



## DAFTAR PUSTAKA

- Ahmad, S., Singh, S., Srivastava, M.R., Shukla, S., Rai, S., dan Shamsi, A.S., 2022, Molecular Docking Simplified: Literature Review, *Adv. Med. Dent. Health Sci.*, 4(4), 37-44.
- Aksenov, A.V., Lyakhovnenko, A.S., Perlova, T.S., dan Aksenova, I.V., 2011, Ammonium Nitrate in Acetic Acid, an Efficient Reagent for the Nitration of Perimidines and the One-Pot Synthesis of 6(7)-aminoperimidinies, *Chem. Heterocycl. Compd.*, 47(2), 245-246.
- Aminov, R.I., 2010, A Brief History of the Antibiotic Era: Lessons Learned and Challenges for the Future, *Front. Microbiol.*, 1, 1-7.
- Andrew, J.M., dan Howe, R.A., BSAC standardized disc susceptibility testing method, *J. Antimicrob. Chemother.*, 66(12), 2762-2757.
- Angga, A.V., 2015, Reaksi Nitrasi Berbasis Green Chemistry Menggunakan Kalsium Nitrat pada Senyawa Vanilin, Asam Salisilat dan Veratraldehid, *Skripsi*, Jurusan Kimia FMIPA UGM, Yogyakarta.
- Anza, M., Endale, M., Cortes, D., Eswaramorthy, R., Zueco, J., Rico, H., Treliis, M., dan Abarca, B., 2021, Antimicrobial Activity, in silico Molecular Docking, ADMET and DFT Analysis of Secondary Metabolites from Roots of Three Ethiopian Medicinal Plants, *Adv. Appl. Bioinforma. Chem.*, 14(2021), 117-132.
- Balouri, M., Sadiki, M., dan Ibnsouda, S.K., 2016, Methods for in vitro evaluating antimicrobial activity: A review, *J. Pharm. Anal.*, 6(2016), 71-79.
- Bartlett, J.G., Gilbert, D.N., dan Spellberg, B., 2013, Seven Ways to Preserve the Miracle of Antibiotics, *Clin. Infect. Dis.*, 56, 1445-1450.
- Bauer, J.O., Leitus, G., Ben-David, Y., dan Milstein, D., 2016, Direct Synthesis of Symmetrical Azine from Alcohols and Hydrazine Catalyzed by a Ruthenium Pincer Complex: Effect of Hydrogen Bonding, *ACS Catal.*, 6, 8415-8419.
- Bretonnet, J., 2017, Basics of the density functional theory, *Materials Science*, 4(6), 1372-1405.
- Ceniceros, M.CM., Martinez, L.L.L., Bojorge, N.A.S., Salas, F.S., Castillo, H.A.P., Ochoa, L.R.H., dan Valdez, L.M.R., 2020, A Potential Inhibition Process of Ricin Protein with the flavonoids Quercetin and Epigallocatechin gallate. A Quantum-Chemical and Molecular Docking Study, *Processes*, 8(11), 1393.
- Chourasiya, S.S., Kathuria, D., Wani, A.A., dan Bharatam, P.V., 2019, Azine: Synthesis, Structure, Electronic Structure, and their Applications, *Org. Biomol. Chem.*, 17(37), 8486-8521.
- Crivello, J.V., 1981, Nitrations and Oxidations with Inorganic Nitrate Salts in Trifluoroacetic Anhydride, *J. Org. Chem.*, 46(15), 3056-3060.



