

## DAFTAR PUSTAKA

- Ahmed, M.S. and Kim, Y.B., 2017, Amide-functionalized graphene with 1,4-diaminobutane as efficient metal-free and porous electrocatalyst for oxygen reduction. *Carbon*, 111, 577–586.
- Alanyalio lu, M., Segura, J.J., Oró-Sol, J., and Casañ-Pastor, N., 2012, The synthesis of graphene sheets with controlled thickness and order using surfactant-assisted electrochemical processes. *Carbon*, 50, 142–152.
- An, S.J., Zhu, Y., Lee, S.H., Stoller, M.D., Emilsson, T., Park, S., et al., 2010, Thin film fabrication and simultaneous anodic reduction of deposited graphene oxide platelets by electrophoretic deposition. *J. Phys. Chem. Lett.*, 1, 1259–1263.
- Awad, H.S. and Galwa, N.A., 2005, Electrochemical degradation of Acid Blue and Basic Brown dyes on Pb/PbO<sub>2</sub> electrode in the presence of different conductive electrolyte and effect of various operating factors. *Chemosphere*, 61, 1327–1335.
- Barbosa, J., 1997, Indicators. In, *Encyclopedia of Analytical Science (Second edition)*. Elsevier, pp. 360–371.
- Barros, W.R.P., Steter, J.R., Lanza, M.R.V., and Motheo, A.J., 2014, Degradation of amaranth dye in alkaline medium by ultrasonic cavitation coupled with electrochemical oxidation using a boron-doped diamond anode. *Electrochim. Acta*, 143, 180–187.
- Begum, H., Ahmed, M.S., Cho, S., and Jeon, S., 2017, Simultaneous reduction and nitrogen functionalization of graphene oxide using lemon for metal-free oxygen reduction reaction. *J. Power Sources*, 372, 116–124.
- Besra, L. and Liu, M., 2007, A review on fundamentals and applications of electrophoretic deposition (EPD). *Prog. Mater. Sci.*, 52, 1–61.
- Boccaccini, A.R., Cho, J., Roether, J.A., Thomas, B.J.C., Jane Minay, E., and Shaffer, M.S.P., 2006, Electrophoretic deposition of carbon nanotubes. *Carbon*, 44, 3149–3160.
- Brillas, E. and Martínez-huitle, C.A., 2015, Decontamination of wastewaters containing synthetic organic dyes by electrochemical methods. An updated review. *Appl. Catal. B Environ.*, 167, 603–643.
- Brillas, E. and Martí, C.A., 2009, Decontamination of wastewaters containing synthetic organic dyes by electrochemical methods: A general review. *Appl. Catal. B Environ.*, 87, 105–145.
- Chaiyont, R., Badoe, C., de León, C.P., Nava, J.L., Recio, F.J., Sirés, I., et al., 2013, Decolorization of Methyl Orange Dye at IrO<sub>2</sub>- SnO<sub>2</sub>-Sb<sub>2</sub>O<sub>5</sub> Coated Titanium Anodes. *Chem. Eng. Technol.*, 36, 123–129.
- Chow, W.S., Suda, Y., Thant, A.A., Mariatti, M., Chow, W.S., Suda, Y., et al., 2018, Effect of electrolytes and sonication times on the formation of graphene using an electrochemical exfoliation process. *Appl. Surf. Sci.*, 469, 951–961.
- Chowdhury, I., Mansukhani, N.D., Guiney, L.M., Hersam, M.C., and Bouchard, D., 2015, Aggregation and Stability of Reduced Graphene Oxide: Complex Roles of

- Divalent Cations, pH, and Natural Organic Matter. *Environ. Sci. Technol.*, 49, 10886–10893.
- Corni, I., Ryan, M.P., and Boccaccini, A.R., 2008, Electrophoretic deposition: From traditional ceramics to nanotechnology. *J. Eur. Ceram. Soc.*, 28, 1353–1367.
- Daukiya, L., Mattioli, C., Aubel, D., Hajjar-Garreau, S., Vonau, F., Denys, E., et al., 2017, Covalent Functionalization by Cycloaddition Reactions of Pristine Defect-Free Graphene. *ACS Nano*, 11, 627–634.
- Díez-pascual, A.M., Sainz-urruela, C., Vallés, C., Vera-lópez, S., and Andrés, M.P.S., 2020, Tailorable synthesis of highly oxidized graphene oxides via an environmentally-friendly electrochemical process. *Nanomaterials*, 10, 1–18.
- Du, L., Wu, J., Qin, S., and Hu, C., 2011, Degradation mechanism of methyl orange by electrochemical process on RuO<sub>x</sub>-PdO/Ti electrode. *Water Sci. Technol.*, 63, 1539–1545.
- Duan, X., Zhao, C., Liu, W., Zhao, X., and Chang, L., 2017, Fabrication of a novel PbO<sub>2</sub> electrode with a graphene nanosheet interlayer for electrochemical oxidation of 2-chlorophenol. *Electrochim. Acta*, 240, 424–436.
