

DAFTAR PUSTAKA

- Alves, N.M., & Mano, J.F. 2008. *Chitosan derivatives obtained by chemical modifications for biomedical and environmental applications*. International Journal of Biological Macromolecules, 43, 401–414.
- Amiri, N., A. M. A. S. T. J. M. 2018. *Modeling and Process Optimization of Electrospinning of Chitosan-Collagen nanofiber by Response Surface Methodology*. Materials Research Express.
- Corrales, L, Esteves, M, & Vick, JE 2014, 'Scaffold Design for Bone Regeneration', J Nanosci Nanotechnol, vol. 14, no. 1, pp. 4,10.
- Czichos, H., Saito, T., & Smith, L. R. (2006). *Springer handbook of materials measurement methods* (pp. 303-304). Germany: Springer.
- Dash, M. Chiellini, F., Ottenbrite, R.M., Chiellini, E. 2011. *Chitosan—A versatile semi-synthetic polymer in biomedical applications*. Prog. Polym. Sci., 36: 981–1014
- Davis, J. R. (2004). *Tensile testing*. Materials Park, OH: ASM International.
- Diaz, E., et al. 2014. *In Vitro Degradation of Poly(caprolactone)/nHA Composites*. Journal of Nanomaterials, 1-8.
- Dong, C & Lv, Y 2016, 'Application of Collagen Scaffold in Tissue Engineering: Recent Advances and New Perspectives', Polymers, vol. 8, no. 42, pp. 2-10.
- Dulnik, J.; Denis, P.; Sajkiewicz, P.; Kołbuk, D.; Choiński, E. 2016. *Biodegradation of bicomponent PCL/gelatin and PCL/collagen nanofibers electrospun from alternative solvent system*. Polym. Degrad. Stab. 130, 10–21
- Ebnesajjad, S. 2013. *Handbook of Biopolymers and Biodegradable Plastic Properties, Processing, and Applications*. London: Elsevier Inc.
- Ehterami, A., Salehi, M., Farzamfar, S., Vaez, A., Samadian, H., Sahrpeyma, H., Goodarzi, A. 2018. *In vitro and in vivo study of PCL/COLL wound dressing loaded with insulin-chitosan nanoparticles on cutaneous wound healing in rats model*. International Journal of Biological Macromolecules (Vol. 117). Elsevier B.V. <https://doi.org/10.1016/j.ijbiomac.2018.05.184>
- Ferreira, AM, Gentile, P, Chiomo, V, & Ciardelli, G 2012, 'Collagen for Bone Tissue Regeneration', Acta Biomaterialia, vol. 8, pp. 3197-8.

