

## DAFTAR PUSTAKA

- Al Khafiz, M. F., Hikmahwati, Y., Anam, K., dan Hudiyanti, D., 2019, Key conditions of alpha-tocopherol encapsulation in gum Arabic dispersions, *International Journal of Research in Pharmaceutical Sciences*, 10(4), 2622–2627. <https://doi.org/10.26452/ijrps.v10i4.1520>
- Alberts-Hubatsch, H., Lee, S. Y., Meynecke, J. O., Diele, K., Nordhaus, I., dan Wolff, M., 2016, Life-history, movement, and habitat use of *Scylla serrata* (Decapoda, Portunidae): current knowledge and future challenges, *Hydrobiologia*, 763(1), 5–21. <https://doi.org/10.1007/s10750-015-2393-z>
- Almarinez, J. H., dan Hernandez, A., 2019, Evaluation of mangrove crab classification system, *International Journal of Recent Technology and Engineering*, 7(6), 830–834.
- Ambarwati, A. T., Rachmawati, D., dan Samidjan, I., 2014, Pengaruh Penambahan Vitamin C Dengan Dosis yang Berbeda pada Pakan Buatan Terhadap Pertumbuhan dan Kelulushidupan Kepiting Bakau (*Scylla* sp), *Journal of Aquaculture Management and Technology*, 3(4), 26–33.
- Barakat, K. M., Ismail, M. M., Abou El Hassayeb, H. E., El Sersy, N. A., dan Elshobary, M. E., 2022, Chemical characterization and biological activities of ulvan extracted from *Ulva fasciata* (Chlorophyta), *Rendiconti Lincei*, 33(4), 829–841. <https://doi.org/10.1007/s12210-022-01103-7>
- Bot, F., Cossuta, D., dan O'Mahony, J. A., 2021a, Inter-relationships between composition, physicochemical properties and functionality of lecithin ingredients, *Trends in Food Science and Technology*, 111(February), 261–270. <https://doi.org/10.1016/j.tifs.2021.02.028>
- Bot, F., Cossuta, D., dan O'Mahony, J. A., 2021b, Inter-relationships between composition, physicochemical properties and functionality of lecithin ingredients, *Trends in Food Science and Technology*, 111, 261–270. <https://doi.org/10.1016/j.tifs.2021.02.028>
- Chaiklahan, R., Suaisom, C., Chirasuwan, N., dan Srinorasing, T., 2025, Separation and characterization of high- and low-molecular-weight polysaccharides from *Caulerpa lentillifera*, *Carbohydrate Polymer Technologies and Applications*, 10, 100776. <https://doi.org/10.1016/j.carpta.2025.100776>
- Chen, Hu, S., Sun, M., Shi, J., Zhang, H., Yu, H., dan Yang, Z., 2024, Recent advances and clinical translation of liposomal delivery systems in cancer therapy, *European Journal of Pharmaceutical Sciences*, 193, 106688. <https://doi.org/10.1016/j.ejps.2023.106688>
- Chen, Sun, Y., Liu, H., Liu, S., Qin, Y., dan Li, P., 2019, Advances in cultivation, wastewater treatment application, bioactive components of *Caulerpa lentillifera* and their biotechnological applications, *PeerJ*, 2019(1), 1–15. <https://doi.org/10.7717/peerj.6118>
- Chirapart, A., dan Ratana-Arporn, P., 2014, Nutritional Evaluation of Tropical Green Seaweeds *Caulerpa lentillifera* and *Ulva reticulata*, *Kasetsart J (Nat. Sci)*, 40(January 2006), 75–83.
