

DAFTAR PUSTAKA

- Abdullah, M., dan Khairurrijal, K., 2009, A Simple Method for Determining Surface Porosity Based on SEM Images Using OriginPro Software, *Indonesian Journal of Physics*, 20(2), pp. 37-40.
- Arkoun, M., Daigle, F., Heuzey, M. C., dan Aji, A., 2017, Antibacterial Electrospun Chitosan-Based Nanofibers: A Bacterial Membrane Perforator, *Food science and nutrition*, 5, pp. 865-874.
- Bhardwaj, N., dan Kundu, S. C., 2010, Electrospinning: A Fascinating Fiber Fabrication Technique, *Biotechnology Advances*, 28, pp. 325-347.
- Causserand, C., dan Aimar, P., 2010, Characterization of Filtration Membranes, *Comprehensive Membrane Science and Engineering*, pp. 311-335.
- Czitrovszky, A., 2013, Environmental Applications of Solid State Lasers, *Institute for Solid State Physics and Optics*.
- Ebewele, R. O., 2000, *Polymer Science and Technology*, CRC Press, New York.
- Enyoh, C. E., Verla, A. W., Qingyue, W., Ohiagu, F. O., Chowdhury, A. H., Enyoh, E. C., Chowdhury, T., Verla, E. N., dan Chinwendu, U. P., 2020, An Overview of Emerging Pollutants in Air: Method of Analysis and Potential Public Health Concern from Human Environment, *Trends in Environmental Analytical Chemistry*, 28.
- Gad, S. E., 2014, *Polymers*, Encyclopedia of Toxicology, pp. 1045-1050.
- Gosh, M., Bhattacharyya, A., Gosh, K., Bhattacharya, K., dan Halder, A., 2020, Saving the Savior in COVID19 Pandemic: Face Masks, *International Journal of Health & Allied Sciences*, 9, pp. 58-61.
- Goy, R. C., Britto, D., dan Assis, O. B. G., 2009, A Review of the Antimicrobial Activity of Chitosan, *Polimeros*, 19, pp. 241-247.
- Hashmi, M., Ullah, S., dan Kim, I. S., 2019, Copper Oxide (CuO) Loaded Polyacrylonitrile (PAN) Nanofiber Membranes for Antimicrobial Breath Mask Applications, *Current Research in Biotechnology*, 1, pp. 1-10.
- Huang, J. J., Tian, Y., Wang, R., Tian, M., dan Liao, Y., 2020, Fabrication of bead-on-string Polyacrylonitrile Nanofibrous Air Filters with Superior Filtration Efficiency and Ultralow Pressure Drop, *Separation and Purification Technology*, 237.

- Ingole, P. G., Kim, K. H., Park, C. H., Choi, W. K., dan Lee, H. K., 2014, Preparation, Modification, and Characterization of Polymeric Hollow Fiber Membranes for Pressure Retarded Osmosis, *RSC Advances*, 4, pp. 51430-51439.
- Inkson, B. J., 2016, Scanning Electron Microscopy (SEM) and Transmission Electron Microscopy (TEM) for Materials Characterization, *Materials Characterization Using Nondestructive Evaluation (NDE) Methods*, pp. 17-43.
- Januardi, A., 2019, Pengembangan Sistem Filter Air Berbasis Cros-Flow dengan Menggunakan Nanofiber PAN, *Skripsi*, Universitas Gadjah Mada, Yogyakarta.
- Kim, S. S., dan Lee, J., 2014, Antibacterial Activity of Polyacrylonitrile-Chitosan Electrospun Nanofibers, *Carbohydrate Polymers*, 102, pp. 231-237.
- Kobayashi, S., dan Müllen, K., 2015, Encyclopedia of Polymeric Nanomaterials, *Springer Reference*, Haidelberg New York.
- Kumar, M. N. V. R., 2000, A Review of Chitin and Chitosan Applications, *Reactive & Functional Polymers*, 46, pp. 1-27.
- Leonas, K. K., dan Jones. C. R., 2003, The Relationship of Fabric Properties and Bacterial Filtration Efficiency for Selected Surgical Face Masks, *Journal of Textile and Apparel, Technology and Management*, 3, pp. 4-5.
- Li, X., Kong, H., Zhang, X., Peng, B., Nie, C., Shen, G., dan Liu H., 2014, Characterization of Particle Size Distribution of Mainstream Cigarette Smoke Generated by Smoking Machine with an Electrical Low Pressure Impactor, *Journal of Environmental Sciences*, 26, pp. 827-833.
- Li, Y., Yin, X., Yu, J., dan Ding, B., 2019, Electrospun Nanofibers for High-Performance Air Filtration, *Composited Communications*, 15, pp. 6-19.
- Liu, J., Ding, C., Dunne, F. O., Guo, Y., Fu, X., dan Zhong, W., 2020, A Bimodal Protein Fabric Enabled via in Situ Diffusion for High Performance Air Filtration, *Environmental Science and Technology*, 54, pp. 12042-12050.
- Mannucci, P. M., Harari, S., Martinelli, I., dan Franchini, M., 2015, Effects on Health of Air Pollution: a Narrative Review, *Internal and Emergency Medicine*, 10, pp. 657-662.
- Martinez-Camacho, A.P., Cortez-Rocha, M.O., Castillo-Ortega, M. M., Burgos-Hernández, A., Ezquerro-Brauer, J. M., dan Plascencia-Jatomea, M., 2011, Antimicrobial Activity of Chitosan Nanofibers Obtained by Electrospinning, *Polymer International*, 12, pp. 1663-1669.