- Davies, J., 2006, Where Have All the Raisins Gone?, *Can. J. Infect. Dis. Med. Microbiol.*, 17, 287-290.
- Donadio, S., Maffioli, S., Mociardini, P., Sosio, M., dan Jubes, D., 2010, Antibiotic Discovery in the Twenty-first Century: Current Trends and Future Perspectives, *J. Antibiot. (Tokyo)*, 63, 423-430.
- Endraß, S.M.J., Neuer, A., Klapötke, T.M., Stierstorfer, J., Trinitro-orcinolate and Trinitro-resorcinate – Sensitivity Trends in Nitroaromatic Energetic Materials, *ChemistrySelect*, 7(4),
- Hughes, E.D., Ingold, C.K., Reed R.I., 1946, Kinetics of Aromatic Nitration: the Nitronium Ion, *Nature*, 158(4013), 448-449.
- Kapoor, G., Saigal, S., dan Elongavan, A., 2017, Action and resistance mechanisms of antibiotics: A guide for clinicians, *J. Anaesthesiol. Clin. Pharmacol.*, 33(3), 300-306.
- Karaolu, K., Serbest, K., Emirik, M., dan Şahin, E., 2015, An Unsymmetrical Ferrocene Based Azine and its Cu(II) Complex: Spectroscopy, Crystal Structure, Electrochemistry and DFT Calculations, *J. Organomet. Chem.*, 775, 80-87.
- Karimian, S., Kazemi, F., Attaroshan, M., Gholampour, M., Hemmati, col.S., Sakhteman, A., Behzadipour, Y., Kabiri, M., Iraji, A., dan Khoshneviszadeh, M., 2021, Design, Synthesis, and Biological Evaluation of Symmetrical Azine Derivatives as Novel Tyrosinase Inhibitor, *BMC Chemistry*, 15(54).
- Lafitte, D., Lamour, V., Tsvetkov, P.O., Makarov, A.A., Klich, M., Deprez, P., Moras, D., Briand, C., dan Gilli, R., DNA Gyrase Interaction with Coumarin-Based Inhibitors: The Role of the Hydroxybenzoate Isopentenyl Moiety and the 5'-Methyl Group of the Noviose, *Biochemistry*, 2002, 41, 23, 7217-7223.
- Lestari, D., 2022, Sintesis Senyawa Turunan Nitrovanilin Azina sebagai Kemosesnro Kolorimetri untuk Deteksi Anion Sulfida, *Tesis*, Jurusan Kimia FMIPA UGM, Yogyakarta.
- Lewars, E.G., 2011, *Computational Chemistry : Introduction to the Theory and Applications of Molecular and Quantum Mechanics*, 2<sup>nd</sup>, Springer, New York.
- Lewis, K., 2013, Platforms for Antibiotic Discovery, *Nat. Rev. Drug Discov.*, 12, 371-387.
- Li, D.Q., Tan, M.X., dan Jie, L., 2012, Synthesis, Antioxidant and Antibacterial Activities of Salicylaldehyde Azine, *Adv. Mater. Res.*, 396-398, 2366-2369.
- Ling-Yan, C., Tao, L., Xiaokun, Z., dan Zhihua. S., 2014, A Practical Approach for Regioselective Mono-Nitration of Phenols under Mild Conditions, *ARKIVOC*, 64-71.



- Lobanovska, M., dan Pilla, G., 2017, Penicilin's Discovery and Antibiotic Resistance: Lessons for the Future?, *Yale J. Biol. Med.*, 90(1), 135-145.
- Lushniak, B.D., 2014, Antibiotic Resistance: A Public Health Crisis, *Public Health Rep.*, 129, 314-316.
- Martinez, R.F., Cravotto, G., dan Cintas, P., 2021, Organic Chemistry: A Chemist's Timely Perspective on Mechanisms and Reactivity, *J. Org. Chem.*, 86(20), 13833-13856.
- Mohamed, M.A., 2016, Sonochemistry (Applications of Ultrasound in Chemical Synthesis and Reactions): A Review, *Az. J. Pharm. Sci.*, 53, 108-122.
- Morris, G.M., Goodsell, D.S., Halliday, R.S., Huey, R., Hart, W.E., Belew, R.K., dan Olson, A.J., 1998, Automated Docking Using a Lamarckian Genetic Algorithm and an Empirical Binding Free Energy Function, *J. Comput. Chem.*, 19(16), 1639-1662.
- Murray, C.J., Ikuta, K.S., Sharara, F., Swetschinski, L., Robles, A.G., Gray, A., Han, C., Bisignano, C., Rao, P., Wool, E., Johnson, S.C., Browne, A.J., Chipeta, M.G., Fell, F., Hackett, S., Haines-Woodhouse, G., Kashef, H.B.H., Kumaran, E.A.P., McManigal, B., Agarwal, R., Akech, S., Albertson, S., Amuasi, J., Andrews, J., Aravkin, A., Ashley, E., Bailey, F., Baker, S., Basnyat, B., Bekker, A., Bender, R., Benthou, A., Bielicki, J., Boonkasidecha, S., Bukosia, J., Carvalheiro, C., Castañeda-Orjuela C., Chansamouth, V., Chaurasia, S., Cunningham, M., Darboe, S., Day, N.P.J., De Luca, M., Dokova, K., Dramowski, A., Dunachie, S.J., Eckmanns, T., Eibach, D., Emami, A., Feasey, N., Fisher-Perason, N., Forrest, K., Garrett, D., Gastmeier, P., Giref, A.Z., Greer, R.C., Gupta, V., Haller, S., Haselbeck, A., Hay, S.I., Holm, M., Hopkins, S., Iregbu, K.C., Jacobs, J., Jarovsky, D., Javanmardi, F., Khorana, M., Kissoon, N., Kobeissi, E., Kostyanev, T., Krapp, F., Krumkamp, R., Kumar, A., Kyu, H.H., Lim, C., Limmathurotsakul, D., Loftus, M.J., Lunn, M., Ma, J., Mturi, N., Munera-Huertas, T., Musicha, P., Mussi-Pinhata, M.M., Nakamura, T., Nanavati, R., Nangia, S., Newton, P., Ngoun, C., Novotney, A., Nwakanma, D., Obiero, C.W., Olivas-Martinez, A., 2022, Global Burden of Bacterial Antimicrobial Resistance in 2019: a Systematic Analysis, *Lancet*, 399, 629-655.
- Nasab, R.R., Mansourian, M., dan Hassanzadeh, F., 2018, Synthesis, Antimicrobial Evaluation and Docking Studies of Some Novel Quinazolinone Schiff Base Derivatives, *Res. Pharm. Sci.*, 13(3), 213-221.
- Olah, G.A., 1979, New Synthetic Reagents and Reactions, *Aldrichimia Acta*, 12(3), 43-48.
- Olah, G.A., Narang, S.C., Olah, J.A., dan Lammertsma., 1982, Recent aspects of nitration: New preparative methods and mechanistic studies (A Review), *Proc. Natl. Acad. Sci. USA*, 79, 4487-4494.



