DAFTAR PUSTAKA

Afdal, dan Niarti, L., 2013, Karakterisasi Sifat Magnet dan Kandungan Mineral Pasir Besi Sungai Batang Kuranji Padang Sumatera Barat, *J. Ilmu Fis*, Vol 5(1), 24-30.

Al-Saidi, H. M., 2013, The Fast Recovery of Gold(III) Ions from Aqueous Solutions Using Raw Date Pits: Kinetic, Thermodynamic and Equilibrium Studies, *J. Saudi Chem. Soc*. 1-10.

Alzahrani, E., 2014, Fabrication and Characterisation of Chitosan-Magnetic Nanoparticles and Its Application for Protein Extraction, *I. J. Advanced Sci. and Technol. Res.*, 4(4), 755–766.

Andrade, A. L., Souza, D. M., Pereira, M. C., Fabris, J. D., and Domingues, R. Z., 2009, Synthesis and Characterization of Magnetic Nanoparticles Coated with Silica Through Sol Gel Approach, *J. Cer*., 55, 420-424.

Andrade, A. L., Fabris, J. D., Ardisson, J. D., Valente, M. A., and Ferreira, J. M. F., 2012, Effect of Tetramethylammonium Hydroxide on Nucleation, Surface Modification and Growth of Magnetic Nanoparticles, *J. Nanomaterials*, 2012, 1-10.

Arryanto, Y., 2009, *Material Canggih*, Kelompok Minat Material Jurusan Kimia FMIPA UGM, Yogyakarta.

Beigi, H., Yaghmaei, S., Roostaazad, R., and Arpanaei, A., 2013, Comparasion of Different Strategies for The Assembly of Gold Colloids Onto Fe_3O_4@SiO_2 Nanocomposite Particles, *Physica E*., 49, 30–38.

Budnyak, T. M., Pylypchuk, I. V, Tertykh, V. A., Yanovska, E. S., and Kolodynska, D., 2015, Synthesis and Adsorption Properties of Chitosan-Silica Nanocomposite Prepared by Sol-Gel Method, *Nanoscale Res. Let.*, 10(1), 87.

Buhani, Suharso, and Sembiring, Z., 2006, Biosorption of Metal Ions BM(II), Cu(II), and Cd(II) on *Sargassum duplicatum* Immobilized Silica Gel Matrix, *Indo. J. Chem*., 6, 245-250.

Buhani dan Suharso, 2010, Modifikasi Silika dengan 3-Aminopropil trimetoksisilan Melalui Proses Sol Gel untuk Adsorpsi Ion Cd(II) dari Larutan, *J. Sains MIPA*, 16, 177-183.

Bruce, I.J., Taylor, J., Todd, M., Davies, M.J., Borioni, E., Sangregorio, C., and Sen, T., 2004, Synthesis, Characterisation and Application of Silica-Magnetite Nanocomposites, *J. Magn. Magn. Mater*., 284, 145-160.

Cao, C., Xiao, L., Chen, C., Shi, X., Caoa, Q., and Gao, L., 2014, In situ Preparation of Magnetic Fe_3O_4/Chitosan Nanoparticles via a Novel Reduction–Precipitation method and their application in adsorption of Reactive Azo Dye, *J. Powder Technol.*, 260, 90–97.

Chang, Y., Chen, D., and Chen, D., 2006, Recovery of Gold(III) Ions by A Chitosan- Coated Magnetic Nano-Adsorbent, *Gold Bull.*, 39/3, 98–102.

Chao, A. C., 2008, Preparation of Porous Chitosan/GPTMS Hybrid Membrane and Its Application in Affinity Sorption for Tyrosinase Purification with *Agaricus bisporus*, *J. Membrane Sci.*, 311(1-2), 306–318.

Chung, J., Chun, J., Lee, J., Lee, S. H., Lee, Y. J., and Hong, S. W., 2012, Sorption of BM(II) and Cu(II) Onto Multi-Amine Grafted Mesoporous Silica Embedded with Nano-Magnetite: Effects of Steric Factors, *J. Hazard Mater.*, 183–191.

