

DAFTAR PUSTAKA

- Abdulahi, M. M., 2009, Municipal Solid Waste Incineration Bottom Ash as Road Construction Material, *AU J.T.*, 13(20), 121-128.
- Adamson, A. W., 1990, *Physical Chemistry of Surface*, 5th Edition, John Wiley and Sons Inc., New York.
- Agustiani, T. D., 2015, Adsorpsi Simultan Ion Logam Cu(II) dan Mg(II) pada Abu Dasar Batubara Terimobilisasi Dithizon, *Skripsi*, Kimia FMIPA UGM, Yogyakarta.
- Al-Busafi, S. N., Suliman, F. E. O., dan Al-Alawi, Z. R., 2013, 8-Hydroxyquinoline and its Derivatives: Synthesis and Applications, *RRJC*, 3(1), 1-10.
- Albert, A., dan Magrath, D., 1947, *The Choice of a Chelating Agent for Inactivating Trace Metals, Derivatives of Oxine (8-Hydroxyquinoline)*, University of Sydney, Australia.
- Al-Homaidan, A. A., Al-Houri, H. J., Al-Hazzani, A. A., Elgaaly, G., dan Moubayed, N. M. S., 2014, Biosorption of Copper Ions from Aqueous Solutions by *Spirulina platensis* Biomass, *Arab. J. Chem.*, 7, 57-62.
- Alloway, B. J., 1990, *Heavy Metals in Soils*, Blackie and Sons Ltd., United Kingdom.
- Anonim, 2010, Peraturan Menteri Kesehatan Republik Indonesia Nomor 492 tentang Persyaratan Kualitas Air Minum.
- Anonim, 2001, Peraturan Pemerintah Republik Indonesia Nomor 82 Tahun 2001 tentang Pengelolaan Kualitas Air dan Pengendalian Pencemaran Air.
- Araujo, C. S. T., Almeida, I. L. S., Rezende, H. C., Marcionilio, S. M. I. O., Leon, J. J. I., dan Matos, T. N., Elucidation of mechanism involved in adsorption of Pb(II) onto lobeira fruit (*Solanum lycocarpum*) using Langmuir, Freundlich and Temkin Isotherms, *Microchem. J.*, 137, 348-354.
- Asokbunyarat, V., Hullebusch, E. D., Lens, P. N. L., dan Annachatre, A. P., 2015, Coal Bottom Ash as Sorbing Material for Fe(II), Cu(II), Mn(II), dan Zn(II) Removal from Aqueous Solutions, *Water, Air, Soil Pollut.*, 226(143), 1-17.
- Atkins, P. W., 1999, *Physical Chemistry*, 8th Edition, W. H. Freeman and Company, New York.
- Atmaja, I.P.S., 2009, Analisis Kebutuhan Listrik Berkaitan dengan Penyusunan Tarif Listrik Regional di Daerah Provinsi Bali Guna Memenuhi Pasokan Energi

Listrik 10 Tahun Mendatang, Skripsi, Teknik Elektro/FTI Institut Teknologi Sepuluh Nopember, Surabaya.

Ayala, J., dan Fernandez, B., 2016, A Case Study of Landfill Leachate Using Coal Bottom Ash for The Removal of Cd^{2+} ; Zn^{2+} ; and Ni^{2+} , *Metals*, 6(300), 1-15.

Badiei, A., Goldooz, H., and Ziarani, G. M., 2011, A Novel Method for Preparation Of 8-hydroxyquinoline Functionalized Mesoporous Silica: Aluminum Complexes and Photoluminescence Studies, *Appl. Surf. Sci.*, 257, 4912-4918.

Bauer, T. V., Minkina, T. M., Pinskii, D. I., Mandzhieva, S. S., dan Sushkova, S. N., 2017, *Adsorption of Copper by Ordinary and Southern Chernozems from Solutions of Different Salts*, *J. Geochem. Explor.*, 176, 108-113.

Belova, D. A., Lakshtanov, L. Z., Carneiro, J. F., dan Stipp, S. L. S., 2014, *Nickel Adsorption on Chalk and Calcite*, *J. Contam. Hydrol.*, 170, 1-9.

