

DAFTAR REFERENSI

- Abid, Sehwat P., Islam S. S., Mishra P., dan Ahmad S., (2018), Reduced graphene oxide (rGO) based wideband optical sensor and the role of Temperature, Defect States and Quantum Efficiency. *Sci. Rep.*, **8**(1), 1–13, DOI: 10.1038/s41598-018-21686-2.
- Afandi R. dan Purwanto A., (2018), Spektrofotometer Cahaya Tampak...(Riski Afandi)161 Spketofrmeter Cahaya Tampak Sederhana Untuk Menentukan Panjang Gelombang Serapan Maksimum Larutan Fe(SCN) 3 DAN CuSO 4 Simple Visible Light Spectroscopy to Determine The Maximum Absorbance Wavelength of. *J. Spektrofotom. Cahaya Tampak*, **2**(4), 161–166.
- Alharthi F. A., Alsyahi A. A., Alshammari S. G., AL-Abdulkarim H. A., AlFawaz A., dan Alsalm A., (2022), Synthesis and Characterization of rGO@ZnO Nanocomposites for Esterification of Acetic Acid. *ACS Omega*, **7**(3), 2786–2797, DOI: 10.1021/acsomega.1c05565.
- Ali A., Chiang Y. W., dan Santos R. M., (2022), X-Ray Diffraction Techniques for Mineral Characterization: A Review for Engineers of the Fundamentals, Applications, and Research Directions. *Minerals*, **12**(2), DOI: 10.3390/min12020205.
- Alulema-Pullupaxi P., Espinoza-Montero P. J., Sigcha-Pallo C., Vargas R., Fernández L., Peralta-Hernández J. M., dan Paz J. L., (2021), Fundamentals and applications of photoelectrocatalysis as an efficient process to remove pollutants from water: A review. *Chemosphere*, **281**(May), DOI: 10.1016/j.chemosphere.2021.130821.
- An M., Boyajian M. E., dan O'Brien K. E., (2016), Perceived victimization as the mechanism underlying the relationship between work stressors and counterproductive work behaviors. *Hum. Perform.*, **29**(5), 347–361, DOI: 10.1080/08959285.2016.1172585.
- Avornyo A. dan Chrysikopoulos C. V., (2024), Applications of graphene oxide (GO) in oily wastewater treatment: Recent developments, challenges, and opportunities. *J. Environ. Manage.*, **353**(January), 120178, DOI: 10.1016/j.jenvman.2024.120178.
- Azarang M., Shuhaimi A., Yousefi R., dan Jahromi S. P., (2015), One-pot sol-gel synthesis of reduced graphene oxide uniformly decorated zinc oxide nanoparticles in starch environment for highly efficient photodegradation of Methylene Blue. *RSC Adv.*, **5**(28), 21888–21896, DOI: 10.1039/c4ra16767h.

- Bharath, Banat F., dan Abu Haija M., (2023), Photoelectrochemical advanced oxidation processes for simultaneous removal of antibiotics and heavy metal ions in wastewater using 2D-on-2D WS₂@CoFe₂O₄ heteronanostructures. *Environ. Pollut.*, **339**(September), 122753, DOI: 10.1016/j.envpol.2023.122753.
- Bondarenko E. A., Mazanik A. V., Streltsov E. A., Kulak A. I., dan Korolik O. V., (2015), SnO₂/reduced graphene oxide composite films for electrochemical applications. *Mater. Sci. Eng. B*, **202**, 61–67, DOI: 10.1016/j.mseb.2015.10.002.
- Braga A. V. de C., do Lago D. C. B., Lima E. R. de A., dan de Senna L. F., (2023), The effects of aging time on the sol-gel properties and its relationship with the anti-corrosive performance of coatings prepared by sol-gel dip coating. *J. Mater. Res. Technol.*, **27**(October), 5594–5606, DOI: 10.1016/j.jmrt.2023.10.292.
- Bramhaiah K., Singh V. N., dan John N. S., (2016), Hybrid materials of ZnO nanostructures with reduced graphene oxide and gold nanoparticles: Enhanced photodegradation rates in relation to their composition and morphology. *Phys. Chem. Chem. Phys.*, **18**(3), 1478–1486, DOI: 10.1039/c5cp05081b.