Connell, L. S., Romer, F., Su´arez, M., Valliant, E. M., Zhang, Z., Lee, P. D., Smith, M. E., Hannab, J. V., and Jones, J. R., 2014, Chemical Characterisation and Fabrication of Chitosan–Silica Hybrid Scaffolds with 3-Glycidoxypropyl Trimethoxysilane, *J. Mater. Chem. B*, 2, 668.

Cornell, R. M., and Schwertmann, U., 2003, *The Iron Oxides*, 2nd ed., Wiley.

Cui, J., and Zhang, L., 2008, Metallurgical Recovery of Metals from Electronic Waste: A Review, *J. Hazard Mater.*, 158(2-3), 228–256.

Dabrowski, A., 2001, Adsorption-from Theory to Practice, *Adv. Colloid Interface Sci.*, 93, 135-224

Deng, Y. H., Wang, C. C., Hu, J. H., Yang, W. L., and Fu, S. K., 2005, Investigation of Formation of Silica Coated Magnetite Nanoparticles via Sol-Gel Approach, *J. Phys. Chem. Eng.*, 262, 87-93.

Dhawade, P., and Jagtap, R., 2012, Comparative Study of Physical and Thermal Properties of Chitosan-Silica Hybrid Coatings Prepared by Sol-Gel Method, *J. Der Chemica Sinica*, 3(3), 589-601

Donia, A. M., Atia, A. A., and Elwakeel, K. Z., 2007, Recovery of Gold(III) and Silver(I) on A Chemically Modified Chitosan with Magnetic Properties, *Hydrometallurgy*, 87(3-4), 197–206.

Enaroseha, O. O. E., and Igherighe, E., 2012, Magnetic Coercivity: Misconceptions and Misinterpretations in Textbooks, *Crystal Res. Technol.*, 52, 11215-11219.

Esmaeili, A., Saremnia, B., and Kalantari, M., Removal of Mercury(II) from Aqueous Solutions by Biosorption on The Biomass of *Sargassum glaucescens* and *Gracilaria corticata*, *Arab. J. Chem.*, 8, 506–511.

Faraji, M., Yamini, Y., and Rezaee, M., 2010, Iranian Chemical Society Magnetic Nanoparticles: Synthesis, Stabilization, Functionalization, Characterization, and Applications, *J. Iran. Chem. Soc.*, 7(1), 1–37.

Gabrielli, L., Russo, L., Poveda, A., Jones, J. R., Nicotra, F., Nez-Barbero, J. J., and Cipolla, L., 2013, Epoxide Opening Versus Silica Condensation During Sol–Gel Hybrid Biomaterial Synthesis, *Chem. Eur. J.*, 19, 7856 – 7864.

Gupta, V. K., and Rastogi, 2008, Biosorption of Lead from Aqueous Solutions by Green Algae Spirogyra Species: Kinetics and Equilibrium Studies, *J. Hazard Mater.*, 152(1), 407–414.

Hamouda, A. A., and Amiri, H. A. A., 2014, Factors Affecting Alkaline Sodium Silicate Gelation for In-Depth Reservoir Profile Modification, *J. Energies*, 7, 568-590

Hamoudi, S., El-Nemr, A., Bouguerra, M., and Belkacemi, K., 2012, Adsorptive Removal of Nitrate and Phosphate Anions from Aqueous Solutions Using Functionalized SBA-15: Effects of The Organic Functional Group, *J. Chem. Eng.*, 1, 34-40.

Hastuti, S., Nuryono, and Kuncaka, A., 2015, L-Arginine-Modified Silica for Adsorption of Gold(III), *Indo. J. Chem.*, 15 (2), *108 – 115*.

He, X., Xu, H., and Li, H., 2015, Cr(VI) Removal from Aqueous Solution by Chitosan/Carboxylmethyl Cellulose / Silica Hybrid Membrane, *World J. Eng. Technol*., 3, 234–240.

Hiramatsu, H., and Osterloh. F. E., 2003, pH-Controlled Assembly and Disassembly of Electrostatically Linked CdSe-SiO_2 and Au-SiO_2 Nanoparticle Clusters, *Langmuir*, 19, 7003-7011.

