

DAFTAR PUSTAKA

- Agustini, N.W.S. 2014. Potensi asam lemak dari mikroalga *Nannochloropsis* sp sebagai antioksidan dan antibakteri. *In Proceeding Biology Education Conference: Biology, Science, Enviromental, and Learning*, 11(1): 149-155.
- Akar, Z., Küçük, M. & Doğan, H. 2017. A new colorimetric DPPH scavenging activity method with no need for a spectrophotometer applied on synthetic and natural antioxidants and medicinal herbs. *Journal of enzyme inhibition and medicinal chemistry*, 32(1): 640-647.
- Anggraito, Y.U., Susanti, R., Iswari, R.S., Yuniastuti, A., Nugrahaningsih, W.H., Habibah, N.A., Bintari, S.H. & Dafip, M. 2018. *Metabolit Sekunder Dari Tanaman: Aplikasi Dan Produksi*. Fakultas Matematika dan Ilmu pengetahuan Alam, Universitas Negeri Semarang (UNNES), Semarang.
- Arab, F., Alemzadeh, I. & Maghsoudi, V. 2011. Determination of antioxidant component and activity of rice bran extract. *Scientia iranica*, 18(6): 1402-1406
- Arita, S., Dara, M.B. & Irawan, J. 2008. Pembuatan metil ester asam lemak dari CPO off grade dengan metode esterifikasi-transesterifikasi. *Jurnal Teknik Kimia*, 15(2): 34-43.
- Ashish, C., Manish, K.G. & Priyanka, C. 2014. GC-MS technique and its analytical applications in science and technology. *Journal of Analytical and Bioanalytical Techniques*, 5(6): 1-5.
- Atta, E. M., Mohamed, N. H., & Silaev, A. A. A. 2017. Antioxidants: An overview on the natural and synthetic types. *European Chemical Bulletin*, 6(8) :365-375.
- Bhat, F. M., Sommano, S. R., Riar, C. S., Seesuriyachan, P., Chaiyaso, T., & Prom-u-Thai, C. 2020. Status of bioactive compounds from bran of pigmented traditional rice varieties and their scope in production of medicinal food with nutraceutical importance. *Agronomy*, 10(11):1817.
- Budijanto, S. 2017. Pengembangan bekatul sebagai pangan fungsional: peluang, hambatan, dan tantangan. *Jurnal Pangan*, 26(2):167-176.
- Buehler, B. A. 2012. The free radical theory of aging and antioxidant supplements: a systematic review. *Journal of Evidence-Based Complementary & Alternative Medicine*, 17(3):218-220.
- Daud, N.S.M., Zaidel, D.N.A., Song, L.K., Muhamad, I.I. & Jusoh, Y.M.M. 2016. Antioxidant properties of rice bran oil from different varieties extracted by solvent extraction methods. *Jurnal Teknologi*, 7(8): 6-12.
- Destiana, I.D., Romalasari, A. & Kurnia, N. 2021. The effects of extraction period toward anthocyanin levels of Blue Pea Vine (*Clitoria ternatea*) extract using maceration method. *EKSAKTA: Berkala Ilmiah Bidang MIPA*, 22(4): 284-293.
- Dhankhar, Poonam. & Hissar, T. 2014. Rice milling. *IOSR Journal Engginering*, 4(5): 34-42.
- Emwas, A.H.M., Al-Talla, Z.A., Yang, Y. & Kharbatia, N.M. 2015. Gas chromatography–mass spectrometry of biofluids and extracts. *Metabonomics: Methods and Protocols*, 7(11): 91-112.
- Gao, X., Chen, K., Chi, M. & Qin, K. 2020. Methyl esterification combined with gas chromatography-mass spectrometry (GC-MS) for determining the contents of lubricant to evaluate the compatibility of chlorinated butyl rubber stoppers with liposome injections. *International Journal of Analytical Chemistry*,

2020: 1-9.

- Garba, U., Singanusong, R., Jiamyangyuen, S. & Thongsook, T. 2017. Extraction and utilization of rice bran oil: A review. *Safety*, 17:24.