- Chan S. H. S., Wu T. Y., Juan J. C., dan Teh C. Y., (2011), Recent developments of metal oxide semiconductors as photocatalysts in advanced oxidation processes (AOPs) for treatment of dye waste-water. *J. Chem. Technol. Biotechnol.*, **86**(9), 1130–1158, DOI: 10.1002/jctb.2636.
- Chen Y., Zou C., Mastalerz M., Hu S., Gasaway C., dan Tao X., (2015), Applications of micro-fourier transform infrared spectroscopy (FTIR) in the geological sciences—A Review. *Int. J. Mol. Sci.*, **16**(12), 30223–30250, DOI: 10.3390/ijms161226227.
- Choudhury S. P. dan Nakate U. T., (2022), Study of improved VOCs sensing properties of boron nitride quantum dots decorated nanostructured 2D-ZnO material. *Ceram. Int.*, **48**(19), 28935–28941, DOI: 10.1016/j.ceramint.2022.04.068.
- Chu M. C., You H. C., Meena J. S., Shieh S. H., Shao C. Y., Chang F. C., dan Ko F. H., (2012), Facile electroless deposition of zinc oxide ultrathin film for zinc acetate solution-processed transistors. *Int. J. Electrochem. Sci.*, **7**(7), 5977–5989, DOI: 10.1016/s1452-3981(23)19455-7.
- Cronqvist P., (2019), Chemistry of Ascorbic Acid Reduction of Graphene Oxide Reduction of Graphene Oxide in Solution and Film. *Appl. Phys.*

- Edwards R. S. dan Coleman K. S., (2013), Graphene synthesis: Relationship to applications. *Nanoscale*, **5**(1), 38–51, DOI: 10.1039/c2nr32629a.
- Eigler S. dan Hirsch A., (2014), Chemistry with graphene and graphene oxide - Challenges for synthetic chemists. *Angew. Chemie - Int. Ed.*, **53**(30), 7720–7738, DOI: 10.1002/anie.201402780.
- Eka Putri L., (2017), Penentuan Konsentrasi Senyawa Berwarna KMnO₄ Dengan Metoda Spektroskopi UV Visible. *Nat. Sci. J.*, **3**(1), 391–398.
- Feicht P. dan Eigler S., (2018), Defects in Graphene Oxide as Structural Motifs. *ChemNanoMat*, **4**(3), 244–252, DOI: 10.1002/cnma.201700357.
- Gao J., Liu F., Liu Y., Ma N., Wang Z., dan Zhang X., (2010), Environment-friendly method to produce graphene that employs vitamin C and amino acid. *Chem. Mater.*, **22**(7), 2213–2218, DOI: 10.1021/cm902635j.
- Geim, A., Novoselov K., (2007), The Rise of Graphene. *Nat. Mater*, 183–191, DOI: 10.1007/978-3-319-70329-9.
- Geurts J., (2010), Crystal structure, chemical binding, and lattice properties. *Springer Ser. Mater. Sci.*, **120**, 7–37, DOI: 10.1007/978-3-642-10577-7_2.
- Ghorbani M., Abdizadeh H., Taheri M., dan Golobostanfard M. R., (2018), Enhanced photoelectrochemical water splitting in hierarchical porous ZnO/Reduced graphene oxide nanocomposite synthesized by sol-gel method. *Int. J. Hydrogen Energy*, **43**(16), 7754–7763, DOI: 10.1016/j.ijhydene.2018.03.052.
- Gunputh U. dan Le H., (2017), Composite coatings for implants and tissue engineering scaffolds., DOI: 10.1016/B978-0-08-100752-5.00006-8.
- Habte A. T., Ayele D. W., dan Hu M., (2019), Synthesis and Characterization of Reduced Graphene Oxide (rGO) Started from Graphene Oxide (GO) Using the Tour Method with Different Parameters. *Adv. Mater. Sci. Eng.*, **2019**(Vc), DOI: 10.1155/2019/5058163.
- Hembacher S., Giessibl F. J., Mannhart J., dan Quate C. F., (2003), Revealing the hidden atom in graphite by low-temperature atomic force microscopy. *Proc. Natl. Acad. Sci. U. S. A.*, **100**(22), 12539–12542, DOI: 10.1073/pnas.2134173100.
