

## DAFTAR PUSTAKA

- Abad, M. J., Ansuategui, M., & Bermejo, P. (2007). Active antifungal substances from natural sources. *Arkivoc*, 2007(7), 116–145. <https://doi.org/10.3998/ark.5550190.0008.711>
- Agustina, N. L. (2019). Efektivitas polivinil alkohol (PVA) sebagai stabilizer dalam preparasi mikrosfer. Program Studi Farmasi, Fakultas Kedokteran, Universitas Tanjungpura.
- Alexy, P., et al. (2002). Thermal stability of poly(vinyl alcohol) in acid conditions.
- Alexy, P., et al. (2004). Effect of acetic acid on thermal degradation of PVA.
- Ariany Retno, D. (2019). Pengembangan formula hidrogel sebagai pembalut luka (wound dressing) menggunakan kombinasi polimer galaktomanan dan PVA.
- Asiska Permata Dewi, A., Shufyani, F., & P, K. (2024). Skrining fitokimia dan uji aktivitas antibakteri ekstrak daun matoa (*Pometia pinnata* J.R.Forst & G.Forst) terhadap *Staphylococcus aureus* dan *Staphylococcus epidermidis*. *Jppie*, 3(2), 59–64.
- Asworo, R. Y., & Widwastuti, H. (2023). Pengaruh ukuran serbuk simplisia dan waktu maserasi terhadap aktivitas antioksidan ekstrak kulit sirsak. 3(2), 256–263. <https://doi.org/10.37311/ijpe.v3i2.19906>
- Azizah, Z., & Wati, S. W. (2018). Skrining fitokimia dan penetapan kadar flavonoid total ekstrak etanol daun pare (*Momordica charantia* L.). *Jurnal Farmasi Higea*, 10(2), 163–172.
- Balouiri, M., Sadiki, M., & Ibnsouda, S. K. (2016). Methods for in vitro evaluating antimicrobial activity: A review. *Journal of Pharmaceutical Analysis*, 6(2), 71–79. <https://doi.org/10.1016/j.jpha.2015.11.005>
- Bashabsheh, R. H. F., Al-Fawares, O., Natsheh, I., Bdeir, R., Al-Khreshieh, R. O., & Bashabsheh, H. H. F. (2024). *Staphylococcus aureus* epidemiology, pathophysiology, clinical manifestations and application of nanotherapeutics as a promising approach to combat methicillin resistant *Staphylococcus aureus*. *Pathogens and Global Health*, 118(3), 209–231.

<https://doi.org/10.1080/20477724.2023.2285187>

- Bhoyar, S. D., Malhotra, K., & Madke, B. (2023). Dressing materials: A comprehensive review. *Journal of Cutaneous and Aesthetic Surgery*, 16(2), 81–89. [https://doi.org/10.4103/JCAS.JCAS\\_163\\_22](https://doi.org/10.4103/JCAS.JCAS_163_22)
- Borbolla-Jim, F. V., Peña-Corona, S. I., Farah, S. J., Pineda-P., E., Romero-Montero, A., Magaña, J. J., & Leyva-G., G. (2023). Films for wound healing fabricated using a solvent casting technique.
- BPOM RI. (2019). *Peraturan Kepala BPOM Nomor 32 Tahun 2019 tentang Persyaratan Keamanan dan Mutu Obat Tradisional*. Jakarta: Badan Pengawas Obat dan Makanan Republik Indonesia
- Cao, N., Fu, Y., & He, J. (2007). Mechanical properties of gelatin films cross-linked, respectively, by ferulic acid and tannic acid. *Food Hydrocolloids*, 21(4), 575–584. <https://doi.org/10.1016/j.foodhyd.2006.07.001>
- Chopra, H., Bibi, S., Kumar, S., Khan, M. S., Kumar, P., & Singh, I. (2022). Preparation and evaluation of chitosan/PVA based hydrogel films loaded with honey for wound healing application.
- Dang, T. T., Nguyen, T., & Tien, D. (2024). Improving properties of chitosan/polyvinyl alcohol films using cashew nut testa extract: Potential applications in food packaging.
- Davis, W. W., & Stout, T. R. (1971). Disc plate method of microbiological antibiotic assay I. Factors influencing variability and error. *Applied Microbiology*, 22(4), 659–665.
- Departemen Kesehatan Indonesia. (1979). *Farmakope Indonesia edisi III*. Depkes RI.
- Depkes. (2000). *Kementerian Hukum Dan Hak Asasi Manusia Surat Pencatatan Ciptaan*. 28. [https://eprints.uad.ac.id/54662/1/7a\\_epid\\_sosial+hki\\_compressed.pdf#page=109](https://eprints.uad.ac.id/54662/1/7a_epid_sosial+hki_compressed.pdf#page=109)
- Fadiana, U. L., & Haryanto. (2021). Pengaruh kitosan terhadap karakterisasi hidrogel film PVA untuk aplikasi pembalut luka. *Techno*, 22(2), 123–130.
- Farshi, P., Salarian, R., Rabiee, M., Alizadeh, S., Gholipourmalekabadi, M., Ahmadi, S., & Rabiee, N. (2022). Design, preparation, and characterization

