

DAFTAR PUSTAKA

- Abdassah, M. (2017). Nanopartikel dengan gelas ionik. *Jurnal Farmaka*, 15(1), 45–52.
- Agarwal, P. K. (2006). *Enzymes : An integrated view of structure , dynamics and function*. 12, 1–12. <https://doi.org/10.1186/1475-2859-5-2>
- Alimano, M., & Rinjani, R. R. (2017). Penelitian awal ekstraksi emas dan logam lainnya dari tanaman akar wangi (*Vetiveria zizanioides*) menggunakan metode klorinasi basah. *Jurnal Teknologi Mineral Dan Batubara*, 13(1), 45–51. <https://doi.org/10.30556/jtmb.vol13.no1.2017.145>
- Amin, F., Mahardika, M., & Fatimah, S. (2020). Sintesis Dan Karakterisasi Nanopartikel Emas Menggunakan Bioreduktor Dari Ekstrak Daun Berenuk. *Jurnal Ilmiah Teknik Kimia*, 4(2), 54. <https://doi.org/10.32493/jitk.v4i2.5101>
- Amiruddin, M. A., & Taufikurrohman, T. (2013). Sintesis dan Karakterisasi Nanopartikel Emas Menggunakan Matriks Bentonit Sebagai Material Peredam Radikal Bebas Dalam Kosmetik. *UNESA Journal of Chemistry Vol. 2, No. 1, January 2013*, 2(1), 68–75.
- Annur, S., Santosa, S. J., Aprilita, N. H., Phuong, N. T., & Phuoc, N. Van. (2018). Rapid synthesis of gold nanoparticles without heating process. *Asian Journal of Chemistry*, 30(11), 2399–2403. <https://doi.org/10.14233/ajchem.2018.21386>
- Anonim. (2010). *Farmakope Indonesia* (3rd ed.). Departemen Kesehatan Republik Indonesia.
- Aprilliani, A. (2018). Uji inhibisi aktivitas enzim tirosinase beberapa jenis tumbuhan anggota suku Zingiberaceae. *Jurnal Ilmiah Farmasi*, 14(1), 46–57. <https://doi.org/10.20885/jif.vol14.iss1.art05>
- Balasoorya, E. R., Jayasinghe, C. D., Jayawardena, U. A., Ruwanthika, R. W. D., De Silva, R. M., & Udagama, P. V. (2017). Honey Mediated Green Synthesis of Nanoparticles: New Era of Safe Nanotechnology. *Journal of Nanomaterials*, 2017. <https://doi.org/10.1155/2017/5919836>
- Batubara, I., Darusman, L. K., Mitsunaga, T., Rahminiwati, M., & Djauhari, E. (2010). Potency of Indonesian medicinal plants as tyrosinase inhibitor and antioxidant agent. In *Journal of Biological Sciences* (Vol. 10, Issue 2, pp. 138–144). <https://doi.org/10.3923/jbs.2010.138.144>
- Chambers, C., Degen, G., Jazwiec-Kanyion, B., Kapoulas, V., Marty, J.-P., Platzek, T., Rastogi, S. C., Revuz, J., Rogiers, V., Sanner, T., Engelen, J. van, & White, I. R. (2008). Scientific Committee on Consumer Products. *Opinion on Kojic Acid*, September, 1–79.
- Chambial, S., Dwivedi, S., Shukla, K. K., John, P. J., & Sharma, P. (2013). Vitamin C in disease prevention and cure: An overview. *Indian Journal of Clinical Biochemistry*, 28(4), 314–328. <https://doi.org/10.1007/s12291-013-0375-3>
- Chokkareddy, R., Ihondavada, N., Kabane, B., & Redhi, G. G. (2018). Current Advances in Biosynthesis of Silver Nanoparticles and Their Applications. In *Green Metal Nanoparticles* (pp. 167–169). Scrivener Publishing LLC.

- Cui, Y., Zhao, Y., Tian, Y., Zhang, W., Lü, X., & Jiang, X. (2012). The molecular mechanism of action of bactericidal gold nanoparticles on *Escherichia coli*. *Biomaterials*, 33(7), 2327–2333. <https://doi.org/10.1016/j.biomaterials.2011.11.057>
- Dachriyanus. (2004). *Analisis Struktur Senyawa Organik Secara Spektroskopi*. Lembaga Pengembangan Teknologi Informasi dan Komunikasi (LPTIK).
- Dwina, R. (2010). Solid Lipid Nanoparticle; Synthesis and Applications. *Kimia Dan Kemasan*, 32(1), 27–33.
