

DAFTAR PUSTAKA

- Affandi, R., Heltonika, B. dan Supriatna, I., 2011. Perubahan morfo-anatomi dan penyimpanan energi pada fase perkembangan gonad ikan senggaringan, *Mystus gulio* (Valenciennes, 1840) di Sungai Klawing Purbalingga, Jawa Tengah [Morpho-anatomical changes and energy storage during gonadal development of twospots catfish, *Mystus gulio* (Valenciennes, 1840) in Klawing River, Purbalingga, Central Java]. *Jurnal Iktiologi Indonesia*, 11(2), pp.195-200.
- Agustina, S., Purwanto, Y.A. and Budiastira, I.W., 2015. Prediksi kandungan kimia mangga arumanis selama penyimpanan dengan Spektroskopi NIR. *Jurnal Keteknik Pertanian*.
- Aleksandrova, K., Pounis, G., di Giuseppe, R., 2019. Diet, Healthy Aging, and Cognitive Function, in: *Analysis in Nutrition Research*. Elsevier, pp. 321–336. <https://doi.org/10.1016/B978-0-12-814556-2.00012-9>
- Ayu, D.F., Diharmi, A., 2019. Karakteristik Minyak Ikan dari Lemak Abdomen Hasil Sampling 22.
- Azhar, R., Aprilian, S.A., Jannah, R., Kusumaningrum, S. and Firdayani, F., 2019, December. Pengembangan dan Validasi Analisis Kuantitatif Natrium Seftriakson dengan Menggunakan Metode FTIR-ATR. In *Pertemuan dan Presentasi Ilmiah Standardisasi* (Vol. 2019, pp. 83-90). Badan Standardisasi Nasional.
- Bako, T., Umogbai, V.I., Awulu, J.O., 2017. Criteria for the extraction of fish oil 19.
- Banani, R., Youssef, S., Bezzarga, M., Abderrabba, M., 2015. Waste Frying Oil with High Levels of Free Fatty Acids as one of the prominent sources of Biodiesel Production.
- Broadhurst, C.L., Schmidt, W.F., Nguyen, J.K., Qin, J., Chao, K., Kim, M.S., 2018. Gradient Temperature Raman Spectroscopy of Fatty Acids with One to Six Double Bonds Identifies Specific Carbons and Provides Systematic Three Dimensional Structures. *J. Biophys. Chem.* 09, 1–14. <https://doi.org/10.4236/jbpc.2018.91001>
- Bro, R., 2003. Multivariate calibration: what is in chemometrics for the analytical chemist?. *Analytica Chimica Acta*, 500(1-2), pp.185-194.
- Chapman, K.W., Lapidus, S.H., Chupas, P.J., 2015. Applications of principal component analysis to pair distribution function data. *J. Appl. Crystallogr.* 48, 1619–1626. <https://doi.org/10.1107/S1600576715016532>
- Ciurczak, E.W., Igne, B., Workman Jr, J. and Burns, D.A. eds., 2021. *Handbook of near-infrared analysis*. CRC press.
- Christie, W.W. and Harwood, J.L., 2020. Oxidation of polyunsaturated fatty acids to produce lipid mediators. *Essays in biochemistry*. <https://doi.org/10.1016/j.chemosphere.2021.133401>
- Dari, D.W., Astawan, M., Suseno, S.H., 2018. Characteristics of Sardin Fish Oil (*Sardinella sp.*) Resulted from Stratified Purification. *J. Pengolah. Has. Perikan. Indones.* 20, 456. <https://doi.org/10.17844/jphpi.v20i3.19766>

- Darmawan, S., 2006. Pembuatan Minyak Kemiri dan Pemurniannya dengan Arang Aktif dan Bentonit. *Jurnal Penelitian Hasil Hutan*.
- Djamal, R., 2010. *Kimia Bahan Alam: Prinsip-Prinsip Dasar Isolasi Dan Identifikasi*. Universitas Baiturrahmah, Padang.
