

DAFTAR PUSTAKA

- Abd Mutalib, M., Rahman, M. A., Othman, M. H., Ismail, A. F., & Jaafar, J. (2017). Scanning Electron Microscopy (SEM) and Energy-Dispersive X-Ray (EDX) Spectroscopy. *Membrane Characterization*, 161–179.
- Albers, P. W., Leich, V., Ramirez-Cuesta, A. J., Cheng, Y., Hönig, J., & Parker, S. F. (2022). The characterisation of commercial 2D carbons: Graphene, graphene oxide and reduced graphene oxide. *Materials Advances*, 3(6), 2810-2826.
- Anuar, M. F., Fen, Y. W., Zaid, M. H., Matori, K. A., & Khaidir, R. E. (2018). Synthesis and structural properties of coconut husk as potential silica source. *Results in Physics*, 1–4.
- Azeta, O., Ayeni, A. O., Agboola, O., & Elehinafe, F. B. (2021). A review on the sustainable energy generation from the pyrolysis of coconut biomass. *Scientific African*, 13, e00909.
- Baron, A. S. (2019). Synthesis and Characterization of methyl ammonium lead tri halide Perovskite Compounds and their Applications in Photonic Devices. *University of Basrah, Iraq*.
- Bhattacharya, G., Kandasamy, G., Soin, N., Upadhyay, R. K., Deshmukh, S., Maity, D., et al. (2017). Novel π -conjugated iron oxide/reduced graphene oxide nanocomposites for high performance electrochemical supercapacitors. *RSC advances*, 7(1), 327-335.
- Chen, Y., Qin, L., Lei, Y., Li, X., Dong, J., Zhai, D., et al. (2019). Correlation Between Microstructure and Potassium Storage Behavior in Reduced Graphene Oxide Materials. *ACS Applied Materials & Interfaces*.
- Chin, K. L., Lee, C. L., H'ng, P. S., Rashid, U., Paridah, M. T., Khoo, P. S., et al. (2020). Refining Micropore Capacity of Activated Carbon Derived from Coconut Shell via Deashing Post Treatment. *BioResources*, 15(4), 7749-7769.
- Chuah, R., Gopinath, S., Anbu, P., Salimi, M., Yaakub, A., & Lakshmipriya, T. (2020). Synthesis and characterization of reduced graphene oxide using the aqueous extract of *Eclipta prostrata*. *3 Biotek*, 10, 1-10.
- de Oliveira Mendes, G., Murta, H. M., Valadares, R. V., da Silveira, W. B., da Silva, I. R., & Costa, M. D. (2020). Oxalic acid is more efficient than sulfuric acid for rock phosphate solubilization. *Minerals Engineering*, 155, 106458.
- Diggikar, R. S., Late, D. J., & Kale, B. B. (2014). Unusual morphologies of reduced graphene oxide and polyaniline nanofibers-reduced graphene

- oxide composites for high performance supercapacitor applications. *RSC Advances*, 4(43), 22551-22560.
- Downes, A., & Elfick, A. (2010). Raman spectroscopy and related techniques in biomedicine. *Sensors*, 10(3), 1871-1889.
- Eftekhari, A., Li, L., & Yang, Y. (2017). Polyaniline supercapacitors. *Journal of Power Sources*, 347, 86–107.
- Epp, J. (2016). X-ray diffraction (XRD) techniques for materials characterization. *Materials Characterization Using Nondestructive Evaluation (NDE) Methods*, 81–124.
- F, F., W, D., & H, S. (2020). Graphitization Of Coconut Shell Charcoal For Sulfonated Mesoporus Carbon catalyst preparation and its catalytic behavior in esterification reaction. *Bulletin of Chemical Reaction Engineering & Catalysis*, 15(2), 538-544.
- Fahmi, F., Dewayanti, N. A., Widiyastuti, W., & Setyawan, H. (2020). Preparation of porous graphene-like material from coconut shell charcoals for supercapacitors. *Cogent Engineering*, 7(1).
- Fauzi, A. A., Prasetyo, I., & Ariyanto, R. a. (2018). Karbon Mesopori dari Pirolisis Polimer Sintesis dan Aplikasinya untuk Penyerapan Gas Rumah Kaca. *Jurnal Konverensi Universitas Muhammadiyah Jakarta*, 7, 1.
- Fleck, R. A., & Humbel, B. M. (2019). Biological Field Emission Scanning Electron Microscopy . *John Wiley & Sons*, 2.
- Gupta, B., Kumar, N., Panda, K., Kanan, V., Joshi, S., & Visoly-Fisher, I. (2017). Role of oxygen functional groups in reduced graphene oxide for lubrication. *Scientific Reports*, 7(1).
- Halisyah, F., & Nazirah, S. (2023). Prarancangan pabrik asam oksalat dihidrat dari molasses (sugar beet) dan asam nitrat dengan proses oksidasi dengan katalis vanadium pentaoksida dan asam sulfat kapasitas 10.000 ton/tahun. *Jurnal Tugas Akhir Teknik Kimia*, 6, 1.
- Husseinsyah, S., & Mostapha, M. (2011). The Effect of Filler Content on Properties of Coconut Shell Filled Polyester Composites. *Malaysian Polymer Journal*, 6, 87-97.
- Ikram, M., Raza, A., Imran, M., Ul-Hamid, A., Shahbaz, A., & Ali, S. (2020). Hydrothermal synthesis of silver decorated reduced graphene oxide (rGO) nanoflakes with effective photocatalytic activity for wastewater treatment. *Nanoscale Research Letters*, 15, 1-11.
- Illingworth, J. M., Rand, B., & Williams, P. T. (2022). Understanding the mechanism of two-step, pyrolysis-alkali chemical activation of fibrous

