

DAFTAR PUSTAKA

- Aditya, M., & Ariyanti, P. R. (2016). Manfaat Gambir (*Uncaria gambir Roxb*) sebagai Antioksidan. *Majority*, 5(3), 129–133.
- Agustina, W., Dzakia, N. F., Cahyadi, W., Nanang, D., Iwansyah, A. C., Studi, P., Pangan, T., Teknik, F., & Pasundan, U. (2020). Optimasi Formula dan Karakterisasi Produk Cookies Berbahan Dasar Pasta Kacang Mete (*Anacardium occidentale L*). *Jurnal Riset Teknologi Industri*, 14(2), 176–187.
- Ahmad, A., Rehman, M. U., Wali, A. F., El-Serehy, H. A., Al-Misned, F. A., Maodaa, S. N., Aljawdah, H. M., Mir, T. M., & Ahmad, P. (2020). Box–Behnken Response Surface Design of Polysaccharide Extraction from *Rhododendron arboreum* and the Evaluation of Its Antioxidant Potential. *Molecules*, 25(17).
- Akbar, N. D., Nugroho, A. K., & Martono, S. (2022). Review Article: Optimization of Snedds Formulation By Simplex Lattice Design and Box Behnken Design. *Jurnal Ilmiah Farmako Bahari*, 13(1), 90–100.
- Akhtar, I., Javad, S., Yousaf, Z., Iqbal, S., & Jabeen, K. (2012). Microwave Assisted Extraction of Phytochemicals An Efficient and Modern Approach for Botanicals and Pharmaceuticals. *Pakistan Journal of Pharmaceutical Sciences*, 32(1), 223–230.
- Anastasia, S., & Widiawan, K. (2023). Pengaruh Beban Kerja, Lingkungan Kerja, dan Kepuasan Kerja terhadap Turnover Intention di PT. X. *Jurnal Titra*, 11(2), 145–152.
- Anwar, K., Istiqamah, F., & Hadi, S. (2021). Optimasi Suhu dan Waktu Ekstraksi Akar Pasak Bumi (*Eurycoma longifolia jack.*) Menggunakan Metode RSM (Response Surface Methodology) dengan Pelarut Etanol 70 %. *Jurnal Pharmascience*, 08(01), 53–64.
- Aprilia, F. R., Ayuliansari, Y., Putri, T., Azis, M. Y., Dewi, W. C., & Putra, M. R. (2018). Analisis Kandungan Kafein dalam Kopi Tradisional Gayo dan Kopi Lombok Menggunakan HPLC dan Spektrofotometri UV/Vis. *BIOTIKA*, 16(2), 37–41.
- Asmari, K. M. Al, Zeid, I. A., & Attar, A. M. Al. (2020). Medicinal Properties of Arabica coffee (*Coffea arabica*) Oil: An Overview. *Advancements in Life Sciences – International Quarterly Journal of Biological Sciences*, 8(1), 20–29.
- Ayswarya, S., Radhakrishnan, M., Manigundan, K., Gopikrishnan, V., & Soyong, K. (2022). Antioxidant activity of 2, 4-di-tert-butylphenol Isolated from Plant Growth Promoting Endophytic *Streptomyces* KCA-1. *International Journal of Agricultural Technology*, 18(6), 2343–2352.

- Azahan, S. N. F., Nasir, M. H. M., & Salleh, M. H. M. (2021). Naked Eye Colorimetric Glucose Detection Using Microplate Reader. *Journal of Physics: Conference Series*, 1892(1), 012020.
- Azmir, J., Zaidul, I. S. M., Rahman, M. M., Sharif, K. M., Mohamed, A., Sahena, F., Jahurul, M. H. A., Ghafoor, K., Norulaini, N. A. N., & Omar, A. K. M. (2013). Techniques for Extraction of Bioactive Compounds from Plant Materials: A Review. *Journal of Food Engineering*, 117(4), 426–436.
- Bagade, S. B., & Patil, M. (2021). Recent Advances in Microwave Assisted Extraction of Bioactive Compounds from Complex Herbal Samples: A Review. *Critical Reviews in Analytical Chemistry*, 51(2), 138–149.
- Barus, R. S. B., Ganda Putra, G. P., & Dewi Anggreni, A. A. M. (2023). Karakteristik Bubuk Kulit Buah Kopi Arabika (*Coffea arabica L.*) sebagai Sumber Antioksidan pada Variasi Suhu dan Lama Pengeringan Menggunakan Oven. *Jurnal Rekayasa Dan Manajemen Agroindustri*, 11(4), 516.
