

DAFTAR PUSTAKA

- Abujazia, M. A., Muhammad, N., Shuid, A. N., & Soelaiman, I. N. (2012). The effects of virgin coconut oil on bone oxidative status in ovariectomised rat. *Evidence-Based Complementary and Alternative Medicine*, 2012(3), 837–845. <https://doi.org/10.1155/2012/525079>
- Adeyemi, W. J., Olayaki, L. A., Abdussalam, T. A., Toriola, A. P., Olowu, A. B., Yakub, A. J., & Raji, A. O. (2020). Investigation of the effects of dietary modification in experimental obesity: low dose of virgin coconut oil has a potent therapeutic value. *Biomedicine and Pharmacotherapy*, 126(March). <https://doi.org/10.1016/j.biopha.2020.110110>
- Agarwal, R. K. (2017). Extraction Processes of Virgin Coconut Oil. *MOJ Food Processing & Technology*, 4(2). <https://doi.org/10.15406/mojfpt.2017.04.00087>
- Agustine, D., Gumlilang, M., & Komalasari, N. (2021). The Effect of Yeast Starter Variations on the Quality of Virgin Coconut Oil (VCO) Using the Fermentation Method. *Helium: Journal of Science and Applied Chemistry*, 1(1), 1–6.
- Ahmad, J., Kontoleon, K. J., Al-Mulali, M. Z., Shaik, S., Ouni, M. H. El, & El-Shorbagy, M. A. (2022). Partial Substitution of Binding Material by Bentonite Clay (BC) in Concrete: A Review. *Buildings*, 12(5). <https://doi.org/10.3390/buildings12050634>
- Aljlil, S. A. (2020). Fabrication of bentonite–silica sand/suspended waste palm leaf composite membrane for water purification. *Membranes*, 10(10), 1–16. <https://doi.org/10.3390/membranes10100290>
- Alyaqoubi, S., Abdullah, A., Samudi, M., Abdullah, N., Addai, Z. R., & Musa, K. H. (2015). Study of antioxidant activity and physicochemical properties of coconut milk (pati santan) in Malaysia. *Journal of Chemical and Pharmaceutical Research*, 7(4).
- Ariyadi, R., Fatmawati, S., Syar, N. I., Nasir, M., Maulina, D., & Suhartono. (2021). Design of water purification polluted by heavy metal Fe with active charcoal media of palm oil and bamboo. *IOP Conference Series: Earth and Environmental Science*, 1796(1). <https://doi.org/10.1088/1742-6596/1796/1/012054>
- Azlin-Hasim, S., Siang, Q. L., Yusof, F., Zainol, M. K., & Yusof, H. M. (2019). Chemical composition and potential adulterants in coconut milk sold in Kuala Lumpur. *Malaysian Applied Biology*, 48(3), 27–34.
- Badan Pusat Statistik. (2020). *Produksi Tanaman Perkebunan* (pp. 1–2). <https://bps.go.id/indicator/54/132/1/produksi-tanaman-perkebunan.html>
- Badan Standarisasi Nasional. (2008). Minyak kelapa virgin (VCO). *Indonesia*, 1–28. <https://id.scribd.com/doc/189216092/SNI-7381-2008-Minyak-Kelapa-Virgin-VCO>
- Bandura, L., Panek, R., Madej, J., & Franus, W. (2021). Synthesis of zeolite-carbon composites using high-carbon fly ash and their adsorption abilities towards petroleum substances. *Fuel*, 283(October 2020). <https://doi.org/10.1016/j.fuel.2020.119173>
- Benaissa, Y., Addou, S., Dib, W., Benhatchi, S., Mehidi, A., Kheroua, O., & Saidi, D. (2019). Effect of in vitro hydrolysis on coconut milk digestibility. *Revue Francaise d'Allergologie*, 59(5), 380–384. <https://doi.org/10.1016/j.reval.2019.01.012>
- Bintang, M. and. (2021). *VIRGIN COCONUT OIL (VCO) : PEMBUATAN, KEUNGGULAN, PEMASARAN DAN POTENSI PEMANFAATAN PADA BERBAGAI PRODUK PANGAN Virgin Coconut Oil (VCO): Production, Advantages, and Potential Utilization in Various Food Products*. 2017.
- Borowski, G., Stępniewski, W., & Wójcik-Oliveira, K. (2017). Effect of starch binder on charcoal briquette properties. *International Agrophysics*, 31(4), 571–574. <https://doi.org/10.1515/intag-2016-0077>
- Budaraga, I. K., & Putra, D. P. (2021). Analysis antioxidant IC50 liquid smoke of cocoa skin with several purification methods. *IOP Conference Series: Earth and Environmental*

- Science*, 757(1). <https://doi.org/10.1088/1755-1315/757/1/012053>
- Bureau of Agriculture and Fisheries Standards. (2007). Philippine VCO standard. *Philippine National Standards*, 8.
