REFERENCES

Arend, M., T. Nonnen, W.F. Hoelderich, J. Fischer, J. Groos, (2011) Catalytic deoxygenation of oleic acid in continuous gas flow for the production of diesel-like hydrocarbons, *Applied Catalysis A*, 399, 198-204.

Aleklett, K., C.J. Campbell, (2003) The peak and decline of world oil and gas production, *Miner. Energy*, 18, 35-45.

An, H., W. M. Yang, A. Maghbouli, J. Li, K.J. Chua, (2014) A skeletal mechanism for biodiesel blend surrogates combustion, *Energy Conversion and Management*, 81, 51–59.

Ayodele, O. B., Auta, H. S., N. Md Nor, (2012) Artificial Neural Networks, optimization and kinetic modeling of amoxicillin degradation in photo-Fenton process using aluminum pillared montmorillonite supported ferrioxalate catalyst, *Industrial Engineering and Chemistry Research*, 51, 16311−16319.

Ayodele, O. B., (2013) Effect of phosphoric acid treatment on kaolinite supported ferrioxalate catalyst for the degradation of amoxicillin in batch photo-Fenton process, *Applied Clay Science*, 72, 74–83.

Ayodele, O.B., O.S. Togunwa, (2014) Catalytic activity of synthesized bentonite supported cuprospinel oxalate catalyst on the degradation and mineralization kinetics of Direct Blue 71, Acid Green 25 and Reactive Blue 4 pollutants in photo-Fenton process, *Applied Catalysis A*, 470, 285–293.

Ayodele, O.B., H.F Abbas, W.M.A.W. Daud, (2014) Preparation and Characterization of Zeolite Supported Fluoro-palladium Oxalate Catalyst for Hydrodeoxygenation of Oleic Acid into Paraffinic Fuel, *Industrial Engineering and Chemistry Research*, 53, 650-657.

Ayodele, O.B., H.F Abbas, W.M.A.W. Daud, Catalytic upgrading of oleic acid into biofuel using Mo modified zeolite supported Ni oxalate catalyst functionalized with fluoride ion, http://dx.doi.org/10.1016/j.enconman.2014.02.014.

Bang, Y., S.J. Han, J.G. Seo, M.H. Youn, J.H. Song, I.K. Song, (2012) Hydrogen production by steam reforming of liquefied natural gas (LNG) over ordered mesoporous nickel-alumina catalyst, *International Journal of Hydrogen Energy*, 37, 17967-17977.

Bang, Y., S.J. Han, J. Yoo, J.H. Choi, K.H. Kang, J.H. Song, J.G. Seo, J.C. Jung, I.K. Song, (2013) Hydrogen production by steam reforming of liquefied natural gas (LNG) over trimethylbenzene assisted ordered mesoporous nickel alumina catalyst, *International Journal of Hydrogen Energy,* 38, 8751-8758.

Bernas, A., J. Myllyoja, T. Salmi, D.Y. Murzin, (2009) Kinetics of linoleic acid hydrogenation on Pd/C catalyst, *Applied Catalysis A*, 353, 166–180.

Bernas, H. K. Eränen, I. Simakova, A. Leino, K. Kordás, J. Myllyoja, P. Mäki-Arvela, T. Salmi, D.Y. Murzin, (2010) Deoxygenation of dodecanoic acid under inert atmosphere, *Fuel*, 89, 2033-2039.

Breck, D.W., 1974. Zeolite Molcular Sieves, Wiley, New York, pp. 45-50.

Bouchy, C., Pham-Huu , C., B. Heinrich, Derouane, E.G., Hamida, S.B.D., Ledoux, M.J., (2001) In situ TPO, TPD and XRD characterisation of a molybdenum oxycarbohydride catalyst for n-butane isomerization, *Applied Catalysis A*, 215, 175–184.

Bridgwater, A.V. G.V.C. Peacocke, (2000) Fast pyrolysis process for biomass. Renewable Sustainable Energy and Reviews, 4, 1-73.

Cheng, J., W. Huang, (2010) Effect of cobalt nickel content on the catalytic performance of molybdenum carbides in dry-methane reforming, *Fuel Processing Technology* 91, 185–193.

Choudhary, T.V., C.B. Phillips (2011) Renewable fuels via catalytic hydrodeoxygenation Applied Catalysis A, 397, 1–12.

