

DAFTAR PUSTAKA

- Adams, E.Q. dan Rosenstein, L., 1914, The Color and Ionization of Crystal Violet, *J. Am. Chem. Soc.*, 36 (7), 1452-1473.
- Allen, S.J., Koumanova, B., 2005, Decolourisation of Water/Wastewater Using Adsorption (Review), *Journal of the University of Chemical Technology and Metallurgy*, 40 (3), 175-192.
- Alshabanat, M., Alsenani, G., dan Almufarij, R., 2013, Removal of Crystal Violet Dye from Aqueous Solution Using Date Palm Fiber by Adsorption Technique, *Journal of Chemistry*, 2013, 1-6.
- Anonim, 1995, Keputusan Menteri Negara Lingkungan Hidup Nomor: KEP-51/MENLH/10/1995 tentang Baku Mutu Limbah Cair Bagi Kegiatan Industri.
- Anonim, 2014, Peraturan Pemerintah No. 101 tahun 2014 tentang Pengelolaan Limbah bahan Berbahaya dan Beracun (Lampiran I Tabel 4).
- Arbi, Y., Aidha, E.R., dan Deflianti, L., 2018, Analisis Nilai Kalori Briket Tempurung Kelapa Sebagai Bahan Bakar Alternatif di Kecamatan Sipora Utara Kabupaten Mentawai, *Jurnal PTK: Pendidikan Teknologi Kejuruan*, 1 (3), 119-123.
- Asses, N., Ayed, L., Hkiri, N., dan Hamdi, M., 2018, Congo Red Decolorization and Detoxification by *Aspergillus niger*: Removal Mechanisms and Dye Degradation Pathway, *Biomed Res. Int.*, 1-9.
- Ata, S., Din, M.I., Rasool, A., Qasim, I., dan Mohsin, I.U., 2012, Equilibrium, Thermodynamics, and Kinetic Sorption Studies for the Removal of Coomassie Brilliant Blue on Wheat Bran as a Low-Cost Adsorbent, *Journal of Analytical Methods in Chemistry*, 2012, 1-8.
- Atkins, P.W., 1999, *Physical Chemistry*, 2nd Edition, Oxford University Press, Oxford.
- Berger, A.H. dan Bhowan, A.S., 2011, Comparing Physisorption and Chemisorption Solid Sorbents for use Separating CO₂ from Flue Gas using Temperature Swing Adsorption, *Energy Procedia*, 4 (2011), 562-567.
- Bertolini, T. C. R., Izidoro, J. C., Magdalena, C. P., dan Fungaro, D.A., 2013, Adsorption of Crystal Violet Dye from Aqueous Solution onto Zeolites from Coal Fly and Bottom Ashes, *Orbital: Electron. J. Chem*, 5 (3), 179-191.

- Brady, J. E. dan Senese, F.A., 2009, *Chemistry: Matter and Its Changes*, Wiley, California.
- Chakraborty, S., Chowdhury, S., dan Saha, P.D., 2011, Adsorption of crystal violet from aqueous solution onto NaOH-modified rice husk, *Carbohydrate Polymers*, 86,1533-1541.
- Chen, S., Zhang, J., Yue, Q., Li, Y., dan Li, Y., 2010, Equilibrium and kinetics studies of methyl orange and methyl violet adsorption on activated carbon derived from *Phragmites australis*, *Desalination*, 252, 149-156.
- Cheruiyot, G.K., Wanyonyi, W.C., Kiplimo, J.J., dan Maina, E.N., 2019, Adsorption of toxic crystal violet dye using coffee husks: Equilibrium, kinetics and thermodynamics study, *Scientific African*, 5 (2019), 1-11.
- Chowdury, S., Mishra, R., Saha, P., dan Kushwaha, P., 2011, Adsorption Thermodynamics, Kinetics, and Isothermic Heat of Adsorption of Malachite Green onto Chemically Modified Rice Husk, *Desalination*, 265, 159-168.
- Do, D.D.D., 1998, *Adsorption analysis: Equilibria and kinetics*, Imperial College Press, London.
- Donnaperna, L., Duclaux, L., Gadiou, R., Hirn, M.-P., Merli, C., dan Pietrelli, L., 2009, Comparison of adsorption of Remazol Black B and Acidol Red on microporous activated carbon felt, *J. Colloid Interface Sci.*, 339 (2009), 275-284.
- Edwards, J. C., 2000, Investigation of Color Removal by Chemical Oxidation for Three Reactive Textile Dyes and Spent Textile Dye Wastewater, *Thesis*, Environmental Science and Engineering, Virginia Polytechnic Institute and State University, Virginia.
- Faith, 1975, *Industrial Chemicals*, John Wiley and Sons Inc., New York.
- Faridah, A. M., Widiastuti, N., dan Prasetyoko, D., 2012, Karakterisasi Abu Dasar PLTU Paiton: Pengaruh Perlakuan Magnet, HCl, dan Fusi dengan NaOH, *Prosiding Seminar Nasional Kimia Unesa*, 25 Februari 2012, Surabaya.
- Foo, K.Y. dan Hameed, B.H., 2010, Insights into the modelling of adsorption isotherm systems, *Chemical Engineering Journal*, 156, 2-10.
- Gandhimathi, R., Ramesh, S.T., Sindhu, V., dan Nidheesh, P.V., 2012, Single and Tertiary System Dye Removal from Aqueous Solution Using Bottom Ash: Kinetic and Isotherm Studies, *Iranica Journal of Energy & Environment*, 3 (1), 35-45.

