



DAFTAR PUSTAKA

- Afuja, G., 2022, Kajian Adsorpsi pada Zeolit-Magnetit Termodifikasi Setiltrimetilamonium Bromida, Skripsi, Universitas Gadjah Mada, Yogyakarta.
- Astuti, W., Bendiyasa, I.M., Wahyuni, E.T., and Prasetya, A., 2010, The Effect of Coal Fly Ash Crystallinity toward Methyl Violet Adsorption Capacity, *AJChE.*, 10, 8–14.
- Atkins, P., Atkins, P.W. and de Paula, J., 2010. *Atkins' physical chemistry*, Oxford University Press.
- Ayawei, N., Ekubo, A.T., Wankasi, D. and Dikio, E.D., 2015, Adsorption of congo red by Ni/Al-CO₃: equilibrium, thermodynamic and kinetic studies, *OJCHEG*, 31(3), p.1307.
- Caparkaya, D., and Cavas, L., 2008, Biosorption of methylene blue by a brown alga *Cystoseira barbatula* Kützing, *Acta Chim. Slov.*, 55, 547–553.
- Daud, Z., Kassim, A.S.M., Aripin, A.M., Awang, H., and Hatta, M.Z.M., 2004, Chemical Composition and Morphological of Cocoa Pod Husks and Cassava Peels for Pulp and Paper Production, *Aust. J. Basic & Appl. Sci.*, 7(9), pp. 406-411.
- Dehghani, M.H., 2017, Removal of methylene blue dye from aqueous solutions by a new chitosan/zeolit composite from shrimp waste: Kinetic and equilibrium study, *Korean J.Chem. Eng.*, 34(6), 1699-1707.
- Eirene, G.F dan Matheis, F.D.J., 2007, Studi Kinetika Adsorpsi Biru Metilen pada Kitin dan Kitosan, *J.Sains MIPA*, 13(3), 171-176.
- El-Kousy, S. M., El-Shorbagy, H. G., and Abd El-Ghaffar, M. A., 2020, Chitosan/montmorillonite composites for fast removal of methylene blue from aqueous solutions. *Materials Chemistry and Physics*, 254, 123236.
- Foo, K.Y., and Hameed, B.H., 2010, Insight into the Modeling of Adsorpstion Isotherm System, *J. Chem. Eng.*, 156,2-10.
- Garcia,G.I., Aguilar C.M.J, Sánchez-López A.M, Mur V.N, Rodríguez L.MA, and Ortegón P.A., 2014, Salivary cortisol as an indicator of physiological stress in children and adults; a systematic review, *Nutr Hosp*, 29(5):960–968
- Hassaninejad, D. S. K., Kavyani, S., Torkamanzadeh, M., and Tilaki, R. D., 2017, Applicability of ZSM-5 nanozeolite to removal of ternary basic dyes: an adsorption study using high-accuracy UV/Vis-chemometric methods, *Monatsh Chem.* 148, 2037-2049.
- Hamdan, H., 1992, Introduction to Zeolite Synthesis, Characterization And Modifications, Universiti Teknologi Malaysia, Malaysia.
- Herry, P., dan Kurnianto, A.R., 2016, Pemanfaatan Tongkol Jagung Untuk Adsorpsi Zat Warna Reactive Blue 19, *The 3rd University Research Colloquium*, ISSN 2407-9189
- Hor, K. Y., Chee, J. M. C., Chong, M. N., Jin, B., Saint, C., Poh, P. E., and Aryal, R., 2016, Evaluation of physicochemical methods in enhancing the adsorption performance of natural zeolite as low-cost adsorbent of methylene blue dye from wastewater. *J. Clean. Prod.*, 118, 197-209.
- Hu, Y., Chen, Y., dan Chen, Q., 2005, Synthesis and Stimuli-responsive Properties of Chitosan/Poly(acrylic acid) Hollow Nanospheres, *Polym.*, 46, 1270312710.
- Humelnicu, I., Băiceanu, A., Ignat, M. E., and Dulman, V., 2017, The removal of Basic Blue 41 textile dye from aqueous solution by adsorption onto natural zeolitic tuff: Kinetics and thermodynamics, *Process. Saf. Environ. Prot.* 105, 274-287.



