

DAFTAR PUSTAKA

- Altaf, S., Zafar, R., Zaman, W.Q., Ahmad, S., Yaqoob, K., Syed, A., Khan, A.J., Bilal, M. dan Arshad, M., 2021, Removal of levofloxacin from aqueous solution by green synthesized magnetite (Fe₃O₄) nanoparticles using Moringa olifera: Kinetics and reaction mechanism analysis, *Ecotoxicology and Environmental Safety*, 226.
- Arista, D., Rachmawati, A., Ramadhani, N., Saputro, R.E., Taufiq, A. dan Sunaryono, 2019, Antibacterial Performance of Fe₃O₄/PEG-4000 Prepared by Coprecipitation Route, Dalam, *IOP Conference Series: Materials Science and Engineering*, Institute of Physics Publishing.,
- Bai, H., Li, C. dan Shi, G., 2011, Functional composite materials based on chemically converted graphene, *Advanced Materials*, 23, 9, 1089–1115.
- Banerjee, S., Benjwal, P., Singh, M. dan Kar, K.K., 2018, Graphene oxide (rGO)-metal oxide (TiO₂/Fe₃O₄) based nanocomposites for the removal of methylene blue, *Applied Surface Science*, 439, 560–568.
- Barquín, C., Rivero, M.J. dan Ortiz, I., 2022, Shedding light on the performance of magnetically recoverable TiO₂/Fe₃O₄/rGO-5 photocatalyst. Degradation of S-metolachlor as case study, *Chemosphere*, 307.
- Beiser, A., 2003, *Concepts of Modern Physics*, edisi ke 6th, McGraw-Hill.
- Beketova, D., Motola, M., Sopha, H., Michalicka, J., Cicmancova, V., Dvorak, F., Hromadko, L., Frumarova, B., Stoica, M. dan Macak, J.M., 2020, One-Step Decoration of TiO₂ Nanotubes with Fe₃O₄ Nanoparticles: Synthesis and Photocatalytic and Magnetic Properties, *ACS Applied Nano Materials*, 3, 2, 1553–1563.
- Bibi, S., Ahmad, A., Anjum, M.A.R., Haleem, A., Siddiq, M., Shah, S.S. dan Kahtani, A. Al, 2021, Photocatalytic degradation of malachite green and methylene blue over reduced graphene oxide (rGO) based metal oxides (rGO-Fe₃O₄/TiO₂)

- nanocomposite under UV-visible light irradiation, *Journal of Environmental Chemical Engineering*, 9, 4.
- Byranvand M.M., Kharat, A.N., Fatholahi, L. dan Beiranvand, M.Z., 2013, *A Review on Synthesis of Nano-TiO₂ via Different Methods*,
- Cameron, J.M., Bruno, C., Parachalil, D.R., Baker, M.J., Bonnier, F., Butler, H.J. dan Byrne, H.J., 2020, Vibrational spectroscopic analysis and quantification of proteins in human blood plasma and serum, Dalam, *Vibrational Spectroscopy in Protein Research: from Purified Proteins to Aggregates and Assemblies*, Elsevier, hlm. 269–314.,
- Carneiro, P., Morais, S. dan Pereira, M.C., 2019, Nanomaterials towards biosensing of Alzheimer's disease biomarkers, *Nanomaterials*, 9, 12.
- Casbeer, E., Sharma, V.K. dan Li, X.Z., 2012, Synthesis and photocatalytic activity of ferrites under visible light: A review, *Separation and Purification Technology*, 87, 1–14.
- Cuana, R., Panre, A.M., Istiqomah, N.I., Tumbelaka, R.M., Sunaryono, Wicaksono, S.T. dan Suharyadi, E., 2022, Green Synthesis of Fe₃O₄/Chitosan Nanoparticles Utilizing Moringa Oleifera Extracts and Their Surface Plasmon Resonance Properties, *ECS Journal of Solid State Science and Technology*, 11, 8, 083015.
- Cui, Y., Zheng, J., Wang, Z., Li, B., Yan, Y. dan Meng, M., 2021, Magnetic induced fabrication of core-shell structure Fe₃O₄@TiO₂ photocatalytic membrane: Enhancing photocatalytic degradation of tetracycline and antifouling performance, *Journal of Environmental Chemical Engineering*, 9, 6.
- Din, M.I., Khalid, R., Najeeb, J. dan Hussain, Z., 2021, Fundamentals and photocatalysis of methylene blue dye using various nanocatalytic assemblies- a critical review, *Journal of Cleaner Production*, 298.
- Fan, H., Yi, G., Zhang, X., Xing, B., Zhang, C., Chen, L. dan Zhang, Y., 2021, Facile synthesis of uniformly loaded Fe₃O₄-TiO₂/RGO ternary hybrids for enhanced photocatalytic activities, *Optical Materials*, 111.

