



## DAFTAR PUSTAKA

- Abdullah, S.H.Y.S., Hanapi, H.M., Azid, A., Umar, R., Juahir, H., Khatoon, H., and Endut, A., 2016, A Review of biomass - derived heterogeneous catalyst for a sustainable biosolar production, *Renew. Sust. Energy Rev.*, 70, 1040-1051.
- Adams, B.D. and Chen, A., 2011, The role of palladium in we are facing accelerated global warming due to the accumulation of, *Mater. Today*, 14, 282–289.
- Alwan, B. A., Salley, S.O. and Ng, K.S., 2014, Hydrocracking of DDGS corn oil over transition metal carbides supported on Al-SBA-15: Effect of fractional sum of metal electronegativities, *Appl. Catal., A.*, 485, 58-66.
- Anand, M., Farooqui, S.A., Kumar, R., Joshi, R., Kumar, R., Sibi, M.G., Singh, H. and Sinha, A.K., 2016, Kinetics, thermodynamics and mechanisms for hydroprocessing of renewable oils, *Appl. Catal., A.*, 516, 144-152.
- Ao, W., Fu, J., Mao, X., Kang, Q., Ran, C., Liu, Y., Zhang, H., Gao, Z., Liu, G., and Dai, J., 2018, Microwave assisted preparation of activated carbon from biomass: A review, *Renew. Sust. Energy. Rev.*, 92, 958-979.
- Argyle, M.D. and Bartholomew, C.H., 2015, Heterogeneous catalyst deactivation and regeneration: A review, *Catalyst*, 5, 145-269.
- Aziz, M., and Gosan, M., 2017, Production of gasohol from isobutanol, International Conference on Biomass: Technology, Application, and Sustainable Development, *IOP Conf. Series: Earth and Environmental Science*, 65, 2055.
- Babahmad, R.A., Aghrazb, A., Boutafdaa, A., Papazoglouc, A.G., Tarantilisd, P.A., Kanakisd, C., Hafidia, M., Ouhdouche, Y., Outzourhitf, A., and Ouhammoua, A., 2018, Chemical composition of essential oil of *Jatropha curcas* L. leaves and its antioxidant and antimicrobial activities, *Industrial Crops & Products*, 121, 405–410.
- Babatunde, O.A., Garba, S., dan Ali, Z.N., 2016, Surface modification of activated carbon for improved iodine and carbon tetrachloride adsorption, *Am. J. Chem.*, 6(3), 74-79.
- Bouchelta, C., Salah, M., Bertrand, O., and Bellat, J., 2008, Preparation and characterization of activated carbon from date stones by physical activation with steam, *J. Anal. Appl. Pyro.*, 82, 70–77.
- Chen, L., Ji, T., Mu, L., Shi, Y., Brisbin, L., Guo, Z., Mohammel, A.K., David, P.Y., and Zhu, J., 2016, Facile synthesis of mesoporous carbon nanocomposites from natural biomass for efficient dye adsorption and selective heavy metal removal, *RSC Adv.*, 6, 2259-2259.
- Deng, J., Xiong, T., Wang, H., Zheng, A., and Wang, Y., 2016, Effect of cellulose, hemicellulose, and lignin on the structure and morphology of porous carbons, *ACS Sustain. Chem. Eng.*, 4(7), 3750-3756.
- Emmanuel, G., Nour, S.A.R., Ali, H.A., Mahdi, M.A., and Abbas, A.K., 2018, Klason method: An effective method for isolation of lignin fractions from date palm biomass waste, *Chem. Process Eng.*, 57, 46-58.
- Fu, J., Zhang, J., Jin, C., Wang, Z., Wang, T., Cheng, X., and Ma, C., 2020, Effects of temperature, oxygen and steam on pore structure characteristics of



- coconut husk activated carbon powders prepared by one-step rapid pyrolysis activation process, *Bioresource Technology*, 310, 123413.
- Fitroturokhmah, A., 2015, Cr/ZrO<sub>2</sub>-Bentonite: Sintesis, karakterisasi dan aplikasinya untuk hidrorengkah minyak jarak (*Ricinus communis*), *Tesis*, FMIPA, Universitas Gadjah Mada, Yogyakarta.
