DAFTAR PUSTAKA

Agarwal, P., Orazem, M. E., Garcia-Rubio, L. H. 1992. Measurement Models for Electrochemical Impedance Spectroscopy. *Journal of the Electrochemical Society*. https://doi.org/10.1149/1.2069522.

Ananda, W., Mutiari, A., Widiatmoka, P. 2017. Development Method of Making Dye-Sensitized Solar Cell (DSSC) Using Carbon as Counter Electrode. *Journal of Engineering and Technological Sciences 52(1): 81*. https://doi.org/10.5614/j.eng.technol.sci.2020.52.1.6.

Apriwdani, Taer, E., Farma, R. 2021. Analysis of Cyclic Voltammetry and Galvanostatic Charge Discharge Electrode Supercapacitor Based on Activated Carbon from Kepok Banana Leaf (Musa balbisiana). *J. Aceh Phys. Soc. 10(4) 94-101*. https://doi.org/10.24815/jacps.v10i4.19491.

Bai, H., Wang, X., Zhou, Y., Zhang, L. 2012. Preparation and Characterization of Poly (Vinylidene Fluoride) Composite Membranes Blended with Nano-Crystalline Cellulose. Progress in Natural Science. *Materials International 22(3), 250-257.* https://doi.org/10.1016/j.pnsc.2012.04.011.

Basma, N., Cullen, P. L., Clancy, A. J., Shaffer, M. S. P., Skipper, N. T., Headen. T. F., Howard, C. A. 2019. The Liquid Stucture of The Solvents Dimethylformamide (DMF) and Dimethylacetamide (DMA). *Molecular Physics Vol. 117, No. 22*, https://doi.org/10.1080/002689761649494.

Bredar, A. R. C., Chown, A. L., Burton, A. R., Farnum, B. H. 2020. Electrochemical Impedance Spectroscopy of Metal Oxoides Electrodes for Energy Applications. *ACS Applied Energy Materials 3(1): 66-98*. https://doi.org/10.1021/acsaem.9b01965.

Bruce, P. G,. Hardwick, J. L., Abraham, K. M. 2019. Lithium-air and Lithium-sulfur Batteries. *MRS Bulletin.* https://doi.org/10.1080/00268976.1649494.

Bungeler, J & Riegel, B. 2023. Emerging Battery Technologies to Boost the Clean Energy Transition. *The Material Research Society Series, pp (121-141).* https://doi.org/10.1007/978-3-031-48359-2_8.

Calvez, E., Crosnier, O., Brousse, T. 2022. $Ag_2V_4O_{11}$: From Primary to Secondary Battery. *Journal of Solid State Electrochemistry, vol (26), pages 1951-1960*. https://doi.org/10.1007/s10008-022-05224-9.

Cao, G., 2004. Nanostuctures and Nanomaterials Syntesis, Properties, and Application. *Imperial College Press London.* https://doi.org/10.1142/7885.

Challagulla, N. V., Vijayakumar, M., Duggirala, S., Elsa, G. 2020. Hierarchical Activated Carbon Fibers as A Sustainable Electrode and Natural Seawater as A Sustainable Electrolyte for High-Performance Supercapacitor. *Energy Technology 8(9).* https://doi.org/10.1002/ente.202000417.

Chen, F., Zhang, Y., Hu, Qing., Song, S., Lu, X., Shen, Q. 2021. S/MWCNT/LLZO Composite Electrode with $e^-/S/Li^+$ Conductive Network for All-Solid State Lithium-Sulfur Batteries. *Journal of Solid State Chemistry 301*. https://doi.org/10.1016/j.jssc.2021.122341.

Colomba, A., Berruti, F., Briens, C. 2022. Model for the Physical Activation of Biochar to Activated Carbon. *Journal of Analytical and Applied Pyrolysis of Biochar to Activated Carbon.*https://doi.org/10.1016/j.jaap.2022.105769.

Costa, C. M., Lee, Y. H., Kim, J. H., Lee, S. Y,. Mendez, S. L. 2019. Recent Advantages on Separator Membranes for Lithium-Ion Battery Applications: From Porous Membranes to Solid Electrolytes. *Enenrgy Storage Materials 346-347*. https://doi.org/10.1016/j.ensm.2019.07.024.

