

DAFTAR PUSTAKA

- Ahid, M., Al-Fa, ouri, Mahmoud, H., Abu-Kharma, Awwad, A.K., 2021, Green synthesis of copper oxide nanoparticles using Bougainvillea leaves aqueous extract and antibacterial activity evaluation, *Chemistry International*, Vol. 7(3), Hal. 155–162.
- Ahmad, I., Kumar, M., 2025, A brief review on synthesis and characterization of copper oxide nanoparticles and its applications, *International Journal of Physics and Applications*, Vol. 7, Hal. 188–193, DOI: 10.33545/26647575.2025.v7.i1b.161.
- Al-fa, A.M., Abu-kharma, M.H., Awwad, A.M., n.d., Pr ep rin t n ot er r Pr ep rin t n er ed.
- Al Hakimi, N.S., Hanapi, A., Fasya, A.G., 2018, Green Synthesis Senyawa Imina dari Vanillin and Anilina dengan Katalis Alami Air Jeruk Nipis (Citrus aurantifolia), *Alchemy*, Vol. 5, Hal. 120, DOI: 10.18860/al.v5i4.4706.
- Alfarisa, S., Rifai, D.A., Toruan, P.L., 2018, Studi Difraksi Sinar-X Struktur Nano Seng Oksida (ZnO), *Risalah Fisika*, Vol. 2, Hal. 53–57, DOI: 10.35895/rf.v2i2.114.
- Amanati, W., Sutanto, H., 2014, ANALISIS SIFAT OPTIK LAPISAN TIPIS BILAYER ZnO / TiO₂ YANG DIDEPOSISIKAN MENGGUNAKAN METODE SOL-GEL SPRAY COATING, *Youngster Physic Journal*, Vol. 3, Hal. 41–44.
- Avilia Dhiar Aryani, Hilda Aprilia Wisnuwardhani, 2022, Studi Literatur Sintesis Nanopartikel Tembaga Menggunakan Bioreduktor Ekstrak Tumbuhan dengan Aktivitas Antioksidan, *Jurnal Riset Farmasi*, Hal. 39–45, DOI: 10.29313/jrf.v2i1.843.
- Boscarino, S., Censabella, M., Micali, M., Russo, M., Terrasi, A., Grimaldi, M.G., Ruffino, F., 2022, Morphology, Electrical and Optical Properties of Cu Nanostructures Embedded in AZO: A Comparison between Dry and Wet Methods, *Micromachines*, Vol. 13, DOI: 10.3390/mi13020247.
- 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*, Vol. 15, Hal. 185–213, DOI: 10.1080/17518253.2022.2025916.
- Cullity, B., Stock, S., 2014, *Pearson New International Edition*, Edisi ketiga, British Library Cataloguing-in-Publication Data, Pearson, London.
- Dadhwal, P., Dhingra, H.K., Dwivedi, V., Alarifi, S., Kalasariya, H., Yadav, V.K., Patel, A., 2023, Hippophae rhamnoides L. (sea buckthorn) mediated green synthesis of copper nanoparticles and their application in anticancer activity, *Frontiers in Molecular Biosciences*, Vol. 10, Hal. 1–19, DOI: 10.3389/fmolb.2023.1246728.
- Dedi, M., Dyah, U.K., Kuwat, T., Harsojo, 2019, Fabrication of copper nanowire coated by silver nanocrystal for protection of oxidation transparent

