

## DAFTAR PUSTAKA

- Abdassah, M. (2017). Nanopartikel dengan gelasi ionik. *Jurnal Farmaka*, 15(1), 45–52.
- Adnan, F., Hidayat, R. K., & Meicahayanti, I. (2022). Pengaruh pH, UV dan TiO<sub>2</sub> untuk Mendegradasi Variasi Asam Humat Berbasis Fotokatalis. *Jurnal Teknologi Lingkungan UNMUL*, 5(2), 9–16. <https://doi.org/10.30872/jtlunmul.v5i2.7002>
- Ahriani, Zelviana, S., Hernawati, & Ritriyanti. (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.
- Aji, M. H. G. T., Sulaeman, U., Cahyanto, W. T., Larasati, R., Diastuti, H., Iswanto, P., Isnaeni, I., & Yin, S. (2024). Surface engineering of Ag<sub>3</sub>PO<sub>4</sub> using lithium iodide for enhanced photocatalytic activity. *Surfaces and Interfaces*, 46, 104097. <https://doi.org/10.1016/j.surfin.2024.104097>
- Akharaiyi, F. C., Ilori, R. M., & Adesida, J. A. (2011). Antibacterial effect of *Terminalia catappa* on some selected pathogenic bacteria. *International Journal of Pharmaceutical and Biomedical Research*, 2(2), 64–67.
- Amirulsyafiee, A., Khan, M. M., & Harunsani, M. H. (2022). Ag<sub>3</sub>PO<sub>4</sub> and Ag<sub>3</sub>PO<sub>4</sub>-based visible light active photocatalysts: Recent progress, synthesis, and photocatalytic applications. *Catalysis Communications*, 172(October), 106556. <https://doi.org/10.1016/j.catcom.2022.106556>
- Andari, N. D. (2019). *Fotokatalis TiO<sub>2</sub>-zeolit untuk degradasi metilen biru*.
- Arsa, A. K., & Achmad, Z. (2020). Ekstraksi Minyak Atsiri Dari Rimpang Temu Ireng (*Curcuma Aeruginosa* Roxb) Dengan Pelarut Etanol Dan N-Heksana. *Jurnal Teknologi Technoscientia*, 13(1), 83–94.
- Arumugam, M., & Choi, M. Y. (2020). Effect of Operational Parameters on the Degradation of Methylene Blue Using Visible Light Active BiVO<sub>4</sub> Photocatalyst. *Bulletin of the Korean Chemical Society*, 41(3), 304–309. <https://doi.org/10.1002/bkcs.11972>
- Baunsele, A. B., & Missa, H. (2020a). Kajian Kinetika Adsorpsi Metilen Biru Menggunakan Adsorben Sabut Kelapa. *Akta Kimia Indonesia*, 5(2), 76. <https://doi.org/10.12962/j25493736.v5i2.7791>
- Bi, Y., Ouyang, S., Cao, J., & Ye, J. (2011). Facile Synthesis of Rhombic Dodecahedral AgX/Ag<sub>3</sub>PO<sub>4</sub> (X = Cl, Br, I) Heterocrystals with Enhanced Photocatalytic Properties and Stabilities. *Physical Chemistry Chemical Physics*, 13(21), 10071. <https://doi.org/10.1039/c1cp20488b>

- Bunaciu, A. A., Udriștioiu, E. gabriela, & Aboul-Enein, H. Y. (2015). X-Ray Diffraction: Instrumentation and Applications. *Critical Reviews in Analytical Chemistry*, 45(4), 289–299. <https://doi.org/10.1080/10408347.2014.949616>
- Chen, L., Jiang, D., He, T., Wu, Z., & Chen, M. (2013). In-situ ion exchange synthesis of hierarchical AgI/BiOI microsphere photocatalyst with enhanced photocatalytic properties. *CrystEngComm*, 15(37), 7556–7563. <https://doi.org/10.1039/c3ce41038b>
- Chen, Z., Wang, W., Zhang, Z., & Fang, X. (2013). High-Efficiency Visible-Light-Driven Ag<sub>3</sub>PO<sub>4</sub>/AgI Photocatalysts: Z-Scheme Photocatalytic Mechanism for Their Enhanced Photocatalytic Activity. *The Journal of Physical Chemistry C*, 117(38), 19346–19352. <https://doi.org/10.1021/jp406508y>
- Cui, D. H., Zheng, Y. F., & Song, X. C. (2017). A Novel Visible-Light-Driven Photocatalyst Ag<sub>2</sub>O/AgI with Highly Enhanced Photocatalytic Performances. *Journal of Alloys and Compounds*, 701, 163–169. <https://doi.org/10.1016/j.jallcom.2017.01.106>
- Dharmadewi, A. A. I. M. (2020). Analisis Kandungan Klorofil Pada Beberapa Jenis Sayuran Hijau Sebagai Alternatif Bahan Dasar Food Supplement. *Jurnal Emasains: Jurnal Edukasi Matematika Dan Sains*, 9(2), 171–176.