- Belwal, T., Ezzat, S. M., Rastrelli, L., Bhatt, I. D., Daglia, M., Baldi, A., Devkota, H. P., Orhan, I. E., Patra, J. K., Das, G., Anandharamakrishnan, C., Gomez-Gomez, L., Nabavi, S. F., Nabavi, S. M., & Atanasov, A. G. (2018). A Critical Analysis of Extraction Techniques Used for Botanicals: Trends, Priorities, Industrial Uses and Optimization Strategies. *TrAC Trends in Analytical Chemistry*, 100, 82–102.
- Bento, D., Borchard, G., Gonçalves, T., & Borges, O. (2013). Validation of A New 96-Well Plate Spectrophotometric Method for The Quantification of Compound 48/80 Associated with Particles. *AAPS PharmSciTech*, 14(2), 649–655.
- Bongmo, L. V. L., Nougua, A. B., Happi, G. M., Tabekoueng, G. B., Lateef, M., Kamdem Waffo, A. F., Shaiq Ali, M., Iqbal Choudhary, M., & Duplex Wansi, J. (2022). Phytochemical Compounds Of Guibourtia Ehie and Their Antioxidant, Urease and A-Glucosidase Inhibitory Activities. *Natural Resources for Human Health*, 2(3), 306–312.
- Chanioti, S., Liadakis, G., & Tzia, C. (2014). Solid–Liquid Extraction. In *Food Engineering Handbook* (1st ed., Issue November 2014, pp. 253–286). CRC Press.
- Craig, A. P., Franca, A. S., & Oliveira, L. S. (2012). Evaluation of The Potential of FTIR and Chemometrics for Separation between Defective and Non-Defective Coffees. *Food Chemistry*, 132(3), 1368–1374.
- Darasia, Mahendradatta, M., Hasizah, A., & Rahmaniar. (2023). Comparison of Soxhletation and Microwave Assisted Extraction Method for Extracting Polyphenols in Cacao Pod Husks (*Theobroma Cacao L.*). *IOP Conference Series: Earth and Environmental Science*, 1200(1).

- Darojati, H. A., Putra, S., & Zulprasetya, F. P. (2019). Pengaruh Iradiasi Gamma pada Konversi Biomassa Lignoselulosa Sabut Kelapa Menjadi Bioetanol. *Jurnal Teknik Kimia Dan Lingkungan*, 3(2), 87–94.
- Datri A, S., Ks, N., & A, L. R. (2023). Response Surface Methodology-A Statistical Tool for the Optimization of Responses. *Global Journal of Addiction & Rehabilitation Medicine*, 7(1), 1–7.
- Dewi, N. N. D. T., Wrasianti, L. P., & Putra, G. P. G. (2016). Pengaruh Konsentrasi Pelarut Etanol dan Suhu Maserasi terhadap Rendemen dan Kadar Klorofil Produk Enkapsulasi Ekstrak Selada Laut (*Ulva Lactuca L*). *Jurnal Rekayasa Dan Manajemen Agroindustri*, 4(3), 59–70.
- Dwiastuti, R., & Dewi, N. K. D. P. K. (2022). Aplikasi Metode Optimasi Central Composite Design dalam Formulasi Sediaan Gel Nanopartikel Lipid dengan Bahan Aktif 4-n-Butilresorcinol. *Jurnal Ilmiah Manuntung*, 8(1), 71–81.
- Engelen, A. (2015). Optimasi Proses dan Formula pada Karakteristik Kelengketan Mi Sagu. *Jtech*, 3(1), 40–47.
- Fajara, B. E. P., & Susanti, H. (2017). HPLC Determination of Caffeine in Coffee Beverage. *IOP Conference Series: Materials Science and Engineering*, 259(1), 012011.
- Farhaty, N., & Muchtaridi. (2016). Tinjauan Kimia dan Aspek Farmakologi Senyawa Asam Klorogenat pada Biji Kopi. *Jurnal Ilmiah Farmasi Indonesia*, 14(1), 214–227.
- Fatmawaty, Anggreni, N. G. M., Fadhill, N., & Prasasty, V. D. (2019). Potential In Vitro and In Vivo Antioxidant Activities from Piper crocatum and Persea americana Leaf Extracts. *Biomedical and Pharmacology Journal*, 12(2), 661–667.
