



DAFTAR PUSTAKA

- 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>
- Alprol, A. E., Mansour, A. T., El-Beltagi, H. S., & Ashour, M. (2023). Algal Extracts for Green Synthesis of Zinc Oxide Nanoparticles: Promising Approach for Algae Bioremediation. *Materials*, 16(7), 1–23. <https://doi.org/10.3390/ma16072819>
- Amin, A., & Tengker, S. (2023). Sintesis dan Karakterisasi Nano ZnO Menggunakan Bioreduktor Ekstrak Daun Kopasanda (*Chromolaena Odorata* L.). *Fullerene Journ.Of Chem*, 7(1), 47–51. <https://doi.org/10.37033/fjc.v7i1.511>
- Anggraheni, D., Isnaeni, & Sugihartono, I. (2020). Pengaruh Variasi pH terhadap Sifat Optik ZnO Nanopartikel dari Hasil Biosintesis. *Prosiding Seminar Nasional Fisika (E-Journal)*, 9, 43–46. <https://doi.org/10.21009/03.snf2020.01.fa.08>
- Arifin, F. S., & Nazriati. (2022). Biosintesis dan Karakterisasi Nanopartikel Seng Oksida (ZnO-NPs) Menggunakan Ekstrak Daun Kenitu (*Chrysophyllum cainito* L.). *Jurnal Teknik Kimia USU*, 11(2), 56–63. <https://doi.org/10.32734/jtk.v11i2.9127>
- Badan Pusat Statistik (2023). Luas Panen, Produksi, dan Produktivitas Jagung Menurut Provinsi, 2020-2023. Diambil kembali dari [bps.go.id](https://www.archive.bps.go.id/indicator/53/2204/1/luas-panen-produksi-dan-produktivitas-jagung-menurut-provinsi.html) : <https://www.archive.bps.go.id/indicator/53/2204/1/luas-panen-produksi-dan-produktivitas-jagung-menurut-provinsi.html>
- Budiharti, G., & Supardi, Z. A. I. (2015). Sintesis Nanopartikel Silika Menggunakan Metode Sol-Gel. *Jurnal Inovasi Fisika Indonesia*, 4(3), 22–25.
- Chugh, D., Viswamalya, V. S., & Das, B. (2021). Green synthesis of silver nanoparticles with algae and the importance of capping agents in the process. *Journal of Genetic Engineering and Biotechnology*, 19(126), 1–21.



<https://doi.org/10.1186/s43141-021-00228-w>

- Didik, L. A. (2020). Penentuan Ukuran Butir Kristal $\text{CuCr}_{0,98}\text{Ni}_{0,02}\text{O}_2$ dengan Menggunakan X-Ray Diffraction (XRD) dan Scanning Electron Microscope (SEM). *Indonesian Physical Review*, 3(1), 6–14. <https://doi.org/10.29303/ipr.v3i1.37>
- Famia, A. M., & Muldarisnur. (2019). Pengaruh Temperatur Sintesis Hidrotermal terhadap Diameter Nanopartikel Seng Oksida. *Jurnal Fisika Unand*, 8(2), 127–132. <https://doi.org/10.25077/jfu.8.2.127-132.2019>
- Gebre, S. H., & Sendeku, M. G. (2019). New Frontiers in the Biosynthesis of Metal Oxide Nanoparticles and Their Environmental Applications: An Overview. *SN Applied Sciences*, 1(8), 1–28. <https://doi.org/10.1007/s42452-019-0931-4>
- Hakim, L., Dirgantara, M., & Nawir, M. (2019). Karakterisasi Struktur Material Pasir Bongkahan Galian Golongan C dengan Menggunakan X-Ray Diffraction (X-RD) di Kota Palangkaraya. *Jurnal Jejaring Matematika Dan Sains*, 1(1), 44–51. <https://doi.org/10.36873/jjms.v1i1.136>
- Haq, A. N. U., Nadhman, A., Ullah, I., Mustafa, G., Yasinzai, M., & Khan, I. (2017). Synthesis Approaches of Zinc Oxide Nanoparticles: The Dilemma of Ecotoxicity. *Journal of Nanomaterials*, 2017, 1–15. <https://doi.org/10.1155/2017/8510342>
- Malhotra, S. P. K. (2021). Applications of zinc oxide nanoparticles as an antimicrobial agent in the food packaging industry. In K. A. B. T.-Z.-B. N. for E. and A. A. Abd-Elsalam (Ed.), *Nanobiotechnology for Plant Protection* (pp. 125–137). Elsevier. <https://doi.org/10.1016/B978-0-12-822836-4.00021-5>
- Maryanti, E., Isnaini, N., & Hanum, R. A. (2012). Sintesis dan Karakterisasi Nanopartikel ZnO Terdoping Sulfur (ZnO:S) Melalui Metode Hidrotermal Suhu Rendah. *Jurnal Gradien*, 8(2), 728–733.
- Mongkolsilp, S., Pongbupakit, I., Sae-Lee, N., & Sitthihaworn, W. (2018). Radical Scavenging Activity and Total Phenolic Content of Medicinal Plants Used in Primary Health Care. *SWU J. Pharm. Sci.*, 9(1), 32–35. [http://pharm.swu.ac.th/psi/content/content9_1.11.47/SWU J Pharm Sci Vol 9 No 1-Pg 32-35.pdf](http://pharm.swu.ac.th/psi/content/content9_1.11.47/SWU%20J%20Pharm%20Sci%20Vol%209%20No%201-Pg%2032-35.pdf)
-