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

Hyosang, L., 2008, Characterization and Modeling of Mainstream and Alternative Conditioning and Polishing Technologies in Inter-layer Dielectric and Copper Chemical Mechanical Planarization, *Dissertation*, Faculty of Dept. of Chemical and Environtmental Engineering, University of Arizona, Arizona.

Iida, H., Takayanagi, K., Nakanishi, T., and Osaka, T., 2007, Synthesis of Fe_3O_4 Nanoparticles with Various Size and Magnetic Properties by Controlled Hydrolysis, *J. Colloid Interface Sci.*, 314, 274-280.

Jal, P. K., Patel, S., and Mishra, B. K., 2004, Chemical Modification of Silica Surface by Immobilization of Functional Groups for Extractive Concentration of Metal Ions, *Talanta*, 62(5), 1005–1028.

Jordan, R., Marmier, N., Lomenech, C., Giffaut. E., and Ehrhardt, J., 2007, Sorption of Silicates on Goethite, Hematite, and Magnetite: Experiments and Modelling, *J. Colloid Interface Sci.*, 312 , 224–229

Kakavandi, B., Kalantary, R. R., Jafari, A. J., Nasseri, S., Ameri, A., Esrafili, A., and Azari, A., 2015, Pb(II) Adsorption Onto a Magnetic Composite of Activated Carbon and Superparamagnetic Fe_3O_4 Nanoparticles: Experimental and Modeling Study, *Clean Soil Air Water*, 43, 1157–1166.

Karimnezhad, K., and Moghimi, A., 2014, Extraction of Zn(II) Using Magnetic Chitosan Nanoparticles Grafted with Cyclodextrin and Determination By FAAS, *Orient. J. Chem.*, 30(1), 95–103.

Khan, T. A., Khiang, P.K., and Sheng, C.H., 2002, Reporting Degree of Deacetylation Values of Chitosan: The Influence of Analytical Methods, *J. Pharm. Pharmaceut. Sci*., 3, 205-212.

Kim, E. Y., Kim, M. S., Lee, J. C., and Pandey, B. D., 2011, Selective Recovery of Gold from Waste Mobile Phone PCBs by Hydrometallurgical Process, *J. Hazard Mater.*, 198 (December), 206–215.

Kraus, A., Jainae, K., Unob, F., and Sukpirom, N., 2009, Synthesis of MPTS-Modified Cobalt Ferrite Nanoparticles and Their Adsorption Properties in Relation To Au(III), *J. Colloid Interface Sci.*, 338(2), 359–365.

Lakay, E. M., 2009, Superparamagnetic Iron-Oxide Based Nanoparticles for The Separation and Recovery of Precious Metals from Solution, *Thesis*, University of Stellenbosch.

Lam, K. F., Fong, C. M., Yeung, K.L., and McKay, G., 2008, Selective Asorption of Gold from Mixtures Using Mesoporous Adsorbent, *Chem. Eng. J.*, 145, 185-195.

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

Lei, Z., Pang, X., Li, N., Lin, L., Li, Y., 2009, Novel Two-Step Modifying Process for Preparation of Chitosan-Coated Fe_3O_4/SiO_2 Microspheres, *J. Mater. Process. Technol.*, 209, 3218–3225.

Lim, C.W., and Lee, I.S., 2010, Review: Magnetically Recyclable Nanocatalyst Systems for the Organic Reactions, *Nanotoday*, 5, 412-434.

Liu, W., Yin, P., Liu, X., Dong, X., Zhang, J., and Xu, Q., 2013, Thermodynamics, Kinetics, and Isoterms Studies for Gold(III) Adsorption Using Silica Functionalized by Diethylenetriaminemethylenephosphonic Acid, *Chem. Eng. Res. Des.*, 91, 2748-2758.

Liu, Y. L., Su, Y. H., and Lai, J. Y., 2004, In Situ Crosslinking of Chitosan and Formation of Chitosan-Silica Hybrid Membranes with Using Glycidoxypropyltrimethoxysilane as a Crosslinking Agent, *Polymer*, 45(20), 6831–6837.

