



DAFTAR PUSTAKA

- Abdassah, M. (2017). Nanopartikel dengan gelasi ionik. *Jurnal Farmaka*, 15(1), 45–52.
- Ahriani, Zelviani, S., Hernawati, & Fitriyanti. (2021). Analisis nilai absorbansi untuk menentukan kadar flavonoid daun jarak merah (*Jatropha gossypifolia* L.) menggunakan spektrofotometer UV-Vis. *Jurnal Fisika dan Terapannya*, 8(2), 56–64. <https://doi.org/10.24252/jft.v8i2.23379>
- Ardhiati, F., & Muldarisnur, M. (2019). Pengaruh Konsentrasi Larutan Prekursor Terhadap Morfologi dan Ukuran Kristal Nanopartikel Seng Oksida. *Jurnal Fisika Unand*, 8(2), 133–138. <https://doi.org/10.25077/jfu.8.2.133-138.2019>
- Argueta-Figueroa, L., Morales-Luckie, R. A., Scougall-Vilchis, R. J., & Olea-Mejía, O. F. (2014). Synthesis, characterization and antibacterial activity of copper, nickel and bimetallic Cu-Ni nanoparticles for potential use in dental materials. *Progress in Natural Science: Materials International*, 24(4), 321–328. <https://doi.org/10.1016/j.pnsc.2014.07.002>
- Athawale, A. A., Katre, P. P., Kumar, M., & Majumdar, M. B. (2005). Synthesis of CTAB-IPA reduced copper nanoparticles. *Materials Chemistry and Physics*, 91(2–3), 507–512. <https://doi.org/10.1016/j.matchemphys.2004.12.017>
- Balouiri, M., Sadiki, M., & Ibnsouda, S. K. (2016). Methods for in vitro evaluating antimicrobial activity: A review. *Journal of Pharmaceutical Analysis*, 6(2), 71–79. <https://doi.org/10.1016/j.jpha.2015.11.005>
- Ben Aissa, M. A., Tremblay, B., Andrieux-Ledier, A., Maisonhaute, E., Raouafi, N., & Courty, A. (2015). Copper nanoparticles of well-controlled size and shape: A new advance in synthesis and self-organization. *Nanoscale*, 7(7), 3189–3195. <https://doi.org/10.1039/c4nr06893a>
- Bere, M. L., Sibarani, J., & Manurung, M. (2019). Sintesis Nanopartikel Perak (NPAg) Menggunakan EKSTRAK AIR DAUN Kemangi (Ocimum Sanctum Linn.) Dan Aplikasinya dalam Fotodegradasi Zat Warna Metilen Biru. *Cakra Kimia (Indonesian E-Journal of Applied Chemistry)*, 7, 155–164.
- Camacho-Flores, B. A., Martínez-Álvarez, O., Arenas-Arrocena, M. C., García-Contreras, R., Argueta-Figueroa, L., De La Fuente-Hernández, J., & Acosta-Torres, L. S. (2015). Copper: Synthesis techniques in nanoscale and powerful application as an antimicrobial agent. *Journal of Nanomaterials*, 2015. <https://doi.org/10.1155/2015/415238>
- Chaerun, S. K., Prabowo, B. A., & Winarko, R. (2022). Bionanotechnology: The formation of copper nanoparticles assisted by biological agents and their applications as antimicrobial and antiviral agents. *Environmental Nanotechnology, Monitoring and Management*, 18(April), 100703. <https://doi.org/10.1016/j.enmm.2022.100703>