- Fridrikh, S. V., Yu, J. H., Brenner, M. P., & Rutledge, G. C. (2003). *Controlling the Fiber Diameter during Electrospinning*. *Physical Review Letters*, 90(14). doi:10.1103/physrevlett.90.144502
- Gadkardi, S. B. (2014, Desember 2). *Scaling analysis for electrospinning*. Diakses 1 November 2019, (<http://www.springerplus.com/content/3/1/705>)
- Gautam, S., Chou, C. F., Dinda, A. K., Potdar, P. D., & Mishra, N. C. 2014. *Fabrication and characterization of PCL/gelatin/chitosan ternary nanofibrous composite scaffold for tissue engineering applications*. *Journal of Materials Science*, 49(3), 1076–1089. <https://doi.org/10.1007/s10853-013-7785-8>
- Geng X, Kwon O-H, Jang J. 2005 *Electrospinning of chitosan dissolved in concentrated acetic acid solution*. *Biomaterials* 26 5427-5432
- Ghorbani, M., Nezhad-Mokhtari, P., & Ramazani, S. 2020. *Aloe vera-loaded nanofibrous scaffold based on Zein/Polycaprolactone/Collagen for wound healing*. *International Journal of Biological Macromolecules*, 153, 921–930. <https://doi.org/10.1016/j.ijbiomac.2020.03.036>
- Grenha, A., Al-Qadi, S., Seijo, B., Remuñán-López, C. 2010. *The potential of chitosan for pulmonary drug delivery*. *J. Drug Deliv. Sci. Technol.*, 20: 33–43.
- Griffiths, P.R. and de Haseth, J.A. 2007. *Fourier Transform Infrared Spectrometry, Second edition*. New Jersey: John Wiley and Sons
- Guarino, V. *et al.* (2017) *Polycaprolactone: Synthesis, Properties, and Applications, Encyclopedia of Polymer Science and Technology*
- Huang, Z., Zhang, Y., Kotaki, M., & Ramakrishna, S. (2003). *A review on polymer nanofibers by electrospinning and their applications in nanocomposites*. *Composites Science and Technology*, 63(15), 2223-2253. doi:10.1016/s02663538(03)00178-7
- Jeun J-P, Kim Y-H, Lim Y-M, Choi J-H, Jung C-H, Kang P-H, Nho Y-C (2007) *Electrospinning of poly(l-lactide-co-d, l-lactide)*. *J Ind Eng Chem* 13(4):592–596
- Jin G, Prabhakaran MP, Ramakrishna S. 2011. *Stem cell differentiation to epidermal lineages on electrospun nanofibrous substrates for skin tissue engineering*. *Acta Biomaterialia*. 7(8):3113-22.
- Karuppuswamy, P., Reddy Venugopal, J., Navaneethan, B., Luwang Laiva, A., & Ramakrishna, S. 2015. *Polycaprolactone nanofibers for the controlled release of tetracycline hydrochloride*. *Materials Letters*, 141, 180–186. <https://doi.org/10.1016/j.matlet.2014.11.044>

- Khatti, T., Naderi-Manesh, H., & Kalantar, S. M. 2019. *Polypyrrole-Coated Polycaprolactone-Gelatin Conductive Nanofibers: Fabrication and Characterization*. *Materials Science and Engineering B: Solid-State Materials for Advanced Technology*, 250(November), 114440. <https://doi.org/10.1016/j.mseb.2019.114440>
- Konta, A. A., Garc, M. and Serrano, D. R. (2017) '*Personalised 3D Printed Medicines : Which Techniques and Polymers Are More Successful ?*
- Kranthi Kiran, A. S., Kizhakeyil, A., Ramalingam, R., Verma, N. K., Lakshminarayanan, R., Kumar, T. S. S., Ramakrishna, S. 2019. *Drug loaded electrospun polymer/ceramic composite nanofibrous coatings on titanium for implant related infections*. *Ceramics International*, 45(15), 18710–18720. <https://doi.org/10.1016/j.ceramint.2019.06.097>
- Kumirska, J., Weinhold, M.X., Czerwicka, M., Z., Bychowska, A., Brzozowski, K., et al. 2011. *Influence of the Chemical Structure and Physicochemical Properties of Chitin- and Chitosan-Based Materials on Their Biomedical Activity*. *Biomedical Engineering, Trends in Materials Science*, Mr Anthony Laskovski (Ed.), pp 25-28
- Kurita, K. 2006. *Chitin and chitosan: Functional biopolymers from marine crustaceans*. *Mar. Biotechnol.*, 8: 203–226.
- Larena, A, Caceres, D.A., Ramos-Ortiz, G. 2009. *Control Inflammatory Effect in Tissue Engineering with Chitosan Nanoparticles, Influence of Sterilization Process*. *The Open Tissue Engineering and Regenerative Medicine Journal*, 2: 40-7.
- Lee, Y., & Arinzeh, T. L. (2010). *Electrospun Nanofibers for Neural Applications*. *Nanotechnology in Tissue Engineering and Regenerative Medicine*, 1-22. doi:10.1201/b10372-5
- León-Mancilla, BH, Araiza-Téllez, MA, Flores-Flores, JO, & Piña-Barba, MC 2016, '*Physico-Chemical Characterization of Collagen Scaffolds for Tissue Engineering*', *Journal of Applied Research and Technology*, vol. 14, p. 84.
- Li W.J., Shanti R.M., Tuan R.S, 2006. *Electrospinning Technology for Nanofibrous Scaffolds in Tissue Engineering*. In '*Nanotechnologies for the Life Sciences*, Vol. 9: Tissue, Cell and Organ Engineering' (ed.: Kumar C.) Wiley-VCH Verlag GmbH & Co. KGaA, Germany, Vol 9, 135 – 187 (2006).
- Li, Z., & Wang, C. 2013. *Effects of Working Parameters on Electrospinning. One-Dimensional Nanostructures*. *SpringerBriefs in Materials*, 15-26.
- Lima, T.H., Cunha, G.M.F., Jensen, C.E.M., Orefice, R.L., Junior, A.S.C., Zhao, M., Cohen, F.B., Silva, G.R., 2016, *Bioactive Glass Nanoparticles-loaded Poly(ϵ -caprolactone) Nanofiber as Substrate for ARPE-19 Cells*, *Journal of Nanomaterials*, 2016, 1 – 12.