- Dong, S., Feng, J., Fan, M., Pi, Y., Hu, L., Han, X., Liu, M., Sun, J., & Sun, J. (2015). Recent Developments in Heterogeneous Photocatalytic Water Treatment Sing Visible Light-Responsive Photocatalysts: A Review. *RSC Advances*, 5(19), 14610–14630. <https://doi.org/10.1039/C4RA13734E>
- Elsan, R., & Minarsih, T. (2022). Analisis Sildenafil Sitrat dalam jamu kuat dengan metode Spektrofotometri UV-Vis. *Indonesian Journal of Pharmacy and Natural Product*, 5(1), 43–50. <https://doi.org/10.35473/ijpnp.v5i1.1569>
- Ezzati, R., Azizi, M., & Ezzati, S. (2024). A theoretical approach for evaluating the contributions of pseudo-first-order and pseudo-second-order kinetics models in the Langmuir rate equation. *Vacuum*, 222, 113018. <https://doi.org/10.1016/j.vacuum.2024.113018>
- Fajarwati, F. I., Sugiharto, E., & Siswanta, D. (2016). Film of Chitosan-Carboxymethyl Cellulose Polyelectrolyte Complex as Methylene Blue Adsorbent. *Jurnal Eksakta*, 16(1). <https://doi.org/10.20885/eksakta.vol16.iss1.art5>
- Fakhrzy, Kasim, A., Asben, A., & Anwar, A. (2020). Review: Optimalisasi Metode Maserasi Untuk Ekstraksi Tanin Rendemen Tinggi. *MENARA Ilmu*, XIV(2), 38–40.
- Febiyanto, F., & Sulaeman, U. (2020). The Starting Material Concentration Dependence of Ag<sub>3</sub>PO<sub>4</sub> Synthesis for Rhodamine B Photodegradation under Visible Light Irradiation. *Jurnal Kimia Valensi*, 6(1), 1–9. <https://doi.org/10.15408/jkv.v6i1.14837>

- Guidi, L., Tattini, M., & Landi, M. (2017). How Does Chloroplast Protect Chlorophyll Against Excessive Light? *Chlorophyll, May*. <https://doi.org/10.5772/67887>
- Hastuti, D., Rohadi, R., & Putri, A. S. (2018). Rasio N-Heksana-Etanol Terhadap Karakteristik Fisik Dan Kimia Oleoresin Ampas Jahe (Zingiber Majus Rumph) Varietas Emprit. *Jurnal Teknologi Pangan Dan Hasil Pertanian*, 13(1), 41. <https://doi.org/10.26623/jtphp.v13i1.2374>
- Huang, G.-F., Ma, Z.-L., Huang, W.-Q., Tian, Y., Jiao, C., Yang, Z.-M., Wan, Z., & Pan, A. (2013). Ag<sub>3</sub>PO<sub>4</sub> Semiconductor Photocatalyst: Possibilities and Challenges. *Journal of Nanomaterials*, 2013, 1.
