

DAFTAR PUSTAKA

- Astuti, P., Idawati, N. dan Destiarti, L., 2016, Validasi Metode Pengukuran Kadar Asam Humat Hasil Ekstraksi Kalium Hidroksida dengan Spektrofotometri Ultraviolet, *JKK*, 2(5), 69-77.
- Basua, S. and Bhattacharyya, P., 2012, Recent developments on graphene and grafena oksida based solid state gas sensors, *Sens*, 173, 1-21
- Chakim, M. G., Mindari, W., Siswanto. and Sasongko, P. E., 2020, Humic Acid Characterization in Soil from Various Land Uses in Tutur District, Pasuruan Regency of East Java, *JDMLM*, 4(7), 2279-2286.
- Chen, L., Cui, X., Wang, Y., Wang, M., Qiu, R., Shu, Z., Zhang, L., Hua, Z., Cui, F., Weia, C. and Shi, J., 2014, One-Step Synthesis of Sulfur Doped Graphene Foam for Oxygen Reduction Reactions, *Dalton Trans.*, 9(43), 3420-3423.
- Choi, S. M., Seo, M. H., Kim, H. J., and Kim, W. B., 2011, Synthesis and Characterization of Graphene-Supported Metal Nanoparticles by Impregnation Method with Heat Treatment in H₂ Atmosphere, *Synth. Met.*, 161, 2405-2411.
- Chuntanalerg, P., Bureekaew, S., Klaysom, C., Lau, W.-J. and Faungnawakij, K., 2019, Advanced Nanomaterials for Membrane Synthesis and Its Applications, Elsevier Inc., Amsterdam, Belanda.
- Davis, W. M., Erickson, C. L., Johnston, C. T., Delfino, J. J. and Porter, J. E., 1999, Quantitative Fourier Transform Infrared spectroscopic investigation humic substance functional group composition, *Chemosphere*, 12(38), 2913–2928.
- De Melo, B. A. G., Motta, F. L. dan Santana, M. H. A., 2016, Humic acids: Structural properties and multiple functionalities for novel technological developments, *Mater. Sci. Eng. C*, 62, 967–974.
- Debnath, S., Ballav, N., Nyoni, H., Maity, A. and Pillay, K., 2015, Optimization and Mechanism Elucidation of The Catalytic Photo-Degradation of The Dyes Eosin Yellow (EY) and Metilen Biru (NBB) by Polyaniline-Coated Titanium Dioxide Nanocomposite, *Appl. Catal. B.*, 163, 330-34.
- Dimiev, A.M. and Tour, J.M., 2014, Mechanism of Grafena oksida Formation, *ACS Nano*, 8, 3060–3068.
- Ferkous, H., Hamdaoui, O. and Merouani, S., 2015, Sonochemical Degradation of Naphtol Blue Black in Water: Effect of Operating Parameters, *Ultrason Sonochem*, 26, 40-47