- Inoue, K., Ohto, K., Yoshizuka, K., Yamaguchi, T., and Tanaka, T., 1997, Adsorption of lead(II) ion on complexane types of chemically modified chitosan, *Bulletin of The Chemical Society of Japan.*, 70, 2443–2447.
- Islam, M. M., Masum, S. M., and Mahbub, K. R., 2011, In vitro antibacterial activity of shrimp chitosan against salmonella paratyphi and staphylococcus aureus. *Journal of the Bangladesh Chemical Society*, 24(2), 185-190.
- Jiao, T. F., Zhou, J., Zhou, J., Gao, L., Xing, Y., and Li, X., 2011, Synthesis and characterization of chitosan-based Schiff base compounds with aromatic substituent groups., *Iiranian Polymer Journal*, 20(2).
- Khandy, W.A., Asif, M., and Hameed, B. H., 2017, Cross-linked beads of activated oil palm ash zeolit/chitosan composite as a bio-adsorbent for the removal of methylene blue and acid blue 29 dyes, *IJBIMAC.*, 95, 895-902
- Khowatimy, F.A., 2014, Sintesis dan Karakterisasi Komposit-Zeolit sebagai Sistem Lepas Lambat Seng(II), *Skripsi*, Universitas Gadjah Mada, Yogyakarta.
- Kristianto, N.K., 2021, Sintesis Komposit Kitosan/Magnetit/Oleat sebagai Adsorben Biru Metilen, *Skripsi*, Universitas Gadjah Mada, Yogyakarta.
- Kurniasih, M., Riapanitra, A., dan Rohadi, A., 2014, Adsorpsi Rhodamin B dengan Adsorben Kitosan Serbuk dan Beads Kitosan, *Sains & Mat*, 2(2).
- Lestari, D.Y., 2010, Kajian Modifikasi dan Karakterisasi Zeolit Alam dari Berbagai Negara, *Prosiding Seminar Nasional Kimia dan Pendidikan Kimia.*, 6.
- Lin, S., Song, Z., Che, G., Ren, A., Li, P., Liu, C., and Zhang, J., 2014, Adsorption behavior of metal-organic frameworks for methylene blue from aqueous solution, *Micropor. Mesopor. Mater.*, 193, 27–34.
- Lim, L. Y., and Wan, L. S. C., 1998, Effect of magnesium stearate on chitosan microspheres prepared by an emulsification-coacervation technique, *Journal of Microencapsulation*, 15(3), 319-333.
- Lemoine, G., 2013, Comparison of Different Types of Zeolits Used As Solid Acid Catalysis in The Transesterificatin Reaction of Jatropha-type Oil for Biodiesel Production, *M.Sc. Thesis*, Worcester Polytechnic Institute, pp. 75- 80.
- Manohar, D.M., Noeline, B.F. and Anirudhan, T.S., 2006, Adsorption performance of Al-pillared bentonite clay for the removal of cobalt (II) from aqueous phase. *Apl Clay Sci*, 31(3-4), pp.194-206.
- Muzakky, M., and Santosa, S.J., 2008, Adsorption of Th-232 and U-238 by γ -Al₂O₃-Humate at Single and Competitive Systems, *Indones. J. Chem.*, 8(2), pp.163-168.
- Nafiah, R., 2016, Kinetika adsorpsi Pb (II) dengan adsorben arang aktif dari sabut siwalan, *JFSP*, 1(2), pp.28-35.
- Ngapa, Y.D., 2017, Kajian pengaruh asam-basa pada aktivasi zeolit dan karakterisasinya sebagai adsorben pewarna biru metilena, *JKPK (Jurnal Kimia dan Pendidikan Kimia)*, 2(2), pp.90-96.
- Ngah, W.W. S., Teong, L. C., Wong, C. S., and Hanafiah, M. A. K. M., 2012, Preparation and characterization of chitosan–zeolite composites. *J. Appl. Polym. Sci.*, 125(3), 2417-2425.
- Nisa'i, R., 2017, Sintesis Kompsoit Kitosan/Zeolit/Magnetit sebagai Adsorben untuk Tembaga (II), *Skripsi*, Universitas Gadjah Mada, Yogyakarta.