- Ghasemzadeh, A., Karbalaii, M.T., Jaafar, H.Z. & Rahmat, A. 2018. Phytochemical constituents, antioxidant activity, and antiproliferative properties of black, red, and brown rice bran. *Chemistry Central Journal*, 12(1): 1-13.
- Goffman, F.D., Pinson, S. & Bergman, C. 2003. Genetic diversity for lipid content and fatty acid profile in rice bran. *Journal of the American Oil Chemists' Society*, 80(5):485-490.
- Goufo, P. & Trindade, H. 2014. Rice antioxidants: phenolic acids, flavonoids, anthocyanins, proanthocyanidins, tocopherols, tocotrienols, γ -oryzanol, and phytic acid. *Food science & nutrition*, 2(2): 75-104.
- Hashem, E.Z., Khodadadi, M., Asadi, F., Koohi, M.K., Eslami, M., Hasani-Dizaj, S. & Zadeh, R.T. 2016. The Antioxidant Activity of Palmitoleic Acid on the Oxidative Stress Parameters of Palmitic Acid in Adult Rat Cardiomyocytes. *Annals of Military and Health Sciences Research*, 14(3): 1-6
- Hayati, E.K., Ningsih, R. & Latifah, L. 2015. Antioxidant activity of flavonoid from Rhizome *Kaemferia galanga* L. Extract. *ALCHEMY: Journal of Chemistry*, 4(2): 127-137.
- Henry, G.E., Momin, R.A., Nair, M.G. & Dewitt, D.L. 2002. Antioxidant and cyclooxygenase activities of fatty acids found in food. *Journal of Agricultural and Food Chemistry*, 50(8): 2231-2234.
- Hotmian, E., Suoth, E., Fatimawali, F. & Tallei, T. 2021. Analisis GC-MS (*Gas Chromatography-Mass Spectrometry*) ekstrak metanol dari umbi Rumpun Teki (*Cyperus rotundus* L.). *Pharmakon*, 10(2): 849-856.
- Ibrahim, N.I. & Mohamed, N. I. 2021. Interdependence of anti-inflammatory and antioxidant properties of squalene—implication for Cardiovascular Health. *Life*, 11(2): 103.
- Irawan, A. 2019. Kalibrasi spektrofotometer sebagai penjaminan mutu hasil pengukuran dalam kegiatan penelitian dan pengujian. *Indonesian Journal of Laboratory*, 1(2): 1-9.
- ITIS. 2023. *Oryza sativa* L. Retrieved on 7 May 2023, from the Integrated Taxonomic Information System online database. https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=41976#null
- Ito, V. C., & Lacerda, L. G. 2019. Black rice (*Oryza sativa* L.): A review of its historical aspects, chemical composition, nutritional and functional properties, and applications and processing technologies. *Food Chemistry*, 30(1):125304.
- Jacoeb, A.M., Suptijah, P. & Kamila, R. 2014. Kandungan asam lemak, kolesterol, dan deskripsi jaringan daging belut segar dan rebus. *JPHPI*, 17(2): 134-143.
- Khoo, H.E., Azlan, A., Tang, S.T. & Lim, S.M. 2017. Anthocyanidins and anthocyanins: Colored pigments as food, pharmaceutical ingredients, and the potential health benefits. *Food & nutrition research*, 61(1): 1361779.
- Kristamtini, Endang W. Wiranti, & Sutarno. 2018. Variasi warna dan kandungan antosianin varietas lokal beras hitam Yogyakarta pada dua ketinggian. *Bul. Plasma Nutrafah*, 24(2):99–106
- Kurniasih, N.S., Susandarini, R., Susanto, F.A., Nuringtyas, T.R., Jenkins, G., & Purwestri, Y.A. 2019. Characterization of Indonesian pigmented rice

- (*Oryza sativa*) based on morphology and Single Nucleotide Polymorphisms. *Biodiversitas Journal of Biological Diversity*, 20(4):1208-1214.
- Lobo, V., Patil, A., Phatak, A. & Chandra, N. 2010. Free radicals, antioxidants and functional foods: Impact on human health. *Pharmacognosy reviews*, 4(8): 118.