- Cao, Z., Iskhakova, L., Sun, X., Tang, Z., & Dong, J. (2021). ZSM-5 Zeolite Nanosheet-Based Membranes on Porous Polyvinylidene Fluoride for High-Flux Desalination. *ACS Applied Nano Materials*, 4(3), 2895–2902. <https://doi.org/10.1021/acsanm.1c00046>
- Chen, K., Horstmeier, S., Nguyen, V. T., Wang, B., Crossley, S. P., Pham, T., Gan, Z., Hung, I., & White, J. L. (2020). Structure and Catalytic Characterization of a Second Framework Al(IV) Site in Zeolite Catalysts Revealed by NMR at 35.2 T. *Journal of the American Chemical Society*, 142(16), 7514–7523. <https://doi.org/10.1021/jacs.0c00590>
- Cheng, H., Huang, H. chong, Yang, M. fan, Yang, M. hui, Yan, H., Paniezai, S., Zheng, Z. Y., Zhang, Z., & Zhang, Z. li. (2022). Characterization of the remediation of chromium ion contamination with bentonite by terahertz time-domain spectroscopy. *Scientific Reports*, 12(1), 1–16. <https://doi.org/10.1038/s41598-022-15182-x>
- Chinoune, K., Bentaleb, K., Bouberka, Z., Nadim, A., & Maschke, U. (2016). Adsorption of reactive dyes from aqueous solution by dirty bentonite. *Applied Clay Science*, 123, 64–75. <https://doi.org/10.1016/j.clay.2016.01.006>
- da Silva Lima, R., & Block, J. M. (2019). Coconut oil: What do we really know about it so far? *Food Quality and Safety*, 3(2), 61–72. <https://doi.org/10.1093/fqsafe/fyz004>
- Dayrit, F. M., Tantengco, G. B., & Opao, P. G. M. (2022). Proposed Physicochemical Standards for the Identity and Quality Characteristics of Philippine Virgin Coconut Oil. *Philippine Journal of Science*, 151(4), 1301–1311.
- de Jesus, S. S., Ferreira, G. F., Wolf Maciel, M. R., & Maciel Filho, R. (2019). Biodiesel purification by column chromatography and liquid-liquid extraction using green solvents. *Fuel*, 235(May 2018), 1123–1130. <https://doi.org/10.1016/j.fuel.2018.08.107>
- Deen, A., Visvanathan, R., Wickramarachchi, D., Marikkar, N., Nammi, S., Jayawardana, B. C., & Liyanage, R. (2021). Chemical composition and health benefits of coconut oil: an overview. *Journal of the Science of Food and Agriculture*, 101(6), 2182–2193. <https://doi.org/10.1002/jsfa.10870>
- Dimzon, I. K. D., Tantengco, G. B., Oquendo, N. A., & Dayrit, F. M. (2021). *Profile of Volatile Organic Compounds (VOCs) from Cold-Processed and Heat-Treated Virgin Coconut Oil (VCO) Samples*. 85. https://doi.org/10.3390/foods_2020-07723
- Direktorat Jenderal Perkebunan. (2019). Statistik Perkebunan Indonesia Komoditas Kelapa Tahun. *Sekretariat Direktorat Jenderal Perkebunan*. www.ditjenbun.pertanian.go.id
- Diyanna, N., Yusof, M., Anwar, W., & Wan, F. (2019). Differences in total yield and physicochemical attributes of virgin coconut oil from coconut milk demulsification using direct heating and microwave heating. *Journal of Agrobiotechnology*, 10(101), 35–45.