Cui, Z., Hassankiadeh, N. T., Zhuang, Y., Drioli, E., Lee, Y. M. 2015. Crystalline Polymorphism in Poly(Vinylidenefluoride) Membranes. *Progress in Polymer Science.*. https://doi.org/10.1016/j.progpolymsci.2015.07.007.

Dunn, B., Kamath, H., Tarascon, J. M. 2011. Electrical Energy Storage for the Grid: A Battery of Choices. *American Association for the Advancement of Science.* https://doi.org/10.1126/science.1212741.

Dyatkin, B., Mamontov, E., Cook, K. M., Gogotsi, Y. 2015. Capacitance, Charge Dynamics, and Electrolyte-Surface Interactions in Functionalized Carbide-Derived Carbon Electrodes. *Journal of Material Chemistry A, 3(15), 7341-7352.* https://doi.org/10.1016/j.pnsc.2015.11.007.

Fischer, J., Thummler, K., Fischer, S., Martinez, I. G. G., Oswald, S., Mikailova, D. 2021. Activated Carbon Derived From Cellulose and Cellulose Acetate Microspheres as Electrode Materials for Symmetric Supercapacitors in Aqueous Electrolytes. *ACS Publications Energy & Fuels, vol (35).* https://doi.org/10.1021/acs.energyfuels.1c01449.

Gao, R., Zhenyu, W., Sheng, L., Guangjie, S., Xueping, G. 2022. Metal phosphides and borides as the catalytic host of sulfur cathode for lithium–sulfur batteries. *International Journal of Minerals, Metallurgy and Materials Vol. 29, Number 5, Page 990.* https://doi.org/10.1007/s12613-022-2451-2.

Gregorio, J. 2006. Determination of the a, b, y Crystalline Phases of Changes of WO3 Surfaces Between Superhydrophilicity and Superhydrophobicitiy. *Journal of Coloid and Interface Science, Vol. 352, No. 2, pp: 3837-3840.*

Haji, A. G., Pari, G., Nazar, M., Habibati. 2013. Characterization of Activated Carbon Produced From Urban Organic Waste. *International Journal of*

Science and Engineering 5(2):89-94. https://doi.org/10.12777/ijse.5.2.89-94.
Halper, M. S., Virgania, A., Ellenbogen, J. C. 2006. Supercapacitors: A Brief Overview.
Hastuti, I. & Irfana. E. 2021. Effect of PVDF Composition in Activated Carbon Derived From Chicken Feather on Electrical Properties. *Journal of Physics: Conference Series 1825(1):012052*. https://doi.org/10.1088/1742-6596/1825/1/012052.
He, Y., Sheng, B., Jiang, S., Song, J. 2022. Recent Progress of Sulfur Cathodes and Other Components for Flexible Lithium-Sulfur Batteries. *Materials Today Sustainability*. https://doi.org/10.1016/j.mtsust.2022.100181.
Henschel, J., Horsthemke, F.,Stenzel, Y. P., Evertz, M., Girod, S., Lurenbaum, C., Kosters, K., Meyer, S. W., Winter, M., Nowak, S. 2020. Deciphering Lithium-Ion Battery Electrolyte Degradation of Field-Tested Electric Vehicle Battery Cells. *Nature Energy 4, volume 447*. https://doi.org/10.1016/j.jpowsour.2019.227370.
Hidayati, F & Harnovan, A. A. 2020. Application of Scanning Electron Microscopy: A Review. *International Journal of Applied Science and Engineering Review Vol 1 no. 6*. ISSN: 2582-6271.
Hong, S., Park, B., Balamurugan, C., Lee, J., Kwon, S. 2023. Impact of Solvents on Doctor Blade Coatings and Bathocuproine Cathode Interlayer for Large-Area Organic Solar Cell Modules. *Heliyon Vol 9 Issue 7*. https://doi.org/10.1016/j.heliyon.2023.e18209.
Islam M A, Ahmed, M. J., Khanday, W. A., Asif, M., Hameed, B. H. 2017. Mesoporus Activated Carbon Prepared From NaOH Activation of Rattan(Lacosperma secundiflorum) Hydrochar for Mathylene Blue Removal. *Ecotoxiology and Environmental Safety, 138, 279-285*. https://doi.org/10.1016/j.ecoenv.2017.01.010.
Jiang, H., Liping, Y., Chunzong, L., Chaoyi, Y., Pooi, S. L., Jan, M. 2011. High Rate Electrochimical Capacitors from Highly Graphitic Carbon-Tipped Manganese Oxide/Mesoporous Carbon/Manganese Oxide Hybrid Nanowires. *Energy & Environmental Science 4(5) : 1813*. https://doi.org/10.1039/clee01032h.
Kariper, I. A. 2022. The Performance of A New Electrolyte for Organic Supercapacitors: Poly (Hydridocarbyne). *Journal of The Indian Chemical Society 99 (10):100732*. https://doi.org/10.1016/j.jics.2022.100732.
Khrisnakumar, P., Tiwari, P. B., Staples, S., Luo, T., Darici, Y., He, J., Linsay, A. M. 2012. Mass Transport Through Vertically Aligned Large Diameter

