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- Adamiak, J. and Chmielarek, M., 2015, Efficient and selective nitration of xylenes over MoO₃/SiO₂ supported phosphoric acid, *J. Ind. Eng. Chem.*, 27, 175–181.
- Adawiah, S.R., Sutarno, S., and Suyanta, S., 2020, Studi Adsorpsi-Desorpsi Anion Fosfat Pada Bentonit Termodifikasi CTAB, *Indo. J. Chem. Res.*, 8, 125–136.
- Agustriyanto, R., Sapei, L., Rosaline, G., and Setiawan, R., 2017, The Effect of Temperature on the Production of Nitrobenzene,. In, *IOP Conference Series: Materials Science and Engineering*. Institute of Physics Publishing.
- Alfredo Reyes Villegas, V., Isaías De León Ramírez, J., Hernandez Guevara, E., Perez Sicairos, S., Angelica Hurtado Ayala, L., and Landeros Sanchez, B., 2020, Synthesis and characterization of magnetite nanoparticles for photocatalysis of nitrobenzene, *J. Saudi Chem. Soc.*, 24, 223–235.
- Alothman, Z.A., 2016, A Review: Fundamental Aspects of Silicate Mesoporous Materials, *Materials*, 5, 2874–2902.
- Aloulou, H., Ghorbel, A., Aloulou, W., Ben Amar, R., and Khemakhem, S., 2021, Removal of fluoride ions (F⁻) from aqueous solutions using modified Turkish zeolite with quaternary ammonium, *Environ. Technol. (United Kingdom)*, 42, 1353–1365.
- Anggoro, D.D., Oktavianty, H., Sasongko, S.B., and Buchori, L., 2020, Effect of dealumination on the acidity of zeolite Y and the yield of glycerol mono stearate (GMS), *Chemosphere*, 257, 127012.
- Ates, A. and Hardacre, C., 2012, The effect of various treatment conditions on natural zeolites: Ion exchange, acidic, thermal and steam treatments, *J. Colloid Interface Sci.*, 372, 130–140.
- Atikah, W.S., 2017, Media Adsorben Pewarna Tekstil the Potentiality of Activated Natural Zeolite From Gunung, *Arena Tekst.*, 32, 17–24.
- Ayad, Z., Hussein, H.Q., and Al-Tabbakh, B.A., 2020, Synthesis and characterization of high silica HY zeolite by basicity reduction, *AIP Conf. Proc.*, 2213, 1–7.
- Burris, L.E. and Juenger, M.C.G., 2016, The effect of acid treatment on the reactivity of natural zeolites used as supplementary cementitious materials, *Cem. Concr. Res.*, 79, 185–193.
- Chung, K.H., Jeong, S., Kim, H., Kim, S.J., Park, Y.K., and Jung, S.C., 2017, Highly selective catalytic properties of HZSM-5 zeolite in the synthesis of acetyl triethyl citrate by the acetylation of triethyl citrate with acetic anhydride, *Catalysts*, 7, 1–13.
- Fajar, A.T.N., Nurdin, F.A., Mukti, R.R., Subagjo, Rasrendra, C.B., and Kadja, G.T.M., 2020, Synergistic effect of dealumination and ceria impregnation to



the catalytic properties of MOR zeolite, *Mater. Today Chem.*, 17, 100313.

Ganjala, V.S.P., Neeli, C.K.P., Pramod, C.V., Khagga, M., Rao, K.S.R., and Burri, D.R., 2014, Eco-friendly nitration of benzenes over zeolite- β -SBA-15 composite catalyst, *Catal. Commun.*, 49, 82–86.

Gea, S., Irvan, I., Wijaya, K., Nadia, A., Pulungan, A.N., Sihombing, J.L., and Rahayu, R., 2022, Bio-oil hydrodeoxygenation over acid activated-zeolite with different Si/Al ratio, *Biofuel Res. J.*, 9, 1630–1639.

Gea, S., Irvan, Wijaya, K., Nadia, A., Pulungan, A.N., Sihombing, J.L., and Rahayu, 2022, Bio-oil hydrodeoxygenation over zeolite-based catalyst: the effect of zeolite activation and nickel loading on product characteristics, *Int. J. Energy Environ. Eng.*, 13, 541–553.

Handayani, P.A., Abdullah, A., and Hadiyanto, H., 2017, Biodiesel production from Nyamplung (*Calophyllum inophyllum*) oil using ionic liquid as a catalyst and microwave heating system, *Bull. Chem. React. Eng. & Catal.*, 12, 293–298.

Hartati, Prasetyoko, D., Santoso, M., Qoniah, I., Leaw, W.L., Firda, P.B.D., and Nur, H., 2020, A review on synthesis of kaolin-based zeolite and the effect of impurities, *J. Chinese Chem. Soc.*, 67, 911–936.

Hemalatha, K., Madhumitha, G., Kajbafvala, A., Anupama, N., Sompalle, R., and Mohana Roopan, S., 2013, Function of nanocatalyst in chemistry of organic compounds revolution: An overview, *J. Nanomater.*, 2013, 1–23.