- M. Adeli-Sardou, M. M. Yaghoobi, M. Torkzadeh-Mahani, M. Dodel. 2019. *Controlled release of lawsone from polycaprolactone/gelatin electrospun nanofibers for skin tissue regeneration*. Int J Biol Macromol. 124. 478-491.
- M. Sirousazar, M. Kokabi, Z. Hassan, A. Bahramian. 2011. *Dehydration kinetics of polyvinyl alcohol nanocomposite hydrogels containing Na-montmorillonite nanoclay*. Scientia Iranica 18(3). 780-784.
- Mataram, A., Ismail, A. F., Abdullah, M. S., Ng, B. C., & Matsuura, T. (2011). *A Review Of Assembled Polyacrylonitrile-Based Carbon Nanofiber Prepared Electrospinning Process*. International Journal of Nanoscience, 10(03), 455-469. doi :10.1142/s0219581x11008228
- McMurry, J. 2007. *Organic Chemistry 7th Edition*. USA: Thomson Learning Inc.
- Mishra, P. C., Mukherjee, S., Nayak, S. K., & Panda, A. (2014). A brief review on viscosity of nanofluids. *International Nano Letters*, 4(4), 109–120. <https://doi.org/10.1007/s40089-014-0126-3>
- Moenadjat Y, 2005. *Resusitasi: Dasar-Dasar Manajemen Luka Bakar Fase Akut*. Jakarta: Komite Medik Asosiasi Luka Bakar Indonesia. hlm.60
- Mondal, D., Griffith, M., Venkatraman, S.S., 2016, *Polycaprolactone-based Biomaterials for Tissue Engineering and Drug Delivery: Current Scenario and Challenges*, International Journal of Polymeric Materials and Polymeric Biomaterials, 65 (5), 255 – 265.
- N. Bölgen, Y.Z. Menceloğlu, K. Acatay, I. Vargel, E. Pişkin. 2005. *In vitro and in vivodegradation of non-woven materials made of poly (ε-caprolactone) nanofibers prepared by electrospinning under different conditions*. J. Biomater. Sci. Polym. Ed. 16. 1537–1555.
- Nair, L. S. and C. T. Laurencin. 2007. “*Biodegradable polymers as biomaterials*”, Progress in Polymer Science 32(8-9): 762-798.
- Nejaddehbashi, F., Hashemitabar, M., Bayati, V., Abbaspour, M., Moghimipour, E., & Orazizadeh, M. 2019. *Application of polycaprolactone, chitosan, and collagen composite as a nanofibrous mat loaded with silver sulfadiazine and growth factors for wound dressing*. Artificial Organs, 43(4), 413–423. <https://doi.org/10.1111/aor.13369>
- Pal, P., Dadhich, P., Srivas, P. K., Das, B., Maulik, D., & Dhara, S. 2017. *Bilayered nanofibrous 3D hierarchy as skin rudiment by emulsion electrospinning for burn wound management*. Biomaterials Science, 5(9). 1786–1799. <https://doi.org/10.1039/c7bm00174f>