- Huda, T., & Yulitaningtyas, T. K. (2018). Kajian Adsorpsi Methylene Blue Menggunakan Selulosa dari Alang-Alang. *IJCA (Indonesian Journal of Chemical Analysis)*, 1(01). <https://doi.org/10.20885/ijca.vol1.iss1.art2>
- Hustiany, R. (2016). *Studi Teknologi Industri Pertanian, Program Pertanian, Fakultas*. 41, 393–402.
- Indrasti, D., Andarwulan, N., Hari Purnomo, E., & Wulandari, N. (2019). Suji Leaf Chlorophyll: Potential and Challenges as Natural Colorant. *Jurnal Ilmu Pertanian Indonesia*, 24(2), 109–116. <https://doi.org/10.18343/jipi.24.2.109>
- Inkson, B. J. (2016). Scanning electron microscopy (SEM) and transmission electron microscopy (TEM) for materials characterization. In *Materials characterization using nondestructive evaluation (NDE) methods* (pp. 17–43). Elsevier.
- Itoh, T., Yano, K., Inada, Y., & Fukushima, Y. (2002). Stabilization of Chlorophyll a in Mesoporous Silica and its Pore Size Dependence. *J. Mater. Chem.*, 12(11), 3275–3277. <https://doi.org/10.1039/B203923K>
- Julita, M., Shiddiq, M., & Khair, M. (2023). Penentuan Energi Celah Pita (Band Gap) Nanopartikel ZnO/Au Hasil Ablasi Laser dalam Cairan. *Periodic*, 12(2), 71. <https://doi.org/10.24036/periodic.v12i2.118243>
- Jumardin, Maddu, A., Santoso, K., & Isnaeni. (2022). Karakteristik Sifat Optik Nanopartikel Karbon (Carbon Dots) dengan Metode Uv-Vis Drs (Ultra-Violet Visible Diffuse Reflectance Spectroscopy. *Jurnal Fisika Dan Terapannya*, 9(1), 1–15.
- Kakame, D. Y. N., & Wuntu, A. D. (2019). Degradasi dan Adsorpsi Zat Warna Methylene Blue Menggunakan Komposit Ag-Tulang Ikan Terkalsinasi. *Chemistry Progress*, 11(2), 58–62.
- Koe, W. S., Lee, J. W., Chong, W. C., Pang, Y. L., & Sim, L. C. (2020). An Overview of Photocatalytic Degradation: Photocatalysts, Mechanisms, and Development of Photocatalytic Membrane. *Environmental Science and Pollution Research*, 27, 2522–2565.

- Lestari, A. S. , S. Dewi. (2018). Preparasi dan Karakterisasi Nanopartikel Fe<sub>3</sub>O<sub>4</sub> Menggunakan Metode Kopersipitasi. *Jurnal Teknologi Technoscientia*, 11(1), 7–10.
- Liu, L., Hu, P., Li, Y., An, W., Lu, J., & Cui, W. (2019). P3HT-coated Ag<sub>3</sub>PO<sub>4</sub> core-shell structure for enhanced photocatalysis under visible light irradiation. *Applied Surface Science*, 466, 928–936. <https://doi.org/10.1016/j.apsusc.2018.10.112>
- Liu, X., Zhu, H., Wu, J., Wang, F., & Wei, F. (2019). The improved photocatalytic capacity derived from AgI-modified mesoporous PANI spherical shell with open pores. *Research on Chemical Intermediates*, 45(5), 2587–2603. <https://doi.org/10.1007/s11164-019-03753-z>
- Mahadeshwara, M. R. (2020). *XRD – X-ray diffraction*. Tribonet.Org.
