

DAFTAR PUSTAKA

- Adamson, A.W., dan Gast, A.P., 1997, *Physical Chemistry of Surface*, 6th edition, John Willey and Sons Inc., New York.
- Annadurai, G., 2002, Adsorption of Basic Dye on Strongly Chelating Polymer: Batch Kinetics Studies, *Iran Polym. J.*, 11, 237-244.
- Akins, P.W., 1997, *Kimia Fisika Jilid 2* (diterjemahkan oleh Kartohadiprojo, I.I.), edisi ke-4, Penerbit Erlangga, Jakarta.
- Bulan, R., Sinaga, M.S., dan Darnianti, D., 2010, Decreasement of Colour and COD Content of The Liquid Waste Product From The Jeans Washing Industry by Chitosan and *Trametes versicolor*, *Indones. J. Chem.*, 10 (1), 75-79.
- Bhatt, R., Sreedhar, B., dan Padmaja, P., 2015, Adsorption of Chromium from Aqueous Solutions Using Crosslinked Chitosan-diethylenetriamine-pentaacetic Acid, *Int. J. Biol. Macromol.*, 74, 458-466.
- Chatterjee, S., Chatterjee, T., Lim, S. R., dan Woo, S.H., 2011, Adsorption of A Cationic Dye, Methylene Blue, on to Chitosan Hydrogel Beads Generated by Anionic Surfactant Gelation, *Environ. Technol.*, 32(13), 1503-1514.
- Crini, G., 2005, Non-conventional Low-cost Adsorbents for Dye Removal: A Review, *Bioresource Technol.*, 97, 1061-1085.
- Daneshvar, E., Vazirzadeh, A., Niazi, A., Kousha, M., Naushad, M., dan Bhatnagar, A., 2017, Desorption of Methylene Blue Dye from Brown Macroalgae: Effects of Operating Parameters, Isotherm Study, and Kinetic Modeling, *J. Clean Prod.*, 152, 443-453.
- Fajarwati, F.I., 2015, Efek Taut Silang Glutaraldehyda Pada Kompleks Polielektrolit Kitosan-Karboksimetil Selulosa Terhadap Adsorpsi Biru Metilen, *Tesis*, Departemen Kimia, Universitas Gadjah Mada, Yogyakarta.
- Ghosal, P.S., dan Gupta, A.K., 2017, Development of A Generalized Adsorption Isotherm Model At Solid-Liquid Interface: A Novel Approach, *J. Mol. Liq.*, 240, 21-24.
- Hamdaoui, O., dan Chiha, M., 2006, Removal of Methylene Blue from Aqueous Solution by Wheat Bran, *Acta Chim. Slov.*, 54, 407-418.
- He, X., Male, K.B., Nesterenko, P.N., Brabazon, D., Paull, B., dan Luong, J.H.T., 2013, Adsorption and Desorption of Methylene Blue on Porous Carbon Monoliths and Nanocrystalline Cellulose, *Appl. Mater. Interfaces.*, 5, 8796-8804.
- Ho, Y.S., dan Wang, C.C., 2003, Pseudo-Isotherms for The Sorption of Cadmium Ion onto Tree Fern, *Process Biochem.*, 39, 759-763.
- Ismail, B., Hussain, S.T., dan Akram, S., 2013, Adsorption of Methylene Blue onto Spinel Magnesium Aluminate Nanoparticles: Adsorption Isotherms, Kinetic, and Thermodynamic Studies, *Chem. Eng. J.*, 219, 395-402.

- Jesus, A.M.D., Romao, L.P.C., Araujo, B.R., Costa, A.S., Marques, J.J., 2011, Use of Humin as An Alternative Material for Adsorption/Desorption of Reactive Dyes, *Desalination*, 274, 13-21.
- Kyzas, G.Z., Lazaridis, N.K., dan Kostoglou, M., 2014, Adsorption/desorption of A Dye by A Chitosan Derivative: Experiments and Phenomenological Modeling, *Chem. Eng. J.*, 248, 327-336.
- Liu, L., Gao, Z.Y., Su, X.P., Chen, X., Jiang, L., dan Yao, J.M., 2015, Adsorption Removal of Dyes from Single and Binary Solutions Using a Cellulose-based Bioadsorbent, *Chem. Eng.*, 3, 432-442.
- Luppi, B., Bigucci, F., Abruzzo, A., Corace, G., Teresa, C.T., dan Zecchi, V., 2010, Freeze-Dried Chitosan/Pectin Nasal Insects for Antipsychotic Drug Delivery, *Eur. J. Pharm. Biopharm.*, 75, 381-87.
- Mahmoud, M., Attia, M., dan Al-Hashim, H., 2017, EDTA Chelating Agent/Seawater Solution as Enhanced Oil Recovery Fluid for Sandstone Reservoirs, *J. Petrol. Sci. Eng.*, 152, 275-283.
- Markovic, S., Stankovic, A., Lopovic, Z., dan Lazarevic, S., 2015, Application of Raw Peach Shell Particles for Removal of Methylene Blue, *J. Environ. Chem. Eng.*, 3, 716-724.
- Ningsih, C.A.W., 2016, Pengaruh Pencucian Abu Vulkanik Gunung Kelud dengan Menggunakan Larutan Na₂EDTA Terhadap Kapasitas Adsorpsi Pada Ion Pb (II), *Skripsi*, Departemen Kimia FMIPA UGM, Yogyakarta.
- Peng, S., Meng, H., Ouyang, Y., dan Chang, J., 2014, Nanoporous Magnetic Cellulose-Chitosan Composite Microspheres: Preparation, Characterization, and Application for Cu(II) Adsorption, *Ind. Eng. Chem. Res.*, 53, 2106-2113
- Piccin, J.S., Vieira, M.L.G., Goncalves, J.O., Dotto, G.L., dan Pinto, L.A.A., 2009, Adsorption of FD&C Red No. 40 by Chitosan: Isotherm Analysis, *J. Food. Eng.*, 95 (1), 16-20.
- Prasetyo, E.A., 2015, Pembuatan Membran Makropori Kitosan Pektin Tertaut Silang Glutaraldehida sebagai Adsorben Biru Metilen, *Skripsi*, Departemen Kimia, Universitas Gadjah Mada, Yogyakarta.
- Qiu, L., Shao, Z., Liu, M., Wang, J., Li, P., dan Zhao, M., 2013, Synthesis and Electrospinning Carboxymethyl Cellulose Lithium (CMC-Li) Modified 9,10-anthraquinone (AQ) High-rate, *Carbohydr. Polym.*, 102, 986-992.
- Repo, E., Warchol, J.K., Kurniawan, T.A., Sillanpaa, M.E.T., 2010, Adsorption of Co(II) and Ni(II) by EDTA- and/or DTPA-modified Chitosan: Kinetic and Equilibrium Modeling, *Chem. Eng. J.*, 161, 73-82.
- Rosca, C., Popa, M.M., Lisa, G., dan Chitanu, C.G., 2005, Interaction of Chitosan with Natural or Synthetic Anionic Polyelectrolytes. 1. The Chitosan-Carboxymethylcellulose Complex, *Carbohydr. Polym.*, 62, 35-41.