- Goodman, E.D., Schwalbe, J.A., Cargnello, M., 2017, Mechanistic understanding and the rational design of sinter-resistant heterogeneous catalyst, *ACS Catal.*, 7(10), 7156-7173.
- Guiza, M., Abdedayem, A., Ghouma, I., and Ouederni, A., 2017, Effect of copper and nickel supported activated carbon catalyst on the simultaneous adsorption/ozonation process of nitrobenzene degradation, *J. Chem. Tech. Metal*, 52 (5), 836-851.
- Hansen, S.B., Padfield, R., Syayuti, K., Evers, S., Zakariah, Z., and Mastura, S., 2015, Trends in global palm oil sustainability research, *J. Clean. Prod.*, 100, 140-149.
- Hu, X., Zhang, Z., Gholizadeh, M., Zhang, S., Lam, C.H., Xiong, Z., and Wang, Y., 2020, Coke formation during thermal treatment of bio-oil, *Energy Fuels*, 34(7), 7863-7914.
- Hilbers, T.J., Sprakel, L.M.J., Enk, L.B.J.V.D., Zaalberg, B., Berg, H.V.D., Ham, L.G.J., 2015, Green diesel from hydrotreated vegetable oil process design study, *Chem. Eng and Tech.*, 38(4), 651-657.
- Ioannidou, O. and Zabaniotou, A., 2006, Agricultural residues as precursors for activated carbon production, *Renew. Sust. Energ. Rev.*, 11, 1966-2005.
- Ji, T., Chen, L., Mu, L., Yuan, R., Knoblauch, M., Bao, F.S., and Zhu, J., 2016, In-situ reduction of Ag nanoparticles on oxygenated mesoporous carbon fabric: Exceptional catalyst for nitroaromatics reduction, *Appl. Catal.*, 182, 306–315.
- Ji, T., Chen, L., Mu, L., Yuan, R., Knoblauch, M., Bao, F.S., Shi, Y., Wang, H., and Zhu, J., 2016, Green processing of plant biomass into mesoporous carbon as catalyst support, *J. Chem. Eng.*, 295, 301–308.
- Keera, S.T., El Sabagh, S.M., and Taman, A.R., 2018, Castor oil biodiesel production and optimization, *Egypt. J. Pet.*, 27, 979-984.
- Kusumastuti, H., Trisunaryanti, W., Falah I.I., and Marsuki, M.F., 2018, Synthesis of mesoporous silica-alumina from Lapindo mud as a support of Ni and Mo metals catalysts for hydrocracking of pyrolyzed α-cellulose, *J. Chem.*, 11(2), 522-530.
- Le, M.T., Do, V.H., Truong, D.D., Bruneel, L., Driessche, I.V., Riisager, A., Fehrmann, R., and Tinh, Q.T., 2016, Synergy effects of the mixture of bismuth molybdate catalyst with SnO<sub>2</sub>/ZrO<sub>2</sub>/MgO in selective propene, *Ind. Eng. Chem. Res.*, 55, 4846.
- Li, H., Cheng, S., He, Y., Javed, M., Yang, G., Yang, R., and Tsubaki, N., 2019, A study on the effect of pH value of impregnation solution in nickel catalyst preparation for methane dry reforming reaction, *Chem. Select*, 4, 8953-8959.



- Liu, W. J., Jiang, H., and Yu, H.Q., 2015, Thermochemical conversion of lignin to functional materials: A review and future directions, *Green Chem.*, 17, 4888-4907.
- Meller, E., Gutkin, V., Aizenshtat, Z., and Sasson, Y., 2016, Catalytic hydrocracking-hydrogenation of castor oil fatty acid methyl esters over nickel substituted polyoxometalate catalyst, *Chemistry Select*, 1, 6396-6405.
- Mochida, I., Seong, H. Y., and Wenming, Q., 2006, Catalyst in syntheses and carbon precursors, *J. Braz. Chem. Soc.*, 17(6), 1059 – 1073.