- Dalmoro, A., Bochicchio, S., Lamberti, G., Bertocin, P., Janssens, B., dan Barba, A. A., 2019, Micronutrients encapsulation in enhanced nanoliposomal carriers

- by a novel preparative technology, *RSC Advances*, 9(34), 19800–19812. <https://doi.org/10.1039/c9ra03022k>
- Danaei, M., Dehghankhold, M., Ataei, S., Hasanzadeh Davarani, F., Javanmard, R., Dokhani, A., Khorasani, S., dan Mozafari, M. R., 2018, Impact of particle size and polydispersity index on the clinical applications of lipidic nanocarrier systems, *Pharmaceutics*, 10(2), 1–17. <https://doi.org/10.3390/pharmaceutics10020057>
- Delan, G. G., Legados, J. A., Pepito, A. R., Cunado, V. D., Rica, R. L., Abdon, H. C., dan Ilano, A. S., 2015, The Influence of Habitat on the Quality Characteristics of the Green Macro Alga *Caulerpa lentillifera* Agardh (Caulerpaceae, Chlorophyta), *Tropical Technology Journal*, 19(1), 1–7. <https://doi.org/10.7603/s40934-015-0010-4>
- Devi, N. C., Waikhom, G., Singh, S. K., Das, P., Debbarma, S., Debbarma, R., Singh, L. S., Meinam, M., Biswas, P., dan Irungbam, S., 2024, Effects of Vitamin C on Growth and Non-Specific Immune Response of *Labeo gonius* Fry in Density-Dependent Biofloc Rearing, *Aquaculture Nutrition*, 2024. <https://doi.org/10.1155/2024/9930544>
- Dewi, I. M., 2025, *Enkapsulasi Vitamin C dalam Liposom-Polisakarida Ekstrak Anggur Laut (Caulerpa lentillifera) sebagai Pakan Fungsional Larva Kepiting Bakau (Scylla serrata)*. [http://digilib.fsm.undip.ac.id/index.php?p=show\\_detail&id=16170&keyword=s=](http://digilib.fsm.undip.ac.id/index.php?p=show_detail&id=16170&keyword=s=)
- Eisermann, J., Wright, J. J., Wilton-Ely, J. D. E. T., Hirst, J., dan Roessler, M. M., 2023, Using light scattering to assess how phospholipid-protein interactions affect complex I functionality in liposomes, *RSC Chemical Biology*, 4(6), 386–398. <https://doi.org/10.1039/d2cb00158f>
- Fakhrulddin, I. M., Ramaiya, S. D., Muta Harah, Z., Nur Leena Wong, W. S., Awang, M. A., dan Ismail, N. I. M., 2022, Effects of temperature on drying kinetics and biochemical composition of *Caulerpa lentillifera*, *Food Research*, 6(5), 168–173. [https://doi.org/10.26656/fr.2017.6\(5\).637](https://doi.org/10.26656/fr.2017.6(5).637)
- Fan, S. Q., dan Fang, F., 2020, Structural Modification and Biological Activity of Piperlongumine, *Chinese Pharmaceutical Journal*, 55(6), 413–420. <https://doi.org/10.11669/cpj.2020.06.001>
- Geegana, M., Awanthi, G., Nagamoto, S., Oku, H., Kitahara, K., dan Konishi, T., 2023, *Hyaluronidase-inhibiting Polysaccharide from Caulerpa lentillifera*, 7, 1–7. <https://doi.org/10.5458/jag.jag.JAG-2022>
- Gita, R. S. D., 2016, Keanekaragaman Jenis Kepiting Bakau (*Scylla* spp.) Di Taman Nasional Alas Purwo Mangrove Crab Diversity (*Scylla* spp.) In alas Purwo National Park, *Jurnal Biologi dan Pembelajaran Biologi*, 1(2), 148–161. <https://doi.org/10.32528/bioma.v1i2.443>
- Hapsari, Y., Rahmawati, S. I., Izzati, F., Septiana, E., Bustanussalam, Rachman, F., Simanjuntak, P., Bayu, A., dan Putra, M. Y., 2023, *Caulerpa lentillifera* as a Potential Nutraceutical Resource, *AIP Conference Proceedings*, 2606(February). <https://doi.org/10.1063/5.0119997>
- Hill, C., Chromatography, D., Giddings, J. C., Chromatography, M., Helfferich, F., dan Klein, G., 1995, Handbook of size exclusion chromatography, In