- Oshita, K., Oshima, M., Gao, Y., Lee, K.H., and Motomizu, S., 2002, Adsorption Behavior of Mercury and Precious Metals on Cross-Linked Chitosan and the Removal of Ultratrace Amounts of Mercury in Concentrated Hydrochloric Acid by A Column Treatment with Cross-Linked Chitosan, *J. Anal. Sci.*, 18, 1121-1125.



- Panneerselvam, P., Bala, V., Thinakaran, N., Baskaralingam, P., Palanichamy, M., and Sivanesan, S., 2009, Removal of nickel (II) from aqueous solutions by adsorption with modified ZSM-5 zeolites. *E-Journal of Chemistry.*, 6(3), 729-736.
- Plaza, A., Kołodyńska, D., Hałas, P., Gęca, M., Franus, M., and Hubicki, Z., 2017, The zeolite modified by chitosan as an adsorbent for environmental applications, *Adsorption Science & Technology.*, 35, 834-844.
- Pitaatmadja, Y.D., 2001, Penentuan Daya Adsorpsi Zeolit Bandung dan Zeolit Malang Terhadap Rhodamin-B, Biru Metilen, Kinin HCL dengan Pembanding Attapulgit., *Thesis*, Universitas of Surabaya, Surabaya.
- Pode, V., Popovici, E., Pode, R., and Georgescu, V., 2007, Magnetic properties of an adsorbent based on modified natural zeolite, *Revue Roumaine de Chimie.*, 52(10), 983-989.
- Putra,D.M., 2016, Kontribusi Industri Tekstil dalam Penggunaan Bahan Berbahaya dan Beracun Terhadap Rusaknya Sungai Citarum, *Jurnal Hukum Lingkungan.*, Vol. 3 Issue 1.
- Rahmi dan Julinawati., 2009, Application of Modified Chitosan for Adsorben Ionic Cu²⁺ Metal in Diesel Oil, *J. Nat.* Vol 9(2).
- Rafatullah, M., Sulaiman, O., Hashim, R., and Ahmad, A., 2010, Adsorption of methylene blue on low-cost adsorbents: A review, *J. Hazard. Mater.*, 177, 70–80.
- Repo, E., Warchol, J.K., Kurniawan, T.A., and Sillanpää, M.E.T., 2010, Adsorption of Co(II) and Ni(II) by EDTA- and/or DTPA-modified chitosan: Kinetic and equilibrium modelling, *J. Chem. Eng.*, 161, 73–82.
- Ruzicka, O., dan Safira, L., 2014, Aplikasi Fotokatalis TiO₂ Pada Degradasi Limbah Cair Zat Warna Tekstil, Lomba Karya Ilmiah Sumber Daya Air.
- Salazar, R.J.J., Leyva, R.R., Rivera, U.J., Ocampo, P.R., and Cerino, C.F.J., 2017, Biosorption mechanism of Methylene Blue from aqueous solution onto White Pine (*Pinus durangensis*) sawdust: Effect of operating conditions, *Sustain. Environ. Res.*, 27, 32–40.
- Sari, D. P., dan Abdiani, I. M., 2015, Pemakaian Kulit Udang dan Cangkang Kepiting sebagai Bahan Baku Kitosan, *Jurnal Harpodon Borneo*, 8(2).
- Shahwan, T., Erten, H. N., and Unugur, S., 2006, A characterization study of some aspects of the adsorption of aqueous CO²⁺ions on a natural bentonite clay, *Colloid Interface Science Journal.*, 300(2), 447-452.
- Sharifian, R., Okamura, D.M., Denisenko, O., Zager, R.A., Johnson, A., Gharib, S.A. and Bomsztyk, K., 2012, Distinct patterns of transcriptional and epigenetic alterations characterize acute and chronic kidney injury. *Scientific Reports.*, 8(1), pp.1-15.
- Sashikala, S., Radha, E., Gomathi, T., and Sudha, P. N., 2021, Cadmium (II) ion removal from aqueous solution using chitosan oligosaccharide-based blend. *Polym. Bull.*, 78(2), 1109-1132.