- Djomdi, Leku, M. T., Djoulde, D., Delattre, C., & Michaud, P. (2020). Purification and valorization of waste cotton seed oil as an alternative feedstock for biodiesel production. *Bioengineering*, 7(2), 1–9. <https://doi.org/10.3390/bioengineering7020041>
- Duangchuen, J., Pathaveerat, S., Noypitak, S., & Jermwongruttanachai, P. (2021). Effect of spray drying air temperature to the changes of properties of skimmed coconut milk powder. *Applied Science and Engineering Progress*, 14(2), 187–195. <https://doi.org/10.14416/j.asep.2020.04.009>
- Eden, W. T., Alighiri, D., Cahyono, E., Supardi, K. I., & Wijayati, N. (2018). Fractionation of Java Citronella Oil and Citronellal Purification by Batch Vacuum Fractional Distillation. *IOP Conference Series: Materials Science and Engineering*, 349(1). <https://doi.org/10.1088/1757-899X/349/1/012067>
- El Maataoui, Y., El M'rabet, M., Maaroufi, A., & Dahchour, A. (2019). Spiramycin adsorption behavior on activated bentonite, activated carbon and natural phosphate in aqueous

- solution. *Environmental Science and Pollution Research*, 26(16), 15953–15972. <https://doi.org/10.1007/s11356-019-05021-4>
- Famurewa, A. C., Maduagwuna, E. K., Folawiyo, A. M., Besong, E. E., Eteudo, A. N., Famurewa, O. A., & Ejiezie, F. E. (2020). Antioxidant, anti-inflammatory, and antiapoptotic effects of virgin coconut oil against antibiotic drug gentamicin-induced nephrotoxicity via the suppression of oxidative stress and modulation of iNOS/NF- κ B/caspase-3 signaling pathway in Wistar rats. *Journal of Food Biochemistry*, 44(1), 1–10. <https://doi.org/10.1111/jfbc.13100>
- Fitri, R. A., Wirakusuma, A., Fahrina, A., Roil Bilad, M., & Arahman, N. (2019). Adsorption performance of low-cost Java plum leaves and guava fruits as natural adsorbents for removal of free fatty acids from coconut oil. *International Journal of Engineering, Transactions A: Basics*, 32(10), 1372–1378. <https://doi.org/10.5829/ije.2019.32.10a.06>
- Garofalo, E., Scarfato, P., Di Maio, L., Protopapa, A., & Incarnato, L. (2021). Zeolites as effective desiccants to solve hygroscopicity issue of post-consumer mixed recycled polyolefins. *Journal of Cleaner Production*, 295, 126379. <https://doi.org/10.1016/j.jclepro.2021.126379>
- Grand, J., Talapaneni, S. N., Vicente, A., Fernandez, C., DiB, E., Aleksandrov, H. A., Vayssilov, G. N., Retoux, R., Boullay, P., Gilson, J. P., Valtchev, V., & Mintova, S. (2017). One-pot synthesis of silanol-free nanosized MFI zeolite. *Nature Materials*, 16(10), 1010–1015. <https://doi.org/10.1038/nmat4941>
- Harti, L. B., Suprihati, S., & Kristina, T. N. (2018). Virgin Coconut Oil (VCO) treatment to reduce the level of LOX-1 and Lp-PLA2: Experimental study of high-fat diet on wistar rats. *International Food Research Journal*, 25(5), 1925–1929.
- Herliana, Ilim, Simanjuntak, W., & Pandiangan, K. D. (2021). Transesterification of coconut oil (*Cocos nucifera L.*) into biodiesel using zeolite-A catalyst based on rice husk silica and aluminum foil. *Journal of Physics: Conference Series*, 1751(1). <https://doi.org/10.1088/1742-6596/1751/1/012091>
- Hijikata, T., Koyama, T., Aikyo, Y., Shimura, S., & Kawanishi, M. (2021). Strontium adsorption characteristics of natural Zeolites for permeable reactive barrier in Fukushima Daiichi nuclear power station. *Journal of Nuclear Science and Technology*, 58(10), 1079–1098. <https://doi.org/10.1080/00223131.2021.1911871>
- Indriati Nasution, H., Zubir, M., Jasmidi, J., Maharani, M., Gazali Sofwan, A., & Layla Sihombing, J. (2019). Preparation and Activation of Sarulla Natural Zeolites as an Adsorbent in Purification Process of Crude Palm Oil. *Oriental Journal of Chemistry*, 35(2), 705–710. <https://doi.org/10.13005/ojc/350228>
- Ishaq, M., Sultan, S., Ahmad, I., Ullah, H., Yaseen, M., & Amir, A. (2017). Adsorptive desulfurization of model oil using untreated, acid activated and magnetite nanoparticle loaded bentonite as adsorbent. *Journal of Saudi Chemical Society*, 21(2), 143–151. <https://doi.org/10.1016/j.jscs.2015.02.003>
- Ivanova, M., Hangau, A., Dumitriu, R., Tociu, M., Ivanov, G., Stavarache, C., Popescu, L., Ghendov-Mosanu, A., Sturza, R., Deleanu, C., & Chira, N. A. (2022). Saponification Value of Fats and Oils as Determined from ^1H -NMR Data: The Case of Dairy Fats. *Foods*, 11(10), 1–13. <https://doi.org/10.3390/foods11101466>
- Jelonek, Z., Drobniak, A., Mastalerz, M., & Jelonek, I. (2020). Environmental implications of the quality of charcoal briquettes and lump charcoal used for grilling. *Science of the Total Environment*, 747, 141267. <https://doi.org/10.1016/j.scitotenv.2020.141267>
- Joshi, S., Kaushik, V., Gode, V., & Mhaskar, S. (2020). Coconut Oil and Immunity: What do we really know about it so far? *The Journal of the Association of Physicians of India*, 68(7), 67–72.