- Ferreira, S. L. C., Lemos, V. A., de Carvalho, V. S., da Silva, E. G. P., Queiroz, A. F. S., Felix, C. S. A., da Silva, D. L. F., Dourado, G. B., & Oliveira, R. V. (2018). Multivariate Optimization Techniques in Analytical Chemistry - An Overview. *Microchemical Journal*, 140, 176–182.
- Folmer, B. (2017). *The Craft and Science of Coffee*. Elsevier.
- Guglielmetti, A., D'Ignoli, V., Ghirardello, D., Belviso, S., & Zeppa, G. (2017). Optimisation of Ultrasound and Microwave-Assisted Extraction of Caffeoylquinic Acids and Caffeine from Coffee Silverskin Using Response Surface Methodology. *Italian Journal of Food Science*, 29(3), 409–423.
- Harmita, A. . K., Harahap, Y., & Supandi. (2019). *Liquid Chromatography-Tandem Mass Spectrometry*. ISFI Penerbitan.
- Hassan, S. R., & Al-Yaqoobi, A. M. (2023). Assessment of Ultrasound-Assisted Extraction of Caffeine and its Bioactivity. *Journal of Ecological Engineering*, 24(3), 126–133.

- Hazar, S., Rahmawati Sadiyah, E., A. Kodir, R., Herawati, L., G. Cahyadi, S., & T. Fauzi, L. (2022). Antioxidant Properties of Coffee Arabica from the Arjasari District that is Processed Naturally, Semi-Washed and Full-Washed. *KnE Life Sciences*, 2022, 103–110.
- Hotmian, E., Suoth, E., Fatimawali, F., & Tallei, T. (2021). Analisis GC-MS (Gas Chromatography - Mass Spectrometry) Ekstrak Metanol dari Umbi Rumpuk Teki (*Cyperus rotundus L.*). *Pharmacon*, 10(2), 849.
- Hu, C.-J., Gao, Y., Liu, Y., Zheng, X.-Q., Ye, J.-H., Liang, Y.-R., & Lu, J.-L. (2016). Studies on The Mechanism of Efficient Extraction of Tea Components by Aqueous Ethanol. *Food Chemistry*, 194, 312–318.
- Hudáková, J., Marcinčáková, D., & Legáth, J. (2016). Study of Antioxidant Effects of Selected Types of Coffee. *Folia Veterinaria*, 60(3), 34–38.
- Husniati, H., Yunika Sari, M., & Sari, A. (2020). Karakterisasi Senyawa Aktif Asam Klorogenat dalam Kopi Sebagai Antioksidan. *Teknologi Agro Industri (Tegi)*, 12(2), 34–39.
- Indrasari, F., & Buanasari, B. (2022). The Effect of Solvent Ratio and Extraction Time on Antioxidant Activity and Flavonoid Concentration of Kedawung Leaf (*Parkia Biglobosa*) Through Microwave-Assisted Extraction. *Jurnal Bahan Alam Terbarukan*, 11(1), 17–22.
- Indrawati, A., Baharuddin, S., & Kahar, H. (2022). Uji Aktivitas Antioksidan Ekstrak Batang Tanaman Ungu (*Graptophyllum pictum (L.) Griff*) Kabupaten Takalar Menggunakan Pereaksi DPPH Secara Spektrofotometri Visibel. *Lambung Farmasi: Jurnal Ilmu Kefarmasian*, 3(1), 69.
- Isnindar, I., Wahyuono, S., Widyarini, S., & Yuswanto, Y. (2017). Aktivitas Antioksidan Buah Kopi Hijau Merapi. *JPSCR : Journal of Pharmaceutical Science and Clinical Research*, 2(02), 130.
- Jasril, Mooi, L. Y., Lajis, N. H., Ali, A. M., Sukari, M. A., Rahman, A. A., Othman, A. G., Kikuzaki, H., & Nakatani, N. (2003). Antioxidant and Antitumor Promoting Activities of The Flavonoids from *Hedychium thyriforme*. *Pharmaceutical Biology*, 41(7), 506–511.
- Jeszka-Skowron, M., Sentkowska, A., Pyrzyńska, K., & De Peña, M. P. (2016). Chlorogenic Acids, Caffeine Content and Antioxidant Properties of Green Coffee Extracts: Influence of Green Coffee Bean Preparation. *European Food Research and Technology*, 242(8), 1403–1409.
- Juliantari, N. P. D., Wrasati, L. P., & Wartini, N. M. (2018). Karakteristik Ekstrak Ampas Kopi Bubuk Robusta (*Coffea canephora*) pada Perlakuan Konsentrasi Pelarut Etanol dan Suhu Maserasi. *Jurnal Rekayasa Dan Manajemen Agroindustri*, 6(3), 243–249.