MWCNTs Embedded in Parylene. *Nonotechnology vol (23), number 45*. https://doi.org/10.1088/0957-4484/23/45/455101.

Koli, P & Saren, J. 2024. Photogalvanics of Copper and Brass Working Electrodes in the NaOH-Allura Red-D-galactose-DDAC Electrolyte for Solar Power Generation. *Royal Society of Chemistry Advances*. https://doi-org.proxy.undip.ac.id/10.1039/d4ra01091d.

Koyuncu, I., Gul, B. Y., Esmaeli, M. S., Pekgenc, E., Teber, O. O., Tuncay, G., Karimi, H., Parvaz, S., Maleki, A., Vatanpour, V. 2022. Modification of PVDF Membranes by Incorporation Fe_3O_4@Xanthan gum to Improve Anti-fouling, Anti-bacterial, and Separation Performance. *Journal of Environmental Chemical Engineering vol 10 issues 23*.. https://doi.org/10.1016/j.jece.107784.

Krevelen, D.W & Nijenhuis, K. 2009. Properties of Polymers: Their Correlation with Chemmical Structure; Their Numerical Estimation and Prediction from Additive Group Contributions. Amsterdam: Fourth Edition Elsevier.

Kumar, A. 2011. Adsorption of Methane on Activated Carbon by Volumetric Method. *THESIS*. National Intitue of Technology Rourkela

Kumar, A., Gupta, R., Ubaidullah, M., Al Enizi, A., Pandit, B., Nangan, S., Angadi, J., Yasin, G. 2023. Engineering of Hollow Mesoporous Fe-Graphitic Carbon Niride@CNTs for Superior Electrocatalytic Oxygen Reducyion Reaction. *Fuel Vol. 357*. https://doi-org./10.1016/j.fuel.2023.129809.

Kurzwel, P & Brandt, K. 2019. Overview of Rechargeable Lithium Battery Systems. *Electrochemical Power Sources: Fundamental, Systems, and Applications*. https://doi.org/10.1016/B978-0-444-63777-2.00003-7.

Laksaci H, Khelifi, A., Trari, M., Addoun, Abedelhamid. 2017. Syntesis and Characterization of Microporous Activated Carbon from Coffee Grounds Using Potasium. *Journal of Cleaner Production 147 254-262*. https://doi.org/10.1016/j.jclepro.2017.01.102.

Latha, B., Pravin, S. C., Saranya, J., Manikandan, E. 2022. Ensemble Super Learner Based Genotoxicity Prediction of Multi-Walled Carbon Nanotubes. *Computational Toxiology*. https://doi.org/10.1016/j.comtox.2022.100244.

Li, S., Jin, B., Zhai, X., Li, H., Jiang, Q. 2018. Review of Carbon Materials for Lithium-Sulfur Batteries. *Europian Chemical Societies Publishing 3 2245-2260*. https://doi.org/10.1002/slct.201703112.

