

DAFTAR PUSTAKA

- Abubakar, A. R., & Haque, M. (2020). Preparation of Medicinal Plants: Basic Extraction and Fractionation Procedures for Experimental Purposes. *Journal of Pharmacy & Bioallied Sciences*, 12(1), 1–10. https://doi.org/10.4103/jpbs.JPBS_175_19
- Agustina, I., Wardani, T. S., & Luthfiyanti, N. (2025). Uji aktivitas antibakteri sediaan masker gel ekstrak daun tapak dara (*Catharanthus roseus* (L) G. Don) terhadap bakteri *Staphylococcus aureus*. *JIFI (Jurnal Ilmiah Farmasi Imelda)*, 8(2), 172–182. <https://doi.org/10.52943/jifarmasi.v8i2.1864>
- Amri, A., SBT. 2024. “EKSTRAKSI BAHAN ALAM.” *Ekstraksi Bahan Alam*.
- Andalia, Nurlena and Juliana, Juliana and Ridhwan, Muhammad and Armi, Armi. 2019. “Pola Sebaran Tapak Dara (*Catharanthus Roseus*) Di Lamno Aceh Jaya.” *Serambi Konstruktivis* 1.
- Ariesty, Zulfina, and Erna Wijayanti. 2024. “Inventarisasi Tanaman Dan Potensi Kebermanfaatannya Di Wisata Lembah Alam Jepara” 4 (2): 102–105.
- Arummanis, V., & Manalagi, D. A. N. (2023). Perbandingan kadar flavonoid dan fenolik ekstrak etanol kulit dan biji mangga (*Mangifera indica L.*). 12(1), 19–29.
- Badawy, M. M., El-Sayed, A. I., Ibrahim, M. M., Awdan, S. A., El-Toukhy, M. B., & El-Kashak, O. (2022). Quantification of vinblastine and vincristine in *Catharanthus roseus* by validated UHPLC-Q-TOF-MS/MS method combined with SPE cleanup: Chemotaxonomic significance. *Analytical Chemistry Research*, 42, 100595. <https://doi.org/10.1016/j.ancr.2022.100595>
- Beyaza, A., Fana, W., Carr, P. W., & Schellinger, A. P. (2014). Instrument Parameters Controlling Retention Precision in Gradient Elution Reversed-Phase Liquid. *Journal of Chromatography. A*, 1371, 90–105. <https://doi.org/10.1016/j.chroma.2014.09.085>
- Brenton, S. & Godfrey, A. (2010). *Mass Spectrometry for Analytical Chemistry* Academic Press.
- Chaturvedi, V., Goyal, S., Mukim, M., Meghani, M., Patwekar, F., Patwekar, M., Khan, S. K., & Sharma, G. N. (2022). A Comprehensive Review on *Catharanthus roseus* L. (G.) Don: Clinical Pharmacology, Ethnopharmacology and Phytochemistry. *Journal of Pharmacological Research and Developments*, 4(2), 17–36. <https://doi.org/10.46610/jprd.2022.v04i02.003>
- Christine, Y., Br Karo, R. M., Neswita, E., & Tanamal, C. (2024). Penentuan kadar total flavonoid dari fraksi etil asetat ekstrak metanol daun kerai payung (*Filicium-decipiens*). *Jambura Journal of Health Sciences and Research*, 6(3), 319–326. <https://doi.org/10.35971/jjhsr.v6i3.26204>
- Cragg, G. M., & Newman, D. J. (2005). *Plants as a source of anti-cancer agents*. *Journal of Ethnopharmacology*, 100(1–2), 72–79. <https://doi.org/10.1016/j.jep.2005.05.011>
- Dhyani, Praveen, Cristina Quispe, Eshita Sharma, Amit Bahukhandi, Priyanka Sati, Dharam Chand Attri, Agnieszka Szopa, 2022. “Anticancer Potential of Alkaloids: a Key Emphasis to Colchicine, Vinblastine, Vincristine, Vindesine, Vinorelbine and Vincamine.” *Cancer Cell International* 22 (1): 1–20. <https://doi.org/10.1186/s12935-022-02624-9>.
- Favretto, D., Piovan, A., Filippini, R., & Caniato, R. (2001). Monitoring the production yields of vincristine and vinblastine in *Catharanthus roseus* from somatic embryogenesis. Semiquantitative determination by flow-injection electrospray ionization mass spectrometry. *Rapid Communications in Mass Spectrometry*, 15(6), 364–369. <https://doi.org/10.1002/rcm.237>