- Djuricic, I., Calder, P.C., 2021. Beneficial Outcomes of Omega-6 and Omega-3 Polyunsaturated Fatty Acids on Human Health: An Update for 2021. *Nutrients* 13, 2421. <https://doi.org/10.3390/nu13072421>
- Endro Suseno, J. and Firdausi, K.S., 2008. Rancang bangun spektroskopi FTIR (*Fourier Transform Infrared*) untuk penentuan kualitas susu sapi. *Berkala Fisika*.
- Feryana, I.W.K. and Suseno, S.H., 2014. Refining of Mackerel Fish Oil from Fish Meal Processing Byproduct with Alkali Neutralization. *Jurnal Pengolahan Hasil Perikanan Indonesia*, 17(3).
- Forch, R., Schonherr, H., dan Jenkins, A.T. 2009. Appendix E: Fourier Transform Infrared Spectroscopy, *Surface Design: Applications in Bioscience and Nanotechnology*, pp, 476–478.
- Gemperline, P., 2006. *Practical guide to chemometrics*. CRC press.
- Guntarti, A., 2018. Authentication of Dog Fat With Gas Chromatography-Mass Spectroscopy Combined With Chemometrics. *Int. J. Chem.* 10, 124. <https://doi.org/10.5539/ijc.v10n4p124>
- Guntarti, A., Gandjar, I.G. and Jannah, N.M., 2020. AUTHENTICATION OF WISTAR RAT FATS WITH GAS CHROMATOGRAPHY MASS SPECTROMETRY COMBINED BY CHEMOMETRICS. *Slovak Journal of Food Sciences*, 14.
- Guntarti, A., Rohman, A., Martono, S., dan Yuswanto, A., 2016, Autentikasi Lemak Celeng Dengan Kromatografi Gas-Spektroskopi Massa Yang Dikombinasikan Kemometrika PCA (Principle Component Analysis), *Rakernas dan Pertemuan Ilmiah Tahunan Ikatan Apoteker Indonesia*, 57-63.
- Gunstone, F.D., 2011. Supplies of vegeTabel oils for non-food purposes. *European journal of lipid science and technology*, 113(1), pp.3-7.
- Gustiano, R., Prakoso, V.A., Ath-thar, M.H.F., 2018. ASIAN CATFISH GENUS Pangasius: DIAGNOSIS AND DISTRIBUTION. *Indones. Fish. Res. J.* 24, 99. <https://doi.org/10.15578/ifrj.24.2.2018.99-115>
- Herawati, T., Safitri, M.N., Junianto, J., Hamdani, H., Yustiati, A., Nurhayati, A., 2021. Karakteristik Morfometrik dan Pola Pertumbuhan Ikan Keting [*Mystus gulio* (Valenciennes 1840)] di Hilir Sungai Cimanuk Provinsi Jawa Barat. *Zoo Indones.* 30. <https://doi.org/10.52508/zi.v30i1.4057>
- Horwitz, W. 2000. Official methods of analysis of AOAC International, AOAC Official Methods of Analysis, Gaithersburg, MD, USA.
- Horwitz, W. 2002. Official methods of analysis of AOAC International, 17th ed, AOAC International, Gaithersburg, MD, USA.
- Horwitz, W. 2005. Official methods of analysis of AOAC International, 18th Ed., AOAC International, Gaithersburg, MD, USA.
- Huli, L.O., Suseno, S.H. and Santoso, J., 2014. Kualitas minyak ikan dari kulit ikan swangi.

- Iberahim, N.I., Hamzah, Z., Yin, Y.J., Sohaimi, K.S.A., 2018. Extraction and Characterization of Omega-3 Fatty Acid from Catfish Using Enzymatic Hydrolysis Technique. MATEC Web Conf. 187, 01005. <https://doi.org/10.1051/mateconf/201818701005>
- IFOS, 2011. *Fish Oil Purity Standards*, [Online], (Http://Www.Omegavia.Com/Best-Fish_oilsupplement-3/), International Fish Oil Standard. diakses online tanggal 1 September 2022.
- Idrus, R., Lapanporo, B.P. and Putra, Y.S., 2013. Pengaruh suhu aktivasi terhadap kualitas karbon aktif berbahan dasar tempurung kelapa. Prisma Fisika.
