

DAFTAR PUSTAKA

- Adamson, A. W., 1990, *Physical Chemistry of Surface*, John Wiley and Sons Inc: California.
- Agus, S., Salam R., Bandriyana, Dimiyati A., 2015, Studi Scanning Electron Microscopy (SEM) Untuk Karakterisasi Proses Oksidasi Paduan Zirkonium, *Jurnal Forum Nuklir*, 9 (2).
- Anung, R., Tien S., Kapti R., 2006, Penentuan Waktu Kontak dan pH Optimum Penyerapan Metilen Biru Menggunakan Abu Sekam Padi, *Molekul*, UNSOED : Purwokerto.
- Arbeloa, F.L., Ojeda P.R., Arbeloa I.L., 1989, Fluorescence Self Quenching The Molecular Form of Rhodamine B in Aqueous and Ethanolic Solutions, *Journal of Luminescence*, 44, pp. 105-112.
- Arief S., Safni, Roza P., 2007, Degradasi Senyawa Rhodamin B Secara Sonolisis Dengan Penambahan TiO₂ Hasil Sintesa Melalui Proses Sol-Gel, *Jurnal Riset Kimia*, 1(1), pp. 64-70.
- Arif, M., 2010, Optimasi Penurunan Kadar Congo Red, Methylene Blue, dan Rhodamine B pada Limbah Cair Batik Sokaraja Menggunakan Arang Aktif Tongkol Jagung, *Skripsi*, Universitas Jenderal Soedirman: Purwokerto.
- Asuquo, E., Martin A., Nzerem P., Siperstein F., 2017, Adsorption of Cd (II) and Pb (II) ions from Aqueous Solutions Using Mesoporous Activated Carbon Adsorbent : Equilibrium, Kinetic, and Characterisation Studies, *Journal of Environmental Chemical Engineering*, 54, pp. 679-698.
- Babel, S. dan Kurniawan, T.A., 2003, Low Cost Adsorbents for Heavy Metal Uptake From Contaminated Water : A Review, *Journal of Hazardous Material*, B9, pp. 219-243.
- Benefield, L.D., Judkins J.F., Weand B.L., *Process Chemistry for Water and Wastewater Treatment*.
- Budavari, S., 1996, *The Merck Index: An Encyclopedia of Chemical, Drugs and Biological 12th Edition*, Merck and Co. Inc. Rahway Nj : USA.
- Byrappa, K., dan Subramani A. K., 2006, *Photocatalytic Degradation of Rhodamin B Dye Using Hydrothermal Synthesized ZnO*, Maysore Department of Chemistry, University of Maysore.

- Chatterjee, Sudipta, Dae S. Lee, Min W. Lee, Seung H. Woo, 2009, Enhanced Adsorption of Congo Red from Aqueous Solution by Chitosan Hydrogel Beads Impregnated with Cetyl Trimethyl Ammonium Bromide, *Bioresource Technology*, **100**, pp. 2803-2809.
- Chen, J.C.P., Choui, C.C., 1993, *Cane Sugar Handbook: A Manual for Cane Sugar Manufacturers and Their Chemist*, New York: John Willey and Sons.
- Dabrowski, A., Podkoscielny P., Hubicki M., Barczak, 2005, Adsorption of Phenolic Compounds by Activated Carbon-a Critical Review, *Chemosphere*, **58**, pp. 1049-1070.
- Darmayanti N, Rahman dan Supriadi, 2012, Adsorpsi Timbal (Pb) dan Zink (Zn) dari Larutannya Menggunakan Arang Hayati (*biocharcoal*) Kulit Pisang Kepok berdasarkan Variasi pH, *J. Akad Kim*, 1(4): 159-165.
- Day, R.A., dan A.L. Underwood, 2002, *Analisis Kimia Kuantitatif*, Jakarta: Erlangga.
- Deshpande, A.V., dan Kumar U., 2002, Effect of Method of Preparation on Photophysical Properties of RhB Impregnated Sol-Gel Host, *Journal of Non-Crystallin Solids*, **306**, pp. 149-159.
- Dikari, L., 2013, Modifikasi Fe₃O₄ Dari Pasir Besi Dengan Asam Oleat Sebagai Adsorben Rhodamin B, *Skripsi*, Universitas Jenderal Soedirman: Purwokerto.
- Ding, L. *et al.*, 2014, Adsorption of Rhodamine B from Aqueous Solution Using Treated Rice Husk-Based Activated Carbon, *Colloids and Surface : Physicochem*, **446**, pp. 1-7.
- Dyanti, 2002, Studi Kompratif Gula Merah Kelapa dan Gula Merah Aren, *Skripsi*, Jurusan Teknologi Pangan dan Gizi, Institut Pertanian Bogor, pp. 26-40.
- El-Hendawy, A.N., 2009, An Insight Into The KOH Activation Mechanism Through The Production of Microporous Activated Carbon for The Removal of Pb²⁺ Cations, *Applied Surface Science*, **255**, pp. 3723-3730.
- Elly, K., 2008, Pemanfaatan Cangkang Kelapa Sawit Sebagai Karbon Aktif, *Jurnal Penelitian Ilmu Teknik*, 8, pp. 96-103.
- Erlin, P.B., 2008, Analisis Rhodamin B dalam Saos dan Cabe Giling di Pasar Kecamatan Laweyan Kota Madya Surakarta dengan Metode Kromatografi Lapis Tipis, *Skripsi*, Fakultas Farmasi, Universitas Sebelas Maret: Solo.