- Luthfianto, D., Noviyanti, R.D., Gz, S., Kurniawati, I. & TP, S. 2019. *Mengontrol Gula Darah dengan Bekatul*. 1st ed. AE MEDIA GRAFIKA Press. Surakarta
- Mahasuari, N.P.S., Paramita, N.L.P.V. & Putra, A.G.R.Y. 2020. Effect of methanol concentration as a solvent on total phenolic and flavonoid content of beluntas leaf extract (*Pulchea indica* L.). *Journal of Pharmaceutical Science and Application*, 2(2): 77.
- Mariana, E., Cahyono, E., Rahayu, E. F., & Nurcahyo, B. 2018. Validasi metode penetapan kuantitatif metanol dalam urin menggunakan Gas Chromatography-Flame Ionization Detector. *Indonesian Journal of Chemical Science*, 7(3):277-284.
- Micera, M., Botto, A., Geddo, F., Antoniotti, S., Berteà, C.M., Levi, R., Gallo, M.P. & Querio, G., 2020. Squalene: More than a step toward sterols. *Antioxidants*, 9(8): 688.
- Moko EM, Purnomo, H., Kusnadi J., & Ijong F.G. 2014. Phytochemical content and antioxidant properties of colored and non colored varieties of rice bran from Minahasa, North Sulawesi, Indonesia. *Int Food Res*, 21(3):1053.
- Muaja, M.G., Runtuwene, M.R. & Kamu, V.S. 2017. Aktivitas antioksidan ekstrak metanol dari Daun Soyogik (*Saurauia bracteosa* DC.). *Jurnal Ilmiah Sains*, 17(1): 68-72.
- Nelfiyanti, N., Nugrahani, R. A., & Fitriyah, N. H. 2020. Analisis nilai tambah pengolahan dedak padi menjadi defatted dan minyak. *JISI: Jurnal Integrasi Sistem Industri*, 7(1):41-47.
- Nugroho, A. 2017. *Teknologi Bahan Alam*. 1st ed. Universitas Lambung Mangkurat Press. Banjarmasin.
- Pan, J. H., Peng, C. Y., Lo, C. T., Dai, C. Y., Wang, C. L., & Chuang, H. Y. 2017. n-Hexane intoxication in a Chinese medicine pharmaceutical plant: a case report. *Journal of medical case reports*, 11(1):1-7.
- Parikh, B. & Patel, V.H. 2018. Total phenolic content and total antioxidant capacity of common Indian pulses and split pulses. *Journal of food science and technology*, 55: 1499-1507.
- Patel, K., Panchal, N. & Ingle, P. 2019. Review of extraction techniques. *International Journal of Advanced Research in Chemical Science*, 6(3): 6-21.
- Patria, D.G., Sukanto., & Sumarji. 2021. *Rice Science and Technology (Ilmu dan Teknologi Beras)*. 1 st Edition. Literasi Nusantara. Malang.
- Pham-Huy, L.A., He, H. & Pham-Huy, C. 2008. Free radicals, antioxidants in disease and health. *International journal of biomedical science: IJBS*, 4(2): 89.
- PubChem. 2023. PubChem Compound Summary for CID 5366244, 3,7,11,15-Tetramethyl-2-hexadecen-1-OL. Retrieved on 8 May 2023, from https://pubchem.ncbi.nlm.nih.gov/compound/3_7_11_15-Tetramethyl-2-hexadecen-1-OL
- PubChem. 2023. PubChem Compound Summary for CID 10446, Neophytadiene. Retrieved on 8 May 2023, from <https://pubchem.ncbi.nlm.nih.gov/compound/Neophytadiene>.

- PubChem. 2023. PubChem Compound Summary for CID 8058, n-HEXANE. Retrieved July 2, 2023 from <https://pubchem.ncbi.nlm.nih.gov/compound/n-HEXANE>.
- PubChem. 2023. PubChem Compound Summary for CID 8857, Ethyl Acetate. Retrieved July 13, 2023 from <https://pubchem.ncbi.nlm.nih.gov/compound/Ethyl-Acetate>.