Lu, W., Xu, H., Wu, J., Xue, M., Xing, Z. 2023. Preparation and Properties of Sulfur/Activated Carbon/Carbon Nanotube Composite Cathode Materials for Lithium-Sulfur Batteries. *Journal of Materials Engineering and Performance*. https://doi/org/10.1007/s11665-023-08789-2.

Ludwig, R., Behler, J., Klink, B., Weinhold, F. 2022. Molecular Composition of Liquid Sulfur. *Angewandte Chemie International Edition Vol 41*, *Issue 17*. https://doi.org/10.1002/1521-3773(20020902)41:17.

Mandala, A. S. 2022. Optimasi Waktu Sintering pada Sintesis LIBOB Menggunakan Metode Solid State Reaction untuk Aplikasi Baterai Lithium-Ion. *SKRIPSI.* Universitas Islam Negeri Syarif Hidayatullah Jakarta.

Mei, B. A., Munteshari, O., Lau, J., Dunn, B., Pilon, L. 2018. Physical Interpretations of Nyquist Plots for EDLC Electrides and Devices. *The Journal of Physical Chemistry*. https://doi.org/10.1021/acs.jpcc.7b10582.

Mukti, N. A. 2023. Pengaruh Variasi Jenis Elektrolit terhadap Kinerja Elektroda Superkapasitor Berbahan Komposit MWCNT/AC. *TESIS.* Universitas Diponegoro Semarang.

Mulder, M. 1996. *Basics Principles of Membrane Technology.* Dordrecht: Kluwer Academic Publishers. ISBN-13: 978-0792342489

Muzart, J. 2019. N, N-Dimethylformamide: Much More than A Solvent, *Tetrahedron, vol. 65, No. 40.* https://doi.org/10.1016/j.tet.2009.06.091

Negroiu, R., Svasta, P., Pirvu, C., Vasile, A., Marghescu, C. 2017. Electrochemical Impedance Spectroscopy for Different Types of Supercapacitors. *40th International Spring Seminar on Electronics Technology (ISSE)*. Sofia, Bulgaria: IEEE.

Neindhrat, M., Peiro, J. M., Monninghoff, M. S., Pou, J. O. 2022. Forecasting the Global Battery Material Flow: Analyzing the Break-Even Points at Which Secondary Battery Raw Materials Can Substitute Primary Materials in teh Battery Production. *Applied Science*. https://doi.org/10.3390/app12094790.

Nitta, N., Wu, F., Lee, J. T., Yushin, G. 2015. Li-Ion Battery Materials: Present and Future. *Materials Today*. https://doi.org/10.1016/j.mattod.2014.10.040.

Nureza, A. M. 2017. Analisis Pengaruh Komposisi Glycine pada proses Sintesa Anoda Fe_2O_3 untuk Aplikasi Baterai Ion Lithium. *SKRIPSI*. Institut Teknologi Sepuluh Nopember Surabaya.

Nuroniah, I. 2018. Sintesis dan Karakterisasi $Li_4Ti_5O_{12}$ dengan Metode Sol Gel sebagai Material Anoda Baterai Ion Lithium. *SKRIPSI*. Universitas Islam Negeri Syarif Hidayatullah Jakarta.

Pal, B., Shengyuan, Y., Subramaniam, R., Venkataraman, T., Rajan, J. 2019. Electrolyte Selection for Supercapacitive Devices: A Critical Riview. *Nanoscale Advances*. https://doi.org/10.1039/C9NA00374F.f.

Pal, N & Bhattacharyya, A. J. 2023. Probing the "Universal" Amorphization of Crystalline Sulfur in its Mixture with Ultrahigh Surface Area Porous Carbin. *Journal of Physical Chemistry*. https://doi.org/10.1021/acs.jpcc.3c00276.

Pan, H., Z. Cheng, Z., Zhou, Z., Xie, S., Zhang, W., Han, N., Guo W., Cabot, A., Wubbenhorst, M. 2023. Boosting Lean Electrolyte Lithium-Sulfur Battery Performance with Transition Metals: A Comprehensive Review. *Springer Nature, Singapore.* https://doi.org/10.1007/s40820-023-01137-y.