- biomass for the production of activated carbon fibre matting. *Fuel Processing Technology*, 235, 107348.
- Jian, M. Q., Xie, H. H., Xia, K. L., & Zhang, Y. Y. (2017). Challenge and Opportunities of Carbon Nanotubes. *Industrial Applications of Carbon Nanotubes*, 433–476.
- Jiao, X., Qiu, Y., Zhang, L., & Zhang, X. (2017). Comparison of the characteristic properties of reduced graphene oxides synthesized from natural graphites with different graphitization degrees. *RSC Advances*, 7(82), 52337–52344.
- Jiat, L. X., Zhang, H. B., Yee, L. ..., Suyin, G., Gopakumar, S. T., & Rigby, S. (2019). Review on Graphene and It's Derivatives: Synthesis Methods and Potential Industrial Implementation. *J. Taiwan Inst. Chem. Eng*, 98: 163-180.
- Karouw, S., Santosa, B., & Maskromo, I. (2019). Processing Technology of Coconut Oil and Its By Products. *Jurnal litbang Pertanian*, 38, 86-95.
- Khan, H. Y., D'Oliveira, A., Alford, T. L., Boffito, D. C., & Patience, G. S. (2020). Experimental methods in chemical engineering: X-ray diffraction spectroscopy—XRD. *The Canadian journal of chemical engineering*, 98(6), 1255-1266.
- Kiani, S. S., Farooq, A., Ahmad, M., Irfan, N., Nawaz, M., & Irshad, M. A. (2021). Impregnation on activated carbon for removal of chemical warfare agents (CWAs) and radioactive content. *Environmental Science and Pollution Research*, 28, 60477-60494.
- Kumar, R., Gunjal, J., & Chauhan, S. (2021). Effect of carbonization temperature on properties of natural fiber and charcoal filled hybrid polymer composite. *Composites Part B: Engineering*, 217, 108846.
- Lavin-Lopez, M. D., Paton-Carrero, A., Sanchez-Silva, L., Valverde, J. L., & Romero, A. (2017). Influence of the reduction strategy in the synthesis of reduced graphene oxide. *Advanced Powder Technology*, 28(12), 3195-3203.
- Lee, K.-C., Lim, M. S., Hong, Z.-Y., Chong, S., Tiong, T. J., Pan, G.-T., et al. (2021). Coconut Shell-Derived Activated Carbon for High-Performance Solid-State Supercapacitors. *Energies*, 14, 4546.
- Lee, S. P., Ali, G. A., Hegazy, H. H., Lim, H. N., & Chong, K. F. (2021). Optimizing Reduced Graphene Oxide Aerogel for a Supercapacitor. *Energy & Fuels*, 35(5), 4559–4569.
- Ma, W., Wang, J., Wu, T., Wen, J., Zhao, B., Wei, L., et al. (2023). Three-dimensional nitrogen-doped graphene quantum dots/reduced graphene

