

## DAFTAR PUSTAKA

- Abdelgawad, A. M., Hudson, S. M., & Rojas, O. J. (2014). Antimicrobial wound dressing nanofiber mats from multicomponent (chitosan/silver-NPs/polyvinyl alcohol) systems. *Carbohydrate Polymers*, 100, 166–178. <https://doi.org/10.1016/j.carbpol.2012.12.043>
- Abdullah, A., & Mohammed, A. (2019). Scanning Electron Microscopy (SEM): A Review. *Proceedings of 2018 International Conference on Hydraulics and Pneumatics - HERVEX*, 77–85.
- Ahmed, S., & Ahmad, M. (2015). Chitosan Based Dressings for Wound Care. *Immunochimistry & Immunopathology*, 01(02), 1–6. <https://doi.org/10.4172/2469-9756.1000106>
- Aizul Haq, M., Naubnome, V., Fauji, N., Karawang, S., HSRonggo Waluyo, J., Karawang, K., & Barat, J. (2022). *PENGARUH FRAKSI VOLUME TERHADAP KEKUATAN TARIK DAN BENDING KOMPOSIT SERAT SERABUT KELAPA BERMATRIKS POLIESTER*. 15(2).
- Akhtar, K., Khan, S. A., Khan, S. B., & Asiri, A. M. (2018). *Scanning Electron Microscopy : Principle and Applications in Nanomaterials Characterization*.
- Allyn, O. Q., Kusumawati, E., & Nugroho, R. A. (2018). Antimicrobial activity of terminalia catappa brown leaf extracts against staphylococcus aureus ATCC 25923 and Pseudomonas aeruginosa ATCC 27853 [version 1; peer review: 2 approved, 1 not approved]. *F1000Research*, 7. <https://doi.org/10.12688/F1000RESEARCH.15998.1>
- Andreu, V., Mendoza, G., Arruebo, M., & Irusta, S. (2015). Smart dressings based on nanostructured fibers containing natural origin antimicrobial, anti-inflammatory, and regenerative compounds. *Materials*, 8(8), 5154–5193. <https://doi.org/10.3390/ma8085154>
- Bakhsheshi-Rad, H. R., Ismail, A. F., Aziz, M., Akbari, M., Hadisi, Z., Omid, M., & Chen, X. (2020). Development of the PVA/CS nanofibers containing silk protein sericin as a wound dressing: In vitro and in vivo assessment. *International Journal of Biological Macromolecules*, 149, 513–521. <https://doi.org/10.1016/j.ijbiomac.2020.01.139>
- Canpolat, I., & Başı, A. (2017). Wound healing and current treatment techniques. *Research in: Agricultural & Veterinary Sciences*, 1(3), 180–184.
- Chen, L., & Dipietro, L. A. (2017). Toll-like receptor function in acute wounds. *Advances in Wound Care*, 6(10), 344–355. <https://doi.org/10.1089/wound.2017.0734>
- Cui, Z., Zheng, Z., Lin, L., Si, J., Wang, Q., Peng, X., & Chen, W. (2018). Electrospinning and crosslinking of polyvinyl alcohol/chitosan composite nanofiber for transdermal drug delivery. *Advances in Polymer Technology*, 37(6), 1917–1928. <https://doi.org/10.1002/adv.21850>

