

DAFTAR PUSTAKA

- Adesina, A. O., Elvis, O. A., Mohallem, N. D. S., & Olusegun, S. J. (2019). Adsorption of Methylene blue and Congo Red From Aqueous Solution Using Synthesized Alumina–Zirconia Composite. *Environmental Technology (United Kingdom)*, 0(0), 1–10.
- Agnestisia. (2017). Sintesis Dan Karakterisasi Magnetit (Fe_3O_4) Serta Aplikasinya Sebagai Adsorben. *L. 11*(2), 61–70.
- Amsden, J.P. 1950. *Physical Chemistry For Peromedical Students. 2th Ed.* New York: McGraw Hill Book Company. P.264.
- Arellano-Cárdenas, S., López-Cortez, S., Cornejo-Mazón, M., and Mares-Gutiérrez, J. C., 2013. Study of Malachite Green Adsorption by Organically Modified Clay Using a Batch Method. *Applied Surface Science*, 280, 74–78.
- Arnata, I. Wayan, Suprihatin, Fahma, Farah, Richana, Nur; Sunarti, T. C. (2019). Adsorption Of Anionic Congo Red Dye By Using Cellulose From Sago Cellulose From Sago Frond. *Poll Res*, 38(3), 557– 567.
- Atkins, P.W. 1999. *Kimia Fisika Edisi Kedua*. Jakarta: Erlangga.
- Bansal, R. C., dan Meenakshi, G. 2005. *Activated Carbon Adsorption*. New York: Taylor & Francis Group.
- Bansal, S., Pandey, P. K., & Upadhayay, S. (2020). Methylene Blue Dye Removal from Wastewater Using Ailanthus Excelsa Roxb as Adsorbent. *Water Conservation Science and Engineering*, 6(1), 1–9.
- Botahala, L. (2019). *Perbandingan Efektivitas Daya Adsorpsi Sekam Padi dan Canggang Kemiri terhadap Logam Besi (Fe) pada Air Sumur Gali*. Deepublish.
- Chen, Y., Zhang, X., Chen, W., Yang, H., & Chen, H. (2017). The structure Evolution Of Biochar From Biomass Pyrolysis And Its Correlation With Gas Pollutant Adsorption Performance. *Bioresource Technology*, 246(May), 101– 109.
- Chowdhury, S., Mishra, R., Saha, P., and Kushwaha, P., 2011. Adsorption Thermodynamics, Kinetics and Isosteric Heat of Adsorption of Malachite Green onto Chemically Modified Rice Husk. *Desalination*, 265(1–3), 159– 168,
- Damayanti, T. (2020). Pengaruh Variasi Massa Biochar Dari Kulit Singkong (Manihot esculenta Crantz) Termodifikasi Fe_3O_4 terhadap Adsorpsi Limbah Methylene Blue.

- Darmosarkoro, W. dan S. Rahutomo. 2007. Tandan Kosong Kelapa Sawit Sebagai Bahan Pembenh Tanah. *Jurnal Lahan dan Pemupukan Kelapa Sawit* Edisi1. *Pusat Penelitian Kelapa Sawit*, C3:167-180.
- Eren, E. and Afsin, B. (2007). Investigation of a basic dye adsorption from aqueous solution onto raw and pre-treated sepiolite surfaces. *J. Dyes Pig.* 73:162–167.
- Erlin, Paramita. (2008). Analisis Rhodamine B Salam Saos dan Cabe Giling Di Pasar zkecamatan Laweyan Kotamadya Suryakarta Dengan Metode KLT. *Suryakarta: UMMUHA Suryakarta*.
- Fidel, R. B., Laird, D. A., Thompson, M. L., & Lawrinenko, M. (2017). Characterization And Quantification Of Biochar Alkalinity. *Chemosphere*, 167, 367–373.
- Fisli, A., Safitri, R. D., Nurhasni, N., & Deswita, D. (2018). Analisis Struktur Dan Porositas Kompsosit Fe_3O_4 -Karbon Aktif Dari Limbah Kertas Sebagai Adsorben Magnetik. *Jurnal Sains Materi Indonesia*, 19(4), 179.
- Fitriani, D., Oktiarni, D., & Lusiana. (2015). Pemanfaatan Kulit Pisang Sebagai Adsorben Zat Warna Methylene Blue. *Jurnal Gradien*, 11(2), 1091–1095.
- Geçgel, Ü., Özcan, G., & Gürpnar, G. Ç. (2013). Removal Of Methylene Blue From Aqueous Solution By Activated Carbon Prepared From Pea Shells (*Pisum Sativum*). *Journal of Chemistry*, 2013.
- Gupta, V.K. and Suhas (2009). Application of low-cost adsorbents for dye removal – A review. *J. Environ. Mgt.* 90:2313–2342.
- Ilmi, Moh Mualliful, *et al.* "Optimasi Penggunaan Biosorbent Berbasis Biomassa: Pengaruh Konsentrasi Aktivator Terhadap Luas Permukaan Karbon Aktif Berbahan Eceng Gondok (*Eichornia Crossipes*) Untuk Meningkatkan Kualitas Air." *Jurnal Teknik Mesin (JTM)* 6.2 (2017).
- Jahangirian, H., Ismail, M. H. S., Haron, M. J., Rafiee-Moghaddam, R., Shameli, K., Hosseini, S. Dan Soltaninejad, S. (2013). Synthesis and characterization of Zeolite/ Fe_3O_4 nanocomposite by green quick precipitation method. *Dig J Nanomater Biostruct*, 8(4), 1405-1413.
- Jamari, S. S., & Howse, J. R. (2012). The effect of the hydrothermal carbonization process on palm oil empty fruit bunch. *Biomass and bioenergy*, 47, 82-90.
- Kausar, A., Iqbal, M., Javed, A., Aftab, K., Nazli, Z., Bhatti, H.N. and Nouren, S. (2018). Dyes adsorption using clay and modified clay: A review. *J. Mol. Liq.* 256:395–407.