- of silk fibroin/carboxymethyl cellulose wound dressing for skin tissue regeneration applications. *Polymer Engineering & Science*, 62(9), 2741–2749.
- Garuda, S. R., & Kadir, S. (2014). *Matoa: Buku seri tanaman khas Papua*. Balai Pengkajian Teknologi Pertanian Papua.
- Gefen, A., Alves, P., Beeckman, D., Cullen, B., Lázaro-Martínez, J. L., Lev-Tov, H., Santamaria, N., Swanson, T., Woo, K., Söderström, B., Svensby, A., Malone, M., & Nygren, E. (2024). Fluid handling by foam wound dressings: From engineering theory to advanced laboratory performance evaluations. *International Wound Journal*, 21(2), 1–25. <https://doi.org/10.1111/iwj.14674>
- Goetie, I. H., Sundu, R., & Supriningrum, R. (2022). Antibacterial Activity of The Extract of The Bark Extract The Sekilang (*Embelia Borneensis* Scheff) Against *Eschericia Coli* And *Staphylococcus Aureus* Using Disc Diffusion Method. *Jurnal Riset Kefarmasian Indonesia*, 4(2), 144–155. <https://jurnalfarmasi.or.id/index.php/jrki/article/view/260>
- Han Liu, Jiping Yue, Qiang Lei, Xuewen Gou, Shao-Yu Chen, Yu-Ying He, and X. W. (2016). *Ultraviolet B (UVB) Inhibits Skin Wound Healing by Affecting Focal Adhesion Dynamics*. 91(4), 909–916. <https://doi.org/10.1111/php.12462>.Ultraviolet
- Harborne, J. B. (1987). *Metode fitokimia: Penuntun cara modern menganalisis tumbuhan*. Penerbit ITB.
- Haryanto, H. (2021). Pengaruh Kitosan Terhadap Karakterisasi Hidrogel Film PVA Untuk Aplikasi Pembalut Luka. *Jurnal Techno*, 22(2), 123–130.
- Hasnaeni, H., & Wisdawati, W. (2019). Pengaruh metode ekstraksi terhadap rendemen dan kadar fenolik ekstrak tanaman kayu beta-beta (*Lunasia amara Blanco*). *Jurnal Farmasi Galenika*, 5(2), 175–182.
- Hassan, M. N., & Laily, A. N. (2014). Uji Kandungan Flavonoid dan Perbandingan Aktivitas Antioksidan Pada Ekstrak Etanol Simplisia Bunga Pepaya Gantung Saat Kuncup dan Mekar. *Jurnal Skrining Bioaktif*, 1(1), 1–15.

