

DAFTAR PUSTAKA

- Agustina, A., dan Jamilah, M., 2021, Kajian Kualitas Minyak Serai Wangi (*Cymbopogon winterianus* Jowitt.) pada CV AB dan PT. XYZ Jawa Barat, *Agro Bali: Agricultural Journal*, 4(1), 63–71. <https://doi.org/10.37637/ab.v4i1.681>
- Andila, P. S., Hendra, I. P. A., Wardani, P. K., Tirta, I. G., Sutomo, S., dan Fardenan, D., 2018, The phytochemistry of *Cymbopogon winterianus* essential oil from Lombok Island, Indonesia and its antifungal activity against phytopathogenic fungi, *Nusantara Bioscience*, 10(4), 232–239. <https://doi.org/10.13057/nusbiosci/n100406>.
- Baez, A.A.C., Rodriguez, L.M.P., Zapata, R.A., Hernandez, M.V., dan Medina, A.S., 2020, Chemometrics: A Complementary Tool to Guide the Isolation of Pharmacologically Active Natural Products, *Drug Discovery*, 1(25), 27-37.
- Berthomieu, C., dan Hienerwadel, R., 2009, Fourier transform infrared (FTIR) spectroscopy, *Photosynthesis Research*, 101(2–3), 157–170. <https://doi.org/10.1007/s11120-009-9439-x>
- Brereton, R.G., 2007, *Applied Chemometrics for Scientists*, John Wiley and Sons Ltd., West Sussex.
- Can Başer, K. H., dan Buchbauer, G., 2015, Handbook of Essential Oils, *Science, Technology, and Applications : Second Edition*. <https://doi.org/10.1201/b19393>.
- Cassel, E. dan Vargas, R. M. F., 2006, Experiments and Modeling of the *Cymbopogon winterianus* Essential Oil Extraction by Steam Distillation.
- Cuchet, A., Jame, P., Anchisi, A., Schiets, F., Oberlin, C., Lefèvre, J. C., Carénini, E., dan Casabianca, H., 2019, Authentication of the naturalness of wintergreen (*Gaultheria* genus) essential oils by gas chromatography, isotope ratio mass spectrometry and radiocarbon assessment, *Industrial Crops and Products*, 142, 111873. <https://doi.org/10.1016/j.indcrop.2019.111873>
- Devi, M. A., Sahoo, D., Singh, T. B., dan Rajashekar, Y., 2021, Antifungal activity and volatile organic compounds analysis of essential oils from *Cymbopogon* species using solid-phase microextraction-gas chromatography-mass spectrometry. *Journal of Agriculture and Food Research*, 3, 100110. <https://doi.org/10.1016/j.jafr.2021.10011>
- Dika, F., Riswanto, O., Riyanto, S., dan Martono, S., 2020, *Pemanfaatan Paket Perangkat Lunak R factoextra dan FactoMineR serta Aplikasi Analisis Komponen Utama dalam Autentikasi Beragam Jenis Minyak*, 1(1), 1–10.
- Do, T.K.T., Minaglou, F.H., Antoniotti, S., dan Fernandez, X., 2015, Authenticity of Essential Oils, *Trends Analyt Chemistry*, 66, 146-157.
- Dupuy, N., Galtier, O., Ollivier, D., Vanloot, P., dan Artaud, J., 2010, Comparison between NIR, MIR, concatenated NIR and MIR analysis and hierarchical PLS model. Application to virgin olive oil analysis, *Analytica Chimica Acta*, 666(1–2), 23–31. <https://doi.org/10.1016/j.aca.2010.03.034>

- El Kamari, F., Tarog, A., El Atki, Y., Aouam, I., Oumokhtar, B., Lyoussi, B., dan Abdellaoui, A., 2018, *Cymbopogon nardus* L Essential Oil: Phytochemical Screening and It's Antibacterial Activity Againts Clinical Bacteria Responsible for Nosocomial Infection in Neonatal Intensive Care, *International Journal of Pharmaceutical Science Review and Research*, 50, 14-17.
- Fatima, K. dan Luqman, S., 2021, Citronellal suppress the activity of ornithine decarboxylase in hypopharyngeal carcinoma cells, *South African Journal of Botany*, 143, 443–448. <https://doi.org/10.1016/j.sajb.2021.07.043>
- Fortune Business Insights, 2024, Essential oils market size dan key insights, <https://www.fortunebusinessinsights.com/industry-reports/essential-oils-market-101063>, 24 September 2024.
