

DAFTAR PUSTAKA

- Ahmed, S., Ahmed, A., dan Rafat, M., (2018), Supercapacitor performance of activated carbon derived from rotten carrot in aqueous, organic and ionic liquid based electrolytes, *Journal of Saudi Chemical Society*, 22(8), 993–1002.
- Angin, D., Altintig, E., dan Köse, T. E., (2013), Influence of process parameters on the surface and chemical properties of activated carbon obtained from biochar by chemical activation, *Bioresource Technology*, 148, 542-549.
- Bang, J. H., Lee, H. M., An, K. H., dan Kim, B. J., (2017), A study on optimal pore development of modified commercial activated carbons for electrode materials of supercapacitors, *Applied Surface Science*, 415, 61-66.
- Bastami, T. R., dan Entezari, M. H., (2012), Activated carbon from carrot dross combined with magnetite nanoparticles for the efficient removal of p-nitrophenol from aqueous solution, *Chemical Engineering Journal*, 210, 510–519.
- Bedia, J., Belver, C., Ponce, S., Rodriguez, J., dan Rodriguez, J. J., (2018), Adsorption of antipyrine by activated carbons from FeCl₃-activation of Tara gum, *Chemical Engineering Journal*, 333, 58–65.
- Cai, X. F., dan Sun, S., (2021), Cyclic Voltammetric Simulations on Batteries with Porous Electrodes, *Journal of Electrochemistry*, 27(6), 646.
- Caputo, A. C., Palumbo, M., Pelagagge, P. M., dan Scacchia, F., (2005), Economics of biomass energy utilization in combustion and gasification plants: effects of logistic variables, *Biomass and bioenergy*, 28(1), 35-51.
- Castro-Gutiérrez, J., Canevesi, R. L. S., Emo, M., Izquierdo, M. T., Celzard, A., dan Fierro, V., (2022), CO₂ outperforms KOH as an activator for high-rate supercapacitors in aqueous electrolyte, *Renewable and Sustainable Energy Reviews*, 167, 112716.
- Chen, H., Cong, T. N., Yang, W., Tan, C., Li, Y., dan Ding, Y., (2009), Progress in electrical energy storage system: A critical review, Dalam *Progress in Natural Science* (Vol. 19, Issue 3, hlm. 291–312), Science Press.
- Chen, W., Rakhi, R. B., Hu, L., Xie, X., Cui, Y., dan Alshareef, H. N., (2011), High-performance nanostructured supercapacitors on a sponge, *Nano letters*, 11(12), 5165-5172.
- Cheng, Y., Wu, L., Fang, C., Li, T., Chen, J., Yang, M., dan Zhang, Q., (2020), Synthesis of porous carbon materials derived from laminaria japonica via simple carbonization and activation for supercapacitors, *Journal of Materials Research and Technology*, 9(3), 3261–3271.
- Colomba, A., Berruti, F., dan Briens, C., (2022), Model for the physical activation of biochar to activated carbon, *Journal of Analytical and Applied Pyrolysis*, 168, 105769.

- Cottineau, T., Toupin, M., Delahaye, T., Brousse, T., dan Bélanger, D., (2006), Nanostructured transition metal oxides for aqueous hybrid electrochemical supercapacitors, *Applied Physics A: Materials Science and Processing*, 82(4 SPEC. ISS.), 599–606.
- Daziano, R. A., (2022), Willingness to delay charging of electric vehicles, *Research in Transportation Economics*, 101177.
- De, S., Acharya, S., Sahoo, S., dan Nayak, G. C., (2020), Present status of biomass-derived carbon-based composites for supercapacitor application, In *Nanostructured, Functional, and Flexible Materials for Energy Conversion and Storage Systems* (pp. 373-415), Elsevier.
- Demiral, H., dan Demiral, İ., (2008), Surface properties of activated carbon prepared from wastes, *Surface and Interface Analysis: An International Journal devoted to the development and application of techniques for the analysis of surfaces, interfaces and thin films*, 40(3-4), 612-615.
- Díaz, J. M., dan Gullón, I. M., (2006), Chapter 1 Types of carbon adsorbents and their production, *Interface Science and Technology*, 7, 80010-4.