- Hataningtyas, N., Wilapangga, A., & Royani, S. (2024). *Skrining Fitokimia Ekstrak Etanol 96 % Bunga Telang ( Clitoria ternatea L .) Dan Uji Kemampuan Sebagai Antibakteri. 1(2)*, 132–145.
- Indarti, E., Marlita, A. S., Teknologi, J., Pertanian, H., Pertanian, F., & Kuala, U. S. (2020). *Film Bionanokomposit PLA / PCL Film Bionanokomposit PLA / PCL. 25(2)*
- Ismaya, F. C., Fithriyah, N. H., & Hendrawati, T. Y. (2021). Pembuatan dan karakterisasi edible film dari nata de coco dan gliserol. *Jurnal Teknologi*, 13(1), 81–88.
- Jiang, X., et al. (2016). Effect of glycerol on properties of chitosan/PVA films.
- Jong-Whan Rhim dan Li Wang, “Preparation and Characterization of Bionanocomposite Films,” *Progress in Polymer Science* 39, no. 9 (2014): 1629–1652.
- Kraisit, P., Limmatvapirat, S., Nunthanid, J., Sriamornsak, P., & Luangtana-Anan, M. (2017). Preparation and characterization of hydroxypropyl methylcellulose/polycarbophil mucoadhesive blend films using a mixture design approach. *Chemical and Pharmaceutical Bulletin*, 65(3), 284–294.
- Kumar, S., Dongre, S., Raghu, S., Demappa, T., & Sannappa, J. (2022). Structural and mechanical characteristic study of HPMC polymer composite films. *IOP Conference Series: Materials Science and Engineering*, 1221(1), 012011.
- Kuspradini, H., Pasedan, W. F., & Kusuma, I. W. (2016). Aktivitas antioksidan dan antibakteri ekstrak daun Pometia pinnata. *Jurnal Jamu Indonesia*, 1(1), 26–34.
- Liang, X., Zhong, H. J., Ding, H., & Cheong-Meng. (2024). Polyvinyl alcohol (PVA)-based hydrogels: Recent progress in fabrication, properties, and multifunctional applications. *MDPI*, 16(19), 2755.
- Liu, G. Y. (2010). *Molecular Pathogenesis of Staphylococcus aureus Infection. 65*. <https://doi.org/10.1203/PDR.0b013e31819dc44d>.Molecular
- Lu, L., Hu, W., Tian, Z., Yuan, D., Yi, G., Zhou, Y., Cheng, Q., & Zhu, J. (2019). Developing natural products as potential anti-biofilm agents. *Chinese*

- Medicine, 1–17. <https://doi.org/10.1186/s13020-019-0232-2>
- Lulustyaningati, A., & Aminin, N. (2023). *Jurnal Kimia Sains dan Aplikasi Total Phenolic , Flavonoid , and LC-MS Analysis of the Ethanolic Extract of Matoa ( Pometia pinnata ) Leaves from Kudus , Central Java , Indonesia.* 26(12), 477–482
- Malhotra, K., & Franke, J. (2022). Cytochrome P450 monooxygenase-mediated tailoring of triterpenoids and steroids in plants. <https://doi.org/10.3762/bjoc.18.135>
- Minsart, M., Van Vlierberghe, S., Dubruel, P., & Mignon, A. (2022). Commercial Wound Dressings for the Treatment Of Exuding Wounds: an in-Depth Physico-Chemical Comparative Study. *Burns & Trauma*, 10(1), 1-14.
- Muharni, M., Fitriya, F., & Farida, S. (2017). Uji aktivitas antibakteri ekstrak etanol tanaman obat suku Musi. *Jurnal Kefarmasian Indonesia*, 127–135.
- Mujipradhana, V. N. (2018). Aktivitas antimikroba dari ekstrak ascidian herdmania momus pada mikroba patogen manusia. *Pharmacon*, 7(3).
- N. A. Peppas dan J. J. Sahlin, “A Simple Equation for the Description of Solute Release from Swellable Devices,” *International Journal of Pharmaceutics* 57 (1989): 169–172.
- Nazar, A., Duta, U., & Surakarta, B. (n.d.). *Ekstrak Etanol Herba Seledri ( Apium Graviolens L ) Terhadap Bakteri Staphylococcus aureus ATCC 25923*
- Nascimento, R. E. A., Silva, R. A. L., Oliveira, F., Silva, A. C., Alves, V. D., Rosatella, A. A., Duarte, A. R. C., Brito, L., Crespo, J. G., & Neves, L. A. (2026). Development of antibacterial skin wound dressing films based on cellulose, chitosan, and ionic liquids. *Materials Today Communications*, 50, 114465. <https://doi.org/10.1016/j.mtcomm.2025.114465>
- Norahan, M. H., Pedroza-González, S. C., Sánchez-Salazar, M. G., Álvarez, M. M., & de Santiago, G. T. (2023). Structural and biological engineering of 3D hydrogels for wound healing. *Bioactive Materials*, 24(1), 197–235.
- Otto, M. (2014). Staphylococcus aureus toxins. *Current Opinion in Microbiology*, 17(1), 32–37. <https://doi.org/10.1016/j.mib.2013.11.004>
- Pharmaceutical, J. O. F. (2023). *Antioxidant and Antibacterial Activities of*