- Duraia, E.M., Henderson, B., and Beall, G.W., 2015, Reduced humic acid nanosheets and its uses as nano filler. *J. Phys. Chem. Solids.*, 85, 86–90.
- Eigler, S. and Hirsch, A., 2014, Chemistry with graphene and graphene oxide - Challenges for synthetic chemists. *Angew. Chemie - Int. Ed.*, 53, 7720–7738.
- Fadillah, G., Saleh, A., and Wahyuningsih, S., 2019, Enhanced electrochemical degradation of 4-Nitrophenol molecules using novel Ti/TiO<sub>2</sub> -NiO electrodes. *J. Mol. Liq.*, 289.
- Flox, C., Arias, C., Brillas, E., Savall, A., and Groenen-serrano, K., 2009, Electrochemical incineration of cresols : A comparative study between PbO<sub>2</sub> and boron-doped diamond anodes. *Chemosphere*, 74, 1340–1347.
- Fraga, T.J.M., Carvalho, M.N., Ghislandi, M.G., and Da Motta Sobrinho, M.A., 2019, Functionalized graphene-based materials as innovative adsorbents of organic pollutants: A concise overview. *Brazilian J. Chem. Eng.*, 36, 1–31.
- Fu, C., Zhao, G., Zhang, H., and Li, S., 2013, Evaluation and characterization of reduced graphene oxide nanosheets as anode materials for lithium-ion batteries. *Int. J. Electrochem. Sci.*, 8, 6269–6280.
- Garcia-segura, S., Ocon, J.D., and Nan, M., 2018, Electrochemical oxidation remediation of real wastewater effluents — A review. *Process Saf. Environ. Prot.* 48–67.
- Georgakilas, V., Otyepka, M., Bourlinos, A.B., Chandra, V., Kim, N., Kemp, K.C., et al., 2012, Functionalization of graphene: Covalent and non-covalent approaches, derivatives and applications. *Chem. Rev.*, 112, 6156–6214.
- Ghalwa, N.M.A. and Zaggout, F.R., 2006, Electrodegradation of methylene blue dye in water and wastewater using lead oxide/titanium modified electrode. *J. Environ. Sci. Heal. Part A*, 41, 2271–2282.
- Gómez-Navarro, C., Weitz, R.T., Bittner, A.M., Scolari, M., Mews, A., Burghard, M., and Kern, K., 2007, Electronic transport properties of individual chemically

- reduced graphene oxide sheets. *Nano Lett.* ,7, 3499–3503.
- Group, C. and Hills, A., 2013, Encyclopedia of Tribology, Springer US, Boston.
- Guenfoud, F., Mokhtari, M., and Akrouit, H., 2014, Electrochemical degradation of malachite green with BDD electrodes : Effect of electrochemical parameters. *Diam. Relat. Mater.*, 46, 8–14.
- Gunawan, H., Kobayashi, S., Mizuno, K., and Kono, Y., 2012, Peat swamp forest types and their regeneration in Giam Siak Kecil-Bukit Batu Biosphere Reserve, Riau, East Sumatra, Indonesia. *Mires Peat* ,10, 1–17.
- Guo, H.L., Wang, X.F., Qian, Q.Y., Wang, F. Bin, and Xia, X.H., 2009, A green approach to the synthesis of graphene nanosheets. *ACS Nano*, 3, 2653–2659.
- Guoxiu, W., Juan, Y., Jinsoo, P., Xinglong, G., Bei, W., Hao, L., and Jane, Y., 2008, Facile synthesis and characterization of graphene nanosheets. *J. Phys. Chem. C* ,112, 8192–8195.
- Gupta, B., Kumar, N., Panda, K., Kanan, V., Joshi, S., and Visoly-Fisher, I., 2017, Role of oxygen functional groups in reduced graphene oxide for lubrication. *Sci. Rep.*, 7, 1–14.
- El Hajj Hassan, M.A. and El Jamal, M.M., 2013, Kinetic study of the electrochemical oxidation of methylene blue with Pt electrode. *Port. Electrochim. Acta*, 30, 351–359.
- Han, S.W., Jung, D.W., Jeong, J.H., and Oh, E.S., 2014, Effect of pyrolysis temperature on carbon obtained from green tea biomass for superior lithium ion battery anodes. *Chem. Eng. J.*, 254, 597–604.
- Harrelkas, F., Azizi, A., Yaacoubi, A., Benhammou, A., and Noelle, M., 2009, Treatment of textile dye effluents using coagulation – flocculation coupled with membrane processes or adsorption on powdered activated carbon. *Desalination* ,235, 330–339.
- Hashemian, S., Salari, K., Salehifar, H., and Atashi Yazdi, Z., 2013, Removal of azo dyes (violet b and violet 5r) from aqueous solution using new activated carbon developed from orange peel. *J. Chem.*, 2013.
- He, H. and Gao, C., 2010, General Approach to Individually Dispersed , Highly Soluble , and Conductive Graphene Nanosheets Functionalized by Nitrene Chemistry. *Chem. Mater.*, 22, 5054–5064.