- Ifa, L., Wiyani, L., Nurdjannah, N., Ghalib, A.M.T., Ramadhaniar, S. and Kusuma, H.S., 2021. Analysis of bentonite performance on the quality of refined crude palm oil's color, free fatty acid and carotene: the effect of bentonite concentration and contact time. *Heliyon*, 7(6), p.e07230.
- Ikhsan, M., Muhsin, M., Patang, P., 2018. PENGARUH VARIASI SUHU PENDINGIN TERHADAP MUTU DENDENG IKAN LELE DUMBO (*Clarias gariepinus*). J. Pendidik. Teknol. Pertan. 2, 114. <https://doi.org/10.26858/jptp.v2i2.5166>
- Irnawati, I., Sugeng, R., Sudibyo, M., Abdul, R., 2021. The employment of FTIR spectroscopy and chemometrics for the classification and prediction of antioxidant activities of pumpkin seed oils from different origins. J. Appl. Pharm. Sci. <https://doi.org/10.7324/JAPS.2021.110514>
- Indah, I., Rohman, A. and Lestari, L.A., 2022. Physicochemical Characterization Patin Fish Oil (*Pangasius micronema*) Is Refined Using Bentonite and Activated Carbon. *Journal of Food and Pharmaceutical Sciences*, pp.626-633.
- Ivanovs, K., Blumberga, D., 2017. Extraction of fish oil using green extraction methods: a short review. Energy Procedia 128, 477–483. <https://doi.org/10.1016/j.egypro.2017.09.033>
- Iwo, A., 2019. Potensi Minyak Ikan dari Jeroan Ikan Patin (The Potential of Fish Oil Production from Catfish Viscera). *Jurnal Penelitian dan Pengembangan Agrokompleks*, pp.86-91.
- Kadir, S., 2021. Nutritional needs of fish to prevent stunting in early childhood. *Journal of Xi'an Shiyu University, Natural Science Edition*. ISSN. Kadir, S.(2021). *Nutritional needs of fish to prevent stunting in early childhood. Journal of Xi'an Shiyu University, Natural Science Edition*.
- Kamini, K., Suptijah, P., Santoso, J., Suseno, S.H., 2017. Extraction by Dry Rendering Methode and Characterization Fish Oil of Catfish Viscera Fat by Product of Smoked Fish Processing. J. Pengolah. Has. Perikan. Indones. 19, 196. <https://doi.org/10.17844/jphpi.v19i3.15071>
- Karlinasari, L., Sabed, M., Wistara, N.J., Purwanto, A. and Wijayanto, H., 2012. Karakteristik spektra absorbansi nir (near infra red) spektroskopi kayu acacia mangium willd pada 3 umur berbeda. *Jurnal Ilmu Kehutanan*.
- Keshavarzi, Z., Barzegari Banadkoki, S., Faizi, M., Zolghadri, Y., H Shirazi, F., 2019. Identification and Quantification of Texture Soy Protein in A Mixture with Beef Meat Using ATR-FTIR Spectroscopy in Combination with

- Chemometric Methods. Iran. J. Pharm. Res. 18.
<https://doi.org/10.22037/ijpr.2019.111580.13242>
- Khalid, W., Gill, P., Arshad, M.S., Ali, A., Ranjha, M.M.A.N., Mukhtar, S., Afzal, F., Maqbool, Z., 2022. Functional behavior of DHA and EPA in the formation of babies brain at different stages of age, and protect from different brain-related diseases. *Int. J. Food Prop.* 25, 1021–1044.
<https://doi.org/10.1080/10942912.2022.2070642>
- Khan, A.I., 2013. A GC-FID Method for the Comparison of Acid- and Base-Catalyzed Derivatization of Fatty Acids to FAMES in Three Edible Oils.
- Komers, K., Skopal, F., Stloukal, R. and Machek, J., 2002. Kinetics and mechanism of the KOH—catalyzed methanolysis of rapeseed oil for biodiesel production. *European Journal of Lipid Science and Technology*
- Kottelat, M., Whitten, A. J., Kartikasari, S. N., Wirjoatmodjo, S. 1993. *Freshwater Fishes of Western Indonesia and Sulawesi*. Periplus Editions (HK) Ltd. Jakarta.