- Giannakoudakis, D. A. and Bandosz, T. J., 2019, Graphite Oxide Nanocomposites for Air Stream Desulfurization, *Composite Nanoadsorbents*, 1–24.
- Gomes, L., Miwa, D. W., Malpass, G. R. P. and Motheo, A. J., 2011, Electrochemical Degradation of The Dye Reactive Orange 16 Using Electrochemical Flow-Cell, *J. Braz. Chem. Soc*, 7(22), 1299–1306.
- Güell, R., Aragay, G., Fontàs, C., Anticó, E. and Merkoçi, A., 2008, Sensitive and Stable Monitoring Of Lead and Cadmium in Seawater Using Screen-Printed Electrode and Electrochemical Stripping Analysis, *Anal. Chim. Acta*, 2(627), 219–224.
- Handoko, T. I., Riyanto, and Julianto, T. S., 2014, Degradation of Laundry Waste Water by Electrolysis Method Using Carbon Electrode, *Indo.J.Chem.Res.*, 1(2), 61-73.
- Hawa, L. C., Lastriyanto, A. dan Ervantri, A. A., 2019, Analisis Sifat Fisik dan Kandungan Gizi Produk Krim Susu Menggunakan Teknologi Sentrifugasi, *JRPB*, 2(7), 196-206.
- Huang, G., Kang, W., Geng, Q., Xing, B., Liu, Q., Jia, J. and Zhang, C., 2018, One-Step Green Hydrothermal Synthesis of Few-Layer Grafena oksida from Humic Acid, *Nanomater*, 4(8), 215.
- Huang, G., Kang, W., Xing, B., Chen, L. and Zhang, C., 2016, Oxygen-rich and Hierarchical Porous Carbons Prepared from Coal Based Humic Acid for Supercapacitor Electrodes, *Fuel Process. Technol.*, 142, 1–5.
- Hummers, W.S., Offeman, R.E., 1958. Preparation of graphitic oxide. *J. Am. Chem. Soc.*, 80, 1339.
- Jayaraman, V. K., Álvarez, A. M., Bizarro, M., Koudriavtsev, Y. and Amador, M. De la L. O., 2017, Effect of Precursor Type and Doping Concentration on The Physical Properties of Ultrasonically Sprayed Aluminium and Indium Co-Doped Zinc Oxide Thin Films, *Thin Solid Films.*, 642, 14–19.
- Kananovo, M.M., 1966, *Soil Organic Matter, It's Role in Soil Formation and in Soil Fertility*, 2nd, Pegamon Press, Oxford, New York.
- Kannan, A. G., Zhao, J., Jo, S. G., Kang, Y. S. and Kim, D. W., 2014, Nitrogen and Sulfur Co-Doped Graphene Counter Electrodes With Synergistically Enhanced Performance for Dye-Sensitized Solar Cells, *J. Mater. Chem. A*, 31(2), 12232–12239.
- Koesnarpadi, S., santosa, S. J., Siswanta, D. dan Rusdiarso, B., 2021, Ekstraksi, Pemurnian dan karakterisasi Asam Humat dari Tanah Gambut Samarinda, *PROSIDING SEMINAR KIMIA*, [S.l.], 166-172.

- Laksono, E. P., 2009, *Studi Penggunaan Absorben sebagai Alternatif Pengolahan Limbah Zat Warna Tekstil*, UMY, Yogyakarta.
- Le, G. T. T., Chanlek, N., Manyam, J., Opaprakasit, P., Grisdanurak, N. and Sreearunothai, P., 2019, Insight into the Ultrasonication of Grafena oksida with Strong Changes in Its Properties and Performance for Adsorption Applications, *Chem. Eng. J.*, 373, 1212-1222.
- Lee, D. and Geun,, 2008, *Effect of Scale During Electrochemical Degradation of Naphthalene and Salicylic Acid*, Thesis , Civil Engineering, Machigan State University, USA
- Li, M., Guo. Q., Xie, J., Li, Y. and Feng, Y., 2017, CuO Nanoparticles Supported on Nitrogen and Sulfur Co-Doped Graphene Nanocomposites for Non Enzymatic Glucose Sensing, *Journal Nanopart Res.*, 11(19), 1-12.
- Luan, N. H., Yang, Y. T. and Chang, C. F., 2022, Electrochemical degradation of methylene blue accompanied with the reduction of CO₂ by using carbon nanotubes grown on carbon fiber electrodes, *Sustain*, 13 (32), 1-14.
- Luo, J. and Hepel, M., 2001, Photoelectrochemical Degradation of Metilen Biru Diazo Dye on WO₃ Film Electrode, *Electrochim. Acta*, 46, 2913-2922.
- Manchala, S., Tandava, V. S. R. K., Jampaiah, D., Bhargava, S. K. and Shanker, V., 2019, Novel and Highly Efficient Strategy for the Green Synthesis of Soluble Graphene by Aqueous Polyphenol Extracts of Eucalyptus Bark and Its Applications in High-Performance Supercapacitors, *ACS Sustainable Chem. Eng.*, 11612–11620.
- Mao, S., Pu, H., and Chen, J., 2012, Grafena oksida and its Reduction: Modeling and Experimental Progress, *RSC Adv.*, 2, 2643–2662.
- Modirshahla, N., Hassani, A., Behnajady, M. A., and Rahbarfam, R., 2011, Effect of Operational Parameters on Decolorization of Acid Yellow 23 from Wastewater by UV Irradiation Using ZnO and ZnO/SnO₂ Photocatalysts, *Desalination*, 1-3(271), 187–192
- Mohadi, R., Hidayati, N., Santosa, S. J. dan Narsito, 2008, Karakterisasi Asam Humat dari Gambut Indralaya, Ogan Ilir Sumatera Selatan, *J. Penelit. Sains.*, 1(11), 411-420.
- Oz, M., Lorke, D. E., Hasan, M., & Petroianu, G. A. (2010). Cellular and molecular actions of Methylene Blue in the nervous system. *Med. Res. Rev.*, 1(31), 93–117.
- Peng, S., Fan, X., Li, S., and Zhang, J., 2013, Green Synthesis and Characterization of Graphite Oxide by Orthogonal Experiment, *J. Chil. Chem. Soc.*, 58, 2213– 2217.