- Jun, K. C., Abdul Raman, A. A., & Buthiyappan, A. (2020). Treatment of oil refinery effluent

- using bio-adsorbent developed from activated palm kernel shell and zeolite. *RSC Advances*, 10(40), 24079–24094. <https://doi.org/10.1039/d0ra03307c>
- Kane, S. N., Mishra, A., & Dutta, A. K. (2016). Preface: International Conference on Recent Trends in Physics (ICRTP 2016). *Journal of Physics: Conference Series*, 755(1). <https://doi.org/10.1088/1742-6596/755/1/011001>
- Kaoud, R. M., Khalaf, A. H., & Alkrad, J. A. (2021). Development of sustained release alogliptin tablets using a multiparticulates system made of bentonite. *International Journal of Applied Pharmaceutics*, 13(3), 68–73. <https://doi.org/10.22159/ijap.2021v13i3.40664>
- Kapteijn, F., & Wang, X. (2022). Zeolite Membranes – The Importance of Support Analysis. *Chemie-Ingenieur-Technik*, 94(1–2), 23–30. <https://doi.org/10.1002/cite.202100136>
- Karlina, M., Windayani, N., & Helsy, I. (2021). The comparison characteristics of fermented Virgin Coconut Oil (VCO) on kefir addition. *Journal of Physics: Conference Series*, 1869(1). <https://doi.org/10.1088/1742-6596/1869/1/012054>
- Khan, M., Sikdar, K., Saqueeb, N., Hossain, M., Ahmed, F., Faroque, A., & Sarkar, M. (2020). Quality evaluation and determination of heavy metal contents in palm oil. *Bangladesh Journal of Scientific and Industrial Research*, 55(4), 301–310. <https://doi.org/10.3329/bjsir.v55i4.50963>
- Khathir, R., Agustina, R., Hartuti, S., & Fahmi, Z. (2020). Improving fermented virgin coconut oil quality by using microwave heating. *IOP Conference Series: Earth and Environmental Science*, 425(1). <https://doi.org/10.1088/1755-1315/425/1/012068>
- Kindriari NW, Vp, R. W., Perdana, D., Kimia, J. T., Teknik, F., Pembangunan, U., & Veteran, N. (2020). *Hyperrreality in Avatar Film as a Form of Hegemony, Domination, and Capitalist Ideology in Facing Society 5.0.* 2020, 233–237. <https://doi.org/10.11594/nstp.2020.0537>
- Kurnianingsih, N. P. (2020). Adsorben Arang Aktif Tempurung Kelapa. *Agrisantifika Jurnal Ilmu-Ilmu Pertanian*, 4(231), 37–45.
- Laga, A., Djalal, M., Zainal, & Sitorus, R. Z. S. (2019). Variation of filter media type and thickness combination for coconut oil filtration. *IOP Conference Series: Earth and Environmental Science*, 343(1). <https://doi.org/10.1088/1755-1315/343/1/012074>
- Li, X., Wu, G., Yang, F., Meng, L., Huang, J., Zhang, H., Jin, Q., & Wang, X. (2019). Influence of fried food and oil type on the distribution of polar compounds in discarded oil during restaurant deep frying. *Food Chemistry*, 272, 12–17. <https://doi.org/10.1016/j.foodchem.2018.08.023>
- Lopez, M. A. A., Solas, G. B., & Yu, A. I. (2021). *The antiviral properties of a miracle oil (virgin coconut oil) from Cocos nucifera L.: a review.* 5(3), 5–19.
- Lupova, E. I., Pityurina, I. S., Vinogradov, D. V., & Ushakov, R. N. (2021). Comparative characteristics of quality indicators of nontraditional vegetable oil types. *IOP Conference Series: Earth and Environmental Science*, 624(1). <https://doi.org/10.1088/1755-1315/624/1/012170>
- Mahmodi, G., Dangwal, S., Zarrintaj, P., Zhu, M., Mao, Y., McIlroy, D. N., Reza Saeb, M., Vatanpour, V., Ramsey, J. D., & Kim, S. J. (2020). NaA zeolite-coated meshes with tunable hydrophilicity for oil-water separation. *Separation and Purification Technology*, 240, 116630. <https://doi.org/10.1016/j.seppur.2020.116630>
- Malaysian Standard MS 2043. (2007). Malaysian Standard Virgin coconut oil specification. *Departments of Standards Malaysia*, 2043, 2–3.