- Kresnawaty, I., Putra, S.M., Budiani, A., Darmono, T.W. 2017. Konversi Tandan Kosong Kelapa Sawit (TKKS) menjadi arang hayati dan asap cair. *Jurnal Penelitian Pascapanen Pertanian*. 14(3): 171-179.
- Liang, L., Xi, F., Tan, W., Meng, X., Hu, B., & Wang, X. (2021). Review of organic and inorganic pollutants removal by biochar and biochar-based composites. *Biochar*, 3, 255-281.
- Matos, T. T. S., Schultz, J., Khan, M. Y., Zanoelo, E. F., Mangrich, A. S., Araújo, B. R., Navickiene, S., & Romão, L. P. C. (2017). Using Magnetized (Fe_3O_4 / Biochar Nanocomposites) And Activated Biochar As Adsorbents To Remove Two Neuro-Active Pesticides From Waters. *Journal of the Brazilian Chemical Society*, 28(10), 1975–1987.
- Musafira, M., Adam, N. M., & Puspitasari, D. J. (2019). Pemanfaatan limbah kulit buah pisang kepok (*Musa Paradisiaca*) sebagai biosorben zat warna *Rhodamin B*. *KOVALEN: Jurnal Riset Kimia*, 5(3), 308-314.
- Musafira, Musafira, Nurfitriah M. Adam, and Dwi Juli Puspitasari. "Pemanfaatan limbah kulit buah pisang kepok (*Musa Paradisiaca*) sebagai biosorben zat warna *Rhodamin B*." *KOVALEN: Jurnal Riset Kimia* 5.3 (2019): 308-314.
- Nasrul., T. Maimun. 2009. Pengaruh Penambahan jamur Pelapuk Putih (White Rot Fungi) pada Proses Pengomposan Tandan Kosong Kelapa Sawit. *Jurnal Rekayasa Kimia dan Lingkungan*. Vol 7. No 2. Hal 194:199.
- Nworie, F. S., Nwabue, F. I., Oti, W., Mbam, E., & Nwali, B. U. (2019). Removal Of Methylene Blue From Aqueous Solution Using Activated Rice Husk Biochar: Adsorption Isotherms, Kinetics And Error Analysis. *Journal of the Chilean Chemical Society*, 64(1), 4365–4376.
- Othmer, K. 1984. *Encyclopedia of Chemical Technology*. Vol 4. 3rd ed. New York: John Wiley and Sons.
- Pratiwi, I. A., H. D. Ardiansyah. 2019. A study of efb (empty fruit bunch) for fuel of Indonesian biomass boiler. *Eco. Env. & Cons.* 25: 86-89.
- Purnamawati, Hening, and Budi Utami. "Pemanfaatan Limbah Kulit Buah Kakao (*Theobroma cocoa* L.) Sebagai Adsorben Zat Warna *Rhodamin B*." *PROSIDING: Seminar Nasional Fisika dan Pendidikan Fisika*. Vol. 5. No. 1. 2014.
- Rahmantio, M. A., & Novembrianto, R. (2024). Upaya Pengelolaan Dan Pemanfaatan Dalam Air Limbah Domestik Tekstil Pencetakan Kain di PT X. *Jurnal Universal Technic*, 3(1), 37-47.
- Raju, M., Tambunan, A. H., & Setiawan, R. P. A. (2016). Karakterisasi arang dan gas-gas hasil pirolisis limbah kelapa sawit. *Jurnal Keteknik Pertanian*, 4(2).

