DAFTAR PUSTAKA

Andreani, A.S., 2015, Adsorpsi Reduktif $[AuCl_4]^-$ oleh Asam Askorbat pada Mg-Al HT dan Recovery Emas Hasil Reduksinya menggunakan Natrium Sitrat, *Skripsi*, Departemen Kimia FMIPA UGM, Yogyakarta.

Anirudhan, T.S., Jalajamony, S., and Sreekumari, S.S., 2013, Adsorptive Removal of Cu(II) Ions from Aqueous Media Onto 4-Ethyl Thiosemicarbazide Intercalated Organophilic Calcinated Hydrotalcite, *J. Chem. Eng. Data*, 58, 24-31.

Baigent, C.L., and Muller, G., 1980, A Colloidal Gold Prepared with Ultrasonics, *Cell. Mol. Life Sci.*, 36, 472-473.

Bastus, N.G., Comenge, J., and Puntes, V., 2011, Kinetically Controlled Seeded Growth Synthesis of Citrate-Stabilized Gold Nanoparticles of up to 200 nm: Size Focusing versus Ostwald Ripening, *Langmuir*, 27, 11098-11105.

Bejoy, N., 2001, Hydrotalcite: The Clay That Cures, *http://www.ias.ac.in/resonance/Volumes/06/02/0057-0061.pdf*, Diakses tanggal 01 Desember 2015.

Brewer, S.H., Glomm, W.R., Johnson, M.C., Knag, M.K., and Franzen, S., 2005, Probing BSA Binding to Citrate-Coated Gold Nanoparticles and Surfaces, *Langmuir*, 21, 9303-9307.

Cavani, F., Trifiri, F., and Vaccari, A., 1991, Hydrotalcite-type Anionic Clay: Preparation, Properties and Application, *Catal. Today*, 11, 173-301.

Chubar, N., Gerda, V., Megantari, O., Micusik, M., Omastova, M., Heister, K., Man, P., and Fraissard, J., 2013, Applications versus Properties of Mg-Al Layered Double Hydroxides Provided by their Synthesis Methods: Alkoxide and Alkoxide-Free Sol-Gel Synthesis and Hydrothermal Precipitation, *Chem. Eng. J.*, 234, 284-299.

Cui, J., and Zhang, L., 2008, Metallurgical Recovery of Metals from Electronic Waste: a Review, *J. Hazard. Mater.*, 158, 228-256.

Daniel, M.C., and Astruc D., 2004, Gold Nanoparticles: Assembly, Supramolecular Chemistry, Quantum-Size-Related Properties, and Applications toward Biology, Catalysis and Nanotechnology, *Chem. Rev.*, 104, 293-346.

Darmograi, G., Prelot, B., Layrac, G., Tichit, D., Martin-Gassin, G., Salles, f., and Zajac, J., 2015, Study of Adsorption and Intercalation of Orange-Type

Dyes into Mg-Al Layered Double Hydroxide, *J. Phys. Chem. C.*, 119, 23388-23397.

Dhawan, A., and Muth, J.F., 2006, Plasmon Resonances of Gold Nanoparticles Incorporated Inside an Optical Fibre Matrix, *Nanotechnology*, 17, 2504.

Faraday, M., 1857, The Bakerian Lecture: Experimental Relations of Gold (and other metals) to light, *Philos T. R. Soc. Lond.*, 147, 145-181.

Frens, G., 1972, Particle Size and Sol Stability in Metal Colloids, *Kolloid Z. Z. Polym*, 250, 736-741.

Friedrich, D.M., Wang, Z., Joly, A.G., Peterson, K.A., and Callis, P.R., 1999, Groun State Proton Transfer Tautomer of the Salicylate Anion, *J. Phys. Chem. A.*, 103, 9644-9653.

Gaini, L.E., Lakraimi, M., Sebbar, E., Meghea, A., and Bakasse, M., 2009, Removal of Indigo Carmine Dye from Water to Mg-Al-CO_3-Calcined Layered Double Hydroxides, *J. Hazard. Mater.*, 161, 627-632.

Ghosh, S.K., Pal, A., Kundu, S., Nath, S., and Pal, T., 2004, Fluorescence Quenching of 1-methylaminopyrene Near Gold Nanoparticles: Size Regime Dependence of the Small Metallic Particles, *Chem. Phys. Lett.*, 395, 366-372.

Goh, K.H., Lim, T.T., and Dong, Z., 2007, Application of Layered Double Hydrixides for Removal of Oxyanions: A Review, *Water Res.*, 42, 1343-1368.

Gramtyka, P., Nowosielki. R., and Sakiewicz, P., 2007, Recycling of Waste Electrical and Electronic Equipment, *J. Mater. Process Manu.*, 20, 535-538.