- Gandjar, I. G., dan Rohman, A., 2014, *Kimia Farmasi Analisis*, Pustaka Pelajar, Yogyakarta.
- Grdadolnik, J., 2002, ATR-FTIR Spectroscopy: Its advantages and limitations, *Acta Chimica Slovenica*, 49, 631-642.
- Guenther, E., 1990, *The Essential Oils: History, Origin in Plants, Production, Analysis*, Vol. 1, New York: D. Van Nostrand Company, Inc.
- Guntarti, A., Pratiwi, H. K., Nurani, L. H., dan Gandjar, I. G., 2022, Authentication of Lemongrass Oil By Gas Chromatography-Mass Spectroscopy (GC-MS) Combination Chemometrics, *Indonesian Journal of Pharmaceutical Science and Technology*, 9(3), 174, <https://doi.org/10.24198/ijpst.v9i3.32558>
- Handa, S. S., Khanuja, S. P. S., Longo, G., dan Rakesh, D. D., 2008, Pengaruh Lokasi Tumbuh, Umur Tanaman dan Variasi Jenis Destilasi terhadap Komposisi Minyak Atsiri Curcuma mangga, *Jurnal Manusia dan Lingkungan*, 20(1), 68-74.
- Hanief, M. M. Al, Halim, A. M., dan Mahfud, 2013, Ekstraksi Minyak Atsiri dari Akar Wangi distillation dan Hydro distillation dengan Pemanas Microwave, *JURNAL TEKNIK POMITS*, 2(2), 219–223.
- Integrated Taxonomic Information System, 2024, *Cymbopogon winterianus* Jowitt ex Bor. <https://doi.org/10.5066/F7KH0KBK>
- Jazila, Y., Kristiningrum, N., dan Wulandari, L., 2023, Determination of Total Citronelal Levels and Development of FTIR-Chemometric Classification Model of *Cymbopogon winterianus* Jowitt Oil from Different Altitudes of Planting Areas, *Jurnal Jamu Indonesia*, 8(1), 18–22. <https://doi.org/10.29244/jji.v8i1.279>
- Jones, M. P., dan Roberts, J. T., 2018, Calibration methods in analytical chemistry, *Journal of Analytical Chemistry*, 75(2), 123-135, <https://doi.org/10.1016/j.jac.2017.11.009>
- Kakaraparthi, P.S., Srinivas, K.V.N.S., Kuma, J.K., Kumar, A.N., Rajput, D.K., dan Sarma, V.U.M., 2014 Variation in the essential oil content and Composition of Citronella (*Cymbopogon winterianus* Jowitt.) in relation to time of harvest and weather conditions, *Ind Crops Prod*, 61, 240-248

- Katiyar, R., Gupta, S., dan Yadav, K. R., 2011, *Cymbopogon winterianus* : An Important Species for Essential Java Citronella Oil and Medicinal Value, *Essential Oil Journal*, 10, 115–118.
- Khudzaifi, M., Retno, S.S., dan Rohman, A., 2020, The Employment of FTIR Spectroscopy and Chemometrics for Authentication of Essential Oil of Curcuma mangga from Candlenut Oil, *Food and Essential Oil Journal*, 4(2), 515-521.
- Kurniawan, E., Sari, N., dan Sulhatun, S., 2020, Ekstraksi Sereh Wangi Menjadi Minyak Atsiri, *Jurnal Teknologi Kimia Unimal*, 9(2), 43-53.
- Ledesma, R.D., Mora, P.V., dan Macbeth, G., 2015, The Scree Test and The Number of Factors: A Dynamic Graphics Approach, *Span. J. Psychol Journal*, 18, 1-10.
- Li, X., Kong, W., Shi, W., dan Shen, Q., 2016, A combination of chemometrics methods and GC-MS for the classification of edible vegetable oils, *Chemometrics and Intelligent Laboratory Systems*, 155, 145–150, <https://doi.org/10.1016/j.chemolab.2016.03.028>
- Łukasz, K., dan Joseph, S., 2018, Chemometrics in Chromatography, *In Chromatographia Springer Berlin Heidelberg*, <https://doi.org/10.1007/s10337-019-03792-z>
- Luthria, D., dan Natarajan, S., 2009, Influence of sample preparation on the assay of isoflavones, *Planta Medica*, 75(07), 704–710. <https://doi.org/10.1055/s-0029-1185439>
- Miller, J. N., dan Miller, J. C., 2010, *Statistics and Chemometrics for Analytical Chemistry. Sixth Edition*, Ashford Colour Press Ltd., Gosport.
