

DAFTAR PUSTAKA

- Abbas, M., Kaddour, S., and Trari, M., 2014, Kinetic and Equilibrium Studies of Cobalt Adsorption on Apricot Stone Activated Carbon, *J.Ing.Eng.Chem.*, 20, 745-751.
- Ade, Apriliani., 2010, Pemanfaatan Arang Ampas Tebu sebagai Adsorben Ion Logam Cd, Cr, Cu, dan Pb dalam Air Limbah, *Skripsi*, Universitas Islam Negeri Syarif Hidayatullah, Jakarta.
- Arief, Hamdani, S., 2014, Pelapisan Magnetit dengan Silika Bersumber Abu Sekam Padi, *Skripsi*, Universitas Gadjah Mada, Yogyakarta.
- Agustina, S., Swantara, I.M.D., dan Suartha, I.N., 2015, Isolasi Kitin, Karakterisasi dan Sintesis Kitosan dari Kulit Udang, *Jurnal Kimia*, 9(2), 271-278.
- Aisah, S., 2010, *Penurunan Angka Peroksida dan Asam Lemak Bebas (FFA) pada Proses Bleaching Minyak Goreng Bekasoleh Karbon Aktif Polong Buah Kelor (Moringa oleifera. Lamk) dengan Aktivasi NaCl*, Malang, <http://ejournal.uin-malang.ac.id/index.php/Kimia/article/view/1669>, [Juli 2018].
- Anonim, 2004, Toxicological Profile for Ammonia, *U.S. Department of Health and Human Services, Public Health Service*, Georgia.
- Anonim, 2006, *Luas Areal dan Produksi Perkebunan Besar Negara Menurut Jenis Tanaman di Jawa Barat*.
- Ariani, 2011, Struktur Nano Partikel Oksida Besi dari Pasir Besi Pantai Tiram Sumatera Barat, *Prosiding SEMIRATA 2017 Bidang MIPA*, 102-103.
- Azhar, M., Efendi, J., Syofyeni, E., Lesi, R. M., dan Novalina, S, 2010, Pengaruh konsentrasi NaOH dan KOH terhadap derajat deasetilasi kitin dari limbah kulit udang, *Eksakta* 1(11).
- Baoqiang, L., Dechang, J., and Yu, Z., 2006, In Situ Hybridization to Chitosan/Magnetite Nanocomposite Induced by Magnetic Field. *J. Magn. Mater.*, 6(15), 223-227.
- Bastaman, 1989, *Studies on degradation and extraction of chitin and chitosan from prawn shells*, England : The Queen University of Belfast.
- Bhuvaneshwari, S., 2012, Regeneration of Chitosan after Heavy Sorption. *J. Sci. Rac*, 22(3), 266-269.

- Brugnerotto, J., Lizardi, J., Goycoolea, F. M., Arguelles-Monal, W., Desbrieres, J., dan Rinaudo, M., 2001, An Infrared Investigation in Relation with Chitin and Chitosan Characterization, *Polymer*, 42(8), 3569-3580.
- Cahyaningrum, S.E., Narsito, Santoso, S. J. dan Agustini, R., 2011, Adsorpsi Ion Logam Zn(II) dan Cu(II) Pada Kitosan Nano Bead dari Cangkang Udang Windu (*Penaeus monodon*), *J.Manusia dan Lingkungan*, 18(3), 200-205.
- Cotton, Wilkinson dan Albert Geoffrey, 1989, *Kimia Anorganik Dasar*, Universitas Indonesia, Jakarta.
- Dahlang, Tahir., Nurlaela, Rauf., dan Sari Ba'ruru., 2017, Sintesis Fe₃O₄ (Magnetite) Menggunakan Metode Kopresipitasi Dan Karakterisasi Sifat Strukturnya Dengan Memvariasikan Konsentrasi NH₄OH (Amonium Hidroksida), *J. FMIPA UNHAS*, Makassar.
- Darmono, 1995, *Logam Dalam Sistem Biologi Makhluk hidup*, 111, 131-134, Universitas Indonesia Press, Jakarta.
- Darmono, 2001, *Lingkungan Hidup dan Pencemaran: Hubungannya dengan Toksikologi Senyawa Logam*, 139, 142, UI – Press, Jakarta.
- Daniar, Febriliani Pratiwi., 2016, Tingkat Pencemaran Logam Kadmium (Cd) Dan Kobalt (Co) Pada Sedimen Di Sekitar Pesisir Bandar Lampung, *Skripsi*, Universitas Negeri Lampung, Lampung.
- Dewanti, Cahya, W., 2018, Adsorpsi-desorpsi Ion Cu(II) dengan Silika Termodifikasi Kitosan Terlapis pada Bahan Magnetik Pasir Besi, *Skripsi*, Universitas Gadjah Mada, Yogyakarta.
- Dewi, K.S.P., 2009, Kemampuan Adsorpsi Batu Pasir yang Dilapisi Besi Oksida (Fe₂O₃) untuk menurunkan kadar Pb dalam Larutan, *Jurnal Bumi Lestari*, 9(2).
- Do, D.D., 1998, *Adsorption Analysis: Equilibria and Kinetics*, Imperial College Press, London.
- Do, MH., Phan, NH., Nguyen, TD., Pham, TTS., Nguyen, VK., Vu, TTT., and Nguyen, TKP., 2011, Activated carbon/Fe₃O₄ nanoparticle composite: Fabrication, methyl orange removal and regeneration by hydrogen peroxide, *Chemosphere*, 85, 1269-1276.
- Dyan, Satya Saputra, 2015, Adsorpsi Kandungan Senyawa Nitrogen Dalam Air Aquarium dengan Menggunakan Magnetit-Karbon aktif Kitosan, *Skripsi*, Universitas Negeri Jakarta.

