

## DAFTAR PUSTAKA

- Aftab, M.N., Haq, I., dan Baig, S., 2012. Systematic mutagenesis method for enhanced production of bacitracin by *Bacillus licheniformis* mutant strain UV-MN-HN-6. *Brazilian Journal of Microbiology*, **43**: 78–88.
- Alvarado, S., Roberts, B.F., Wright, A.E., dan Chakrabarti, D., 2013. The Bis(Indolyl)Imidazole Alkaloid Nortopsentin A Exhibits Antiplasmodial Activity. *Antimicrobial Agents and Chemotherapy*, **57**: 2362–2364.
- Angerhofer, C.K., Pezzuto, J.M., König, G.M., Wright, A.D., dan Stichler, O., 1992. Antimalarial Activity of Sesquiterpenes from the Marine Sponge *Acanthella kethra*. *Journal of Natural Products*, **55**: 1787–1789.
- Antony, H.A. dan Parija, S.C., 2016. Antimalarial drug resistance: An overview. *Tropical Parasitology*, **6**: 30–41.
- Avilés, E. dan Rodríguez, A.D., 2010. Monamphilectine A, a Potent Antimalarial  $\beta$ -Lactam from Marine Sponge *Hymeniacidon* sp: Isolation, Structure, Semisynthesis, and Bioactivity. *Organic Letters*, **12**: 5290–5293.
- Basilico, N., Pagani, E., Monti, D., Oliaro, P., dan Taramelli, D., 1998. A microtitre-based method for measuring the haem polymerization inhibitory activity (HPIA) of antimalarial drugs. *The Journal of Antimicrobial Chemotherapy*, **42**: 55–60.
- Benoit-Vical, F., Saléry, M., Soh, P., Ahond, A., dan Poupat, C., 2008. Girolline: A Potential Lead Structure For Antiplasmodial Drug Research. *Planta Medica*, **74**: 438–444.
- Biamonte, M.A., Wanner, J., dan Le Roch, K.G., 2013. Recent advances in malaria drug discovery. *Bioorganic & Medicinal Chemistry Letters*, **23**: 2829–2843.
- Blunt, J.W., Carroll, A.R., Copp, B.R., Davis, R.A., Keyzers, R.A., dan Prinsep, M.R., 2018. Marine natural products. *Natural Product Reports*, **35**: 8–53.
- Blunt, J.W., Copp, B.R., Keyzers, R.A., Munro, M.H.G., dan Prinsep, M.R., 2016. Marine natural products. *Natural Product Reports*, **33**: 382–431.
- Blunt, J.W., Copp, B.R., Keyzers, R.A., Munro, M.H.G., dan Prinsep, M.R., 2017. Marine natural products. *Natural Product Reports*, **34**: 235–294.
- Burrows, J.N., Chibale, K., dan Wells, T.N.C., 2011. The state of the art in antimalarial drug discovery and development. *Current Topics in Medicinal Chemistry*, **11**: 1226–1254.
- Campos, P.-E., Pichon, E., Moriou, C., Clerc, P., Trépos, R., Frederich, M., dkk., 2019. New Antimalarial and Antimicrobial Tryptamine Derivatives from the Marine Sponge *Fascaplysinopsis reticulata*. *Marine Drugs*, **17**: 167.
- Campos, P.-E., Wolfender, J.-L., Queiroz, E.F., Marcourt, L., Al-Mourabit, A., Frederich, M., dkk., 2017. Unguiculin A and Ptilomycalins E–H, Antimalarial Guanidine Alkaloids from the Marine Sponge *Monanchora unguiculata*. *Journal of Natural Products*, **80**: 1404–1410.
- Carroll, A.R., Copp, B.R., Davis, R.A., Keyzers, R.A., dan Prinsep, M.R., 2019. Marine natural products. *Natural Product Reports*, **36**: 122–173.

- 'CDC - Malaria - About Malaria - Biology', n.d. URL:  
<https://www.cdc.gov/malaria/about/biology/index.html> (diakses tanggal 28/2/2020).
