly, A. L., and Miao, S. (2020). The role of mixing sequence in structuring O/W emulsions and emulsion gels produced by electrostatic protein – polysaccharide interaction between soy protein isolated-coated droplets and alginate molecules. *Food hydrocolloids*. 113. 106537.
- Lin, D., Kelly, A. L., and Miao, S. (2022). The impact of pH on mechanical properties, storage stability and digestion of alginate-based and soy protein isolate-stabilized emulsion gel beads with encapsulated lycopene. *Food Chemistry*, 372, 131262.
- Lim, T.K. (2012). Fruits : (*Elaeis guineensis*). Edible medicinal and non-medicinal plants. 1. 335 – 392.
- Liu, C., Meng, Z., Chai, X., Liang, X., Piatko, M., Campbell, S., and Liu, Y. (2019). Comparative analysis of graded blends of palm kernel oil, palm kernel sterain, and palm stearin. *Journal of Food Chemistry*. 286. 636 – 643.
- Liu, W., Wang, J., McClements, D. J., and Zou, L. (2018). Encapsulation of  $\beta$ -carotene-loaded oil droplets in caseinate/alginate microparticles: Enhancement of carotenoid stability and bioaccessibility. *Journal of Functional Foods*, 40, 527–535.
- Loveday, S. M., Sarkar, A., and Singh, H. (2013). Innovative yoghurts: Novel processing technologies for improving acid milk gel texture. *Trends in Food Science & Technology*. 33. 5–20.
- Makoni, P. A., Kasongo, K. W., and Walker, R. B. (2019). Short term stability testing of efavirenz-loaded solid lipid nanoparticle (SLN) and nanostructured lipid carrier (NLC) dispersions. *Pharmaceutics*, 11(8).
- Maretti, E., Leo, E., Rustichelli, C., Truzzi, E., Siligardi, C., and Iannuccelli, V. (2021). In vivo  $\beta$ -carotene skin permeation modulated by Nanostructured Lipid Carriers. *International Journal of Pharmaceutics*, 597, 120322.
- Mba, O.I., Dumont, M. J., Ngadi, M. (2015). Palm oil: processing, characterization and utilization in the food industry. A review. *Food Bioscience*. 10. 26 - 41.

- 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.
- Mc Clements, D. J. (2012). Advances in fabrication emulsions with enhanced functionality using structural design principles. *Curr Opin Colloid Interface Science*. 5. 235 - 245.
- Mello, N. A., Lisandro, P. C., Ana, P. B. R., and Juliano, L. B. (2021). Effect of limonene on modulation of palm stearin crystallization. *Food biophysics*. 16. 1 – 14.
- Mohammadi-Gouraji, E., Soleimanian - Zad, S., and Ghiaci, M. (2019). Phycocyanin-enriched yogurt and its antibacterial and physicochemical properties during 21 days of storage. *Lwt*, 102, 230 – 236.
- Mojahedian, M. M., Saeid, D., and Soliman, M. S. (2013). A novel method to produce solid lipid nanoparticles using n-butanol as an additional co-surfactant according to the o/w microemulsion quenching technique. *Chemistry and physics of lipids*. 174. 32 -38.
- Montenegro, L., Lai, F., Offerta, A., Sarpietro, M. G., Micicche, L., Maccioni, A. M., Valenti, D., and Fadda, A. M. (2016). From nanoemulsion to nanostructured lipid carrier : A relevant development in dermal delivery of drugs and cosmetics. *Journal of drug delivery science and technology*. 32. 100 – 112.
- Muller, R., Shegokar, R., and Keck, C. (2011). 20 years of lipid nanoparticles (SLN and NLC) : present state of development and industrial application. *Current drug discovery technologies*. 8. 207 – 227.
- Muller, R. H., Radtke, M., and Wissing, S. A. (2002). Solid Lipid Nanoparticle (SLN) and nanostructured lipid carriers (NLC) in cosmetic and dermatological preparations. *Advanced Drug Delivery Reviews*. 54. 131-155.
- Nahr, F. K., Ghanbarzadeh, B., Hamishehkar, H., and Kafil, H. S. (2018). Food grade nanostructured lipid carrier for cardamom essential oil : preparation, characterization, and antimicrobial activity. *Journal of functional food*. 40. 1 – 8.
- Nazari, M., Ghanbarzadeh, B., Samadi Kafil, H., Zeinali, M., and Hamishehkar, H. (2019). Garlic essential oil nanophytosomes as a natural food preservative: Its application in yogurt as food model. *Colloids and Interface Science Communications*, 30, 100176.