- Effendi, H., 2003, *Telaah Kualitas Air bagi Pengelolaan Sumber Daya dan Lingkungan Perairan*, Kanisius, Yogyakarta.
- Eka Nuril, Susilowati., Fauziatul, Fajaroh., dan Surjani, Wonorahardjo., 2017, Sintesis Nanopartikel Magnetit (Fe_3O_4) Secara Elektrokimia Dan Aplikasinya Sebagai Penyerap Pb(II), *J. Kimia FMIPA*, Universitas Negeri Malang.
- Faulconer, E.K., Hoogesteijn von Reitzenstein, N.V., and Mazyck, D. W., 2012, Optimization of magnetic powdered activated carbon for aqueous Hg(II) removal and magnetic recovery, *J. Hazard. Mater.*, 199-200, 9-14.
- Fikriatun, N., Manuntun, M., dan Mayun, L., 2014, Penggunaan Kitosan dari Limbah Kulit Udang sebagai Inhibitor Keasaman Tuak, *Jurnal Kimia*, FMIPA Udayana, Bali.
- Foo, K.Y. and Hameed, B.H., 2010, Insights into the modeling of adsorption isotherm systems, *Rev. Chem. Eng. J.*, 156, 2–10.
- Futalan, Cybelle Morales, 2012, Copper, Nickel and Lead Adsorption from Aqueous Solution Using Chitosan-Immobilized on Bentonite in a Ternary System, *Sustain Environmental Res*, 22(6), 345-355.
- Greenwood, NN., dan Earnshaw, A., 1984, *Chemistry of Element*, New York: Pergamon-press.
- Gupta, S.S., dan Bhattacharyya, K.G., 2006, Adsorption of Ni(II) on Clay, *J. Colloid Inter. Sci.*, 295, 21-23.
- Ho, Y.S., 2006, Review of Second-Order Models for Adsorption Systems, *Process Biochem.*, B136, 681-689.
- Ho, Y.S and McKay, 1999, Pseudo-Second Order Model for Sorption Processes *Process Biochem.*, 34, 451-465.
- Hoang, Vinh., Tran, Lam., 2010, Preparation of Chitosan/Magnetite Composite Beads and their Applications for Removal of Pb(II) and Ni(II) from Aqueous Solution, *J. Mater. Sci. Eng*, 7(8), 304-310.
- Kakavandi, B., Jafar, A. J., 2013, Synthesis and properties of Fe_3O_4 -activated carbon magnetic nanoparticles for removal of aniline from aqueous solution: equilibrium, kinetic and thermodynamic studies, *Iranian J. Environ. Health. Sci. Eng.*, 20(3), 122-123.

