

DAFTAR PUSTAKA

- Aditya, M., & Ariyanti, P. R. (2016). Manfaat Gambir (*Uncaria gambir Roxb*) sebagai Antioksidan. *Majority*, 5(3), 129–133.
- Agilent. (2021). *The Basics of UV-Vis Spectrophotometry*. United State of America: Agilent Community.
- Alagawany, M., Elnesr, S. S., Farag, M. R., El-Sabrout, K., Alqaisi, O., Dawood, M. A. O., Soomro, H., & Abdelnour, S. A. (2022). Nutritional significance and health benefits of omega-3, -6 and -9 fatty acids in animals. *Animal Biotechnology*, 33(7), 1678–1690. <https://doi.org/10.1080/10495398.2020.1869562>.
- Ardiaria, M. (2020). Peran Vitamin D Dalam Pencegahan Influenza Dan Covid-19. *JNH (Journal of Nutrition and Health)*, 8(2), 79–85. <https://doi.org/10.14710/JNH.8.2.2020.79-85>.
- Azhar, M. (2016). Biomolekul sel karbohidrat, protein dan enzim. In *Journal of Chemical Information and Modeling* (Vol. 53, Issue 9).
- Bakker, M. G., Fowler, B., Bowman, M. K., & Patience, G. S. (2020). Experimental methods in chemical engineering: Electron paramagnetic resonance spectroscopy-EPR/ESR. *Canadian Journal of Chemical Engineering*, 98(8), 1668–1681. <https://doi.org/10.1002/cjce.23784>.
- Bakhouche, K., Dhaouadi, Z., Lahmar, S., & Hammoutène, D. (2015). TDDFT prediction of UV-vis absorption and emission spectra of tocopherols in different media. *Journal of Molecular Modeling*, 21(6), 1–13. <https://doi.org/10.1007/s00894-015-2706-1>.
- Bocanegra Morales, N., & Galeano Garcia, P. (2023). Chemical Composition, Fatty Acid Profile, and Optimization of the Sacha Inchi (*Plukenetia volubilis* L.) Seed-Roasting Process Using Response Surface Methodology: Assessment of Oxidative Stability and Antioxidant Activity. *Foods*, 12(18). <https://doi.org/10.3390/foods12183405>.
- Cai, Z. Q. (2011). Shade delayed flowering and decreased photosynthesis, growth and yield of Sacha Inchi (*Plukenetia volubilis*) plants. *Industrial Crops and Products*, 34(1), 1235–1237. <https://doi.org/10.1016/j.indcrop.2011.03.021>.
- Cárdenas, D. M., Rave, L. J. G., & Soto, J. A. (2021). Biological activity of sacha inchi (*Plukenetia volubilis* linneo) and potential uses in human health: A review. *Food Technology and Biotechnology*, 59(3), 253–266. <https://doi.org/10.17113/ftb.59.03.21.6683>.
- Casoni, D., Simion, I. M., & Sârbu, C. (2019). A comprehensive classification of edible oils according to their radical scavenging spectral profile evaluated by advanced chemometrics. *Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy*, 213, 204–209. <https://doi.org/10.1016/j.saa.2019.01.065>.
- Chen, Y., Zou, C., Mastalerz, M., Hu, S., Gasaway, C., & Tao, X. (2015). Applications of micro-fourier transform infrared spectroscopy (FTIR) in the geological sciences—A Review. *International Journal of Molecular*

- Sciences*, 16(12), 30223–30250.
<https://doi.org/10.3390/ijms161226227>.
- Chirinos, R., Zorrilla, D., Aguilar-Galvez, A., Pedreschi, R., & Campos, D. (2016). Impact of Roasting on Fatty Acids, Tocopherols, Phytosterols, and Phenolic Compounds Present in *Plukenetia huayllabambana* Seed. *Journal of Chemistry*, 2016. <https://doi.org/10.1155/2016/6570935>.
- Christenhusz, M. J. M., & Byng, J. W. (2016). Phytotaxa. *Phytotaxa*, 261(3), 201–217. <https://doi.org/10.11646/phytotaxa.261.3.1>.