Cindric, M., N. Strukan, V. Vrdoljak, M. Devcic, Z. Veksli, B. Kamenar, (2000) Synthesis, structure and properties of molybdenum VI oxalate complexes of the types $M_2[Mo_2O_5C_2O_4(2H_2O)_2]$ and $M_2[MoO_3C_2O_4.]$ M = Na, K, Rb, Cs, *Inorganica Chimica Acta*, 304, 260-267.

Crossley, S., J. Faria, M. Shen, D.E. Resasco (2010), Solid nanoparticles that catalyze biofuel upgrade reactions at the water/oil interface Science 327 (5961), 68-72.

Czernik, S., A.V. Bridgwater, (2004) Overview of applications of biomass fast pyrolysis oil, *Energy and Fuels*, 2, 590-598.

Demirbas, A., (2010) Use of algae as biofuel sources, *Energy Conversion and Management*, 51, 2738-2738.

Demirbas, M. F., M. Balat, H. Balat, (2011) Biowastes to biofuels, *Energy Conversion and Management*, 52 1815–1828.

Danuthaia, T., T. Sooknoi, S. Jongpatiwut, T. Rirksomboon, S. Osuwan, D.E. Resasco, (2011) Effect of extra-framework cesium on the deoxygenation of methylester over CsNaX zeolites, *Applied Catalysis A*, 409-410, 74-81.

Do, P.T., M. Chiappero, L.L. Lobban, D.E. Resasco, (2009) Catalytic deoxygenation of methyl-octanoate and methyl-stearate on Pt/Al_2O_3, *Catalysis Letters*, 130, 9-18.

Dunn, R. O., (2009) Effect of minor constituents on cold flow properties and performance of biodiesel, *Progress in Energy and Combustion Science*, 35, 481-492.

Elaiopoulos, K., T. Perraki, E. Grigoropoulou, (2010) Monitoring the effect of hydrothermal treatments on the structure of a natural zeolite through a combined XRD, FTIR, XRF, SEM and N_2-porosimetry analysis, *Microporous and Mesoporous Materials*, 134 29–43.

French, R., S. Czernik, (2010) Catalytic pyrolysis of biomass for biofuels production, *Fuel Processing Technology*, 91, 25-32.

Gannouni, A., X. Rozanska, B. Albela, M. S. Zina, F. Delbecq, L. Bonneviot, A. Ghorbel, (2012) Theoretical and experimental investigations on site occupancy for palladium oxidation states in mesoporous Al-MCM-41 materials, *Journal of Catalysis*, 289 227–237.

Ghule, A.V., K. Ghule, S. Tzing, T. Punde, J. Liu, H. Chang, Y. Ling, (2009) Thermo-Raman spectroscopy in situ monitoring study of solid-state synthesis of $NiO–Al_2O_3$, nano particles and its characterization, *Journal of Solid State Chemistry*, 182, 3406–3411.

Ghule, A.V., Ghule, K., Tzing, S., Punde, T., Liu, J., Chang, H., Ling, Y., (2010) In situ monitoring of $NiO–Al_2O_3$ nanoparticles synthesis by thermo-Raman spectroscopy, *Material Chemistry and Physics* 119, 86–92.

Greenwood, N.N., A. Earnshaw, (1997) Chemistry of the Elements (2nd Edn.), Oxford: Butterworth-Heinemann.

Grilc, M., B. Likozar, J. Levec, (2014) Hydrodeoxygenation and hydrocracking of solvolysed lignocellulosicbiomass by oxide, reduced and sulphide form of NiMo, Ni, Mo and Pd catalysts, *Applied Catalysis B*, 150– 151, 275– 287.

Guzman, A., J.E. Torres, L.P. Prada, M.L. Nunez, (2010) Hydropressing of crude palm oil at pilot plant scale, *Catalysis Today*, 156, 38–43.

Hancsok, J., M. Krar, Sz. Magyar, L. Boda, A. Hollo, D. Kallo, (2007) Investigation of the production of high quality bio gas oil from pre-hydrogenated vegetable oils over Pt/SAPO-11/Al_2O_3, *Studies in Surface Science and Catalysis*, 170 (B) 1605‑1610.

Horácek, J., G. Stávová, V. Kelbichová, D. Kubicka, (2013) Zeolite-Beta-supported platinum catalysts for hydrogenation/hydrodeoxygenation of pyrolysis oil model compounds, *Catalysis Today*, 204, 38– 45.