- Khan, T.A., Peh, K.K., Chang, H.S., 2017, Reporting Degree of Deacetylation Values of Chitosan: The Influence of Analytical Methods, *J. Pharm. Pharm. Sci.*, 5, 205-212.
- Kim, D.K., Mikhaylova, M., Zhang, Y., and Muhammed, M., 2003, Protective Coating of Superparamagnetic Iron Oxide Nanoparticles, *Chem. Mater.*, 15, 1617-1627.
- Kumar, 2000, *A Riview of Chitin and Chitosan Application*. Reactive and Functional Polymers, 46(1), 1-27.
- Kyzas, G.Z., dan Deliyanni, E.A., 2013, Mercury (II) Removal with Modified Magnetic Chitosan Adsorbents, *J.Mol.*, 18, 6193-6214.
- Anonim, 2005, *Fermentasi Ampas Tebu untuk Pakan*, <http://iptek.net.id/ind/htm> [25 Juli 2018].
- Liu, T., An, Q-Fu., Wang, X-San., Zhao, Q., Zhu, B-Ku., Gao, C-Jie, 2014, Preparation and Properties of PEC Nano Membrane with Carbocymethyl Cellulose and Modified Silica, *J. Polym.*, 106, 403-409.
- Liu, X., Hu Q., Fang Z., Zhang Z., & Zhang B., 2009, Magnetic Chitosan Nanocomposite : A Useful Recyclable Tool for Heavy Metal Ion Removal, *Langmuir*, 25(1), 1-8.
- Maity, D., and Agrawal, D.C., 2007, Synthesis of Iron Oxide Nanoparticles Under Oxidizing Environment and Their Stabilization in Aqueous and Non-Aqueous Media, *J. Magn. Mater.*, 308(1), 46-55.
- Manocha, S. M., 2003., Porous Carbons, *India: Journal Sadhana*, Vol 28, 1-2.
- Marganof, 2007, Model Pengendalian Pencemaran Perairan di Danau Maninjau Sumatera Barat, *Tesis*, Pascasarjana IPB, Bogor.
- Margonov, 2003, Potensi limbah udang sebagai penyerap logam berat (timbal, kadmium, dan tembaga) di perairan, tumoutu.net/70207134/margonof.pdf. [21 Juli 2018].
- Mellia, Harumi, 2018, Adsorpsi-Desorpsi Au(III), Cu(II) Dan Ni(II) Dari Larutan Hasil Destruksi *Printed Circuit Board (Pcb)* Dengan Kitosan/Silika Terlapis Pada Bahan Magnetik Pasir Besi, *Tesis*, Universitas Gadjah Mada, Yogyakarta.
- Mirwan, M., 2005., Daur Ulang Limbah Hasil Industri Gula (Ampas Tebu/Bagasse) Dengan Proses Karbonisasi Sebagai Arang Aktif, *Jurnal Rekayasa Perencanaan*, 1(3).

- Mu'jizah, S., 2010, *Pembuatan Dan Karakterisasi Karbon Aktif Dari Biji Kelor (Moringa Oleifera. Lamk) Dengan NaCl Sebagai Bahan Pengaktif*, <https://www.academia.edu/8291829>, [25 Juli 2018].
- Munandar, A., Krisdiyanto, D., Khamidinal, dan Artsanti, P., 2014, Adsorpsi Logam Pb dan Fe dengan Zeolit Alam Teraktivasi Asam Sulfat, *Seminar Nasional, Universitas Negeri Surakarta*, Surakarta.
- Nurdiani, D., 2005, Adsorpsi Logam Cu(II) pada Kitosan Bentuk Serpihan dan Butiran, Skripsi, FMIPA IPB, Bogor.
- Ofomaja, A.E., Naidoo, E.B., and Modise, S.J., 2010, Dynamic Studies and PseudoSecond Order Modeling of Copper(II) Biosorption onto Pine Cone Powder, *Desalination*, 251, 112-122.
- Olayinka, O.K., Oyedeji, O.A., & Oyeyiola, O.A., 2009, Removal of Chromium and Nickel Ions from Aqueous Solution by Adsorption on Modified Coconut Husk, *J. Environ. Sci. Tech*, 3. 286-293.
- P Navarro, C Vargas, M Alonso, FJ Alguacii., 2006, The Adsorption of Gold on Activated Carbon from Thiosulfate Ammoniacal Solutions, *Gold Buletin*. 39(3), 93-97.
- Pehlivan, E. & Arslan, G., 2007, Removal of Metal Ions Using Lignite in Aqueous Solution - Low Cost Biosorbent, *Fuel Processing Technology*, 88, 99-106.
- Puzy, A.M., Poddubnaya, O.I., Socha, R.P., Gurgul, J., Wisniewski, M., 2008, XPS and NMR studies of phosphoric acid activated carbons, *Carbon* 46, 2113–2123.
- Rangminang, 2009, *Adsorption.*, <http://www.newworldencyclopedia.org>. [20 Juli 2018].
- Ria, Wiyanti, 2009, Arang Aktif Dari Ampas Tebu Sebagai Adsorben Pada Pemurnian Minyak Goreng Bekas, *Skripsi*, Institut Pertanian Bogor.
- Sanjaya, I., dan Yuanita, L., 2007, Adsorpsi Pb(II) oleh Kitosan Hasil Isolasi Kitin Cangkang Kepiting Bakau (*Scylla*), *J Ilmu Dasar*, 8(1), 30-36.
- Santosa, S.J., dan Muzzaky, 2007, Kinetika Adsorpsi Logam Berat (krom, tembaga, uranium oleh Magnetit dalam Tanah Gambut, *Laporan Penelitian*, Yogyakarta.
- Saoud, F., 2010, Superparamagnetic Nanoparticles for synthesis and Purification of Polymers Prepared via Controlled/"Living" Radical Polymerization (CLRP), *Polymer Science*, University of Stellenbosch.