- Cisneros, F. H., Paredes, D., Arana, A., & Cisneros-zevallos, L. (2014). *Chemical Composition, Oxidative Stability and Antioxidant Capacity of Oil Extracted from Roasted Seeds of Sacha-Inchi (Plukenetia volubilis L.)*.
- Devitasari, R., & Basuki, S. (2022). Peran Vitamin E pada Kulit. *Jurnal Klinik Dan Riset Kesehatan*, 1(2), 116–126. <https://doi.org/10.11594/jk-risk.01.2.6>.
- Dewi, A. P. (2019). PENETAPAN KADAR VITAMIN C DENGAN SPEKTROFOTOMETRI UV-Vis PADA BERBAGAI VARIASI BUAH TOMAT. *JOPS (Journal Of Pharmacy and Science)*, 2(1), 9–13. <https://doi.org/10.36341/jops.v2i1.1015>.
- Diniyah, N., & Lee, S. H. (2020). Komposisi Senyawa Fenol dan Potensi Antioksidan dari Kacang-Kacangan: Review Phenolic Composition and Antioxidant Potential of Legumes-A Review. *Jurnal Agroteknologi*, 14(1), 91102.
- Fanali, C., Dugo, L., Cacciola, F., Beccaria, M., Grasso, S., Dachà, M., Dugo, P., & Mondello, L. (2011). Chemical characterization of Sacha inchi (*Plukenetia volubilis* L.) oil. *Journal of Agricultural and Food Chemistry*, 59(24), 13043–13049. <https://doi.org/10.1021/jf203184y>.
- Fang, H., Kang, J., & Zhang, D. (2017). Microbial production of vitamin B12: A review and future perspectives. *Microbial Cell Factories*, 16(1), 1–14. <https://doi.org/10.1186/s12934-017-0631-y>.
- Flores, S., Flores, A., Calderón, C., & Obregón, D. (2019). Synthesis and characterization of sacha inchi (*Plukenetia volubilis* L.) oil-based alkyd resin. *Progress in Organic Coatings*, 136(July), 105289. <https://doi.org/10.1016/j.porgcoat.2019.105289>.
- Guillén, M. D., Ruiz, A., Cabo, N., Chirinos, R., & Pascual, G. (2003). Characterization of sacha inchi (*Plukenetia volubilis* L.) Oil by FTIR spectroscopy and ¹H NMR. Comparison with linseed oil. *JAOCs, Journal of the American Oil Chemists' Society*, 80(8), 755–762. <https://doi.org/10.1007/s11746-003-0768-z>.
- Gharibzahedi, S. M. T., Mousavi, S. M., Hamed, M., & Khodaiyan, F. (2014). Determination and characterization of kernel biochemical composition and functional compounds of Persian walnut oil. *Journal of Food Science and Technology*, 51(1), 34–42. <https://doi.org/10.1007/s13197-011-0481-2>.
- Gunawan, F. I., Mulyana, F. W., Supriyatna, A., & Biologi, P. S. (2023). *Jurrit+vol+2+no+1+April+2023+hal+35-42*. 2(1).

- Grund, A., & Wien, D. U. (1997). *Übersichtsbeiträge/Reviews*. 234–238.
- Gusnedi, R. (2013). Analisis Nilai Absorbansi dalam Penentuan Kadar Flavonoid untuk Berbagai Jenis Daun Tanaman Obat. *Pillar of Physics*, 2, 76–83.
- Gutiérrez, L. (2019). *Effects of Dehulling Sacha Inchi (Plukenetia volubilis L.) Seeds on the Physicochemical and Sensory Properties of Oils Extracted by Means of Cold Pressing*. <https://doi.org/10.1002/aocs.12270>.
- Haminiuk, C. W. I., Maciel, G. M., Plata-Oviedo, M. S. V., & Peralta, R. M. (2012). Phenolic compounds in fruits - an overview. *International Journal of Food Science and Technology*, 47(10), 2023–2044. <https://doi.org/10.1111/j.1365-2621.2012.03067.x>.