- Davis, R.A., Buchanan, M.S., Duffy, S., Avery, V.M., Charman, S.A., Charman, W.N., dkk., 2012. Antimalarial Activity of Pyrroloiminoquinones from the Australian Marine Sponge *Zyzzya* sp. *Journal of Medicinal Chemistry*, **55**: 5851–5858.
- Desoubzdanne, D., Marcourt, L., Raux, R., Chevalley, S., Dorin, D., Doerig, C., dkk., 2008. Alisiaquinones and Alisiaquinol, Dual Inhibitors of *Plasmodium falciparum* Enzyme Targets from a New Caledonian Deep Water Sponge. *Journal of Natural Products*, **71**: 1189–1192.
- Dondorp, A.M., Kager, P.A., Vreeken, J., dan White, N.J., 2000. Abnormal blood flow and red blood cell deformability in severe malaria. *Parasitology Today (Personal Ed.)*, **16**: 228–232.
- Ebada, S.S., Edrada, R.A., Lin, W., dan Proksch, P., 2008. Methods for isolation, purification and structural elucidation of bioactive secondary metabolites from marine invertebrates. *Nature Protocols*, **3**: 1820–1831.
- Farokhi, F., Grellier, P., Clément, M., Roussakis, C., Loiseau, P., Genin-Seward, E., dkk., 2013. Antimalarial Activity of Axidjiferosides, New  $\beta$ -Galactosylceramides from the African Sponge *Axinyssa djiferi*. *Marine Drugs*, **11**: 1304–1315.
- Fattorusso, C., Campiani, G., Catalanotti, B., Persico, M., Basilico, N., Parapini, S., dkk., 2006. Endoperoxide Derivatives from Marine Organisms: 1,2-Dioxanes of the Plakortin Family as Novel Antimalarial Agents. *Journal of Medicinal Chemistry*, **49**: 7088–7094.
- Fattorusso, E. dan Tagliatalata-Scafati, O., 2009. Marine Antimalarials. *Marine Drugs*, **7**: 130–152.
- Field, L.D., Sternhell, S., dan Kalman, J.R., 2008. *Organic Structures from Spectra*, 4th ed. ed. John Wiley and Sons Ltd, Chichester ; Hoboken, N.J.
- Field, L.D., Sternhell, S., dan Kalman, J.R., 2013. *Organic Structures from Spectra, 5th Edition*, Fifth Edition. ed. John Wiley & Sons, Ltd., United Kingdom.
- Gerlach, A. da C.L., Gadea, A., Silveira, R.M.B. da, Clerc, P., dan Dévéhat, F.L., 2018. 'The Use of Anisaldehyde Sulfuric Acid as an Alternative Spray Reagent in TLC Analysis Reveals Three Classes of Compounds in the Genus *Usnea* Adans. (Parmeliaceae, lichenized Ascomycota)', *preprint*, . BIOLOGY.
- Hikmawan, B.D., Wahyuono, S., dan Setyowati, E.P., 2020. Marine sponge compounds with antiplasmodial properties: Focus on in vitro study against *Plasmodium falciparum*. *Journal of Applied Pharmaceutical Science*, **10**: 142–157.
- Hooper, J. dan Soest, R.W.M. van (Eds.), 2002. *Systema Porifera: A Guide to the Classification of Sponges*. Springer US.
- Houssen, W.E. dan Jaspars, M., 2012. Isolation of Marine Natural Products, dalam: Sarker, S.D., Nahar, L. (Eds.), *Natural Products Isolation, Methods in Molecular Biology*. Humana Press, Totowa, NJ, hal. 367–392.

- Ilias, M., Ibrahim, M., Khan, S., Jacob, M., Tekwani, B., Walker, L., dkk., 2012. Pentacyclic Ingamine Alkaloids, a New Antiplasmodial Pharmacophore from the Marine Sponge Petrosid Ng5 Sp5. *Planta Medica*, **78**: 1690–1697.