Gurung, M., Adhikari, B.A., Kawakita, H., Ohto, K., Inoue, K., and Alam, S., 2013, Recovery of Gold and Silver from Spent Mobile Phones by Means of Acidothiourea Leaching Followed by Adsorption using Biosorbent Prepared from Persimmon Tannin, *Hydrometallurgy*, 133, 84-93.

Guzman, M.G., Dille, J., and Godet, S., 2009, Synthesis of Silver Nanoparticles by Chemical Reduction Method and Their Antibacterial Activity, *Int. J. Chem. Biol. Eng.*, 2(3), 104-111.

Hamamoto, K., Kawakita, H., Ohto, K., and Inoue, K., 2009, Polymerization of Phenol Derivatives by the Reducton of Gold Ions to Gold Metal, *React. Func. Poly.*, 69, 694-697.

Heraldy, E., Prasasti, D., Wijaya, K., Santosa, S.J., dan Triyono, 2012, Studi Pendahuluan Pemanfaatan Limbah Desalinasi untuk Pembuatan Mg/Al Hydrotalcite-Like sebagai Adsorben Methyl Orange, *J. Bumi Lestari*, 12(1), 16-23.

Hiskey, J.B., 1985, Gold and Silver Extraction: the Application of Heap-Leaching Cyanidation, *Arizona Bureau of Geology and Mineral Technology Field* Notes, 15 (4), 1-5

Hutson, N.D., 2004, Structural Effects on the High Temperature Adsorption of CO2 on a Synthetic Hydrotalcite, *Chem. Mater.*, 16, 4135-4143.

Iksan, N.A., 2011, Kajian Adsorpsi - Desorpsi $[AuCl_4]^-$ pada Mg/Al Hidrotalsit, *Tesis*, Jurusan Kimia, Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Gadjah Mada, Yogyakarta.

Jimenez, I.O., Romero, F.M., Bastus, N.G., and Puntes, V., 2010, Small Gold Nanoparticles Synthesized with Sodium Citrate and Heavy Water: Insights into the Reaction Mechanism, *J. Phys. Chem. C*, 114, 1800-1804.

Karmanto, 2006, Sintesis Mg/Al Hydrotalcite sebagai Adsorben Asam Humat, *Skripsi*, Jurusan Kimia FMIPA UGM, Yogyakarta.

Kloprogge, J. T., Kristof, J., dan Frost, R.L., 2001, Thermogravimetric Analysis–Mass Spectrometry (TGA-MS) Of Hydrotalcites Containing CO_3^{2-}, NO_3^-, Cl^-, SO_4^{2-} or ClO_4^-, *Proceedings of the 12th International Clay Conference*, Bahai-Blanca, Argentina.

Kloprogge, J.T., Wharton, D., Hickey, L., and Frost, R.L., 2002, Infrared and Raman Study of Interlayer Anions CO_3^{2-}, NO_3^-, SO_4^{2-} and ClO_4^- in Mg/Al Hydrotalcite, *Am. Mint.*, 87, 623-629.

Korte, F., Spiteller, M., and Coulston, F., 2000, The Cyanide Leaching Gold Recovery Process is a Nonsuitable Technology with Unacceptable Impact on Ecosystem and Humans: the Disaster in Romania, *Ecotox. Environ. Safe.*, 46, 241-245.

Krishnamurthy, S., and Yun, Y., 2012, Rcovery of Microbially Synthesized Gold Nanoparticles using Sodium Citrate and Detergents, *Chem. Eng. J.*, 214, 253-261.

Lazaridis, N.K., Pandi, T.A., and Matis, K.A., 2004, Chromium(VI) Removal from Aqueous Solutions by Mg-Al-CO_3 Hydrotalcite: Sorption-Desorption Kinetics and Equilibrium Studies, *Ind. Eng. Chem. Res.*, 43, 2209-2215.

Lee, J.D., 1994, *Concise Inorganic Chemistry 4th ed*, Chapman & Hall, London.

Lee, J., Choi, S.U.S., Jang, S.P., and Lee, S.Y., 2012, Production of Aqueous spherical Gold Nanoparticles using Conventional Ultrasonic Bath, *Nanoscale Res. Lett.*, 7, 420.

Li, C., Li, D., Wan, G., Xu, J., and Hou, W., 2011, Facile Synthesis of Concentrated Gold Nanoparticles with Low Size-Distribution in Water: Temperature and pH Controls, *Nanoscale Res. Lett.*, 6, 440.

Lin, Y.J., Li, D.Q., Evans, D.G. and Duan, X., 2005, Modulating Effect of Mg-Al-CO_3 Layered Double Hydroxides on the Thermal Stability of PVC Resin, *Polym. Degrag. Stab.*, 88, 286-293.