- Patel, S.S. 2006. *Pharmaceutical Significance of Chitosan: A Review*. Pharm. Rev., 4: p 6.
- Rahmati Nejad, M., Yousefzadeh, M., & Solouk, A. 2020. *Electrospun PET/PCL small diameter nanofibrous conduit for biomedical application*. Materials Science and Engineering C, 110 (October 2019), 110692. <https://doi.org/10.1016/j.msec.2020.110692>
- Ramakhrisna. 2005. *Electrospinning Process. An Introduction to Electrospinning and Nanofibers*, 90-154. doi:10.1142/9789812567611_0003
- Roberts, G.A.F. 2007. *The Road is long.... Adv. Chitin Sci.*, 10: 3–10.
- Rodrigues, S., Dionisio, M., Lopez, C.R., Grenha, A. 2012. *Biocompatibility of Chitosan Carriers with Application in Drug Delivery*. J. Funct. Biomater, 3: 615-641
- S. Agarwal, J.H. Wendorff, A. Greiner. 2008. *Use of electrospinning technique for biomedical applications*. Polymer (Guildf). 49 (2008) 5603–5621. doi:10.1016/j.polymer.2008.09.014.
- S. P. Miguel, M.P. Ribeiro, P. Coutinho, I.J. Correia. 2017. *Electrospun polycaprolactone/aloe vera_chitosan nanofibrous asymmetric membranes aimed for wound healing applications*. Polymers (Basel). 9. 183.
- Saderi, N., Rajabi, M., Akbari, B., Firouzi, M., & Hassannejad, Z. 2018. *Fabrication and characterization of gold nanoparticle-doped electrospun PCL/chitosan nanofibrous scaffolds for nerve tissue engineering*. Journal of Materials Science: Materials in Medicine, 29(9). <https://doi.org/10.1007/s10856-018-6144-3>
- Seidel, M. 2009. *Tensile surface structures: A practical guide to cable and membrane construction*. Berlin: Ernst & Sohn.
- Shamirzaei Jeshvaghani, E., Ghasemi-Mobarakeh, L., Mansurnezhad, R., Ajallouei, F., Kharaziha, M., Dinari, M., Chronakis, I. S. 2018. *Fabrication, characterization, and biocompatibility assessment of a novel elastomeric nanofibrous scaffold: A potential scaffold for soft tissue engineering*. Journal of Biomedical Materials Research - Part B Applied Biomaterials. 106(6), 2371–2383. <https://doi.org/10.1002/jbm.b.34043>
- Shokrollahi, M., Bahrami, S. H., Nazarpak, M. H., & Solouk, A. 2020. *Multilayer nanofibrous patch comprising chamomile loaded carboxyethyl chitosan/poly(vinyl alcohol) and polycaprolactone as a potential wound dressing*. International Journal of Biological Macromolecules, 147, 547–559. <https://doi.org/10.1016/j.ijbiomac.2020.01.067>
- Singh, S., Lakshmi, S. G., & Vijayakumar, M. (2009). *Effect of Process Parameters on the Microstructural Characteristics of Electrospun Poly(Vinyl Alcohol)*

Fiber Mats. NanoBiotechnology, 5(1-4), 10-16. doi:10.1007/s12030-009-9027-3

Stuart, B.H. 2012. “*Infrared Spectroscopy of Biological Applications: An Overview*”, *Encyclopedia of Analytical Chemistry: Applications, Theory and Instrumentation* **1**: 1-17.