- Das, P., Ojah, N., Kandimalla, R., Mohan, K., Gogoi, D., Dolui, S. K., & Choudhury, A. J. (2018). Surface modification of electrospun PVA/chitosan nanofibers by dielectric barrier discharge plasma at atmospheric pressure and studies of their mechanical properties and biocompatibility. *International Journal of Biological Macromolecules*, 114, 1026–1032. <https://doi.org/10.1016/j.ijbiomac.2018.03.115>
- Duru Kamaci, U., & Peksel, A. (2020). Fabrication of PVA-chitosan-based nanofibers for phytase immobilization to enhance enzymatic activity. *International Journal of Biological Macromolecules*, 164, 3315–3322. <https://doi.org/10.1016/j.ijbiomac.2020.08.226>
- Fitriana, Y. A. N., Fatimah, V. A. N., & Fitri, A. S. (2020). Aktivitas Anti Bakteri Daun Sirih: Uji Ekstrak KHM (Kadar Hambat Minimum) dan KBM (Kadar Bakterisidal Minimum). *Sainteks*, 16(2), 101–108. <https://doi.org/10.30595/st.v16i2.7126>
- Ganesh, M., Aziz, A. S., Ubaidulla, U., Hemalatha, P., Saravanakumar, A., Ravikumar, R., Peng, M. M., Choi, E. Y., & Jang, H. T. (2016). Sulfanilamide and silver nanoparticles-loaded polyvinyl alcohol-chitosan composite electrospun nanofibers: Synthesis and evaluation on synergism in wound healing. *Journal of Industrial and Engineering Chemistry*, 39, 127–135. <https://doi.org/10.1016/j.jiec.2016.05.021>
- Garg, S., Garg, A., Shukla, A., Dev, S. K., & Kumar, M. (2018). A review on Nano-therapeutic drug delivery carriers for effective wound treatment strategies. *Asian Journal of Pharmacy and Pharmacology*, 4(2), 90–101. <https://doi.org/10.31024/ajpp.2018.4.2.1>
- Guo, Y., Wang, X., Shen, Y., Dong, K., Shen, L., & Alzalab, A. A. A. (2022). Research progress, models and simulation of electrospinning technology: a review. In *Journal of Materials Science* (Vol. 57, Nomor 1, hal. 58–104). Springer. <https://doi.org/10.1007/s10853-021-06575-w>
- Gupta, K. C., Haider, A., Choi, Y. R., & Kang, I. K. (2014). Nanofibrous scaffolds in biomedical applications. *Biomaterials Research*, 18(1), 1–11. <https://doi.org/10.1186/2055-7124-18-5>
- Haider, A., Haider, S., & Kang, I. K. (2018). A comprehensive review summarizing the effect of electrospinning parameters and potential applications of nanofibers in biomedical and biotechnology. In *Arabian Journal of Chemistry* (Vol. 11, Nomor 8, hal. 1165–1188). Elsevier B.V. <https://doi.org/10.1016/j.arabjc.2015.11.015>
- Hariyati, T., Soelistya Dyah Jekti, D., Andayani, Y., Kunci Abstrak Antibakteri, K., & Jambu Air, D. (2015). *PENGARUH EKSTRAK ETANOL DAUN JAMBU AIR (SYZYGIUM AQUEUM) TERHADAP BAKTERI ISOLAT KLINIS* (Vol. 1, Nomor 2). <http://jurnal.unram.ac.id/index.php/jpp-ipa>
- Hartatiek, Yudyanto, Wuriatika, M. I., Utomo, J., Nurhuda, M., Masruroh, & Santjojo, D. J. D. H. (2020). Nanostructure, porosity and tensile strength of

PVA/Hydroxyapatite composite nanofiber for bone tissue engineering. *Materials Today: Proceedings*, 44, 3203–3206. <https://doi.org/10.1016/j.matpr.2020.11.438>

Heydari Foroushani, P., Rahmani, E., Alemzadeh, I., Vossoughi, M., Pourmadadi, M., Rahdar, A., & Díez-Pascual, A. M. (2022). Curcumin Sustained Release with a Hybrid Chitosan-Silk Fibroin Nanofiber Containing Silver Nanoparticles as a Novel Highly Efficient Antibacterial Wound Dressing. *Nanomaterials*, 12(19). <https://doi.org/10.3390/nano12193426>

Homaeigohar, S., & Boccaccini, A. R. (2020). Antibacterial biohybrid nanofibers for wound dressings. *Acta Biomaterialia*, 107(2020), 25–49. <https://doi.org/10.1016/j.actbio.2020.02.022>

Iheagwam, F. N., Okeke, C. O., De Campos, O. C., Adegboye, B. E., Ogunlana, O. O., & Chinedu, S. N. (2021). Toxicopathological, proinflammatory and stress response evaluation of Terminalia catappa extract in male Wistar rats. *Toxicology Reports*, 8, 1769–1776. <https://doi.org/10.1016/j.toxrep.2021.10.005>

Kenry, & Lim, C. T. (2017). Nanofiber technology: current status and emerging developments. *Progress in Polymer Science*, 70, 1–17. <https://doi.org/10.1016/j.progpolymsci.2017.03.002>

Korchinski, D., Duereth, J., Mcneil, R., Au, M., & Schmid, V. (2019). *A Brief Introduction to SEM (Scanning Electron Microscopy)*. <https://www.scimed.co.uk/education/sem-scanning-electron-microscopy/>

Liu, R., Xu, X., Zhuang, X., & Cheng, B. (2014). Solution blowing of chitosan/PVA hydrogel nanofiber mats. *Carbohydrate Polymers*, 101(1), 1116–1121. <https://doi.org/10.1016/j.carbpol.2013.10.056>