- Shweta, A., dan Sonia, P., 2013, Pharmaceutical Relevance of Cross-linked Chitosans in Microparticulate Drug Delivery, *Int. J. Pharm.*, 4(2), 45-51.
- Singh, K., Suri, R., Tiwary, A.K., dan Rana, V., 2012, Chitosan Films: Crosslinking with EDTA Modifies Physicochemical and Mechanical Properties, *J. Mater. Sci.*, 23, 687-695.
- Sugiharto, 1987, *Dasar-dasar Pengolahan Air Limbah*, Penerbit Universitas Indonesia, Jakarta.
- Sugita, P., Wukirsari, T., Sjahriza, A., dan Wahyono, D., 2009, *Kitosan: Sumber Biomaterial Masa Depan*, Penerbit IPB Press, Bogor.
- Tan, K.B., Vakili, M., Horri, B.A., Poh, P.E., Abdullah, A.Z., dan Salamatinia, B., 2015, *Sep. Purif. Technol.*, 150, 229-242.
- Tuny, M.T., 2013, Adsorpsi Desorpsi Metilen Biru Pada Membran Kompleks Polielektrolit (PEC) Kitosan-Pektin, *Tesis*, Departemen Kimia, Universitas Gadjah Mada, Yogyakarta.
- Untailawan, R., 2014, Adsorpsi dan Desorpsi Metilen Biru Pada Film Polielektrolit Kompleks Kitosan-Pektin Tertaut Silang Polietilen Glikol Diglisidil Eter, *Tesis*, Departemen Kimia, Universitas Gadjah Mada, Yogyakarta.
- Vakili, M., Rafatullah, M., Salamatinia, B., Abdullah, A.Z., Ibrahim, M.H., Tan, K.B., Gholami, Z., dan Amouzgar, P., 2014, Application of Chitosan and Its Derivatives As Adsorbents for Dye Removal From Water and Wastewater: A review, *Carbohydr. Polym.*, 113, 115-130.
- Xing, Y., Sun, X.-M., dan Li, B., 2009, Poly(methacrylic acid)-Modified Chitosan for Enhancement Adsorption of Water-soluble Cationic Dyes, *Polym. Eng. Sci.*, 49(2), 272-280.
- Yan, H., Zhang, W., Kan, X., Dong, L., Jiang, Z., Li, H., Yang, H., dan Cheng, R., 2011, Sorption of Methylene Blue by Carboxymethyl Cellulose and Reuse Process in A Secondary Sorption, *Colloid Surface A.*, 380, 143-151.
- Zhang, G., Yi, L., Deng, H., dan Sun, P., 2013, Dyes Adsorption Using A Synthetic Carboxymethyl Cellulose-Acrylic Acid Adsorbent, *J. Environ. Syst.*, 26, 1203-1211.
- Zhao, F., Repo, E., Sillanpaa, M., Meng, Y., Yin, D., dan Tang, W.Z., 2015, Green Synthesis of Magnetic EDTA- and/or DTPA-Cross-Linked Chitosan Adsorbents for Highly Efficient Removal of Metals, *Ind. Eng. Chem. Res.*, 54, 1271-1281.
- Zhao, F., Repo, E., Yin, D., Meng, Y., Jafari, S., dan Sillanpaa, M., 2015, EDTA-Cross-Linked β -Cyclodextrin: An Environmentally Friendly Bifunctional Adsorbent for Simultaneous Adsorption of Metals and Cationic Dyes, *Environ. Sci. Technol.*, 49, 10570-10580.



Zhou, Y., Zhang, M., Hu, X., Wang, X., Niu, J., dan Ma, T., 2013, Adsorption of Cationic Dyes on a Cellulose-Based Multicarboxyl Adsorbent, *J. Chem. Eng. Data*, 58, 413-421.