- Mangku, I. G. P., Udayana, I. G. B., Rudianta, I. N., & Upadani, G. A. W. (2021). The Innovation of Coconut Processing To Virgin Coconut Oil (VCO) Using of the Centrifugal Method. *International Academic Journal of Nutrition & Food Sciences*, 2(1), 22–27.
- Meisrilestari, Y., Khomaini, R., & Wijayanti, H. (2013). Pembuatan Arang Aktif Dari

- Cangkang Kelapa Sawit Dengan Aktivasi Secara Fisika, Kimia Dan Fisika-Kimia. *Konversi*, 2(1), 45. <https://doi.org/10.20527/k.v2i1.136>
- Mohd Saad, F. N., Jamaludin, S. Z. A., & Tengku Izhar, T. N. (2021). Investigation of using sand filter in treating grey water. *IOP Conference Series: Earth and Environmental Science*, 646(1). <https://doi.org/10.1088/1755-1315/646/1/012056>
- Mulyadi, A. F., Schreiner, M., & Dewi, I. A. (2018). Phenolic and volatile compounds, antioxidant activity, and sensory properties of virgin coconut oil: Occurrence and their relationship with quality. *AIP Conference Proceedings*, 2021(2018). <https://doi.org/10.1063/1.5062818>
- Mulyadi, A. F., Schreiner, M., & Dewi, I. A. (2019). An overview of factors that affected in quality of virgin coconut oil. *AIP Conference Proceedings*, 2120(July 2019). <https://doi.org/10.1063/1.5115683>
- Mutar, R. F., & Saleh, M. A. (2022). Optimization of arsenic ions adsorption and removal from hospitals wastewater by nano-bentonite using central composite design. *Materials Today: Proceedings*, 60(xxxx), 1248–1256. <https://doi.org/10.1016/j.matpr.2021.08.213>
- Nadia, A., Subekti, S., Manan, A., & Wahyudin, P. (2020). The effectiveness of activated carbon as adsorbent in the oil purification process fish by-product of the fish canning industry. *IOP Conference Series: Earth and Environmental Science*, 441(1). <https://doi.org/10.1088/1755-1315/441/1/012151>
- Neela Satheesh, & N. B. L. Prasad. (2012). Optimization of Parameters for Fermentative Production of Virgin Coconut Oil by Lactobacillus fermentum NDRI 141. *Journal of Food Science and Engineering*, 2(1). <https://doi.org/10.17265/2159-5828/2012.01.006>
- Ola, P. D., & Taus, E. (2020). *Chemistry Department Nusa Cendana University*. 1(2), 11–20.
- Olateru, C. T., Popoola, B. M., Alagbe, G. O., & Ajao, O. (2020). Lactic acid bacteria fermentation of coconut milk and its effect on the nutritional, phytochemical, antibacterial and sensory properties of virgin coconut oil produced. *African Journal of Biotechnology*, 19(6), 362–366. <https://doi.org/10.5897/ajb2020.17102>
- Oliveira, R. L., Vieira, J. G., Barud, H. S., Assunção, R. M. N., Filho, G. R., Ribeiro, S. J. L., & Messadeqq, Y. (2015). Synthesis and characterization of methylcellulose produced from bacterial cellulose under heterogeneous condition. *Journal of the Brazilian Chemical Society*, 26(9), 1861–1870. <https://doi.org/10.5935/0103-5053.20150163>
- Parfene, G., Horincar, V., Tyagi, A. K., Malik, A., & Bahrim, G. (2013). Production of medium chain saturated fatty acids with enhanced antimicrobial activity from crude coconut fat by solid state cultivation of *Yarrowia lipolytica*. *Food Chemistry*, 136(3–4), 1345–1349. <https://doi.org/10.1016/j.foodchem.2012.09.057>
- Parlindungan, J. Y., Hitijahubessy, H., Pongkendek, J. J., Sumanik, N. B., & Rettob, A. L. (2020). Increasing the quality of virgin coconut oil (vco) using activated carbon adsorbent from candlenut shell (*Aleurites mollucana*). *Journal of Physics: Conference Series*, 1569(4). <https://doi.org/10.1088/1742-6596/1569/4/042049>
- Patil, U., & Benjakul, S. (2018). Coconut Milk and Coconut Oil: Their Manufacture Associated with Protein Functionality. *Journal of Food Science*, 83(8), 2019–2027. <https://doi.org/10.1111/1750-3841.14223>
- Patil, U., & Benjakul, S. (2019). Comparative study on extraction of virgin coconut oil with the aid of partially purified protease from seabass pyloric caeca and commercial trypsin. *Journal of Food Biochemistry*, 43(11), 1–9. <https://doi.org/10.1111/jfbc.13024>