- Jiang B., Wang Y., Wang D., Yao M., Fan C., dan Dai J., (2019), Modifying graphite felt cathode by HNO₃ or KOH to improve the degradation efficiency of electro-Fenton for landfill leachate. *Water Sci. Technol.*, **80**(12), 2412–2421, DOI: 10.2166/wst.2020.072.

- Jiang W., Zhang F., dan Lin Q., (2022), Flexible relative humidity sensor based on reduced graphene oxide and interdigital electrode for smart home. *Micro Nano Lett.*, **17**(6), 134–138, DOI: 10.1049/mna2.12116.
- Jubu P. R., Obaseki O. S., Nathan-Abutu A., Yam F. K., Yusof Y., dan Ochang M. B., (2022), Dispensability of the conventional Tauc's plot for accurate bandgap determination from UV–vis optical diffuse reflectance data. *Results Opt.*, **9**(May), 100273, DOI: 10.1016/j.rio.2022.100273.
- Kabir M. H., Ali M. M., Kaiyum M. A., dan Rahman M. S., (2019), Effect of annealing temperature on structural morphological and optical properties of spray pyrolyzed Al-doped ZnO thin films. *J. Phys. Commun.*, **3**(10), DOI: 10.1088/2399-6528/ab496f.
- Khan M. U. dan Shaida M. A., (2023), Reduction mechanism of graphene oxide including various parameters affecting the C/O ratio. *Mater. Today Commun.*, **36**(February), 106577, DOI: 10.1016/j.mtcomm.2023.106577.
- Kong T., Chen Y., Ye Y., Zhang K., Wang Z., dan Wang X., (2009), An amperometric glucose biosensor based on the immobilization of glucose oxidase on the ZnO nanotubes. *Sensors Actuators, B Chem.*, **138**(1), 344–350, DOI: 10.1016/j.snb.2009.01.002.
- Kujawska A., Kiełkowska U., Atisha A., Yanful E., dan Kujawski W., (2022), Comparative analysis of separation methods used for the elimination of pharmaceuticals and personal care products (PPCPs) from water – A critical review. *Sep. Purif. Technol.*, **290**(March), DOI: 10.1016/j.seppur.2022.120797.
- Kumar S., Kaushik R. D., Upadhyay G. K., dan Purohit L. P., (2021), rGO-ZnO nanocomposites as efficient photocatalyst for degradation of 4-BP and DEP using high temperature refluxing method in in-situ condition. *J. Hazard. Mater.*, **406**(October 2020), 124300, DOI: 10.1016/j.jhazmat.2020.124300.
- Kusrini E., Suhrowati A., Usman A., Khalil M., dan Degirmenci V., (2019), Synthesis and characterization of graphite oxide, graphene oxide, and reduced graphene oxide from graphite waste using modified hummers' method and zinc as reducing agent. *Int. J. Technol.*, **10**(6), 1093–1104, DOI: 10.14716/ijtech.v10i6.3639.
- Lai C. W., Bee Abd Hamid S., Tan T. L., dan Lee W. H., (2015), Rapid Formation of 1D Titanate Nanotubes Using Alkaline Hydrothermal Treatment and Its Photocatalytic Performance. *J. Nanomater.*, **2015**, 1–8, DOI: 10.1155/2015/145360.

- Le G. T. T., Chanlek N., Manyam J., Opaprakasit P., Grisdanurak N., dan Sreearunothai P., (2019), Insight into the ultrasonication of graphene oxide with strong changes in its properties and performance for adsorption applications. *Chem. Eng. J.*, **373**(June 2020), 1212–1222, DOI: 10.1016/j.cej.2019.05.108.
- Louis J., Padmanabhan N. T., Jayaraj M. K., dan John H., (2024), Exploring enhanced interfacial charge separation in ZnO/reduced graphene oxide hybrids on alkaline photoelectrochemical water splitting and photocatalytic pollutant degradation. *Mater. Res. Bull.*, **169**(September 2023), 112542, DOI: 10.1016/j.materresbull.2023.112542.
- Marcano D. C., Kosynkin D. V, Berlin J. M., Sinitskii A., Sun Z., Slesarev A., dkk., (2010), Improved Synthesis of Graphene Oxide. *ACS Nano*, **4**(8), 4806–4814, DOI: 10.1021/nn1006368.