- Musdalifa, Purnama, M. N. K., & Herawati. (2019). Sintesis dan Karakterisasi NanoPartikel Seng Oksida (ZnO) dan Aplikasinya sebagai Agen Antibakteri *Staphylococcus aureus* pada Kain Katun Jenis Cotton Combed. *Indonesian Journal of Fundamental Sciences*, 5(1), 15–25.
- Naito, M., Yokoyama, T., Hosokawa, K., & Nogi, K. (2018). Nanoparticle Technology Handbook. In *Nanoparticle Technology Handbook*. <https://doi.org/10.1016/B978-0-444-53122-3.X5001-6>
- Nurbayasari, R., Saridewi, N., & Shofwatunnisa. (2017). Biosynthesis and Characterization of ZnO Nanoparticles with Extract of Green Seaweed *Caulerpa* sp. *Jurnal Perikanan Universitas Gadjah Mada*, 19(1), 17–28. <https://doi.org/10.22146/jfs.24488>
- Nurlina, N., Yunita, & Syahbanu, I. (2020). Sintesis Nanopartikel Zink Oksida (ZnO) dengan Penambahan Ekstrak Klorofil sebagai Capping Agent. *Positron*, 10(2), 123–130. <https://doi.org/10.26418/positron.v10i2.42136>
- Pangemanan, D. A., Suryanto, E., & Yamlean, P. V. Y. (2020). Skrinning Fitokimia, Uji Aktivitas Antioksidan dan Tabir Surya pada Tanaman Jagung (*Zea mays* L.). *Pharmacon*, 9(2), 194–204. <https://doi.org/10.35799/pha.9.2020.29271>
- Perry, R. H., Green, D. W., & Maloney, J. O. (2019). Perry's chemical engineers' handbook. In *Choice Reviews Online* (Vol. 38, Issue 02). <https://doi.org/10.5860/choice.38-0966>
- Putri, S. E., Herawati, N., Fudhail, A., & Rauf, R. (2019). Pengaruh PVA terhadap kestabilan nanopartikel tembaga dari CuSO₄ menggunakan bioreduktor kulit buah naga merah (*Hylocereus costaricensis*). *Prosiding Seminar Nasional Lembaga Penelitian Universitas Negeri Makasar*, 296–298.
- Ramadhika, L. N., Aprilia, A., & Safriani, L. (2021). Studi Preparasi Senyawa ZnO:TiO₂ Sebagai Material Fotokatalis. *Jurnal Material Dan Energi Indonesia*, 11(02), 83–95.
- Rhamdiyah, F. K., & Maharani, D. K. (2022). Biosynthesis of ZnO Nanoparticles from Aqueous Extract of *Moringa Oleifera* L.: Its Application as Antibacterial and Photocatalyst. *Indonesian Journal of Chemical Science*, 11(2), 91–102.
-



