DAFTAR PUSTAKA

Abbasov, V. M. *et al.* (2016) 'Acid treated halloysite clay nanotubes as catalyst supports for fuel production by catalytic hydrocracking of heavy crude oil', *Fuel*. Elsevier Ltd, 184, pp. 555–558. doi: 10.1016/j.fuel.2016.07.054.

Abukhadra, M. R. and Sayed, M. A. (2018) 'K^+ trapped kaolinite (Kaol/K^+) as low cost and eco-friendly basic heterogeneous catalyst in the transesterification of commercial waste cooking oil into biodiesel', *Energy Conversion and Management*. Elsevier, 177(July), pp. 468–476. doi: 10.1016/j.enconman.2018.09.083.

Aid, A. *et al.* (2017) 'Ni-exchanged cationic clays as novel heterogeneous catalysts for selective ethylene oligomerization', *Applied Clay Science*. Elsevier, 146(December 2016), pp. 432–438. doi: 10.1016/j.clay.2017.06.034.

Alaa, S. and Kurniawidi, D. W. (2015) 'Pengaruh Suhu Pemanasan Lempung terhadap Sifat Mekanis Gerabah', *Kuanta*, 1(April), pp. 32–35.

Alves, H. J. *et al.* (2014) 'Treatment of clay with KF: New solid catalyst for biodiesel production', *Applied Clay Science*. Elsevier B.V., 91–92, pp. 98–104. doi: 10.1016/j.clay.2014.02.004.

Andalia Irnanda, W. P. (2017) 'Pemilihan Katalis Menggunakan Metode Analytical Hierarchy Process (Ahp) Pada Proses Pembuatan Biodiesel Reaksi Transesterifikasi', *Journal Industrial Servicess*, 3(Oktober), pp. 8–15. Available at: http://jurnal.untirta.ac.id/index.php/jiss/article/view/2055.

Anouar, F. *et al.* (2019) 'Journal of Environmental Chemical Engineering Investigation of the ion exchange e ff ect on surface properties and porous structure of clay : Application of ascorbic acid adsorption', *Journal of Environmental Chemical Engineering*, 7(August). doi: 10.1016/j.jece.2019.103404.

Assila, O. *et al.* (2021) 'Copper nickel co-impregnation of Moroccan yellow clay as promising catalysts for the catalytic wet peroxide oxidation of caffeine', *Heliyon*. Elsevier Ltd, 7(1), p. e06069. doi: 10.1016/j.heliyon.2021.e06069.

Atabani, A. E. *et al.* (2012) 'A comprehensive review on biodiesel as an alternative energy resource and its characteristics', *Renewable and Sustainable Energy Reviews*. Elsevier Ltd, 16(4), pp. 2070–2093. doi: 10.1016/j.rser.2012.01.003.

Awogbemi, O., Onuh, E. I. and Inambao, F. L. (2019) 'Comparative study of properties and fatty acid composition of some neat vegetable oils and waste cooking oils', *International Journal of Low-Carbon Technologies*, 14(3), pp. 417–425. doi: 10.1093/ijlct/ctz038.

Aziz, I., Nurbayti, S. and Ulum, B. (2012) 'Pembuatan produk biodiesel dari Minyak Goreng Bekas dengan Cara Esterifikasi dan Transesterifikasi', *Jurnal Kimia Valensi*, 2(3), pp. 443–448. doi: 10.15408/jkv.v2i3.115.

Aziz, M. *et al.* (2010) 'Benefisiasi Lempung Bogor untuk Katalis Padat dalam Sintesis Biodiesel', *Jurnal Teknologi Mineral dan Batubara*, 6(April, No 2), pp. 74–83.

Bijang, C. M., Sekewael, S. J. and Koritelu, J. A. (2014) 'Aktivasi Lempung dengan Basa dan Aplikasinya sebagai Penukar Kation untuk Mengurangi Konsentrasi Ion Mg^{2+} dan Ca^{2+} dalam Air Sumur', *Ind. J. Chem. Res*, 1, pp. 93–98.

Cong, W. J. *et al.* (2020) 'Direct production of biodiesel from waste oils with a strong solid base from alkalized industrial clay ash', *Applied Energy*, 264(February). doi: 10.1016/j.apenergy.2020.114735.

Doni Rahmat, W. (2011) 'Sintesis Biodiesel Dari Crude Palm Oil Dengan Katalis Alumina Hasil Recovery Limbah Padat Lumpur Pdam Intan Banjar', *Info Teknik*, 12(1), pp. 21–30.

Falowo, O. A. *et al.* (2021) 'Influence of nature of catalyst on biodiesel synthesis via irradiation-aided transesterification of waste cooking oil-honne seed oil blend: Modeling and optimization by Taguchi design method', *Energy Conversion and Management: X*. Elsevier Ltd, 12, p. 100119. doi: 10.1016/j.ecmx.2021.100119.