- Masta N., (2020), *Buku Materi Pembelajaran Scanning Electron Microscopy*,.
- Morozzi P., Ballarin B., Arcozzi S., Brattich E., Lucarelli F., Nava S., dkk., (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. *Atmos. Environ.*, **252**(January), DOI: 10.1016/j.atmosenv.2021.118297.
- Namasivayam S. K. R., Grishma G., John A., Kavisri M., Khaled J. M., Thiruvengadam M., dan Moovendhan M., (2023), Biosorption of methylene blue in aqueous solution using structurally modified rice husk and its notable compatibility, biosafety potential – A sustainable approach towards the management of hazardous dyes. *J. Environ. Chem. Eng.*, **11**(6), 111274, DOI: 10.1016/j.jece.2023.111274.
- Noviarty N. dan Anggraini D., (2013), Analisis Neodimium Menggunakan Metoda Spektrofotometri Uv-Vis. *PIN Pengelolaan Instal. Nukl.*, (11), 9–17.
- Ossai A. N., Alabi A. B., Ezike S. C., dan Aina A. O., (2020), Zinc oxide-based dye-sensitized solar cells using natural and synthetic sensitizers. *Curr. Res. Green Sustain. Chem.*, **3**, 100043, DOI: 10.1016/j.crgsc.2020.100043.
- Özgür Ü., Alivov Y. I., Liu C., Teke A., Reshchikov M. A., Doğan S., dkk., (2005), A comprehensive review of ZnO materials and devices. *J. Appl. Phys.*, **98**(4), 1–103, DOI: 10.1063/1.1992666.
- Palma J. dan Garcia-quismondo E., (2023), Nanoporous oxide coating on carbon paper electrodes to enable bio-hydrogen production in microbial electrolysis cells. **422**(March), DOI: 10.1016/j.cattod.2023.114246.

- Popy D. A., Evans B. N., Jiang J., Creason T. D., Banerjee D., Loftus L. M., dkk., (2023), Intermolecular arrangement facilitated broadband blue emission in group-12 metal (Zn, Cd) hybrid halides and their applications. *Mater. Today Chem.*, **30**, 101502, DOI: 10.1016/j.mtchem.2023.101502.
- Pretorius E., (2010), Influence of acceleration voltage on scanning electron microscopy of human blood platelets. *Microsc. Res. Tech.*, **73**(3), 225–228, DOI: 10.1002/jemt.20778.
- Qin Z., Jung G. S., Kang M. J., dan Buehler M. J., (2017), The mechanics and design of a lightweight three-dimensional graphene assembly. *Sci. Adv.*, **3**(1), 1–8, DOI: 10.1126/sciadv.1601536.
- Raha S. dan Ahmaruzzaman M., (2022), ZnO nanostructured materials and their potential applications: progress, challenges and perspectives. *Nanoscale Adv.*, **4**(8), 1868–1925, DOI: 10.1039/d1na00880c.
- Ramos P. G., Luyo C., Sánchez L. A., Gomez E. D., dan Rodriguez J. M., (2020), The spinning voltage influence on the growth of zno-rgo nanorods for photocatalytic degradation of methyl orange dye. *Catalysts*, **10**(6), DOI: 10.3390/catal10060660.
- Riani M., Gintani T., dan Mutrofin S., (2023), The Effect of Magnetic Stirring Duration and Ascorbic Acid Concentration on the Yield of Reduced Graphene Oxide Isolated from East Kalimantan Bituminous Coal. *Int. J. Curr. Sci. Res. Rev.*, **06**(12), 8177–8186, DOI: 10.47191/ijcsrr/v6-i12-71.
- Ropp R. C., (2003), *Solid State Chemistry*, DOI: 10.1016/B978-0-444-51436-3.X5000-7.
- Sakshi Joshi A., Leela S., Elamurugu E., dan Deeparani T., (2023), Influence of GO and rGO on the structural and optical properties of ZnO photoelectrodes for energy harvesting applications. *Mater. Sci. Eng. B*, **299**(May 2023), 116938, DOI: 10.1016/j.mseb.2023.116938.
- Salwa S., Ahmad A., dan Mohamad A., (2013), *Synthesis of Zinc Oxide by Sol-Gel Method for Photoelectro-chemical Cells*.