- Hardianti, B., Anwar, I., Sida, N. A., Sumiati, E., Rita, R. S., Amin, A., Suherman, Jati, M. A. S., Nasruddin, N. I., Larasati, M. D., Salman, & Dewi, Y. R. (2023). *Biokimia Advance* (Issue April 2024).
- Huang, Z., Liu, Y., Qi, G., Brand, D., & Zheng, S. G. (2018). Role of vitamin A in the immune system. *Journal of Clinical Medicine*, 7(9), 1–16. <https://doi.org/10.3390/jcm7090258>.
- Hussein, S. (2013). Eksistensi Amerika Serikat Sebagai Kekuatan Global. *Global & Policy*, 1(1), 84–91. <http://ejournal.upnjatim.ac.id/index.php/jgp/article/view/2013>.
- Illing, I., Safitri, W., & Erfiana. (2017). Uji Fitokimia Ekstrak Buah Degen. *Jurnal Dinamika*, 8(1), 66–84.
- Innes, J. K., & Calder, P. C. (2018). Omega-6 fatty acids and inflammation. *Prostaglandins Leukotrienes and Essential Fatty Acids*, 132, 41–48. <https://doi.org/10.1016/j.plefa.2018.03.004>.
- Irwinsyah, A. D., Assa, J. R., & Oessoe, Y. Y. E. (2019). Analisis Aktivitas Antioksidan Dengan Metode Dpph Serta Tingkat Penerimaan Kopi Arabika Koya. *Jurnal UNSRAT*, 3(2), 58–66. <http://www.tjyybjb.ac.cn/CN/article/downloadArticleFile.do?attachType=PDF&id=9987>.
- Kedare, S. B., & Singh, R. P. (2011). Genesis and development of DPPH method of antioxidant assay. *Journal of Food Science and Technology*, 48(4), 412–422. <https://doi.org/10.1007/s13197-011-0251-1>.
- Kumar, B., Smita, K., Cumbal, L., & Debut, A. (2014). Sacha inchi (*Plukenetia volubilis* L.) oil for one pot synthesis of silver nanocatalyst: An ecofriendly approach. *Industrial Crops and Products*, 58, 238–243. <https://doi.org/10.1016/j.indcrop.2014.04.021>.
- Kumar, B., Smita, K., Sánchez, E., Debut, A., & Cumbal, L. (2022). Phytosynthesis, characterization and catalytic activity of Sacha inchi leaf-assisted gold nanoparticles. *Chemical Papers*, 76(5), 2855–2864. <https://doi.org/10.1007/s11696-022-02075-6>.
- Kodahl, N. (2020). Sacha inchi (*Plukenetia volubilis* L.)—from lost crop of the Incas to part of the solution to global challenges? *Planta*, 251(4), 1–22. <https://doi.org/10.1007/s00425-020-03377-3>.
- Lalopua, V. M. N. (2019). Daya Antioksidasi Ekstrak Kasar dan Isolat

- Antioksidan Alga *Kappaphycus Alvarezii* terhadap VCO yang Disimpan. *Majalah Biam*, 15(02), 77–81. <http://dx.doi.org/10.29360/mb.v15i2.5595>.
- Liang, N., & Kitts, D. D. (2014). Antioxidant property of coffee components: Assessment of methods that define mechanism of action. *Molecules*, 19(11), 19180–19208. <https://doi.org/10.3390/molecules191119180>.
- Lopes, C. de C. A., Limirio, P. H. J. O., Novais, V. R., & Dechichi, P. (2018). Fourier transform infrared spectroscopy (FTIR) application chemical characterization of enamel, dentin and bone. *Applied Spectroscopy Reviews*, 53(9), 747–769. <https://doi.org/10.1080/05704928.2018.1431923>.
- Lu, W. C., Chiu, C. S., Chan, Y. J., Mulio, A. T., & Li, P. H. (2023). New perspectives on different Sacha inchi seed oil extractions and its applications in the food and cosmetic industries. *Critical Reviews in Food Science and Nutrition*, 0(0), 1–19. <https://doi.org/10.1080/10408398.2023.2276882>.