- Pitrianingsih, U., Nugrahani, R. A., Hendrawati, T. Y., & Fithriyah, N. H. (2021). Formulation of Virgin Coconut Oil (VCO) from Centrifugation and Spontaneous Fermentation Processes with Rice Bran Oil (RBO) for a Food Supplement. *Proceedings of the 2nd Borobudur International Symposium on Science and Technology (BIS-STE 2020)*, 203, 519–524. <https://doi.org/10.2991/aer.k.210810.089>

- Pujo, J., De Palma, G., Lu, J., Collins, S. M., & Bercik, P. (2020). Su1234 THE INFLUENCE OF SEX AND THE GUT MICROBIOTA ON VISCERAL SENSITIVITY IN MICE. *Gastroenterology*, 158(6), S-553. [https://doi.org/10.1016/s0016-5085\(20\)32082-5](https://doi.org/10.1016/s0016-5085(20)32082-5)
- Putra, I. S., & Serudji, J. (2021). The Effect of Giving Virgin Coconut Oil (VCO) to Changes in Lauric Acid Levels in Breast Milk. *Journal Obgin Emas*, 5(2), 233–243. <https://doi.org/10.25077/aoj.5.2.233-243.2021>
- Rahardjo, Y. P., & Firdaus, J. (2019). Accelerate of virgin coconut oil extraction using acidification methods in solar heater. *IOP Conference Series: Earth and Environmental Science*, 355(1). <https://doi.org/10.1088/1755-1315/355/1/012065>
- Rahmawati, S., Siti, N., & Kasmir, S. M. (2019). The used of protease from palado (Agave) roots, and palado leaf in the making process of virgin coconut oil (vco). *Materials Science Forum*, 967 MSF(Cmv), 123–131. <https://doi.org/10.4028/www.scientific.net/MSF.967.123>
- Rahmidar, L., Nurilah, I., & Sudiarty, T. (2018). Karakterisasi Metil Selulosa Yang Disintesis Dari Kulit Jagung (Zea Mays). *PENDIPA Journal of Science Education*, 2(1), 117–122. <https://doi.org/10.33369/pendipa.2.1.117-122>
- Ramesh, S. V., Pandiselvam, R., Thushara, R., Manikantan, M. R., Hebbar, K. B., Beegum, S., Mathew, A. C., Neenu, S., & Shil, S. (2020). Engineering intervention for production of virgin coconut oil by hot process and multivariate analysis of quality attributes of virgin coconut oil extracted by various methods. *Journal of Food Process Engineering*, 43(6), 1–10. <https://doi.org/10.1111/jfpe.13395>
- Saeidi, N., & Lotfollahi, M. N. (2015). A procedure to form powder activated carbon into activated carbon monolith. *International Journal of Advanced Manufacturing Technology*, 81(5–8), 1281–1288. <https://doi.org/10.1007/s00170-015-7311-z>
- Selvaraj, K. V., Bharathi, A., Sivakumar, V., Karthikeyan, A., & Maheswarappa, H. (2020). Virgin coconut oil: A nutraceutical and therapeutic food. *International Journal of Chemical Studies*, 8(3), 662–663. <https://doi.org/10.22271/chemi.2020.v8.i3h.9282>
- Shnaihej, K. T., Khaleel, S. F., & Sukkar, D. K. A. (2019). Preparation of Nano Silica particles by laboratory from Iraqi sand and added it to concrete to improve hardness specifications. *Journal of Petroleum Research and Studies*, 9(3), 36–58. <https://doi.org/10.52716/jprs.v9i3.313>
- Silalahi, J., Lida Karo Karo, Sinaga, S. M., & Yosy Cinthya Eriwaty Silalahi. (2018). Composition of Fatty Acid and Identification of Lauric Acid Position in Coconut and Palm Kernel Oils. *Indonesian Journal of Pharmaceutical and Clinical Research*, 1(2), 1–8. <https://doi.org/10.32734/idjpcr.v1i2.605>
- Simatupang, D. F., Tarigan, J., & Mansyur. (2020). The effect of active carbon adsorbents from some wastes in reducing free fatty acids and acid number to improve vco quality. *IOP Conference Series: Materials Science and Engineering*, 885(1), 6–11. <https://doi.org/10.1088/1757-899X/885/1/012011>
- Soo, P. P., Ali, Y., Lai, O. M., Kuan, C. H., Tang, T. K., Lee, Y. Y., & Phuah, E. T. (2020). Enzymatic and Mechanical Extraction of Virgin Coconut Oil. *European Journal of Lipid Science and Technology*, 122(5), 1–13. <https://doi.org/10.1002/ejlt.201900220>
- Srivastava, Y., Semwal, A. D., & Majumdar, A. (2016). Quantitative and qualitative analysis of bioactive components present in virgin coconut oil. *Cogent Food and Agriculture*, 2(1). <https://doi.org/10.1080/23311932.2016.1164929>
- Stan, C. (2001). *Codex standard for named vegetable oils*. 8, 11–25.