- Eff, A. R. Y., Pertiwi, R. D., Rakhmawati, I., & Utami, T. P. (2018). In-vitro and in-vivo sunscreen activity of active compounds isolated from fruits of *phaleria marcocarpha* (Scheff.) boerl. *Journal of Young Pharmacists*, 10(2), s106–s110. <https://doi.org/10.5530/jyp.2018.2s.21>
- Fatimah, E. N., & Hidajati, N. (2012). Sintesis dan Karakterisasi Nanopartikel Emas Sebagai Material Pendukung Aktivitas Tabir Surya Turunan Sinamat. *Prosiding Seminar Nasional Kimia Unesa*, 151–160.
- Fatimah, S., & Yanlinastuti. (2016). Pengaruh Konsentrasi Pelarut untuk Menentukan Paduan U-Zr dengan Menggunakan Metode Spektorfotometri Uv-Vis. *Pusat Teknologi Bahan Nuklir*, 9(17), 22–33.
- Fazrin, E. I., Naviardianti, A. I., Wyantuti, S., Gaffar, S., & Hartati, Y. W. (2020). Review: Sintesis Dan Karakterisasi Nanopartikel Emas (AuNP) Serta Konjugasi AuNP Dengan DNA Dalam Aplikasi Biosensor Elektrokimia. *PENDIPA Journal of Science Education*, 4(2), 21–39. <https://doi.org/10.33369/pendipa.4.2.21-39>
- Harahap, F. (2012). *Fisiologi Tumbuhan Suatu Pengantar*. Unimed Press.
- Hee-Young, P., Marinya, P., Jin, L., & Mina, Y. (2008). Disorders of Melanocytes. In *Fitzpatrick's Dermatology in General Medicine*.
- Horiba Ltd. (2020). *Horiba Nanoparticle Analyzer SZ-100*. https://www.horiba.com/en_en/products/detail/action/show/Product/sz-100-1356/
- Hulla, J. E., Sahu, S. C., & Hayes, A. W. (2015). Nanotechnology: History and future. *Human and Experimental Toxicology*, 34(12), 1318–1321. <https://doi.org/10.1177/0960327115603588>
- Kaul, S., Gulati, N., Verma, D., Mukherjee, S., & Nagaich, U. (2018). Role of Nanotechnology in Cosmeceuticals: A Review of Recent Advances. *Journal of Pharmaceutics*, 2018, 1–19. <https://doi.org/10.1155/2018/3420204>
- Keat, C. L., Aziz, A., Eid, A. M., & Elmarzugi, N. A. (2015). Biosynthesis of nanoparticles and silver nanoparticles. *Bioresources and Bioprocessing*, 2(1). <https://doi.org/10.1186/s40643-015-0076-2>
- Kembuan, M. V, & Tanudjaja, G. N. (2012). *Peran vitamin c terhadap pigmentasi kulit*.
- Khan, I., Saeed, K., & Khan, I. (2019). Nanoparticles: Properties, applications and toxicities. *Arabian Journal of Chemistry*, 12(7), 908–931. <https://doi.org/10.1016/j.arabjc.2017.05.011>
- M. Nurkhozin, S. M. (2017). *Biokimia : Enzim dan Metabolisme Karbohidrat* (T.

- A. Prabawati (ed.)). C.V Andi Offset.
- Malassis, L., Dreyfus, R., Murphy, R. J., Hough, L. A., Donnio, B., & Murray, C. B. (2016). One-step green synthesis of gold and silver nanoparticles with ascorbic acid and their versatile surface post-functionalization. *RSC Advances*, 6(39), 33092–33100. <https://doi.org/10.1039/c6ra00194g>
- Margaretha, T., Kojong, I., & Aritonang, H. (2018). Green Synthesis Nanopartikel Perak (Ag) Menggunakan Larutam Daun Rumput Macan (*Lantana camara* L). *Chemistry Progress*, 11(2), 46–51. <https://doi.org/10.35799/cp.11.2.2018.27938>
- Martien, R., Adhyatmika, Irianto, I. D. K., Farida, V., & Sari, D. P. (2012). Perkembangan teknologi nanopartikel dalam sistem penghantaran obat. *Majalah Farmaseutik*, 8(1), 133–144. https://www.academia.edu/download/41739804/Perkembangan_Teknologi_Nanopartikel_dala20160129-20505-1jxjfb.pdf
- Martínez Cuesta, S., Rahman, S. A., Furnham, N., & Thornton, J. M. (2015). The Classification and Evolution of Enzyme Function. *Biophysical Journal*, 109(6), 1082–1086. <https://doi.org/10.1016/j.bpj.2015.04.020>
- Menamo, D. S., Ayele, D. W., & Ali, M. T. (2017). Green synthesis, characterization and antibacterial activity of copper nanoparticles using L-ascorbic acid as a reducing agent. *Ethiopian Journal of Science and Technology*, 10(3), 209. <https://doi.org/10.4314/ejst.v10i3.5>
- Menon, J. U., Nguyen, D. X., & Nguyen, K. T. (2016). Development and Characterization of Stimulus-Sensitive Nano/Microparticles for Medical Applications. *Handbook of Nanoparticles*. <https://doi.org/10.1007/978-3-319-15338-4>
- Mittal, A. K., Chisti, Y., & Banerjee, U. C. (2013). Synthesis of metallic nanoparticles using plant extracts. *Biotechnology Advances*, 31(2), 346–356. <https://doi.org/10.1016/j.biotechadv.2013.01.003>
- Muhammadi, F. M. (2020). Teknologi Nano di Indonesia. *Komisi Teknologi PPI Dunia*, 6, 1–9.