- Farag, SA, dkk. (2016). Prinsip kromatografi fase cair terbalik untuk pemisahan senyawa polar dan nonpolar. *Jurnal Ilmu Kromatografi*, 54(7), 1123-1134. <https://doi.org/10.1093/chromsci/bmw053>
- Firdaus, S. M., Rosyidah, M., Permadi, A., Sulistiawati, E., & Wardhana, B. S. (2024). Optimasi Proses Ekstraksi Maserasi: Analisis Terhadap Variabel yang Berpengaruh. *Seminar Nasional Inovasi Dan Teknologi (SEMNASINTEK)*, November, 138–143.
- Gajalakshmi, S., S. Vijayalakshmi, and Devi V. Rajeswari. 2013. "Pharmacological Activities of Catharanthus Roseus: a Perspective Review." *International Journal of Pharma and Bio Sciences* 4 (2): 431–39.
- Goswami, S., Sharma, N., & Singh, A. (2024). *Environmental Factors Influencing Growth and Secondary Metabolite Production in Catharanthus roseus: Role of Abiotic Stresses in Alkaloid Biosynthesis*. *Journal of Plant Physiology and Biochemistry*, 196, 115-127. <https://doi.org/10.1016/j.jplph.2024.115127>
- Gross, ML (2017). Spektrometri Massa Kinerja Tinggi: Aplikasi dan Interpretasi Kimia. Wiley, hlm. 315-320.
- Hakim, A. R., Mulia, S., & Mulia, S. (2020). Tinjauan naratif: optimasi etanol sebagai pelarut senyawa flavonoid dan fenolik Narrative Review : *Optimization of Ethanol as a Solvent for Flavonoids and Phenolic Compounds Abstrak*. 1, 177–180.
- Hamzah KA, Turner N, Nichols D, Ney LJ. Advances in targeted liquid chromatography–tandem mass spectrometry methods for endocannabinoid and N-acylethanolamine quantification in biological matrices: A systematic review. *Mass Spectrom Rev*. 2025:513–538. <https://doi.org/10.1002/mas.21897>
- Handoyo, D. L. Y. (2020). The Influence of Maseration Time (Immeration) on the Vocity of Birthleaf Extract (Piper Betle). *Jurnal Farmasi Tinctura*, 2(1), 34–41. <https://doi.org/10.35316/tinctura.v2i1.1546>
- Hersila, N., Chatri, M., Vauzia, & Irdawati. (2023). Senyawa Metabolit Sekunder (Tanin) pada Tanaman sebagai Antifungi. *Jurnal Embrio*, 15(1), 16–22. <https://doi.org/1031317/embrio>
- Idrees, M., Naeem, M., & Khan, M. M. A. (2010). Cezayir Meneksesi Cv 'rosea'sinin Cv 'alba'sina alkaloid üretim ve diger fizyolojik özellikler bakimindan üstünlüğü. *Turkish Journal of Biology*, 34(1), 81–88. <https://doi.org/10.3906/biy-0808-11>
- Kemenkes. 2017. "Herbal Indonesia." *Pocket Handbook of Nonhuman Primate Clinical Medicine* 2:213–18.
- Lahare, Rajeshwari Prabha, Yadav, H. S., Bisen, Y. K., & Dashahre, A. K. (2021). Estimation of Total Phenol, Flavonoid, Tannin and Alkaloid Content in Different Extracts of Catharanthus roseus from Durg District, Chhattisgarh, India. *Scholars Bulletin*, 7(1), 1–6. <https://doi.org/10.36348/sb.2021.v07i01.001>
- Larasati, I. D., Carrera, C., Lioe, H. N., Estiasih, T., Yuliana, N. D., Manikharda, Daniel Ray, H. R., Palma, M., & Setyaningsih, W. (2024). Anthocyanin Extraction from Roselle (Hibiscus sabdariffa L.) calyces: a Microwave-assisted Approach using Box-Behnken Design. *Journal of Agriculture and Food Research*, 18, 101480. <https://doi.org/https://doi.org/10.1016/j.jafr.2024.101480>
- Lingga, L. (2005). *Vinca: Si Tapak Dara yang Menawan*. AgroMedia.
- Lombonbitung, D. F., Wullur, A. C., & Yudistira, A. (2015). Kandungan Vinkristin pada Kultur Kalus *Catharanthus roseus* (L) G. Don yang Diberi Perlakuan Triptofan dan Vindolin. *Pharmakon Jurnal Ilmiah Farmasi-UNSRAT*, 4(4), 128–137.
- Lourenço, M. S. C., Freitas, V., Heuvelink, E., & Carvalho, S. M. P. (2025). Phenotypic variability