- Suharmadi, S. H., & Enjarlis, E. (2017). Pemurnian Virgin Coconut Oil Menggunakan Zeolit 3a Sebagai Bahan Baku Obat Kulit. *Jurnal Bahan Alam Terbarukan*, 5(2), 61–67. <https://doi.org/10.15294/jbat.v5i2.6467>
- Suryani, S., Sariani, S., Earnestly, F., Marganof, M., Rahmawati, R., Sevindrajuta, S., Indra

- Mahlia, T. M., & Fudholi, A. (2020). A comparative study of virgin coconut oil, coconut oil and palm oil in terms of their active ingredients. *Processes*, 8(4), 1–11. <https://doi.org/10.3390/PR8040402>
- Suryani, Sahumena, M. H., Mabilla, S. Y., Ningsih, S. R., Adjeng, A. N. T., Aswan, M., Ruslin, Yamin, & Nisa, M. (2020). Preparation and evaluation of physical characteristics of vitamin e nanoemulsion using virgin coconut oil (VCO) and olive oil as oil phase with variation concentration of tween 80 surfactant. *Research Journal of Pharmacy and Technology*, 13(7), 3232–3236. <https://doi.org/10.5958/0974-360X.2020.00572.7>
- Susanti, B., Warmadewanthi, I., & Tangahu, B. V. (2022). Characterization of Post-Mining Soil and Solid Waste from Silica Sand Purification. *Journal of Ecological Engineering*, 23(8), 277–289. <https://doi.org/10.12911/22998993/151145>
- Sya'bani, N. I., Hafid, M. A., & Putra, A. B. A. (2020). Effectiveness of Virgin Coconut Oil in The Provision of Injury Pressure Sores Stroke Patients: Systematic Review. *Journal Of Nursing Practice*, 3(2), 181–187. <https://doi.org/10.30994/jnp.v3i2.86>
- Syukur, S., Syafrizayanti, Ismet, M., Zulaiha, S., & Zulkifli. (2021). Probiotic research as highest antimicrobial Listeria monocytogenes from virgin coconut oil [VCO] Padang West Sumatra. *IOP Conference Series: Earth and Environmental Science*, 741(1). <https://doi.org/10.1088/1755-1315/741/1/012012>
- Tari, A. intan N., Cahyani, A., & Asmoro, N. W. (2021). Pengaruh Lama Fermentasi terhadap Rendemen dan Sifat Fisikokimia VCO (Virgin Coconut Oil). *Pro Food*, 7(1), 852–858. <https://doi.org/10.29303/profood.v7i1.188>
- Ullah, S., Hussain, S., Ahmad, W., Khan, H., Khan, K. I., Khan, S. U., & Khan, S. (2020). Desulfurization of Model Oil through Adsorption over Activated Charcoal and Bentonite Clay Composites. *Chemical Engineering and Technology*, 43(3), 564–573. <https://doi.org/10.1002/ceat.201900203>
- Umar, A. M., Ameh, E., Salifu, U., Jacob, A. D., & Onoja, F. O. (2020). Evaluation of physicochemical , antioxidant , proximate and nutritional values of virgin coconut oil (Cocus nucifera) . *Arabian Journal of Chemical and Environmental Research*, 07(02), 175–190. https://www.researchgate.net/publication/349760833_Evaluation_of_physicochemical_antioxidant_proximate_and_nutritional_values_of_virgin_coconut_oil_Cocus_nucifera
- Umar, W., Czinkota, I., Gulyás, M., Aziz, T., & Hameed, M. K. (2022). Development and characterization of slow release N and Zn fertilizer by coating urea with Zn fortified nano-bentonite and ZnO NPs using various binders. *Environmental Technology and Innovation*, 26(January), 102250. <https://doi.org/10.1016/j.eti.2021.102250>
- Varma, S. R., Sivaprakasam, T. O., Arumugam, I., Dilip, N., Raghuraman, M., Pavan, K. B., Rafiq, M., & Paramesh, R. (2019). In vitro anti-inflammatory and skin protective properties of Virgin coconut oil. *Journal of Traditional and Complementary Medicine*, 9(1), 5–14. <https://doi.org/10.1016/j.jtcme.2017.06.012>
- VH Putranto, E Kusumastuti, J. (2016). Pemanfaatan Zeolit Dari Abu Sekam Padi Dengan Aktivasi Asam Untuk Penurunan Kesadahan Air. *Jurnal MIPA*, 38(2), 150–159.