- Kasahun, W., & Bedada, G. (2023). Study On Methods of Extraction of Caffeine from Coffee for Quantification. *Journal of Nutrition and Dietary Intervention*, 2(1), 1–6.

- Kharislam, D. D., Pravasanti, Y. A., & Ningsih, S. (2021). Pengaruh Pelayanan, Kualitas Produk, dan Lokasi Terhadap Keputusan Pembelian (Studi Kasus pada Indomaret Ruko Garuda Mas). *Jurnal Akuntansi Dan Pajak*, 2(1), 783–789.
- Kharmalova, T. V. (2019). Microwave Radiation, Its Influence for Solutions and Use for Extractions of Components of Plant Materials. *Chemical Journal of Kazakhstan*, 1(65), 242–259.
- Komala, P. T. H., & Amir, H. (2021). Pengaruh Suhu Ekstraksi terhadap Aktivitas Antioksidan Ekstrak Metanolik *Eucommia spinosum*. *Jurnal Pengolahan Hasil Perikanan Indonesia*, 24, 1–10.
- Król, K., Gantner, M., Tatarak, A., & Hallmann, E. (2020). The Content of Polyphenols in Coffee Beans as Roasting, Origin and Storage Effect. *European Food Research and Technology*, 246(1), 33–39.
- Kusnadi, J., Dedi, Yuniarta, & Arumingtyas, E. L. (2017). Ekstraksi Senyawa Fenol dan Aktivitas Antioksidan dari Buah Cabai Rawit dengan Metode Microwave Assisted Extraction. *Jurnal Teknologi Pertanian*, 18(3), 181–190.
- Latief, M., Tafzi, F., & Saputra, A. (2013). Aktivitas Antioksidan Ekstrak Metanol Beberapa Bagian Tanaman Kayu Manis (*Cinnamomum Burmanni*) Asal Kabupaten Kerinci Provinsi Jambi. *Prosiding Semirata FMIPA Universitas Lampung*, 1(1), 233–236.
- Latunra, A. I., Johannes, E., Mulihardianti, B., & Sumule, O. (2021). Analisis Kandungan Kafein Kopi Arabika (*Coffea arabica*) pada Tingkat Kematangan Berbeda Menggunakan Spektrofotometer UV-Vis. *Jurnal Ilmu Alam Dan Lingkungan*, 12(1), 45–50.
- Li, Y., & Chemat, F. (2019). *Plant Based “Green Chemistry 2.0” Moving from Evolutionary to Revolutionary*. Springer Singapore.
- Liang, N., & Kitts, D. D. (2014). Antioxidant Property of Coffee Components: Assessment of Methods that Define Mechanism of Action. *Molecules*, 19(11), 19180–19208.
- Limahelu, F. A., Jasman, & Sarifudin, K. (2021). Optimasi Suhu , pH , dan Konsentrasi Inokulum pada Proses Ko- Fermentasi Batang Sorgum Manis (*Sorghum bicolor* (L .) Moench) dengan Biakan *Saccharomyces cerevisiae* - *Trichoderma reesei*. *Jurnal Beta Kimia*, 1(10), 54–63.
- Llompart, M., Garcia-jares, C., Celeiro, M., Compostela, S. De, & Compostela, S. De. (2018). Microwave-Assisted Extraction. In *Encyclopedia of Analytical Science*, 3rd Edition (3rd ed., Issue June, pp. 1–11). Elsevier Inc.
- Lung, J. K. S., & Destiani, D. P. (2018). Uji Aktivitas Antioksidan Vitamin A, C, E dengan Metode DPPH. *Farmaka*, 15(1), 53–62.

- Mangiwa, S., Futwembun, A., Awak, P. M., Uncen, F., & Waena, B. (2015). Kadar Asam Klorogenat (CGA) dalam Biji Kopi Arabika (*Coffea arabica*) Asal Wamena, Papua. *Jurnal Ilmiah Pendidikan Kimia "Hydrogen,"* 3(2), 313–317.
- 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.
- Margareta, M. A. H., & Wonorahardjo, S. (2023). Optimasi Metode Penetapan Senyawa Eugenol dalam Minyak Cengkeh Menggunakan Gas Chromatography – Mass Spectrum dengan Variasi Suhu Injeksi. *Jurnal Sains Dan Edukasi Sains,* 6(2), 95–103.