- Marler, T. E. (2018). Leaf Damage by Phytophagous Beetles alters Terminalia catappa Green and Senesced Leaf Chemistry . *International Journal of Insect Science*, 10, 117954331879732. <https://doi.org/10.1177/1179543318797329>
- Meenan, P. A., Anderson, S. R., & Klug, D. L. (2002). The influence of impurities and solvents on crystallization. In *Handbook of Industrial Crystallization* (pp. 67–100). Elsevier. <https://doi.org/10.1016/B978-075067012-8/50005-7>
- Mirwan, A. (2013). Keberlakuan Model Hb-Gft Sistem N-Heksana – Mek – Air Pada Ekstraksi Cair-Cair Kolom Isian. *Konversi*, 2(1), 32. <https://doi.org/10.20527/k.v2i1.126>
- Mohammed, A., & Abdullah, A. (2018). Scanning electron microscopy (SEM): A review. *Proceedings of the 2018 International Conference on Hydraulics and Pneumatics—HERVEX, Băile Govora, Romania, 2018*, 7–9.
- Morozi, P., Ballarin, B., Arcozzi, S., Brattich, E., Lucarelli, F., Nava, S., Gómez-Cascales, P. J., Orza, J. A. G., & Tositti, L. (2021). Ultraviolet–Visible Diffuse Reflectance Spectroscopy (UV–Vis DRS), a rapid and non-destructive analytical tool for the identification of Saharan dust events in particulate matter filters. *Atmospheric Environment*, 252, 118297. <https://doi.org/10.1016/j.atmosenv.2021.118297>
- Mu, C., Zhang, Y., Cui, W., Liang, Y., & Zhu, Y. (2017). Removal of Bisphenol A Over a Separation Free 3D Ag<sub>3</sub>PO<sub>4</sub>-Graphene ydrogel vVia an Adsorption-Photocatalysis Synergy. *Applied Catalysis B: Environmental*, 212, 41–49. <https://doi.org/10.1016/j.apcatb.2017.04.018>
- Mukhair, H. M., Abdullah, A. H., Zainal, Z., & Lim, H. N. (2021). Pes-ag<sub>3</sub>po<sub>4</sub>/g-c<sub>3</sub>n<sub>4</sub> mixed matrix film photocatalyst for degradation of methyl orange dye. *Polymers*, 13(11), 1–14. <https://doi.org/10.3390/polym13111746>

- Naomi, A., Pertiwi, J., Permatasari, P. A., Dini, S. N., & Saefullah, A. (2018). *Keefektifan Spektrum Cahaya Terhadap Pertumbuhan Tanaman Kacang Hijau (Vigna Radiata)*. 4(2).
- Nazri, N. A. A., Azeman, N. H., Bakar, M. H. A., Mobarak, N. N., Aziz, T. H. T. A., Zain, A. R. M., Arsad, N., Luo, Y., & Bakar, A. A. A. (2022). Chlorophyll Detection by Localized Surface Plasmon Resonance Using Functionalized Carbon Quantum Dots Triangle Ag Nanoparticles. *Nanomaterials*, 12(17). <https://doi.org/10.3390/nano12172999>
- Nio Song, A., & Banyo, Y. (2011). Konsentrasi Klorofil Daun Sebagai Indikator Kekurangan Air pada Tanaman. *Jurnal Ilmiah Sains*, 15(1), 166. <https://doi.org/10.35799/jis.11.2.2011.202>
- Oliveira, L. P., Foggi, C. C. de, Pimentel, B. N. A. da S., Assis, M., Andrés, J., Longo, E., & Vergani, C. E. (2021). Increasing the Photocatalytic and Fungicide Activities of Ag<sub>3</sub>PO<sub>4</sub> Microcrystals Under Visible-Light Irradiation. *Ceramics International*, 47(16), 22604–22614. <https://doi.org/10.1016/j.ceramint.2021.04.272>