- Analytica Chimica Acta* (Vol. 316, Nomor 3). [https://doi.org/10.1016/0003-2670\(95\)90623-1](https://doi.org/10.1016/0003-2670(95)90623-1)
- Honary., S., dan Zahir., F., 2013, Effect of zeta potential on the properties of nano-drug delivery systems - A review (Part 1), *Tropical Journal of Pharmaceutical Research*, 12(2), 255–264. <https://doi.org/10.4314/tjpr.v12i2.19>
- Hu, Y., Zhang, J., He, L., Hu, Y., Zhong, L., Dai, Z., dan Zhou, D., 2020, Effects of dietary vitamin C on growth, antioxidant activity, and immunity in ricefield eel (*Monopterus albus*), *Journal of the World Aquaculture Society*, 51(1), 159–170. <https://doi.org/10.1111/jwas.12636>
- Hudiyanti, D., Triana, D., dan Siahaan, P., 2017, Studi Pendahuluan tentang Enkapsulasi Vitamin C dalam Liposom Kelapa (*Cocos nucifera* L.), *Jurnal Kimia Sains dan Aplikasi*, 20(1), 5–8. <https://doi.org/10.14710/jksa.20.1.5-8>
- Jin, M., Shi, J., Zhu, W., Yao, H., dan Wang, D. A., 2021, Polysaccharide-Based Biomaterials in Tissue Engineering: A Review, *Tissue Engineering - Part B: Reviews*, 27(6), 604–626. <https://doi.org/10.1089/ten.teb.2020.0208>
- Kaddah, S., Khreich, N., Kaddah, F., Charcosset, C., dan Greige-Gerges, H., 2018, Cholesterol modulates the liposome membrane fluidity and permeability for a hydrophilic molecule, *Food and Chemical Toxicology*, 113, 40–48. <https://doi.org/10.1016/j.fct.2018.01.017>
- Karim, A. A., Tan, E., dan Loh, X. J., 2017, Encapsulation of Vitamin C with its Protection from Oxidation by Poly(Vinyl Alcohol), *Journal of Molecular and Engineering Materials*, 05(04), 1750013. <https://doi.org/10.1142/s2251237317500137>
- Kazi, M., Al-Swairi, M., Ahmad, A., Raish, M., Alanazi, F. K., Badran, M. M., Khan, A. A., Alanazi, A. M., dan Hussain, M. D., 2019, Evaluation of self-nanoemulsifying drug delivery systems (SNEDDS) for poorly water-soluble talinolol: Preparation, in vitro and in vivo Assessment, *Frontiers in Pharmacology*, 10(MAY), 1–13. <https://doi.org/10.3389/fphar.2019.00459>
- Khalil, H. S., Ahmed, H. O., Elkhoully, N., El Basuini, M. F., El-Nokrashy, A. M., Hessein, A. A. A., Khaled, A. A., Rashad, A. M. A., Kord, M., Alkenawy, D., Abdel-Tawwab, M., dan Abdel-Latif, H. M. R., 2023, Effects of l-ascorbic acid on growth, non-specific immunity, antioxidant capacity, and intestinal and hepatopancreatic histology of red swamp crayfish, *Procamburus clarkii*, *Scientific Reports*, 13(1), 1–13. <https://doi.org/10.1038/s41598-023-48609-0>
- Khan, M. S. I., Oh, S. W., dan Kim, Y. J., 2020, Power of Scanning Electron Microscopy and Energy Dispersive X-Ray Analysis in Rapid Microbial Detection and Identification at the Single Cell Level, *Scientific Reports*, 10(1), 1–10. <https://doi.org/10.1038/s41598-020-59448-8>
- Khuntia, A., Kumar, R., Premjit, Y., dan Mitra, J., 2022, Release behavior of vitamin C nanoliposomes from starch–vitamin C active packaging films, *Journal of Food Process Engineering*, 45(9), 1–14. <https://doi.org/10.1111/jfpe.14075>
- Kong, F., Zhu, Y., Yu, H., Wang, X., Abouel Azm, F. R., Yuan, J., dan Tan, Q., 2021, Effect of dietary vitamin C on the growth performance, nonspecific immunity and antioxidant ability of red swamp crayfish (*Procamburus clarkii*), *Aquaculture*, 541(April), 736785.