- Martauli, E. D. (2018). Analisis Produksi Kopi di Indonesia. *Journal of Agribusiness Sciences,* 01(02), 112–120.
- Maskar, R., & Faisal, F. (2022). Analisis Kadar Kafein Kopi Bubuk Arabika di Sulawesi Selatan Menggunakan Spektrofotometri UV-VIS. *Gorontalo Agriculture Technology Journal,* 5(1), 19.
- Melese, Y. Y., & Kolech, S. A. (2021). Coffee (*Coffea arabica L.*): Methods, Objectives, and Future Strategies of Breeding in Ethiopia—Review. *Sustainability,* 13(19), 10814.
- Mierza, V., Diva Afiah Hanifa Irawan, Mulidini Mulidini, Nolla Olipia Elva Megrian, Zuyyinna Alya Abbas, & Aliya Azkiya Zahra. (2022). Literature Review: Pengujian Antioksidan dalam Senyawa Kafein pada Tanaman Kopi. *Jurnal Pendidikan Dan Konseling (JPDK),* 4(6), 12514–12520.
- Muharam, F., & Sriwidodo. (2022). Review: Potensi Kopi Arabika (*Coffea arabica L.*) dari Berbagai Aktivitas Farmakologi dan Bentuk Sediaan Farmasi. *Medical Sains: Jurnal Ilmiah Kefarmasian,* 7(3), 395–406.
- Nemzer, B., Kalita, D., & Abshiru, N. (2021). Quantification of Major Bioactive Constituents, Antioxidant Activity, and Enzyme Inhibitory Effects of Whole Coffee Cherries (*Coffea arabica*) and Their Extracts. *Molecules,* 26(14), 4306.
- Nhan, P. P., & Phu, N. T. (2012). Effect of Time and Water Temperature on Caffeine Extraction from Coffee. *Pakistan Journal of Nutrition,* 11(2), 100–103.
- Nida, S., Dewi, E. N., & Riyadi, P. H. (2022). Optimization of Making Process of Api-Api (*Avicennia marina*) Mangrove Leaves Stew with Response Surface Methodology Analysis. *Bioma : Jurnal Ilmiah Biologi,* 11(2), 224–237.
- Nn, A. (2015). A Review on the Extraction Methods Use in Medicinal Plants, Principle, Strength and Limitation. *Medicinal & Aromatic Plants,* 04(03), 3–8.

- Nursal, F. K., Sumirtapura, Y. C., Suciati, T., & Kartasasmita, R. E. (2019). Optimasi Nanoemulsi Natrium Askorbil Fosfat melalui Pendekatan Design of Experiment (Metode Box Behnken). *Jurnal Sains Farmasi & Klinis*, 6(3), 228.
- Obeidat, Y. (2021). The Most Common Methods for Breath Acetone Concentration Detection: A Review. *IEEE Sensors Journal*, 21(13), 14540–14558.
- Octaviani, M. A., Dewi, D. R. S., & Asrini, L. J. (2017). Optimasi Faktor yang Berpengaruh pada Kualitas Lilin di UD. X dengan Metode Response Surface. *Jurnal Ilmiah Widya Teknik*, 16(1), 29–38.
- Ojeda, J. J., & Dittrich, M. (2012). Fourier Transform Infrared Spectroscopy for Molecular Analysis of Microbial Cells. In *Methods Mol Biol.* (Issue October 2014, pp. 187–211).
- Patil, S., Vedashree, M., & Murthy, P. S. (2022). Valorization of Coffee Leaves as A Potential Agri-Food Resource: Bio-Active Compounds, Applications and Future Prospective. *Planta*, 255(3), 1–17.
- Pavlovic, M. D., Buntic, A. V., Šiler-Marinković, S. S., & Brankovic, S. I. D. (2013). Ethanol Influenced Fast Microwave Assisted Extraction for Natural Antioxidants Obtaining from Spent Filter Coffee. *Separation and Purification Technology*, 118(1), 503–510.
- Pellegrini, M., Marchei, E., Rossi, S., Vagnarelli, F., Durgbanshi, A., Garcia-Algar, O., Vall, O., & Pichini, S. (2007). Liquid Chromatography/Electrospray Ionization Tandem Mass Spectrometry Assay for Determination of Nicotine and Metabolites, Caffeine and Arecoline in Breast Milk. *Rapid Communications in Mass Spectrometry*, 21, 2693–2703.
- Petrova, O. E., & Sauer, K. (2017). High-Performance Liquid Chromatography (HPLC)-Based Detection and Quantitation of Cellular c-di-GMP. *Methods Mol Biol.*, 1657(1), 33–43.