- Nobari Azar, F. A., Pezeshki, A., Ghanbarzadeh, B., Hamishehkar, H., Mohammadi, M., Hamdipour, S., and Daliri, H. (2021). Pectin-sodium caseinat hydrogel containing olive leaf extract-nano lipid carrier: Preparation, characterization and rheological properties. *Lwt*, 148, 111757.



- Osman, N., Omolo, C. A., Gannimani, R., Waddad, A. Y., Rambharose, S., Mocktar, C., Singh, S., Parboosing, R., and Govender, T. (2019). Novel fatty acid-based pH-responsive nanostructured lipid carriers for enhancing antibacterial delivery. *Journal of Drug Delivery Science and Technology*, 53, 101125.
- Palleria, S. M., and Prabhakar, B. (2013). A review on solid lipid nanoparticle. *International journal of pharmaceutical science. Review*. 20. 36.
- Pan, Y., Rohan, V. T., and Nitin, N. (2016). Distribution of a model bioactive within solid lipid nanoparticle and nanostructured lipid carriers influences its loading efficiency and oxidative stability. *International journal of pharmaceutics*. 511. 322 – 330.
- Pardeike, J., Hommoss, A., and Muller, R. (2009). Lipid nanoparticle (SLN,NLC) in cosmetic and pharmaceutical dermal product. *International Journal of Pharmacy*. 366. 170 -184.
- Patidar, A., Thakur, D. S., Kumar, P., and Verma, J. (2010). A review on novel lipid based nanocarriers. *International journal of pharmaceutical science*. 2. 30-35.
- Patel, A. S., Lakshmibalasubramaniam, S. P., Nayak, B., and Camire, M. E. (2022). Lauric acid adsorbed cellulose nanocrystals retained the physical stability of oil-in-water Pickering emulsion during different dilutions, pH, and storage periods. *Food Hydrocolloids*, 124, 107139.
- Pigmentel - Moral, S., Teixeira, M. C., Fernandes, A. R., Arraez - Roman, D., Martinez - Ferez, A. and Segura-Carretero A. (2018). Lipid nanocarriers for the loading polyphenols. A comprehensive Review. *Advantage colloid interface science*. 260. 85 – 94.
- Prieto, C., and Calvo, L. (2013). Performance of the biocompatible surfactant Tween 80 for the formation of microemulsion suitable for new pharmaceutical processing. *Journal of applied chemistry*. 10. 1 – 10.
- Qiu, L., Zhang, M., Mujumdar, A. S., and Chang, L. (2021). Effect of edible rose (*Rosa rugosa* cv. Plena) flower extract addition on the physicochemical, rheological, functional and sensory properties of set-type yogurt. *Food Bioscience*, 43, 101249.
- Rajput, A. P., and Butani, S. B. (2019). Resveratrol anchored nanostructured lipid carrier loaded in situ gel via nasal route: Formulation, optimization and in vivo characterization. *Journal of Drug Delivery Science and Technology*, 51, 214–223.
- Raju, M., Kunde, S. S., Auti, S. T., Kulkarni, Y. A., and Wairkar, S. (2021). Berberine loaded nanostructured lipid carrier for Alzheimer's disease: Design, statistical optimization and enhanced in vivo performance. *Life Sciences*, 285, 119990.

- Rao, J. and McClements, D. J. (2012). Food-grade microemulsions and nanoemulsions : role of oil phase composition on formation and stability. *Food hydrocolloids*. 29. 326 – 334.
- Ribeiro, A. P. B., Basso, R. C., and Kieckbusch, T. G. (2013). Effect of the addition of hardfats on the physical properties of cocoa butter. *European journal of lipid science and technology*. 115. 301 – 312.
- Rohmah, M., Choiri, S., Raharjo, S., Hidayat, C., and Martien, R. (2020). Palm stearin and olein binary mixture incorporated into nanostructured lipids carrier: Improvement food functionality for micronutrient delivery. *Journal of Food Processing and Preservation*, 44(10), 1–10.
- Ruiz-Zola, M. A., and Rodriguez - Concepcion, M. (2012). Carotenoid biosynthesis in Arabidopsis: a colorful pathway. *The Arabidopsis Book/American Society of Plant Biologists*. 10.
- Sakellari, G. I., Zafeiri, I., Batchelor, H., and Spyropoulos, F. (2021). Formulation design, production and characterisation of solid lipid nanoparticles (SLN) and nanostructured lipid carriers (NLC) for the encapsulation of a model hydrophobic active. *Food Hydrocolloids for Health*, 1, 100024.
- Salama, H. H., El-Sayed, H. S., Kholif, A. M. M., and Edris, A. E. (2021). Essential oils nanoemulsion for the flavoring of functional stirred yogurt: Manufacturing, physicochemical, microbiological, and sensorial investigation. *Journal of the Saudi Society of Agricultural Sciences*. 10.001.