- Doloksaribu, M. E., (2019), Fabrikasi dan Karakterisasi Superkapasitor Berbasis Karbon Aktif Nanopori dan Logam Transisi Oksida, *Disertasi*, Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Gadjah Mada, Yogyakarta.
- Du, W., Zhang, Z., Du, L., Fan, X., Shen, Z., Ren, X., Zhao, Y., Wei, C., dan Wei, S., (2019), Designing synthesis of porous biomass carbon from wheat straw and the functionalizing application in flexible, all-solid-state supercapacitors, *Journal of Alloys and Compounds*, 797, 1031-1040.
- Fachrudin, A. C., (2021), Fabrikasi Superkapasitor Berbasis Karbon Aktif Dengan *Manganese Dioxide* dan *Reduced Graphene Oxide*, *Skripsi*, Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Gadjah Mada, Yogyakarta.
- Gandla, D., Wu, X., Zhang, F., Wu, C., dan Tan, D. Q., (2021), High-Performance and High-Voltage Supercapacitors Based on N-Doped Mesoporous Activated Carbon Derived from Dragon Fruit Peels, *AC Omega*, 6(11), 7615–7625.
- Gayathiri, M., Pulingam, T., Lee, K. T., dan Sudesh, K., (2022), Activated carbon from biomass waste precursors: Factors affecting production and adsorption mechanism, Dalam *Chemosphere* (Vol. 294), Elsevier Ltd.
- Gong, Y., Deng, G., Han, C., dan Ning, X., (2015), Process optimization based on carrot powder color characteristics, *Engineering in agriculture, environment and food*, 8(3), 137-142.
- He, X., Ling, P., Qiu, J., Yu, M., Zhang, X., Yu, C., dan Zheng, M., (2013), Efficient preparation of biomass-based mesoporous carbons for supercapacitors with both high energy density and high power density, *Journal of Power Sources*, 240, 109-113.
- He, D., Zhao, W., Li, P., Liu, Z., Wu, H., Liu, L., Han, K., Liu, L., Wan, Q., Butt, F.K., dan Qu, X., (2019), Bifunctional biomass-derived 3D nitrogen-doped porous carbon for oxygen reduction reaction and solid-state supercapacitor,

- Applied Surface Science*, 465, 303-312.
- Hou, R., Lei, L., Jin, K., Lin, X., dan Xiao, L., (2022), Introducing electric vehicles? Impact of network effect on profits and social welfare, *Energy*, 243, 123002.
- Hussain, I., Lamiel, C., Ahmad, M., Chen, Y., Shuang, S., Javed, M. S., Yang, Y., dan Zhang, K., (2021), High entropy alloys as electrode material for supercapacitors: A review, Dalam *Journal of Energy Storage* (Vol. 44), Elsevier Ltd.
- Iro, Z. S., Subramani, C., dan Dash, S. S., (2016), A brief review on electrode materials for supercapacitor, Dalam *International Journal of Electrochemical Science* (Vol. 11, Issue 12, hlm. 10628–10643), Electrochemical Science Group.
- Khan, A., Senthil, R. A., Pan, J., Osman, S., Sun, Y., dan Shu, X., (2020), A new biomass derived rod-like porous carbon from tea-waste as inexpensive and sustainable energy material for advanced supercapacitor application, *Electrochimica Acta*, 335, 135588.
- Kyotani, T., (2003), Porous carbon, In *Carbon alloys* (pp. 109-127), Elsevier Science.
- Lakra, R., Kumar, R., Sahoo, P. K., Thatoi, D., dan Soam, A., (2021), A mini-review: Graphene based composites for supercapacitor application, Dalam *Inorganic Chemistry Communications* (Vol. 133), Elsevier B.V.
- Li, X., Xing, W., Zhuo, S., Zhou, J., Li, F., Qiao, S. Z., dan Lu, G. Q., (2011), Preparation of capacitor's electrode from sunflower seed shell, *Bioresource technology*, 102(2), 1118-1123.