- Ju, E., Latif, A., Kong, C.-S., Seo, Y., Lee, Y.-J., Dalal, S.R., dkk., 2018. Antimalarial activity of the isolates from the marine sponge Hyrtios erectus against the chloroquine-resistant Dd2 strain of Plasmodium falciparum. *Zeitschrift für Naturforschung C*, **73**: 397–400.
- Karleskint, G., Turner, R., dan Small, J., 2012. *Introduction to Marine Biology*. Cengage Learning.
- König, G.M. dan Wright, A.D., 1996. Marine natural products research: current directions and future potential. *Planta Medica*, **62**: 193–211.
- Kurimoto, S., Ohno, T., Hokari, R., Ishiyama, A., Iwatsuki, M., Ōmura, S., dkk., 2018. Ceratinadins E and F, New Bromotyrosine Alkaloids from an Okinawan Marine Sponge Pseudoceratina sp. *Marine Drugs*, **16**: 463.
- Laville, R., Thomas, O.P., Berru  , F., Marquez, D., Vacelet, J., dan Amade, P., 2009. Bioactive Guanidine Alkaloids from Two Caribbean Marine Sponges. *Journal of Natural Products*, **72**: 1589–1594.
- Lazaro, J.E.H., Nitchou, J., Mahmoudi, N., Ibana, J.A., Mangalindan, G.C., Black, G.P., dkk., 2006. Antimalarial Activity of Crambescidin 800 and Synthetic Analogues against Liver and Blood Stage of Plasmodium sp. *The Journal of Antibiotics*, **59**: 583–590.
- Maurya, A., Kalani, K., Verma, S.C., Singh, R., dan Srivastava, A., 2018. Vacuum Liquid Chromatography: Simple, Efficient and Versatile Separation Technique for Natural Products. *Organic and Medicinal Chemistry International Journal*, **7**: 3.
- Mudianta, I.W., Skinner-Adams, T., Andrews, K.T., Davis, R.A., Hadi, T.A., Hayes, P.Y., dkk., 2012. Psammaphysin Derivatives from the Balinese Marine Sponge *Aplysinella strongylata*. *Journal of Natural Products*, **75**: 2132–2143.
- M  ller, W.E.G., Wang, X., Kropf, K., Boreiko, A., Schlossmacher, U., Brandt, D., dkk., 2008. Silicatein expression in the hexactinellid Crateromorpha meyeri: the lead marker gene restricted to siliceous sponges. *Cell and Tissue Research*, **333**: 339–351.
- Murtihapsari, M., Salam, S., Kurnia, D., Darwati, D., Kadarusman, K., Abdullah, F.F., dkk., 2019. A new antiplasmodial sterol from Indonesian marine sponge, *Xestospongia* sp. *Natural Product Research*, 1–8.
- Na, M., Ding, Y., Wang, B., Tekwani, B.L., Schinazi, R.F., Franzblau, S., dkk., 2010. Anti-infective Discorhabdins from a Deep-Water Alaskan Sponge of the Genus *Latrunculia* <sup>†</sup>. *Journal of Natural Products*, **73**: 383–387.
- Newman, D.J. dan Cragg, G.M., 2007. Natural products as sources of new drugs over the last 25 years. *Journal of Natural Products*, **70**: 461–477.
- Noedl, H., Se, Y., Schaecher, K., Smith, B.L., Socheat, D., Fukuda, M.M., dkk., 2008. Evidence of artemisinin-resistant malaria in western Cambodia. *The New England Journal of Medicine*, **359**: 2619–2620.

- Orabi, K.Y., El Sayed, K.A., Hamann, M.T., Dunbar, D.C., Al-Said, M.S., Higa, T., dkk., 2002. Araguspongines K and L, New Bioactive Bis-1-oxaquinolizidine N -Oxide Alkaloids from Red Sea Specimens of *Xestospongia e xigua*. *Journal of Natural Products*, **65**: 1782–1785.
- Pałecz, B. dan Smok, A., 2013. Study of the interaction between ethanol and natural amino acids containing ionic side groups in water at T = 298.15 K. *Journal of Thermal Analysis and Calorimetry*, **111**: 917–921.