- Ganapathe, L.S., Mohamed, M.A., Yunus, R.M. dan Berhanuddin, D.D., 2020, Magnetite (Fe₃O₄) nanoparticles in biomedical application: From synthesis to surface functionalisation, *Magnetochemistry*, 6, 4, 1–35.
- Ghanbarnezhad, S., Baghshahi, S., Nemati, A. dan Mahmoodi, M., 2017, Preparation, magnetic properties, and photocatalytic performance under natural daylight irradiation of Fe₃O₄-ZnO core/shell nanoparticles designed on reduced GO platelet, *Materials Science in Semiconductor Processing*, 72, 85–92.
- Ghereghlou, M., Esmaili, A.A. dan Darroudi, M., 2022, Adsorptive Removal of Methylene Blue from Aqueous Solutions Using Magnetic Fe₃O₄@C-dots: Removal and kinetic studies, *Separation Science and Technology (Philadelphia)*, 57, 13, 2005–2023.
- Ghereghlou, M., Esmaili, A.A. dan Darroudi, M., 2021, Preparation of Fe₃O₄@C-dots as a recyclable magnetic nanocatalyst using *Elaeagnus angustifolia* and its application for the green synthesis of formamidines, *Applied Organometallic Chemistry*, 35, 11.
- Guimaraes, A.P., 2009, *Principles of Nanomagnetism*, Springer, Berlin.
- Hasany F., S., Ahmed, I., J. R. dan Rehman, A., 2013, Systematic Review of the Preparation Techniques of Iron Oxide Magnetic Nanoparticles, *Nanoscience and Nanotechnology*, 2, 6, 148–158.
- Higashimoto, S., 2019, Titanium-dioxide-based visible-light-sensitive photocatalysis: Mechanistic insight and applications, *Catalysts*, 9, 2.
- Istiqomah, N.I., Muzakki, A.T., Nofrianti, A., Suharyadi, E., Kato, T. dan Iwata, S., 2020, *The Effect of Silica on Photocatalytic Degradation of Methylene Blue Using Silica-Coated NiZn Ferrite Nanoparticles*, www.scientific.net.,
- Kalam, A., Al-Sehemi, A.G., Assiri, M., Du, G., Ahmad, T., Ahmad, I. dan Pannipara, M., 2018, Modified solvothermal synthesis of cobalt ferrite (CoFe₂O₄) magnetic nanoparticles photocatalysts for degradation of methylene blue with H₂O₂/visible light, *Results in Physics*, 8, 1046–1053.