- Lua, A. C., Yang, T., dan Guo, J., (2004), Effects of pyrolysis conditions on the properties of activated carbons prepared from pistachio-nut shells, *Journal of analytical and applied pyrolysis*, 72(2), 279-287.
- Ma, J., Li, Y., Grundish, N. S., Goodenough, J. B., Chen, Y., Guo, L., Peng, Z., Qi, X., Yang, F., Qie, L., Wang, C. A., Huang, B., Huang, Z., Chen, L., Su, D., Wang, G., Peng, X., Chen, Z., Yang, J., ... Wan, L. J., (2021), The 2021 battery technology roadmap, *Journal of Physics D: Applied Physics*, 54(18).
- Mabbott, G. A., (1983), An introduction to cyclic voltammetry, *Journal of Chemical education*, 60(9), 697.
- Manasa, P., Sambasivam, S., dan Ran, F., (2022), Recent progress on biomass waste derived activated carbon electrode materials for supercapacitors applications—A review, *Journal of Energy Storage*, 54, 105290.
- Mbarki, F., Selmi, T., Kesraoui, A., dan Seffen, M., (2022), Low-cost activated carbon preparation from Corn stigmata fibers chemically activated using H₃PO₄, ZnCl₂ and KOH: Study of methylene blue adsorption, stochastic isotherm and fractal kinetic, *Industrial Crops and Products*, 178.
- Mengdie, G. U. A. N., ZHANG, X., Yingping, W. U., Qihao, S. U. N., Dongqi, D. O. N. G., ZHANG, X., dan Jie, W. A. N. G., (2019), Biomass Straw Based Activated Porous Carbon Materials for High-Performance Supercapacitors, *Research and Application of Materials Science*, 1(2).

- Miller, J. R., dan Simon, P., (2008), Materials science: Electrochemical capacitors for energy management, Dalam *Science* (Vol. 321, Issue 5889, hlm. 651–652).
- Mujawar, S. H., Ambade, S. B., Battumur, T., Ambade, R. B., dan Lee, S. H., (2011), Electropolymerization of polyaniline on titanium oxide nanotubes for supercapacitor application, *Electrochimica Acta*, 56(12), 4462-4466.
- Muzaffar, A., Ahamed, M. B., Deshmukh, K., dan Thirumalai, J., (2019), A review on recent advances in hybrid supercapacitors: Design, fabrication and applications, Dalam *Renewable and Sustainable Energy Reviews* (Vol. 101, hlm. 123–145), Elsevier Ltd.
- Nakagawa, Y., Molina-Sabio, M. I. G. U. E. L., dan Rodríguez-Reinoso, F. R. A. N. C. I. S. C. O., (2007), Modification of the porous structure along the preparation of activated carbon monoliths with H₃PO₄ and ZnCl₂, *Microporous and Mesoporous Materials*, 103(1-3), 29-34.
- Nicholas, A. F., Hussein, M. Z., Zainal, Z., dan Khadiran, T., (2019), Activated carbon for shape-stabilized phase change material. Dalam *Synthesis, Technology and Applications of Carbon Nanomaterials* (pp. 279-308), Elsevier.
- Obreja, V. V., Dinescu, A., dan Obreja, A. C., (2010), Activated carbon based electrodes in commercial supercapacitors and their performance, *International Review of Electrical Engineering (I.R.E.E.)*, 5(1).
- Palagonia, M. S., Erinmwingbovo, C., Brogioli, D., dan La Mantia, F., (2019), Comparison between cyclic voltammetry and differential charge plots from galvanostatic cycling, *Journal of Electroanalytical Chemistry*, 847, 113170.
- Pandolfo, A. G., dan Hollenkamp, A. F., (2006), Carbon properties and their role in supercapacitors, Dalam *Journal of Power Sources* (Vol. 157, Issue 1, hlm. 11–27).
- Pebrianto, F., (2022), Jokowi Luncurkan Mobil Listrik Pertama Rakitan Indonesia, *Tempo*, Jakarta, (16 Maret 2022), hlm. 1 dan 2.
- Pershaanaa, M., Bashir, S., Ramesh, S., dan Ramesh, K., (2022), Every bite of Supercap: A brief review on construction and enhancement of supercapacitor, Dalam *Journal of Energy Storage* (Vol. 50). Elsevier Ltd.