Maeda, S., Kato, T., Kogure, H., & Hosoya, N. (2015). Rapid response of thermo-sensitive hydrogels with porous structures. *Applied Physics Letters*, 106(17). <https://doi.org/10.1063/1.4919585>

Magani, A. K., Tallei, T. E., & Kolondam, B. J. (2020). Uji Antibakteri Nanopartikel Kitosan terhadap Pertumbuhan Bakteri Staphylococcus aureus dan Escherichia coli. *Jurnal Bios Logos*, 10(1), 7. <https://doi.org/10.35799/jbl.10.1.2020.27978>

Magvirah, T., Ardhani, F., Peternakan Fakultas Pertanian, J., & Teknologi Hasil Pertanian, J. (2019). *UJI DAYA HAMBAT BAKTERI Staphylococcus aureus MENGGUNAKAN EKSTRAK DAUN TAHONGAI (Kleinhovia hospita L.) Bacterial Inhibitory Test of Staphylococcus aureus Using Leaf Extract of Tahongai (Kleinhovia hospita L.)*. 2, 2019.

Marno, M., Widiyanto, E., Sumarjo, J., & Santoso, A. (2018). Perancangan dan Pengembangan Sistem Electrospinning sebagai Teknologi dalam Pembuatan Nanofiber. *INVOTEK: Jurnal Inovasi Vokasional dan Teknologi*, 18(2), 101–108. <https://doi.org/10.24036/invotek.v18i2.394>

- Mehraj, S., Sistla, Y. S., Garg, M., Santra, B., Grewal, H. S., & Kanjilal, A. (2023). Improvement of Moisture Barrier and Tensile Properties of Pectin Films by Incorporating Terminalia catappa Linn. Leaf Wax and Xylitol. *Journal of Polymers and the Environment*, 31(8), 3522–3537. <https://doi.org/10.1007/s10924-023-02805-1>
- Mendes, C. R., Dilarri, G., Forsan, C. F., Sapata, V. de M. R., Lopes, P. R. M., de Moraes, P. B., Montagnolli, R. N., Ferreira, H., & Bidoia, E. D. (2022). Antibacterial action and target mechanisms of zinc oxide nanoparticles against bacterial pathogens. *Scientific Reports*, 12(1). <https://doi.org/10.1038/s41598-022-06657-y>
- Mohammadzadeh Pakdel, P., & Peighambaroust, S. J. (2018). Review on recent progress in chitosan-based hydrogels for wastewater treatment application. *Carbohydrate Polymers*, 201(June), 264–279. <https://doi.org/10.1016/j.carbpol.2018.08.070>
- Motasadzadeh, H., Azizi, S., Shaabani, A., Sarvestani, M. G., Sedghi, R., & Dinarvand, R. (2022). Development of PVA/Chitosan-g-Poly (N-vinyl imidazole)/TiO<sub>2</sub>/curcumin nanofibers as high-performance wound dressing. *Carbohydrate Polymers*, 296, 119956. <https://doi.org/10.1016/J.CARBPOL.2022.119956>
- Nagarkar, R., & Patel, J. (2019). *Acta Scientific Pharmaceutical Sciences (ISSN: 2581-5423) Polyvinyl Alcohol: A Comprehensive Study*. 3(4), 34–44.
- Nandiyanto, A. B. D., Ragadhita, R., & Fiandini, M. (2023a). Interpretation of Fourier Transform Infrared Spectra (FTIR): A Practical Approach in the Polymer/Plastic Thermal Decomposition. *Indonesian Journal of Science and Technology*, 8(1), 113–126. <https://doi.org/10.17509/ijost.v8i1.53297>
- Nandiyanto, A. B. D., Ragadhita, R., & Fiandini, M. (2023b). Interpretation of Fourier Transform Infrared Spectra (FTIR): A Practical Approach in the Polymer/Plastic Thermal Decomposition. *Indonesian Journal of Science and Technology*, 8(1), 113–126. <https://doi.org/10.17509/ijost.v8i1.53297>
- Norouzi, M., Shabani, I., Ahvaz, H. H., & Soleimani, M. (2015). PLGA/gelatin hybrid nanofibrous scaffolds encapsulating EGF for skin regeneration. *Journal of Biomedical Materials Research - Part A*, 103(7), 2225–2235. <https://doi.org/10.1002/jbm.a.35355>
- Patil, P. P., Reagan, M. R., & Bohara, R. A. (2020). Silk fibroin and silk-based biomaterial derivatives for ideal wound dressings. *International Journal of Biological Macromolecules*, 164, 4613–4627. <https://doi.org/10.1016/j.ijbiomac.2020.08.041>
- Paul, P. E. S., & Pitchipoo, P. (2023). Experimental investigation on the physicochemical properties of Terminalia catappa fiber. *Biomass Conversion and Biorefinery*. <https://doi.org/10.1007/s13399-023-04576-0>
- Prasanna, R., Annaram, K., & Shanker, N. R. (2021). Multilayer Flexible Substrate