- Pavia, D.L., Lampman, G.M., Kriz, G.S., dan Vyvyan, J.A., 2014. *Introduction to Spectroscopy*, 5th edition. ed. Cengage Learning, Stamford, CT.
- Prakoso, N.I., Zakiyah, Z.N., Liyanita, A., Rubiyanto, D., Fitriastuti, D., Ramadani, A.P., dkk., 2019. Antimalarial Activity of *Andrographis paniculata* Ness's N-hexane Extract and Its Major Compounds. *Open Chemistry*, **17**: 788–797.
- Purwantini, I., 2016. 'Isolasi Senyawa Antiplasmodium dari Fungi Endofit Tanaman *Artemisia annua* L.', *Disertation*, . Universitas Gadjah Mada, Yogyakarta.
- Pyka, A., 2014. Detection Progress of Selected Drugs in TLC. *BioMed Research International*, **2014**: .
- Raj, D.K., Nixon, C.P., Nixon, C.E., Dvorin, J.D., DiPetrillo, C.G., Pond-Tor, S., dkk., 2014. Antibodies to PfSEA-1 block parasite egress from RBCs and protect against malaria infection. *Science (New York, N.Y.)*, **344**: 871–877.
- Rao, K.V., Kasanah, N., Wahyuono, S., Tekwani, B.L., Schinazi, R.F., dan Hamann, M.T., 2004. Three New Manzamine Alkaloids from a Common Indonesian Sponge and Their Activity against Infectious and Tropical Parasitic Diseases <sup>1</sup>. *Journal of Natural Products*, **67**: 1314–1318.
- Rappuoli, R. dan Aderem, A., 2011. A 2020 vision for vaccines against HIV, tuberculosis and malaria. *Nature*, **473**: 463–469.
- Reid, R.G. dan Sarker, S.D., 2005. Isolation of Natural Products by Low-Pressure Column Chromatography, dalam: Sarker, S.D., Latif, Z., Gray, A.I. (Eds.), *Natural Products Isolation, Methods in Biotechnology*. Humana Press, Totowa, NJ, hal. 117–157.
- Sacchi, R., Savarese, M., Falcigno, L., Giudicianni, I., dan Paolillo, L., 2006. Proton NMR of Fish Oils and Lipids, dalam: Webb, G.A. (Ed.), *Modern Magnetic Resonance*. Springer Netherlands, Dordrecht, hal. 919–923.
- Sakai, Ryuichi., Higa, Tatsuo., Jefford, C.W., dan Bernardinelli, Gerald., 1986. Manzamine A, a novel antitumor alkaloid from a sponge. *Journal of the American Chemical Society*, **108**: 6404–6405.
- Samoylenko, V., Khan, S.I., Jacob, M.R., Tekwani, B.L., Walker, L.A., Hufford, C.D., dkk., 2009. Bioactive (+)-Manzamine A and (+)-8-Hydroxymanzamine A Tertiary Bases and Salts from *Acanthostrongylophora Ingens* and Their Preparations. *Natural Product Communications*, **4**: 1934578X0900400.
- Saritha, S., Koringa, K., Dave, U., dan Gatne, D., 2015. A modified precise analytical method for anti-malarial screening: Heme polymerization assay. *Molecular and Biochemical Parasitology*, **201**: 112–115.

- Seder, R.A., Chang, L.-J., Enama, M.E., Zephir, K.L., Sarwar, U.N., Gordon, I.J., dkk., 2013. Protection against malaria by intravenous immunization with a nonreplicating sporozoite vaccine. *Science (New York, N.Y.)*, **341**: 1359–1365.
- Setyowati, E.P., Jenie, U.A., Sudarsono, Kardono, L.B.S., dan Rahmat, R., 2009. Theonella peptolide Id: Structure Identification of Cytotoxic Constituent from *Kaliopsis* sp. Sponge (Bowerbank) Collected from West Bali Sea Indonesia. *Journal of Biological Sciences*, **9**: 29–36.