Subbiah T. et.al. (2005). *Electrospinning of Nanofiber*, *Journal of Applied Polymer Science*, 2005, 96, 557-569.

Tamariz, E., & Rios-Ramírez, A. 2013. *Biodegradation of Medical Purpose Polymeric Materials and Their Impact on Biocompatibility*. *Biodegradation-Life of Science*, 1-21.

Thermo Nicolet Corporation. 2007. *Introduction to Fourier Transform Infrared Spectrometry*

Thompson, Z., Rahman, S., Yarmolenko, S., Sankar, J., Kumar, D., Bhattarai, N., 2017, *Fabrication and Characterization of Magnesium Ferrite-based PCL/Aloe Vera Nanofibers*, *Materials*, 10 (8), 1 – 12.

Tortora GJ, Derrickson BH, 2009. *Principles of Anatomy and Physiology: Organisation, Support and Movement and Control Systems of the Human Body*, Volume 1, Twelfth edition. John Wiley and Sons, Hoboken NJ.

Tungprapa, S., Puangparn T, Weerasombut M, Jangchud I, Fakum P, Semongkhols, Meechaisue C, Supaphol P. 2007. *Cellulose*;14:563–75.

Wannatong, L., Sirivat, A., & Supaphol, P. (2004). *Effects of solvents on electrospun polymeric fibers: Preliminary study on polystyrene*. *Polymer International*, 53(11), 1851-1859. doi:10.1002/pi.1599

Woodruff, M. A., & Hutmacher, D. W. 2010. *Progress in Polymer Science The return of a forgotten polymer — Polycaprolactone in the 21st century*. *Progress in Polymer Science*, 1217-1256.

X. Liu, L. H. Nielsen, S. N. Kłodzińska, H. M. Nielsen, H. Qu, L. P. Christensen, J. Rantanen, M. Yang. 2018. *Ciprofloxacin-loaded sodium alginate/poly (lactic-co-glycolic acid) electrospun fibrous mats for wound healing*. *Eur. J. Pharm. Biopharm.* 123. 42-49.

Xu, J., Zhang, J., Gao, W., Liang, H., Wang, H., & Li, J. (2009). *Preparation of chitosan/PLA blend micro/nanofibers by electrospinning*. *Materials Letters*, 63(8), 658-660. doi:10.1016/j.matlet.2008.12.014

- Xue, M., & Jackson, C. J. 2015. *Extracellular matrix reorganization during wound healing and its impact on abnormal scarring*. *Advances in Wound Cares*, 119-135.
- Zahedi, E., Esmaeili, A., Eslahi, N., Shokrgozar, M. A., & Simchi, A. 2019. *Fabrication and characterization of core-shell electrospun fibrous mats containing medicinal herbs for wound healing and skin tissue engineering*. *Marine Drugs*. 17(1), 1–13. <https://doi.org/10.3390/md17010027>
- Zhang, Q. et al. (2015) ‘*Characterization of polycaprolactone/collagen fibrous scaffolds by electrospinning and their bioactivity*’, *International Journal of Biological Macromolecules*. Elsevier B.V., 76, pp. 94–101.
- Zhang, Q., Lv, S., Lu, J., Jiang, S., & Lin, L. 2015. *Characterization of polycaprolactone/collagen fibrous scaffolds by electrospinning and their bioactivity*. *International Journal of Biological Macromolecules*. 76, 94–101. <https://doi.org/10.1016/j.ijbiomac.2015.01.063>
- Zhu, J., Ye, H., Deng, D., Li, J., & Wu, Y. 2020. *Electrospun metformin-loaded polycaprolactone/chitosan nanofibrous membranes as promoting guided bone regeneration membranes: Preparation and characterization of fibers, drug release, and osteogenic activity in vitro*. *Journal of Biomaterials Applications*. 34(9), 1282–1293. <https://doi.org/10.1177/0885328220901807>