- oxide composite hydrogels as binder-free electrodes for symmetric supercapacitors. *Materials Chemistry and Physics*, 310, 128365.
- Mathew, E. E., & Balachandran, M. (2021). Crumpled and porous graphene for supercapacitor applications: A short review. *Carbon Letters*, 31(4), 537-555.
- Mayeen, A., Shaji, L. K., Nair, A. K., & Kalarikkal, N. (. (2018). Morphological Characterization of Nanomaterials. *Characterization of Nanomaterials*, 335–364.
- Medagedara, A., Waduge, N., Bandara, T., Wimalasena, I., Dissanayake, M., Tennakone, K., et al. (2022). Triethylammonium thiocyanate ionic liquid electrolyte-based supercapacitor fabricated using coconut shell-driven electronically conducting activated charcoal electrode material. *Journal of Energy Storage*, 55, 105628.
- Naderi, M. (2015). Surface Area. *Progress in Filtration and Separation*, 585–608.
- Najib, S., & Erdem, E. (2019). Current progress achieved in novel materials for supercapacitor electrodes: mini review. *Nanoscale Advances*, 1(8), 2817-2827.
- Novoselov, K. S. (2004). Electric Field Effect in Atomically Thin Carbon Films. *Science*, 306(5696).
- Pershaanaa, M., Bashir, S., Ramesh, S., & Ramesh, K. (2022). Every bite of Supercap: A brief review on construction and enhancement of supercapacitor. *Journal of Energy Storage*, 50, 104599.
- Prakash, D., & Manivannan, S. (2021). N, B co-doped and crumpled graphene oxide pseudocapacitive electrode for high energy supercapacitor. *Surfaces and Interfaces*, 23, 101025.
- Qorbani, M., Chou, T. C., Lee, Y. H., Samireddi, S., Naseri, N., Ganguly, A., et al. (2017). Multi-porous Co₃O₄ nanoflakes@ sponge-like few-layer partially reduced graphene oxide hybrids: towards highly stable asymmetric supercapacitors. *Journal of Materials Chemistry A*, 5(24), 12569-12577.
- Qu, Y., Du, Y., Fan, G., Xin, J., Liu, Y., Xie, P., et al. (2019). Low-temperature sintering Graphene/CaCu₃Ti₄O₁₂ nanocomposites with tunable negative permittivity. *J. Alloy. Comp.*, 771, 699–710.
- Ruan, K., Guo, Y., Tang, Y., Zhang, Y., Zhang, J., He, M., et al. (2018). Improved thermal conductivities in polystyrene nanocomposites by incorporating thermal reduced graphene oxide via electrospinning-hot press technique. *Compos. Commun.*, 10, 68–72.

- Saini, P., Sharma, R., & Chadha, N. (2017). Determination of defect density, crystallite size and number of graphene layers in graphene analogues using X-ray diffraction and Raman spectroscopy. *Indian Journal of Pure & Applied Physics (IJPAP)*, 55(9), 625-629.
- Saini, S., Chand, P., & Joshi, A. (2021). Biomass derived carbon for supercapacitor applications. *Journal of Energy Storage*, 39, 102646.
- Saleem, H., Haneef, M., & Abbasi, H. Y. (2018). Synthesis route of reduced graphene oxide via thermal reduction of chemically exfoliated graphene oxide. *Materials Chemistry and Physics*, 204, 1-7.
- Saleem, J., Shahid, U., Bin, H. M., Mackey, H., & McKay, G. (2019). Production and applications of activated carbons as adsorbents from olive stones. *Biomass Conversion and Biorefinery*, 9(4), 775-802.
- Sankar, S., Lee, H., Jung, H., Kim, A., Ahmed, A. T., Inamdar, A. I., et al. (2017). Ultrathin graphene nanosheets derived from rice husks for sustainable supercapacitor electrodes. *New Journal of Chemistry*, 41(22), 13792–13797.
- Saputro, E. A., Wulan, V. D., Winata, B. Y., Yogaswara, R. R., & Erliyanti, N. K. (2020). The Process of Activated Carbon from Coconut Shells Through Chemical Activation. *Natural Science Journal of Science and Technology*, 09, 01: 23-28.
- Shahdeo, D., Roberts, A., Abbineni, N., & Gandhi, S. (2020). Chapter Eight - Graphene based sensors. *Comprehensive Analytical Chemistry*, 91, 175-199.
- Shar, A. H., Alali, K. T., Liu, J., Ahmed, M., Shah, A. H., & Wang, J. (2020). Facile synthesis of reduced graphene oxide encapsulated selenium nanoparticles prepared by hydrothermal method for acetone gas sensors. *Chemical Physics Letters*, 755, 137797.
- Sharma, M., Rani, S., Pathak, D. K., Bhatia, R., Kumar, R., & Sameera, I. (2021). Temperature dependent Raman modes of reduced graphene oxide: Effect of anharmonicity, crystallite size and defects. *Carbon*, 184, 437–444.
- Silaban, D. P. (2018). Activated carbon made of coconut shell charcoal from boiler machine waste as adsorber of Cd, Cu and Pb. *Jurnal Dinamika Penelitian Industr*, 29, 2.
- Silva, K. K., Huang, H.-H., & Yoshimura, M. (2018). Progress of reduction of graphene oxide by ascorbic acid. *Applied Surface Science*.
- Su, R., Lin, S. F., Chen, D. Q., & Chen, G. H. (2014). Study on the absorption coefficient of reduced graphene oxide dispersion. *The Journal of Physical Chemistry C*, 118(23), 12520-12525.