- PubChem. 2023. PubChem Compound Summary for CID 887, Methanol. Retrieved July 2, 2023 from <https://pubchem.ncbi.nlm.nih.gov/compound/Methanol>.
- Rahmayani, U., Pringgenies, D. & Djunaedi, A., 2013. Uji aktivitas antioksidan ekstrak kasar keong bakau (*Telescopium telescopium*) dengan pelarut yang berbeda terhadap metode DPPH (*diphenyl picril hidrazil*). *Journal of Marine Research*, 2(4): 36-45.
- Raman, B.V., Samuel, L.A., Saradhi, M.P., Rao, B.N., Krishna, N.V., Sudhakar, M. & Radhakrishnan, T.M. 2012. Antibacterial, antioxidant activity and GC-MS analysis of *Eupatorium odoratum*. *Asian Journal of Pharmaceutical and Clinical Research*, 5(2): 99-106.
- Ridho, A. E. 2013. *Uji aktivitas antioksidan ekstrak metanol buah lakum (Cayratia trifolia) dengan metode DPPH (2, 2-Difenil-1-Pikrilhidrazil)*. Skripsi. Universitas Tanjungpura. Pontianak.
- Roni, K.A. 2021. *Kimia Organik*. 1st ed. NoerFikri Press. Palembang
- Saifudin, A. 2014. *Senyawa Alam Metabolit Sekunder Teori, Konsep, dan Teknik Pemurnian*. Deepublish. Yogyakarta.
- Sanger, G., Dotulong, V. & Damongilala, L.J. 2022. Isolasi Asam Lemak dan Kadar Pigmen Rumput Laut Cokelat *Sargassum crassifolium* sebagai Sumber Antioksidan Alami. *Jurnal Pengolahan Hasil Perikanan Indonesia*, 25(3): 475-493.
- Santos, C.C.D.M.P., Salvadori, M.S., Mota, V.G., Costa, L.M., de Almeida, A.A.C., de Oliveira, G.A.L., Costa, J.P., de Sousa, D.P., de Freitas, R.M. & de Almeida, R.N. 2013. Antinociceptive and antioxidant activities of phytol in vivo and in vitro models. *Neuroscience Journal*, 2013: 1-9.
- Seo, C.S. & Shin, H.K. 2023. Quantitative analysis of eight compounds in traditional Korean medicine, Gongjindan using HPLC, UPLC-MS/MS, and GC-MS/MS systems. *Separations*, 10(4): 231.
- Sharma, N. 2014. Free radicals, antioxidants and disease. *Biology and Medicine*, 6(3): 1-6.
- Simamora, A.C.Y., Yusasrini, N.L.A. & Putra, I.N.K. 2021. Pengaruh jenis pelarut terhadap aktivitas antioksidan ekstrak daun tenggulun (*Protium javanicum* Burm. F) menggunakan metode maserasi. *Jurnal Ilmu Dan Teknologi Pangan*, 10(4): 681.
- Suhartati, T. 2017. *Dasar-dasar spektrofotometri UV-Vis dan spektrometri massa untuk penentuan struktur senyawa organik*. AURA press. Bandar Lampung
- Suhartono, E. 2016. *Toksisitas Oksigen Reaktif & Antioksidan di Bidang Kedokteran dan Kesehatan*. 1 st Edition. Gosyen Publishing. Yogyakarta.
- Supang, W., Ngamprasertsith, S., Sakdasri, W. & Sawangkeaw, R. 2022. Ethyl acetate as extracting solvent and reactant for producing biodiesel from spent coffee grounds: A catalyst-and glycerol-free process. *The Journal of Supercritical Fluids*, 18(6): 105586.

- Suryati, S., Ismail, A. & Afriyanti, A. 2017. Proses pembuatan minyak dedak padi (*Rice bran oil*) menggunakan metode ekstraksi. *Jurnal Teknologi Kimia Unimal*, 4(1): 37-45.
- Suttiarporn, P., Sookwong, P. & Mahatheeranont, S. 2016. Fractionation and identification of antioxidant compounds from bran of Thai black rice cv. Riceberry. *International Journal of Chemical Engineering and Applications*, 7(2):109.