- Fu, J., Chen, Z., Wang, M., Liu S., 2015, Adsorption of Methylene Blue by High Efficiency Adsorbent (Polydopamine Microsphere): Kinetic, Isotherm, Thermodynamic, and Mechanism Analysis, *Chemical Engineering Journal*.
- Funke, A. dan Ziegler F., 2010, Hydrothermal Carbonization of Biomass: A Summary and Discussion of Chemical Mechanism For Process Engineering, *Bio Fuel, Bio Prod., Bio Ref.*, **4**, pp.160-177.
- Freundlich, H.M.F, Über die adsorption in lösungen. Zeitschrift für Physikalische. *Chemie (Leipzig)*, **57A**, pp. 385-470.
- Foo, K.Y., Hameed B.H., 2010, Insight Into The Modeling of Adsorption Isotherm Systems, *Chemical Engineering Journal*, **156**, pp. 2-10.
- Gad, H.M.H., El-Sayed A.A., 2009, Activated Carbon from Agricultural by-Products for The Removal of Rhodamine B from Aqueous Solution, *Journal of Hazardous Materials*, **168**, pp. 1070-1081.
- Gandjar dan Rohman, 2007, *Kimia Farmasi Analisis*, Yogyakarta: Pustaka Pelajar.
- Guo, J., dan Lua, A.C., 2002, Textural and Chemical Characterization of Adosrben Prepared from Palm Shell by Potassium Hydroxide Impregnation at Different Stages, *Journal Colloid and Interface Science*, **254**, pp. 227-233.
- Guo, Y., *et al.*, 2005, Use of Rice Husk-Based Porous Carbon for Adsorption of Rhodamine B from Aqueous Solutions, *Dyes and Pigments*, **66**, pp. 123-128.
- Ho, Y.S., 2004, Citation Review of Lagergren Kinetic Equation on Adsorption Reaction, *Scientometric*, **59**, pp. 171-177.
- Ho, Y.S, dan Mc Kay G., 1998, *The Kinetics of Sorption of Basic Dyes from Aqueous Solutions by Sphagnum Moss Peat*, Department of Chemical Engineering, University of Science and Technology: Hongkong.
- Hugot, E., 1986, *Handbook of Cane Sugar Engineering 3rd Edition*, Elsevier.
- Husin, 2007, Analisis Serat Bagas, (<http://free.flsm.org/>), diakses pada tanggal 10 September 2017.
- Isahak, W.R.M.W., Hisham, M.W.M., Yarmo, M.A., 2013, Highly Porous Carbon Materials from Biomass by Chemical and Carbonization Method : A Comparison Study, *Journal of Chemistry*, Hindawi Publishing Corporation.