- Khan, Idrees, Saeed, K., Zekker, I., Zhang, B., Hendi, A.H., Ahmad, A., Ahmad, S., Zada, N., Ahmad, H., Shah, L.A., Shah, T. dan Khan, Ibrahim, 2022, Review on Methylene Blue: Its Properties, Uses, Toxicity and Photodegradation, *Water (Switzerland)*, 14, 2.
- Kocijan, M., Ćurković, L., Gonçalves, G. dan Podlogar, M., 2022, The Potential of rGO@TiO₂ Photocatalyst for the Degradation of Organic Pollutants in Water, *Sustainability (Switzerland)*, 14, 19.
- Koyyati, R., Rao Kudle, K., babu Nagati, V., Nalvothula, R., Merugu, R., Marx, P. dan Rudra Manthur Padigya, P., 2014, Antibacterial activity of silver nanoparticles synthesized using Amaranthus viridis twig extract, *International Journal of Research in Pharmaceutical Sciences*, 5, 1, 32–39. <https://www.researchgate.net/publication/261366154>,.
- Kumar A., Katiyar A., Gautam V., Singh R., dan Dubey A., 2022, A Comprehensive Review on Anti-Cancer Properties of Amaranthus viridis, *Journal for Research in Applied Sciences and Biotechnology*, 1, 3, 178–185.
- Li Puma, G., Bono, A., Krishnaiah, D. dan Collin, J.G., 2008, Preparation of titanium dioxide photocatalyst loaded onto activated carbon support using chemical vapor deposition: A review paper, *Journal of Hazardous Materials*, 157, 2–3, 209–219.
- Li, Z.Q., Wang, H.L., Zi, L.Y., Zhang, J.J. dan Zhang, Y.S., 2015, Preparation and photocatalytic performance of magnetic TiO₂–Fe₃O₄/graphene (RGO) composites under VIS-light irradiation, *Ceramics International*, 41, 9, 10634–10643.
- Makula, P., Pacia, M. dan Macyk, W., 2018, How To Correctly Determine the Band Gap Energy of Modified Semiconductor Photocatalysts Based on UV-Vis Spectra, *Journal of Physical Chemistry Letters*, 9, 23, 6814–6817.
- Mallenakuppe, R., Homabalegowda, H., Gouri, M.D., Basavaraju, P.S. dan Chandrashekharaiiah, U.B., 2019, History, Taxonomy and Propagation of Moringa oleifera-A Review, *SSR Institute of International Journal of Life Sciences*, 5, 3, 2322–2327.

- McMahon, G., 2007, *Analytical Instrumentation A Guide to Laboratory, Portable and Miniaturized Instruments*, edisi ke 1st, John Wiley dan Sons, Ltd, Dublin.
- Mihai, A.D., Chircov, C., Grumezescu, A.M. dan Holban, A.M., 2020, Magnetite nanoparticles and essential oils systems for advanced antibacterial therapies, *International Journal of Molecular Sciences*, 21, 19, 1–24.
- Moacă, E.-A., Watz, C.-G., Socoliuc, V., Racoviceanu, R., Păcurariu, C., Ianoș, R., Cîntă-Pînzaru, S., Tudoran, L., Nekvapil, F., Iurciuc, S., Șoica, C. dan Dehelean, C.-A., 2021, Biocompatible Magnetic Colloidal Suspension Used as a Tool for Localized Hyperthermia in Human Breast Adenocarcinoma Cells: Physicochemical Analysis and Complex In Vitro Biological Profile, *Nanomaterials*, 11, 5, 1189.
- Mondal, A., Prabhakaran, A., Gupta, S. dan Subramanian, V.R., 2021, Boosting Photocatalytic Activity Using Reduced Graphene Oxide (RGO)/Semiconductor Nanocomposites: Issues and Future Scope, *ACS Omega*, 6, 13, 8734–8743.
- Mondal, S., De Anda Reyes, M.E. dan Pal, U., 2017, Plasmon induced enhanced photocatalytic activity of gold loaded hydroxyapatite nanoparticles for methylene blue degradation under visible light, *RSC Advances*, 7, 14, 8633–8645.
- Munajad, A., Subroto, C. dan Suwarno, 2018, Fourier transform infrared (FTIR) spectroscopy analysis of transformer paper in mineral oil-paper composite insulation under accelerated thermal aging, *Energies*, 11, 2.
- Nabi, G., Raza, W. dan Tahir, M.B., 2020, Green Synthesis of TiO₂ Nanoparticle Using Cinnamon Powder Extract and the Study of Optical Properties, *Journal of Inorganic and Organometallic Polymers and Materials*, 30, 4, 1425–1429.
- Nguyen, M.D., Tran, H.V., Xu, S. dan Lee, T.R., 2021, Fe₃O₄ nanoparticles: Structures, synthesis, magnetic properties, surface functionalization, and emerging applications, *Applied Sciences (Switzerland)*, 11, 23.
- Niculescu, A.G., Chircov, C. dan Grumezescu, A.M., 2022, Magnetite nanoparticles: Synthesis methods – A comparative review, *Methods*, 199, 16–27.