Huber G.W., A. Corma, (2007) Synergies between Bio- and Oil Refineries for the Production of Fuels from Biomass, *Angewandte Chemie*, 46, 7184–7201.

Hui, K.S., K.N. Hui, S.K. Lee, (2009) A Novel and Green Approach to Produce Nano Porous Materials Zeolite A and MCM-41 from Coal Fly Ash and their Applications in Environmental Protection, *International Journal of Chemistry and Biology Engineering*, 2, (4) 165-175.

Immer, J. G., M.J. Kelly, H.H. Lamb, (2010) Catalytic reaction pathways in liquid-phase deoxygenation of C18 free fatty acids, *Applied Catalysis A*, 375, 134–139.

Kikhtyanin, O.V., A.E. Rubanov, A.B. Ayupov, G.V. Echevsky, (2010), Hydroconversion of sunflower oil on Pd/SAPO - 31 catalysts, *Fuel*, 89, 3085–3092.

Kılıc, M., Ayse, E. Pütün, B. B. Uzun, E. Pütün, (2014) Converting of oil shale and biomass into liquid hydrocarbons via pyrolysis, *Energy Conversion and Management*, 78, 461–467.

Kitano, T., S. Okazaki, T. Shishido, K. Teramura, T. Tanaka, (2013) Brønsted acid generation of alumina-supported molybdenum oxide calcined at high temperatures: Characterization by acid-catalyzed reactions and spectroscopic methods, *Journal of Molecular Catalysis A*, 371, 21-28.

Kovacs, S., T. Kasza, A. Thernesz, I.W. Horvath, J. Hancsok, (2011) Fuel production by hydrotreating of triglycerides on NiMo/Al_2O_3/F catalyst, *Chemical Engineering Journal*, 176-177, 237-243.

Krár, M., S. Kovács, D. Kalló, J. Hancsók, (2010) Fuel purpose hydrotreating of sunflower oil on CoMo/Al_2O_3 catalyst, *Bioresource Technology*, 101, 9287–9293.

Krar, M., A. Thernesz, Cs. Toth, T. Kasza, J. Hancsok, Investigation of catalytic conversion of vegetable oil/gas oil mixtures, in: I. Halasz (Ed.), Silica and Silicates in Modern Catalysis, Transworld Research Network, India, Kerala, 2010, pp. 435‑455, ISBN 978-81-7895-455-4.

Kubicka, D. J., Chudoba, P. Simacek, (2008) Catalytic conversion of vegetable oils into transportation fuels, in: Energetische Nutzung von Biomassen -Velen VIII DGMK-Fachbereichstagung: Germany, pp. 101‑106.

Kumar, P., S.R. Yenumala, S.K. Maity, D. Shee, (2014) Kinetics of hydrodeoxygenation of stearic acid using supported nickel catalysts: Effects of supports, *Applied Catalysis A* 471 28– 38.

Kwon, K.C., H. Mayfield, T. Marolla, B. Nichols, M. Mashburn, (2011) Catalytic deoxygenation of liquid biomass for hydrocarbon fuels, *Renewable Energy*, 36, 907-915.

Jia, H., J. Stark, L.Q. Zhou, C. Ling, T. Sekito, Z. Markin, (2012) Different catalytic behavior of amorphous and crystalline cobalt tungstate for electrochemical water oxidation, *RSC Adv*, 2, 10874-10881.

Lapuerta, M., M. Villajos, J. R. Agudelo, A. L. Boehman, (2011) Key properties and blending strategies of hydrotreated vegetable oil as biofuel for diesel engines, *Fuel Processing Technology*, 92, 2406-2411.

Lee, S. J., K. Kim, (1998) Diffuse reflectance infrared spectra of stearic acid self-assembled on fine silver particles, *Vibrational Spectroscopy*, 18, 187–201.

Lestari, S., J. Beltramini, G. Q. Max Lu, (2008) Catalytic deoxygenation of stearic acid over palladium supported on acid modified mesoporous silica, *Studies in Surface Science and Catalysis B*, 174, 1339-1342.

Li, J., Z. Xia, W. Lai, J. Zheng, B. Chen, X. Yi, W. Fang, (2012) Hydrodemetallation (HDM) of nickel-5,10,15,20-tetraphenylporphyrin Ni-TPP over NiMo/γ-Al_2O_3 catalyst prepared by one-pot method with controlled precipitation of the components, *Fuel*, 97, 504–511.