- Setyowati, E.P., Pratiwi, S., Hertiani, T., dan Samara, O., 2017a. Bioactivity of Fungi *Trichoderma reesei* Associated with Sponges *Stylissa flabelliformis* Collected from National Park West Bali, Indonesia. *Journal of Biological Sciences*, **17**: 362–368.
- Setyowati, E.P., Pratiwi, S.U.T., Purwantiningsih, P., dan Samara, O., 2017b. Antimicrobial activity and Identification of fungus associated *Stylissa flabelliformis* sponge collected from Menjangan Island West Bali National Park, Indonesia. *INDONESIAN JOURNAL OF PHARMACY*, **29**: 66.
- Silverstein, R.M., Webster, F.X., Kiemle, D.J., dan Bryce, D.L., 2014. *Spectrometric Identification of Organic Compounds*, 8th edition. ed. Wiley, Hoboken, NJ.
- Sirirak, T., Kittiwisut, S., Janma, C., Yuenyongsawad, S., Suwanborirux, K., dan Plubrukarn, A., 2011. Kabiramides J and K, Trisoxazole Macrolides from the Sponge *Pachastrissa nux*. *Journal of Natural Products*, **74**: 1288–1292.
- Targett, N.M., Kilcoyne, J.P., dan Green, B., 1979. Vacuum liquid chromatography: an alternative to common chromatographic methods. *The Journal of Organic Chemistry*, **44**: 4962–4964.
- Teixeira, C., Vale, N., Pérez, B., Gomes, A., Gomes, J.R.B., dan Gomes, P., 2014. “Recycling” Classical Drugs for Malaria. *Chemical Reviews*, **114**: 11164–11220.
- Tekwani, B.L. dan Walker, L.A., 2005. Targeting the hemozoin synthesis pathway for new antimalarial drug discovery: technologies for in vitro beta-hematin formation assay. *Combinatorial Chemistry & High Throughput Screening*, **8**: 63–79.
- Tjitraresmi, A., Moektiwardoyo, M., dan Susilawati, Y., 2020. Inhibition of Heme Polymerization In vitro Assay Of Extract of Sirih Leaf (*Piper betle* Linn.) and Sun Flower Leaves (*Helianthus annuus* L.). *Indonesian Journal of Pharmaceutical Science and Technology*, **7**: 22–28.
- Toh, S.Q., Glanfield, A., Gobert, G.N., dan Jones, M.K., 2010. Heme and blood-feeding parasites: friends or foes? *Parasites & Vectors*, **3**: 108.
- Van Soest, R.W.M., Boury-Esnault, N., Hooper, J.N.A., Rützler, K., De Voogd, N.J., Alvarez, B., dkk., 2019. 'World Porifera Database - Species - Crateromorpha (*Crateromorpha*) meyeri meyeri Gray, 1872'. URL: <http://www.marinespecies.org/porifera/porifera.php?p=taxdetails&id=172076> (diakses tanggal 19/1/2021).



- WHO, 2018. 'WHO | World malaria report 2018' *WHO*. URL:  
<http://www.who.int/malaria/publications/world-malaria-report-2018/en/>  
(diakses tanggal 3/7/2019).
- Wright, A.D., Wang, H., Gurrath, M., König, G.M., Kocak, G., Neumann, G.,  
dkk., 2001. Inhibition of Heme Detoxification Processes Underlies the  
Antimalarial Activity of Terpene Isonitrile Compounds from Marine  
Sponges. *Journal of Medicinal Chemistry*, **44**: 873–885.
- Wright, A.E., 1998. Isolation of Marine Natural Products, dalam: Cannell, R.J.P.  
(Ed.), *Natural Products Isolation, Methods in Biotechnology*. Humana  
Press, Totowa, NJ, hal. 365–408.
- Zhang, Q.-W., Lin, L.-G., dan Ye, W.-C., 2018. Techniques for extraction and  
isolation of natural products: a comprehensive review. *Chinese Medicine*,  
**13**: 20.