- He, P., Wang, L., Xue, J., and Cao, Z., 2010, Electrolytic treatment of methyl orange in aqueous solution using three - dimensional electrode reactor coupling ultrasonics. *Environ. Technol.* ,31, 417–422.
- Henderson, B.G., 2011, Investigation of Graphenol as A Nanofiller, In *Thesis*, Texas State University, Texas.
- Hilder, M., Winther-Jensen, B., Li, D., Forsyth, M., and MacFarlane, D.R., 2011, Direct electro-deposition of graphene from aqueous suspensions. *Phys. Chem. Chem. Phys.*, 13, 9187–9193.
- Huang, G., Kang, W., Geng, Q., Xing, B., and Liu, Q., 2018, One-Step Green Hydrothermal Synthesis of Few-Layer Graphene Oxide from Humic Acid.

- Nanomaterials*, 8, 1–9.
- Indu, M.S., Gupta, A.K., and Sahoo, C., 2014, Electrochemical Oxidation of Methylene Blue Using Lead Acid Battery Anode. *APCBEE Procedia*, 9, 70–74.
- Isarain-Chávez, E., Baró, M.D., Rossinyol, E., Morales-Ortiz, U., Sort, J., Brillas, E., and Pellicer, E., 2017, Comparative electrochemical oxidation of methyl orange azo dye using Ti/Ir-Pb, Ti/Ir-Sn, Ti/Ru-Pb, Ti/Pt-Pd and Ti/RuO<sub>2</sub> anodes. *Electrochim. Acta*, 244, 199–208.
- Jawad, N.H. and Najim, S.T., 2018, Removal of Methylene Blue by Direct Electrochemical Oxidation Method Using a Graphite Anode. *IOP Conf. Ser. Mater. Sci. Eng.*, 454.
- Jovi, M., Stankovi, D., Manojlovi, D., An elkovi, I., and Mili, A., 2013, Study of the Electrochemical Oxidation of Reactive Textile Dyes Using Platinum Electrode. *Int. J. Electrochem. Sci.*, 8, 168–183.
- Kakooei, S., Ismail, M.C., and Wahjoedi, B.A., 2013, Electrochemical Study of Iridium Oxide Coating on Stainless Steel Substrate. *Int. J. Electrochem. Sci.*, 8, 3290–3301.
- Karatutlu, A., Barhoum, A., and Sapelkin, A., 2018, Liquid-phase synthesis of nanoparticles and nanostructured materials. *Emerg. Appl. Nanoparticles Archit. Nanostructures Curr. Prospect. Futur. Trends* 1–28.
- Kasperchik, V.P., Yaskevich, A.L., and Bil, A. V, 2012, Wastewater Treatment for Removal of Dyes by Coagulation and Membrane Processes. *Pet. Chem.*, 52, 545–556.
- Ke, X., Hao, G.Z., Rong, Y.B., Zhou, X., Liu, J., Xiao, L., and Jiang, W., 2016, A facile approach to the hydrothermal synthesis of graphene. *16th Int. Conf. Nanotechnol.*, 604–607.
- Khalid, S., Alvi, F., Fatima, M., Aslam, M., Riaz, S., Farooq, R., and Zhang, Y., 2018, Dye degradation and electricity generation using microbial fuel cell with graphene oxide modified anode. *Mater. Lett.*, 220, 272–276.
- Kipton, H., Powell, J., and Town, R.M., 1992, Solubility and fractionation of humic acid; effect of pH and ionic medium. *Anal. Chim. Acta*, 267, 47–54.
- Kohn, M., Mokudai, T., Ozawa, T., and Niwano, Y., 2011, Free radical formation from sonolysis of water in the presence of different gases. *J.Clin.Biochem.Nutr.*, 49, 96–101.
- Kong, Y., Wang, Z.L., Wang, Y., Yuan, J., and Chen, Z.D., 2011, Degradation of methyl orange in artificial wastewater through electrochemical oxidation using exfoliated graphite electrode. *Xinxing Tan Cailiao/New Carbon Mater.*, 26, 459–464.
- Kovendhan, M., Kang, H., Jeong, S., Youn, J., Oh, I., Park, Y., and Jeon, K., 2019, Study of stainless steel electrodes after electrochemical analysis in sea water condition. *Environ. Res.*, 173, 549–555.
- Kozyatnyk, I., Latham, K.G., and Jansson, S., 2019, Valorization of Humic Acids by Hydrothermal Conversion into Carbonaceous Materials: Physical and Functional Properties. *ACS Sustain. Chem. Eng.*, 7, 2585–2592.

- Kumar, R., Singh, R.K., and Singh, D.P., 2016, Natural and waste hydrocarbon precursors for the synthesis of carbon based nanomaterials: Graphene and CNTs. *Renew. Sustain. Energy Rev.*, 58, 976–1006.
- Lakshmi, B., Nouri, J.M., Brabazon, D., and Naher, S., 2017, Graphene and derivatives - Synthesis techniques, properties and their energy applications. *Energy*, 140, 766–778.