- Salvi, V. R., and Pawar, P. (2019). Journal of Drug Delivery Science and Technology Nanostructured lipid carriers ( NLC ) system: A novel drug targeting carrier. *Journal of Drug Delivery Science and Technology*, 51, 255–267.
- Santos, V. S., Ana, P. B. R., and Maria, H. A. S. (2019). Solid lipid nanoparticles as carriers for lipophilic compounds for application in foods. *Food Research International*. 122. 610 - 626.
- Selvamuthukumar, S., & Velmurugan, R. (2012). Nanostructured Lipid Carriers: A potential drug carrier for cancer chemotherapy. *Lipids in Health and Disease*, 11(1), 1–8.
- Šeregelj, V., Pezo, L., Šovljanski, O., Lević, S., Nedović, V., Markov, S., Tomić, A., Čanadanović-Brunet, J., Vulić, J., Šaponjac, V. T., and Četković, G. (2021). New concept of fortified yogurt formulation with encapsulated carrot waste extract. *Lwt*, 138. 110732.
- Shah, N. V., Seth, A. K., BAlaraman, R., Aundhia, C. J., Maheswari, R. A., and Parmar, G. R. (2016). Nanostructured lipid carriers for oral bioavailability enhancement of raloxifene : Design and in vivo study. *Journal of advanced research*. 7. 423 – 434.

- Shamsara, O., Muhidinov, Z. K., Jafari, S. M., Bobokalonov, J., Jonmurodov, A., Taghvaei, M. (2015). Effect of ultrasonication, pH, and heating on stability of apricot gum lactoglobuline two layer nanoemulsion. *International journal of Biological Macromolekul*. 81. 1019 – 1025.
- Shaji, J., and Shah, A. (2015). Niosomes : A novel drug delivery system. *World journal of pharmaceutical research*. 4. 853.
- Shevalkar, G., and Vavia, P. (2019). Solidified nanostructured lipid carrier (S-NLC) for enhancing the oral bioavailability of ezetimibe. *Journal of drug delivery science and technology*. 53. 101211.
- Silva, F. A., Queiroga, R. de C. R. do E., de Souza, E. L., Voss, G. B., Borges, G. da S. C., Lima, M. dos S., Pintado, M. M. E., and Vasconcelos, M. A. da S. (2022). Incorporation of phenolic-rich ingredients from integral valorization of Isabel grape improves the nutritional, functional and sensory characteristics of probiotic goat milk yogurt. *Food Chemistry*, 369.130957.
- Singh, Y., Meher, J.G., Raval, K., Khan, F. A., Khan, M., Jain, N. K., and Chourasia, M. K. (2017). Nanoemulsion : concept, development and application in drug delivery. *Journal of Controlled Release*. 252. 28 – 49.
- Sohrabi, S., Keshavarz Moraveji, M., and Iranshahi, D. (2021). Morphological and structural insights into high aspect ratio lauric acid/TiO<sub>2</sub> nanowires: A low-temperature synthesis. *Ceramics International*, 47, 9424–9436.
- Sonoda, T., Takata, Y., Ueno, S., and Sato, K. (2004). DSC and synchrotron-radiation on X-ray diffraction studies on crystallization and polymorphic behaviour of palm stearin in bulk and oil-in-water emulsion state. *Journal of the American oil chemists' society*. 81. 365 – 373.
- Speranza, P., Ana, P. B. R., and Gabriela, A. M. (2015). Lipase catalyzed interesterification of Amazonian pataua oil and palm stearin for preparation of specific-structured oils. *Journal of food science and technology*. 52. 8268 – 8275.
- Sravan Kumar, S., Singh Chauhan, A., and Giridhar, P. (2020). Nanoliposomal encapsulation mediated enhancement of betalain stability: Characterisation, storage stability and antioxidant activity of Basella rubra L. fruits for its applications in vegan gummy candies. *Food Chemistry*. 333. 127442.
- Suhendra, L., Sri, R., Pudji, H., and Chusnul, H. (2012). Formulasi dan stabilitas mikroemulsi o/w sebagai pembawa fucoxanthin. *Agritech*. 32. 230 – 239.
- Taha, A., Ahmed, E., ismaiel, a., Ashokkumar, M., Xu, X., Pan, s. Y., and Hu, H. (2020). Ultrasonic emulsification : an overview on the preparation of different emulsifiers stabilized emulsions. *Trends in food science and technology*. 105. 363 – 377.

- Talegaonkar, S., Azeem, A., and Ahmad, F.J. (2008). Microemulsion: A novel approach to enhanced drug delivery. *Recent Patents on Drug Delivery and Formulation*. 2. 238-257.