- Isna, S., Mayang A., Hetty A.K., 2011, Analisis Variasi Waktu dan Kecepatan Pengaduk pada Proses Adsorpsi Limbah Logam Berat Dengan Arang Aktif, *Info Teknik*, **12**.
- Juliandini, Y. Trihardiningrum, 2008, Uji Kemampuan Karbon Aktif Dari Limbah Kayu Dalam Sampah Kota Untuk Penyisihan Fenol, Prosiding *Seminar Nasional Manajemen Teknologi*, **7**, pp. 1-4.
- Kadirvelu, K., Karthika C., Venilamani, 2005, Activated Carbon From Industrial Solid Waste as An Adsorbent For Removal of Rhodamin B From Aqueous Solution : Kinetic and Equilibrium Studies, *Chemosphere*, **60**, pp. 1009-1017.
- Kalavathy M. H., Kartikheyan T., Rajgopal S., dan Miranda L.R., 2005, Kinetic And Isoterm Studies of Cu (II) adsorption onto H₃PO₄-activated Rubber Wood Sawdust, *Journal of Colloid and Interface Science*, **292**, pp. 354 – 362.
- Kartika V., Ratnawulan, Gusnedi, 2016, Pengaruh Variasi Suhu Karbonasi Terhadap Mikrostruktur dan Derajat Kristalinitas Karbon Aktif Kulit Singkong Sebagai Bahan Dasar GDL (*Gas Diffusion Layer*), *Pillar Of Physic*, **7**, pp. 105-112.
- Kasmadi, I. S., 2002, *Kajian Sifat Adsorpsi Zeolit Terhadap Zat Warna Sintetis dan Optimasinya*, Unnes : Semarang.
- K. C. Bedin, A.C. Martin, A.L. Cazzeta, O. Pezoti, dan V.C. Almeida, 2015, KOH- Activated Carbon Prepared From Sucrose Spherical Carbon: Adsorption, Kinetic, and Thermodynamic Studies for Methylene Blue Removal, *Chemical Engineering Journal*.
- Khopkar, S.M., 2003, *Konsep Dasar Kimia Analitik*, Universitas Indonesia Press, Jakarta.
- Kirk, R.E. dan Othmer, D., 1955, Encyclopedia of Chemical Technology, *The Interscience Encyclopedia Inc.*, **10**, pp. 237-250.
- Kurniawan, D., 2008, *Regresi Linier (Linear Regression)*, Austria: R. Development Core Team.
- Langmuir, I., 1918, The Adsorption of Gases on Plane Surface of Glass, Mica, and Platinum, *J. Am. Chem. Soc.*, **40**, 1361-1403.
- Lempang, M., 2009, *Sifat-Sifat Arang Aktif Tempurung Kemiri dan Aplikasinya Sebagai Komponen Media Tumbuh pada Tanaman Melina*, Institut Pertanian Bogor : Bogor.