- Pham, T. N., Le, X. T., Pham, V. T., & Le, H. T. (2022). Effects of Process Parameters in Microwave-Assisted Extraction on The Anthocyanin-Enriched Extract from *Rhodomyrtus tomentosa* (Ait.) Hassk and Its Storage Conditions on The Kinetic Degradation of Anthocyanins in The Extract. *Heliyon*, 8(6), e09518.
- Phonphoem, W., Sinthuvanich, C., Aramrak, A., Sirichiewsakul, S., Arikrit, S., & Yokthongwattana, C. (2022). Nutritional Profiles, Phytochemical Analysis, Antioxidant Activity and DNA Damage Protection of Makapuno Derived from Thai Aromatic Coconut. *Foods*, 11(23), 3912.
- Pimpley, V. A., & Murthy, P. S. (2021). Influence of Green Extraction Techniques on Green Coffee: Nutraceutical Compositions, Antioxidant Potential and In Vitro Bio-Accessibility of Phenolics. *Food Bioscience*, 43(1), 101284.
- Pokhrel, P., Shrestha, S., Rijal, S. K., & Rai, K. P. (2016). A simple HPLC Method for the Determination of Caffeine Content in Tea and Coffee. *Journal of Food Science and Technology Nepal*, 9(1), 74–78.

- Prabudi, M., Nurtama, B., & Purnomo, E. H. (2018). Aplikasi Response Surface Methodology (RSM) dengan Historical Data pada Optimasi Proses Produksi Burger Application of Response Surface Methodology (RSM) Using Historical Data on Optimization Burger Production Process. *Jurnal Mutu Pangan*, 5(2), 109–115.
- Pratiwi, A. H., Yusran, Islawati, & Artati. (2023). Analisis Kadar Antioksidan pada Ekstrak Daun Binahong Hijau *Anredera cordifolia* (Ten.). *Bioma : Jurnal Biologi Makassar*, 8(2), 66–74.
- Puspitaningtyas, D., Ganda Putra, G. P., & Suhendra, L. (2021). Pengaruh Konsentrasi Etanol dan Waktu Ekstraksi menggunakan Metode Microwave Assisted Extraction (MAE) terhadap Aktivitas Antioksidan Ekstrak Kulit Buah Kakao. *Jurnal Rekayasa Dan Manajemen Agroindustri*, 9(3), 371.
- Putra, N. R., Rizkiyah, D. N., Aziz, A. H. A., Mamat, H., Jusoh, W. M. S. W., Idham, Z., Yunus, M. A. C., & Irianto, I. (2023). Influence of Particle Size in Supercritical Carbon Dioxide Extraction of Roselle (*Hibiscus sabdariffa*) on Bioactive Compound Recovery, Extraction Rate, Diffusivity, and Solubility. *Scientific Reports*, 13(1), 1–18.
- Rakhmawati, I. A. I., Sukarno, & Sitanggang, A. B. (2023). Aktivitas Antioksidan DPPH dari Ekstrak Rumput Laut dengan Kajian Metaanalisis. *JPHPI*, 26, 520–534.
- Ramadhani, R. A., Wibowo, D. H. S., Triwibowo, B., & Kusumaningtyas, R. D. (2017). Review Pemanfaatan Design Expert untuk Optimasi Komposisi Campuran Minyak Nabati sebagai Bahan Baku Sintesis Biodiesel. *Jurnal Teknik Kimia Dan Lingkungan*, 1(1), 11–16.
- Ratnawati, L., Desnilasari, D., Yulianti, L. E., Kristanti, D., Putri, D. P., Sholichah, E., Andriansyah, C. E., & Hermiani, A. (2021). The Effect of Particle Size and Brewing Time of Ginger (*Zingiber officinale*) Powder to The Characteristic and Acceptance of The Herbal Product. *IOP Conference Series: Materials Science and Engineering*, 1011(1), 1–8.
- Risfaheri, Handayani, A. A., & Setyadjit. (2018). Optimation of Producing Whole Shallot (*Allium ascalonicum* L) in Brine. *Jurnal Penelitian Pascapanen Pertanian*, 15(1), 25–35.
- Romadanu, Rachmawati, Si. H., & Lestari, S. D. (2014). Pengujian Aktivitas Antioksidan Ekstrak Daun Lotus. *Jurnal Pertanian*, 3(1), 1–7.