- Garcia, G., Faz, A., dan Cunha, M., 2004, Performance of *Piptatherum miliaceum* (Smilo grass) in edaphic Pb and Zn phytoremediation over a short growth period, *Int. Biodeterior. Biodegrad.*, 54, 245-250.
- Hardiyanti, A., 2011, Unsur-unsur yang Dibebaskan dari Proses Pencucian Abu Terbang dari PLTU Suralaya, *Skripsi*, Departemen Ilmu Tanah dan Sumberdaya Lahan Fakultas Pertanian Institut Pertanian Bogor, Bogor.
- Henneman, S.A. dan Kohn, F.S., 1975, Methylene blue staining of tissue culture monolayer, *Tissue Culture Association Manual*, 1(2), 103-104.
- Herman, A.P., Yusup, S., Shahbaz, M., dan Patrick, D.O., 2016, Bottom ash characterization and its catalytic potential in biomass gasification, *Procedia Engineering*, 148, 432-436.
- Ho, Y.S., 2004, Citation Review of Lagergren Kinetic Rate Equation on Adsorption Reactions, *Scientometrics*, 59, 171-177.
- Irawati, H., Aprilita, N.H., dan Sugiharto, E., 2018, Adsorpsi zat warna *crystal violet* menggunakan limbah kulit singkong, *Berkala MIPA*, 25 (1), 17-31.
- Ismail, M. G. B. H., Weng, C. N., Rahman, H. A., dan Zakaria, N. A., 2013, Freundlich Isotherm Equilibrium Equations in Determining Effectiveness a Low Cost Adsorbent to Heavy Metal Removal in Wastewater (Leachate) at Teluk Kitang Landfill, Pengkalan Chepa, Kelantan, Malaysia, *JGES*, 1, 1-8.
- Jarusiripot, C., 2014, Removal of Reactive Dye by Adsorption over Chemical Pretreatment Coal Based Bottom Ash, *Procedia Chemistry*, 9, 121-130.
- Jumaeri, Kusumastuti, E., Santosa, S. J., dan Sutarno, Adsorption of Crystal Violet Dye Using Zeolite A Synthesized From Coal Fly Ash, *Conf. Ser.: Mater. Sci. Eng.*, 2017, 172, 1-8.
- Kajjumba, G.W., Emik, S., Öngen, A., Özcan, H.K., dan Aydin, S., 2019, Modelling of Adsorption Kinetic Processes—Errors, Theory and Application, *Advanced Sorption Process Applications*, 1-19.
- Katheresan, V., Kansedo, J., dan Lau, S.Y., 2018, Efficiency of various recent wastewater dye removal methods: A review, *Journal of Environmental Chemical Engineering*, 6 (2018), 4676-4697.
- Kaur, S., Rani, S., dan Mahajan, R.K., 2013, Adsorption kinetics for the removal of hazardous dye congo red by biowaste materials as adsorbents, *Journal of Chemistry*, 2013, 1-12.