- Lughadha, E. N., Govaerts, R., Belyaeva, I., Black, N., Lindon, H., Allkin, R., Magill, R. E., & Nicolson, N. (2016). Counting counts: Revised estimates of numbers of accepted species of flowering plants, seed plants, vascular plants and land plants with a review of other recent estimates. *Phytotaxa*, 272(1), 82–88. <https://doi.org/10.11646/phytotaxa.272.1.5>.
- Lung, J. K. S., & Destiani, D. P. (2017). Uji Aktivitas Antioksidan Vitamin A, C, E dengan metode DPPH. *Farmaka by Universitas Padjajaran*, 15(1), 53–62.
- Maya, I., Winardi, D. O., Amalia, E., Mita, S. R., Kusumawulan, C. K., Putriana, N. A., & Sriwidodo, S. (2023). Physicochemical Characteristics, Fatty Acid Profile, and In Vitro Antioxidant Activity Evaluation of Sacha Inchi Seed Oil from Indonesia. *Cosmetics*, 10(6). <https://doi.org/10.3390/cosmetics10060171>.
- Mohamed, M. A., Jaafar, J., Ismail, A. F., Othman, M. H. D., & Rahman, M. A. (2017). Fourier Transform Infrared (FTIR) Spectroscopy. In *Membrane Characterization*. Elsevier B.V. <https://doi.org/10.1016/B978-0-444-63776-5.00001-2>.
- Muangrat, R. (2018). *Screw press extraction of Sacha inchi seeds : Oil yield and its chemical composition and antioxidant properties*. July 2017, 1–10. <https://doi.org/10.1111/jfpp.13635>.
- Mubarak, K., Natsir, H., Wahab, A. W., & Satrimafitrah, P. (2017). Analysis of α-Tokopherol (Vitamin E) Extracted from Moringa Leaves (*Moringa oleifera* Lam) Collected from Seashore and Highland Areas and Its Potency as Antioxidant. *Kovalen*, 3(1), 78–88.
- Muttaqin, E. Z. (2020). Sistem Politik Dan Demokrasi Amerika. *Al Qisthas : Jurnal Hukum Dan Politik*, 10(2), 43–52. <https://doi.org/10.37035/alqisthas.v10i2.2346>.
- Nguyen, H. C., Vuong, D. P., Nguyen, N. T. T., Nguyen, N. P., Su, C. H., Wang, F. M., & Juan, H. Y. (2020). Aqueous enzymatic extraction of

- polyunsaturated fatty acid-rich sacha inchi (*Plukenetia volubilis* L.) seed oil: An eco-friendly approach. *Lwt*, 133, 109992. <https://doi.org/10.1016/j.lwt.2020.109992>.
- №1. (2013). *Ukrainian Food Journal*. 2(1), 1–148.
- Niki, E., & Traber, M. G. (2012). A history of vitamin e. *Annals of Nutrition and Metabolism*, 61(3), 207–212. <https://doi.org/10.1159/000343106>.
- Niu, L., Li, J., Chen, M. S., & Xu, Z. F. (2014). Determination of oil contents in Sacha inchi (*Plukenetia volubilis*) seeds at different developmental stages by two methods: Soxhlet extraction and time-domain nuclear magnetic resonance. *Industrial Crops and Products*, 56, 187–190. <https://doi.org/10.1016/j.indcrop.2014.03.007>.
- Nurhasnawati, H. (2017). Penetapan Kadar Asam Lemak Bebas Dan Bilangan Peroksida Pada Minyak Goreng Yang Digunakan Pedagang Gorengan Di Jl. a.W Sjahranie Samarinda. *Jurnal Ilmiah Manuntung*, 1(1), 25. <https://doi.org/10.51352/jim.v1i1.7>.
- Pakaya, D. (2014). Peranan Vitamin C Pada Kulit. *Jurnal Ilmiah Kedokteran*, 1(2), 45–54. <http://jurnal.untad.ac.id/jurnal/index.php/MedikaTadulako/article/view/7932/6271>.
- Pepadu, J., Muhamni, M., Yohandini, H., Ferlinahayati, F., & Julinar, J. (2022). EDUKASI PENGGUNAAN TUMBUHAN SUNGKAI (*Paronema canescens*) UNTUK MENURUNKAN KOLESTEROL. *Jurnal Pepadu*, 3(1), 21–29. <https://doi.org/10.29303/pepadu.v3i1.2296>.