- Porada, S., Zhao, R., Van Der Wal, A., Presser, V., dan Biesheuvel, P. M., (2013), Review on the science and technology of water desalination by capacitive deionization, *Progress in materials science*, 58(8), 1388-1442.
- Qu, D., dan Shi, H., (1998), Studies of activated carbons used in double-layer capacitors, *Journal of Power Sources*, 74(1), 99-107.
- Raees-ul, H., dan Prasad, K., (2015), Nutritional and processing aspects of carrot (*Daucus carota*)-A review, *South Asian Journal of Food Technology and Environment*, 1(1), 1-14.
- Ranaweera, C. K., Kahol, P. K., Ghimire, M., Mishra, S. R., dan Gupta, R. K., (2017), Orange-peel-derived carbon: designing sustainable and high-performance supercapacitor electrodes, *C*, 3(3), 25.
- Rai, P., Pandey, S., Arabale, G., Nikolaev, P., dan Arepalli, S., (2011, August),

- Modified carbon nano structures for energy and display applications, In *2011 11th IEEE International Conference on Nanotechnology* (pp. 76-79). IEEE.
- Rietmann, N., Hügler, B., dan Lieven, T., (2020), Forecasting the trajectory of electric vehicle sales and the consequences for worldwide CO2 emissions, *Journal of Cleaner Production*, 261.
- Rufford, T. E., Hulicova-Jurcakova, D., Zhu, Z., dan Lu, G. Q., (2008), Nanoporous carbon electrode from waste coffee beans for high performance supercapacitors, *Electrochemistry Communications*, 10(10), 1594-1597.
- Rufford, T. E., Hulicova-Jurcakova, D., Khosla, K., Zhu, Z., dan Lu, G. Q., (2010), Microstructure and electrochemical double-layer capacitance of carbon electrodes prepared by zinc chloride activation of sugar cane bagasse, *Journal of Power Sources*, 195(3), 912-918.
- Salimbeni, A., (2019), Organic waste streams upgrading for gasification process optimization. Dalam *Substitute Natural Gas from Waste* (pp. 75-103), Academic Press.
- Shah, S. S., Cevik, E., Aziz, M. A., Qahtan, T. F., Bozkurt, A., dan Yamani, Z. H., (2021), Jute sticks derived and commercially available activated carbons for symmetric supercapacitors with bio-electrolyte: a comparative study, *Synthetic Metals*, 277, 116765.
- Shen, W., Li, Z., dan Liu, Y., (2008), Surface chemical functional groups modification of porous carbon. *Recent Patents on Chemical Engineering*, 1(1), 27-40.
- Sinha, P., Datar, A., Jeong, C., Deng, X., Chung, Y. G., dan Lin, L. C., (2019), Surface area determination of porous materials using the Brunauer–Emmett–Teller (BET) method: limitations and improvements, *The Journal of Physical Chemistry C*, 123(33), 20195-20209.
- Snook, G. A., Kao, P., dan Best, A. S., (2011), Conducting-polymer-based supercapacitor devices and electrodes, Dalam *Journal of Power Sources* (Vol. 196, Issue 1, hlm. 1–12).
- Stadtländer, C. T. K. H., (2007), Scanning electron microscopy and transmission electron microscopy of mollicutes: challenges and opportunities. *Modern research and educational topics in microscopy*, 1, 122-131.
- Suttakul, P., Fongsamootr, T., Wongsapai, W., Mona, Y., dan Poolsawat, K., (2022), Energy consumptions and CO2 emissions of different powertrains under real-world driving with various route characteristics, *Energy Reports*, 8, 554-561.
- Tahalyani, J., Akhtar, M. J., Cherusseri, J., dan Kar, K. K., (2020), Characteristics of capacitor: fundamental aspects, Dalam *Handbook of Nanocomposite Supercapacitor Materials I* (pp. 1-51), Springer, Cham.
- Taher, M., Supramana dan G. Suastika., 2012, Identifikasi Meloidogyne penyebab penyakit umbi bercabang pada wortel di Dataran Tinggi Dieng. *Jurnal Fitopatologi*, 8(1): 16-21.