- Matsuyama, H., Matsui, K., Kitamura, Y., Maki, T., dan Teramoto, M., 1999, Effects of Membrane Thickness and Membrane Preparation Condition on Facilitated Transport of CO₂ through Ionomer Membrane, *Separation and Purification Technology*, 17, pp. 235-241.
- Mulder, M., 1991, *Basic Principles of Membrane Technology*, Kluwer Academy Pub London.
- Nugroho, D. B., Rianjanu, A., Triyana, K., Kusumaatmaja, A., dan Roto, R., 2019, Quartz Crystal Microbalance-Coated Cellulose Acetate Nanofibers Overlaid with Chitosan for Detection of Acetic Anhydrid, *Results in Physics*, 15.
- Rajendran, S., Babu, R. S., dan Sivakumar, P., 2008, Ionic Conduction in Plasticized PVC/PAN Blend Polymer Electrolytes, *Ionic*, 14, pp. 149-155.
- Redjeki, S., 2011, *Proses Desalinasi dengan Membran*, UPN Veteran Jawa Timur Press, Surabaya.
- Rinaudo, M., 2006, Chitin and Chitosan: Properties and Applications, *Progress in Polymer Science*, 31, pp. 603-632.
- Sánchez-Machado, D. I., López-Cervantes, J., Correa-Murrieta, M. A., Sánchez-Duarte, R. G., Cruz-Flores, P., dan de la Mora-López, G. S., 2019, Chitosan, *Nonvitamin and Nonmineral Nutritional Supplements*, pp. 485-493.
- Scharnagl, N., dan Buschatz, H., 2001, Polyacrylonitrile (PAN) Membranes for Ultra- and Microfiltration, *Desalination*, 139, pp. 191-198.
- Shu-ying, G., Qi-lin, W., dan Jie, R., 2008, Preparation and Surface Structures of Carbon Nanofibers Produced from Electrospun PAN Precursors, *New Carbon Materials*, 23, pp. 171-176.
- Skoog, D. A., Holler, F. J., dan Crouch, S. R., 2016, Principles of Instrumental Analysis 7th Edition, Cengage Learning: USA.
- Sommerstein, R., Flux, C., Vuichard-Gysin, D., Abbas, M., Marschall, J., Balmelli, C., Troillet, N., Harbarth, S., Schlegel, M., Widmer, A., dan Swissnoso., 2020, Risk of SARS-CoV-2 Transmission by Aerosols, The Rational Use of Masks, and Protection of Healthcare Workers from COVID-19, *Antimicrobial Resistance and Infection Control*, 9, pp. 1-8.

- Subbiah, T., Bhat, G. S., Tock, R. W., Parameswaran, S., dan Ramkumar, S. S., 2004, Electrospinning of Nanofibers, *Journal of Applied Polymer Science*, 96, pp. 557-569.
- Thenmozhi, S., Dharmaraj, N., Kadirvelu, K., dan Kim, H. Y., 2017, Electrospun Nanofibers: New Generation Materials for Advanced Applications, *Materials Science and Engineering B*, 217, pp. 36-48.
- Tijing, L., Woo, Y., Yao, M., Ren, J., dan Shon, H., 2017, Electrospinning for Membrane Fabrication: Strategies and Applications, *Comprehensive Membrane Science and Engineering*, pp. 418-444.
- Utami, V. B., 2017, Pembuatan Membran Nanofiber Kitosan-Polivinil Asetat (PVAC) sebagai Membran Antibakteri, *Skripsi*, Universitas Gadjah Mada, Yogyakarta.
- Wardiningsih, W., 2019, Morfologi dan Sifat Mekanik Membran Polisulfon-Poliakrilonitril (PSF-PAN) Hasil Elektrospining, *Skripsi*, Universitas Gadjah Mada, Yogyakarta.
- Wang, N., Si, Y., Wang, N., Sun, G., El-Newehy, M., dan Al-Deyab, S. S., 2014, Multilevel Structure Polyacrylonitrile/Silica Nanofibrous Membranes for High-Performance Air Filtration, *Separation and Purification Technology*, 126, pp. 44-51.
- Wohlgemuth, M., Van der Kooi, E. L., Hendriks, J. C., Padberg, G.W., dan Folgering, H. T., 2003, Face Mask Spirometry and Respiratory Pressures in Normal Subjects, *European Respiratory Journal*, 22, pp. 1001-1006.
- Wenten, I. G., 2016, Teknologi Membran: Prospek dan Tantangannya di Indonesia, Institut Teknologi Bandung: Bandung.
- Wu, W., Sota, H., Hirogaki, T., dan Aoyama, E., 2021, Investigating of Air Filter Properties of Nanofiber Non-woven Fabric Manufactured by a Modified Melt-blowing Method Along with Flash Spinning Method, *Precision Engineering*, 68, pp. 187-196.
- Yu, X., Xiang, H., Long, Y., Zhao, Ning, Z., Zhang, X., dan Xu, J., 2010, Preparation of Porous Polyacrylonitrile Fibers by Electrospinning a Ternary System of PAN/DMF/H₂O, *Material Letters*, 64, pp. 2407-2409.
- Yusuf, Y., Almukarrama., Permatasari, H. A., Januariyasa, I. K., Muarif, M. F., Anggraini, R. M., dan Wati, R., 2021, Karbonat Hidroksiapatit dari Bahan Alam, Gadjah Mada University Press: Yogyakarta.

Yusuf, Y., Khasanah, D. U., Syafaat, F. Y., Pawarangan, I., Sari, M., Mawuntu, V. J., dan Rizkayanti, Y., 2019, Hidroksiapatit Berbahan Dasar Biogenik, Gadjah Mada University Press: Yogyakarta.

Zdraveva, E., Fang, J., Mijovic, B., dan Lin, T., 2017, Electrospun Nanofibers, *Structure and Properties of High-Performance Fibers*, pp. 267-300.