- Kusumiyati, K., Putri, I.E. and Munawar, A.A., 2021. Model Prediksi Kadar Air Buah Cabai Rawit Domba (*Capsicum frutescens* L.) Menggunakan Spektroskopi Ultraviolet Visible Near Infrared. *Agro Bali: Agricultural Journal*.
- La Dia, W.O.N.A., Trilaksani, W. and Ramadhan, W., 2022. Purifikasi Minyak Mata Tuna Kaya DHA (*Thunnus sp.*) dengan Variasi Adsorben. *Jurnal Pengolahan Hasil Perikanan Indonesia*, 25(3).
- Lukić, I., Kesić, Ž. and Skala, M.Z.D., 2016. Solid acids as catalysts for biodiesel synthesis. *HETEROGENEOUS CATALYSTS*, p.21.
- Lorensia, A., Budiono, R., Suryadinata, R.V., Tiarasari, N., 2021. Quantitative Determination of Epa and Dha in Fish Oil Capsules for Cardiovascular Disease Therapy in Indonesia by Gc-MS. *J. Public Health Res.* 10, jphr.2021.2159. <https://doi.org/10.4081/jphr.2021.2159>
- Martins, M.J.J., Purnamayati, L., Romadhon, R., 2021. Pengaruh Suhu Wet Rendering yang Berbeda terhadap Karakteristik Ekstrak Kasar Minyak Ikan Lele (*Clarias sp.*). *agriTECH* 41, 335.
<https://doi.org/10.22146/agritech.49875>
- Maulana, I.T., 2014. Kandungan Asam Lemak Dalam Minyak Ikan Indonesia. *J. Ilmu Dan Teknol. Kelaut. Trop.* 6.
- Mechram, S., Rahadi, B. and Kusuma, Z., 2021. Nirs Technology (Near Infrared Reflectance Spectroscopy) for Detecting Soil Fertility Case Study in Aceh Province. *Nusantara Science and Technology Proceedings*.
- Méndez, J.R.B. dan Concha, J.L.H., 2018. Methods of extraction , refining and concentration of fish oil as a source of omega-3 fatty acids Métodos de extracción , refinación y concentración. *Corpoica Ciencia y Tecnologia Agropecuaria*, 19: 645–668.
- Miller, J.N., Miller, J.C., 2005. *Statistics and chemometrics for analytical chemistry*, 5th ed. ed. Pearson Prentice Hall, Harlow, England ; New York.
- Miller, J.N., Miller, J.C., 2010. *Statistics and chemometrics for analytical chemistry*, 6th ed. ed. Prentice Hall/Pearson, Harlow.

- Miller, J.N. dan Miller, J.C. 2018. *Statistics and Chemometrics for Analytical Chemistry*, 7th ed, Coronet Books Inc, Philadelphia.
- Moeljaningsih, I., 2013. Kajian penggunaan bahan pemucat terhadap kualitas minyak goreng bekas keripik buah. *Jurnal Teknologi Pangan*.