Antenna Sensor for PT Measurement from Blood Plasma to Avoid Turbidity and Reagent Sensitivity Variations through Regression Modelling. *IEEE Sensors Journal*, 21(9), 10409–10419. <https://doi.org/10.1109/JSEN.2021.3062415>

Puigmal, A. C., Ayran, M., Ulag, S., Altan, E., Guncu, M. M., Aksu, B., Durukan, B. K., Sasmazel, H. T., Perez, R. A., Koc, E., O'Callaghan, D., & Gunduz, O. (2023). Fucoidan-loaded electrospun Polyvinyl-alcohol/Chitosan nanofibers with enhanced antibacterial activity for skin tissue engineering. *Journal of the Mechanical Behavior of Biomedical Materials*, 148. <https://doi.org/10.1016/j.jmbbm.2023.106163>

Purnama, M. T. E., Prastiya, R. A., Fikri, F., Saputro, A. L., & Agustono, B. (2018). Ekstrak Etanol Kulit Buah Naga Menurunkan Indikasi Neoplasia Mammar Tikus Putih Berdasarkan Histopatologi dan Inhibitor Siklooksigenase-2. *Jurnal Veteriner*, 19(1), 23. <https://doi.org/10.19087/jveteriner.2018.19.1.23>

Purwani, K. I., Alami, N. H., Nurhatika, S., Marcilia, S. N., & Arifiyanto, A. (2015). In Vitro Potential Test of Ketapang (*Terminalia catappa*) Leave Extract against *Aeromonas salmonicida*. *J. Appl. Environ. Biol. Sci*, 5(7), 1–6. [www.textroad.com](http://www.textroad.com)

Qin, Z., Jia, X., Liu, Q., Kong, B., & Wang, H. (2020). Enhancing physical properties of chitosan/pullulan electrospinning nanofibers via green crosslinking strategies. *Carbohydrate Polymers*, 247, 116734. <https://doi.org/10.1016/J.CARBPOL.2020.116734>

Qu, B., & Luo, Y. (2020). Chitosan-based hydrogel beads: Preparations, modifications and applications in food and agriculture sectors – A review. *International Journal of Biological Macromolecules*, 152, 437–448. <https://doi.org/10.1016/J.IJBIOMAC.2020.02.240>

Ramadhian, R. M., Soleha, T. U., Hanriko, R., & Azkia, H. P. (2017). Pengaruh Ekstrak Metanol Daun Ketapang (*Terminalia catappa* L.) Terhadap Kepadatan Serabut Kolagen pada Penyembuhan Luka Sayat Mencit (*Mus musculus*). *Jurnal Agromed Unila*, 4(3), 17.

Saadatmand, S., Vos, J. R., Hooning, M. J., Oosterwijk, J. C., Koppert, L. B., Bock, G. H. De, Ausems, M. G., Asperen, C. J. Van, Aalfs, C. M., Gómez, E. B., Wanna, A. G. B., Noble, J. H., Carlson, M. L., Gifford, H., Dietrich, M. S., Haynes, D. S., Dawant, B. M., Saadatmand, S., Vos, J. R., ... Chester, J. D. (2014). This article has been accepted for publication and undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process which may lead to differences between this version and the Version of Record. Please c. *The Laryngoscope*, 2, 2–31.

Sadri, M., Arab-Sorkhi, S., Vatani, H., & Bagheri-Pebdeni, A. (2015). New wound dressing polymeric nanofiber containing green tea extract prepared by electrospinning method. *Fibers and Polymers*, 16(8), 1742–1750. <https://doi.org/10.1007/s12221-015-5297-7>