- Powell, C. and Beall, G. W., 2015, Grafena oksida and Graphene From Low Grade Coal: Synthesis, Characterization and Applications, *Curr Opin Colloid Interface Sci.*, 20(5-6), 362–366.
- Pratiwi, R. A. dan Nandiyanto, A. B. D., 2022, How to Read and Interpret UV-VIS Spectrophotometric Results in Determining the Structure of Chemical Compounds, *IJERT*, 1(2), 1-20.
- Qiao, Z., Chen, M., Wang, C. and Yuan, Y., 2014, Humic Acids-Based Hierarchical Porous Carbons as High-Rate Performance Electrodes for Symmetric Supercapacitors, *Bioresour. Technol.*, 163, 386–389.
- Rahmawati, A., 2011, Isolasi dan Karakterisasi Asam Humat Dari Tanah Gambut, *Phenomenon J. Pend. MIPA*, 1(2), 117-136.
- Rahmayanti, M., Yunita, E. dan Prandini, M. N., 2019, Isolasi Asam Humat dari Tanah Gambut Sumatera dan Kalimantan dan Analisis Kandungan Gugus Fungsionalnya, *Integrated Lab Journal*, 02(07), 132-139.
- Rani, J. R., Lim, J., Oh, J., Kim, J.-W., Shin, H. S., Kim, J. H., Lee, S. and Jun, S. C., 2012, Epoxy to Carbonyl Group Conversion in Graphene Oxide Thin Films: Effect on Structural and Luminescent Characteristics, *J. Phys. Chem. C*, 35(116), 19010–19017.
- Raval, N., Maheshwari, R., Kalyane, D., Youngren-Ortiz, S. R., Chougule, M. B., and Tekade, R. K., 2019, *Basic Fundamentals of Drug Delivery*, Academic Press, Massachusetts, USA.
- Riyanto, dan Nawazi, M., Electrochemical Degradation of Methylen Blue Using Carbon Composite Electrode (C-PVC) in Sodium Chloride, *IOSR-JAC*, 11 (8), 31-40.
- Riyanto., 2012, *Elektrokimia dan Aplikasinya Edisi Pertama*, Graha Ilmu, Yogyakarta.
- Riyanto., and Mawazi, M., 2015, Electrochemical Degradation of Methylen Blue Using Carbon Composite Electrode (C-PVC) in Sodium Chloride, *IOSR j. appl. chem.*, 1(11), 31-40.
- Rochman, R. A., Wahyuningsih, S., Ari Handono Ramelan, A. H. and Hanif, Q. A., 2019, Preparation of Nitrogen and Sulphur Co-Doped Reduced Grafena oksida (rGO-NS) Using N And S Heteroatom Of Thiourea, *IOP Conf. Ser.: Mater. Sci. Eng.*, 509, 1-8.
- Safarpour, M. and Khataee, A., 2019, *Nanoscale Materials in Water Purification*, Elsevier Inc., Amsterdam, Belanda