Benzaoui, T., Selatnia, A., dan Djabali, D., 2017, Adsorption of Copper(II) Ions from Aqueous Solution using Bottom Ash of Expired Drugs Incineration, *Adsorpt. Sci. Technol.*, 36(1-2), 114-129.

Cahyani, M. D., Azizah, R., dan Yulianto, B., 2012, Studi Kandungan Logam Berat Tembaga (Cu) pada Air Sedimen, dan Kerang Darah (*Anadara granosa*) di Perairan Sungai Sayung dan Sungai Gonjol, Kecamatan Sayung, Kabupaten Demak, *J. Mar. Res.*, 1(2), 73-79.

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

Chiang, Y. W., Ghyselbrecht, K., Santos, R. M., Meesschaert, B., dan Martens, J. A., 2012, Synthesis of Zeolitic-type Adsorbent Material from Municipal Solid Waste Incinerator Bottom Ash and Its Application in Heavy Metal Adsorption, *Catal. Today*, 190, 23-30.

Dean, J. A., 1989, *Lange's Handbook of Chemistry*, 13th Edition, Mc Graw-Hill, New York.

Dowlatshahi, S., Torbati, A. R. H., dan Loloiei, M., 2014, Adsorption of Copper, Lead, and Cadmium from Aqueous Solutions by Activated Carbon Prepared from Saffron Leaves, *Environ. Eng. Manag. J.*, 1(1), 37-44.

Ferreiro, E.A., De Bussetti, S. G., dan Helmy, A. K., 1988, Adsorption of 8-Hydroxyquinoline by Some Clays and Oxides, *Clays Clay Miner.*, 36(1), 61-67.

Gorme, J. B., Maniquiz, M. C., Kim, S. S., Son, Y. G., Kim, Y. T., dan Kim, L. Y., 2010, Characterization of Bottom Ash as an Adsorbent of Lead from Aqueous Solutions, *Environ. Res.*, 15(4), 207-213.

- Guo, L., Sun, C., Li, G., Liu, C., dan Ji, C., 2009, Thermodynamics and Kinetics of Zn(II) Adsorption on Crosslinked Starch Phosphates, *J. Hazard. Mater.*, 161, 510-515.
- Guo, W., Meng, X., Liu, Y., Ni, L., Hu, Z., Chen, R., Meng, M., Wang, Y., Han, J., dan Luo, M., 2014, Synthesis and Application of 8-hydroxyquinoline Modified Magnetic Mesoporous Carbon for Adsorption of Multivariate Metal Ions from Aqueous Solutions, *J. Ind. Eng. Chem.*, 1-10.
- Gupta, V. K., Mittal, K., Krishnan, L., dan Gajbe, V., 2004, Adsorption Kinetics and Column Operations for the Removal and Recovery of Malachite Green from Wastewater using Bottom Ash, *Sep. Purif. Technol.*, 40, 87-96.
- Haeri, H., 2018, *Materials in Environmental Engineering: Proceedings of the 4th Annual International Conference on Materials Science and Environmental Engineering*, Walter de Gruyter GmbH, Berlin.
- Hameed, B. H., Din, A. T. M., dan Ahmad, A. L., 2007, Adsorption of Methylene Blue onto Bamboo-based Activated Carbon: Kinetics and Equilibrium Studies, *J. Hazard. Mater.*, 141, 819-825.
- Ho, Y. S., 2004, Citation Review of Lagergren Kinetic Rate Equation on Adsorption Reactions, *Scientometrics*, 57(1), 171-177.
- Husna, W., Sudarningsih, dan Wianto, T., 2013, Identifikasi Mineral Magnetik Abu Terbang (Fly Ash) dan Abu Dasar (Bottom Ash) Sisa Pembakaran Batubara PLTU Asam-Asam, *Jurnal Fisika FLUX*, 10(1), 28-37.
- Jarusiripot, C., 2014, Removal of Reactive Dye by Adsorption over Chemical Pretreatment Coal Based Bottom Ash, *Procedia Chem.*, 9, 121-130.
- Kosa, S. A., Al-Zhrani, G., dan Salam, M. A., 2012, Removal of Heavy Metals from Aqueous Solutions by Multi-Walled Carbon Nanotubes Modified with 8-Hydroxyquinoline, *Chem. Eng. J.*, 181-182, 159-168.
- Li, S., He, M., Li, Z., Li, D., dan Pan, Z., 2017, Removal of Humic Acid from Aqueous Solution by Magnetic Multi-Walled Carbon Nanotubes Decorated with Calcium, *J. Mol. Liq.*, 230, 520-528.
- Mittal, A., Kaur, D., dan Mittal, J., 2008, Applicability of Waste Materials— Bottom Ash and Deoiled Soya— as Adsorbents for The Removal and Recovery of a Hazardous Dye, Brilliant Green, *J. Colloid Interface Sci.*, 326, 8-17.
- Mohammad, M., Maitra, S., Ahmad, N., Bustam, A., Sen, T. K., dan Dutta B. K., 2010, Metal Ion Removal from Aqueous Solutions Physic Seed Hull, *J. Hazard. Mater.*, 170, 263-272.