Park, M., Zhang, X., Chung, M., Less, G. B., Sastry, A. M. 2010. A Riview of Conduction Phenomena in Li-Ion Batteries. *Ournal of Powder Sources 195, 7904-7929.* https://doi.org/10.1016/j.jpowsour.2010.06.060.

Patel, D. K., Kim, H. B., Dutta, S. D., Ganguly, K., Lim, K. T. 2020. Carbo Nanotubes-Based Nanomaterials and Their Agricultural and Biotechnological Applications. *Materials Journal volume 13 issues 7.* https://doi.org/10.3390/ma13071679.

Ponce, M., Mamani, A., Jerez, F., Castilla, J., Ramos, P. 2022. Activated Carbon From Olive Tree Pruning Residu for Symmetric Solid-State Supercapacitor. *Energy*. https://doi.org/10.1016/j.energy.2022.125092.

Prasanna K, Suburraj, T., Jo, Y. N., Lee, W. J., Lee, C. W. 2015. Environment-Friendly Cathodes Using Niopolymer Chitosan with Enhanced Electrochemical Behavior for Use in Lithium Ion Batteries. *Appl. Mater. Interfaces (7):7884-7890.* https://doi.org/10.1021/am5084094.

Rajeevan, S., John, S., George, S. C. 2021. The Effect of Poly(vinylidene fluoride) Binder on The Electrochemical Performance of Graphitic Electrodes. *Journal of Energy Storage*. https://doi.org/10.1016/j.est.2021.102654.

Rianto, D. 2022. Scanning Electron Microscopy for Nanostructure Analysis of Hybrid Multilayer Coating. *Pillar of Physics Vol. 15 (2), 2022, page. 119-128.* https://doi.org/10.23887/jstundiksha.v12i1.45639.

Ribeiro, B., Botelho, E., Costa, M. L., Bandeira, C. F. 2016. Carbon Nanotube Buckypaper Reinforced Polymer Composites: A Review. *Polmeros 27(3), 247-255*. https://doi.org/0.1590/0104-1428.03916.

Rohman, F., Suwandi, G. R. F., Suparno, S. 2012. Pengaruh Ketebalan Film dan Medan Listrik Tinggi terhadap Jumlah Fraksi pada Polimer Poly(vinylidene fluoride). *Seminar Nasional Material Vol. 01*.

Sagadevan, S., Koteeswari, P. 2015. Analysis of Stucture, Surface Morphology, Optical and Elecyrical Properties of Copper Nanoparticles. *Journal of Nanomedicine Research.* https://doi.org/10.15406/jnmr.2015.02.00040.

Savitri, E. S., Shinta., Minarno, E. B., Annisa, R. 2023. Chemical Characterization of Silver Nanoparticle Coumpunds Using Red Algae (Fucus vesiculosus) in Freeze Dry Methods. *The Journak of Experimental Life Science*. https://doi.org/10.21776/ub.jels.2023.013.01.08.

Sharma, G., Sharma, S., Kumar, A., Lai, C. W., Nausad, M., Shenaz., Iqbal, J. 2022. Activated Carbon as Superadsorbent and Sustainable Material for Diverse

Applications. *Adsorption Science & Technology*. https://doi.org/10.1155/2022/4184809.

Seo, J., Byun, J., Kim, K., Kim, Y., Park, B. 2024. Passivation Mechanism and Long-Term Stability: Insights from SEM-EDS Analysis of Passivated CdZnTeSe Crystal. *Nuclear Engineering and Technology*. https://doi.org/10.1016/j.net.2024.06.007.

Song, X., Zhai, J., Wang, Y., Jiang, L. 2022. Fabrication of Superhyrophopic Surfaces by Self-Assembly and Their Water-Adhesion Properties. *The Journal of Physical Chemistry B Vol. 109*https://doi.org/10.1021/jp045152l.

