

# Research Publications 2020

- 1) Mukhtar, A., Saqib, S., Mellon, N.B., Rafiq, S., Babar, M., Ullah, S., Muhammad, N., Khan, A.L., Ayoub, M., Ibrahim, M., Maqsood, K., Bustam, M.A., Al-Sehemi, A.G., Klemeš, J.J., Asif, S., Bokhari, A. A review on CO<sub>2</sub> capture via nitrogen-doped porous polymers and catalytic conversion as a feedstock for fuels (2020) *Journal of Cleaner Production*, 277, art. no. 123999, .
- 2) Siddiqi, S.A., Rahman, S., Khan, M.M., Rafiq, S., Inayat, A., Khurram, M.S., See rangurayar, T., Jamil, F. Potential of dates (*Phoenix dactylifera* L.) as natural antioxidant source and functional food for healthy diet (2020) *Science of the Total Environment*, 748, art. no. 141234, .
- 3) Ahmed, A., Abu Bakar, M.S., Sukri, R.S., Hussain, M., Farooq, A., Moogi, S., Park, Y.-K. Sawdust pyrolysis from the furniture industry in an auger pyrolysis reactor system for biochar and bio-oil production (2020) *Energy Conversion and Management*, 226, art. no. 113502,
- 4) Ali, S., Lee, J., Kim, H., Hwang, Y., Razzaq, A., Jung, J.-W., Cho, C.-H., In, S.-I. Sustained, photocatalytic CO<sub>2</sub> reduction to CH<sub>4</sub> in a continuous flow reactor by earth-abundant materials: Reduced titania-Cu<sub>2</sub>O Z-scheme heterostructures (2020) *Applied Catalysis B: Environmental*, 279, art. no. 119344
- 5) Qasim, U., Ali, M., Usman, M. Optimization of wheat-straw-extracted cellulose via response surface methodology and mechanical properties of its poly(lactide)-based biocomposites (2020) *Polymer Composites*, 41 (12), pp. 5355-5364.
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- 7) Ahmad, N., Ahmad, N., Ahmed, U. Process design and techno-economic evaluation for the production of platform chemical for hydrocarbon fuels from lignocellulosic biomass using biomass-derived  $\gamma$ -valerolactone (2020) *Renewable Energy*, 161, pp. 750-755.
- 8) Abu Bakar, M.S., Ahmed, A., Jeffery, D.M., Hidayat, S., Sukri, R.S., Mahlia, T.M.I., Jamil, F., Khurram, M.S., Inayat, A., Moogi, S., Park, Y.-K. Pyrolysis of solid waste residues from Lemon Myrtle essential oils extraction for bio-oil production (2020) *Bioresource Technology*, 318, art. no. 123913.
- 9) Qasim, U., Fatima, R., Usman, M. Efficient barrier properties of mechanically enhanced agro-extracted cellulosic biocomposites (2020) *Materials Today Chemistry*, 18, art. no. 100378, .
- 10) Tahir, K., Miran, W., Jang, J., Shahzad, A., Moztahida, M., Jeon, H., Kim, B., Lim, S.-R., Lee, D.S. Selectively enriched mixed sulfate-reducing bacteria for acrylamide biodegradation (2020) *International Journal of Environmental Science and Technology*, 17 (12), pp. 4693-4702.
- 11) Najam, M., Hussain, M., Ali, Z., Maafa, I.M., Akhter, P., Majeed, K., Ahmed, A., Shehzad, N. Influence of silica materials on synthesis of elastomer nanocomposites: A review (2020) *Journal of Elastomers and Plastics*, 52 (8), pp. 747-771.
- 12) Naseer, A., Hussain, M., Shakir, I., Abbas, Q., Yilmaz, D., Zahra, M., Raza, R. The robust catalysts (Ni<sub>1-x</sub>-Mox/doped ceria and Zn<sub>1-x</sub>-Mox/doped ceria, x = 0.1 and 0.3) for efficient natural gas reforming in solid oxide fuel cells (2020) *Electrochimica Acta*, 361, art. no. 137033,
- 13) Abbas, T., Wadhawan, T., Khan, A., McEvoy, J., Khan, E. Virgin (FeO) and microbially regenerated (Fe<sup>2+</sup>) iron turning waste for treating chlorinated pesticides in water (2020) *Journal of Hazardous Materials*, 398, art. no. 122980,

- 14) Ahmad, N., Ahmad, N., Maafa, I.M., Ahmed, U., Akhter, P., Shehzad, N., Amjad, U.-E.-E., Hussain, M. Thermal conversion of polystyrene plastic waste to liquid fuel via ethanolysis (2020) *Fuel*, 279, art. no. 118498,
- 15) Abdullah, A., Ahmed, A., Akhter, P., Razzaq, A., Zafar, M., Hussain, M., Shahzad, N., Majeed, K., Khurram, S., Bakar, M.S.A., Park, Y.-K. Bioenergy potential and thermochemical characterization of lignocellulosic biomass residues available in Pakistan (2020) *Korean Journal of Chemical Engineering*, 37 (11), pp. 1899-1906.
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- 21) Shehzad, N., Zafar, M., Ashfaq, M., Razzaq, A., Akhter, P., Ahmad, N., Hafeez, A., Azam, K., Hussain, M., Kim, W.Y. Development of AgFeO<sub>2</sub>/RgO/tio<sub>2</sub> ternary composite photocatalysts for enhanced photocatalytic dye decolorization (2020) *Crystals*, 10 (10), art. no. 923, pp. 1-15.
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- 27) Ju, B.-Y., Yang, W.-S., Zhang, Q., Hussain, M., Xiu, Z.-Y., Qiao, J., Wu, G.-H. Research progress on the characterization and repair of graphene defects (2020) *International Journal of Minerals, Metallurgy and Materials*, 27 (9), pp. 1179-1190.

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- 33) Mei, Y., Shao, P.-Z., Sun, M., Chen, G.-Q., Hussain, M., Huang, F.-L., Zhang, Q., Gao, X.-S., Pei, Y.-Y., Zhong, S.-J., Wu, G.-H. Deformation treatment and microstructure of graphene-reinforced metal matrix nanocomposites: A review of graphene post-dispersion (2020) *International Journal of Minerals, Metallurgy and Materials*, 27 (7), pp. 888-899.
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