- Chakraborty, N., Banerjee, J., Chakraborty, P., Banerjee, A., Chanda, S., Ray, K., Acharya, K., & Sarkar, J. (2022). Green synthesis of copper/copper oxide nanoparticles and their applications: a review. *Green Chemistry Letters and Reviews*, 15(1), 185–213. <https://doi.org/10.1080/17518253.2022.2025916>
- Chandra, S., Kumar, A., & Tomar, P. K. (2014). Synthesis and characterization of copper nanoparticles by reducing agent. *Journal of Saudi Chemical Society*, 18(2), 149–153. <https://doi.org/10.1016/j.jscs.2011.06.009>
- Dang, T. M. D., Le, T. T. T., Fribourg-Blanc, E., & Dang, M. C. (2011a). Synthesis and optical properties of copper nanoparticles prepared by a chemical reduction method. *Advances in Natural Sciences: Nanoscience and Nanotechnology*, 2(1). <https://doi.org/10.1088/2043-6262/2/1/015009>
- Dang, T. M. D., Le, T. T. T., Fribourg-Blanc, E., & Dang, M. C. (2011b). The influence of solvents and surfactants on the preparation of copper nanoparticles by a chemical reduction method. *Advances in Natural Sciences: Nanoscience and Nanotechnology*, 2(2). <https://doi.org/10.1088/2043-6262/2/2/025004>
- Deepanjali Gautam, K., & Ullas, A. V. (2023). Effect of Stirring Speed on the Morphology of Nanosilica by Sol-Gel method. *Materials Today: Proceedings*, 74, 713–717. <https://doi.org/10.1016/j.matpr.2022.10.281>
- Gawande, M. B., Goswami, A., Felpin, F. X., Asefa, T., Huang, X., Silva, R., Zou, X., Zboril, R., & Varma, R. S. (2016). Cu and Cu-Based Nanoparticles: Synthesis and Applications in Catalysis. *Chemical Reviews*, 116(6), 3722–3811. <https://doi.org/10.1021/acs.chemrev.5b00482>
- Ghorbi, E., Namavar, M., Rashedi, V., Farhadinejad, S., Pilban Jahromi, S., & Zareian, M. (2019). Influence of nano-copper oxide concentration on bactericidal properties of silver–copper oxide nanocomposite. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 580(July), 123732. <https://doi.org/10.1016/j.colsurfa.2019.123732>
- Kanhed, P., Birla, S., Gaikwad, S., Gade, A., Seabra, A. B., Rubilar, O., Duran, N., & Rai, M. (2014). In vitro antifungal efficacy of copper nanoparticles against selected crop pathogenic fungi. *Materials Letters*, 115, 13–17. <https://doi.org/10.1016/j.matlet.2013.10.011>
- Kulkarni, S. J. (2015). A Review on Studies and Research on Various Aspects of Leaching. *International Journal of Research & Review* (www.gkpublication.in), 2(9), 579. www.ijrrjournal.com
- Lolo, A., Patandean, C. F., & Ruslan, E. (2020). Karakterisasi Air Daerah Panas Bumi Pencong Dengan Metode Aas (Atomic Absorption Spectrophotometer) Di Kecamatan Biringbulu, Kabupaten Gowa Propinsi Sulawesi Selatan. *Jurnal Geocelebes*, 4(2), 102–110. <https://doi.org/10.20956/geocelebes.v4i2.8928>



- Majumdar, T. D., Singh, M., Thapa, M., Dutta, M., Mukherjee, A., & Ghosh, C. K. (2019). Size-dependent antibacterial activity of copper nanoparticles against *Xanthomonas oryzae* pv. *oryzae* – A synthetic and mechanistic approach. *Colloids and Interface Science Communications*, 32(June), 100190. <https://doi.org/10.1016/j.colcom.2019.100190>
- Melhuish, W. H. (1984). Molecular Luminescence Spectroscopy - Vi. In *Pure and Applied Chemistry* (Vol. 56, Nomor 2).
- Mott, D., Galkowski, J., Wang, L., Luo, J., & Zhong, C. J. (2007). Synthesis of size-controlled and shaped copper nanoparticles. *Langmuir*, 23(10), 5740–5745. <https://doi.org/10.1021/la0635092>
- Ntengwe, F. (2010). The Leaching of Dolomitic-Copper Ore Using Sulphuric Acid Under Controlled Conditions~!2010-03-15~!2010-06-17~!2010-07-21~! *The Open Mineral Processing Journal*, 3(1), 60–67. <https://doi.org/10.2174/1874841401003010060>
- Oktaviani, D. T., F, D. C., & Jurusan, A. A. (2015). SINTESIS NANO Ag DENGAN METODE REDUKSI KIMIA. *Sainteknol : Jurnal Sains dan Teknologi*, 13(2), 101–114.
- Paju, N., Yamlean, P. V. Y., & Kojong, N. (2013). Uji Efektivitas Salep Ekstrak Daun Binahong (*Anredera cordifolia* (Ten.) Steenis) pada Kelinci (*Oryctolagus cuniculus*) yang Terinfeksi Bakteri *Staphylococcus aureus*. *PHARMACON Jurnal Ilmiah Farmasi-UNSRAT*, 2(1), 51–61.
- Rajesh, K. M., Ajitha, B., Ashok Kumar Reddy, Y., Suneetha, Y., & Sreedhara Reddy, P. (2016). Synthesis of copper nanoparticles and role of pH on particle size control. *Materials Today: Proceedings*, 3(6), 1985–1991. <https://doi.org/10.1016/j.matpr.2016.04.100>
- Ramyadevi, J., Jeyasubramanian, K., Marikani, A., Rajakumar, G., & Rahuman, A. A. (2012). Synthesis and antimicrobial activity of copper nanoparticles. *Materials Letters*, 71, 114–116. <https://doi.org/10.1016/j.matlet.2011.12.055>
- Rawashdeh, R., & Haik, Y. (2009). *Dynamic Biochemistry, Process Biotechnology and Molecular Biology* ©2009 Global Science Books Antibacterial Mechanisms of Metallic Nanoparticles: A Review.
- Reverberi, A. Pietro, Salerno, M., Lauciello, S., & Fabiano, B. (2016). Synthesis of copper nanoparticles in ethylene glycol by chemical reduction with vanadium (+2) salts. *Materials*, 9(10), 1–11. <https://doi.org/10.3390/ma9100809>
- Schlesinger, M. E., King, M. J., Sole, K. C., & Davenport, W. G. (2013). Extractive Metallurgy of Copper 5th Edition. In *Journal of Chemical Information and Modeling* (Vol. 53, Nomor 9).
- Setyawan, G., & Mubarok, Z. (2015). Pelindian Tembaga Dari Bijih Kalkopirit Dalam Larutan Asam Sulfat Dan Ozon Sebagai Oksidator. *Jurnal Teknologi*