Folayan, A. J. *et al.* (2019) 'Experimental investigation of the effect of fatty acids configuration, chain length, branching and degree of unsaturation on biodiesel fuel properties obtained from lauric oils, high-oleic and high-linoleic vegetable oil biomass', *Energy Reports*. Elsevier Ltd, 5, pp. 793–806. doi: 10.1016/j.egyr.2019.06.013.

Gil, A. and Vicente, M. A. (2018) *Energy storage materials from clay minerals and zeolite-like structures, Modified Clay and Zeolite Nanocomposite Materials: Environmental and Pharmaceutical Applications*. Elsevier Inc. doi: 10.1016/B978-0-12-814617-0.00005-0.

Gonggo, S. T. and Edyanti, F. (2013) 'Physicochemical Characterization Of Clay Minerals As A Raw Material Of Ceramic Industry In Desa Lembah Bomban Kec. Bolano Lambunu Kab. Parigi Moutong', *Akademika Kimia*, 2(2), pp. 105–113.

Handayani, S. (2010) 'Kualitas Batu Bata Merah Dengan Penambahan Serbuk Gergaj', *Jurnal Teknik Sipil dan Perencanaan*, 12(1), pp. 41–50. doi: 10.15294/jtsp.v12i1.1339.

Housecroft, C. E. and Sharpe, A. G. (2005) *Inorganic Chemistry third edition*, *Pearson*.

Inayat, A. *et al.* (2019) 'Fuzzy modeling and parameters optimization for the enhancement of biodiesel production from waste frying oil over montmorillonite clay K-30', *Science of the Total Environment*. Elsevier B.V., 666, pp. 821–827. doi: 10.1016/j.scitotenv.2019.02.321.

Jlassi, K., Krupa, I. and Chehimi, M. M. (2017) *Overview: Clay Preparation, Properties, Modification, Clay-Polymer Nanocomposites*. Elsevier Inc. doi: 10.1016/B978-0-323-46153-5.00001-X.

Jone, Y. and Hera, M. D. (2015) 'Lempung Dan Pemanfaatannya Sebagai Bahan Baku Gerabah (Studi Kasus Di Desa Webriamata, Kecamatan Wewiku, Kabupaten Malaka Provinsi Nusa Tenggara Timur)', *Seminar Nasional Kebumian Ke - 8*. Available at: https://repository.ugm.ac.id/135429/1/GEO3

Joseph, T., Shanbhag, G. V. and Halligudi, S. B. (2005) 'Copper(II) ion-exchanged montmorillonite as catalyst for the direct addition of NH bond to CC triple bond', *Journal of Molecular Catalysis A: Chemical*, 236(1–2), pp. 139–144. doi: 10.1016/j.molcata.2005.04.022.

Julianti, N. K., Wardani, T. K. and Gunardi, I. (2014) 'Pembuatan Biodiesel dari Minyak Kelapa Sawit RBD dengan Menggunakan Katalis Berpromotor Ganda Berpenyangga γ-Alumina (CaO/MgO/ γ-Al_2O_3) dalam Reaktor Fluidized Bed', *Jurnal Teknik Pomits*, 3(2), pp. 143–148.

Kamaronzaman, M. F. F. *et al.* (2020) 'Biodiesel production from waste cooking oil using nickel doped onto eggshell catalyst', *Materials Today: Proceedings*. Elsevier Ltd., 31, pp. 342–346. doi: 10.1016/j.matpr.2020.06.159.

Karelius (2017) 'Extraction and Characterization Natural Clay of Central Kalimantan as One of Alternatives Additives of Geopolimer Concrete', *Jurnal Pendidikan Teknologi dan Kejuruan Balanga*, 5(Juli-Desember, No. 2), pp. 1–10.

Khan, I. W. *et al.* (2020) 'Catalytic conversion of spent frying oil into biodiesel over raw and 12-tungsto-phosphoric acid modified clay', *Renewable Energy*. Elsevier Ltd, 155, pp. 181–188. doi: 10.1016/j.renene.2020.03.123.

Kurniawan, A. (2014) 'Sifat Resistivitas Rendah Mineral Lempung', 1, pp. 1–9.

Kusuma, R. I. *et al.* (2013) 'Natural zeolite from Pacitan Indonesia, as catalyst support for transesterification of palm oil', *Applied Clay Science*, 74, pp. 121–126. doi: 10.1016/j.clay.2012.04.021.

Lam, M. K., Lee, K. T. and Mohamed, A. R. (2009) 'Sulfated tin oxide as solid superacid catalyst for transesterification of waste cooking oil: An optimization study', *Applied Catalysis B: Environmental*, 93(1–2), pp. 134–139. doi: 10.1016/j.apcatb.2009.09.022.