- Rochmad, S. (2006). *Pencemaran Lingkungan*. Jakarta: Universitas Terbuka.
- Sahara, E., Gayatri, P. S., & Suarya, P. (2018). Adsorpsi Zat Warna Rhodamin-B dalam Larutan oleh Arang Aktif Batang Tanaman Gunitir Teraktivasi Asam Fosfat. *Indones. E-Journal Appl. Chem*, 6(1), 37-45.
- Saini, J., Garg, V. K., Gupta, R. K., & Kataria, N. (2017). Removal of Orange G and Rhodamine B dyes from aqueous system using hydrothermally synthesized zinc oxide loaded activated carbon (ZnO-AC). *Journal of environmental chemical engineering*, 5(1), 884-892.
- Salahshoor, Z. and Shahbazi, A. (2014). Review of the use of mesoporous silicas for removing dye from textile wastewater. *European J. Environ. Sci.* 4(2):116–130.
- Santi, L. P. (2017). Pemanfaatan biochar asal cangkang kelapa sawit untuk meningkatkan serapan hara dan sekuestrasi karbon pada media tanah lithic hapludults di pembibitan kelapa sawit. *Jurnal Tanah dan Iklim*, 41(1), 9-16.
- Sarwono, E. (2008). Pemanfaatan Janjang Kosong Kelapa Sebagai Substitusi Pupuk Tanaman Kelapa Sawit. *Jurnal APLIKA*, 8 (1) : 19-23.
- Selvaraju, N. 2013. Sequestration of Dye from Textile Industry Wastewater Using Agricultural Waste Products as Adsorbent. *Journal of Environmental Chemical Engineering*. 1 (4), 629-641.
- Sembiring, M. T., dan Sinaga, T. S. 2003. *Arang Aktif (Pengenalan dan Proses Pembuatannya)*. USU Digital Library, Indonesia.
- Sika, M. P. 2012. Effect of Biochar on Chemistry, Nutrient Uptake and Fertilizer Mobility in Sandy Soil. Thesis. University of Stellenbosch.
- Sopiah, N., Prasetyo, D., Aviantara, D.B. 2017. Pengaruh aktivasi karbon aktif dari tandan kosong kelapa sawit terhadap adsorpsi kadmium terlarut. *Jurnal Riset Teknologi Pencegahan Pencemaran Industri*. 8(2): 55-66.
- Sudirjo, E. 2005. *Penentuan Distribusi Benzen Toluene pada Kolom Adsorpsi Fixed Bed Carbon Active*. Jakarta: Universitas Indonesia.
- Susmanto, P., Yandriani, Y., Dila, A. P., & Pratiwi, D. R. (2020). Pengolahan zat warna direk limbah cair industri jumpitan menggunakan karbon aktif limbah tempurung kelapa pada kolom adsorpsi. *JRST (Jurnal Riset Sains dan Teknologi)*, 4(2), 77-87.
- Thoe, J. M. L., Surugau, N., & Chong, H. L. H. (2019). Application of oil palm empty fruit bunch as adsorbent: A Review. *Transactions on Science and Technology*, 6(1),
- Treybal, Robert E. 1980. *Mass Transfer Operations*, 3th edition. New York: Mc Graw Hill, Inc.

- Velusamy, S., Roy, A., Sundaram, S. and Mallick, T.K. (2021). A Review on Heavy Metal Ions and Containing Dyes Removal Through Graphene Oxide-Based Adsorption Strategies for Textile Wastewater Treatment Chem. Rec. 21:1–42.
- Wardiyati, S., Fisli, A., & Ridwan, R. (2018). Penyerapan Logam Ni Oleh Nanokomposit Fe_3O_4 -Karbonaktif. *Jurnal Sains Materi Indonesia*, 12(3), 224-228.
- Weber, K., & Quicker, P. (2018). Properties of biochar. *Fuel*, 217, 240-261.