- Shao G., Lu Y., Wu F., Yang C., Zeng F., dan Wu Q., (2012), Graphene oxide: The mechanisms of oxidation and exfoliation. *J. Mater. Sci.*, **47**(10), 4400–4409, DOI: 10.1007/s10853-012-6294-5.
- Si Y. dan Samulski E. T., (2008), Synthesis of Water Soluble Graphene. *Nano Lett.*, **8**, 1679.

- Silva De K. K. H., Huang H. H., dan Yoshimura M., (2018), Progress of reduction of graphene oxide by ascorbic acid. *Appl. Surf. Sci.*, **447**(March), 338–346, DOI: 10.1016/j.apsusc.2018.03.243.
- Singhal N., Selvaraj S., Sivalingam Y., dan Venugopal G., (2022), Study of photocatalytic degradation efficiency of rGO/ZnO nano-photocatalyst and their performance analysis using scanning Kelvin probe. *J. Environ. Chem. Eng.*, **10**(2), 107293, DOI: 10.1016/j.jece.2022.107293.
- Sivia D. S., (2011), Elementary Scattering Theory: For X-ray and Neutron Users., DOI: 10.1093/acprof:oso/9780199228676.001.0001.
- Sylvia N., Damanik S., Muhammad M., dan ZA N., (2022), Kajian Kolom Adsorpsi Zat Warna Methyl Orange menggunakan Adsorben dari Ampas Teh. *J. Teknol. Kim. Unimal*, **11**(2), 122, DOI: 10.29103/jtku.v11i2.8084.
- Tegua Doumbi R., Noumi G. B., dan Domga, (2021), Dip coating deposition of manganese oxide nanoparticles on graphite by sol gel technique for the indirect electrochemical oxidation of methyl orange dye: Parameter's optimization using box-behnken design. *Case Stud. Chem. Environ. Eng.*, **3**(December 2020), 100068, DOI: 10.1016/j.cscee.2020.100068.
- Thein M. T., Pung S. Y., Aziz A., dan Itoh M., (2015), The role of ammonia hydroxide in the formation of ZnO hexagonal nanodisks using sol–gel technique and their photocatalytic study. *J. Exp. Nanosci.*, **10**(14), 1068–1081, DOI: 10.1080/17458080.2014.953609.
- Tien H. N., Luan V. H., Lee T. K., Kong B. S., Chung J. S., Kim E. J., dan Hur S. H., (2012), Enhanced solvothermal reduction of graphene oxide in a mixed solution of sulfuric acid and organic solvent. *Chem. Eng. J.*, **211–212**, 97–103, DOI: 10.1016/j.cej.2012.09.046.
- Toe M. Z., Pung S. Y., Yaacob K. A. B., dan Han S. S., (2021), Effect of Dip-Coating Cycles on the Structural and Performance of ZnO Thin Film-based DSSC. *Arab. J. Sci. Eng.*, **46**(7), 6741–6751, DOI: 10.1007/s13369-021-05418-9.
- Vasiljevic Z. Z., Dojcinovic M. P., Vujancevic J. D., Jankovic-Castvan I., Ognjanovic M., Tadic N. B., dkk., (2020), Photocatalytic degradation of methylene blue under natural sunlight using iron titanate nanoparticles prepared by a modified sol-gel method: Methylene blue degradation with Fe₂TiO₅. *R. Soc. Open Sci.*, **7**(9), DOI: 10.1098/rsos.200708.
- Wen M. Y. S., Abdullah A. H., dan Ngee L. H., (2017), Sintesis nanohibrid ZnO/rGO untuk mempertingkatkan aktiviti fotopemangkinan. *Malaysian J. Anal. Sci.*, **21**(4), 889–900, DOI: 10.17576/mjas-2017-2104-15.

- Widiyandari H., Al Ja'farawy M. S., Parasdila H., Astuti Y., Arutanti O., dan Mufti N., (2023), Temperature impact on the morphological evolution of nitrogen-doped carbon quantum dot-decorated zinc oxide and its influence on highly efficient visible-light photocatalyst. *Phys. B Condens. Matter*, **669**(July), 415293, DOI: 10.1016/j.physb.2023.415293.