- Nadhiro, U., Subekti, S., Tjahjaningsih, W., Patmawati, 2018. Quality characteristics of Bali sardinella (*Sardinella lemuru*) oil purified with bentonite as an adsorbent. IOP Conf. Ser. Earth Environ. Sci. 137, 012012. <https://doi.org/10.1088/1755-1315/137/1/012012>
- Nasution, A.Y., 2021. EVALUASI MINYAK IKAN PATIN (*Pangasius Hypophthalmus*) DENGAN PENAMBAHAN EKSTRAK KUNYIT SEBAGAI ANTIOKSIDAN ALAMI. J. Ilm. Farm. Farmasyifa 4, 22–28. <https://doi.org/10.29313/jiff.v4i2.6915>
- Nanayakkara, T.M., Wijelath, W.A.G.E. and Marso, T.M.M., 2020. Deep-fat Frying of Vegetable Oils: Major Chemical Reactions and Effect of Natural Extracts on Oxidative Stability-A Review. <https://orcid.org/0000-0003-0024-6716>
- Novitriani, K., 2015. Efektivitas Air Perasan Buah Nanas (*Ananas comocus*) pada Peningkatan Nilai Mutu Minyak Kelapa (*Coconus nucifera*). J. Kesehat. Bakti Tunas Husada J. Ilmu-Ilmu Keperawatan Anal. Kesehat. Dan Farm. 11, 24. <https://doi.org/10.36465/jkbth.v11i1.41>
- Nugraha, I., Iswati Utami, P., Sri Rahayu, W., 2018. Analisis Asam Lemak Daging Anjing pada Bakso Sapi Menggunakan Gas Chromatography Mass Spectrometry (GCMS) yang Dikombinasikan dengan PCA (Principal Component Analysis). Indones. J. Halal 1, 117. <https://doi.org/10.14710/halal.v1i2.3668>
- Nurdiyaningrum, F.D., 2013. Pemurnian Dan Karakterisasi Biodiesel Dari Minyak Biji Kelor (*Moringa oleifera*) dengan Menggunakan Adsorben Bentonit. *UNESA Journal of Chemistry Vol, 2*.
- Ikhsan, A., Rohman, A., Rosiana Putri, A., Syifa, F., Mustafidah, M., Martien, R., 2021. Application of FTIR Spectroscopy and Chemometrics for the Prediction of Radical Scavenging Activities of Fish oils. Indones. J. Pharm. 166–174. <https://doi.org/10.22146/ijp.1004>
- Oladapo, A.O., Awojide, S.H., 2015. Quality Evaluation of Oil Extraced From Catfish and Mackerel as Compared With Comercial Cod Liver Oil.
- Ötleş, S., 2015. Analysing the composition of fortified foods and supplements: The case of vitamins. *Dietary Supplements: Safety, Efficacy and Quality*, 37–44.
- Otto, M., 2007. Chemometrics: Statistic and Computer Application in Analytical Chemistri 2nd., *Wiley-VCH GmnH & Co.*, Weinhem.
- Oyewole, O.E. and Amosu, A.M., 2012. Nutritional considerations and benefits associated with consumption of catfish in South-West Nigeria. *Ann. Biol. Res*, 3, pp.4094-4098.
- Pak, C.S., 2005. Stability And Quality Of Fish Oil Wonsan University of Fisheries The objective of this project was to investigate the oxidation degree of fish oil and to improve its stability by addition of tocopherol during simulated domestic application . oil while exp. *Final Report*,.
- Panangan, A.T., Yohandi, H., dan Wulandari, M., 2012. Analisis Kualitatif dan

- Kuantitatif Asam Lemak Tak Jenuh Omega-3, Omega-6 dan Karakterisasi Minyak Ikan Patin (*Pangasius pangasius*). *Jurnal Penelitian Sains*, 15: 139089.
- Pandiangan, M., 2021. Penentuan Komposisi Asam Lemak pada Minyak Ikan Patin. *J. Ris. Teknol. Pangan Dan Has. Pertan. RETIPA* 76–82. <https://doi.org/10.54367/retipa.v1i2.1210>
- Pandiangan, M., Kaban, J., Wirjosentono, B., Silalahi, J., 2019. Analisis Kandungan Asam Lemak Omega 3 dan Omega 6 pada Minyak Ikan Mas (*Cyprinus Carpio*). *Talenta Conf. Ser. Sci. Technol. ST* 2, 37–44. <https://doi.org/10.32734/st.v2i1.309>
- Pérez-Gálvez, R., Chopin, C., Mastail, M., Ragon, J.Y., Guadix, A., dan Bergé, J.P., 2009. Optimisation of liquor yield during the hydraulic pressing of sardine (*Sardina pilchardus*) discards. *Journal of Food Engineering*, 93: 66–71.
- Poli, F.F., 2016. Pemurnian minyak kelapa dari kopra asap dengan menggunakan Adsorben arang aktif dan bentonit. *Journal of Industrial Research (Jurnal Riset Industri)*. 10(3) : 115-124.