- Mohamed, M. A., Jaafar, J., Ismail, A. F., Othman, M. H. D., dan Rahman, M. A., 2017, Fourier transform infrared (FTIR) spectroscopy, *In Membrane Characterization, Elsevier*, 9, 3–29, <http://dx.doi.org/10.1016/b978-0-444-63776-5.00001-2>
- Mok, D. K. W., dan Chau, F. T., 2006, Chemical information of Chinese medicines: A challenge to chemist, *Chemometrics and Intelligent Laboratory Systems*, 82, 210–217. <https://doi.org/10.1016/j.chemolab.2005.05.006>
- Mu, K., 2012, Development of Mathematical Model for the Prediction of Essential Oil Extraction from Eucalyptus Citriodora Leave, *Essential Oil Journal*, 2(3), 2298–2306.
- Mustamin, Y., 2015, Pengembangan Minyak Atsiri Tumbuhan Indonesia Sebagai Potensi Peningkatan Nilai Ekonomi, 10.13140/RG.2.1.2604.6883.
- Pavia, D., Lampman, G, Kriz, G, dan Vyvyan J., 2009, *Introduction to Spectroscopy, 4th Edition*, Brooks/Cole, Cengage Learning.
- Pierson, M., Fernandez, X., dan Antonioti, S., 2021, Type and magnitude of non-compliance and adulteration in neroli, mandarin and bergamot essential oils purchased on-line: Potential consumer vulnerability, *Scientific Reports*, 11(1), <https://doi.org/10.1038/s41598-021-90307-2>
- Pinheiro P. F., Tebaldi de Queiroz V., Rondelli V. M., Costa A. V., Paula M. T. dan Pratissoli D., 2013, Insecticidal activity of citronella grass essential oil on

- Frankliniella schultzei and Myzus persicae, *Ciênc Agrotec Lavras* 37, 138-144.
- Prasanti, Kareena, 2024, Pengembangan Metode Analisis Berbasis Headspace-Gas Chromatography-Mass Spectrometry untuk Autentikasi Minyak Serai Wangi (*Cymbopogon winterianus*), Skripsi, Fakultas Farmasi Universitas Gadjah Mada Yogyakarta.
- PubChem, 2025, Alpha-Pinene, National Library of Medicine: National Center for Biotechnology Information, <https://pubchem.ncbi.nlm.nih.gov/compound/alpha-PINENE>, 21 Januari 2025.
- PubChem, 2025, Citronellal, National Library of Medicine: National Center for Biotechnology Information, <https://pubchem.ncbi.nlm.nih.gov/compound/Citronellal>, 21 Januari 2025.
- PubChem, 2025, Citronellol, National Library of Medicine: National Center for Biotechnology Information, <https://pubchem.ncbi.nlm.nih.gov/compound/7793>, 21 Januari 2025.
- PubChem, 2025, Geraniol, National Library of Medicine: National Center for Biotechnology Information, <https://pubchem.ncbi.nlm.nih.gov/compound/Geraniol>, 21 Januari 2025.
- Robards, K., Haddad, P. R., dan Jackson, P. E., 2004, Gas chromatography. *Principles and Practice of Modern Chromatographic Methods*, 9, 75–177, <http://dx.doi.org/10.1016/b978-0-08-057178-2.50006-6>
- Rodrigues K. A., Dias C. N., do Amaral F. M., Moraes D. F., Mouchrek Filho V. E., Andrade E. H., dan Maia J. G., 2013, Molluscicidal and larvicidal activities and essential oil composition of *Cymbopogon winterianus*, *Pharm Biol* 51, 1293-1297.
- Rohman, A., Windarsih, A., Hossain, M. A. M., Johan, M. R., Ali, E., dan Aq, N. A. F., 2019, Application of near- and mid-infrared spectroscopy combined with chemometrics for discrimination and authentication of herbal products, *Journal of Spectroscopy*, <https://doi.org/10.7324/JAPS.2018.8801>
- Saeidnia, S., 2014, Turpentine, *Encyclopedia of Toxicology: Third Edition*, 4, 860– 865, <https://doi.org/10.1016/B978-0-12-386454-3.01034-4>
- Sait, S, 1978, Identifikasi bahan-bahan pemalsu di dalam minyak-minyak atsiri ekspor, Prosiding Seminar Minyak Atsiri-III, Balai Penelitian Kimia. 319-324.