- Ethanol Extract of Matoa ( Pometia pinnata ) Leaves. 6(2), 351–357.*
- Purwangnityas, F. Y. (2024). *Preparation and Characterization of Chitosan Gelatin Film for Wound Dressing Pembuatan dan Pembalut Luka Karakterisasi Film Kitosan-Gelatin untuk. 3(8), 3469–3478.*
- Qi Peng, Q., Tang, X., Dong, W., Sun, N., & Wang, Y. (2023). A review of biofilm formation of Staphylococcus aureus and its regulation mechanism.
- Rahmadiawan, D., Abral, H., Railis, R. M., Iby, I. C., Mahardika, M., Handayani, D., Natrana, K. D., Juliadmi, D., & Akbar, F. (2022). The enhanced moisture absorption and tensile strength of PVA/Uncaria gambir extract by boric acid as a highly moisture-resistant, anti-UV, and strong film for food packaging applications. *Journal of Composites Science, 6(11), 337.*  
<https://doi.org/10.3390/jcs6110337>
- Rhim, J. W., & Wang, L. F. (2014). Preparation and characterization of carrageenan-based nanocomposite films reinforced with clay mineral and silver nanoparticles. *Applied Clay Science, 97–98, 174–181.*  
<https://doi.org/10.1016/j.clay.2014.05.025>
- Rinaudo, M. (1999). Chitin and chitosan: Properties and applications. *Progress in Polymer Science.*
- Rivero, S., et al. (2016). An insight into the role of glycerol in chitosan films.
- Robert, M., & Dellas, J. P. (1983). Film Dressing. *United States Patent 4, 413, 621. USA.*
- Ronald, W. K. (2015). Perawatan luka kronis dengan modern dressing.
- Rowe, R. C., Sheskey, P. J., & Quinn, M. E. (2009). *Handbook of pharmaceutical excipients (6th ed.).*
- Safira, L., Putri, Y., Munandar, H., & Miswanda, D. (2025). *Konsentrasi hambat minimum dan konsentrasi bunuh minimum ekstrak etanol dan nanopartikel ekstrak etanol daun matoa ( Pometia pinnata ) terhadap Cutibacterium acnes Abstrak Pendahuluan. 8(1), 450–466.*
- Safta, D. A., Bogdan, C., Iurian, S., & Moldovan, M. L. (2025). Optimization of film-dressings containing herbal extracts for wound care—A quality by design approach. *Gels, 11(5), 1–26.* <https://doi.org/10.3390/gels11050322>