Li, S. J. Chen, T. Hao, W. Lianga, X. Liu, M. Sun, X. Ma, (2013) Pyrolysis of Huang Tu Miao coal over faujasite zeolite and supported transition metal catalysts, Journal of Analytical and Applied Pyrolysis, 102, 161-168.

Li-hua, L., L. Di, L. Bin, L. Guang-ci, L. Yun-qi, L. Chen-guang, (2011) Relation between the morphology of MoS_2 in NiMo catalyst and its selectivity for dibenzothiophene hydrodesulfurization, *Journal of Fuel Chemistry and Technology*, 39 (11) 838 – 843.

Liu, F., K. Asakura, H. He, Y. Liu, W. Shan, X. Shi, C. Zhang, (2011) Influence of calcination temperature on iron titanate catalyst for the selective catalytic reduction of NOx with NH_3, *Catalysis Today*, 164, 520-527.

Liu, Y., R. Sotelo-Boyas, K. Murata, T. Minowa, K. Sakanishi, (2009) Hydrotreatment of jatropha oil to produce green diesel over trifunctional Ni–Mo/SiO_2–Al_2O_3 catalyst, *Chemistry Letters*, 38, 552-553.

Liu, S., X. Wu, D. Weng, M. Li, H. Lee, (2012) Combined promoting effects of platinum and MnOx–CeO2 supported on alumina on NOx-assisted soot oxidation: Thermal stability and sulfur resistance, *Chemical Engineering Journal*, 203 25–35.

Missen, R.W., C.A. Mims, B.A. Saville, Introduction to Chemical Reaction Engineering and Kinetics, John Wiley & Sons, Inc, 1999, New York, pp 128 – 140.

Mironova-Ulmane, N., A. Kuzmin, I. Sildos, M. Pärs, (2011) Polarisation dependent Raman study of single-crystal nickel oxide, Central European Journal of Physics, 9(4) 1096-1099.

Moen, J., C. Yang, B. Zhang, H. Lei, K. Hennessy, Y. Wan, (2009) Catalytic microwave assisted pyrolysis of aspen, *International Journal of Agricultural and Biological Engineering*, 4, 70-75.

Monniera, J., H. Sulimma, A. Dalai, G. Caravaggio, (2010) Hydrodeoxygenation of oleic acid and canola oil over alumina-supported metal nitrides, *Applied Catalysis A* 382 176–180.

Moniruzzaman, M., P. R. Sundararajan, (2004) Morphology of blends of self-assembling long-chain carbamate and stearic acid, *Pure Applied Chemistry*, 76, 1353–1363.

Morgan, T., D., Grubb, E., Santillan-Jimenez, M. Crocker, (2010), Conversion of Triglycerides to Hydrocarbons over Supported Metal Catalysts, *Topics in Catalysis*, 53, 820-826.

Mortensena, P.M., J.D. Grunwaldt, P.A. Jensena, K.G. Knudsen, A.D. Jensen, E. Antonakou, (2011) A review of catalytic upgrading of bio-oil to engine fuels, *Applied Catalysis A*, 407, 1–19.

Multifactor RSM Tutorial (Part 2−Optimization), Design-Expert 8 User's Guide, version 7.1.5, Stat Ease: Minneapolis, MN, 2008.

Na, J.G., B. E. Yi, J. K. Han, Y.K. Oh, J.-H Park, T. S. Jung, S.S. Han, H.C. Yoon, J.N Kim, H. Lee, C. H. Ko, (2012) Deoxygenation of microalgal oil into hydrocarbon with precious metal catalysts: Optimization of reaction conditions and supports, *Energy*, 47 25-30.

Naydenov, V., L. Tosheva, J. Sterte, (2002) Palladium-Containing Zeolite Beta Macrostructures Prepared by Resin Macrotemplating, Chemistry of Materials, ,14, 4881-4885.

Ng, K.Y.S., X. Zhou, E. Gulari, (1985) Spectroscopic Characterization of Molybdenum Oxalate in Solution and on Alumina, *Journal of Physics and Chemistry*, 89, 2411-2481.

Nigam, P.S., A. Singh, (2011) Production of liquid biofuels from renewable resources, *Progress in Energy Combustion and Science*, 37, 52-68.

Oh, S.W., H.J. Bang, Y.C. Bae, Y.K. Sun, (2007) Effect of calcination temperature on morphology, crystallinity and electrochemical properties of nano-crystalline metal oxides (Co_3O4, CuO, and NiO) prepared via ultrasonic spray Pyrolysis, *Journal of Power Sources*, 173, 502-509.