- Palupi, E. K., Alatas, H., Irzaman, Suryana, Y., Aridarma, A., Umam, R., Andriana, B. B., & Sato, H. (2020). Optimization of optical properties of Ba<sub>0.2</sub>Sr<sub>0.8</sub>TiO<sub>3</sub> thin films for a glucose sensor implementation. *Biomedical Spectroscopy and Imaging*, 9(1–2), 63–71. <https://doi.org/10.3233/BSI-200197>
- Putri, O., Lawendatu, G., Pontoh, J., & Kamu, V. S. (2019a). Analisis Kandungan Klorofil pada Berbagai Posisi Daun dan Anak Daun Aren (*Arrenga pinnata*). *Chem. Prog*, 12(2). <https://doi.org/10.35799/cp.12.2.2019.27427>
- Raeisi-Kheirabadi, N., & Nezamzadeh-Ejhieh, A. (2020). A Z-scheme g-C<sub>3</sub>N<sub>4</sub>/Ag<sub>3</sub>PO<sub>4</sub> nanocomposite: Its photocatalytic activity and capability for water splitting. *International Journal of Hydrogen Energy*, 45(58), 33381–33395. <https://doi.org/10.1016/j.ijhydene.2020.09.028>
- Rahayu, N. A. I., Sylvia, N., Bahri, S., Meriatna, M., & Muarif, A. (2022). Adsorpsi Zat Warna Methylene Blue Menggunakan Adsorben dari Ampas Teh pada Kolom. *Chemical Engineering Journal Storage (CEJS)*, 2(2), 75. <https://doi.org/10.29103/cejs.v2i2.7030>
- Rocha, F. S., Gomes, A. J., Lunardi, C. N., Kaliaguine, S., & Patience, G. S. (2018). Experimental Methods in Chemical Engineering: Ultraviolet Visible Spectroscopy-UV-Vis. *The Canadian Journal of Chemical Engineering*, 96(12), 2512–2517. <https://doi.org/10.1002/cjce.23344>
- Sausan, F. W., Puspitasari, A. R., & Yanuarita P, D. (2021). Studi Literatur Pengolahan Warna pada Limbah Cair Industri Tekstil Menggunakan Metode Proses Adsorpsi,

- Filtrasi, dan Elektrolisis. *Jurnal Tecnosienza*, 5(2), 213. <https://doi.org/10.51158/tecnoscienza.v5i2.427>
- Setiari, N., & Nurchayati, Y. (2009). Eksplorasi Kandungan Klorofil pada beberapa Sayuran Hijau sebagai Alternatif Bahan Dasar Makanan Tambahan. *BIOMA*, 11(1), 6–10.
- Setiawan Mohar, R., Soewoto, H. P., Garinas, W., Pengembangan, P. T., Mineral, S., Pengkajian, B., & Teknologi, P. (2021). Tinjauan Penggunaan Material Fotokatalis untuk Peningkatan Reaksi Degradasi Sianida. In *Jurnal Rekayasa Pertambangan* (Vol. 1, Issue 1).
- Setiyawati, D., Simpen, N., & Ratnayani, D. O. (2020). Fotodegradasi Zat Warna Limbah Cair Industri Pencelupan dengan Katalis Zeolit Alam/Tio 2 dan Sinar Uv. In *Cakra Kimia (Indonesian E-Journal of Applied Chemistry)* (Vol. 8, Issue 1).
- Sinaga, Z., & Joniwarta, J. (2020). Analisis Ukuran Kristal Dan Sifat Magnetik Melalui Proses Pemesinan Milling Menggunakan Metode Karakterisasi Xrd, Mechanical Alloying, Dan Ultrasonik Tekanan Tinggi Pada Material Barium Hexaferrite (Baf<sub>12</sub>o<sub>19</sub>). *Jurnal Kajian Teknik Mesin*, 5(1), 9–14. <https://doi.org/10.52447/jktm.v5i1.2372>
- Soltaninejad, V., Ahghari, M. R., Taheri-Ledari, R., & Maleki, A. (2021). Bifunctional PVA/ZnO/AgI/Chlorophyll Nanocomposite Film: Enhanced Photocatalytic Activity for Degradation of Pollutants and Antimicrobial Property under Visible-Light Irradiation. *Langmuir*, 37(15), 4700–4713. <https://doi.org/10.1021/acs.langmuir.1c00501>
- Suarsa, I. W. (2015). *Spektroskopi*. Universitas Udayana.