- Villarino, C. B. J., Basinang, A. R. P., Velasquez, M. M. M., Pagulayan, J. M. D., Ong, P. K. A., & Lizada, M. C. C. (2020). Descriptive Aroma Changes in Selected Philippine Virgin Coconut Oil (VCO) during Storage at Elevated Temperatures. *Proceedings*, 70(1), 111. https://doi.org/10.3390/foods_2020-07736
- Wachidah Yuiwarti, E. Y., Saraswati, T. R., & Kusdiyantini, E. (2018). Effect of VCO and olive oil on HDL, LDL, and cholesterol level of hyperglycemic Rattus Rattus Norvegicus. *Journal of Physics: Conference Series*, 1025(1). <https://doi.org/10.1088/1742-6596/1025/1/012064>
- Wahono, S. K., Stalin, J., Addai-Mensah, J., Skinner, W., Vinu, A., & Vasilev, K. (2020).

- Physico-chemical modification of natural mordenite-clinoptilolite zeolites and their enhanced CO₂ adsorption capacity. *Microporous and Mesoporous Materials*, 294, 109871. <https://doi.org/10.1016/j.micromeso.2019.109871>
- Wang, C., Guo, H., Yu, J., Feng, K., & Huang, J. (2021). Micro/nanostructural silica/alkali-treated natural zeolite coated fabrics for oil-water separation and heavy metal ions removal. *Microporous and Mesoporous Materials*, 327(August), 111430. <https://doi.org/10.1016/j.micromeso.2021.111430>
- Wu, X., Deng, X., & Zhang, Z. (2021). Application of nano purification materials in wastewater treatment. *IOP Conference Series: Earth and Environmental Science*, 692(3), 6–11. <https://doi.org/10.1088/1755-1315/692/3/032015>
- Yan, Y., Zeng, X., Yang, K., Zhou, P., Xu, S., Pi, P., Li, H., Fang, J., Wang, S., & Wen, X. (2021). Janus sand filter with excellent demulsification ability in separation of surfactant-stabilized oil/water emulsions: An experimental and molecular dynamics simulation study. *Journal of Hazardous Materials*, 418(January), 126346. <https://doi.org/10.1016/j.jhazmat.2021.126346>
- Yuliah, Y., Kartawidjaja, M., Suryaningsih, S., & Ulfie, K. (2017). Fabrication and characterization of rice husk and coconut shell charcoal based bio-briquettes as alternative energy source. *IOP Conference Series: Earth and Environmental Science*, 65(1). <https://doi.org/10.1088/1755-1315/65/1/012021>
- Zhang, B., Wang, Q., Wei, Y., Wei, W., Du, W., Zhang, J., Chen, G., & Slany, M. (2022). Preparation and Swelling Inhibition of Mixed Metal Hydroxide to Bentonite Clay. *Minerals*, 12(4). <https://doi.org/10.3390/min12040459>
- Zholobenko, V., Freitas, C., Jendrlin, M., Bazin, P., Travert, A., & Thibault-Starzyk, F. (2020). Probing the acid sites of zeolites with pyridine: Quantitative AGIR measurements of the molar absorption coefficients. *Journal of Catalysis*, 385, 52–60. <https://doi.org/10.1016/j.jcat.2020.03.003>
- Zhu, L., Ji, J., Wang, S., Xu, C., Yang, K., & Xu, M. (2018). Removal of Pb(II) from wastewater using Al₂O₃-NaA zeolite composite hollow fiber membranes synthesized from solid waste coal fly ash. *Chemosphere*, 206, 278–284. <https://doi.org/10.1016/j.chemosphere.2018.05.001>
- Zhu, S., Xu, L., Yang, S., Zhou, X., Chen, X., Dong, B., Bai, X., Lu, G., & Song, H. (2020). Cobalt-doped ZnO nanoparticles derived from zeolite imidazole frameworks: Synthesis, characterization, and application for the detection of an exhaled diabetes biomarker. *Journal of Colloid and Interface Science*, 569, 358–365. <https://doi.org/10.1016/j.jcis.2020.02.081>