- Muhardi, Marto, A., Kassim, K. A., Makhtar, A. M., Wei, L. F., dan Lim, Y. S., 2010, Engineering Characteristics of Tanjung Bin Coal Ash, *Electron. J. Geotech. Eng.*, 15, 1117-1129.
- Muniarti, Nurul Hidayat, dan Mudasir, 2009, Pemanfaatan Limbah Abu Dasar Batubara sebagai Bahan Dasar Sintesis Zeolit dan Aplikasinya sebagai Adsorben Logam Berat Cu(II), Prosiding Tugas Akhir, Jurusan Kimia, FMIPA UGM, Yogyakarta.
- Murniati, 2007, Pembuatan Zeolit dari Abu Dasar Batubara dan Aplikasinya sebagai Adsorben Cu(II), *Tesis*, FMIPA, UGM, Yogyakarta.
- Murniati, Hidayat, N., dan Mudasir, 2009, Pemanfaatan Limbah Abu Dasar Batubara Sebagai Bahan Dasar Sintesis Zeolit dan Aplikasinya Sebagai Adsorben Logam Berat Cu(II), *Prosiding Seminar Nasional Penelitian*, 16 Mei 2009, Yogyakarta.
- Muthreja, I. L., Agarwal, A. K., Kadu, M. S., dan Pandhurnekar, C. P., 2017, Adsorption Isotherm Study for The Removal of Nickel Ions from Aqueous Solution Using Thermal Power Plant Fly Ash, *IJST*, 3(2), 93-104.
- Nurhayati, 2015, Modifikasi Abu Dasar Batubara menggunakan 8-hidroksiquinolin sebagai Adsorben Ion Logam Cu(II) dan Cd(II), *Tesis*, Departemen Kimia FMIPA UGM, Yogyakarta.
- Pandey, P. K., Choubey, S., Verma, Y., Pandey, M., Kamal, S. S. K., dan Chandrashekhar, K., 2007, Biosorptive Removal of Ni(II) from Wastewater and Industrial Effluent, *Int. J. Environ. Res. Public Health*, 4(4), 332-339.
- Pearson, R. G., 1963, Hard and Soft Acids and Bases, *J. Am. Chem. Soc.*, 85(22), 3533-3539.
- Pearson, R.G., 1968, Hard and Soft Acids and Bases, HSAB, Part I, *J. Chem. Ed*, 45(9), 581-587.
- Prijatama, H. dan Sumarnadi, E.T., 1996, Mengubah Limbah menjadi Rupiah: Pemanfaatan Limbah Abu Batubara PLTU, *Prosiding Pemaparan Hasil Litbang Ilmu Pengetahuan Teknik*, Bandung.
- Rajurkar, N. S., Gokam, A. M., dan Dimya, K., 2011, Adsorption of Chromium(III), Nickel(II), and Copper(II) from Aqueous Solution by Activated Alumina, *Clean—Soil, Air, Water*, 39(8), 767-773.
- Rani, K. S., Srinivas, B., Naidu, K. G., dan Ramesh, K. V., 2016, *Removal of Copper by Adsorption on Treated Laterite, Proceeding International Conference on Processing Materials, Minerals, and Energy*, 29-30 July 2016, India.