- Samarghandi, M. R., Dargahi, A., Shabanloo, A., Nasab, H. Z., Vaziri, Y. and Ansari, A., 2020, Electrochemical degradation of methylene blue dye using a graphite doped PbO₂ anode: Optimization of operational parameters, degradation pathway and improving the biodegradability of textile wastewater, *Arab. J. Chem.*, 13, 6847-6864.
- Shi, W., Fan, H., Ai, S. and Zhu, L., 2015, Preparation of Fluorescent Graphene Quantum Dots From Humic Acid For Bioimaging Application, *New J Chem*, 9(39), 7054–7059.
- Shriver, D. and Atkins, P., 2010, *Inorganic Chemistry. 5th Edition*, Oxford University Press, New York.
- Shukla, S. and Saxena, S., 2011, Spectroscopic Investigation of Confinement Effects on Optical Properties of Grafena oksida, *Appl. Phys. Lett.*, 98.
- Siregar, A. P., Raya, A. B., Nugroho, A. D., Indana, F., Prasada, I. M. Y., Andiani, R., Tampubolon, T. G. dan Kinasih, A. T., 2020, Upaya Pengembangan Industri Batik Di Indonesia, *dkb*, 1(37), 79-92.
- Smith, A. T., LaChance, A. M., Zeng, S., Liu, B. and Sun, L., 2019, Synthesis, properties, and applications of grafena oksida/reduced grafena oksida and their nanocomposites, *NMS*, 1(1), 31–47.
- Soldano, C., Mahmood, A., dan Dujardin, E., 2010, Production, Properties and Potential of Graphene, *Carbon*, 8(48), 2127–2150.
- Stankovich, S., Dikin, D. A., Dommett, G. H. B., Kohlhaas, K. M., Zimney, E. J., Stach, E. A., Piner, R. D., Nguyen, S. T. and Ruoff, R. S., 2006, Graphene-Based Composite Materials, *Nature*, 7100(442), 282-286.
- Stevenson, F.J., 1994, *Humus Chemistry: Genesis, Compotition, Reaction , Edition rev*, John Wiley and Sons, Canada.
- Syahwir, I. D. dan Firmansyah, V., 2018, Perbandingan Pembersihan Material Berbahan Stainless Steel Menggunakan Ultrasonic Cleaner dan Pembersih Biasa, *Jurnal Material dan Energi Indonesia*, 02(08), 1-5.
- Wang, W. W., Dang, J. S., Zhao, X. and Nagase, S., 2016, Formation Mechanisms of Graphitic-N: Oxygen Reduction and Nitrogen Doping of Grafena oksidas. *J. Phys. Chem*, 10(120), 5673–5681.
- Xing, B., Guo, H., Chen, L., Zhang, C., Huang, G., Yi, G. and Ma, M., 2015, Preparation of Oxygen-enriched Activated Carbons from Coal-based Humic Acids by Zinc Chloride Activation, *Curr. Nanosci*, 4(11), 439–446.

- Xing, B., Yuan, R., Zhang, C., Huang, G., Guo, H., Chen, Z., Chen, L., Yi, G., Zhang, Y. and Yu, J., 2017, Facile synthesis of graphene nanosheets from humic acid for supercapacitors, *Fuel Process. Technol.*, 165, 112–122.
- Yang, W., Ma, X., Xu, X., Li, Y., Raj, S. I., Ning, G., Wang, A. and Chen, S., 2015, Sulfur-Doped Porous Carbon as Metal-Free Counter Electrode for High-Efficiency Dye-Sensitized Solar Cells, *J. Power Sources*, 282, 228–234.
- Yin, J., Zhang, D., Zhao, J., Wang, X., Zhu, H. and Wang, C., 2014, Meso- and Micro- Porous Composite Carbons Derived from Humic Acid for Supercapacitors, *Electrochim. Acta*, 136, 504–512.
- Yu, D., Nagelli, E., Du, F. and Dai, L., 2010, Metal-Free Carbon Nanomaterials Become More Active than Metal Catalysts and Last Longer, *J. Phys. Chem. Lett.*, 14(1), 2165–2173.
- Yu, Z., Bai, Y., Wang, Y., Liu, Y., Zhao, Y., Liu, Y. and Sun, K., 2016, One-step Synthesis of Three-Dimensional Nitrogen and Sulfur Co-Doped Graphene Networks as Low Cost Metal-Free Counter Electrodes for Dye-Sensitized Solar Cells, *Chem. Eng. J.*, 311, 302–309.
- Yusbarina., Roto. and Triyana, K., 2020, Stainless Steel/Hydroxyl Functionalized Graphene Electrode for Electrochemical Oxidation of Methyl Orange, *Key Eng. Mater.*, 884, 32-38.
- Yusbarina., Roto. and Triyana, K., 2021, Hydroxyl Functionalized Graphene As a Superior Anode Material for Electrochemical Oxidation of Methylene Blue, *RASAYAN J. Chem.*, 02(14), 1140-1147.
- Zaaba, N. I., Foo, K. L., Hashim, U., Tan, S. J., Liu, W.-W. and Voon, C. H., 2017, Synthesis of Grafena oksida using Modified Hummers Method: Solvent Influence, *Procedia Eng.*, 184, 469–477.
- Zhang, T., Xue, Q., Zhang, S. dan Dong, M., 2012, Theoretical approaches to graphene and graphene-based materials, *Nano Today*, 7, 180-200.