Horikoshi, S. and Serpone, N., 2014, Role of microwaves in heterogeneous catalytic systems, *Catal. Sci. Technol.*, 4, 1197–1210.

Izci, E. and Izci, A., 2007, Dielectric behavior of the catalyst zeolite NaY, *Turkish J. Chem.*, 31, 523–530.

Joncour, R., Ferreira, A., Duguet, N., and Lemaire, M., 2018, Preparation of para - Aminophenol from Nitrobenzene through Bamberger Rearrangement Using a Mixture of Heterogeneous and Homogeneous Acid Catalysts, *Org. Process Res. Dev.*, 22, 312–320.

Kim, T., Lee, J., and Lee, K.H., 2014, Microwave heating of carbon-based solid materials, *Carbon Lett.*, 15, 15–24.

Koskin, A.P., Golokhvast, K.S., Danolova, I.G., Vedyagin, A.A., and Mishakov, I. V., 2013, Studying the Catalytic Activity of Naturally Occurring Zeolites in the Gas-Phase Nitration Reaction of Aromatic Compounds, *Chem. Sustain. Dev.*, 21, 313–321.

Koskin, A.P., Kenzhin, R. V., Vedyagin, A.A., and Mishakov, I. V., 2014, Sulfated perfluoropolymer-CNF composite as a gas-phase benzene nitration catalyst, *Catal. Commun.*, 53, 83–86.

Koskin, A.P., Mishakov, I. V., and Vedyagin, A.A., 2016, In search of efficient catalysts and appropriate reaction conditions for gas phase nitration of



- benzene, *Resour. Technol.*, 2, 118–125.
- Krol, M., 2020, Natural vs. Synthetic Zeolites, *Crystals*, 10, 1–8.
- Kulal, A.B., Dongare, M.K., and Umbarkar, S.B., 2016, Sol-gel synthesised WO_3 nanoparticles supported on mesoporous silica for liquid phase nitration of aromatics, *Appl. Catal. B Environ.*, 182, 142–152.
- Kulal, A.B., Kasabe, M.M., Jadhav, P. V., Dongare, M.K., and Umbarkar, S.B., 2019, Hydrophobic WO_3/SiO_2 catalyst for the nitration of aromatics in liquid phase, *Appl. Catal. A Gen.*, 574, 105–113.
- Kulkarni, A.A., 2014, Continuous flow nitration in miniaturized devices, *Beilstein J. Org. Chem.*, 10, 405–424.
- Liu, J., Wang, Y., Gong, S., Duan, W., and Huang, X., 2021, Liquid phase nitration of benzene catalyzed by a novel salt of molybdovanadophosphoric heteropolyacid, *J. Braz. Chem. Soc.*, 32, 1270–1276.
- Mane, V., Lalaso, M., Waghmode, S., Jadhav, K.D., Dongare, M.K., and P. Dagade, S., 2014, Nitration of Benzene Using Mixed Oxide Catalysts, *IOSR J. Appl. Chem.*, 7, 50–57.
- Mansir, N., Taufiq-Yap, Y.H., Rashid, U., and Lokman, I.M., 2017, Investigation of heterogeneous solid acid catalyst performance on low grade feedstocks for biodiesel production: A review, *Energy Convers. Manag.*, 141, 171–182.
- Margin, K., Zabukovec, N., Siljeg, M., and Farkas, A., 2013, Natural Zeolites in Water Treatment – How Effective is Their Use, *Water Treat.*, 81–112.
- Mgbemere, H.E., Ekpe, I.C., and Lawal, G.I., 2017, Zeolite Synthesis, Characterisation and Application Areas: A Review, *Int. Res. J. Environ. Sci.*, 6, 45–59.
- Mohamed, R.M., Mkhald, I.A., and Barakat, M.A., 2015, Rice husk ash as a renewable source for the production of zeolite NaY and its characterization, *Arab. J. Chem.*, 8, 48–53.
- Motasemi, F. and Afzal, M.T., 2013, A review on the microwave-assisted pyrolysis technique, *Renew. Sustain. Energy Rev.*, 28, 317–330.
- Nordin, N., Hamzah, Z., Hashim, O., Kasim, F.H., and Abdullah, R., 2015, Effect of Temperature in Calcination Process of Seashells, *Malaysian J. Anal. Sci.*, 19, 65–70.
- Olegario-Sanchez, E., Felizco, J.C., and Mulimbayan, F., 2017, Investigation of the thermal behavior of Philippine natural zeolites, *AIP Conf. Proc.*, 1901, 1–5.
- Padervand, M., Rahmani, A., Rahimnejad, S., and Gholami, M.R., 2017, Highly efficient nitrobenzene photoreduction over the amino acid-modified $\text{CdS}-\text{TiO}_2$ nanostructures under visible light, *Nanochem. Res.*, 2(1), 109–119.