- Poole, C.F., 2015. Ionization-based detectors for gas chromatography. *J. Chromatogr. A* 1421, 137–153. <https://doi.org/10.1016/j.chroma.2015.02.061>
- Pramono, T.B., Arfiati, D.A., Widodo, M.S., Yanuhar, U.Y., 2017. Identifikasi Ikan Genus *Mystus* Dengan Pendekatan Genetik. *J. Sumberd. AKUATIK INDOPASIFIK* 1. <https://doi.org/10.30862/jsai-fpik-unipa.2017.Vol.1.No.2.34>
- Purbasari, A., dan Silviana, 2008, Kajian Awal Pembuatan Biodiesel dari Minyak Dedak Padi dengan Proses Esterifikasi, *Reaktor*, 12 (1), 19-21.
- Purwakusumah, E.D., Rafi, M., Safitri, U.D., Nurcholis, W. and Adzkiya, M.A.Z., 2014. Identifikasi dan autentikasi jahe merah menggunakan kombinasi spektroskopi FTIR dan kemometrik. *Agritech*.
- PUSDATIN-KKP, 2022. Data Ekspor Impor HS 2 Digit November 2022 [Online], (<https://www.bps.go.id/exim/> Badan Pusat Statistika, diakses pada 3 Januari 2023).
- Putri, F.A., 2015. Analisis Vibrasi Molekul Pada Gas Rumah Kaca. *Berita Dirgantara*.
- Rahmawaty, S., Meyer, B.J., 2020. Stunting is a recognized problem: Evidence for the potential benefits of ω -3 long-chain polyunsaturated fatty acids. *Nutrition* 73, 110564. <https://doi.org/10.1016/j.nut.2019.110564>
- Rohman, A., 2012. Pengembangan dan Analisis Produk Halal. *Yogyakarta: Pustaka Pelajar*.
- Rohman, A., 2014, Spektroskopi Inframerah dan Kemometrika untuk Analisis Farmasi, Pustaka Pelajar, Yogyakarta.
- Rohman, A., 2016, Lipid : Sifat Fisika-Kimia dan Analisisnya, Pustaka Belajar, Yogyakarta.
- Rohman, A., Che Man, Y.B., 2009. Monitoring Of Virgin Coconut Oil (Vco) Adulteration With Palm Oil Using Fourier Transform Infrared Spectroscopy. *J. Food Lipids* 16, 618–628. <https://doi.org/10.1111/j.1745-4522.2009.01170.x>

- Rohman, A., dan Sudjadi., 2016. Analisis Derivat Babi., Gadjah Mada University Press, Yogyakarta.
- Rohman, A., Windarsih, A., 2020. The Application of Molecular Spectroscopy in Combination with Chemometrics for Halal Authentication Analysis: A Review. *Int. J. Mol. Sci.* 21, 5155. <https://doi.org/10.3390/ijms21145155>
- Rosmalina, R.T., Widyarani, Hamidah, U., Sintawardani, N., 2020. Determination of volatile fatty acids in tofu wastewater by capillary gas chromatography with flame ionization detection: A Comparison of extraction methods. *IOP Conf. Ser. Earth Environ. Sci.* 483, 012038. <https://doi.org/10.1088/1755-1315/483/1/012038>
- Rosmalina, R.T., Kosasih, W. and Priatni, S., 2021. the Effects of Adsorbent Materials on the Lipid Quality of Lemuru Fish Oil and the Enrichment of Omega-3 Using Lipase. *Jurnal Teknologi dan Industri Pangan*, 32(1), pp.16-26.
- Rozi, A., Suseno, S.H., dan Jacoeb, A.M. 2016, Extraction and Characterization of Liver Oil From Silky Shark, *Jurnal Pengolahan Hasil Perikanan Indonesia*, 19(2), pp.100-109.