O'Hagan, D., (2008) Understanding organofluorine chemistry, An introduction to the C–F bond, *Chemical Society Reviews*, 37 (2), 308-19.

Ohtsuka, H., T. Tabata, (1999) Effect of water vapor on the deactivation of Pd-zeolite catalysts for selective catalytic reduction of nitrogen monoxide by methane, *Applied Catalysis B*, 21, 133–139.

Ong, H.C., H.H. Masjuki, T.M.I. Mahlia, A.S. Silitonga, W.T. Chong, K.Y. Leong, (2014) Optimization of biodiesel production and engine performance from high free fatty acid Calophyllum inophyllum oil in CI diesel engine, *Energy Conversion and Management*, 81, 30-40.

Pagliaro, M., R., Ciriminna, H., Kimura, M., Rossi, C.D. Pina, (2007) From Glycerol to Value- Added Products, *Angewandte Chemie International Edition*, 47, 4434-4440.

Pal-Borbely, G., (2007) Thermal Analysis of Zeolites, *Molecular Sieves*, 5, 67–101.

Panda, A.K., B.G. Mishra, D.K. Mishra, R.K. Singh, (2010) Effect of sulphuric acid treatment on the physico-chemical characteristics of kaolin clay, *Journal of Colloids and Surfaces A*, 363, 98–104.

Persson, P., K. Axe, (2005) Adsorption of oxalate and malonate at the water-goethite interface: molecular surface speciation from IR spectroscopy, *Geochimica et Cosmochimica Acta*, 69, 541-552.

Ping, E.W., R. Wallace, J. Pierson, T.F. Fuller, C.W. Jones, (2010) Highly dispersed palladium nanoparticles on ultra-porous silica mesocellular foam for the catalytic decarboxylation of stearic acid, *Microporororous and Mesoporous Materials*, 132, 174–180.

Pinzi, S., I.L. Garcia, F.J. Lopez-Gimenez, M.D.L. de Castro, G. Dorado, M.P. Dorado, (2009) The ideal vegetable oil- based biodiesel composition: a review of social, economic and technical implications, *Energy Fuels*, 23, 2325.

Pommier, B., P. Gelin, (1999) On the nature of Pd species formed upon exchange of H-ZSM-5 with $Pd((NH_3)_4)^{2+}$ and calcination in O_2, *Physics Chemistry and Chemistry of Physics*, 1, 1665-1672.

Priecel, P., D. Kubicka, L. Capeka, Z. Bast, P. Rysanek, (2011) The role of Ni species in the deoxygenation of rapeseed oil over NiMo-alumina catalysts, *Applied Catalysis A*, 397, 127–137.

Ray, F., W. Matt, M. Wayde, M. Stuart, (2006) The hydroxylated nickel carbonates otwayite and paraotwayite - a SEM, EDX and vibrational spectroscopic study. *Neues Jahrbuch für Mineralogie Abhandlungen*, 183, 107-116.

Santana, G.C.S., P.F. Martins, N. de Lima da Silva, C.B. Batistella, M.R. Filho, M.R.W. Maciel, (2010) Simulation and cost estimate for biodiesel production using castor oil, *Chemical Engineering Research and Design*, 88, 626-632.

Scheeren, C.W., J.B. Domingos, G. MacHado, J. Dupont, (2008) Hydrogen Reduction of Adams' Catalyst in Ionic Liquids: Formation and Stabilization of Pt(0) Nanoparticles, *Journal of Physics and Chemistry C* 112 (42) 16463–16469.

Santillan-Jimenez, E., T. Morgan, J. Lacny, S. Mohapatra, M. Crocker, (2013) Catalytic deoxygenation of triglycerides and fatty acids to hydrocarbons over carbon-supported nickel, *Fuel*, 103, 1010-1017.

Sbihi, H.M., I.A. Nehdi, C.P. Tan, S. I. Al-Resayes, (2014) Production and characterization of biodiesel from Camelus dromedaries (Hachi) fat, *Energy Conversion and Management*, 78 50–57.

Senol, O.I., T.-R. Vijaya, A.O.I. Krause (2005), Hydrodeoxygenation of Aliphatic Esters on Sulphided NiMo/γ-Al_2O_3 and CoMo/γ-Al_2O_3 Catalyst: The Effect of Water, Catalysis Today 106 (2005) 186-189.