Liu, X., Atwater, M., Wang, J., and Hui, Q., 2007, Extinction Coefficient of Gold Nanoparticles with Different Sizes and Different Capping Ligans, *Colloid Surface B*, 58, 3-7.

Luo, Y., 2007, Size-Controlled Preparation of Polyelectrolyte-Protected Gold Nanoparticles by Natural Sunlight Radiation, *Mater. Lett.*, 61, 2164-2166.

Martin, M.J.S., Villa, M.V., and Camazano, M.S., 1999, Glyphosate-Hydrotalcite Interaction as Influenced by pH, *Clay. Clay Miner.*, 47, 777-783.

Miyata, S., 1983, Anion-Exchange Properties of Hydrotalcite-Like Compounds, *Clay. Clay Miner.*, vol 31 no.4, 305-311.

Nakayama, H., Hirami, S., and Tsuhako, M., 2007, Selective Adsorption of Mercury Ion by Mercaptocarboxylic Acid Intercalated Mg-Al Layered Double Hydroxide, *J. Colloid Interf. Sci.*, 315, 177-183.

Niemeyer, C.M., 2001, Nanoparticles, proteins and Nucleic Acids: Biotechnology Meets Material Science, *Angew. Chem. Int. Ed.*, 40, 4128-4158.

Ogata, T., and Nakano, Y., 2005, Mechanism of Gold Recovery from Aqueous Solutions using a Novel Tannin Gel Adsorbent Synthesized from Natural Condensed Tannin, *Water Res.*, 39, 4281-4286.

Parajuli, D., Kawakita, H., Inoue, K., Ohto, K., and Kajiyama, K., 2007, Persimmon Peel Gel for the Selective Recovery of Gold, *Hydrometallurgy*, 87, 133-139.

Parajuli, D., Adhikari, Chaitanya, R., Kawakita, H., Kajiyama, K., Ohto, K., and Inoue, 2008, Reduction and Accumulation of Au(III) by Grape Waste: A Kinetic Approach, *React. Funct. Polym.*, 68, 1194-1199.

Park, M., Choi, C.L., Seo, Y.J., Yeo, S.K., Choi, J., Komarneni, S., and Lee, J.H., 2006, Reaction of Cu^{2+} and Pb^{2+} with Mg/Al Layered Double Hydrotalcite, *Appl. Clay Sci.*, 37, 143-148.

Park, Y.J., and Fray, D.J., 2009, Recovery of High Purity Precious Metals from Printed Circuit Boards, *J. Hazard. Mater.*, 164, 1152-1158.

Patungwasa, W., and Hodak, J.H., 2008, pH Tunable Morphology of the Gold Nanoparticles Produced by Citrate Reduction, *Mater. Chem. Phys.*, 108, 45-54.

Perioli, L., Ambrog, V., Nauta, L.D., Nocchetti, M., dan Rossi, C., Effects of Hydrotalcite-like Nanostructured Compounds on Biopharmaceutical Properties and Release of BCS Class II Drugs: The Case of Flubiprofen, *Appl. Clay Sci.*, 51, 413-507.

Pham, V., and Ting, Y.P., 2009, Gold Bioleaching of Electronic Waste by Cyanogenic Bacteria and Its Enhancement with Bio-Oxidation, *Adv. Mater.*, 71, 661-664.

Philip D., 2008, Synthesis and Spectroscopic Characterization of Gold Nanoparticles, *Spectrochim. Acta A*, 71, 80-85.

Pollman, H., 1989, Mineralogisch-Kristallographische Untersuchugen a Hydratations Produkten der Aluminatphase Hydraulisher Bindeeemittel-Habilitationsschrisft, *Dissertation*, Mineralogische Institut der Universitat Erlangen, Nurenberg.

Rives, V. and Editor, 2001*, Layered Double Hydroxides: Present and Future*, Nova Science Pub Inc, New York.

Rovita, E., 2013, Imobilisasi Asam Salisilat pada Mg/Al Hidrotalsit dan Aplikasinya untuk Adsorpsi-Reduksi $[AuCl_4]^-$, *Tesis*, Jurusan Kimia FMIPA UGM, Yogyakarta.

Rusdiarso, B., 2007, Studi Ekstraksi Pelarut Emas(III) dalam Larutan Konsentrat Tembaga PT Freeport dengan 8-Metilxantin, *Berkala MIPA UGM*, 17 (2), 15-21.

Santosa, S.J., Kunarti, E.S., and Karmanto, 2008, Synthesis and Utilization of Mg/Al Hydrotalcite for Removing Dissolved Humic Acid, *Appl. Surf. Sci.*, 254, 7612-7617.

Sara, J.P., Soisonard, A. and Frost, R.L., 2009, Determination of the Mechanism(s) for the Inclusion of Arsenate, Vanadate, or Molybdate anions into

hydrotalcites with variable cationic ratio, *J. Colloid Interf. Sci.*, 329, 404-409.