- Munir, D., Abdullah, Piepenbreier, F., and Usman, M., 2017, Hydrocracking of a plastic mixture over various micro-mesoporous composite zeolites, *Powder Technol.*, 316, 542-550.
- Meller, E., Gutkin, V., Aizenshtat, Z., and Sasson, A., 2016, Catalytic hydrocracking-hydrogenation of castor oil fatty acid methyl esters over nickel substituted polyoxometalate catalyst, *Chemistry Select*, 1, 6396-6405.
- Mochida, I., Seong, H. Y., and Wenming, Q., 2006, Catalyst in syntheses and carbon precursors, *J. Braz. Chem. Soc.*, 17(6), 1059 – 1073.
- Neamhom, T., Polprasert, C., Englande Jr., A.J., 2016, Ways that sugarcane industry can help reduce carbon emissions in Thailand, *J. Clean. Prod.*, 131, 561-571.
- Noor, T., Sharif, M.Z., Arslan. M., Iqbal, N., dan Ahmad, N., 2017, Development of hydrotalcite based cobalt catalyst by hydrothermal and co-precipitation method for fischer-tropsch synthesis, *Bull. Chem., Res, Eng. Cat.*, 12(3), 357-363
- Nwosu, C., 2012, An electronegativity approach to catalytic performance, *JTST*, 1, 2528
- Rijali, A., Usman, M., dan Zulkarnain, 2015, Pembuatan dan karakterisasi karbon aktif dari bambu betung dengan aktivasi menggunakan activating agent  $H_2O$ , *Jurnal FMIPA*, 2(1):102-107.
- Robledo, R.E.P., Santolalla-Vargas, C.E., Sanchez-Minero, F., Santes, V., Flores-Valle, S.O., and Elizalde Solis, O., 2019, Effect of the formulation of  $Pd/\gamma-Al_2O_3+Pd/H-ZSM-5$  catalysts prepared by mechanical mixing for the thermal and catalytic hydrotreating of castor oil, *Catal. Today*, 2, 63-69.
- Roman-Figueroa, C., Olivares-Carrillo, P. Paneque , M., Palacios-Nereo, F.J., and Quesada-Medina, J., 2016, High-yield production of biodiesel by non-catalytic supercritical methanol transesterification of crude castor oil (*Ricinus communis*), *Energy*, 107, 165-171.
- Saka, C., 2012, BET, TG-DTG, FTIR, SEM, Iodine number analysis and preparation of activated carbon from acorn shell by chemical activation with  $ZnCl$ , *J. Anal. Appl. Pyrolysis*, 21-24.
- Sousa, F.P., Cardoso, C.C., Pasa, V.M.D., 2016. Producing hydrocarbons for green diesel and jet fuel formulation from palm kernel fat over Pd/C, *Fuel Process. Technol.*, 143, 3542.



- Sriningsih, W., Saerodji, M.G., Trisunaryanti, W., Armunanto, R., and Falah, I.I., 2014, Fuel production from LDPE plastic waste over natural zeolite supported Ni, Ni-Mo, Co and Co-Mo metals, *Procedia Environ. Sci.*, 20, 215–224.
- Tadda, M.A., Ahsan, A., Shitu, A., Elsergany, M., Arunkumar, T., Jose, B., Razaque, M.A., and Daud, N.N., 2016, A review on activated carbon: Process, application and prospects, *J. Adv. Eng. Res.*, 2 (1), 7-13.
- Taer, E., Apriwandi, Yusriwandi , Mustika, W.S., Zulkifli, Taslim, R., Sugianto, Kurniasih, B., Agustino and Dewi, P., 2018, Comparative study of CO<sub>2</sub> and H<sub>2</sub>O activation in the synthesis of carbon electrode for supercapacitors, *AIP Conf.*, 30-36.
- Thue, P.S., Eder, C.L., Joseph, M.S., Caroline, S., Silvio, I.P., Dias, J.P.V., Fabiano, S.R., and Flavio, A.P., 2017, Effect of first-row transition metals and impregnation ratios on the physicochemical properties of microwave-assisted activated carbons from wood biomass, *J. Colloid Interfac. Sci.*, 486, 163-175.