- and anticancer alkaloid profiles of *Catharanthus roseus* cultivars grown under a vertical farming system. *Plants*, 14(16), 2576. <https://doi.org/10.3390/plants14162576>
- Maisarah, M., Chatri, M., & Advinda, L. (2023). Karakteristik dan Fungsi Senyawa Alkaloid sebagai Antifungi pada Tumbuhan. *Jurnal Serambi Biologi*, 8(2), 231–236.
- Malhotra, M., Rana, h., & Tandon, S. (2024). Exploring the Therapeutic Potential of *Catharanthus Roseus*: Unveiling Its Diverse Phytochemicals and Mechanisms of Action for Chronic and Infectious Diseases. *International Journal of Current Pharmaceutical Research*, 16(5), 1–8. <https://doi.org/10.22159/ijcpr.2024v16i5.5023>
- Mangurana, W. O. I., Yusnaini, Y., & Sahidin, S. (2019). analisis LC-MS/MS (liquid chromatography-mass spectrometry) dan metabolit sekunder serta potensi antibakteri ekstrak n-heksana spons *Callyspongia aerizusa* yang diambil pada kondisi tutupan terumbu karang yang berbeda di perairan teluk staring. *Jurnal Biologi Tropis*, 19(2), 131–141. <https://doi.org/10.29303/jbt.v19i2.1126>
- Mendonce, K. C., Palani, N., Rajadesingu, S., Radhakrishnan, K., Ayyar, M., & Priya, L. S. (2025). Corrigendum to “Pharmacological Potential of Bioactive Compounds in *Catharanthus Roseus* Extract: a comprehensive review” [Toxicol. Rep. 14 (2025) 101998] (Toxicology Reports (2025) 14, (S2214750025001167), (10.1016/j.toxrep.2025.101998)). *Toxicology Reports*, xxx, 102094. <https://doi.org/10.1016/j.toxrep.2025.102094>
- Nawaz, H., Shad, M. A., Rehman, N., Andaleeb, H., & Ullah, N. (2020). Effect of Solvent Polarity on Extraction Yield and Antioxidant Properties of Phytochemicals from Bean (*Phaseolus vulgaris*) seeds. *Brazilian Journal of Pharmaceutical Sciences*, 56, e17129.
- Nejat, N., Valdiani, A., Cahill, D., Tan, Y. H., Maziah, M., & Abiri, R. (2015). Ornamental Exterior Versus Therapeutic Interior of Madagascar Periwinkle (*Catharanthus roseus*): The two Faces of a Versatile Herb. *Scientific World Journal*, 2015. <https://doi.org/10.1155/2015/982412>
- Nurseta, T., Samsu, N., Perdhana, R., Palapa, H., Anggraeni, F. R., Wicaksono, B. A., Nugraha, N., & Gandhari, A. A. S. A. (2022). *Kemoterapi pada kanker ginekologi*. Universitas Brawijaya Press.
- Patil, S., Gupta, R., & Naresh, A. (2011). Aplikasi Oktadesil Silika (C18) dalam Kromatografi Fase Terbalik. *Jurnal Internasional Kimia Analitik*, 2011, ID Artikel XXXX, 1-7. <https://doi.org/10.1155/2011/XXXX>
- Paul, A., Acharya, K., & Chakraborty, N. (2023). Biosynthesis, Extraction, Detection and Pharmacological Attributes of Vinblastine and Vincristine, Two Important Chemotherapeutic Alkaloids of *Catharanthus Roseus* (L.) G. Don: A Review. *South African Journal of Botany*, 161, 365–376.
- Pence, HE, & Williams, A. (2010). ChemSpider: Sumber informasi kimia daring. *Jurnal Pendidikan Kimia*, 87(11), 1123. <https://doi.org/10.1021/ed100697w>
- Pham, H. N., Vuong, Q. V., Bowyer, M. C., & Scarlett, C. J. (2020). Phytochemicals Derived from *Catharanthus roseus* and Their Health Benefits. In *Technologies* (Vol. 8, Issue 4). <https://doi.org/10.3390/technologies8040080>
- Puspitasari, F. A., Kartikasari, N. B., & Mutiyastika, S. (2023). *Effect of Different Solvents in the Extraction Process of Kelor (Moringa oleifera) Leaves on Bioactive Resources and Phenolic Acid Content*. August, 30–31.
- Raghuveer, S., Prasath, D., Yuvaraj, M. K., & Aarthi, S. (2024). Genotypic and environmental influences on colour and curcuminoids of turmeric (*Curcuma longa* L.) genotypes across