Schluep, M., 2009, Recycling from E-Waste to Resources in Sustainable Innovation and Technology Transfer Industrial Sector Studies, http://www.unep.org/PDF/E-Waste_publication_screen_finalversion-sml.pdf, diakses 16 Desember 2015.

Schmid, G., 1994, *In: Cluster and Colloids from Theory to Applications*, VCH, New York.

Shan, R., Yan, L., Yang, Y., Yang, K., Yu, S., Yu, H., Zhu, B., and Du, B., 2015, Highly Efficient Removal of Three Red Dyes by Adsorption Onto Mg-Al-Layered Double Hydroxide, *J. Ind. Eng. Chem.*, 21, 561-568.

Seron, A., and Delorme, F., 2008, Synthesis of Layered Double Hydroxides (LDHs) with Varying pH: A Valuable Contribution to the Study of Mg/Al LDH Formation Mechanism, *J. Phys. Chem. Solid*, 69, 1088-1090.

Stum, W., and Morgan, J.J., 1996, *Aquatic Chemistry: Chemical Equilibria in Natural Water*, 3rd ed., John Wiley and Sons., Inc., New York.

Sugunan, A., and Dutta, J., Novel Synthesis of Gold Nanoparticles in Aqueous Media, *Materials Research Society Symposium Proceedings*, 901, 257-262.

Takanori, H., Ryuichi, A., Youichi, M., Minoru, N., Yasuhiro, T., and Takao, A., 2009, Techniques to Separate Metal from Waste Printed Circuit Boards from Discarded Personal Computers, J. Mater. Cycles Waste, 11, 42-54

Tay, S.B., Natarajan, G., Nadjad, M., Tan, H.W., Chung, M.C.M., Ting, Y.P., and Yew, W.S., 2013, Enhancing Gold Recovery from Electronic Waste via Lixiviant Metabolic Engineering in Chromobacterium Violaceum, *Sci. Rep.*, 3, 2236.

Theiss, F.L., 2012, Synthesis and Characterization of Layered Double Hydroxides and Their Application for Water Purification, *Thesis*, Queensland University of Technology, Brisbane Queensland.

Thomas, W.J. and Crittenden, B.D., 1998, *Adsorption Technology and Design*, Butterworth-Hienemann, Oxford.

Tong, Z., Sichi, T., and Takagi, K., 2003, Oxidation Catalysis of a Manganese(III) Porphyrin Intercalated in Layered Double Hydroxide Clays, *Mater. Lett.*, 57, 2258-2261.

Turkevich,J., Stevenson, P.C., and Hillier, J., 1951, A Study of the Nucleation and Growth Processes in the Synthesis of Colloidal Gold, *Discuss. Faraday Soc.*, 11, 55-75.

Usher, A., McPhail, D.C., and Brugger, J., 2009, A Spectrophotometric Study of Aqueous Au(III) Halide-Hydroxide Complexes at 25-80 °C, *Geochim. Cosmochim. Ac.*, 73, 3359-3380.

Watling, K.M., 2007, Spectroelectrochemical Studies of Surface Science in the Gold/Thiosulfate System. *Thesis*. Griffith Science Environmental Eng. and Tech., Griffith University, Australia.

Wihadi, M.N.K., 2014, Hidrotalsit Mg-Al-NO_3 sebagai Adsorben untuk Pungut Ulang Logam Emas dari Larutan $[AuCl_4]^-$, *Tesis*, Departemen Kimia FMIPA UGM, Yogyakarta.

Xianmei, X., Xian, A., Xiulan, W., and Zhizhong, W., 2003, Preparation, Characterization and Apllication of Zn Al La-Hydrotalcite–like Compounds, *J. Chem. Nat. Gas*, 4, 12, 259-263.

Xu., Z.P. and Zeng, H.C., 2001, Ionic Intercalations in Crystallite Growth of Co-Mg-Al-Hydrotalcite-like Compounds, *J. Chem. Mater.*, 13, 4555-4563.

Yanti, I., 2015, Interkalasi Asam Galat pada Mg/Al-Hidrotalsit melalui Metode Kopresipitasi Langsung dan Penggunaannya untuk Adsorpsi-Reduksi $AuCl_4^-$, *Tesis*, Departemen Kimia FMIPA UGM, Yogyakarta.

Zhao, P., Li, N., and Astruc, D., 2013, State of the Art in Gold Nanoparticle Synthesis, *Coordin. Chem. Rev.*, 257, 638-665.

Zhou, J., Ralston, J., Sedev, R., and Beattie, D.A., 2009, Functionalized Gold Nanoparticles: Synthesis, Structure and Colloid Stability, *J. Colloid Interf. Sci.*, 331, 251-262.