- Said, K. A. M., & Amin, M. A. M. (2016). Overview on the Response Surface Methodology (RSM) in Extraction Processes. *Journal of Applied Science & Process Engineering*, 2(1), 8–17.
- Saputra, R. R., Ariefin, M., Kristia, E., Diki Wahyudi, D., Rahman, A., Wayan Prema Mulya Sari, N., Puspita Sari, A., & Misbah Aisah, S. (2022). Aplikasi Instrumen Spektroskopi FTIR dan Spektrometri Massa di Dunia Kesehatan: Review. *Jurnal Cendekia Kimia*, 02(01), 2023.

- Sari, A. P., Iqbal, M., Rahayu, I. D., & Triyandi, R. (2023). Comparison of Antioxidant Levels of Robusta Coffee (*Coffea canephora*) and Arabica Coffee (*Coffea arabica*). *Agromedicine*, 10(1), 61–64.
- Sari, N. W., & Fajri, M. (2018). Analisis Fitokimia dan Gugus Fungsi dari Ekstrak Etanol Pisang Goroho Merah (*Musa acminata* (L)). *Indonesian Journal of Biotechnology and Biodiversity*, 2(1), 30.
- Septiana, A., & Wuryatmo, E. (2022). Effect of Ethanol Concentration and Extraction Time with Microwave Assisted Extraction on Antioxidant Activity of Temulawak-Extract (*Curcuma xanthorrhiza*.Roxb). *Journal of Functional Food and Nutraceutical*, 3(2), 63–69.
- Setiabudi, A., Hardian, R., & Muzakir, A. (2012). Karakterisasi Material: Prinsip dan Aplikasinya dalam Penelitian Kimia. In *UPI Press*.
- Shahid, T., Khan, A. A., Khalil, A. A., Batool, M., & Khan, S. (2021). Effect of Microwave Power and Time on Total Phenolic Contents and Antioxidant Characteristics of Microwave Assisted Extracts of Watermelon Rind Powder. *Pakistan Biomedical Journal*, 4(1), 101–109.
- Siddiq, H. B. H. F., & Prabawati, R. E. F. (2016). Uji Aktivitas Antioksidan Ekstrak Etanol Biji Edamame (*Glycin max* (L) Merrill) dengan Metode DPPH. *Jurnal Ilmiah Farmasi Akademi Farmasi Jember*, 1(1), 27–32.
- Silviyah, S., Widodo, C. S., & Masruroh. (2014). Penggunaan Metode FT-IR (Fourier Transform Infra Red) untuk Mengidentifikasi Gugus Fungsi pada Proses Pembaluran Penderita Mioma. *Pharmaceutical Research*, 4(2), 19–27.
- Simatupang, M., Herawati, D., & Yuliana, N. D. (2023). Fingerprinting FTIR-ATR Fraksi Kopi Robusta dan Arabika serta Korelasinya terhadap Aktivitas Antioksidan. *Jurnal Teknologi Dan Industri Pangan*, 34(1), 70–85.
- Singh, R., Singh, B., Singh, S., Kumar, N., Kumar, S., & Arora, S. (2010). Umbelliferone - An Antioxidant Isolated from *Acacia nilotica* (L.) Willd. Ex. Del. *Food Chemistry*, 120(3), 825–830.
- Singh, S., Singla, Y. P., & Arora, S. (2015). Statistical , Diagnostic and Response Surface Analysis of Nefopam Hydrochloride Nanospheres Using 35 Box-Behnken Design. *International Journal of Pharmacy and Pharmaceutical Sciences*, 7(10), 90–101.
- Spiller, G. A. (2019). *Caffeine*. CRC Press.
- Suhartati, T. (2017). *Dasar-Dasar Spektrofotometri UV-Vis dan Spektrometri Massa untuk Penentuan Struktur Senyawa Organik*. AURA.
- Sukma, F. F., & Fajri, R. (2019). Identifikasi Asam Dehidroasetat dalam Produk Kosmetika dengan Menggunakan HPLC (High Performance Liquid Chromatography). *Quimica: Jurnal Kimia Sains Dan Terapan*, 1(2), 1–3.

- Sukma, G. U., Putra, G. P. G., & Wrasati, L. P. (2022). Pengaruh Rasio Bahan: Pelarut dan Waktu Ekstraksi dengan Gelombang Mikro terhadap Ekstrak Etanol Kulit Buah Kopi Robusta Sebagai Sumber Antioksidan. *Jurnal Rekayasa Dan Manajemen Agroindustri*, 10(4), 388.
