DAFTAR PUSTAKA

Adamson, A.W., 1990, *Physical Chemistry of Surfaces*, 5th Edition, John Wiley and Sons, New York.

Ahalya, N., Ramachandra, T.V., dan Kanamadi, RD., 2003, Biosorption of Heavy Metal, *J. Chem. Environ.*, 4, 71-79.

Asrina, F.E., 2003, Adsorpsi Ion Logam Cd (II) dengan Menggunakan Pelepah Pisang Gedah *(Musa paradisica,* L.*)*, *Skripsi,* Jurusan Kimia FMIPA UNSRI, Palembang.

Bartczak, P., Norman, M., Klapiszewski, L., Karwanska, N., Kawalec, M., Baczynska, M., Wysokowski, M., Zdarta, J., Ciesielczyk, F., dan Jesionowski, T., 2015, Removal of Nikel(II) and Lead(II) Ions from Aqueous Solution Using Peat A Low-Cost Adsorbent: A Kinetic and Equilibrium Study, *J. Arabian. Chem.*, 7, 18.

Basyal, D., Homagai, P.L., dan Ghimire, K.N., 2010, Removal of Lead from Aqueous Medium Using Xanthate Modified Apple Juice Residue, *J. Nepal Chem. Soc.*, 26, 53-60.

Bird, T., 1985, *Physical Chemistry*. Jakarta : Gramedia.

Boparai, H.K., Joseph, M., dan O'Carroll, D.M., 2011, Kinetics and Thermodynamics of Cadmium Ion Removal by Adsorption Onto Nano Zerovalent Ion Particles, *J. Hazard. Mater.*, 186, 458-465.

Brown, P.A., Gill, S.A., dan Allen, S.J., 2000, Metal removal from waste water using peat, *Water res.*, 34, 3907-3916.

Bux, F., dan Kasan, H.C., 1994, Comparison of Selected Methods for Relative Assessment of Surface Charge on Waste Sludge Biomass, *Water SA,* 20(1), 73-76.

Castellan, G.W., 1982, *Physical Chemistry*, 3rd Ed, General Graphic Services, New York.

Chen, C.Y., Lin, C.I., dan Chen, H.K., 2003, Kinetic of Adsorption of *β*-Caroten from Soy Oil with Rice Hull Ash, *J. Chem. Eng. Jpn*, 3(36), 265-270.

Chilton, N., Jack, N., Lasson, N., Wayne, E., dan Marshall, R., 2002, Freundlich Adsorption Isoterm of Agricultural by Product Based Powder Activated carbon in Geosmin Water System, *Bioresour. Technol.*, 85, 113-135.

Creswell, C.J., Olaf, A.R., dan Malcom, M.C., 1982, *Analisa Spektrum Senyawa Organik,* edisi kedua, Institut Teknologi Bandung, Bandung.

Datta, R., 1981, Acidogenic Fermentation of Lignocellulose-acid Yield and Conversion of Components, *Biotechnol. Bioeng.*, 23 (9), 2167-2170.

Fengel, D., dan Wegener, G., 1995, *Kayu: Kimia, Ultrastruktur dan Reaksi-Reaski*, Penerbit UGM, Yogyakarta.

Galun, M., *et al.*, 1987, Removal of Metal Ions from Aqueous Solutions by *Penicilium* Biomass: Kinetic and Uptake Parameters, *Water, Air, Soil, Pollut.*, 33, 359-371.

Gufta, F.K., 1998, Utilization of Bagasse Fly Ash Generated in The Sugar Industry for Removal and Recovery of Phenol and p-nitrophenol from Wastewater. *J. Chem. Technol. Biotech.*, 70, 180-186.

Handayani, A.W., 2010, Penggunaan Selulosa Daun Nanas Sebagai Adsorben Logam Berat Cd (II). *Skripsi*, Jurusan Kimia FMIPA UNS, Surakarta.

Ho, Y., dan Mckay, G., 1999, Pseudo-second Order Model for Sorption Processes, *Process Biochem.*, 34(5), 451-465.