- <https://doi.org/10.1016/j.aquaculture.2021.736785>
- Li, N., Zhuang, C. Y., Wang, M., Sui, C. G., dan Pan, W. S., 2012, Low molecular weight chitosan-coated liposomes for ocular drug delivery: In vitro and in vivo studies, *Drug Delivery*, 19(1), 28–35. <https://doi.org/10.3109/10717544.2011.621994>
- Liu, Chen, G., dan Zhang, J., 2022, A Review of Liposomes as a Drug Delivery System : Current, *Molecules*, 27(4), 1372. <https://doi.org/10.3390/molecules27041372>
- Liu, T., Ren, Q., Wang, S., Gao, J., Shen, C., Zhang, S., Wang, Y., dan Guan, F., 2023, Chemical Modification of Polysaccharides: A Review of Synthetic Approaches, Biological Activity and the Structure–Activity Relationship, *Molecules*, 28(16). <https://doi.org/10.3390/molecules28166073>
- Lombardo, D., dan Kiselev, M. A., 2022, Methods of Liposomes Preparation: Formation and Control Factors of Versatile Nanocarriers for Biomedical and Nanomedicine Application, *Pharmaceutics*, 14(3). <https://doi.org/10.3390/pharmaceutics14030543>
- Lutta, A., Liu, Q., Pedersen, G. K., Dong, M., Grohganz, H., Nielsen, L. H., dan Schmidt, S. T., 2025, Microfluidic fabrication of pectin-coated liposomes for drug delivery, *Drug Delivery and Translational Research*, 2941–2950. <https://doi.org/10.1007/s13346-025-01812-0>
- Mamesah, J. F. T., Mudeng, J. D., Ngangi, E. L. ., Kreckhoff, R. L., Salindeho, I. R., Sambali, H., dan Mokolensang, J. F., 2023, Kultivasi rumput laut *Caulerpa lentillifera* menggunakan berat awal berbeda dengan metode rawai permukaan, *e-journal Budidaya Perairan*, 12(1), 15–22. <https://doi.org/10.35800/bdp.v13i1.60331>
- Managò, S., Tramontano, C., Cave, Donatella Delle Chianese, G., Zito, G., Stefano, L. De, Terracciano, M., Lonardo, E., Luca, A. C. De, dan Rea, and I., 2021, SERS Quantification of Galunisertib Delivery in Colorectal Cancer Cells by Plasmonic-Assisted Diatomite Nanoparticles, *Small Journal*, 14, 1–14. doi: 10.1002/sml.202101711
- Matanjun, P., Mohamed, S., Mustapha, N. M., dan Muhammad, K., 2009, Nutrient content of tropical edible seaweeds, *Euclidean cottonii*, *Caulerpa lentillifera* and *Sargassum polycystum*, *Journal of Applied Phycology*, 21(1), 75–80. <https://doi.org/10.1007/s10811-008-9326-4>
- Mulyani, S., Budi, S., Cahyono, I., dan Khairiman, K., 2023, Effect of Vitamin C Bioencapsulation in Natural Feed on Protein, Fat, Energy, and Mortality of Milkfish Larvae (*Chanos chanos*), *Jurnal Kelautan Tropis*, 26(2), 272–282. <https://doi.org/10.14710/jkt.v26i2.17969>
- Mykles, D. L., 2021, Signaling Pathways That Regulate the Crustacean Molting Gland, *Frontiers in Endocrinology*, 12, 1–21. <https://doi.org/10.3389/fendo.2021.674711>