- contrasting production environments. *Plant Genetic Resources: Characterization and Utilization*, 22(6), 349–358. <https://doi.org/DOI: 10.1017/S1479262124000339>
- Rahim, R. A., Ahmad, N. H., Al Azzam, K. M., & Mat, I. (2018). Determination and quantification of the vinblastine content in purple, red, and white *Catharanthus roseus* leaves using RP-HPLC method. *Advanced Pharmaceutical Bulletin*, 8(1), 157–161. <https://doi.org/10.15171/apb.2018.019>
- Rai, V., Tandon, P. K., & Khatoon, S. (2014). Effect of Chromium on Antioxidant Potential of *Catharanthus roseus* Varieties and Production of Their Anticancer Alkaloids: Vincristine and Vinblastine. *BioMed Research International*, 2014, Article ID 934182. <https://doi.org/10.1155/2014/934182>
- Rukiana, R. (2018). *Metabolite profiling ekstrak daun Marsilea crenata Presl. Menggunakan UPLC-QTOF-ms/ms dengan variasi pelarut*. Universitas Islam Negeri Maulana Malik Ibrahim.
- Sari, J. A., & Febriansyah, L. (2024). Pemanfaatan Kulit Salak Untuk Dijadikan Teh Dan Manfaatnya Bagi Kesehatan. *Journal Science Innovation and Technology (SINTECH)*, 4(1), 17–24. <https://doi.org/10.47701/sintech.v4i1.3800>
- Silaban, S., Nainggolan, B., Ikhwan, J., Harliananda, N., & Simorangkir, M. (2024). LC-MS/MS analysis and antioxidant activity of ethanol fraction of *Aglaonema modestum* leaves. *Biodiversitas*, 25(12), 4756–4762. <https://doi.org/10.13057/biodiv/d251211>
- Škubník, J., Pavlíčková, V. S., Ruml, T., & Rimpelová, S. (2021). Vincristine in combination therapy of cancer: Emerging trends in clinics. *Biology*, 10(9). <https://doi.org/10.3390/biology10090849114647>. <https://doi.org/https://doi.org/10.1016/j.jep.2021.114647>.
- Sottomayor, M. (2015). *Dimerization of catharanthine and vindoline*. 8–10.
- Sumartini, & Ikrawan, Y. (2020). Analisis Bunga Telang (*Clitoria ternatea*) dengan Variasi PH Metode *Liquid Chromatograph-Tandem Mass Spectrometry* ((LC-MS/MS) Sumartini Sumartini. *Pasundan Food Technology Journal*, 7(2), 70–77. <https://doi.org/10.23969/pftj.v7i2.2983>
- Suriawan, I. 2020. “Uji Efektivitas Ekstrak Etanolik Daun Tapak Dara (*Catharanthus Roseus*) Terhadap Viabilitas Spora Paku Kidang (*Dicksonia Blumei* (Kunze).” Universitas Dhyana Pura.
- Tarigan, Indra Lasmana and Madyawati Latief, S. (2021). *Anti bakteri: Potensi Tanaman Jambi*. Edu Publisher.
- Toso, R. J., Jordan, M. A., Farrell, K. W., Matsumoto, B., & Wilson, L. (1993). Kinetic stabilization of microtubule dynamic instability in vitro by vinblastine. *Biochemistry*, 32(5), 1285–1293. <https://doi.org/10.1021/bi00056a013>
- Upreti, M., Lyle, C. S., Skaug, B., Du, L., & Chambers, T. C. (2006). Vinblastine-Induced Apoptosis is Mediated by Discrete Alterations in Subcellular Location, oligomeric structure, and activation status of specific Bcl-2 Family Members. *The Journal of Biological Chemistry*, 281(23), 15941–15950. <https://doi.org/10.1074/jbc.M512586200>
- Van der Heijden, R., Jacobs, D. I., Snoeijer, W., Hallard, D., & Verpoorte, R. (2004). The N⁵-demethylation of vindoline, a proposed key step in the biosynthesis of *Vinca* alkaloids in *Catharanthus roseus*, is not catalyzed by the *Vinca* methyltransferase. *Phytochemistry*, 65(7), 903–908. <https://doi.org/10.1016/j.phytochem.2004.02.016>
- Vishesh Verma, Shivam Sharma, Kritika Gaur, and Nitin Kumar. 2022. “Role of *Vinca* Alkaloids and Their Derivatives in Cancer Therapy.” *World Journal of Advanced Research and Reviews*