- Lestari, P., 2017, Isolation of humic acid from peat soil and its application as an adsorbent for AuCl<sub>4</sub><sup>-</sup> in solution. *AIP Conf. Proc.*, 1823.
- Li, F., Xue, M., Zhang, X., Chen, L., Knowles, G.P., MacFarlane, D.R., and Zhang, J., 2018, Advanced Composite 2D Energy Materials by Simultaneous Anodic and Cathodic Exfoliation. *Adv. Energy Mater.*, 8, 1–8.
- Li, J., Guan, Q., Hong, J., and Chang, C., 2019, Electrochemical Oxidation of Azo Dye Wastewater Using Graphene-Based Electrode Materials. *J. Nanosci. Nanotechnol.* 7308–7314.
- Li, X., Li, H., Xu, X., Guo, N., Yuan, L., and Yu, H., 2017, Preparation of a Reduced Graphene Oxide @ Stainless Steel Net Electrode and Its Application of Electrochemical Removal Pb ( II ). *J. Electrochem. Soc.* 164, E71–E77.
- Liu, J., Kok, C., Zhan, D., Lai, L., Hua, S., Wang, L., *et al.*, 2013, Improved synthesis of graphene flakes from the multiple electrochemical exfoliation of graphite rod. *Nano Energy*, 377–386.
- Ma, H., Wang, B., and Wang, Y., 2007, Application of molybdenum and phosphate modified kaolin in electrochemical treatment of paper mill wastewater. *J. Hazard. Mater.*, 145, 417–423.
- Ma, Y., Han, J., Wang, M., Chen, X., and Jia, S., 2018, Electrophoretic deposition of graphene-based materials: A review of materials and their applications. *J. Mater.*, 4, 108–120.
- Majumdar, D. and Pal, S., 2016, Hydroxy-Functionalized Graphene: A Proficient Energy Storage Material. *J. Fundam. Renew. Energy Appl.*, 6.
- Mattevi, C., Eda, G., Agnoli, S., Miller, S., Mkhoyan, K.A., Celik, O., *et al.*, 2009, Evolution of electrical, chemical, and structural properties of transparent and conducting chemically derived graphene thin films. *Adv. Funct. Mater.*, 19, 2577–2583.
- Mcallister, M.J., Li, J., Adamson, D.H., Schniepp, H.C., Abdala, A. a, Liu, J., *et al.*, 2007, Single Sheet Functionalized Graphene by Oxidation and Thermal Expansion of Graphite. *Chem. Mater.*, 19, 4396–4404.
- Mei, X., Meng, X., and Wu, F., 2015, Hydrothermal method for the production of reduced graphene oxide. *Phys. E*, 68, 81–86.
- Miwa, D.W., Malpass, G.R.P., Machado, S.A.S., and Motheo, A.J.Ã., 2006, Electrochemical degradation of carbaryl on oxide electrodes. *Water Res.*, 40, 3281–3289.
- Mohan, N., Balasubramanian, N., and Basha, C.A., 2007, Electrochemical oxidation of textile wastewater and its reuse. *J. Hazard. Mater.*, 147, 644–651.
- Molina, J., Bonastre, J., and Cases, F., 2017, On the behavior of reduced graphene

- oxide based electrodes coated with dispersed platinum by alternate current methods in the electrochemical degradation of reactive dyes. *Chemosphere*, 183, 242-251.
- Montilla, F., Michaud, P.A., Morallo, E., and Va, J.L., 2002, Electrochemical oxidation of benzoic acid at boron-doped diamond electrodes. *Electrochim. Acta*, 47, 3509–3513.
- Morales, G.M., Schifani, P., Ellis, G., Ballesteros, C., Martínez, G., Barbero, C., and Salvagione, H.J., 2011, High-quality few layer graphene produced by electrochemical intercalation and microwave-assisted expansion of graphite. *Carbon*, 49, 2809–2816.
- Moreira, F.C., Boaventura, R.A.R., Brillas, E., and Vilar, V.J.P., 2017, Electrochemical advanced oxidation processes : A review on their application to synthetic and real wastewaters. *Appl. Catal. B Environ.*, 202, 217–261.
- Morimoto, N., Kubo, T., and Nishina, Y., 2016, Tailoring the oxygen content of graphite and reduced graphene oxide for specific applications. *Sci. Rep.*, 6, 4–11.
- Morsi, M.S., Al-Sarawy, A.A., and Shehab El-Dein, W.A., 2011, Electrochemical degradation of some organic dyes by electrochemical oxidation on a Pb/PbO<sub>2</sub> electrode. *Desalin. Water Treat.*, 26, 301–308.
- Mukimin, A., 2013, Sintesis, Karakterisasi, dan Aplikasi Elektroda Ti/PbO<sub>2</sub> pada Elektrodegradasi Zat Warna Reaktif Biru. Disertasi, Universitas Gadjah Mada, Yogyakarta.
- Mukimin, A., Wijaya, K., and Kuncaka, A., 2010, Electro-degradation of reactive blue dyes using cylinder modified electrode : Ti/ –PbO<sub>2</sub> as dimensionally stable anode. *Indo. J. Chem.*, 10, 285–289.