- Tamjidi, F., Shahedi, M., Varshozas, J., and Nasirpour, A. (2013). Nanostructured lipid carriers (NLC) : a potential delivery system for bioactive food molecules. *Innovative food science and emerging technologies*. 19. 29 – 43.
- The, S. S., and Harison, L. N. L. (2021). Quality assessment of refined red palm-pressed mesocarp olein. *Food chemistry*. 340. 127912.
- Ting, Y., Jiang, Y., Ho, C-T., and Huang, Q. (2014). Common delivery system for enhancing in vivo bioavailability and biological efficacy of nutraceuticals. *Journal of Functional Food*. 7. 112 – 128.
- Tofani, R. P. (2016). Pengembangan sediaan topical nanostructured lipid carriers (NLC) deoksirbutin dan uji efikasi depigmentasi. Disertasi program doctor. Institute teknologi bandung. 13 – 17.
- Umeyor, C. E., Okoye, I., Uronnachi, E., Okeke, T., Kenechukwu, F., and Attama, A. (2021). Repositioning miconazole nitrate for malaria: Formulation of sustained release nanostructured lipid carriers, structure characterization and in vivo antimalarial evaluation. *Journal of Drug Delivery Science and Technology*, 61, 102125.
- Van Nieuwenhove, C. P., Moyano, A., Castro-Gómez, P., Fontecha, J., Sáez, G., Zárate, G., and Pizarro, P. L. (2019). Comparative study of pomegranate and jacaranda seeds as functional components for the conjugated linolenic acid enrichment of yogurt. *Lwt*, 111, 401–407.
- Vargas-Bello-Pérez, E., Íñiguez-González, G., Fehrmann-Cartes, K., Toro-Mujica, P., & Garnsworthy, P. C. (2015). Influence of fish oil alone or in combination with hydrogenated palm oil on sensory characteristics and fatty acid composition of bovine cheese. *Animal Feed Science and Technology*, 205, 60–68.
- Verstringe, S., Sabine, D., Christoper, B., and Koen, D. (2014). Influence of commercial monoacylglycerol on the crystallization mechanism of palm oil as compared to its pure constituents. *Food research international*. 62. 694 – 700.
- Vinarov, Z., Petkova, Y., Tcholakova, S., Denkov, N., Stoyanov, S., Pelan, E., and Lips, A. (2012). Effect of emulsifier charge and concentration on pancreatic lipolysis 1 in the absesence of bile salts. *Langmuir*. 28. 8127 – 8139.
- Vulić, J., Šeregelj, V., Kalušević, A., Lević, S., Nedović, V., Šaponjac, V. T., Čanadanović-Brunet, J., and Četković, G. (2019). Bioavailability and bioactivity of encapsulated phenolics and carotenoids isolated from red pepper waste. *Molecules*, 24(15).

- Wang, X., Hongyan, L., Fangqin, W., Guixue, X., Hongjun, L., Xiaojie, C., Ming, K., Ya, L., Chao, F., Xiguang, C., and Ying, W. (2017). *Frontiers of material science*. 11. 66 – 74.
- Wijaya, W., Van der meereen, P., and patel, A. R. (2017). Cold-set gelation of whey protein isolate and low-methoxyl pectin at low pH. *Food hydrocolloids*. 65. 34 – 45.
- Yang, Y., Marshall-Breton, C., Leser, M. E., Sher, A. A., and McClements, D. J. (2012). Fabrication of ultrafine edible emulsions : comparism of high-energy and low-energy homogenization method. *Food hydrocolloids*. 29. 398 – 406.
- Yi, J., Andersen, M. L., and Skibsted, L. H. (2011). Interaction between tocopherols, tocotrienol and carotenoid during autooxidation of mix palm olein and fish oil. *Food Chemistry*. 127. 1792 – 1797.
- Yusmarini, R. E. 2004. Evaluasi mutu yoghurt yang dibuat dengan penambahan beberapa jenis gula. *Jurnal natur Indonesia*. Laboratorium Teknologi Hasil Pertanian.
- Zedan, H., Hosseini, S. M., and Mohammadi, A. (2021). The effect of tarragon (*Artemisia dracunculus*) essential oil and high molecular weight Chitosan on sensory properties and shelf life of yogurt. *Lwt*, 147, 111613.
- Zhong, J., Yang, R., Cao, X., Liu, X., and Qin, X. (2018). Improved Physicochemical Properties of Yogurt Fortified with Fish Oil/ $\gamma$ -Oryzanol by Nanoemulsion Technology. *Molecules*, 23, 56.
- Zhu, J., Pan, Z., Lanla, L., Qi, S, and feiwei, C. (2015). Preparation and characterization of novel nanocarriers containing krill oil for food application. *Journal of functional food*. 19. 902 - 912.