- Patel, S.S., Patel, D.B., Patel, H.D., 2021, Synthetic Protocols for Aromatic Nitration: A Review, *Chemistry Select*, 6(6), 1337-1356.
- Pomar, J.C.J.D., dan Soderquistr, J., 2000, Unsymmetrical Azines via Triisopropylsillhydrazine, *Tetrahedron Lett.*, 41(18), 3285-3289.
- Raczuk, E., Dmochowska, B., Samaszko-Fiertek, J., dan Madaj, J., 2022, Different Schiff Bases-Structure, Importance and Classification, *Molecules*, 27(3), 787-811.
- Rad, A.S., Ardjmand, M., Esfahani, M.R., dan Khodashenas, B., 2020, DFT Calculations towards the geometry optimization, electronic structure, infrared spectroscopy and UV-vis analyses of Favipiravir adsorption of the first-row transition metals doped fullerenes; a new strategy for COVID-19 therapy, *Spectrochim. Acta A Mol. Biomol. Spectrosc.*, 247(2021), 119082.
- Ramakrishnan, A., Chourasiya, S.S., dan Bharatam, P.V., 2015, Azine or Hydrazone? The Dilemma in Amidinohydrazones, *RSC Advances*, 5(69), 55938-55947.
- Read, A.F., dan Woods, R.J., 2014, Antibiotic Resistance Management, *Evol. Med. Public Heal.*, 2014, 147.
- Rokhmah, N.V., 2022, Sintesis Vanilin-Azina (VA) sebagai Kemosensor Kolorimetri Anion Sulfida, *Tesis*, Jurusan Kimia FMIPA UGM, Yogyakarta.
- Safari, J., dan Gandomi-Ravandi, S., 2014, Structure, synthesis and application of azines: a historical perspective, *RSC Adv.*, 4(86), 46224-46249.
- Sarkar, S., Ghosh, S.K., dan Ghosh, P., 2009, Nitration of Benzene at High-Concentrations of Sulfuric Acid, *Asian J. Chem.*, 27(3), 4533-4542.
- Sepay, N., Sekar, A., Halder, U.C., Alarifi, A., Afzal, M., 2021, Anti-COVID-19 terpenoid from marine sources: A docking, admet and molecular dynamic study, *J. Mol. Struc.*, 1228, 129433.
- Silva, P.J., 2020, New Insights into the Mechanism of Schiff Base Synthesis from Aromatic Amines in the Absence of Acid Catalyst or Polar Solvent, *PeerJ Organic Chemistry*.
- Singh, K., Mishra, A., Sharma, D., dan Singh, K., 2019, Chapter 13 - Antiviral and Antimicrobial Potentality of Nano Drugs, *Applications of Targeted Nano Drugs and Delivery Systems*, Elsevier, 343-356.
- Spencer A.C., dan Panda, S.S., 2023, DNA Gyrase as a Target for Quinolones, *Biomedicines*, 11(2023), 371.
- Sung-Hoon, K., Seon-Yeong, G., Burkinshaw, S.M., dan Young-A., S., 2010, The Synthesis and Proton-Induced Spectral Switching of a Novel Azine Dye and its Boron Complex, *Dyes and Pigments*, 87(3), 268-271.



- Verma, R.K., Verma, G.K., Raghuvanshi, K., dan Singh, M.S., 2011, An Expedient Route to Highly Functionalized 2H-chromene-2-thiones via Ring Annulation of  $\beta$ -oxodithioesters Catalyzed by InCl<sub>3</sub> under Solvent-free Conditions, *Tetrahedron*, 67, 584-589.
- Vinatoru, M., dan Mason, T.J., 2021, Jean-Louis Luche and the Interpretation of Sonochemical Reaction Mechanisms, *Molecules*, 26(3), 775-785.
- Viswanathan, V.K., 2014, Off-label Abuse of Antibiotics by Bacteria, *Gut Microbes*, 5, 3-4.
- Yahyaoui, M., Bouchama, A., Anak, B., Chiter, C., Djedouani, A., dan Rabilloud, F., 2019, Synthesis, Molecular Structure Analysis and DFT Studies on New Asymmetrical Azines Based Schiff Bases, *J.Mol. Struct.*, 1177(2019), 69-77.
- Zhao, F., Liu, H., Mathe, S.D.R., Dong, A., dan Zhang, J., 2018, Covalent Organic Frameworks: From Materials Design to Biomedical Application, *Nanomaterials*, 8(1), 15.
- Zoubi, W.A., Kandil, F., dan Chebani, K., 2014, Active Transport of Metal Ions by Using Schiff Bases, *Phys. Res. Int.*, 2(1), 12-23.