- conductive electrode, *Materials Science Forum*, Vol. 948 MSF, Hal. 243–248, DOI: 10.4028/www.scientific.net/MSF.948.243.
- Hakim, L., Dirgantara, M., Nawir, M., 2019, Karakterisasi Struktur Material Pasir Bongkahan Galian Golongan C Dengan Menggunakan X-Ray Difraction (X-RD) Di Kota Palangkaraya, *Jurnal Jejaring Matematika dan Sains*, Vol. 1, Hal. 44–51, DOI: 10.36873/jjms.v1i1.136.
- Iliger, K.S., Sofi, T.A., Bhat, N.A., Ahanger, F.A., Sekhar, J.C., Elhendi, A.Z., Al-Huqail, A.A., Khan, F., 2021, Copper nanoparticles: Green synthesis and managing fruit rot disease of chilli caused by *Colletotrichum capsici*, *Saudi Journal of Biological Sciences*, Vol. 28, Hal. 1477–1486, DOI: 10.1016/j.sjbs.2020.12.003.
- Irawan, A., 2019, Kalibrasi Spektrofotometer Sebagai Penjaminan Mutu Hasil Pengukuran dalam Kegiatan Penelitian dan Pengujian, *Indonesian Journal of Laboratory*, Vol. 1, Hal. 1, DOI: 10.22146/ijl.v1i2.44750.
- Karim, A., Mardiansyah, D., Dahlan, D., Material, L.F., Fisika, D., Matematika, F., Andalas, U., Unand, K., Manis, L., Barat, S., 2025, Pembuatan Lapisan Tipis Berbasis Nanopartikel Tembaga (CuNP) Menggunakan Metode Spraying, Vol. 14, Hal. 408–412.
- Leng, Y., 2013, *Materials Characterization Introduction to Microscopic and Spectroscopic Methods*, Edisi Second Edi, Wiley-VCH, Hongkong.
- Mardiansyah, D., Badloe, T., Triyana, K., Mehmood, M.Q., Raeis-Hosseini, N., Lee, Y., Sabarman, H., Kim, K., Rho, J., 2018, Effect of temperature on the oxidation of Cu nanowires and development of an easy to produce, oxidation-resistant transparent conducting electrode using a PEDOT:PSS coating, *Scientific Reports*, Vol. 8, Hal. 1–9, DOI: 10.1038/s41598-018-28744-9.
- Masta, N., 2020, *Buku Materi Pembelajaran Scanning Electron Microscopy*, Universitas Kristen Indonesia, Jakarta.
- Md Ishak, N.A.I., Kamarudin, S.K., Timmiati, S.N., 2019, Green synthesis of metal and metal oxide nanoparticles via plant extracts: an overview, *Materials Research Express*, Vol. 6, DOI: 10.1088/2053-1591/ab4458.
- Mittal, A.K., Chisti, Y., Banerjee, U.C., 2013, Synthesis of metallic nanoparticles using plant extracts, *Biotechnology Advances*, Vol. 31, Hal. 346–356, DOI: 10.1016/j.biotechadv.2013.01.003.
- Nasrollahzadeh, M., Sajadi, S.M., Khalaj, M., 2014, Green synthesis of copper nanoparticles using aqueous extract of the leaves of *Euphorbia esula L* and their catalytic activity for ligand-free Ullmann-coupling reaction and reduction of 4-nitrophenol, *RSC Advances*, Vol. 4, Hal. 47313–47318, DOI: 10.1039/c4ra08863h.
- Nouailhat, A., 2010, *An Introduction to Nanoscience and Nanotechnology*, An Introduction to Nanoscience and Nanotechnology.
- Nugroho Priyanto Dwi, Faisal Ismail, H.R., 2017, POTENTIAL ANTIBACTERIAL OF LEAVES AND FLOWERS BOUGENVILLEA (*Bougenvilea glabra*, *URNAL TEKNOLOGI DAN SENI KESEHATAN*, Vol. Vol. 08 No.
- Nuryadin, B.W., 2020, Pengantar Fisika Nanomaterial: Teori dan Aplikasi, Hal.

1–181.

- Oktaviani, Y., Astuti, 2014, Sintesis Lapisan Tipis Semikonduktor dengan Bahan Dasar Tembaga (Cu) Menggunakan Chemical Bath Deposition, *Jurnal Fisika Unand*, Vol. 3, Hal. 53–58.
- Puspita, A.D., Santoso, A., Yulianto, B., 2013, Studi Akumulasi Logam Tembaga (Cu) dan Efeknya terhadap Struktur Akar Mangrove (*Rhizophora mucronata*), *Journal Of Marine Research*, Vol. 2, Hal. 8–15.
- Rachmad, A., Amin, Z., Charitas, M., Selatan, S., 2021, Evaluasi Pencahayaan Alami dan Buatan pada Ruang Kuliah Fakultas Sains dan Teknologi , Unika Musi Charitas Evaluation of Natural and Artificial Lighting in the Class Room of the Faculty of Science and Technology , Unika Musi Charitas Case Study : Room 202, Vol. 5, Hal. 77–89.
- Rahmawati, E.R., Nazriati, N., 2022, Biosintesis dan karakterisasi nanopartikel tembaga oksida (CuO) menggunakan ekstrak rimpang kencur (Kaempferia galanga L.), *Jurnal Teknik Kimia*, Vol. 28, Hal. 141–151, DOI: 10.36706/jtk.v28i3.1232.
- Setiabudi, A., Hardian, R., Mudzakir, A., 2012, *Karakterisasi Material Prinsip dan Aplikasinya dalam Penelitian Kimia*, Edisi First Edit, UPI PRESS, Bandung.
- Yokoyama, T., Masuda, H., Suzuki, M., Ehara, K., Nogi, K., Fuji, M., Fukui, T., Suzuki, H., Tatami, J., Hayashi, K., Toda, K., 2018, *Basic Properties and Measuring Methods of Nanoparticles*, Nanoparticle Technology Handbook.
- Yulianis, Y., Maysenta, S., Aliyah, S.H., 2023, IDENTIFIKASI SENYAWA FLAVONOID PADA FRAKSI N-BUTANOL BUNGA BUGENVIL UNGU (*Bougenvilla spectabilis*) DENGAN SPEKTROFOTOMETER UV-VIS, *Jurnal Biosense*, Vol. 6, Hal. 73–82, DOI: 10.36526/biosense.v6i01.2823.
- Zhenkun Chen, 2024, Application of UV-vis spectroscopy in the detection and analysis of substances, *Transactions on Materials, Biotechnology and Life Sciences*, Vol. 3.
- Zulaicha, A.S., Saputra, I.S., Sari, I.P., Ghifari, M.A., Yulizar, Y., Permana, Y.N., Sudirman, S., 2021, Green Synthesis Nanopartikel Perak (AgNPs) Menggunakan Bioreduktor Alami Ekstrak Daun Ilalang (*Imperata cylindrica* L), *Rafflesia Journal of Natural and Applied Sciences*, Vol. 1, Hal. 11–19, DOI: 10.33369/rjna.v1i1.15588.