- Sujiono, E. H., Zabrian, D., Dahlan, M. Y., Amin, B. D., & Agus, J. (2020). Graphene oxide based coconut shell waste: synthesis by modified Hummers method and characterization. *Heliyon*, 6(8).
- Supriyanto, G., Rukman, N. K., Nisa, A. K., Jannatin, M., Piere, B., Abdullah, A., et al. (2018). Graphene Oxide from Indonesian Biomass: Synthesis and Characterization. *BioResources*, 13, 3.
- Tarcan, R., Todor-Boer, O., Petrovai, I., Leordean, C., Astilean, S., & Botiz, I. (2020). Reduced graphene oxide today. *Journal of Materials Chemistry C*, 8(4), 1198-1224.
- Tomar, R., Kishore, K., Singh Parihar, H., & Gupta, N. (2021). A comprehensive study of waste coconut shell aggregate as raw material in concrete. *Materials Today: Proceedings*, 44, 437-443.
- Tshifhiwa, M. M., Madito, M. J., Bello, A., Dangbegnon, J. K., & Manyala, N. (2017). High performance asymmetric supercapacitor based on molybdenum disulphide/graphene foam and activated carbon from expanded graphite. *J. Colloid Interface Sci*, 488, 155.
- Wang, B., Liu, J., Zhao, Y. L., Xian, W., Amjadipour, M., & Motta, N. (2016). Role of graphene oxide liquid crystals in hydrothermal reduction and supercapacitor performance. *ACS Applied Materials & Interfaces*, 8(34), 22316-22323.
- Wang, C., Zhou, J., & Du, F. (2016). Synthesis of highly reduced graphene oxide for supercapacitor. *Journal of Nanomaterials*.
- Wang, X. L., Zhao, Y., Chen, J. Y., & Wang, J. (2016). The influence of oxygen functional groups on gas-sensing properties of reduced graphene oxide (rGO) at room temperature. *RSC Advances*, 6, 57, 52339-52346.
- Wang, Y., Chen, Hua, Z., Huang, J. L., Jie, G., Cao, et al. (2018). Preparation and catalytic behavior of reduced graphene oxide supported cobalt oxide hybrid nanocatalysts for CO oxidation. *Transactions of Nonferrous Metals Society of China*, 28(11), 2265–2273.
- Wei, T., Zhang, M., Wu, P., Tang, Y., Li, S., Shen, F., et al. (2017). POM-based metal-organic framework/reduced graphene oxide nanocomposites with hybrid behavior of battery-supercapacitor for superior lithium storage. *Nano Energy*, 34, 205–21.
- Widanarto, W., Budianti, S. I., Ghoshal, S. K., Kurniawan, C., Handoko, E., & Alaydrus, M. (2022). Improved microwave absorption traits of coconut shells derived activated carbon. *Diamond and Related Materials*, 126(November 2021).

- Wong, S., Ngadi, N., Inuwa, I. M., & Hassan, O. (2018). Kemajuan terkini dalam penerapan karbon aktif dari limbah hayati untuk pengolahan air limbah. *Jurnal Produksi Bersih*, 175, 361-375.
- Wu, J. B., Lin, M. L., Cong, X., Liu, H. N., & Tan, P. H. (2018). Raman spectroscopy of graphene-based materials and its applications in related devices. *Chemical Society Reviews*, 47(5), 1822-1873.
- Yahya, M. A., Mansor, M. H., Zolkarnaini, W. A., Rusli, N. S., Aminuddin, A., Mohamad, K., et al. (2018). A Brief Review on Activated Carbon derived from agriculture By-Product. *AIP Conf. Proc.*, 1972,030023.
- Yang, Wang, M., Shi, Z., Xiao, R., Sun, X., & Chen, Y. (2021). Synergistic effect of anion and cation in oxalic acid for graphene surface engineering and its enhanced pseudocapacitance performance. *Journal of Alloys and Compounds*, 868, 159128.
- Z., S., Y., Y., X., R., Y., M., Z., Y., S., X., et al. (2021). Montmorillonite as the multifunctional reagent for preparing reduced graphene oxide and its improved supercapacitive performance. *Applied Clay Science*, 200,105821.
- Zhang, C., Zhu, X., Wang, Z., Sun, P., Ren, Y., Zhu, J., et al. (2014). Facile synthesis and strongly microstructure-dependent electrochemical properties of graphene/manganese dioxide composites for supercapacitors. *Nanoscale Research Letters*, 9(1), 490.
- Zhang, J., Zhang, Z., Jiao, Y., Yang, H., Li, Y., Zhang, J., et al. (2019). The graphene/lanthanum oxide nanocomposites as electrode materials of supercapacitors. *Journal of Power Sources*, 419, 99–105.
- Zobir, S. A., Rashid, S. A., & Tan, T. (2019). Chapter 4 - Recent Development on the Synthesis Techniques and Properties of Graphene Derivatives. Synthesis. *Technology and Applications of Carbon Nanomaterials*, 77-107.