- Sunarharum, W. B., Yuwono, S. S., & Aziza, O. F. (2019). Study on The Effect of Roasting Temperature on Antioxidant Activity of Early-Roasted Java Coffee Powder (Arabica and Robusta). *IOP Conference Series: Earth and Environmental Science*, 230(1), 1–6.
- Sunaryanto, R. (2012). Optimizing Fermentation Medium to Produce Cyclosporin a Using Response Surface Methodology. *MAKARA of Technology Series*, 16(1), 79–84.
- Thaiphanit, S., Wedprasert, W., & Srabua, A. (2020). Conventional and Microwave-Assisted Extraction for Bioactive Compounds from Dried Coffee Cherry Peel By-Products and Antioxidant Activity of The Aqueous Extracts. *ScienceAsia*, 46 S(1), 12–18.
- Tran, T. M. K., Akanbi, T. O., Kirkman, T., Nguyen, M. H., & Vuong, Q. Van. (2022). Recovery of Phenolic Compounds and Antioxidants from Coffee Pulp (*Coffea canephora*) Waste Using Ultrasound and Microwave-Assisted Extraction. *Processes*, 10(5), 1–10.
- Upadhyay, R., Ramalakshmi, K., & Jagan Mohan Rao, L. (2012). Microwave-Assisted Extraction of Chlorogenic Acids from Green Coffee Beans. *Food Chemistry*, 130(1), 184–188.
- Variyana, Y., Muchammad, R., & Mahfud, M. (2019). Box-Behnken Design for The Optimization Using Solvent-Free Microwave Gravity Extraction of Garlic Oil from *Allium sativum* L. *IOP Conference Series: Materials Science and Engineering*, 673(1), 1–13.
- Wahl, O. (2016). *Impurity Profiling of Challenging Active Pharmaceutical Ingredients without Chromophore*. Julius-Maximilians-Universität Würzburg.
- Wahyudi, E., Martini, R., & Suswatiningsih, T. E. (2018). Perkembangan Perkebunan Kopi di Indonesia. *Jurnal Masepi*, 3(1), 100–107.
- Wang, C. N., Nguyen, N. A. T., & Dang, T. T. (2020). Solving Order Planning Problem Using A Heuristic Approach: The Case in A Building Material Distributor. *Applied Sciences (Switzerland)*, 10(24), 1–21.
- Wang, G., Su, P., Zhang, F., Hou, X., Yang, Y., & Guo, Z. (2011). Comparison of Microwave Assisted Extraction of Aloe-Emodin in Aloe with Soxhlet Extraction and Ultrasound Assisted Extraction. *Science China Chemistry*, 54(1), 231–236.
- Willems, J. L., Khamis, M. M., Mohammed Saeid, W., Purves, R. W., Katselis, G., Low, N. H., & El-Aneed, A. (2016). Analysis of A Series of Chlorogenic Acid Isomers Using Differential Ion Mobility and Tandem Mass Spectrometry. *Analytica Chimica Acta*, 933, 164–174.

- World Health Organization. (2008). Maintenance Manual for Laboratory Equipment. In *WHO* (2nd ed.). WHO Press.
- Yeop, A., Sandanasam, J., Pan, S. F., Abdulla, S., Yusoff, M. M., & Gimbin, J. (2017). The Effect of Particle Size and Solvent Type on The Gallic Acid Yield Obtained from *Labisia pumila* by Ultrasonic Extraction. *MATEC Web of Conferences*, *111*(1).
- Zainuri, Paramartha, D. N. A., Fatinah, A., Nofrida, R., Rahayu, N., Anggraini, I. M. D., & Utama, Q. D. (2023). The Chemical Characteristics of Arabica and Robusta Green Coffee Beans From Geopark Rinjani, Indonesia. *Biotropia*, *30*(3), 318–328.
- Zaman, R. H., & Khotimah, S. (2022). The Antioxidant Activity of Combined Green Arabica Coffee Bean and Dahu Leaf Extract using DPPH Radical Scavenger Method. *Jurnal Ilmu Kesehatan*, *10*(1), 69–80.
- Zhang, Q. W., Lin, L. G., & Ye, W. C. (2018). Techniques for Extraction and Isolation of Natural Products: A Comprehensive Review. *Chinese Medicine (United Kingdom)*, *13*(1), 1–26.
- Zhou, B., Wang, Y. J., Dasilva, L. A., & Lu, C.-T. (2011). *Computational Analysis of LC-MS/MS Data for Metabolite Identification*. Virginia Tech.