- Sartika, Dewi, 2016, Sifat Magnetik Adsorben Nanopartikan Fe_3O_4 Terhadap Adsorpsi Logam Berat (Co dan Fe) Dalam Larutan, *Seminar Nasional Pendidikan 201*,. Vol 1. ISSN: 2527-5917.
- Sembiring MT, Sinaga TS., 2003, Arang Aktif (Pengenalan dan Proses Pembuatannya), *Sumatera Utara: Fakultas Teknik*, Universitas Sumatera Utara.
- Shen, W., Li, Z., and Liu, Y., 2008, Surface Chemical Functional Groups Modification of Porous Carbon, *Recent Pat. Chem. Eng.*, 1(1), 27-40.
- Sparks, D.L., 1989, *Kinetics of Soil Chemical Process*, Academic Press, New York.
- Sudrajat R, Soleh S., 1994, *Petunjuk Teknis Pembuatan Arang Aktif*, Bogor: Puslitbang Hasil Hutan dan Sosial Ekonomi Kehutanan.
- Syukur, DA, 2006, Integrasi Usaha Peternakan Sapi pada Perkebunan Tebu, <http://www.disnakkeswanlampung.go.id/Index.php.htm> [18 Juli 2018].
- Tao-lee, S., Long Mi, F., Ju Shen., and Shing Shyu., 2001, Equilibrium and Kinetic Studies of Copper(II) Ion Uptake by Chitosan-Tripolyphosphat Chelating Resin, *J Polymer*, 42, 1879-1892.
- Tao K, Dou HJ, and Sun K., 2008, Interfacial coprecipitation to prepare magnetite nanoparticles: Concentration and temperature dependence, *Colloids. Surf.*, 320, 115-122.
- Teja, A.S. dan Koh, P., 2009, Synthesis, Properties, and Application of Magnetic Iron Oxide Nanoparticles. *Progress in Crystal Growth and Characterization of Materials*, 55, 22-45.
- Treyball, R.E., 1981, *Mass Transfer Operation*. 3rd edition, McGraw Hill BookCompany, Tokyo, Jepang.
- Vaclavikova, M., Jagabsky, S., and Hredazk, S., 2003, Magnetit Nanoscale Particlesfor Removal of Heavy Metal Ions, <http://drexel.edu/coe/research/conference/NATOASI> 2003/manuscript/5.2.vaclavikova.pdf, [8 Agustus 2018].
- Vella, C. W., dan Ita Ulfin, 2015, Pengaruh pH pada Adsorpsi Ion Cd^{2+} dalam Larutan Menggunakan Karbon Aktif dari Biji Trembesi (Samanea saman), *J. Sains dan Seni ITS*, 4(2), 2337-3520.

- Wahajuddin, dan Arora, S., 2012, Superparamagnetic iron oxide nanoparticles: magnetic nanoplatforms as drug carriers, *Int. J. Nanomed.*, 7(12), 3445-3471.
- Wan Ngah, S. F., 2010, Adsorption Characterization of Pb(II) and Cu(II) ions onto Chitosan-Trypolyphosphate Beads : Kinetic, Equilibrium, and Thermodynamic Studies. *J. Environ. Management*, 91, 958-969.
- Wang, S.F., Shen, L., Tong, Y.J., Chen, L., Phang, I.Y., Lim, P.Q., and Liu, T.X., 2005, Biopolymer Chitosan/Montmorillonite Nanocomposites: Preparation and Characterization, *Polym. Degr. Stab.*, 90, 123-131.
- Wei, Y., Han, B., Hu, X., Lin, Y., Wang, X., and Deng, X., 2012, Synthesis of Fe₃O₄ nanoparticles and their magnetic properties, *Procedia Engineering*, 27(12), 632-637.
- Weijiang, Z., Yace, Z., Yuvaraja, G., dan Jiao, X., 2017, Adsorption of Pb(II) Ions from Aqueous Environment Using Eco-Friendly Chitosan Schiff Base@Fe₃O₄ (CSB@Fe₃O₄) as an Adsorbent: Kinetics, Isotherm and Thermodynamics Studies, *Int. J. Biol. Macromol.*
- Witono JA. 2003. *Produksi Furfural dan Turunannya: Alternatif Peningkatan Nilai Tambah Ampas Tebu Indonesia*. <http://www.chem-is try.org/sect=fokus/htm>. [20 Juli 2018].