- Nuraeni, W., Daruwati, I., W, E. M., & Sriyani, M. E. (2013). Verifikasi kinerja alat Particle Size Analyzer (PSA) Horiba Lb-550 untuk penentuan distribusi ukuran nanopartikel. *Prosiding Seminar Nasional Sains Dan Teknologi Nuklir*, 268–269.
- Park, H.-Y., & Yaar, M. (2012). Biology of Melanocytes. In *Fitzpatrick's Dermatology in General Medicine* (8th ed., pp. 801–816). McGraw-Hill.
- Patil, M. P., & Kim, G. Do. (2017). Eco-friendly approach for nanoparticles synthesis and mechanism behind antibacterial activity of silver and anticancer activity of gold nanoparticles. *Applied Microbiology and Biotechnology*, 101(1), 79–92. <https://doi.org/10.1007/s00253-016-8012-8>
- Pertiwi, R. D., Djajadisastra, J., MUTALIB, A., & Pujiyanto, A. (2018). Pembuatan, Karakterisasi dan Uji In Vitro Nanopartikel Emas Berbasis Konjugat Gom Arab-Vinkristin. *Jurnal Ilmu Kefarmasian Indonesia*, 16(1), 6. <https://doi.org/10.35814/jifi.v16i1.486>

- Pertiwi, R. D., Suwaldi, Setyowati, E. P., & Martien, R. (2019). Bio-nanoparticles: Green synthesis of gold nanoparticles and assessment of biological evaluation. *International Journal of Applied Pharmaceutics*, 11(6), 133–138. <https://doi.org/10.22159/ijap.2019v11i6.34826>
- Prasdianitika, R., Susanto, & Kusumawardani, Y. (2019). *Teknologi Nanomaterial Hibrida Untuk Solusi Pencemaran Logam Berat*. Buku Pendidikan Deepublish.
- Ramakrishna, M., Rajesh Babu, D., Gengan, R. M., Chandra, S., & Nageswara Rao, G. (2016). Green synthesis of gold nanoparticles using marine algae and evaluation of their catalytic activity. *Journal of Nanostructure in Chemistry*, 6(1), 1–13. <https://doi.org/10.1007/s40097-015-0173-y>
- Rawat, M., Singh, D., Saraf, S., & Saraf, S. (2006). Nanocarriers: Promising vehicle for bioactive drugs. *Biological and Pharmaceutical Bulletin*, 29(9), 1790–1798. <https://doi.org/10.1248/bpb.29.1790>
- RI, D. (1995). *Farmakope Indonesia Edisi V*. Kementerian Kesehatan Republik Indonesia.
- Rohiman, A.; Amran B.; Bachri, M. . J. E. . and, & Irman, I. (2014). Sintesis, Karakterisasi, dan Aplikasi Gold Nanoparticles (AuNPs) pada Penumbuhan Silicon Nanowires (SiNWs). *Research Research and Development Development on Nanotechnology Nanotechnology in Indonesia*, 1(2), 74–82.
- Saeedi, M., Eslamifar, M., & Khezri, K. (2019). Kojic acid applications in cosmetic and pharmaceutical preparations. *Biomedicine and Pharmacotherapy*, 110(November 2018), 582–593. <https://doi.org/10.1016/j.biopha.2018.12.006>
- Sagala, Z., Pratiwi, R. W., Azmi, N. U., & Maap. (2019). Uji Aktivitas Inhibisi terhadap Enzim Tirosinase dari Ekstrak Etanol Daun Pepaya (Carica papaya L .) Secara In Vitro. *Jurnal Penelitian Farmasi Indonesia*, 7(2), 34–38.
- Sagala, Z., & Telaumbanua, K. (2020). Formulasi, Uji stabilitas dan Aktivitas Inhibitor Enzim Tirosinase Sediaan Krim dari Ekstrak Buah Harendong (Melastoma affine D.Don). *Indonesia Narutal Research Pharmaceutical Journal*, 5(2), 149–173.