Lestari, D. Y. (2012) 'Pemilihan Katalis yang Ideal', *Porsiding Seminar Nasional Penelitian*, pp. 53–58.

Lin, Y. S. and Lin, H. P. (2010) 'Study on the spray characteristics of methyl esters from waste cooking oil at elevated temperature', *Renewable Energy*. Elsevier Ltd, 35(9), pp. 1900–1907. doi: 10.1016/j.renene.2010.01.014.

Mohiddin, M. N. Bin *et al.* (2021) 'Evaluation on feedstock, technologies, catalyst and reactor for sustainable biodiesel production: A review', *Journal of Industrial and Engineering Chemistry*, 98, pp. 60–81. doi: 10.1016/j.jiec.2021.03.036.

Munir, M. *et al.* (2021) 'A practical approach for synthesis of biodiesel via non-edible seeds oils using trimetallic based montmorillonite nano-catalyst',

Bioresource Technology. Elsevier Ltd, 328(February), p. 124859. doi: 10.1016/j.biortech.2021.124859.

Ningsih, L. *et al.* (2020) 'Enrichment of Sawahlunto Clay with Cation Ca^{2+} and Cu^{2+} and Preliminary Test of its Catalytic Activity in CPO Transesterification Reaction', *Aceh Internasional Journal of Science and Technology*, 9(December), pp. 187–196. doi: 10.13170/17944.

Noer Aini, L., Mulyono, M. and Hanudin, E. (2016) 'Mineral Mudah Lapuk Material Piroklastik Merapi dan Potensi Keharaannya Bagi Tanaman', *Planta Tropika: Journal of Agro Science*, 4(2), pp. 84–94. doi: 10.18196/pt.2016.060.84-94.

Nurhayati *et al.* (2013) 'Sintesis Biodiesel dengan Katalis Lempung Palas Aktivasi NaOH yang Dikalsinasi pada Suhu 300 ^{o}C', *Prosiding Semirata FMIPA Universitas Lampung*, pp. 315–318.

Nursyamsi, D. (2011) 'Mekanisme pelepasan K terfiksasi menjadi tersedia bagi pertumbuhan tanaman pada tanah-tanah yang didominasi smektit', *Jurnal Sumberdaya Lahan Vol.*, 5, pp. 61–74.

Olutoye, M. A. *et al.* (2016) 'Synthesis of fatty acid methyl esters via the transesterification of waste cooking oil by methanol with a barium-modified montmorillonite K10 catalyst', *Renewable Energy*, 86, pp. 392–398. doi: 10.1016/j.renene.2015.08.016.

Otunola, B. O. and Ololade, O. O. (2020) 'A review on the application of clay minerals as heavy metal adsorbents for remediation purposes', *Environmental Technology and Innovation*. Elsevier B.V., 18, p. 100692. doi: 10.1016/j.eti.2020.100692.

Pooja, S. *et al.* (2021) 'Efficient production and optimization of biodiesel from kapok (Ceiba pentandra) oil by lipase transesterification process: Addressing positive environmental impact', *Renewable Energy*. Elsevier Ltd, 165, pp. 619–631. doi: 10.1016/j.renene.2020.11.053.

Qu, B. and Luo, Y. (2021) 'A review on the preparation and characterization of chitosan-clay nanocomposite films and coatings for food packaging applications', *Carbohydrate Polymer Technologies and Applications*. Elsevier Ltd, 2, p. 100102. doi: 10.1016/j.carpta.2021.100102.

Rahman, A., Urabe, T. and Kishimoto, N. (2013) 'Color Removal of Reactive Procion Dyes by Clay Adsorbents', *Procedia Environmental Sciences*. Elsevier B.V., 17, pp. 270–278. doi: 10.1016/j.proenv.2013.02.038.

Rahmaniah, R. *et al.* (2020) 'Analisis Mineral Tanah Rawan Longsor Menggunakan X-Ray Diffraction Di Desa Sawaru Kabupaten Maros', *Jambura Geoscience Review*, 2(1), pp. 41–49. doi: 10.34312/jgeosrev.v2i1.2639.

Rezania, S. *et al.* (2019) 'Review on transesterification of non-edible sources for biodiesel production with a focus on economic aspects, fuel properties and by-

product applications', *Energy Conversion and Management*. Elsevier, 201(July), p. 112155. doi: 10.1016/j.enconman.2019.112155.

Ridho, M. R., Wirawan, I. K. G. and Ghurri, A. (2020) 'Pengaruh Variasi Temperatur dan Putaran Pa d a Proses Partial Hydrogenation Biodiesel Minyak Jelantah Terhadap Stabilitas Oksidasi', *Jurnal Ilmiah Teknik Desain Mekanika*, 9(Juli), pp. 3–8.