Sensöz, S., D., Angın, S. Yorgun, (2000) Influence of particle size on the pyrolysis of rapeseed Brassica napus L.: fuel properties of bio-oil, *Biomass and Bioenergy*, 19, 271-279.

Silverstein, R. M., F.X., Webster, D.J. Kiemle, Spectrometric identification of organic compounds; 7th edition; John Wiley & sons: USA, 2005.

Simacek, P., D. Kubicka, G. Sebor, M. Pospisil, (2009) Hydroprocessed rapeseed oil as a source of hydrocarbon-based biodiesel, *Fuel*, 88, 456‑460.

Simácek , P., D. Kubicka, (2010) Hydrocracking of petroleum vacuum distillate containing rapeseed oil: Evaluation of diesel fuel, *Fuel*, 89, 1508–1513.

Simakova, I., O. Simakova, P. Maki-Arvela, A. Simakov, M. Estrada, D. Y. Murzin, (2009) Deoxygenation of palmitic and stearic acid over supported Pd catalysts: Effect of metal dispersion, *Applied Catalysis A*, 355 100-108.

Snare, M., I., Kubickova, P., Maki-Arvela, D., Chichova, K., Eranen, D.Y. Murzin, (2008) Catalytic deoxygenation of unsaturated renewable feedstocks for production of diesel fuel hydrocarbons, *Fuel*, 87, 933–945.

Somnuk, K., S. Niseng, G. Prateepchaikul, (2014) Optimization of high free fatty acid reduction in mixed crude palm oils using circulation process through static mixer reactor and pilot-scale of two-step process, *Energy Conversion and Management*, 80, 374–381.

Sousa, L.A., J.L. Zotin, V. Teixeira da Silva, (2012) Hydrotreatment of sunflower oil using supported molybdenum carbide, *Applied Catalysis A*, 449, 105– 111.

Sotelo-Boyás R, Liu Y, T. Minowa, (2011) Renewable Diesel Production from the Hydrotreating of Rapeseed Oil with Pt/Zeolite and $NiMo/Al_2O_3$ Catalysts, *Industrial Engineering and Chemistry Research*, 50 (5), 2791-2799.

Takase, M., M. Zhang, W. Feng, Y. Chen, T. Zhao, S.J. Cobbina, L. Yang, X. Wu, (2014) Application of zirconia modified with KOH as heterogeneous solid base catalyst to new non-edible oil for biodiesel, *Energy Conversion and Management*, 80, 117–125.

Tanev, P.T., A. Lange De Oliveira, (2012) Methane aromatization catalyst, method of making and method of using the catalyst, *United States Patent, US 2012/0123176 A1*.

Trovo, A.G., R.F.P. Nogueira, A. Aguera, A.R. Fernandez-Alba, S. Malato, (2011) Degradation of the antibiotic amoxicillin by photo-Fenton process –chemical and toxicological assessment, *Water Research*, 45 1394–1402.

Wang, C., J., Pan, J., Li, Z. Yang, (2008) Comparative studies of products produced from four different biomass samples via deoxy-liquefaction, *Bioresource Technology*, 99, 2778-2786.

Wang, D., R., Xiao, H., Zhang, G. He, (2010) Comparison of catalytic Pyrolysis of biomass with MCM-41 and CaO catalysts by using TGA-FTIR analysis, *Journal of Analytical and Applied Pyrolysis*, 89, 171-177.

Wang, G., Y., Wang, Y., Liu, Z., Liu, Y., Guo, G., Liu, Z., Yang, M., Xu, L. Wang, (2009) Synthesis of highly regular mesoporous Al-MCM-41 from metakaolin, *Applied Clay Science*, 44, 185-191.

Wang, X., O., Ozdemir, M.A. Hampton, A.V. Nguyen, D.D. Do, (2012) The effect of zeolite treatment by acids on sodium adsorption ratio of coal seam gas water, *Water Research*, 46, 5247-5252.

Wu, N., L. Fu, M. Su, M. Aslam, K. C. Wong, V.P. Dravid, (2004) Interaction of Fatty Acid Monolayers with Cobalt Nanoparticles, *Nano Letters*, 4 (2) 383-386.

Xiaoling, L., Yan, W., Xujin, W., Yafei, Z., Yanjun, G., Qinghu, X., Jun, X., Feng, D., Tao, D., (2012) Characterization and Catalytic Performance in n-Hexane Cracking of HEU-1 Zeolites Dealuminated Using Hydrochloric Acid and Hydrothermal Treatments, *Chinese Journal of Catalysis*, 33, 1889–1900.