Tan, J., Matz, J., Dong, P., Ye, M., Shen, J. 2021. Appreciating the Role of Polysulfides in Lithium-Sulfur Batteries and Regulation Strategies by Electrolytes Engineering. *Energy Storage Materials 30(42) 346-366.* https://doi.org/10.1016/j.ensm.2021.08.012

Tiwari, S., Yadav, V., Poonia, A. K., Pal, D. 2024. Exploring Advances in Sulfur Composite Cathodes for Lithium-Sulfur Batteries: A Comprehensive Riview. *Journal of Energy Storage 94.* https://doi.org/10.1016/j.est.112347.

Torchala, K., Kierzek, K., Machikowski, J. 2012. Capacitance Behavior of KOH Activated Mesocarbon Microeads in different Aqueous Electrolytes. *Electrochimica Acta.* https://doi.org/10.1016/j.electacta.2012.07.062.

Wang, F. M., Wang, H. Y., Yu, M. H., Hsiao, Y. J., Tsai, Y. 2011. Differential Pulse Effects of Solid Electrolyte Interface Formation for Improving Performance on High-Power Lithium-Ion Battery. *Journal of Power Sources Volume 196.* https://doi.org/10.1016/j.jpowsour.2011.08.045.

Wang, L., Wang, T., Peng, L., Zhang, M., Zhou, J., Chen, M., Cao, J., Fei, H. 2022. The Promises, Challenge, and Pathways to Room-Temperature Sodium-Sulfur Batteries. *National Science Review Vol. 9 Issue 3*. https://doi.org/10.1093/nsr/nwab050.

Wang & Rick, J. 2014. Synergy of Nyquist and Bode Electrochemical Impedance Spectroscopy Studies to Commercial Type Lithium Ion Batteries. *Solid State Ionics 268.* https://doi.org/10.1016/j.ssi.2014.09.023.

Warner, J. T. 2019. Lithium-Ion Battery Chemistries: A Primer. *In Lithium-Ion Battery Chemistries: A Primer.* ISBN-13:978-0128147788.

Whittingham, M. S. 2004. Lithium Batteries and Cathode Materials. ACS Publications *Chemical Reviews*. https://doi.org/10.1021/cr020731c.

Xiao, Z., Yang, Z., Yu, H., Yan, L., Zhang, L., Shu, J. 2022. Building a Robust Sulfur Host for Aqueous Cu-S Battery by Introducing Nitrogen into Carbon Nanotubes. *Scripta Material.* https://doi.org/10.1016/j.scriptamat.114975.

Xin-Liang, M., Deng, T., Jiao, X. C., Qu, L. T., Wen, K. N., Che, J. X., Chen, L. P, Li, S., Wang, J. 2022. Acetylene Vlack Interlayer Regulated Sulfur

Deposition for Lithium-Sulfur Batteries with High Utilization and Long-Term Life. *Electrochimica Acta*. https://doi.org/10.1016/j.electacta.141100.

Ye, W., Wang, H., Ning, J., Zhong, Y., Yong, H. 2020. New Types of Hybrid Electrolites for Supercapacitors. *Journal of Energy Chemistry 57*. https://doi.org/10.1016/j.jechem.2020.09.016.

Yu, X & Manthiran, A. 2020. A Progress Report on Metal-Sulfur Batteries. *Adv Funct Mater 30: 2004084.* https://doi.org/10.1002/adfm.202004084.

Zhang, L., Tao, S., Tian, Y., Tu, H., Deng, W., Zou, G., Hou, H. 2022. High-yield Red Phosporus Sponge Mediated Robust Lithium-Sulfur Battery. *Nano Research Springer Nature*. http://dx.doi.org/10.1007/s12274-022-5029-4.

Zhang, S. S. 2006. A Riview on Electrolyte Additives for Lithium-Ion Batteries. *Journal of Power Sources.* https://doi.org/10.1016/j.jpowsour.2006.07.074.

Zhou, X., Wu, C., Zhao, Z., Wang, Y., Yang, Y., Guo, J., He, X., Xiang, Y., Han, N., Li, J. 2024. Interfcial Redox Modulation of Polysulfides with Ferrocene Functionalized Separator in Al-S Batteries. *Material Today Chemistry Vol. 38*. https://doi-org.proxy.undip.ac.id/10.1016/j.mtchem.2024.102055.