- Wulansarie R., Jannah R. F., Bismo S., Safitri R., dan Rengga W. D. P., (2023), Degradation of Methylene Blue Dye in Wastewater Using Ozonation Method with H₂O₂ Catalyst. *IOP Conf. Ser. Earth Environ. Sci.*, **1203**(1), DOI: 10.1088/1755-1315/1203/1/012051.
- Xu S., Fu L., Pham T. S. H., Yu A., Han F., dan Chen L., (2015), Preparation of ZnO flower/reduced graphene oxide composite with enhanced photocatalytic performance under sunlight. *Ceram. Int.*, **41**(3), 4007–4013, DOI: 10.1016/j.ceramint.2014.11.086.
- Xue B. dan Zou Y., (2018), Uniform distribution of ZnO nanoparticles on the surface of graphene and its enhanced photocatalytic performance. *Appl. Surf. Sci.*, **440**, 1123–1129, DOI: 10.1016/j.apsusc.2018.01.299.
- Yanlinastuti dan Fatimah S., (2016), Pengaruh Konsentrasi Pelarut untuk Menentukan Kadar Zirkonium dalam Paduan U-Zr dengan Menggunakan Metode Spektrofotometri UV-VIS. *PIN Pengelolaan Instal. Nukl.*, **1**(17), 22–33.
- Ye W. T., Wang Q., Feng X., Li Y., dan Wu X., (2018), Enhancement of photocatalytic performance in sonochemical synthesized ZnO-rGO nanocomposites owing to effective interfacial interaction. *Environ. Chem. Lett.*, **16**(1), 251–264, DOI: 10.1007/s10311-017-0651-1.
- Yue H., Zhu C., dan Rueping M., (2023), Trisaminocyclopropenium ion (TAC⁺) enables contiguous C–H bonds oxygenations via oxidative electrophotocatalysis. *Sci. Bull.*, **68**(4), 367–369, DOI: 10.1016/j.scib.2023.01.040.
- Yuliana D. dan Priyambodo E., (2022), Methyl Orange Dye Removal through Adsorption using TiO₂ modified Montmorillonite Granule. *Indones. J. Chem. Environ.*, **5**(1), 31–36, DOI: 10.21831/ijoc.v5i1.51824.
- Zhang D., Wang C., Liu Y., Shi Q., dan Wang W., (2012), High c-axis preferred orientation ZnO thin films prepared by oxidation of metallic zinc. *Opt. Laser Technol.*, **44**(4), 1136–1140, DOI: 10.1016/j.optlastec.2011.10.001.
- Zhang Jiali, Yang H., Shen G., Cheng P., Zhang Jingyan, dan Guo S., (2010), Reduction of graphene oxide via ascorbic acid. *Chem. Commun.*, **46**(7), 1112–1114, DOI: 10.1039/b917705a.

- Zhang Z. L., Zheng G., Qu F. Y., dan Wu X., (2012), ZnO microbowls grown on an ITO glass substrate through thermal evaporation. *Chinese Phys. B*, **21**(9), DOI: 10.1088/1674-1056/21/9/098104.
- Zhao N., Wu S., He C., Shi C., Liu E., Du X., dan Li J., (2012), Hierarchical porous carbon with graphitic structure synthesized by a water soluble template method. *Mater. Lett.*, **87**, 77–79, DOI: 10.1016/j.matlet.2012.07.085.
- Zhao Y., Liu L., Cui T., Tong G., dan Wu W., (2017), Enhanced photocatalytic properties of ZnO/reduced graphene oxide sheets (rGO) composites with controllable morphology and composition. *Appl. Surf. Sci.*, **412**, 58–68, DOI: 10.1016/j.apsusc.2017.03.207.
- Zhou Q. dan Yao H., (2022), Recent development of carbon electrode materials for electrochemical supercapacitors. *Energy Reports*, **8**, 656–661, DOI: 10.1016/j.egy.2022.09.167.
- Zyoud A., Zu'bi A., Helal M. H. S., Park D. H., Campet G., dan Hilal H. S., (2015), Optimizing photo-mineralization of aqueous methyl orange by nano-ZnO catalyst under simulated natural conditions. *J. Environ. Heal. Sci. Eng.*, **13**(1), DOI: 10.1186/s40201-015-0204-0.