- Syamsul, E.S., Anugerah, O. & Supriningrum, R. 2020. Penetapan Rendemen Ekstrak Daun Jambu Mawar (*Syzygium jambos* L. Alston) Berdasarkan Variasi Konsentrasi Etanol Dengan Metode Maserasi. *Jurnal Riset Kefarmasian Indonesia*, 2(3):147-157.
- Talebzadeh, S.L., Fatemi, H., Azizi, M., Kaveh, M., Salavati Nik, A., Szymanek, M. & Kulig, R. 2022. Interaction of different drying methods and storage on appearance, surface structure, energy, and quality of *Berberis vulgaris* var. asperma. *Foods*, 11(19): 3003.
- Tambun, R., Alexander, V. & Ginting, Y. 2021. Performance comparison of maceration method, soxhletation method, and microwave-assisted extraction in extracting active compounds from soursop leaves (*Annona muricata*): A review. In *IOP Conference Series: Materials Science and Engineering*. 1122(1): 1-7.
- Tesfaye, B. & Tefera, T. 2017. Extraction of essential oil from neem seed by using soxhlet extraction methods. *International Journal of Advanced Engineering, Management and Science*, 3(6): 239870.
- Truong, D.H., Nguyen, D.H., Ta, N.T.A., Bui, A.V., Do, T.H. & Nguyen, H.C. 2019. Evaluation of the use of different solvents for phytochemical constituents, antioxidants, and in vitro anti-inflammatory activities of *Severinia buxifolia*. *Journal of food quality*, 2019: 1-9.
- Wakeel, A., Jan, S.A., Ullah, I., Shinwari, Z.K. & Xu, M. 2019. Solvent polarity mediates phytochemical yield and antioxidant capacity of *Isatis tinctoria*. *PeerJ*, 7(7857): 1-19.
- Wang, N., Cui, X., Duan, Y., Yang, S., Wang, P., Saleh, A.S. & Xiao, Z. 2021. Potential health benefits and food applications of rice bran protein: Research advances and challenges. *Food Reviews International*: 1-24.
- Wicaksono, F. Y., Maxiselly, Y., Irwan, A. W., & Nurmala, T. 2018. Inisiasi budidaya padi hitam untuk produksi produk pangan eksklusif di desa Cileles kecamatan Jatinangor kabupaten Sumedang. *Dharmakarya*, 7(3): 180-184.
- Widyawati, P. S., Suteja, A. M., Suseno, T. I. P., Monica, P., Saputrajaya, W., & Liguori, C. 2014. Pengaruh perbedaan warna pigmen beras organik terhadap aktivitas antioksidan. *Agritech*, 34(4): 399-406.
- Wulansari, A.N., 2018. Alternatif cantigi ungu (*Vaccinium varigiaefolium*) sebagai Antioksidan. *Farmaka*, 16(2): 419-429.
- Yara-Varon, E., Fabiano-Tixier, A. S., Balcells, M., Canela-Garayoa, R., Bily, A., & Chemat, F. 2016. Is it possible to substitute hexane with green solvents for extraction of carotenoids? A theoretical versus experimental solubility study. *RSC advances*, 6(33): 27750-27759.
- Young, I. S., & Woodside, J. V. 2001. Antioxidants in health and disease. *Journal of clinical pathology*, 54(3): 176-186.

- Yuniati, A. & Rifai, R. 2019. Study of simple spectrophotometer design using LDR sensors based on arduino uno microcontroller. In *Journal of Physics: Conference Series*, IOP Publishing, 1153(1) : 1-6.
- Yunita, E. & Destasary, E.M. 2021. The effect Of different solvent extraction on chemical content and quercetin levels of Ketapang (*Terminalia cattapa* L.). *Jurnal Farmasi*, 2(1): 1-4.
- Zamzani, I. & Triadisti, N. 2021. Limpasu Pericarpium: an Alternative Source of Antioxidant From Borneo with Sequential Maceration Method. *Jurnal Profesi Medika: Jurnal Kedokteran Dan Kesehatan*, 15(1): 60-68.
- Zulaikhah, S.T. 2017. The role of antioxidant to prevent free radicals in the body. *Sains Medika*, 8(1): 39-45.