- Setiawan, H., Pujiyanti, A., Lubis, H., Ritawidya, R., Mujinah, Kurniasih, D., Witarti, Hambali, & Mutalib, A. (2014). *Sntesis Nanopartikel Emas Menggunakan Reduktor Trisodium Sitrat*.
- Setiawan, H., Pujiyanto, A., Lubis, H., Mujinah, Kurniasih, D., Hambali, Ritawidya, R., & Mutalib, A. (2012). Pembuatan Larutan H198AuCl4 Dari Logam Emas (Foil), Sebagai Bahan Baku Utama Sintesis Nanopartikel Au-Pamam Dendrimer. *Prosiding Pertemuan Dan Presentasi Ilmiah - Penelitian Dasar Ilmu Pengetahuan Dan Teknologi Nuklir*, ISSN 0216-3128, 1–7.
- Setiawan, S. D., Ramadhani, C. C., Veronika, A., Ningrum, A. D. K., Nugroho, B. H., & Syukri, Y. (2018). Study of self nano-emulsifying drug delivery system (Snedds) loaded red fruit oil (pandanus conoideus lamk.) as an eliminated cancer cell mcf-7. *International Journal of Drug Delivery Technology*, 8(4), 229–232.
- Singh, C., Baboota, R. K., Naik, P. K., & Singh, H. (2012). Biocompatible synthesis

- of silver and gold nanoparticles using leaf extract of *Dalbergia sissoo*. *Advanced Materials Letters*, 3(4), 279–285. <https://doi.org/10.5185/amlett.2011.10312>
- Singh, J., Dutta, T., Kim, K. H., Rawat, M., Samddar, P., & Kumar, P. (2018). “Green” synthesis of metals and their oxide nanoparticles: Applications for environmental remediation. *Journal of Nanobiotechnology*, 16(1), 1–24. <https://doi.org/10.1186/s12951-018-0408-4>
- Soyata, A., & Chaerunisaa, A. Y. (2021). Whitening Agent: Mekanisme, Sumber dari Alam dan Teknologi Formulasinya. *Majalah Farmasetika*, 6(2), 169. <https://doi.org/10.24198/mfarmasetika.v6i2.28139>
- Srifiana, Y., Gusmayadi, I., & Alvin, J. A. (2018). *the Effect of Arabic Gum As Stabilizer on Physical Stability of Silver Nanoparticle (AgNP)*.
- Suhara. (2008). *Dasar-dasar Biokimia*. Prisma Press.
- Sun, K., Qiu, J., Liu, J., & Miao, Y. (2009). Preparation and characterization of gold nanoparticles using ascorbic acid as reducing agent in reverse micelles. *Journal of Materials Science*, 44(3), 754–758. <https://doi.org/10.1007/s10853-008-3162-4>
- Suwarda, R., & Maarif, M. S. (2013). Pengembangan Inovasi Teknologi Nanopartikel Berbasis Pat Untuk Menciptakan Produk Yang Berdaya Saing. *Jurnal Teknik Industri*, 3(2), 104–122. <https://doi.org/10.25105/jti.v3i2.1572>
- Syarief, M. I. * dan S. H. (2013). *Uji Aktivitas Peredaman Radikal Bebas Oleh Nanogold Dengan Berbagai Konsentrasi Bentonit Sebagai Material Antiaging Dalam Kosmetik*. 2(3).
- Thakkar, K. N., Mhatre, S. S., & Parikh, R. Y. (2010). Biological synthesis of metallic nanoparticles. *Nanomedicine: Nanotechnology, Biology, and Medicine*, 6(2), 257–262. <https://doi.org/10.1016/j.nano.2009.07.002>
- Tolochko, N. K. (2018). History of Nanotechnology - Encyclopedia of Life Support Systems (EOLSS). *Nanoscience and Nanotechnologies*, 1–18.
- Tsuzuki, T. (2009). Commercial scale production of inorganic nanoparticles. *International Journal of Nanotechnology*, 6(5–6), 567–578. <https://doi.org/10.1504/IJNT.2009.024647>
- Widara, M. R., & Rauf, A. (2017). Perbandingan Hasil Logam Emas Pada Pengolahan Bijih Emas Dengan Metode Sianida (Heap Leaching) Berdasarkan Perbedaan Ukuran Butir Umpan. *Prosiding Seminar Nasional XII “Rekayasa Teknologi Industri Dan Informasi,”* 30–35.
- Wu, C. C., & Chen, D. H. (2010). Facile green synthesis of gold nanoparticles with gum arabic as a stabilizing agent and reducing agent. *Gold Bulletin*, 43(4), 234–240. <https://doi.org/10.1007/BF03214993>