- Munuera, J.M., Paredes, J.I., Enterr, M., Paga, A., Pereira, M.F.R., Martins, J.I., *et al.*, 2017, Electrochemical Exfoliation of Graphite in Aqueous Sodium Halide Electrolytes toward Low Oxygen Content Graphene for Energy and Environmental Applications. *ACS AMI*, 9, 24085-24099.
- Muralikrishna, S., Sureshkumar, K., Yan, Z., Fernandez, C., and Ramakrishnappa, T., 2015, Non-enzymatic amperometric determination of glucose by CuO nanobelt graphene composite modified glassy carbon electrode. *J. Braz. Chem. Soc.*, 26, 1632–1641.
- Nadaf, N.Y. and Shivangi, S.K., 2019, Biosynthesis of gold nanoparticles by *Bacillus marisflavi* and its potential in catalytic dye degradation. *Arab. J. Chem.*, 12, 4806–4814.
- Naumczyk, J., Szpyrkowicz, L., and Zilio-Grandi, F., 1996, Electrochemical treatment of textile wastewater. *Water Sci. Technol.*, 34, 17–24.
- Niu, L., Coleman, J.N., Zhang, H., Shin, H., and Chhowalla, M., 2016, Production of Two-Dimensional Nanomaterials via Liquid-Based Direct Exfoliation. *Small*, 272–293.
- Orts, F., Río, A.I., Molina, J., Bonastre, J., and Cases, F., 2018, Electrochemical treatment of real textile wastewater : Trichromy Procion HEXL®. *J. Electroanal. Chem.*, 808, 387–394.

- Panizza, M., Barbucci, A., Ricotti, R., and Cerisola, G., 2007, Electrochemical degradation of methylene blue. *Sep. Purif. Technol.*, 54, 382–387.
- Paredes, J.I. and Munuera, J.M., 2017, Recent advances and energy-related applications of high quality/chemically doped graphenes obtained by electrochemical exfoliation methods. *J. Mater. Chem. A*, 5, 7228–7242.
- Paredes, J.I., Villar-Rodil, S., Fernández-Merino, M.J., Guardia, L., Martínez-Alonso, A., and Tascón, J.M.D., 2011, Environmentally friendly approaches toward the mass production of processable graphene from graphite oxide. *J. Mater. Chem.*, 21, 298–306.
- Parvez, K., Wu, Z., Li, R., Liu, X., Graf, R., and Feng, X., 2014, Exfoliation of Graphite into Graphene in Aqueous Solutions of Inorganic Salts. *J. Am. Chem. Soc.* 6083–6091.
- Parvez, K., Yang, S., Feng, X., and Müllen, K., 2015, Exfoliation of graphene via wet chemical routes. *Synth. Met.*, 210, 123–132.
- Patel, H. and Vashi, R.T., 2015, Feasibility of Naturally Prepared Adsorbent. In book, *Characterization and Treatment of Textile Wastewater*, Elsevier, Oxford.
- Patel, U.D. and Suresh, S., 2008, Electrochemical treatment of pentachlorophenol in water and pulp bleaching effluent. *Sep. Purif. Technol.*, 61, 115–122.
- Paz, A., Carballo, J., Jos, M., and Domínguez, M., 2017, Biological treatment of model dyes and textile wastewaters. *Chemosphere*, 181, 168–177.
- Pei, S. and Cheng, H.M., 2012, The reduction of graphene oxide. *Carbon*, 50, 3210–3228.
- Pontes, J.P.S.D., da Costa, P.R.F., da Silva, D.R., Garcia-Segura, S., and Martínez-Huitle, C.A., 2016, Methylene blue decolorization and mineralization by means of electrochemical technology at pre-pilot plant scale: Role of the electrode material and oxidants. *Int. J. Electrochem. Sci.*, 11, 4878–4891.
- Poots, V.J.P., McKay, G., and Healy, J.J., 1976, The removal of acid dye from effluent using natural adsorbents. I. Peat. *Water Res.*, 10, 1061–1066.
- Powell, C. and Beall, G.W., 2015, Graphene oxide and graphene from low grade coal: Synthesis, characterization and applications. *Curr. Opin. Colloid Interface Sci.*, 20, 362–366.
- Qu, J., Luo, C., Zhang, Q., Cong, Q., and Yuan, X., 2013, Easy synthesis of graphene sheets from alfalfa plants by treatment of nitric acid. *Mater. Sci. Eng. B Solid-State Mater. Adv. Technol.*, 178, 380–382.
- Radjenovic, J. and Sedlak, D.L., 2015, Challenges and Opportunities for Electrochemical Processes as Next-Generation Technologies for the Treatment of Contaminated Water. *Environ. Sci. Technol.*, 49, 11292–11302.
- Rajeshwar, K., Osugi, M.E., Chanmanee, W., and Chenthamarakshan, C.R., 2008, Heterogeneous photocatalytic treatment of organic dyes in air and aqueous media. *J. Photochem. Photobiol. C Photochem. Rev.*, 9, 171–192.