- SSGI. 2021. Buku Saku Hasil Studi Status Gizi Indonesia (SSGI) Tahun 2021. Badan Kebijakan Pembangunan Kesehatan, Kementerian Kesehatan Republik Indonesia
- Said, 2019. Woman entrepreneurs in rural wetlands: Overcoming resistance to change. *Restaur. Bus.* 118, 506–517. <https://doi.org/10.26643/rb.v118i11.11078>
- Sambra, V., Echeverria, F., Valenzuela, A., Chouinard-Watkins, R. and Valenzuela, R., 2021. Docosahexaenoic and arachidonic acids as neuroprotective nutrients throughout the life cycle. *Nutrients*, 13(3), p.986. <https://doi.org/10.3390/nu13030986>
- Sari, R.N., Utomo, B.S.B., Basmal, J. and Kusumawati, R., 2015. Pemurnian minyak ikan hasil sampling (pre-cooking) industri pengalengan ikan lemuru (*Sardinella lemuru*). *Jurnal Pengolahan Hasil Perikanan Indonesia*.
- Sartika, R.A.D., 2008. Pengaruh Asam Lemak Jenuh, Tidak Jenuh dan Asam Lemak Trans terhadap Kesehatan. *Kesmas Natl. Public Health J.* 2, 154. <https://doi.org/10.21109/kesmas.v2i4.258>
- Schulz, H., 2014. 05 - Lipids. *Physiological Reviews*, 90: 87–110.
- Sejkorová, M., Šarkan, B., Veselík, P. and Hurtová, I., 2020. FTIR Spectrometry with PLS Regression for Rapid TBN Determination of Worn Mineral Engine Oils. *Energies*, 13(23), p.6438.
- Shabanikakroodi, S., Christianus, A., Tan, C.P., Che Man, Y.B. and Ehteshami, F., 2015. Refined oil production from patin catfish (*Pangasianodon hypophthalmus*) by-products.
- Shameer, M. dan Nishath, M. 2019, Exploration and Enhancement on Fuel Stability of Biodiesel, *Advanced Biofuels*.
- Soetjipto, H., Putra, Y.A. and Kristijanto, A.I., 2020. Pengaruh Pemurnian Terhadap Kualitas dan Kandungan Skualen Minyak Biji Kemangi Hutan (*Ocimum gratissimum L.*). *ALCHEMY Jurnal Penelitian Kimia*.

- Sudarmadji, S., Suhardi and Haryono, B., 1989. *Analisa bahan makanan dan pertanian*. Liberty Yogyakarta bekerja sama dengan Pusat Antar Universitas Pangan dan Gizi Universitas Gadjah Mada.
- Sugasini, D., Yalagala, P.C., Goggin, A., Tai, L.M. and Subbaiah, P.V., 2019. Enrichment of brain docosahexaenoic acid (DHA) is highly dependent upon the molecular carrier of dietary DHA: Lysophosphatidylcholine is more efficient than either phosphatidylcholine or triacylglycerol. *The Journal of nutritional biochemistry*, 74. <https://doi.org/10.1016/j.jnutbio.2019.108231>
- Sukeksi, L., Grace, M. and Diana, V., 2021. Characterization of the Chemical and Physical Properties of Bar Soap Made with Different Concentrations of Bentonite as a Filler.
- Sulistiyani, M. dan Huda, N., 2018. Perbandingan Metode Transmisi dan Reflektansi Pada Pengukuran Polistirena Menggunakan Instrumentasi Spektroskopi Fourier Transform Infra Red. *Indonesian Journal of Chemical Science*.
- Sumartini, S. and Hastuti, P., 2019. Karakteristik Minyak Ikan Nila (*Oreochromis niloticus*) Hasil Pemurnian Menggunakan Arang Aktif dan Bentonit pada Hasil Samping Limbah Fillet Ikan Nila PT. Aquafarm Nusantara Semarang. *Jurnal Airaha*.
- Suseno, S.H., Nurjanah, N., Yoshiara, Y. and Saraswati, S., 2015. Determination of Extraction Temperature and Period of Fish Oil From Tilapia (*Oreochromis niloticus*) By Product Using Wet Rendering Method. *KnE Life Sciences*, pp.125-135.