Ho, Y.S., 2004, Citation Review of Lagergren Kinetic Rate Equation on Adsorption Reactions, *Scientometrics*, 59(1), 171-177.

Ho, Y.S., 2006, Review of Second-order Models for Adsorption System, *J. Hazard. Mater.*, B136, 681-689.

Ho, Y.S., 2006, Second-order Kinetic Models for The Sorption of Cadmium onto Tree Fern: A Comparison of Linear and Non-linear Methods, *Water Res.*, 40, 119-125.

Jankwoska, H., Swiatkowski, A., dan Choma, J., 1991, *Activated Carbon*, Ellis Howood Limited, England.

Kartohadriprodjo, I.I, 1997, *Kimia Fisika*, Jilid II (diterjemahkan dari Atkins, P.W., 1990, Physical Chemistry, 2nd Ed., Oxford University Press), Erlangga, Jakarta.

Kerndorff, H., dan Schnitzer, M., 1980, Sorption of Metals on Humic Acid, *Geochim. Cosmochim. Acta*, 44, 1577-1581.

Ketaren, S., 1986, *Minyak dan Lemak Pangan*, UI-Press, Jakarta.

Lasheen, M.R., Ammar, N.S. dan Ibrahim, H.S., 2012, Adsorption/Desorption of Cd(II), Cu(II) and Pb(II) using Chemically Modified Oraange Peel: Eqiulibrium and Kinetic Studies, *Solid. State. Sci.*, 14, 202-210.

Lesbani, A., Andriani, A., Nurlisa, H., dan Risfidian, M., 2013, Studi Adsorpsi Desorpsi Kation Besi (II) dengan Selulosa Hasil Pemisahan dari Serbuk Kayu, *Majalah Ilmiah Sriwijaya*, 24, 17.

Lesbani, A., Monariqsa, D., Oktora, N., Azora, A., Haloho, D.A.N., Simanjutak, L., Musri, A., dan Saputra, A., 2012, Ekstraksi Selulosa dari Kayu Gelam *(Melaleuca leucadendron Linn)* dan Kayu Serbuk Industri Mebel, *Jurnal Penelitian Sains*, 3, 97-101.

Li, W., Zhang, L., Peng, J., Li, N., Zhang, S., dan Guo, S., 2008, Tobacco Stems As A Low Cost Adsorbent for The Removal of Pb (II) from Wastewater: Equilibrium and Kinetic Studies, *J. Ind. Crops and Products*, 28, 294-302.

Liang, S., Xueyi, G., Ningchuan, F., dan Qinghua, T., 2009, Application of Orange Peel Xanthate for the Adsorption of Pb^{2+} from Aqueous Solution, *J. Hazard. Mater.*, 170, 425-429.

Lopez, R., Poblano, V.M., Licea-Claveríe, A., Avalos, M., Alvarez-Castillo, A.,& Castaño, V.M., 2000, Alkaline Surface Modification of Sugar Cane Bagasse, *Adv. Comp. Mater.*, 9(2), 99–108.

Low, K.S., Lee, C.K., dan Leo, A.C., 1995, Removal of Metals from Electroplating Wastes Using Banana Pith, *Bio. Technol.*, 51, 227-231.

Lynd, L.R., Weiner, P.J., Vanzyl, W.H., dan pretorius, I.S., 2002, Microbial Cellulose Utilization: Fundamentals and Biotechnology, *Am. Soc. Microbia.*, 66(3).

Manahan, S.E., 1994, *Environmental Chemistry*, sixth Edition, Lewis Publisher, London.

Marshall, W.E., dan Mitchell, M.J., 1996. Agriculture by-Product As Metal Adsorbent: Sorption Properties and Resistance to Mechanical Abrasion. *J. Chem. Tech. Biotech.*, 66, 192-198.

Mehrasbi, R., Zohreh, F., Baherar, T., dan Azra, T., 2008, Adsorption of Lead and Cadmium from Aqueous Solution by Using Almond Shells, *J. Water, Air, Soil Pollut.*, 199, 343-351.