<https://doi.org/10.15294/ijcs.v11i2.52498>

Sachdeva, H., & Saroj, R. (2013). ZnO Nanoparticles as an Efficient, Heterogeneous, Reusable, and Ecofriendly Catalyst for One-Pot Green Synthesis of Pyranopyrazole Derivatives in Water. *The Scientific World*, 1–8. <https://doi.org/10.1080/00397911.2014.987350>

Sahdiah, H., & Kurniawan, R. (2023). Optimasi Tegangan Akselerasi pada Scanning Electron Microscope – Energy Dispersive X-Ray Spectroscopy (SEM-EDX) untuk Pengamatan Morfologi Sampel Biologi. *Jurnal Sains Dan Edukasi Sains*, 6(2), 117–123. <https://doi.org/10.24246/juses.v6i2p117-123>

Sari, M., Rati, Y., Linda, T. M., Hamzah, Y., & Rini, A. S. (2020). Biosintesis Micro-nanoflower ZnO dengan Ekstrak Kulit Ananas Comosus. *Journal of Aceh Physics Society*, 10(4), 84–87. <https://doi.org/10.24815/jacps.v10i4.18951>

Sari, R. N., Nurhasni, & Yaqin, M. A. (2017). Sintesis Nanopartikel ZnO Ekstrak *Sargassum sp.* dan Karakteristik Produknya. *Jurnal Pengolahan Hasil Perikanan Indonesia*, 20(2), 238–254.

Sarmin, M., Gurung, S., Sarkar, S., Das, S., & Hoda, M. (2024). Photocatalysis-enhanced synthesis and stabilization of silver nanoparticles by methanol-based phytochemicals extract of *Trigonella foenum-graecum* seeds. *JCIS Open*, 15(June), 1–12. <https://doi.org/10.1016/j.jciso.2024.100116>

SDS. (2020). *Safety Data Sheet (SDS) – NATRIUM NITRAT – NaNO₃*.

Shaba, E. Y., Jacob, J. O., Tijani, J. O., & Suleiman, M. A. T. (2021). A Critical Review of Synthesis Parameters Affecting the Properties of Zinc Oxide Nanoparticle and its Application in Wastewater Treatment. In *Applied Water Science* (Vol. 11, Issue 48). Springer International Publishing. <https://doi.org/10.1007/s13201-021-01370-z>

Thi, T. U. D., Nguyen, T. T., Thi, Y. D., Ta Thi, K. H., Phan, B. T., & Pham, K. N. (2020). Green synthesis of ZnO nanoparticles using orange fruit peel extract for antibacterial activities. *RSC Advances*, 10(40), 23899–23907. <https://doi.org/10.1039/d0ra04926c>

Venkatesan, A., Prabakaran, R., & Sujatha, V. (2017). Phytoextract-mediated



synthesis of zinc oxide nanoparticles using aqueous leaves extract of *Ipomoea pes-caprae* (L.) R. Br. revealing its biological properties and photocatalytic activity. *Nanotechnology for Environmental Engineering*, 2(8), 1–15. <https://doi.org/10.1007/s41204-017-0018-7>

Wirunchit, S., Gansa, P., & Koetnuyom, W. (2021). Synthesis of ZnO Nanoparticles by Ball-milling Process for Biological Applications. *Materials Today: Proceedings*, 47, 3554–3559. <https://doi.org/10.1016/j.matpr.2021.03.559>

Zelekew, O. A., Haitosa, H. H., Chen, X., & Wu, Y. N. (2023). Recent progress on plant extract-mediated biosynthesis of ZnO-based nanocatalysts for environmental remediation: Challenges and future outlooks. *Advances in Colloid and Interface Science*, 317(May), 102931. <https://doi.org/10.1016/j.cis.2023.102931>