- Nakhaei, P., Margiana, R., Bokov, D. O., Abdelbasset, W. K., Jadidi Kouhbanani, M. A., Varma, R. S., Marofi, F., Jaharian, M., dan Beheshtkhoo, N., 2021, Liposomes: Structure, Biomedical Applications, and Stability Parameters With Emphasis on Cholesterol, *Frontiers in Bioengineering and Biotechnology*, 9, 1–23. <https://doi.org/10.3389/fbioe.2021.705886>

- Nankervis, L., dan Jones, C., 2022, Recent advances and future directions in practical diet formulation and adoption in tropical Palinurid lobster aquaculture, *Reviews in Aquaculture*, 14(4), 1830–1842. <https://doi.org/10.1111/raq.12675>
- Nigam, S., Singh, R., Bhardwaj, S. K., Sami, R., Nikolova, M. P., Chavali, M., dan Sinha, S., 2022, Perspective on the Therapeutic Applications of Algal Polysaccharides, *Journal of Polymers and the Environment*, 30(3), 785–809. <https://doi.org/10.1007/s10924-021-02231-1>
- Nsairat, H., Khater, D., Sayed, U., Odeh, F., Al Bawab, A., dan Alshaer, W., 2022, Liposomes: structure, composition, types, and clinical applications, *Heliyon*, 8(5), e09394. <https://doi.org/10.1016/j.heliyon.2022.e09394>
- Nurdiani, R., dan Zeng, C., 2007, Effects of temperature and salinity on the survival and development of mud crab, *Scylla serrata* (Forsskål), larvae, *Aquaculture Research*, 38(14), 1529–1538. <https://doi.org/10.1111/j.1365-2109.2007.01810.x>
- Pangestuti, R., Haq, M., Rahmadi, P., dan Chun, B. S., 2021, Nutritional value and biofunctionalities of two edible green seaweeds (*Ulva lactuca* and *caulerpa racemosa*) from indonesia by subcritical water hydrolysis, *Marine Drugs*, 19(10). <https://doi.org/10.3390/md19100578>
- Paran, B. C., Jeyagobi, B., Kizhakedath, V. K., Antony, J., Francis, B., Anand, P. S. S., Radhakrishnapillai, A., Lalramchhani, C., Kannappan, S., Marimuthu, R. D., dan Paulpandi, S., 2022, Production of juvenile mud crabs, *Scylla serrata*: Captive breeding, larviculture and nursery production, *Aquaculture Reports*, 22, 101003. <https://doi.org/10.1016/j.aqrep.2021.101003>
- Pratama, I. S., Juwana, S., dan Permadi, S., 2016, *Penetapan Kadar Kalsium dalam Pakan Formulasi untuk Zoea Awal Kepiting Scylla paramamosain*, 1(2015), 1–9. <http://dx.doi.org/10.14203/oldi.2016.v1i3.21>
- Rusdi, dan Hanafi, 2016, *Pedoman pemeriksaan atau identifikasi jenis ikan dilarang terbatas (Kepiting Bakau atau Scylla sp)*, Kementrian Kelautan dan Perikanan.
- Schober, P., dan Schwarte, L. A., 2018, Correlation coefficients: Appropriate use and interpretation, *Anesthesia and Analgesia*, 126(5), 1763–1768. <https://doi.org/10.1213/ANE.0000000000002864>
- Shnyrov, A., 2008, Study of the interaction of the matrix protein of the newcastle disease virus with lipid bilayers: implications for the mechanism of viral budding, In *Doctor thesis*.
- Siahainenia, L., 2009, Struktur morfologis kepiting bakau (*Scylla paramamosain*), *TRITON: Jurnal Manajemen Sumberdaya Perairan*, 5(1), 11–21.