Xie, W., L. Zhao, (2013) Production of biodiesel by transesterification of soybean oil using calcium supported tin oxides as heterogeneous catalysts, *Energy Conversion and Management*, 76, 55–62.

Xue, T., Y.M. Wang, M.Y. He, (2012) Facile synthesis of nano-sized NH4-ZSM-5 zeolites. *Microporous and Mesoporous Materials*, 156, 29–35.

Yang, H., H. Chen, H. Du, R. Hawkins, F. Craig, Z. Ring, O. Omotoso, V. Munoz, R. Mikula, (2009) Incorporating platinum precursors into a NaA-zeolite synthesis mixture promoting the formation of nanosized zeolite, *Microporous and Mesoporous Materials,* 117 33–40.

Yang, Y., C. Ochoa-Hernández, V.A. de la Peña O'Shea, J.M. Coronado, D.P. Serrano, (2012) Ni_2P/SBA-15 as a Hydrodeoxygenation Catalyst with Enhanced Selectivity for the Conversion of Methyl Oleate Into n-Octadecane, *ACS Catalysis*, 2, 592-598.

You, M., X. Wang, X. Zhang, L. Zhang, J. Wang, (2011) Microencapsulated n-Octadecane with styrene-divinybenzene co-polymer shells, *Journal of Polymer Research*, 18, 49–58.

Yu, Y., G. Xiong, C. Li, F.S. Xiao, (2001) Characterization of aluminosilicate zeolites by UV Raman spectroscopy, *Microporous and Mesoporous Materials*, 46, 23-34.

Zhang, H., H. Lin, W. Wang, Y. Zheng, P. Hu, (2014) Hydroprocessing of waste cooking oil over a dispersed nano catalyst: Kinetics study and temperature effect, *Applied Catalysis B*, 150– 151.

Zhang, J., Z. Xin, X. Meng, M. Tao, (2013) Synthesis, characterization and properties of anti-sintering nickel incorporated MCM-41 methanation catalysts, *Fuel*, 109, 693-701.

Zhang, Q., T. Wang, Y. Xu, Q. Zhang, L. Ma, (2014) Production of liquid alkanes by controlling reactivity of sorbitol hydrogenation with a Ni/HZSM-5 catalyst in water, *Energy Conversion and Management*, 77, 262–268.

WEBSITES

American Elements, http://www.americanelements.com/nioxl.html, January 2014.

Biodiesel Fact Sheets, The Official Site of the National Biodiesel Board, www.biodiesel.org/production/production-statistics, April, 2014.

Heraeus Innovation Award 2012: New platinum compound and two process innovations take top honors, http://www.aktiv-verzeichnis.de/news/126749.html, April 2014.

http://www2.ups.edu/faculty/hanson/Spectroscopy/IR/IRfrequencies.html, January 2014.

NIST Chemistry Webbook, http://webbook.nist.gov/chemistry, May 2014.

Neste Oil Corporation, http://www.nesteoil.com, April 2013.

LIST OF PUBLICATIONS

1. **O. B. Ayodele**, H. F. Abbas, W. M. A. W (2014) Daud, Preparation and Characterization of Zeolite Supported Fluoro-palladium Oxalate Catalyst for Hydrodeoxygenation of Oleic Acid into Paraffinic Fuel, Industrial Engineering and Chemistry Research, 53 (2), 650–657. **(Tier 1 ISI/Scopus cited)**
2. **O. B. Ayodele**, H. F. Abbas, W. M. A. W Daud (2014). Catalytic upgrading of oleic acid into biofuel using Mo modified zeolite supported Ni oxalate catalyst functionalized with fluoride ion, *Energy Conversion and Management*, DOI:10.1016/j.enconman.2014.02.014. **(Tier 1 ISI/Scopus cited)**
3. **O. B. Ayodele,** H.F. Abbas, Wan Mohd Ashri Wan Daud (2014). Hydrodeoxygenation of Shea butter to produce diesel-like fuel using acidified and basic Al_2O_3 supported molybdenum oxalate catalyst based on Aspen Hysys simulation study- with Aspen Hysys simulation study, *Energy Education Science and Technology Part A: Energy Science and Research,* 32 (1) 447-460. **(Tier 1 Scopus cited)**
4. Preparation and characterization of alumina supported nickel-oxalate catalyst for the hydrodeoxygenation of oleic acid into normal and iso-octadecane biofuel, *Energy Conversion and Management,* http://dx.doi.org/10.1016/j.enconman.2014.05.099 **(Tier 1 ISI/Scopus cited)**
5. **O. B. Ayodele**, H. F. Abbas, W. M. A. W Daud, Synthesis of zeolite supported palladium-oxalate catalyst for the hydrodeoxygenation of stearic acid into mixture of normal and iso-octadecane, Energy and Fuels, Accepted Manuscripts, 6 August, 2014. **(Tier 1 ISI/Scopus cited)**