- Pratiwy, F. M., & Pratiwi, D. Y. (2021). Penyuluhan Potensi Omega-3 untuk Meningkatkan Sistem Imun (Terutama Dalam Masa pandemic Covid-19) Secara Virtual. *Farmers: Journal of Community Services*, 2(1), 30. <https://doi.org/10.24198/fjcs.v2i1.31191>.
- Putri, P. W., Mulqie, L., & Hazar, S. (2021). Studi Literatur Aktivitas Antibakteri Tanaman Famili Euphorbiaceae. *Prosiding Farmasi*, 763–771..
- Rahmi, H. (2017). Review: Aktivitas Antioksidan dari Berbagai Sumber Buah-buahan di Indonesia. *Jurnal Agrotek Indonesia*, 2(1), 34–38. <https://doi.org/10.33661/jai.v2i1.721>.
- Rajagukguk, Y. V., Islam, M., Siger, A., Fornal, E., & Tomaszewska-Gras, J. (2023). Oxidative stability assessment of industrial and laboratory-pressed fresh raspberry seed oil (*Rubus idaeus* L.) by differential scanning calorimetry. *Food Chemistry Advances*, 2(August 2022), 100186. <https://doi.org/10.1016/j.focha.2023.100186>.
- Richter, L. E., Carlos, A., & Beber, D. M. (2017). *DASAR-DASAR SPEKTROFOTOMETRI UV-VIS DAN SPEKTROMETRI MASSA UNTUK PENENTUAN STRUKTUR SENYAWA ORGANIK*. Bandar Lampung: AURA.
- Rocha, F. S., Gomes, A. J., Lunardi, C. N., Kaliaguine, S., & Patience, G. S. (2018). Experimental methods in chemical engineering: Ultraviolet visible spectroscopy—UV-Vis. *Canadian Journal of Chemical Engineering*, 96(12), 2512–2517. <https://doi.org/10.1002/cjce.23344>.

- Rustan, A. C., & Drevon, C. A. (2005). Fatty Acids: Structures and Properties. *Encyclopedia of Life Sciences*, April. <https://doi.org/10.1038/npg.els.0003894>.
- Sartini, I., & Prabowo, M. I. B. (2022). Sang pencerah. *Jurnal Ilmiah*, 8(1), 877–890.
- Schmid, F. (2001). Biological Macromolecules: UV-visible Spectrophotometry. *Encyclopedia of Life Sciences*, 1–4. <https://doi.org/10.1038/npg.els.0003142>.
- Setyani, S., Subeki, S., & Grace, H. A. (2018). EVALUASI NILAI CACAT DAN CITA RASA KOPI ROBUSTA (*Coffea canephora* L.) YANG DIPRODUKSI IKM KOPI DI KABUPATEN TANGGAMUS [Evaluation of Defect Value and Flavour Robusta Coffee (*Coffea canephora* L.) Produced by Small and Medium Industri Sector of Coffee in Ta. *Jurnal Teknologi & Industri Hasil Pertanian*, 23(2), 103. <https://doi.org/10.23960/jtihp.v23i2.103-114>.
- Setiawan, F., Yunita, O., & Kurniawan, A. (2018). Uji Aktivitas Antioksidan Ekstrak Etanol Kayu Secang (*Caesalpinia sappan*) Menggunakan Metode DPPH, ABTS, dan FRAP. *MPI (Media Pharmaceutica Indonesiana)*, 2(2), 82–89. <https://journal.ubaya.ac.id/index.php/MPI/article/view/1662>.
- Sezer, M. Ö., Ece, E., Uslu, A., Ozmen, A., & Sayin, U. (2019). Determination of the irradiation effects on senna (*Cassia acutifolia*) leaves by ESR technique and microbiological analysis. *Radiation Physics and Chemistry*, 165(July), 108434. <https://doi.org/10.1016/j.radphyschem.2019.108434>.