- Li, M., Li W. dan Liu S., 2011, Hydrothermal Sythesis, Characterization, and KOH Activation of Carbon Sphere from Glucose, *Carbohydrate Reasearch*, **346**, pp. 999-1004.
- Lin, Jianwei, Yanhui Zhan, Zhiliang Zhu, Yunqing Xing, 2011, Adsorption of Tannic Acid from Aqueous Solution Onto Surfactan-Modified Zeolit, *Journal of Hazardous Material*, **193**, pp. 102-111.
- Lua, A.C., dan Ting Y., 2004, Effect of Activation Temperature on The Textural and Chemical Properties of Kalium Hydroxide Activated Carbon Prepared from Pistaciho-nut Shell, *Journal of Colloid and Interface Science*, **274**, pp. 594-601.
- Mahmudah, Rifa A., Sari E.C., 2013, Penentuan Konstanta Laju Adsorpsi Ion Logam Cd(II) pada Kitosan Bead dan Kitosan-Silika Bead, *UNESA Journal of Chemistry*, **2 (1)**.
- Mall, I.D., Srivastava V.C., Agarwal N.K., Mishra I.M., 2005, Removal of Congo Red from Aquoeus Solutions by Bagasse Fly Ash and Activated Carbon: Kinetic Study and Equilibrium Isotherm Analyses, *Chemosphere*, **61**, pp. 492-501.
- Manocha, S.M., 2003, Porous Carbon, *Sadhana*, **1**, pp. 335-348.
- Mega, P.K., 2017, Analisis Struktur Nano Batu Apung Lombok Menggunakan Metode BET (Branauer-Emmett-Teller), *Skripsi*, Departemen Fisika, FMIPA, Institut Teknologi Surabaya: Surabaya.
- Melita dan Tuti, 2003, *Pengenalan dan Proses Pembuatan arang aktif*, USU :Sumatera Utara.
- Ofelman, T., Nurhaeni, Mirzan M., 2015, Pemanfaatan Arang Aktif Kacang Tanah Sebagai Adsorben Besi (Fe) pada Air Sumur di Desa Pendolo, Kec. Pamona Selatan, Kab. Poso, *Kovalen*, **1 (1)**, pp. 7-12.
- Paryanto, Fakhrudin A., Sumaryono W., 1999, *Diversifikasi Sukrosa Menjadi Produk Lain*, P3GI : Pasuruan.
- Patrulea, V., Anamaria,N., Manuela, M., Laura, D., Otilia, Vasile, O.,2013, Optimization of The Removal of Copper (II) Ions From Aqueous Solution on Chitosan and Cross-linked Chitosan Beads, *BioResource* **8, (1)**, pp. 1147-1165.
- Perwira, G., 2014, *Analisis Luas Permukaan Arang Aktif dengan Menggunakan Metode BET (SAA)*, Semarang.

- Prastiwi, D.A., 2013, Pemanfaatan Arang Aktif Sebagai *Carrier* Unsur Hara Mikro Dalam Pembuatan Pupuk Lambat Tersedia, *Skripsi*, Institut Pertanian Bogor : Bogor.
- Pujiyanto, 2010, Pembuatan Karbon Aktif Super dari Batubara dan Tempurung Kelapa. Fakultas Teknik, Program Studi Teknik Kimia, Universitas Indonesia : Depok.
- Puspitasari, Dyah Pratama, 2006, *Adsorpsi Surfaktan Anionik Berbagai pH Menggunakan Karbon Aktif Termodifikasi Zink Klorida*, Institut Pertanian Bogor: Bogor.
- Qi, Y., Zhang, M., Qi, L., Yang, Q., 2016, Mechanism for Formation and Growth of Carbonaceous Spheres from Sucrose by Hydrothermal Carbonization, *RSC Advance*, Royal Society of Chemistry.
- Qiu, H., 2009, Critical Review in Adsorption Kinetic Model, *Journal of Zhejiang University Science A*, **10**, pp. 716-724.
- Radna, N., Maria, D., Dewi, U., Dita, A., 2014, Kajian Adsorpsi Rhodamin B pada Humin, *Prosiding Seminar Nasional Kimia*, FMIPA, Universitas Negeri Surabaya : Surabaya.
- Ramke, H.G., Blosch D., Lehmann H.J., Fetting J., 2010, Hydrothermal Carbonization of Organic Waste, *Twelfth International Waste Management and Landfill Symposium*, Sardinia: Italy.
- Reymundo, E., Azais P., Caciaaguera, Amoroz C., 2005, KOH and NaOH Activation Mechanism of Multiwalled Carbon Nanotubes with Different Structural Organisation, *Carbon*, **43**, pp. 786-795.
- R. E. Kirk dan D. F. Othmer, 1978, *Encyclopedia of Chemical Technology*, Wiley, University of California : USA.
- R. J. Fessenden dan J.S. Fessenden, 1998, *Organic Chemistry*, Brook/Cole.
- Rohman, Abdul, 2007, *Kimia Farmasi Analisis*, Yogyakarta: Pustaka Pelajar.
- Romanos J., Beckner, M., Firlej, M., 2011, Nanospace Engineering of KOH Activated Carbon, *Nanotechnology*, **23**, pp. 7-13.
- Roring, S.H., Pitoi M.M., dan Abidjululu J., 2013, *Isoterm Adsorpsi Rhodamin B pada Arang Aktif Kayu Linggua*, FMIPA, Universitas Sri Ratulangi : Manado.
- Titirici, M.M. dan Markus A., 2009, Chemistry and Materials Options of Sustainable Carbon Materials Made by Hydrothermal Carbonization, *Chem. Soc. Rev.*, **39**, pp. 103-116.