Ristianingsih, Y., Hidayah, N. and Sari, F. W. (2016) 'Pembuatan Biodiesel Dari Crude Palm Oil (Cpo) Sebagai Bahan Bakar Alternatif Melalui Proses Transesterifikasi Langsung', *Jurnal Teknologi Agro-Industri*, 2(1), p. 38. doi: 10.34128/jtai.v2i1.23.

Ritonga, P. S. (2012) 'Kajian Spektra IR dan AAS Lempung Terpilar-Fe', *Photon: Jurnal Sain dan Kesehatan*, 3(1), pp. 37–44. doi: 10.37859/jp.v3i1.147.

Rosmayanti, I. *et al.* (2019) 'Lempung Teraktifkan Terpilar sebagai "Green Catalyst" untuk Sintesis Biodiesel', (392).

Rouquerol, F., Rouquerol, J. and Sing, K. (1999) 'Adsorption by Clays, Pillared Layer Structures and Zeolites', *Adsorption by Powders and Porous Solids*, pp. 355–399. doi: 10.1016/b978-012598920-6/50012-9.

Sakthivel, A. *et al.* (2006) 'Heterogenization of $[Cu(NCCH_3)_4][BF_4]_2$ on mesoporous AlMCM-41/AlMCM-48 and its application as cyclopropanation catalyst', *Catalysis Letters*, 111(1–2), pp. 43–49. doi: 10.1007/s10562-006-0128-5.

Sari, F. E. and Purnama, I. H. (2019) 'Pengaruh Konsentrasi Katalis (Lempung Teraktivasi) dan Waktu Reaksi pada Pembuatan Biodiesel dari Minyak Biji Kapuk (Ceiba pentandra)'.

Suyanto, T. and Kismolo, E. (2008) 'Karakterisasi Kapasitas Tukar Kation Lempung Kasongan untuk Pengolahan Limbah Radioaktif Cair', pp. 236–240.

Syukri *et al.* (2022) 'Effect of Thermal Treatment and Nickel-Salt Modification on the Catalytic Performance of the Illite-Kaolinite Clay from Bukittinggi of West Sumatra in Palm Oil Transesterification', *UDC*, pp. 125–136.

Syukri, S. *et al.* (2021) 'Synthesis of Graphene Oxide Enriched Natural Kaolinite Clay and Its Application For Biodiesel Production', *International Journal of Renewable Energy Development*, 10(2), pp. 307–315. doi: 10.14710/ijred.2021.32915.

Tabasi, H., Oroojalian, F. and Darroudi, M. (2021) 'Green clay ceramics as potential nanovehicles for drug delivery applications', *Ceramics International*. Elsevier Ltd, 47(22), pp. 31042–31053. doi: 10.1016/j.ceramint.2021.08.090.

Tri, M. *et al.* (2007) 'Kualitas Bata Merah dari Pemanfaatan Tanah Bantaran Sungai Banjir Kanal Timur', *Jurusan Teknik Sipil Politeknik Negeri Semarang*, 12(1), pp. 42–50.

Utami, D. N. (2018) 'Kajian Jenis Mineralogi Lempung Dan Implikasinya

Dengan Gerakan Tanah', *Jurnal Alami : Jurnal Teknologi Reduksi Risiko Bencana*, 2(2), p. 89. doi: 10.29122/alami.v2i2.3095.

Wang, J. *et al.* (2017) 'Natural albite as a novel solid basic catalyst for the effective synthesis of biodiesel: Characteristics and performance', *Energy*. Elsevier Ltd, 141, pp. 1650–1660. doi: 10.1016/j.energy.2017.11.086.

Wei, G. *et al.* (2018) 'Catalytic upgrading of Jatropha oil biodiesel by partial hydrogenation using Raney-Ni as catalyst under microwave heating', *Energy Conversion and Management*. Elsevier, 163(February), pp. 208–218. doi: 10.1016/j.enconman.2018.02.060.

Zabeti, M., Wan Daud, W. M. A. and Aroua, M. K. (2009) 'Activity of solid catalysts for biodiesel production: A review', *Fuel Processing Technology*. Elsevier B.V., 90(6), pp. 770–777. doi: 10.1016/j.fuproc.2009.03.010.

Zaki, M. *et al.* (2019) 'Transesterifikasi Minyak Biji Buta-Buta menjadi Biodiesel pada Katalis Heterogen Kalsium Oksida (CaO)', *Jurnal Rekayasa Kimia & Lingkungan*, 14(1), pp. 36–43. doi: 10.23955/rkl.v14i1.13495.

Zviagina, B. B., Drits, V. A. and Dorzhieva, O. V. (2020) 'Distinguishing features and identification criteria for K-dioctahedral 1M micas (Illite-aluminoceladonite and illite-glauconite-celadonite series) from middle-infrared spectroscopy data', *Minerals*, 10(2). doi: 10.3390/min10020153.