- Rajkumar, K. and Muthukumar, M., 2017, Response surface optimization of electro-oxidation process for the treatment of C.I. Reactive Yellow 186 dye: reaction pathways. *Appl. Water Sci.*, 7, 637–652.

- Ramakrishnan, M.C. and Thangavelu, R.R., 2013, Synthesis and characterization of reduced graphene oxide. *Adv. Mater. Res.*, 678, 56–60.
- Ramesha, G.K. and Sampath, N.S., 2009, Electrochemical reduction of oriented Graphene oxide films: An in situ Raman spectroelectrochemical study. *J. Phys. Chem. C*, 113, 7985–7989.
- Rattana, T., Chaiyakun, S., Witit-Anun, N., Nuntawong, N., Chindaudom, P., Oaew, S., et al., 2012, Preparation and characterization of graphene oxide nanosheets. *Procedia Eng.*, 32, 759–764.
- Ren, X., Li, J., Chen, C., Gao, Y., Chen, D., Su, M., et al., 2018, Graphene analogues in aquatic environments and porous media: Dispersion, aggregation, deposition and transformation. *Environ. Sci. Nano*, 5, 1298–1340.
- Riesz, P., Berdahi, D., and Christman, C.L., 1985, Free Radical Generation by Ultrasound in Aqueous and Nonaqueous Solutions. *Environmental Heal. Perspect.*, 64, 233–252.
- Riyanto, R., 2015, Electrochemical Degradation of Methylene Blue Using Carbon Composite Electrode ( C-PVC ) in Sodium Chloride. *IOSR-JAC*, 8, 31–40.
- Rosmi, M.S., Shinde, S.M., Rahman, N.D.A., Thangaraja, A., Sharma, S., Sharma, K.P., et al., 2016, Synthesis of uniform monolayer graphene on re-solidified copper from waste chicken fat by low pressure chemical vapor deposition. *Mater. Res. Bull.*, 83, 573–580.
- Sabbaghan, M., Charkhan, H., Ghalkhani, M., and Beheshtian, J., 2019, Ultrasonic route synthesis, characterization and electrochemical study of graphene oxide and reduced graphene oxide. *Res. Chem. Intermed.*, 45, 487–505.
- Safarpour, M. and Khataee, A., 2019, Chapter 15 - Graphene-Based Materials for Water Purification, In *Micro and Nano Technologies*, Elsevier, Oxford.
- Sanchez, V.C., Jachak, A., Hurt, R.H., and Kane, A.B., 2012, Biological interactions of graphene-family nanomaterials: An interdisciplinary review. *Chem. Res. Toxicol.*, 25, 15–34.
- Sarkar, P. and Nicholson, P.S., 1996, Electrophoretic deposition (EPD): Mechanisms, kinetics, and application to ceramics. *J. Am. Ceram. Soc.*, 79, 1987–2002.
- Särkkä, H., Bhatnagar, A., and Sillanpää, M., 2015, Recent developments of electro-oxidation in water treatment — A review. *J. Electroanal. Chem.*, 754, 46–56.
- Saroyan, H., Kyzas, G.Z., and Deliyanni, E.A., 2019, Effective dye degradation by graphene oxide supported manganese oxide. *Processes*, 7, 11–13.
- Serra, M.O.D.E. and Schnitzer, M., 1972, Extraction of Humic Acid by Alkali and Chelating Resin. *Can.J.Soil Sci.*, 52, 365–374.
- Sharif, F. and Roberts, E.P.L., 2020, Electrochemical Oxidation of an Organic Dye Adsorbed on Tin Oxide and Antimony Doped Tin Oxide Graphene Composites. *catalysts*, 10.
- Shetti, N.P., Malode, S.J., Malladi, R.S., Nargund, S.L., Shukla, S.S., and Aminabhavi, T.M., 2019, Electrochemical detection and degradation of textile dye Congo red at graphene oxide modified electrode. *Microchem. J.*, 146, 387–392.

- Shetti, N.P., Nayak, D.S., Malode, S.J., Kulkarni, R.M., Kulkarni, D.B., Teggi, R.A., and Joshi, V. V., 2017, Electrooxidation and determination of flufenamic acid at graphene oxide modified carbon electrode. *Surfaces and Interfaces*, 9, 107–113.
- 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.*, 39, 7054–7059.
- Shornikova, O.N., Sorokina, N.E., Maksimova, N. V, and Avdeev, V. V, 2005, Graphite Intercalation in the Graphite–H<sub>2</sub>SO<sub>4</sub>–R (R=H<sub>2</sub>O, C<sub>2</sub>H<sub>5</sub>OH, C<sub>2</sub>H<sub>5</sub>COOH) Systems. *Inorg. Mater.*, 41, 120–126.
- Singh, S., Lien, S., Chandra, V., and Devidas, A., 2016, Comparative study of electrochemical oxidation for dye degradation: Parametric optimization and mechanism identification. *J. Environ. Chem. Eng.*, 4, 2911–2921.