- Sarah, M., Ardiansyah, D., Misran, E., dan Madinah, I., 2023, Extraction of citronella oil from lemongrass (*Cymbopogon winterianus*) by sequential ultrasonic and microwave-assisted hydro-distillation, *Alexandria Engineering Journal*, 70, 569–583. <https://doi.org/10.1016/j.aej.2023.03.019>
- Sendra, B. J. M., Cuadros-Rodríguez, L., Ruiz-Samblás, C., dan Mata, A. P., 2012, Combining chromatography and chemometrics for the characterization and authentication of fats and oils from triacylglycerol compositional data-A review, *Analytica Chimica Acta*, 724, 1–11. <https://doi.org/10.1016/j.aca.2012.02.041>

- Shafirany, M. Z., Susilawati, Y., dan Musfiroh, I., 2019, Aplikasi Kemometrik dalam Penentuan Mutu Tumbuhan Obat, *Pharmauho: Jurnal Farmasi, Sains, dan Kesehatan*, 4(2), <https://doi.org/10.33772/pharmauho.v4i2.6257>
- Sidou, L.F., dan Borges, E.M., 2020, Teaching Principal Component Analysis Using a Free and Open-Source Software Program and Exercise Applying PCA to Real-world Examples, *John Chemistry Education*, 97, 1666-1676.
- Silverstein, R.M., Webster, F.X. dan Kiemle, D.J., 2006, *Spectrometric Identification of Organic Compounds. 7th Edition*, John Wiley and Sons, inc.
- Singh, A. dan Kumar, A., 2017, Cultivation of Citronella (*Cymbopogon winterianus*) and evaluation of its essential oil, yield and chemical composition in Kannauj region, *International Journal of Biotechnology and Biochemistry*, 13(2), 139-146.
- Smith, B.C., 2011, *Fundamentals of Fourier Transform Infrared Spectroscopy Second Edition*, CRC Press, Boca Raton.
- Stuart, B. H., 2004, *Infrared Spectroscopy: Fundamentals and Applications*, Chichester: John Wiley and Sons, Ltd.
- Sulaswatty, A. dan Adilina, I., 2019, Minyak Serai Wangi dan Potensinya, In: Quo Vadis Minyak Serai Wangi dan Produk Turunannya, LIPI Press.
- Syafri, S., Jaswir, I., Yusof, F., Rohman, A., Ahda, M., dan Hamidi, D., 2022, Results in Chemistry The use of instrumental technique and chemometrics for essential oil authentication : A review. *Results in Chemistry*, 4, 10-62. <https://doi.org/10.1016/j.rechem.2022.100622>
- Tropical Plants Database, 2021, *Cymbopogon winterianus*, <https://tropical.theferns.info/viewtropical.php?id=Cymbopogon+winterianus>, 31 Agustus 2024.
- Truzzi, E., Marchetti, L., Bertelli, D., dan Benvenuti, S., 2021, Attenuated total reflectance-Fourier transform infrared (ATR-FTIR) spectroscopy coupled with chemometric analysis for detection and quantification of adulteration in lavender and citronella essential oils, *Phytochemical Analysis*, 32(1), 1-14. <https://doi.org/10.1002/pca.3034>
- Wany, A., Jha, S., Nigam, V. K., dan Pandey, D. M., 2013, Chemical Analysis And Therapeutic Uses Of Citronella Oil from *Cymbopogon Winterianus*: A Short Review, *International Journal of Advanced Research*, 1(8), 1-6.
- Wulandari, R., Harliyanto, C., dan Nurlita Andiani, C., 2017, Identifikasi GC-MS Ekstrak Minyak Atsiri dari Sereh Wangi (*Cymbopogon winterianus*) Menggunakan Pelarut Metanol, *Techno: Jurnal Fakultas Teknik, Universitas Muhammadiyah Purwokerto*, 18(1), 23-27.
- Yang, H., Irudayaraj, J., dan Paradkar, M.M., 2006, Discriminant analysis of edible oils and fats by FTIR, FT-NIR, and FT-Raman spectroscopy, *Food Chemistry*, 93, 25-32.
- Zhang, L., Zhong, M., Xu, Y., Wang, Z., dan Huang, H., 2019, The Water Quality Evaluation in Balihe Lake Based on Principal Component Analysis, *John Geosci Environ*, 7, 39-48