Mineral dan Batubara, 11(2), 118–128.

- Sinaga, F. A. (2016). Stress oksidatif dan status antioksidan pada aktivitas fisik maksimal. *Jurnal Generasi Kampus*, 9(2), 176–189.
<https://jurnal.unimed.ac.id/2012/index.php/gk/article/view/7823>
- Subha, V., Thulasimuthu, E., & Ilangovan, R. (2022). Bactericidal action of copper nanoparticles synthesized from methanolic root extract of Asparagus racemosus. *Materials Today: Proceedings*, 64, 1761–1767.
<https://doi.org/10.1016/j.matpr.2022.06.029>
- Uday Raj, J., Srikanth, R., Kyathi, G., & Balakrishna, G. (2015). Effect of Unipolar Acu-Stim on Muscle Re-Education Following Tendon Transfer - A Case Study. *International Journal of Physiotherapy*, 2(1), 347.
<https://doi.org/10.15621/ijphy/2015/v2i1/60039>
- Utami, R. A., Astuti, A., & Muldarisnur, M. (2018). Pengaruh Stabilisator Terhadap Ukuran, Morfologi, dan Fotoluminesensi Nanopartikel Seng Oksida yang Disintesis dengan Metode Sol-Gel. *Jurnal Fisika Unand*, 7(1), 39–44. <https://doi.org/10.25077/jfu.7.1.39-44.2018>
- Uyun, M. (2015). Synthesis Of TiO₂ Nanoparticles Rutile Using TiCl₃ Precursors (Hydrolysis And mineralization Process) And TiCl₄ Precursors. *Institut Teknologi Sepuluh Nopember*, 3, 1–108.
- Wahyudi, T., Sugiyana, D., & Helmy, Q. (2011). SINTESIS NANOPARTIKEL PERAK DAN UJI AKTIVITASNYA TERHADAP BAKTERI *Escherichia coli* DAN *Staphylococcus aureus*. *Arena Tekstil*, 26(1).
<https://doi.org/10.31266/at.v26i1.1442>
- Wardiyati, S., Yusuf, S., & Handayani, A. (2007). Metode Emulsi Menggunakan Surfaktan Cetyl Trimethyl Ammonium Bromide (CTAB). *Jurnal Sains Materi Indonesia*, 21(4), 151–155.
- Zhang, Q. L., Yang, Z. M., Ding, B. J., Lan, X. Z., & Guo, Y. J. (2010). Preparation of copper nanoparticles by chemical reduction method using potassium borohydride. *Transactions of Nonferrous Metals Society of China (English Edition)*, 20(SUPPL.1), s240–s244. [https://doi.org/10.1016/S1003-6326\(10\)60047-7](https://doi.org/10.1016/S1003-6326(10)60047-7)