- Nyamukamba, P., Okoh, O., Mungondori, H., Taziwa, R. dan Zinya, S., 2018, Synthetic Methods for Titanium Dioxide Nanoparticles: A Review, Dalam, *Titanium Dioxide - Material for a Sustainable Environment*, InTech.,
- Ogbuagu, E.O., Ekenjoku, J., Airaodion, Edith Oloseuan, Airaodion, A.I., Ogbuagu, U., Ekenjoku, J.A. dan Airaodion, Edith O, 2019, Protective Effect of Ethanolic Leaf Extract of Moringa oleifera on Haematological Indices of Rats Fed with Crude Oil-Treated Diet, *International Journal of Bio-Science and Bio-Technology*. <https://www.researchgate.net/publication/335691689>,.
- Park, S., An, J., Potts, J.R., Velamakanni, A., Murali, S. dan Ruoff, R.S., 2011, Hydrazine-reduction of graphite- and graphene oxide, *Carbon*, 49, 9, 3019–3023.
- Parlayici, Ş., 2019, Alginate-coated perlite beads for the efficient removal of methylene blue, malachite green, and methyl violet from aqueous solutions: kinetic, thermodynamic, and equilibrium studies, *Journal of Analytical Science and Technology*, 10, 1.
- Phanjom, P., 2012, Green Synthesis of Silver Nanoparticles using Leaf Extract of Amaranthus Viridis, *International Journal of Nanotechnology and Applications*. <https://www.researchgate.net/publication/273762430>,.
- Prasad, C., Gangadhara, S. dan Venkateswarlu, P., 2016, Bio-inspired green synthesis of Fe₃O₄ magnetic nanoparticles using watermelon rinds and their catalytic activity, *Applied Nanoscience (Switzerland)*, 6, 6, 797–802.
- Rani, P., Dahiya, R., Bulla, M., Devi, R., Jeet, K., Jatana, A. dan Kumar, V., 2023, Hydrothermal-assisted green synthesis of reduced graphene oxide nanosheets (rGO) using lemon (Citrus Limon) peel extract, *Materials Today: Proceedings*.
- Roy, S.D., Das, K.C. dan Dhar, S.S., 2021, Conventional to green synthesis of magnetic iron oxide nanoparticles; its application as catalyst, photocatalyst and toxicity: A short review, *Inorganic Chemistry Communications*, 134.
- Saini, R. dan Kumar, P., 2023, Green synthesis of TiO₂ nanoparticles using Tinospora cordifolia plant extract dan its potential application for photocatalysis and antibacterial activity, *Inorganic Chemistry Communications*, 156.

- Sari, E.K., Marsel Tumbelaka, R., Ardiyanti, H., Imani Istiqomah, N., Chotimah dan Suharyadi, E., 2023, Green Synthesize of Magnetically Separable and Reusable Fe₃O₄/Cdots Nanocomposites Photocatalyst utilizing Moringa Oleifera Extract and Watermelon Peel for Rapid Dye Degradation, *Carbon Resources Conversion*. <https://linkinghub.elsevier.com/retrieve/pii/S2588913323000352>,.
- Scarpelli, F., Mastropietro, T.F., Poerio, T. dan Godbert, N., 2018, Mesoporous TiO₂ Thin Films: State of the Art, Dalam, *Titanium Dioxide - Material for a Sustainable Environment*, InTech.,
- Setiadji, S., Nuryadin, B.W., Ramadhan, H., Sundari, C.D.D., Sudiarti, T., Supriadin, A. dan Ivansyah, A.L., 2018, Preparation of reduced Graphene Oxide (rGO) assisted by microwave irradiation and hydrothermal for reduction methods, Dalam, *IOP Conference Series: Materials Science and Engineering*, Institute of Physics Publishing.,
- Singh, J., Dutta, T., Kim, K.H., Rawat, M., Samddar, P. dan Kumar, P., 2018, “Green” synthesis of metals and their oxide nanoparticles: Applications for environmental remediation, *Journal of Nanobiotechnology*, 16, 1.
- Singh, M., Goyal, M. dan Devlal, K., 2018, Size and shape effects on the band gap of semiconductor compound nanomaterials, *Journal of Taibah University for Science*, 12, 4, 470–475.
- Stan, C. V., Beavers, C.M., Kunz, M. dan Tamura, N., 2018, X-ray diffraction under extreme conditions at the advanced light source, *Quantum Beam Science*, 2, 1.
- Tan, B., Han, S., Luo, W., Chao, Z., Fan, J. dan Wang, M., 2020, Synthesis of RGO-supported layered MoS₂ with enhanced electrochemical performance for aluminum ion batteries, *Journal of Alloys and Compounds*, 841.
- Tedsree, K., Temnuch, N., Sriplai, N. dan Pinitsoontorn, S., 2017, Ag modified Fe₃O₄@TiO₂ magnetic core-shell nanocomposites for photocatalytic degradation of methylene blue, Dalam, *Materials Today: Proceedings*, Elsevier Ltd, hlm. 6576–6584.,