- Suhartati, T. (2017). *Dasar-Dasar Spektrofotometri UV-Vis Dan Spektrofotometri Massa Untuk Penentuan Struktur Senyawa Organik*. CV. Anugrah Utama Raharja.
- Sulaeman, U., Larasati, R., Putri, D. A. R. W., Hermawan, D., Asnani, A., Isnaeni, I., & Yin, S. (2024a). Design of defective silver phosphate photocatalyst using Nigella sativa seed aqueous extract for enhanced photocatalytic activity. *Inorganic Chemistry Communications*, 163, 112368. <https://doi.org/10.1016/j.inoche.2024.112368>
- Sulaeman, U., Ramadhanti, S. F., Diastuti, H., Iswanto, P., Isnaeni, I., & Yin, S. (2023). The enhanced photo-stability of defective Ag<sub>3</sub>PO<sub>4</sub> tetrahedron prepared using tripolyphosphate. *Arabian Journal of Chemistry*, 16(1), 104409. <https://doi.org/10.1016/j.arabjc.2022.104409>
- Wang, L., Bharti, Kumar, R., Pavlov, P. F., & Winblad, B. (2021). Small molecule therapeutics for tauopathy in Alzheimer's disease: Walking on the path of most resistance. *European Journal of Medicinal Chemistry*, 209, 112915. <https://doi.org/10.1016/j.ejmech.2020.112915>

- Wang, W., Cheng, B., Yu, J., Liu, G., & Fan, W. (2012). Visible-Light Photocatalytic Activity and Deactivation Mechanism of  $\text{Ag}_3\text{PO}_4$  Spherical Particles. *Chemistry – An Asian Journal*, 7(8), 1902–1908. <https://doi.org/10.1002/asia.201200197>
- Weckhuysen, B. M., & Schoonheydt, R. A. (1999). Recent Progress in Diffuse Reflectance Spectroscopy of Supported Metal Oxide Catalysts. *Catalysis Today*, 49(4), 441–451. [https://doi.org/10.1016/S0920-5861\(98\)00458-1](https://doi.org/10.1016/S0920-5861(98)00458-1)
- Wen, X.-J., Shen, C.-H., Fei, Z.-H., Fang, D., Liu, Z.-T., Dai, J.-T., & Niu, C.-G. (2020). Recent Developments on AgI Based Heterojunction Photocatalytic Systems in Photocatalytic Application. *Chemical Engineering Journal*, 383, 123083. <https://doi.org/10.1016/j.cej.2019.123083>
- Yao, W., Zhang, B., Huang, C., Ma, C., Song, X., & Xu, Q. (2012). Synthesis and characterization of high efficiency and stable  $\text{Ag}_3\text{PO}_4/\text{TiO}_2$  visible light photocatalyst for the degradation of methylene blue and rhodamine B solutions. *Journal of Materials Chemistry*, 22(9), 4050. <https://doi.org/10.1039/c2jm14410g>
- Zakria, H. S., Othman, M. H. D., Kamaludin, R., Sheikh Abdul Kadir, S. H., Kurniawan, T. A., & Jilani, A. (2021). Immobilization techniques of a photocatalyst into and onto a polymer membrane for photocatalytic activity. *RSC Advances*, 11(12), 6985–7014. <https://doi.org/10.1039/d0ra10964a>
- Zhang, Z., Jiang, D., Xing, C., Chen, L., Chen, M., & He, M. (2015). Novel AgI-decorated  $\beta\text{-Bi}_2\text{O}_3$  nanosheet heterostructured Z-scheme photocatalysts for efficient degradation of organic pollutants with enhanced performance. *Dalton Transactions*, 44(25), 11582–11591. <https://doi.org/10.1039/c5dt00298b>