- Sobol, Ž., Chiczewski, R., dan Wątróbska-Świetlikowska, D., 2025, Advances in Liposomal Drug Delivery: Multidirectional Perspectives on Overcoming Biological Barriers, *Pharmaceutics*, 17(7). <https://doi.org/10.3390/pharmaceutics17070885>
- Soenarto, A., Hadijah, H., dan Indrawati, E., 2023, Sebaran Anggur Laut *Caulerpa Lentillifera* Di Perairan Kabupaten Takalar, *Journal of Aquaculture and Environment*, 5(2), 73–77. <https://doi.org/10.35965/jae.v5i2.2516>
- Stuthmann, L. E., Brix da Costa, B., Springer, K., dan Kunzmann, A., 2023, Sea

- grapes (*Caulerpa lentillifera* J. Agardh, Chlorophyta) for human use: Structured review on recent research in cultivation, nutritional value, and post-harvest management, *Journal of Applied Phycology*, 35(6), 2957–2983. <https://doi.org/10.1007/s10811-023-03031-x>
- Suprayudi, M. A., TAKEUCHI, T., dan HAMASAKI, K., 2012, Phospholipids Effect on Survival and Molting Synchronicity of Larvae Mud Crab *Scylla serrata*, *HAYATI Journal of Biosciences*, 19(4), 163–168. <https://doi.org/10.4308/hjb.19.4.163>
- Syafaat, M. N., Gunarto, Sulaeman, Herlinah, Ma, H., dan Ikhwanuddin, M., 2019, Effects of different feeding regimes on larvae and crablets of purple mud crab, *Scylla tranquebarica* (Fabricius, 1798), *Aquaculture Reports*, 15, 100231. <https://doi.org/10.1016/j.aqrep.2019.100231>
- Syakilla, N., George, R., Chye, F. Y., Pindi, W., Mantihal, S., Wahab, N. A., Fadzwi, F. M., Gu, P. H., dan Matanjun, P., 2022, A Review on Nutrients, Phytochemicals, and Health Benefits of Green Seaweed, *Caulerpa lentillifera*, *Foods*, 11(18), 1–24. <https://doi.org/10.3390/foods11182832>
- Sych, T., Mély, Y., dan Römer, W., 2018, Lipid self-assembly and lectin-induced reorganization of the plasma membrane, *Philosophical Transactions of the Royal Society B: Biological Sciences*, 373(1747). <https://doi.org/10.1098/rstb.2017.0117>
- Tai, K., Rappolt, M., Mao, L., Gao, Y., Li, X., dan Yuan, F., 2020, The stabilization and release performances of curcumin-loaded liposomes coated by high and low molecular weight chitosan, *Food Hydrocolloids*, 99(17), 105355. <https://doi.org/10.1016/j.foodhyd.2019.105355>
- Tan, C., Wang, J., dan Sun, B., 2021, Polysaccharide dual coating of yeast capsules for stabilization of anthocyanins, *Food Chemistry*, 357, 129652. <https://doi.org/10.1016/j.foodchem.2021.129652>
- Tang, W., Zhang, Z., Zhao, Y., Wu, L., Copyright, F., Jing, Y., Zhang, S., Li, M., Zhang, R., Zhang, H., Zheng, Y., dan Zhang, D., 2022, Structural characterization and biological activities of polysaccharide iron complex synthesized by plant polysaccharides: A review, *Frontiers in Nutrition*, 1. <https://doi.org/10.3389/fnut.2022.1013067>
- Tesvichian, S., Sangtanoo, P., Srimongkol, P., Saisavoey, T., Buakeaw, A., Puthong, S., Thitiprasert, S., Mekboonsonglarp, W., Liangsakul, J., Sapon, A., Prawatborisut, M., Reamtong, O., dan Karnchanatat, A., 2024a, Sulfated polysaccharides from *Caulerpa lentillifera*: Optimizing the process of extraction, structural characteristics, antioxidant capabilities, and anti-glycation properties, *Heliyon*, 10(2), e24444. <https://doi.org/10.1016/j.heliyon.2024.e24444>
- Tesvichian, S., Sangtanoo, P., Srimongkol, P., Saisavoey, T., Buakeaw, A., Puthong, S., Thitiprasert, S., Mekboonsonglarp, W., Liangsakul, J., Sapon, A., Prawatborisut, M., Reamtong, O., dan Karnchanatat, A., 2024b, Sulfated polysaccharides from *Caulerpa lentillifera*: Optimizing the process of extraction, structural characteristics, antioxidant capabilities, and anti-glycation properties, *Heliyon*, 10(2), e24444–e24444. <https://doi.org/10.1016/j.heliyon.2024.e24444>