- Tokede, M.J., Benja, V.M., Lyndon, B.P., dan Zulfikar, M., 2013, Antara opini dan fakta Kayu merbau jenis niagawi hutan tropika Papua primadona yang dikhawatirkan punah, WWF-Indonesia, Papua.
- Torrentes-Espinoza, G., Miranda, B.C., Vega-Baudrit, J., and Mata-Segreda, J.F., 2017, Castor oil (*Ricinus communis*) supercritical methanolysis, *Energy*, 140, 426-435.
- Trisunaryanti, W., Kartika, I.A., Mukti, R.R., Hartati, Triyono, Widyawati, R., and Suarsih, E., 2019, Preparation of Ni- and Mo-based catalysts supported on γ-Al<sub>2</sub>O<sub>3</sub> for hydrocracking of *Calophyllum inophyllum* oil, *Biofuels*, 5(28), 175-180.
- Trisunaryanti, W., Triyono, Falah, I.I., Siagian, A.D., and Marsuki, M.F., 2018, Synthesis of ce-mesoporous silica catalyst and Its lifetime determination for the hydrocracking of waste lubricant, *Indones. J. Chem.*, 18 (3), 441-447.
- Trisunaryanti, W., 2015, *Material Katalis dan Karakterisasinya*, Universitas Gadjah Mada Press, Yogyakarta.
- Trisunaryanti, W., Triwahyuni, E., and Sudiono, S., 2005, Preparation, characterizations, and modification of Ni-Pd/Natural zeolite catalysts, *Indones. J. Chem.*, 5(1), 48-53.
- Trovati, G., Suman, M.V.N., Edgar, A.S., Pedro, H.C., Romeu, B.N., Neto, S.C., Trovati, L.R., 2019, Production and characterization of polyurethane castor oil (*Ricinus communis*) foam for nautical fender, *Polymer Testing*, 73, 87-93.
- Triyono, T., Koiri, H. M., Trisunaryanti, W., and Dewo, K., 2015, Synthesis of NH<sub>2</sub>/MCM-41 catalyst using silica of Sidoarjo mud and their characterization for palm oil transesterification, *IOSR-JAC.*, 8(8), 50-56.



- Tye, C.T., 2019, *Catalyst for hydroprocessing of heavy oils and petroleum residue: processing of heavy crude oils-challenges and opportunities*, Ramasamy Marappa Gounder, IntechOpen, 95, 1-17.
- Veiga, S., and Bussi, J., 2016, Steam reforming of crude glycerol over nickel supported on activated carbon, *E. Convers. Manag.*, 141, 79-84
- Wang, S., Shang, L., Li, L., Yu, Y., Chi, C., Wang, K., Zhang, J., Shi, R., and Shen, H., 2016, Metal-organic framework-derived mesoporous carbon nanospheres containing porphyrin-like metal centers for conformal phototherapy, *Adv. Mater.*, 28(38), 8379–8387.
- Wu, N., and Li B, 2016, A Novel synthesis of highly dispersed bimetallic catalyst Pt@M-MCM41 (M = Ni, Co) for cydrocracking of residual oil. *Chem. Lett.*, 45, 499-501.
- Wu, D., Shen, X., Zhou, L., Nagai, T., Pan, Y., Yao, L., Zulevi, B., Lubers, A., Jia, H., and Peng, Z., 2020, A Vacuum impregnation method for synthesizing octahedral Pt<sub>2</sub>CuNi nanoparticles on mesoporous carbon support and the oxygen reduction reaction electrocatalytic properties, *J. Colloid Interface Sci.*, 564, 245-253.
- Yahya, M.A., Al-Qodah, Z. and Ngah, C.Z., 2015, Agricultural bio-waste materials as potential sustainable precursors used for activated carbon production: A review, *Renew. Sust. Energ. Rev.*, 46, 218-235.
- Yorgun, S. and Yildiz, D., 2015, Preparation and characterization of activated carbons from Paulownia wood by chemical activation with H<sub>3</sub>PO<sub>4</sub>, *J. Taiwan inst. Chem. Eng.*, 1-10.