- Smith, A.T., LaChance, A.M., Zeng, S., Liu, B., and Sun, L., 2019, Synthesis, properties, and applications of graphene oxide/reduced graphene oxide and their nanocomposites. *Nano Mater. Sci.* 31–47.
- Stankovich, S., Dikin, D.A., Dommett, G.H.B., Kohlhaas, K.M., Zimney, E.J., Stach, E.A., et al., 2006, Graphene-based composite materials. *Nature*, 442, 282–286.
- Stankovich, S., Dikin, D.A., Piner, R.D., Kohlhaas, K.A., Kleinhammes, A., Jia, Y., and Wu, Y., 2007, Synthesis of graphene-based nanosheets via chemical reduction of exfoliated graphite oxide. *Carbon*, 45, 1558–1565.
- Su, C.Y., Lu, A.Y., Xu, Y., Chen, F.R., Khlobystov, A.N., and Li, L.J., 2011, High-quality thin graphene films from fast electrochemical exfoliation. *ACS Nano*, 5, 2332–2339.
- Sudiono, S., Yuniarti, M., Siswanta, D., Kunarti, E.S., Triyono, T., and Santosa, S.J., 2017, The role of carboxyl and hydroxyl groups of humic acid in removing AuCl<sub>4</sub><sup>-</sup> from aqueous solution. *Indones. J. Chem.*, 17, 95–104.
- Sun, Y., Wang, G., Dong, Q., Qian, B., Meng, Y., Wang, G., et al., 2014, Electrolysis removal of methyl orange dye from water by electrospun activated carbon fibers modified with carbon nanotubes. *Chem. Eng. J.*, 253, 73-77.
- Sunderrajan, S., Miranda, L.R., and Pennathur, G., 2018, Improved stability and catalytic activity of graphene oxide/chitosan hybrid beads loaded with porcine liver esterase. *Prep. Biochem. Biotechnol.*, 48, 343–351.
- Tan, L., 2011, Solar Photocatalytic Decolorization and Detoxification of Industrial Batik Dye Wastewater Using P(3HB)-TiO<sub>2</sub> Nanocomposite Films. *Clean - Soil, Air, Water*, 39, 265–273.
- Tavares, M.G., Lozele, V.A., Sales, A.M., Tonholo, J., Martínez-huitle, C.A., and Zanta, C.L.P.S., 2012, Electrochemical oxidation of Methyl Red using Ti/Ru<sub>0.3</sub>Ti<sub>0.7</sub>O<sub>2</sub> and Ti/Pt anodes. *Chem. Eng. J.*, 204–206, 141–150.
- Termemil, F., Soualmia, S., and Benloucif, M.R., 2017, Contribution to the study of the stainless steel electrodes dissolution under bipolar pulsed polarization. *J. Mater. Environ. Sci.*, 8, 3777–3784.
- Toh, S.Y., Loh, K.S., Kamarudin, S.K., and Daud, W.R.W., 2014, Graphene production via electrochemical reduction of graphene oxide: Synthesis and

- characterisation. *Chem. Eng. J.*, 251, 422–434.
- Tunc, S. and Duman, O., 2013, Monitoring the Decolorization of Acid Orange 8 and Acid Red 44 from Aqueous Solution Using Fenton's Reagents by Online Spectrophotometric Method: Effect of Operation Parameters and Kinetic Study. *Ind. Eng. Chem. Res.*, 52, 1414–1425.
- Ulson de Souza, S.M.A.G., Forgiarini, E., and Ulson de Souza, A.A., 2007, Toxicity of textile dyes and their degradation by the enzyme horseradish peroxidase (HRP). *J. Hazard. Mater.*, 147, 1073–1078.
- Uran, S., Alhani, A., and Silva, C., 2017, Study of ultraviolet-visible light absorbance of exfoliated graphite forms. *AIP Adv.*, 7, 35323.
- Vacchi, I.A., Raya, J., Bianco, A., and Ménard-Moyon, C., 2018, Controlled derivatization of hydroxyl groups of graphene oxide in mild conditions. *2D Mater.*, 5, 035037.
- Vlyssides, A.G. and Israilides, C.J., 1998, Electrochemical oxidation of a textile dye and finishing wastewater using a Pt/Ti electrode. *J. Environ. Sci. Heal.*, 33, 847–862.
- Wang, B., Gu, L., and Ma, H., 2007, Electrochemical oxidation of pulp and paper making wastewater assisted by transition metal modified kaolin. *J. Hazard. Mater.*, 143, 198–205.
- Wang, B., Kong, W., and Ma, H., 2007, Electrochemical treatment of paper mill wastewater using three-dimensional electrodes with Ti/Co/SnO<sub>2</sub>-Sb<sub>2</sub>O<sub>5</sub> anode. *J. Hazard. Mater.*, 146, 295–301.
- Wang, G., Wang, B., Park, J., Wang, Y., Sun, B., and Yao, J., 2009, Highly efficient and large-scale synthesis of graphene by electrolytic exfoliation. *Carbon*, 47, 3242–3246.