- Saadi, R., Zahra, S., Reza, F., Narges, E., 2015, Monolayer and Multilayer Isotherm Adsorption Models for Sorption from Aqueous Media, *Korean J. Chem. Eng.*
- Saleh, A.T., Sari A., Tuzen A., 2017, Optimazion of Parameters with Experimental Design for Adsorption of Mercury Using Polyethylenimine Modified-Activated Carbon, *Journal of Enviromental Chemical Engineering.*
- Setiawan, D., Andranik, K., Muhamad, A., Michael, F., 2010, A First Principles Study of Fluoresence Quenching in Rhodamine B Dimers: How Can Quenching Occur in Dimeric Species?, *Phys. Chem. Chem. Phys.*, **12**, pp. 11238-11244.
- Sevilla, M., dan Antonio B.F., 2009, Chemical and Structural Properties of Carbonaceous Products Obtained by Hydrothermal Carbonization of Saccharides, *Chem. Eur. J.*, **15**, pp. 4195-4203.
- Sucahya T. N., Permatasari N., Dani A.B., 2016, Review : Fotokatalis Untuk Pengolahan Limbah Cair, *Jurnal Integrasi Proses*, **6**(1), pp. 1-15.
- Su, Jin, Hong-fu Lin, Qing-Ping Wang, Zheng-Miao Xie, Zu-liang Chen, 2011, Adsorption of Phenol from Aqueous Solution by Organomonmorillonite, *Desalination*, **269**, pp. 163-169.
- Taba, Paulina, Fauziah S.T., Syuwarna, Passasaran E., 2004, Pengurangan Konsentrasi Merah Reaktif-1 dari Lingkungan Perairan Melalui Adsorpsi pada Karbon Mesopori (CMK-1) dan Karbon Aktif Kulit Kakao (*Theobroma cacao*), *Marina Chimica Acta*, UNHAS, **5**(2), 15-21.
- Triyatno, 2004, *Kapasitas Adsorpsi Alga Chlorella sp Yang Diimobilisasi Dalam Silika Gel Terhadap Ion Logam Cu Dalam Limbah Kuningan*, Jurnal Skripsi Kimia, FMIPA, Universitas Negeri Semarang: Semarang.
- Widya, A., Paulina, T., Yausafir, H., 2016, *Pemanfaatan Karbon Aktif Dari Tempurung Kluwak (Pangium edule reinw) Sebagai Adsorben Zat Warna Rhodamin B*, FMIPA, Universitas Hassanudin :Makassar.
- Yaneva, S.L., Koumanova, B.K., Georgieva, N.K., 2013, Linear and Non-Linear Regression Methods for Equilibrium Modelling of p-Nitrophenol Biosorption by *Rhizopus Oryzae*: Comparison on Error Analysis, *J. Chem.*

- Yang, T., dan Lua A.C., 2003, Characteristics of Activated Carbon Prepared from Pistachio-nut Shells by Potassium Hydroxide Activation, *Microporous and Mesoporous Materials*, **63**, pp. 113-124.
- Yuningtyaswari, Oriza, M. D., Tisa, S., 2016, *Uji Keamanan Karbon Aktif dan Kemampuannya Untuk Mengurangi Kerusakan Jaringan Respirasi Akibat Indoor Pollution*, Laporan Penelitian Kemitraan, Yogyakarta : UGM.
- Zhang, F.J., Xie, F.Z., Zhu, S.F., Liu, J., Zhang, J., Mei, S. F. dan W. Zhao, 2013, A Novel Photofunctional g-C₃N₄/Ag₃PO₄ Bulk Heterojunction For Decolorization of Rh.B, *Chemical Engineering Journal*, **228**, pp. 435-441.
- Zhu, X., 2014, Novel and High Performance Magnetic Carbon Composite Prepared from Waste Hydrochar for Dye Removal, *ACS Sustainable Energy and Engineering*, American Chemistry Society.