- Sugiarti, S., Charlena., dan Nurul, A.A., 2017, Zeolit Sintetis Terfungsionalisasi 3-(Trimetoksilosilil)-1-Propantiol sebagai Adsorben Kation Cu(II) dan Biru Metilena, *Jurnal Kimia*, 3(1).
- Sun, H., Lu, L., Chen, X., and Jiang, Z., 2008, Surface Modified Zeolit-Filled Chitosan Membranes for Pervaporation Dehydration of Ethanol, *Appl. Surf. Sci.*, 254(17), 5367-5374.



- Syauqiah, I., Amalia, M., dan Kartini, H.A., 2011, Analisis Variasi Waktu dan Kecepatan Pengadukan pada Proses Adsorbsi Limbah Logam Berat dengan Arang Aktif, *Info Teknik*, 12(1)
- Tanasale, B.F.J.D.P, Kilaiy, A., and Marsela, A.L., 2012, Kitosan dari Limbah Kulit Kepiting Rajungan (*Portunus sanginolentus L.*) Sebagai Adsorben Zat Warna Biru Metilena, *J. Natur*, Indo, 14, 165- 171.
- Vadivelan, V., and Vasanth, K. K., 2005, Equilibrium, kinetics, mechanism, and process design for the sorption of methylene blue onto rice husk, *J. Colloid Interface Sci.*, 286, 90–100.
- Vezentsev, A. I., Thuy, D. M., Goldovskaya-Peristaya, L. F., and Glukhareva, N. A. ,2018, Adsorption of methylene blue on the composite sorbent based on bentonite-like clay and hydroxyapatite. *Indones. J. Chem.*, 18(4), 733-741.
- Weitkamp, J and Puppe, L., 1999, Catalysis and zeolits fundamentals and applications, *Springer-Verlag Berlin Heidelberg.*, Germany.
- Wirawan, S. K., Sudibyo, H. and Setiaji, M. F., 2015, Development Of Natural Zeolites Adsorbent: Chemical Analysis And Preliminary Tpd Adsorption Study, *JESTEC*, 3, 87–95.
- Wang, S.B., and Peng, Y.L., 2010, Natural Zeolits as Effective Adsorbents in Water and Wastewater Treatment, *J. Chem. Eng.*, 156, 11-24
- Wang, J., Zheng, X., Wu, H., Zheng, B., Jiang, Z., Hao, X., and Wang, B., 2008, Effect of zeolites on chitosan/zeolite hybrid membranes for direct methanol fuel cell, *J. Power Sources.*, 178(1), 9-19.
- Wang, Y., Zhu, W., and Zhan, X., 2006, Study on Scrambling Capability Based on Image Encryption, *Comp.Eng*, 27, 4729-4731.
- Widiastuti, N., Fachruddin, M.H., Setyaningsih, E.P., dan Romadiansyah, T.Q., 2022, Adsorpsi Metilen Biru dan Kongo Merah pada Zeolit-A Hasil Sintesis dari Abu Dasar Batubara PT. Petrokimia Gresik, *JST.*, 8(1), pp.24-34.
- Wiyantoko. B., Andri, N.P., dan Anggarini Dyah., 2017, Pengaruh Aktivasi Fisika pada Zeolit Alam dan Lempung Alam terhadap Daya Adsorpsinya, *Skripsi* Universitas Islam Indonesia, Yogyakarta.
- Wu, H., Zheng, B., Zheng, X., Wang, J., Yuan, W., and Jiang, Z., 2008, Surface Y Modified Y Zeolit-Filled Chitosan Membrane for Direct Methanol Fuel Cell, *J. Power Sources*, 173, 842–852.
- Yang, J., Zheng, Y.A., Gou, X., Pu, K., Chen, Z., Guo, Q., Ji, R., Wang, H., Wang, Y. and Zhou, Y., 2020, Prevalence of comorbidities and its effects in patients infected with SARS-CoV-2: a systematic review and meta-analysis, *IJID.*, 94, pp.91-95.
- Yuan, W., Wu, H. Zheng, B., Zheng, X., Jiang, Z., Hao, X., and Wang, B., 2007, Sorbitol-Plasticizes Chitosan/Zeolit Hybrid Membrane for Direct Methanol Fuel Cell, *J.Power Sources*, 172(2), 604-612.