- Kennedy, K.K., Maseka, K.J., dan Mbulo, M., 2018, Selected Adsorbents for Removal of Contaminants from Wastewater: Towards Engineering Clay Minerals, *Open Journal of Applied Sciences*, 8, 355-369
- Koech, L., Everson, R., Neomagus, H., dan Rutto, H., 2015, Leaching kinetics of bottom ash waste as a source of calcium ions, *Journal of the Air & Waste Management Association*, 65 (2), 126-132.
- Kusmiyati, Listyanto, P.A., Vitasary, D., Indra, R., Islamica, D., dan Hadiyanto, 2016, Coal Bottom Ash and Activated Carbon for Removal of Vertigo Blue Dye in Batik Textile Waste water: Adsorbent Characteristic, Isotherms, and Kinetic Studies, *Walailak J. Sci. and Tech.*, 14 (5), 427-439.
- Liu W, Yao, C., Wang, M., Li, J., Ying L., dan Fu, C., 2012, Kinetics and thermodynamics characteristics of cationic yellow X-GL adsorption on attapulgite/rice hull-based activated carbon nanocomposites. *Environ Prog Sust Energ.*, 32(3), 655–62.
- Mason, B., dan Moore, C. B., 1982, *Principle of Geochemistry*, John Wiley and Sons Inc., New York.
- Muchová, L., dan Rem, P. C., 2006, Metal content and recovery of MSWI bottom ash in Amsterdam, *Waste Management and the Environment*, 92(3), 211-216.
- Müller, E. I., Mesko, M. F., Moraes, D. P., Korn, M. G., Flores, E. M. M., 2014, *Microwave-Assisted Sample Preparation for Trace Element Determination*, Elsevier.
- Mulyatna, L., Pradiko, H., dan Nasution, K., 2003, Pemilihan persamaan adsorpsi isoterm pada penentuan kapasitas adsorpsi kulit kacang tanah terhadap zat warna Remazol golden yellow 6, *Jurnal Infomatek*, 5 (3), 141-149.
- Muniarti, Hidayat, N., dan Mudasir, 2009, Pemanfaatan Limbah Abu Dasar Batubara Sebagai Bahan Dasar Sintesis Zeolit dan Aplikasinya Sebagai Adsorben Logam Berat Cu (II), *Prosiding Seminar Nasional Penelitian, Pendidikan dan Penerapan MIPA, Fakultas MIPA, Universitas Negeri Yogyakarta*, 16 Mei 2009, Yogyakarta.
- Ngoh, Y.Y., Leong, Y.H., dan Gan, C.Y., 2015, Optimization study for synthetic dye removal using an agricultural waste of *Parkia speciosa* pod: a sustainable approach for waste water treatment, *Int. Food Res. J.*, 22, 2351–2357.
- Patil, S.R., Sutar, S.S., and Jadhav, J.P., 2020, Sorption of crystal violet from aqueous solution using live roots of *Eichhornia crassipes*: Kinetic, isotherm, phyto and cyto-genotoxicity studies. *Environmental Technology & Innovation*, 100648. 10.1016/j.eti.2020.100648.