- Tziveleka, L. A., Pippa, N., Ioannou, E., Demetzos, C., dan Roussis, V., 2022, Development of Ulvan-Containing Liposomes as Antibacterial Drug Delivery Platforms, *Journal of Functional Biomaterials*, *13*(4). <https://doi.org/10.3390/jfb13040186>
- Waghule, T., Saha, R. N., Alexander, A., dan Singhvi, G., 2022, Tailoring the multi-functional properties of phospholipids for simple to complex self-assemblies, *Journal of Controlled Release*, *349*, 460–474. <https://doi.org/10.1016/j.jconrel.2022.07.014>
- Wang, Z., Li, W., Jiang, Y., Park, J., Gonzalez, K. M., Wu, X., Zhang, Q. Y., dan Lu, J., 2024, Cholesterol-modified sphingomyelin chimeric lipid bilayer for improved therapeutic delivery, *Nature Communications*, *15*(1), 1–15. <https://doi.org/10.1038/s41467-024-46331-7>
- Yanagihara, S., Kitayama, Y., Yuba, E., dan Harada, A., 2023, Preparing Size-Controlled Liposomes Modified with Polysaccharide Derivatives for pH-Responsive Drug Delivery Applications, *Life*, *13*(11). <https://doi.org/10.3390/life13112158>
- Yermak, I. M., Gorbach, V. I., Glazunov, V. P., Kravchenko, A. O., Mishchenko, N. P., Pimenova, E. A., dan Davydova, V. N., 2018, Liposomal form of the echinochrome-carrageenan complex, *Marine Drugs*, *16*(9), 1–13. <https://doi.org/10.3390/md16090324>
- Yin, X., Chen, K., Cheng, H., Chen, X., Feng, S., Song, Y., dan Liang, L., 2022, Chemical Stability of Ascorbic Acid Integrated into Commercial Products: A Review on Bioactivity and Delivery Technology, *Antioxidants*, *11*(1), 1–20. <https://doi.org/10.3390/antiox11010153>
- You, Y., Song, H., Wang, L., Peng, H., Sun, Y., dan Ai, C., 2020, Structural characterization and SARS-CoV-2 inhibitory activity of a sulfated polysaccharide from *Caulerpa lentillifera* Ying, *Carbohydrate Polymers*. <https://doi.org/10.1016/j.carbpol.2021.119006>
- Yuwono, E., 2008, *FISIOLOGI HEWAN I*, Fakultas Biologi Universitas Jenderal Soediman.
- Zhang, 2017, Thin-film hydration followed by extrusion method for liposome preparation, *Methods in Molecular Biology*, *1522*, 17–22. [https://doi.org/10.1007/978-1-4939-6591-5\\_2](https://doi.org/10.1007/978-1-4939-6591-5_2)
- Zhang, M., Ma, Y., Che, X., Huang, Z., Chen, P., Xia, G., dan Zhao, M., 2020, Comparative Analysis of Nutrient Composition of *Caulerpa lentillifera* from Different Regions, *Journal of Ocean University of China*, *19*(2), 439–445. <https://doi.org/10.1007/s11802-020-4222-x>
- Zhang, M., Qing, Y., Luo, Y., Xia, G., dan Li, Y., 2020, Study on immunostimulatory activity and extraction process optimization of polysaccharides from *Caulerpa lentillifera*, *International Journal of Biological Macromolecules*, *143*, 677–684. <https://doi.org/10.1016/j.ijbiomac.2019.10.042>
- Zhou, W., Wang, Y., Xu, R., Tian, J., Li, T., dan Chen, S., 2025, Comparative Analysis of the Nutrient Composition of *Caulerpa lentillifera* from Various Cultivation Sites, *Foods*, *14*(3), 1–16. <https://doi.org/10.3390/foods14030474>
- Zonfrillo, B., Bellumori, M., Digiglio, I., Innocenti, M., Orlandini, S., Furlanetto,

S., Khatib, M., Papini, A., Mainente, F., Zoccatelli, G., dan Mulinacci, N., 2025, Multivariate optimization of ulvan extraction applying Response Surface Methodology (RSM): the case of *Ulva lactuca* L. from Orbetello lagoon, *Carbohydrate Polymers*, 354. <https://doi.org/10.1016/j.carbpol.2025.123340>