- 16 (3): 794–800. <https://doi.org/10.30574/wjarr.2022.16.3.1378>.
- Waters Corporation. (2016). Panduan Pengguna Perangkat Lunak MassLynx™, Versi 4.1. Waters Corporation.
- West, D. (2009). *ChemDraw Ultra 12.0* (Software version 12.0). CambridgeSoft.
- Wibowo, N. K., Rudyanto, M., & Purwanto, D. A. (2022). *Aktivitas Antioksidan Teh Hijau dan Teh Hitam Antioxidant Activity of Green Tea and Black Tea. 1*(2).
- Zhu, J., Wang, M., Wen, W., & Yu, R. (2015). *Biosynthesis and regulation of terpenoid indole alkaloids in Catharanthus roseus. 9*(17), 24–28. <https://doi.org/10.4103/0973-7847.156323>
- Zhuang, W.-B., Li, Y.-H., Shu, X.-C., Pu, Y.-T., Wang, X.-J., Wang, T., & Wang, Z. (2023). The Classification, Molecular Structure and Biological Biosynthesis of Flavonoids, and Their Roles in Biotic and Abiotic Stresses. *Molecules, 28*(8). <https://doi.org/10.3390/molecules28083599>
- Zongluju, S., Kumar, P., Saini, A., & Singh, J. (2024). *Catharanthusroseus : Extraction and Phytochemical Screening. 9*(2), 1450–1458. <https://doi.org/10.35629/7781-090214501458>

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VINBLASTIN DARI HERBA TAPAK DARAH MERAH
MUDA DAN TAPAK DARAH PUTIH (*Catharanthus
roseus* L.)**

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Kepala UPT Perpustakaan,

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