- Wang, J., Manga, K.K., Bao, Q., and Loh, K.P., 2011, High-Yield Synthesis of Few-Layer Graphene Flakes through Electrochemical Expansion of Graphite in Propylene Carbonate Electrolyte. *J. Am. Chem. Soc.*, 133, 8888–8891.
- Wang, Q., Tian, S., and Ning, P., 2014, Degradation Mechanism of Methylene Blue in a Heterogeneous Fenton-like Reaction Catalyzed by Ferrocene. *Ind. Eng. Chem. Res.*, 53, 643–649.
- Wang, X., Han, S., Zhang, Q., Zhang, N., and Zhao, D., 2018, Photocatalytic oxidation degradation mechanism study of methylene blue dye waste water with GR/iTO<sub>2</sub>. *MATEC Web Conf.*, 238, 3006.
- Wang, Z., Zhou, X., Zhang, J., Boey, F., and Zhang, H., 2009, Direct electrochemical reduction of single-layer graphene oxide and subsequent functionalization with glucose oxidase. *J. Phys. Chem. C*, 113, 14071–14075.
- Xing, B., Yuan, R., Zhang, C., Huang, G., Guo, H., Chen, Z., et al., 2017, Facile synthesis of graphene nanosheets from humic acid for supercapacitors. *Fuel Process. Technol.*, 165, 112–122.
- Xu, Y. and Shi, G., 2011, Assembly of chemically modified graphene: Methods and applications. *J. Mater. Chem.*, 21, 3311–3323.
- Yan, J.A. and Chou, M.Y., 2010, Oxidation functional groups on graphene: Structural

- and electronic properties. *Phys. Rev. B - Condens. Matter Mater. Phys.*, 82, 21–24.
- Yan, L., Lin, M., Zeng, C., Chen, Z., Zhang, S., Zhao, X., et al., 2012, Electroactive and biocompatible hydroxyl- functionalized graphene by ball milling. *J. Mater. Chem.*, 22, 8367–8371.
- Yang, H., Liang, J., Zhang, L., and Liang, Z., 2016, Electrochemical oxidation degradation of methyl orange wastewater by Nb/PbO<sub>2</sub> electrode. *Int. J. Electrochem. Sci.*, 11, 1121–1134.
- Yang, S., Ricciardulli, A.G., Liu, S., Dong, R., Lohe, M.R., Becker, A., et al., 2017, Ultrafast Delamination of Graphite into High-Quality Graphene Using Alternating Currents. *Angew. Chemie - Int. Ed.*, 56, 6669–6675.
- Yi, M., Shen, Z., Zhang, X., and Ma, S., 2013, Achieving concentrated graphene dispersions in water/acetone mixtures by the strategy of tailoring Hansen solubility parameters. *J. Phys. D Appl. Phys.*, 46, 25301.
- Yu, L., Polytech, S., Xi, J., Chan, H.T., Company, D.C., and Phillips, D.L., 2012, The Degradation Mechanism of Methyl Orange Under Photo-Catalysis of TiO<sub>2</sub>. *Phys. Chem. Chem. Phys.*, 14, 3589-3595.
- Yu, X., Huang, L., Wei, Y., Zhang, J., and Zhao, Z., 2015, Controllable preparation , characterization and performance of Cu<sub>2</sub>O thin film and photocatalytic degradation of methylene blue using response surface methodology. *Mater. Res. Bull.*, 64, 410–417.
- Zafar, M.N., Dar, Q., Nawaz, F., Zafar, M.N., Iqbal, M., and Nazar, M.F., 2019, Effective adsorptive removal of azo dyes over spherical ZnO nanoparticles. *J. Mater. Res. Technol.*, 8, 713–725.
- Zhang, Y. and Xu, Y., 2019, Simultaneous Electrochemical Dual-Electrode Exfoliation of Graphite toward Scalable Production of High-Quality Graphene. *Adv. Funct. Mater.*, 29, 1–14.
- Zhang, Y.I., Zhang, L., and Zhou, C., 2013, Review of Chemical Vapor Deposition of Graphene and Related Applications. *Acc.Chem.Res.*, 46, 2329–2339.
- Zhong, Y., Zhen, Z., and Zhu, H., 2017, Graphene : Fundamental research and potential applications Solution phase methods. *FlatChem*, 4, 20–32.
- Zhong, Y.L., Tian, Z., Simon, G.P., and Li, D., 2015, Scalable production of graphene via wet chemistry : progress and challenges. *Mater. Today*, 18, 73–78.
- Zhou, M., Wang, Y., Zhai, Y., Zhai, J., Ren, W., Wang, F., and Dong, S., 2009, Controlled synthesis of large-area and patterned electrochemically reduced graphene oxide films. *Chem. - A Eur. J.*, 15, 6116–6120.
- Zhu, J., 2015, Synthesis of graphene from biomass: A green chemistry approach. *Mater. Lett.*, 161, 476–479.
- Ziarani, G.M., Moradi, R., Lashgari, N., and Kruger, H.G., 2018, Introduction and Importance of Synthetic Organic Dyes. *Met. Synth. Org. Dye*. 1–7.