6. **O. B. Ayodele**, H. F. Abbas, W. M. A. W Daud. Synthesis of fluoride ion functionalized molybdenum oxalate zeolite supported catalyst for the hydrodeoxygenation of oleic acid into paraffinic biofuel, Industrial Engineering and Chemistry Research, (Manuscript under review), May 2014. **(Tier 1 ISI/Scopus cited)**
7. **O. B. Ayodele**, H. F. Abbas, W. M. A. W Daud. Effect of oxalic acid functionalization on alumina supported Ni catalyst on the isomerization, kinetics and Arrhenius parameters of oleic acid hydrodeoxygenation into biofuel, Applied Energy, (Manuscript under review), June 2014. **(Tier 1 ISI/Scopus cited)**
8. **O. B. Ayodele**, H. F. Abbas, W. M. A. W Daud. Optimization of catalytic hydrodeoxygenation of oleic acid into biofuel using fluoroplatinum oxalate zeolite supported catalyst, Journal of the Taiwan Institute of Chemical Engineers, (Manuscript under review), July 2014. **(Tier 1 ISI/Scopus cited)**

Conference Proceedings

1. **O. B. Ayodele,** Wan Mohd Ashri Wan Daud, "Hydrodeoxygenation of Shea butter to produce diesel-like fuel using acidified and basic Al_2O_3 supported molybdenum oxalate catalyst based on Aspen Hysys simulation study" digital proceedings of the 8th SDEWES Conference on Sustainable Development of Energy, Water and Environment Systems, 22 - 27 September 2013, Dubrovnik, Croatia.

Other Publications during Candidature Year

1. N.H.M. Azmi, **O.B. Ayodele**, V.M. Vadivelu, B. H. Hameed (2014). Fe-modified local clay as effective and reusable heterogeneous photo-Fenton catalyst for the

decolorization of Acid Green 25, *Journal of the Taiwan Institute of Chemical Engineers*, http://dx.doi.org/10.1016/j.jtice.2014.03.002 **(Tier 1 ISI/Scopus cited)**

2. **O. B. Ayodele,** O.S. Togunwa (2014). Catalytic activity of synthesized bentonite supported cuprospinel oxalate catalyst on the degradation and mineralization kinetics of Direct Blue 71, Acid Green 25 and Reactive Blue 4 pollutants in photo-Fenton process, *Applied Catalysis A*, 470, 285– 293. **(Tier 1 ISI/Scopus cited)**
3. **O. B. Ayodele**, B. H. Hameed (2013). Development of kaolin supported ferric oxalate heterogeneous catalyst for degradation of 4-nitrophenol in photo Fenton process, *Applied Clay Science*, 83–84, 171-181. (**Elsevier**)
4. **O. B. Ayodele**, (2013). Effect of phosphoric acid treatment on kaolin clay supported ferrioxalate catalyst for the degradation of amoxicillin in batch photo-Fenton process, *Applied Clay Science*, 72, 74–83. **(Tier 1 ISI/Scopus cited)**
5. **O. B. Ayodele**, B. H. Hameed (2013). Synthesis of copper pillared bentonite ferrioxalate catalyst for degradation of 4-nitrophenol in visible light assisted Fenton process, *Journal of Industrial and Engineering Chemistry*, 19, (3), 966–974. **(Tier 1 ISI/Scopus cited)**
6. **O. B. Ayodele**, H. S. Auta, N. Md Nor, (2012). Artificial Neural Networks, optimization and kinetic modeling of amoxicillin degradation in photo-Fenton process using aluminum pillared montmorillonite supported ferrioxalate catalyst, *Industrial and Engineering Chemistry Research Journal*, 51, 16311−16319. **(Tier 1 ISI/Scopus cited)**