- Roz, T.Y. and Astuti, A., 2016, Pengaruh Temperatur Kalsinasi pada Sintesis Nanopartikel Silika Pantai Purus Kota Padang, *J. Fis. Unand*, 5, 351–356.
- Salim, I., Trisunaryanti, W., Triyono, and Arryanto, Y., 2016, Hydrocracking of coconut oil into gasoline fraction using Ni/modified natural zeolite catalyst, *Int. J. ChemTech Res.*, 9, 492–500.
- Sana, S., Reddy, K.R., Rajanna, K.C., Venkateswarlu, M., and Ali, M.M., 2012, Mortar-Pestle and Microwave Assisted Regioselective Nitration of Aromatic Compounds in Presence of Certain Group V and VI Metal Salts under Solvent Free Conditions, *Int. J. Org. Chem.*, 02, 233–247.
- Schulman, E., Wu, W., and Liu, D., 2020, Two-dimensional zeolite materials: Structural and acidity properties, *Materials (Basel)*, 13, 1–52.
- Sihombing, J.L., Gea, S., Wirjosentono, B., Agusnar, H., Pulungan, A.N., Herlinawati, H., and Yusuf, M., 2020, Characteristic and Catalytic Performance of Co and Co-Mo Metal Impregnated in Sarulla Natural Zeolite Catalyst for Hydrocracking of MEFA Rubber Seed Oil into Biogasoline Fraction, *Catalysts*, 10, 1–14.
- Silaghi, M.C., Chizallet, C., and Raybaud, P., 2014, Challenges on molecular aspects of dealumination and desilication of zeolites, *Microporous Mesoporous Mater.*, 191, 82–96.
- Sriningsih, W., Saerodji, M.G., Trisunaryanti, W., Triyono, 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.
- Surat, M. a., Jauhari, S., and Desak, K.R., 2012, A brief review : Microwave assisted organic reaction, *Appl. Sci. Res.*, 4, 645–661.
- Suseno, A., Wijaya, K., Trisunaryanti, W., and Roto, 2018, Synthesis and Characterization of Ni-Cu doped Zirconia-pillared Bentonite, *Orient. J. Chem.*, 34, 1427–1431.
- Trisunaryanti, W., Triyono, Falah, I.I., Widyawati, D., and Yusniyanti, F., 2022, The effect of oxalic acid and NaOH treatments on the character of Wonosari natural zeolite as Ni, Cu, and Zn metal support catalyst for hydrocracking of castor oil, *Biomass Convers. Biorefinery*, 1–14.
- Umrigar, V., Chakraborty, M., and Parikh, P.A., 2017, Study of the reaction paths for cleaner production of nitrochlorobenzenes using microwave irradiation, *Chem. Eng. Res. Des.*, 117, 369–375.
- Venkatesha, N.J., Bhat, Y.S., and Jai Prakash, B.S., 2016, Dealuminated BEA zeolite for selective synthesis of five-membered cyclic acetal from glycerol under ambient conditions, *RSC Adv.*, 6, 18824–18833.
- Wijaya, K., Lammaduma Malau, M.L., Utami, M., Mulijani, S., Patah, A., Wibowo,



A.C., Chandrasekaran, M., Rajabathar, J.R., and Al-Lohedan, H.A., 2021, Synthesis, characterizations and catalysis of sulfated silica and nickel modified silica catalysts for diethyl ether (Dee) production from ethanol towards renewable energy applications, *Catalysts*, 11, 1–13.

Wijaya, K., Purba, S.E., Trisunaryanti, W.-, and Pratika, R.A., 2021, Dealuminated and Desilicated Natural Zeolite as a Catalyst for Hydrocracking of Used Cooking Oil into Biogasoline, *Mediterr. J. Chem.*, 11, 75.

Wijayati, N. and Utomo, A.B., 2016, Natural Zeolite Catalyst for Conversion of α -Pinene, *Int. J. Chem. Eng. Appl.*, 7, 138–141.

Xu, L., Zhang, J., Ding, J., Liu, T., Shi, G., and Li, X., 2020, Pore Structure and Fractal Characteristics of Different Shale Lithofacies in the Dalong Formation in the Western Area of the Lower Yangtze Platform, *Minerals*, 10, 1–25.

You, K., Deng, R., Jian, J., Liu, P., Ai, Q., and Luo, H., 2015, $H_3PW_{12}O_{40}$ synergized with MCM-41 for the catalytic nitration of benzene with NO_2 to nitrobenzene, *RSC Adv.*, 5, 73083–73090.

Zhao, X., Xu, J., and Deng, F., 2020, Solid-state NMR for metal-containing zeolites: From active sites to reaction mechanism, *Front. Chem. Sci. Eng.*, 14, 159–187.

Zhou, S., You, K., Gao, H., Deng, R., Zhao, F., Liu, P., Ai, Q., and Luo, H., 2017, Mesoporous silica-immobilized $FeCl_3$ as a highly efficient and recyclable catalyst for the nitration of benzene with NO_2 to nitrobenzene, *Mol. Catal.*, 433, 91–99.

Zhou, S., You, K., Yi, Z., Liu, P., and Luo, H., 2017, Metal salts with highly electronegative cations as efficient catalysts for the liquid-phase nitration of benzene by NO_2 to nitrobenzene, *Front. Chem. Sci. Eng.*, 11, 205–210.