Ngah, W. S. W., Endud, C. S., dan Koay, Y. J., 2004, Equilibrium and Kinetic Studies of Adsorption of Copper (II) Chitosan and Chitosan Beads, *J. React. Funct. Polym.*, 50, 181-190.

Ofomaja, A.E., Naidoo, E.B., and Modise, S.J., 2010, Biosorption of Copper(II) and Lead(II) onto Potassium Hydroxide Treated Pine Cone Powder, *J. Environ. Manage.*, 91, 1674-1685.

Ogunleye, O.O., Mary, A.A., Samuel, E.A., 2014, Evaluation of Biosorptive Capacity of Banan *(Musa paradisiaca)* Stalk for Lead (II) Removal from Aqueous Solution, *J. Environ. Protection*, 5, 1451-1465.

Oh, S.Y., Yoo, D.I., Shin, Y., Kim, H.C., Kim, H.Y., Chung, Y.S., Park, W.H., dan Youk., J.H., 2005, Crystalline Structure Analysis of Cellulose Treated with Sodium Hydroxide and Carbon Dioxide by Means of X-Ray Diffraction and FTIR Spectroscopy, *Carbohydrate Res.*, 340, 2376–2391.

Oscik, J., 1982, *Adsorption*, John Wiley, Chichester.

Palar, H., 2008, *Pencemaran dan Toksikologi Logam Berat*, Rineka Cipta, Jakarta, 78-86.

Pearson, R.G., 1986, Hard and Soft Acids and Bases, HSAB, Part II : Underlying Theories, *J. Chem. Educ.*, 45, 10, 643.

Qaiser, S., Anwar, R.S., dan Umar, M., 2008, Biosorption of Lead from Aqueous Solution by Ficus Religiosa Leaves: Batch and Column Study, *J. Hazard. Mater.*, 166, 998–1005.

Qaiser, S., Anwar, R.S., dan Umar, M., 2009, Biosorption of Lead (II) And Chromium (VI) on Groundnut Hull: Equilibrium, Kinetics And Thermodynamics Study, *J. Biotech.*, 12, 4.

Rahmawati, A., dan Santosa, S.J., 2012, Studi Adsorpsi Logam Pb(II) dan Cd(II) pada Asam Humat dam Medium Air, *Alchemy*, 2(1), 46-67.

Rahmayani, F., dan Siswarni, M.Z., Pemanfaatan Limbah Batang Jagung Sebagai Adsorben Alternatif pada Pengurangan Kadar Klorin dalam Air Olahan (Treated Water), *Jurnal Teknik Kimia USU*, 2(2), 1-5.

Rohmatullaili, 2015, Asam Humat Tinja Kuda sebagai *green* Adsorben Pada Adsorpsi Logam Pb(II) dan Ni(II), *Tesis*, FMIPA UGM, Yogyakarta.

Rozaini, C.A., Jain K., Oo C.W., Tan, K.W., Tan, L.S., Azra, A., dan Tong, K.S., 2010, Optimization of Nickel ang Copper Ions Removal by Modified Mangrove Barks, *Chem. Eng. J.*, 1, 1.

Rusmaya, D., dan Padmi, T., 2008, Sorpsi Limbah Nikel Menggunaakan Kulit Kacang Tanah, *Jurnal Teknik Lingkungan*, 2, 105-114.

Safrianti, I., Nelly, W., dan Titin, A.Z., 2012, Adsorpsi Timbal (II) oleh Selulosa Limbah Jerami Padi Teraktivasi Asam Nitrat : Pengaruh pH dan Waktu Kontak, *JKK*, 1, 1-7.

Sahu, M.K., Mandal, S., Dash, S.S., Badhai, P., dan Patel, R.K., 2013, Removal of Pb (II) from Aqueous Solution by Acid Activated Red Mud, *J. Environ. Chem. Eng.*, 1, 1315-1324.

Sastrohamidjojo, H., 1992, *Spektroskopi Infaramerah*, Liberty, Yogyakarta.

Sciban, M., Klasnja, M., dan Skrbic, B., 2006, Modified Softwood Sawdust As Adsorbent of Heavy Metal Ions From Water, *J. Hazard. Mater*, 136, 266–271.