- Shard, A. G., Schofield, R. C., & Minelli, C. (2019). Ultraviolet-visible spectrophotometry. In Characterization of Nanoparticles: Measurement Processes for Nanoparticles (Vol. 1). Elsevier Inc. <https://doi.org/10.1016/B978-0-12-814182-3.00012-2>.
- Singh, J. P., Kaur, A., Shevkani, K., & Singh, N. (2015). Influence of jambolan (*Syzygium cumini*) and xanthan gum incorporation on the physicochemical, antioxidant and sensory properties of gluten-free eggless rice muffins. *International Journal of Food Science and Technology*, 50(5), 1190–1197. <https://doi.org/10.1111/ijfs.12764>.
- Soongprasit, C., Aht-Ong, D., Sricharoenchaikul, V., & Atong, D. (2019). Catalytic Deoxygenation Pyrolysis of Sacha Inchi Shell over SBA-15 Catalyst: An Analytical PY-GC/MS. *IOP Conference Series: Earth and Environmental Science*, 219(1). <https://doi.org/10.1088/1755-1315/219/1/012016>.
- Supriyanto, S., Imran, Z., Ardiansyah, R., Auliayai, B., Pratama, A., & Kadha, F. (2022). The Effect of Cultivation Conditions on Sacha Inchi (*Plukenetia volubilis* L.) Seed Production and Oil Quality (Omega 3, 6, 9). *Agronomy*, 12(3). <https://doi.org/10.3390/agronomy12030636>.
- Tulus, L. F., Sunarty, S., & Souhoka, F. A. (2019). PEMANFAATAN EKSTRAK DAUN KELOR (*Moringa Oleifera*, Lam) SEBAGAI ANTIOKSIDAN PADA MINYAK KELAPA. *Molluca Journal of*

- Chemistry Education (MJoCE)*, 9(1), 18–30.
- Ulloa Ulloa, C., Acevedo-Rodríguez, P., Beck, S., Belgrano, M. J., Bernal, R., Berry, P. E., Brako, L., Celis, M., Davidse, G., Forzza, R. C., Robbert Gradstein, S., Hokche, O., León, B., León-Yáñez, S., Magill, R. E., Neill, D. A., Nee, M., Raven, P. H., Stimmel, H., ... Jørgensen, P. M. (2017). An integrated assessment of the vascular plant species of the Americas. *Science*, 358(6370), 1614–1617. <https://doi.org/10.1126/science.aa0398>.
- Uncu, O., & Ozen, B. (2019). A comparative study of mid-infrared, UV–Visible and fluorescence spectroscopy in combination with chemometrics for the detection of adulteration of fresh olive oils with old olive oils. *Food Control*, 105, 209–218. <https://doi.org/10.1016/j.foodcont.2019.06.013>.
- Velasco, J., Andersen, M. L., & Skibsted, L. H. (2021). ESR spin trapping for in situ detection of radicals involved in the early stages of lipid oxidation of dried microencapsulated oils. *Food Chemistry*, 341(March), 1–33. <https://doi.org/10.1016/j.foodchem.2020.128227>.
- Verma, G., & Mishra, M. (2018). Development and Optimization Of UV-Vis Spectroscopy - A Review. *World Journal of Pharmaceutical Research*, 7(11), 1170–1180. <https://doi.org/10.20959/wjpr201811-12333>.
- Wang, L., Xiao, R., & Mo, J. (2019). Quantitative detection method of semiquinone free radicals on particulate matters using electron spin resonance spectroscopy. *Sustainable Cities and Society*, 49, 101614. <https://doi.org/10.1016/j.scs.2019.101614>.
- Wang, S., Zhu, F., & Kakuda, Y. (2018). Sacha inchi (*Plukenetia volubilis* L.): Nutritional composition, biological activity, and uses. *Food Chemistry*, 265(December 2017), 316–328. <https://doi.org/10.1016/j.foodchem.2018.05.055>.
- Zhan, Q., Wang, Q., Liu, Q., Guo, Y., Gong, F., Hao, L., Wu, H., & Dong, Z. (2021). The antioxidant activity of protein fractions from Sacha inchi seeds after a simulated gastrointestinal digestion. *Lwt*, 145(March), 111356. <https://doi.org/10.1016/j.lwt.2021.111356>.