- Santoso, A. P. B., Puspitasari, E., & P, D. R. (2020). Uji efektivitas daya hambat ekstrak madu terhadap *Salmonella typhi* dengan metode difusi cakram.
- Sari, D. I., & Triyasmono, L. (2017). Rendemen dan flavonoid total ekstrak etanol kulit batang bangkal dengan metode maserasi ultrasonikasi.
- Sashwati Roy, PhD, Suman Santra, PhD , Amitava Das, PhD, Sriteja Dixith, M., Mithun Sinha, PhD, Subhadip Ghatak, PhD, Nandini Ghosh, MS, P., Banerjee, PhD, Savita Khanna, PhD, Shomita Mathew-Steiner, PhD, P. Das, Ghatak, MS, Britani N. Blackstone, PhD, Heather M. Powell, PhD, V. K., Bergdall, DVM, Daniel J. Wozniak, P., & , Chandan K. Sen, P.
- Seung Koo, P., Sung Ryul, Y., & Ki, K. (2020). Light transmittance control film and composition for the light transmittance control film (U.S. Patent Application Publication No. 2020/0032013). United States Patent and Trademark Office.
- Shafa, N., & Imanto, T. (2025). *ORIGINAL ARTICLE Formulation and Characterization of Polyvinyl Alcohol-Sodium Carboxymethyl Cellulose Nanocomposite with Ciprofloxacin Addition as a Wound Dressing* .
- Sidoretno, W. M. (2021). Potential of the ethanolic extract of matoa leaves against *Staphylococcus aureus* bacteria.
- Sirait, S. M., & Enriyani, R. (2021). Skrining Fitokimia dan Pengaruh Cara Pengeringan Terhadap Kualitas Ekstrak Etanol Daging Buah Pala (*Myristica fragrans* houtt). *Warta Akab*, 45(2), 12-16.
- Siregar, H. N., Rahayu, Y. P., Nasution, H. M., & Nasution, M. P. (2023). Uji aktivitas antibakteri nanopartikel ekstrak etanol daun matoa terhadap *Escherichia coli*. *Jurnal Riset Kefarmasian Indonesia*, 5(1), 24–41.
- Sudarwati, T. P. L., & Fernanda, M. A. H. F. (2019). Aplikasi Pemanfaatan Daun Pepaya (*Carica Papaya*) Sebagai Biolarvasida Terhadap Larva *Aedes Aegypti*. In *Anggota IKAPI (181/JTI/2017) Perum. Kota Baru Driyorejo, Jln. Granit Kumala 1/12, Gresik 61177* (Vol. 1, Issue 1).
- Sulasmis, E. S., Indriwati, S. E., & Suarsini, E. (2016). *Preparation of Various Type of Medicinal Plants Simplicia as Material of Jamu Herbal*. 1014–1024.

- Supriningrum, R., Supriningrum, R., & Handayani, F. (2017). *Karakterisasi Dan Skrining Fitokimia Daun*. 2(September), 232–244.
- Tamahkar, E., Özkahraman, B., Süloğlu, A. K., İdil, N., & Perçin, I. (2020). A novel multilayer hydrogel wound dressing for antibiotic release. *Journal of Drug Delivery Science and Technology*, 58, 101536. <https://doi.org/10.1016/j.jddst.2020.101536>
- Tampubolon, M. I., Chandra, D., & Cmc, N. (n.d.). Uji efektivitas antipiretik ekstrak etanol daun ranti hitam (*Solanum nigrum* L.) secara oral terhadap mencit jantan yang diinduksi pepton.
- Tenorová, K., Kurfürstová, J., Masteiková, R., Pavloková, S., & Bernatoniene, J. (2022). Formulation and evaluation of novel collagen/carboxymethylcellulose blend film wound dressing. *Ceska a Slovenska Farmacie*, 71(5), 190–199.
- Tong, S. Y. C., Davis, J. S., Eichenberger, E., Holland, T. L., & Fowler, V. G. (2015). *Staphylococcus aureus* infections: Epidemiology, pathophysiology, clinical manifestations, and management. *Clinical Microbiology Reviews*, 28(3), 603–661. <https://doi.org/10.1128/CMR.00134-14>
- Tridesianti, S., Kusumorini, A., & Putri, A. M. (2025). Kandungan Senyawa Ekstrak Daun Jarak Merah (*Jatropha gossypifolia* L.) dan Potensinya sebagai Antibakteri Edisi Januari The red 2025 Januari Edisi Material dan Metode. *Jurnal Ilmiah BIOSAIN TROPIS (BIOSCIENCE-TROPIC)*, 10(2), 46–53.
- V. T. Cushnie dan A. J. Lamb, “Antimicrobial Activity of Flavonoids,” *International Journal of Antimicrobial Agents* 26, no. 5 (2005): 343–356.
- Wang, Z., Qi, F., Luo, H., Xu, G., & Wang, D. (2022). Inflammatory microenvironment of skin wounds. *Frontiers in Immunology*, 13, 789274. <https://doi.org/10.3389/fimmu.2022.789274>
- Wijaya, I. M. S. (2018). Perawatan luka dengan pendekatan multidisiplin. Penerbit Andi.