Shaw, D.J., 1991, *Introduction to Colloid and Surface Chemistry*, Butterworth -Heinemann, Boston.

Shukla, S.R., dan Pai, R.S., 2005, Adsorption of Cu (II), Ni (II) and Zn (II) on Modified Jute Fibers. *J. Bio. Technol.*, 96, 1430-1438.

Stum, W., dan Morgan, J. J., 1996, *Aquatic chemistry: Chemical Equilibria in Natural Water*, Third Edition, John Willey & Son, Inc., New York.

Susanti, A., 2009, Potensi Kulit Kacang Tanah Sebagai Adsorben Zat Warna Reaktif Cibacron Red, *Skripsi*, Jurusan Kimia FMIPA ITB, Bogor.

Tangio, J.S., 2013, Adsorpsi Logam Timbal (Pb) dengan MenggunakanBiomassa Enceng Gondok *(Eichhorniacrassipes)*, *Jurnal Entropi*, 8, 1.

Tarley, C.R.T., Ferreira, S.L.C., dan Arruda, M.A.Z., 2004, Use of Modified Rice Husks as A Natural Solid Adsorbent of Trace Metals: Characterization and Development of An Online Preconcentration System for Cadmium and Lead Determination by FAAS, *J. Microchemical*, 77, 163-175.

Tasar, S., Kaya, F., dan Ozer, A., 2014, Biosorption of Lead(II) Ions from Aqueous Solution by Peanut Shells: Equilibrium, Thermodynamic an Kinetik Studies, *J.Environ. Chem. Engineer.*, 2, 1018-1026

Taty, V.C., Costodes Fauduet, H., Porte, C., dan Delacroix, A., 2003, Removal of Cd(II) and Pb(II) Ions, from Aqueous Solutions, by Adsorption Onto Sawdust of Pinus Sylvestris, *J. Hazard. Mater*, 105, 121–142.

Triyono, 2013, *Kesetimbangan Kimia*, Gadjah Mada University Press, Yogyakarta.

Wang, H. S., Qian-Xiu, Pan, dan Gui-Xiang., 2005, A Biosensor Based on Immobilization of Horseradish Peroxidase in Chitosan Matrixcross-Linkedwith Glyoxal for Amperometric Determination of Hydrogen Peroxide, *Sensors*, 5, 266-276.

Wang, S., Hu, J., Li, J., dan Dong, Y., 2009, Influence of pH, Soil Humic/Fulvic Acid, Ionic Strength, Foreign Ions and Addition Sequences on Adsorption of Pb(II) onto GMZ Bentonite, *J. Hazard. Mater.*, 167, 44-51.

Widowati, W., Sastiono, A., dan Jusuf, R., 2008, *Efek Toksik Logam*, Andi, Yogyakarta.

Windasari, R., 2009, Adsorpsi Zat Warna Tekstil *Direct Blue 86* oleh Kulit Kacang Tanah, *Skripsi*, Jurusan Kimia FMIPA UNNES, Semarang.

Wulandari, Y., Laeli, K., dan Indah, R., 2014, Adsorpsi Logam Timbal dalam Larutan Menggunakan Kulit Ketela Rambat *(Ipomoea batatas L)*, *Prosiding SNST ke-5*, 2014, Semarang.

Yan, G., dan Viraraghavan, T., 2000, Effect of Pretreatment on The Bioadsorption of Heavy Metals on *Mucor Rouxii*, *Water SA*, 1(26), 119-124.

Yunita, A., dan Prasetyo, A., 2009, Aktivasi Bagasse Fly Ash (BFA) untuk Adsorpsi Cu(II) secara Bacth dan Kontinyu : Eksperimen dan Pemodelan, *Prosiding Seminar Nasional Teknik Kimia Indonesia*, Bandung.

Zafar, M.N., Nadeem, R., dan Hanif, M.A., 2007, Biosorption of Nickel from Protonated Rice Bran, *J. Hazard. Mater*., 143, 478–485.

Zugenmainer, P., 2008, *Cristalline Cellulose and Derivatives*, Springer-Verlag, Jerman.