- Penilla, R.P., Bustos, A.G., dan Elizalde, S.G., 2003, Zeolite synthesized by alkaline hydrothermal treatment of bottom ash from combustion of municipal solid waste, *J. Am. Ceram. Soc.*, 86 (9), 1527-1533.
- Pimraksa, K., Chindaprasirt, P., dan Setthaya, N., 2010, Synthesis of Zeolite Phase from Combustion by-Products, *Waste Manage. Res.*, 1122-1132.
- Pratiwi, Y., 2010, Penentuan Tingkat Pencemaran Limbah Industri Tekstil Berdasarkan Nutriton Value Coeficient Bioindikator, *Jurnal Teknologi*, 3 (2), 129-137
- Priya, E.S. dan Selvan, P.E., 2017, Water hyacinth (*Eiachhornia crassipes*) – an efficient and economic adsorbent for textile effluent treatment – a review, *Arab. J. Chem.*, 10, 3548-3558.
- Qiu, M., Wang, Y., Niu, M., Han, Q., dan Zhang, M., 2016, Effects of activation and modification on microstructure and composition of fly ash, *American Chemical Science Journal*, 14 (4), 1-6.
- Rao, M.M., Ramana, D.K., Sessaiah, K., Wang, M.C., dan Chien, S.W.C., 2009, Removal of some metal ions by activated carbon prepared from Phaseolus aureus hulls, *J. Hazard. Mater.*, 166, 1006-1013.
- Saadi, R., Saadi, Z., Fazaeli, R., dan Fard, N.E., 2015, Monolayer and multilayer adsorption isotherm models for sorption from aqueous media, *Korean J. Chem. Eng.*, 32(5), 787-799.
- Sadegh, H. dan Ali, G.A.M., 2018, Potential Applications of Nanomaterials in Wastewater Treatment: Nanoadsorbents Performance, *Advanced Treatment Techniques for Industrial Wastewater*, 51-61.
- Saha, P.D., Chakraborty, S., and Chowdhury, S., 2012, Batch and Continuous (Fixed-Bed Column) Biosorption of Crystal Violet by *Artocarpus heterophyllus* (Jackfruit) Leaf Powder, *Colloid. Surface. B.*, 92, 262–270.
- Shoukat, S., Bhatti, H. N., Iqbal, M., dan Noreen, S., 2017, Mango stone biocomposite preparation and application for crystal violet adsorption: a mechanistic study, *Microporous and Mesoporous Materials*, 239, 180–189.
- Sunarti, 2008, Pembuatan Adsorben Termodifikasi dari Abu Dasar Batubara dan Aplikasinya untuk Adsorpsi Logam Berat Timbal (Pb), *Tesis*, S2 Jurusan Kimia FMIPA UGM, Yogyakarta.
- Syauqiyah, I., Amalia, M., dan Kartini, H.A., 2011, Analisis variasi waktu dan kecepatan pengaduk pada proses adsorpsi limbah logam berat dengan arang aktif, *INFO TEKNIK*, 12 (1), 11-20.

- Syrovy, L. dan Hodny, Z., 1991, Staining and quantification of proteins separated by polyacrylamide gel electrophoresis, *J Chromatog*, 569, 175-196.
- Thamer, B.M., Aldalbahi, A., Moydeen, M. A., El-Hamshary, H., Al-Enizi, Am.M., El-Newehy, M.H., 2019, Effective adsorption of Coomassie brilliant blue dye using poly(phenylene diamine)grafted electrospun carbon nanofibers as a novel adsorbent, *Materials Chemistry and Physics*, 234 (2019), 133-145.
- Uddin, T., Rahman, A., Rukanuzzaman, dan Islam, A., 2017, A potential low cost adsorbent for the removal of cationic dyes from aqueous solutions, *Appl. Water Sci.*, 7, 2831-2842.
- Venugopal, V. dan Mohanty, K., 2011, Biosorptive uptake of Cr(VI) from aqueous solutions by *Parthenium hysterophorus* weed: Equilibrium, kinetics and thermodynamic studies. *Chem. Eng. Journal*, 174(1), 151–158.
- Vogel, A. dan Basset, J., 1989, *Vogel's Textbook of Quantitative Analysis*, Longman, London.
- Widayatno, T., Yuliawati, T., Susilo, A.A., 2017, Adsorpsi Logam Berat (Pb) dari Limbah Cair dengan Adsorben Arang Bambu Aktif, *J. Teknol. Bahan Alam*, 1, 17–23.
- Wiyono, H., 2009, Studi Adsorpsi Zat Warna Metil Violet oleh Abu Dasar Batu Bara, *Tesis*, Departemen Kimia FMIPA UGM, Yogyakarta.
- Wu, J., Gao, H., Yao, S., Chen, L., Gao, Y., dan Zhang, H., 2015, Degradation of crystal violet by catalytic ozonation using Fe/activated carbon catalyst, *Separation and Purification Technology*, 147, 179–185.
- Yagub, M.T., Sen, T.K., Afroze, S., dan Ang, H.M., 2014, Dye and its removal from aqueous solution by adsorption: A review, *Advances in Colloid and Interface Science*, 209, 172-184.