- Suseno, S.H., Rizkon, A.K., Jacob, A.M., Nurjanah, N., Supinah, P., 2020. Ekstraksi dry rendering dan karakterisasi minyak ikan patin (*Pangasius sp.*) hasil samping industri filet di lampung: Extraction with Dry Rendering Method and Characterization of Fish Oil by-Product of Pangasius Fillet Industries In Lampung. *J. Pengolah. Has. Perikan. Indones.* 23, 38–46. <https://doi.org/10.17844/jphpi.v23i1.30722>
- Tambun, R., Limbong, H.P., Pinem, C., dan Manurung, E., 2016. Fenol Dari Lengkuas Merah Influence of Particle Size , Time and Temperature To Extract Phenol. *Teknik Kimia USU, Vol. 5, No. 4*
- Tanaty, M.Z.M.M., Pontoh, J., Fatimah, F., 2015. Optimasi Instrumen GC Shimadzu-2014 Terhadap Beberapa Senyawa Metil Ester Asam Lemak (FAME). *J. MIPA* 4, 06. <https://doi.org/10.35799/jm.5.1.2016.11191>
- Tanjaya, A., Sudono, S., Indraswati, N. and Ismadji, S., 2018. Aktivasi bentonit alam pacitan sebagai bahan penyerap pada proses pemurnian minyak sawit. *Jurnal Teknik Kimia Indonesia*.
- Tarapoulouzi, M., Kokkinofa, R., Theocharis, C.R., 2020. Chemometric analysis combined with FTIR spectroscopy of milk and Halloumi cheese samples according to species' origin. *Food Sci. Nutr.* 8, 3262–3273. <https://doi.org/10.1002/fsn3.1603>
- Thielemans, A. and Massart, D.L., 1985. The use of principal component analysis as a display method in the interpretation of analytical chemical, biochemical, environmental, and epidemiological data. *Chimia*, 39(7-8), pp.236-242.

- Titus, D., James Jebaseelan Samuel, E., Roopan, S.M., 2019. Nanoparticle characterization techniques, in: Green Synthesis, Characterization and Applications of Nanoparticles. Elsevier, pp. 303–319. <https://doi.org/10.1016/B978-0-08-102579-6.00012-5>
- Toor, M., Jin, B., Dai, S. and Vimonses, V., 2015. Activating natural bentonite as a cost-effective adsorbent for removal of Congo-red in wastewater. *Journal of Industrial and Engineering Chemistry*, 21, pp.653-661. <https://doi.org/10.1016/j.jiec.2014.03.033>
- von Schacky, C., 2021. Importance of EPA and DHA Blood Levels in Brain Structure and Function. *Nutrients* 13, 1074. <https://doi.org/10.3390/nu13041074>
- Wicaksono, I.B. dan Ulfah, M., 2017. Uji Aktivitas Antioksidan Kombinasi Ekstrak Etanol Daun Sirsak (*Annona muricata L.*) dan Daun Jambu Biji (*Psidium guajava L.*) dengan Metode DPPH (2,2-difenil-1-pikrihidrazil). *Inovasi Teknik Kimia*.
- Widyaninggar, A., Triyana, K. and Rohman, A., 2012. Differentiation between porcine and bovine gelatin in capsule shells based on amino acid profiles and principal component analysis. *Indonesian Journal of Pharmacy*.
- Wijaya, B., 2003. Studi Pengetesan Lempung Bentonit teraktivasi. *Jurnal Kimia*, 4(2), pp.16-19.
- Wildan, A., Sokhletasi, M., 2012. Optimasi Pengambilan Minyak Dari Limbah Padat Biji Karet Dengan Metode Sokhletasi 8.
- World Health Organization, 2022. World health statistics 2022: monitoring health for the SDGs, sustainable development goals.
- Yanti, P.H. and Muhktar, A., 2019. Karakterisasi Lempung Alam Desa Gema Teraktifasi Fisika. *Chemistry Progress*, 8(1).
- Zahrina, I., Optimasi Kondisi Proses Aktivasi Bentonit Lokal Menggunakan H₂SO₄ Sebagai Adsorben Pada Proses Dehidrasi Etanol Dengan Respon Surface Methode.