- Tovar, G.I., Briceño, S., Suarez, J., Flores, S. dan González, G., 2020, Biogenic synthesis of iron oxide nanoparticles using Moringa oleifera and chitosan and its evaluation on corn germination, *Environmental Nanotechnology, Monitoring and Management*, 14.
- Venkateswarlu, S., Kumar, B.N., Prathima, B., SubbaRao, Y. dan Jyothi, N.V.V., 2019, A novel green synthesis of Fe₃O₄ magnetic nanorods using Punica Granatum rind extract and its application for removal of Pb(II) from aqueous environment, *Arabian Journal of Chemistry*, 12, 4, 588–596.
- Vongsak, B., Sithisarn, P., Mangmool, S., Thongpraditchote, S., Wongkrajang, Y. dan Gritsanapan, W., 2013, Maximizing total phenolics, total flavonoids contents and antioxidant activity of Moringa oleifera leaf extract by the appropriate extraction method, *Industrial Crops and Products*, 44, 566–571.
- Wang, W., Xiao, K., Zhu, L., Yin, Y. dan Wang, Z., 2017, Graphene oxide supported titanium dioxide dan ferroferric oxide hybrid, a magnetically separable photocatalyst with enhanced photocatalytic activity for tetracycline hydrochloride degradation, *RSC Advances*, 7, 34, 21287–21297.
- Wibowo, N.A., Juharni, J., Sabarman, H. dan Suharyadi, E., 2021, A Spin-Valve GMR Based Sensor with Magnetite@silver Core-Shell Nanoparticles as a Tag for Bovine Serum Albumin Detection, *ECS Journal of Solid State Science and Technology*, 10, 10, 107002.
- Wojciechowska, A., Markowska-Szczupak, A. dan Lendzion-Bieluń, Z., 2022, TiO₂-Modified Magnetic Nanoparticles (Fe₃O₄) with Antibacterial Properties, *Materials*, 15, 5.
- Yang, X., Chen, W., Huang, J., Zhou, Y., Zhu, Y. dan Li, C., 2015, Rapid degradation of methylene blue in a novel heterogeneous Fe₃O₄ @rGO@TiO₂-catalyzed photo-Fenton system, *Scientific Reports*, 5.
- Yousefinejad, S., Rasti, H., Hajebi, M., Kowsari, M., Sadravi, S. dan Honarasa, F., 2017, Design of C-dots/Fe₃O₄ magnetic nanocomposite as an efficient new

nanozyme and its application for determination of H₂O₂ in nanomolar level, *Sensors and Actuators, B: Chemical*, 247, 691–696.

Yusefi, M., Shameli, K., Yee, O.S., Teow, S.Y., Hedayatnasab, Z., Jahangirian, H., Webster, T.J. dan Kuča, K., 2021, Green synthesis of fe₃o₄ nanoparticles stabilized by a garcinia mangostana fruit peel extract for hyperthermia and anticancer activities, *International Journal of Nanomedicine*, 16, 2515–2532.

Zahra, Y.H., 2023, Green Synthesis CoFe₂O₄/TiO₂ nanokomposit menggunakan ekstrak daun moringa oleifera untuk fotodegradasi limbah methylene blue, *Skripsi*, Fakultas Sains dan Teknologi, Universitas Islam Negeri Sunan Gunung Djati, Bandung.

Zhang, W., Sun, A., Pan, X., Han, Y., Zhao, X., Yu, L., Zuo, Z. dan Suo, N., 2020, Magnetic transformation of Zn-substituted Mg-Co ferrite nanoparticles: Hard magnetism → soft magnetism, *Journal of Magnetism and Magnetic Materials*, 506.