- Salimi, Y. K., Kamarudin, J., Ischak, N. I., & ... (2022). Aktivitas Antioksidan Senyawa Metabolit Sekunder Ekstrak Metanol Daun Ketapang (*Terminalia catappa* L.). *Jambura Journal of ...*, 4(2), 12–21. <https://ejurnal.ung.ac.id/index.php/jjc/article/view/11618>
- Salzer, R. (2008). Peter R. Griffiths, James A. de Haseth: Fourier transform infrared spectrometry (2nd edn.). *Analytical and Bioanalytical Chemistry*, 391(7), 2379–2380. <https://doi.org/10.1007/s00216-008-2144-3>
- Sarhan, W. A., Azzazy, H. M. E., & El-Sherbiny, I. M. (2016). Honey/Chitosan Nanofiber Wound Dressing Enriched with *Allium sativum* and *Cleome droserifolia*: Enhanced Antimicrobial and Wound Healing Activity. *ACS Applied Materials and Interfaces*, 8(10), 6379–6390. <https://doi.org/10.1021/acsami.6b00739>
- Saritha, G., Iswarya, T., Keerthana, D., & Baig, A. T. D. (2023). *Materials Today : Proceedings Micro universal testing machine system for material property measurement. xxxx.*
- Sharma, S., Jaiswal, S., Duffy, B., & Jaiswal, A. K. (2019). Nanostructured Materials for Food Applications: Spectroscopy, Microscopy and Physical Properties. In *Bioengineering* (Vol. 6, Nomor 1). MDPI AG. <https://doi.org/10.3390/bioengineering6010026>
- Shaw, T. J., & Martin, P. (2016). Wound repair: A showcase for cell plasticity and migration. *Current Opinion in Cell Biology*, 42, 29–37. <https://doi.org/10.1016/j.ceb.2016.04.001>
- Silviyah, S., S, C., & Masruroh. (2019). Penggunaan Metode FT-IR untuk mengidentifikasi gugus fungsi pada proses pembaluran penderita mioma. *Pharmaceutical Research*, 0274, 1–9.
- Sulistiyani, M., & Huda, N. (2018). Perbandingan Metode Transmisi dan Reflektansi Pada Pengukuran Polistirena Menggunakan Instrumentasi Spektroskopi Fourier Transform Infra Red. *Indonesian Journal of Chemical Science*, 7(2), 195–198.
- Sylvester, M. A., Amini, F., & Keat, T. C. (2019). Electrospun nanofibers in wound healing. *Materials Today: Proceedings*, 29(June), 1–6. <https://doi.org/10.1016/j.matpr.2020.05.686>
- Teixeira-Costa, B. E., & Andrade, C. T. (2021). Chitosan as a valuable biomolecule from seafood industry waste in the design of green food packaging. *Biomolecules*, 11(11). <https://doi.org/10.3390/biom11111599>
- Vakili, M., Rafatullah, M., Salamatinia, B., Abdullah, A. Z., Ibrahim, M. H., Tan, K. B., Gholami, Z., & Amouzgar, P. (2014). Application of chitosan and its derivatives as adsorbents for dye removal from water and wastewater: A review. *Carbohydrate Polymers*, 113, 115–130. <https://doi.org/10.1016/J.CARBPOL.2014.07.007>

- Wang, J., & Zhuang, S. (2017). Removal of various pollutants from water and wastewater by modified chitosan adsorbents. *Critical Reviews in Environmental Science and Technology*, 47(23), 2331–2386. <https://doi.org/10.1080/10643389.2017.1421845>
- Wibowo, Z. H. L., Syakir, N., Faizal, F., Safriani, L., & Fitrilawati, F. (2022). Karakteristik Serat Nano PVA yang Dibuat Menggunakan Elektrosinning dengan Kolektor Statik. *Jurnal Material dan Energi Indonesia*, 12(1), 26–33.
- Wilkinson, H. N., & Hardman, M. J. (2020). Wound healing: cellular mechanisms and pathological outcomes: Cellular Mechanisms of Wound Repair. *Open Biology*, 10(9). <https://doi.org/10.1098/rsob.200223>
- Xue, J., Wu, T., Dai, Y., & Xia, Y. (2019). Electrospinning and electrospun nanofibers: Methods, materials, and applications. In *Chemical Reviews* (Vol. 119, Nomor 8, hal. 5298–5415). American Chemical Society. <https://doi.org/10.1021/acs.chemrev.8b00593>
- Zanela, J., Bilck, A. P., Casagrande, M., Grossmann, M. V. E., & Yamashita, F. (2018). Polyvinyl alcohol (PVA) molecular weight and extrusion temperature in starch/PVA biodegradable sheets. *Polimeros*, 28(3), 256–265. <https://doi.org/10.1590/0104-1428.03417>
- Zhou, L., Ramezani, H., Sun, M., Xie, M., Nie, J., Lv, S., Cai, J., Fu, J., & He, Y. (2020). 3D printing of high-strength chitosan hydrogel scaffolds without any organic solvents. *Biomaterials Science*, 8(18), 5020–5028. <https://doi.org/10.1039/d0bm00896f>