- Said, N. F., dan Widiastuti, N., 2008, Adsorpsi Cu(II) Pada Zeolit A yang disintesis dari Abu Dasar Batubara PT IPMOMI Paiton, *Jurnal Zeolit Indonesia*, 7(1), 1-11.
- Setiadi, B., Efek Sinergis pada Ekstraksi Cu Menggunakan 8-Hidroksiquinolin (Oksin) dan Trioktilfosfin Oksida (TOPO) dalam Kloroform, *Skripsi*, FMIPA Universitas Sebelas Maret, Surakarta.
- Shahata, M. M., 2016, Adsorption of Some Heavy Metal Ions by Used Different Immobilized Substances on Silica Gel, *Arab. J. Chem.*, 9, 755-763.
- Sheikhmohammadi, A., Mohseni, S. M., Godini, H., Sardar, M., Abtahi, M., Mahdavi, S., Rezaei, S., Dahaghin, Z., Atafar, Z., Almasian, M., Sarkhosh, M., Vosoughi, M., dan Yaghobinejad, R., 2017, Application of Graphene Oxide Modified with 8-Hydroxyquinoline for The Adsorption of Cr(VI) from Wastewater: Optimization, Kinetic, Thermodynamic, and Equilibrium Studies, *J. Molliq.*, 1-56.
- Sidharta, I., G., B, 2011, Pemanfaatan Abu Dasar Batubara (Bottom Ash) Sebagai Adsorben Bahan Organik pada Air Payau, *Skripsi*, Jurusan Teknik Lingkungan, UPN Veteran, Surabaya.
- Simonin J. P., 2016, On The Comparison of Pseudo-first Order and Pseudo-second Order Rate Laws in The Modeling of Adsorption Kinetics, *Chem. Eng. J.*, 300, 254-263.
- Suseno, H., Prastumi, Susanti, L., Setyowulan, D., 2012, Pengaruh Penggunaan Botom Ash sebagai Pengganti Tanah Liat pada Campuran Bata terhadap Kuat Tekan Bata, *Jurnal Rekayasa Sipil*, 6(3).
- Svehla, G., 1982, *Vogel's Textbook of Macro and Semimicro Qualitative Inorganic Analysis*, Longman Inc., New York
- Tan, K. T., 1992, *Dasar-dasar Kimia Tanah*, UGM Press, Yogyakarta.
- Tan, L., Wang, J., Liu, Q., Sun, Y., Zhang, H., Wang, Y., Jing, X., Liu, J., dan Song, D., 2015, Facile Preparation of Oxine Functionalized Magnetic Fe₃O₄ Particles for Enhanced Uranium (VI) Adsorption, *Colloids and Surfaces A: Physicochem. Eng.*, 85-91.
- Tumin, N. D., Chuah, A. L., Zawani, Z., dan Rashid, S. A., 2008, Adsorption of Copper from Aqueous Solution by Elais Guineensis Kernel Activated Carbon, *JESTEC*, 3(2), 180-189.
- Ueno K. I., dan Cheng, K. L., 1992, *Handbook of Organic Analytical Reagents*, Second Edition, CRC Press, Tokyo.

- Wahyuni, S., dan Widiastuti, N., 2010, Adsorpsi Ion Logam Zn(II) pada Zeolit A yang disintesis dari Abu Dasar Batubara PT Ipmomi Paiton dengan Metode Batch, Prosiding Tugas Akhir, Jurusan Kimia, FMIPA ITS, Surabaya.
- White, R. L., White, C. M., Turgut, H., Massoud, A., dan Tian, Z. R., 2018, Comparative Studies on Copper Adsorption by Graphite Oxide and Functionalized Graphene Oxides Nanoparticles, *J. Taiwan Inst Chem Eng*, 85, 18-28.
- Xie, X., Deng, R., Pang, Y., Bai, Y., Zheng, W., dan Zhou, Y., 2017, Adsorption of Copper(II) by Sulfur Microparticles, *Chem. Eng. J.*, 314, 434-4.
- Zhang, M. L., 2018, *Removal of Heavy Metal Ions from Aqueous Solution Using Bottom Ash as an Adsorbent*. Dalam Haeri, H., *Materials in Environmental Engineering: Proceedings of the 4th Annual International Conference on Materials Science and Environmental Engineering*, Walter de Gruyter GmbH & Co KG, Berlin.