

DAFTAR PUSTAKA

- Alcalde-Garcia, F., Prasher, S., Kaliaguine, S., Tavares, J.R., and Dumont, M.J. 2023. Desorption Strategies and Reusability of Biopolymeric Adsorbents and Semishynthetic Derivates in Hydrogel and Hydrogel Composites Used in Adsorption Processes. *ACS Engineering Au.* 3: 443-460. doi: 10.1021/acsengineeringau.3c00022.
- Biswal, B.K. and Balasubramanian, R. 2022. Adsorptive Removal of Sulfonamides, Tetracyclines and Quinolones from Wastewater and Water Using Carbon-Based Materials: Recent Developments and Future Directions. *Journal of Cleaner Production.* 349(131421): 1-15. doi: 10.1016/j.jclepro.2022.131421.
- Cela-Dablanca, R., Conde-Cid, M., Ferreira-Coelho, G., Arias-Estévez, M., Fernández-Calviño, D., Núñez-Delgado, A., Fernández-Sanjurjo, M.J., and Álvarez-Rodríguez, E. 2021. Adsorption of Tetracycline and Sulfadiazine onto Three Different Bioadsorbent in Binary Competitive Systems. *Processes.* 9(1): 28. doi: 10.3390/pr9010028.
- Charafi, S., Janani, F.Z., Elhalil, A., Abdennouri, M., Sadiq, M., and Barka, N. 2023. Adsorption and Reusability Performance of Ni/Al Layered Double Hydroxide for the Removal of Eriochrome Black T dye. *Biointerface Research in Applied Chemistry.* 13(3): 265. doi: 10.33263/BRIAC133.265.
- Cycon, M., Mroziak, A., and Piotrowska-Seget, Z. 2019. Antibiotics in the Soil Environment-Degradation and Their Impact on Microbial Activity and Diversity. *Frontiers in Microbiology.* 10(338). doi: 10.3389/fmicb.2019.00338.
- Farhan, A., Khalid, A., Maqsood, N., Iftikhar, S., Sharif, H.M.A., Qi, F., Sillanpää, M., and Asif, M.B. 2024. Review: Progress in Layered Double Hydroxides (LDHs): Synthesis and Application in Adsorption, Catalysis and Photoreduction. *Science of the Total Environment.* 912(169160): 1-28. doi: 10.1016/j.scitotenv.2023.169160.
- Gkika, D.A., Mitropoulos, A.C., and Kyzas, G.Z. 2022. Why Reuse Spent Adsorbents? The Latest Challenges and Limitations. *Science of the Total Environment.* 822(153612): 1-16. doi: 10.1016/j.scitotenv.2022.153612.
- Gunawan, G., Prasetya, N.B.A., and Wijaya, R.A. 2023. Degradation of Ciprofloxacin (CIP) Antibiotic Waste using The Advanced Oxidation Process (AOP) Method with Ferrate (VI) from Extreme Base Electrosynthesis. *Trends In Sciencies.* 20(7): 6639. doi: 10.48048/tis.2023.6639.
- Hibino, T. 2024. Desorption Behavior of Phosphate Species from Layered Double Hydroxides. *Colloids and Surfaces A: Physicochemical and Engineering Aspects.* 694(134226): 1-9. doi: 10.1016/j.colsurfa.2024.134226.
- T.M.P., Van, H.T., Yilmaz, M., Hoang, T.K., Nguyen, Q.T., Vi, Iga, L.T.Q. 2022. Removal of Tetracycline from Aqueous Composite Adsorbent of ZnAl Layered Double Hydroxide and ar. *Environmental Technology & Innovation.* 28(102914): 1-14. ti.2022.102914.
- H., Kumagai, S., Saito, Y., Mizushima, K., Itou, I., Han, T., and 2021. Regeneration of Carbonate-Intercalated Mg-Al Layered



- Double Hydroxide ($\text{CO}_3\text{.Mg-Al}$ LDHs) by CO_2 -Induced Desorption of Anions (X) from X.Mg-Al LDH (X= Cl, SO_4 , or NO_3): A Kinetic Study. *Chemical Engineering Research and Design*. 165: 207-213. doi: 10.1016/j.cherd.2020.10.032.
- Li, R., Sun, W., Xia, L., U, Z., Sun, X., Wang, Z., Wang, Y., and Deng, X. 2022. Adsorption of Toxic Tetracycline, Thiamphenicol and Sulfamethoxazole by a Granular Activated Carbon (GAC) Under Different Conditions. *Molecules*. 27(7980): 1-15. doi: 10.3390/molecules27227980.
- Li, S., Shao, J., Ma, B., Wu, B., and Hu, C. 2023. Oxygen Defects of MgLa-LDH Enhancing Electrostatic Attraction and Inner-Sphere Complexation During Phosphate Adsorption from Wastewater. *Chemical Engineering Journal*. 464(142589): 1-11. doi: 10.1016/j.cej.2023.142589.
- Ma, Y., Shen, Y., Meng, H., Ding, J., Wang, J., Ai, P., Zhu, M., Zhou, H., and Zhang, Y. 2022. Development of Mg/La-Layered Double Hydroxide Nanocomposites and Application of Recovered Phosphorus from Modelled Biogas Slurry. *Journal of Material Cycles and Waste Management*. 24(2): 491-505. doi: 10.1007/s10163-021-01335-z.
- Mohamed, H., Mahmoud, R., Abdelwahab, A., Farghali, A.A., El-Ela, F.I.A., and Allah, A.E. 2023. Multifunctional Ternary ZnMgFe LDH as an Efficient Adsorbent for Ceftriaxone Sodium and Antimicrobial Agent: Sustainability of Adsorption Waste as A Catalyst for Methanol Electro-Oxidation. *Royal Society of Chemistry*. 13: 26069-26088. doi: 10.1039/d3ra03426g.
- Qalyoubi, L., Al-Othman, A., and Al-Asheh, S. 2022. Removal of Ciprofloxacin Antibiotic Pollutants from Wastewater Using Nano-Composite Adsorptive Membranes. *Environmental Research*. 215(114182): 1-13. doi: 10.1016/j.envres.2022.114182.
- Sanni, S.O., Oluokun, O., Akpotu, S.O., Pholosi, A., and Pakade, V.E. 2024. Removal of Tetracycline from The Aquatic Environment Using Activated Carbon: A Comparative Study of Adsorption Performance Based on The Activator Agents. *Heliyon*. 10: 1-13. doi: 10.1016/j.heliyon.2024.e34637.
- Syahida, R.I., Muizza, N., Syarqia, N., Putri, M.A., and Afandi, Z. 2024. Optimasi Layered Double Hydroxide Berbasis MgLa Sebagai Agen Pengolahan yang Ramah Lingkungan Terhadap Limbah Farmasi Antibiotika Tetrasiklin dan Kuinolon. Laporan Akhir PKM 2024. Universitas Hasanuddin, Makassar.
- Wang, Y., Gong, S., Li, Y., Li, Z., and Fu, J. 2020. Adsorption Removal of Tetracycline by Sustainable Ceramsite Substrate from Bentonite/Red Mud/Pine Sawdust. *Scientific Reports*. 10(2960): 1-18. doi: 10.1038/s41598-020-59850-2.
- J, Z., and Min, X. 2019. Adsorptive Removal of Tetracyclines Iolones Using Yak Dung Biochar. *Bulletin of Environmental and Toxicology*. 102: 407-412. doi: 10.1007/s00128-018-2516-