- Thomas, B. N., dan George, S. C., (2015)., Production of Activated Carbon from Natural Sources, *Trends in Green Chemistry*, 1(1).

- Tursunov, O., Dobrowolski, J., Klima, K., Kordon, B., Ryczkowski, J., Tylko, G., dan Czerski, G., (2015), The influence of laser biotechnology on energetic value and chemical parameters of rose multiflora biomass and role of catalysts for bio-energy production from biomass: case study in Krakow-Poland, *World J. Environ. Eng.*, 3, 58-66.
- Vangari, M., Pryor, T., dan Jiang, L., (2013), Supercapacitors: Review of Materials and Fabrication Methods, *Journal of Energy Engineering*, 139(2), 72–79.
- Vernon-Parry, K. D., (2000), Scanning electron microscopy: an introduction. III-Vs Review, 13(4), 40-44.
- Wang, G., Zhang, L., dan Zhang, J., (2012), A review of electrode materials for electrochemical supercapacitors, *Chemical Society Reviews*, 41(2), 797–828.
- Wang, Y. X., Ngo, H. H., dan Guo, W. S., (2015), Preparation of a specific bamboo based activated carbon and its application for ciprofloxacin removal, *Science of the Total Environment*, 533, 32–39.
- Yamada, H., Yoshii, K., Asahi, M., Chiku, M., dan Kitazumi, Y., (2022), Cyclic Voltammetry Part 1: Fundamentals, *Electrochemistry*, 90(10), 102005-102005.
- Yang, C. S., Jang, Y. S., dan Jeong, H. K., (2014), Bamboo-based activated carbon for supercapacitor applications, *Current Applied Physics*, 14(12), 1616-1620.
- Yang, V., Senthil, R. A., Pan, J., Khan, A., Osman, S., Wang, L., Jiang, W., dan Sun, Y., (2019), Highly ordered hierarchical porous carbon derived from biomass waste mangosteen peel as superior cathode material for high performance supercapacitor, *Journal of Electroanalytical Chemistry*, 855, 113616.
- Yue, T., Shen, B., dan Gao, P., (2022), Carbon material/MnO₂ as conductive skeleton for supercapacitor electrode material: A review, Dalam *Renewable and Sustainable Energy Reviews* (Vol. 158). Elsevier Ltd.
- Yurdacan, H. M., dan Sari, M. M., (2021), Functional green-based nanomaterials towards sustainable carbon capture and sequestration, Dalam *Sustainable Materials for Transitional and Alternative Energy* (pp. 125-177), Gulf Professional Publishing.
- Zequine, C., Ranaweera, C. K., Wang, Z., Singh, S., Tripathi, P., Srivastava, O. N., Gupta B.P., Ramasamy, K., Kahol, P.K., Dvornic, P.R., dan Gupta, R. K., (2016), High performance and flexible supercapacitors based on carbonized bamboo fibers for wide temperature applications, *Scientific reports*, 6(1), 1-10.
- Zhang, L., Hu, X., Wang, Z., Sun, F., dan Dorrell, D. G., (2018), A review of supercapacitor modeling, estimation, and applications: A control/management perspective, Dalam *Renewable and Sustainable Energy Reviews* (Vol. 81, hlm. 1868–1878). Elsevier Ltd.
- Zhang, Q., Han, K., Li, S., Li, M., Li, J., dan Ren, K., (2018), Synthesis of garlic skin-derived 3D hierarchical porous carbon for high-performance supercapacitors, *Nanoscale*, 10(5), 2427-2437.

- Zhang, K., Sun, J., Lei, E., Ma, C., Luo, S., Wu, Z., Li, W., dan Liu, S., (2022), Effects of the Pore Structure of Commercial Activated Carbon on the Electrochemical Performance of Supercapacitors, *Journal of Energy Storage*, 45, 103457.
- Zhou, W., Apkarian, R., Wang, Z. L., dan Joy, D., (2006), Fundamentals of scanning electron microscopy (SEM), *In Scanning microscopy for nanotechnology* (pp. 1-40), Springer, New York, NY.