Masykur, A., Santosa, S. J., Siswanta, D., and Jumina., 2014, Grafting of Chloroacetic Acid on EGDE Cross-Linked Chitosan To Enhance Stability and Adsorption Capacity For BM(II) Ions, *Indo. J. Chem.*, 14(1), 63–70.

Montagne, F., Mondain-Monval, O., Pichot, C., Mozzanega, H., and Elaissari, 2002, Preparation and Characterization of Narrow Sized (O/W) Magnetic Emulsion, *J. Magn. Magn. Mater*., 250, 302-312.

Mortazavi, K., Ghaedi, M., Roosta, M., and Montazerozohori, M., 2012, Chemical Functionalization of Silica Gel With 2- ((3-Silylpropylimino) Methyl) Phenol (SPIMP) and Its Application for Solid Phase Extraction and Preconcentration of Fe(III), BM(II), Cu(II), Ni(II), Co(II) and Zn(II) Ions, *Ind. J. Sci. Technol.*, 5(1), 1893–1900.

Muhammad, S., Hussain,S. T., Waseem, M., Naeem,A., Hussain, J., and Tariq, M., 2012, Surface Charge Properties of Zirconium Dioxide, *Iran. J. Sci. Tech.*, A4, 481-486.

Narayanan, R.L., and Sivakumar, M., 2014, Preparation and Characterization of Gold Nanoparticles in Chitosan Suspension by One-Pot Chemical Reduction Method, *Nano Hybrids*, 6, 47-57.

Ngah, W. S. W., Teong, L. C., Hanafiah, M. A. K. M., 2011, Adsorption of Dyes and Heavy Metal Ions by Chitosan Composites: A Review, *Carbohydr. Polym.*, 83, 1446–1456.

Nurwidiyani, R., 2014, Sintesis Magnetit Terlapis Hibrida Amino Silika untuk Sorpsi Ion Au(III) Dalam Sistem Multilogam Au(III)-Cu(II)-Ni(II), *Tesis*, Jurusan Kimia FMIPA UGM, Yogyakarta.

Nuryono, Indriyanti, N.Y., Manuhutu, J.B., Narsito, and Tanaka, S., 2013, Sorption of Au(III) and Ag(I) on Amino- and Mercapto-Silika Hybrid Columns, *J. Anal. Sci*., 17, 244-245.

Nuryono, Muliaty, E., Rusdiarso, B., Sakti, S.C.W., and Tanaka, S., 2014. Adsorption of Au(III), Cu(II) and Ni(II) on Magnetite Coated with Mercapto Groups Modified Rice Hull Ash Silica. *J. Ion Exchange*, 25, 114-121.

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

Oscik, J. and Cooper, I.L., 1982, *Adsorption*, Ellis Horwood Ltd., Chichester.

Paclawski, K., and Fitzner, K., 2004, Kinetics of Gold(III) Chloride Complex Reduction Using Sulfur(IV), *Metall. Mater. Trans. B.*, 35B., 1071-1085.

Pandis, C., Madeira, S., Matos, J., Kyritsis, A., Mano, J. F., and Ribelles, J. L. G., 2014, Chitosan-Silica Hybrid Porous Membranes, *Mater. Sci. Eng. C*, 42, 553–561.

Pestov, A., Nazirov, A., Modin, E., Mironenko, A., and Bratskaya, S., 2015, Mechanism of Au(III) Reduction by Chitosan: Comprehensive Study with 13C and 1H NMR Analysis of Chitosan Degradation Products, *Carbohydr. Polym.*, 117(III), 70–77.

Prasasti, D., Santosa, S. J., dan Sudiono, S., 2013, Kinetika Adsorpsi-Reduksi Ion Au(III) pada Asam Humat Hasil Isolasi dari Tanah Gambut Rawa Pening, *Pharmaciana*, 3(2), 15-22.

Prasdiantika, R., 2015, Sintesis Hibrida Propildietilentriamin-Silika Terlapis pada Bahan Magnetik Pasir Besi untuk Adsorpsi Au(III), *Tesis*, Fakultas Matematika dan Ilmu Pengetahuan, Universitas Gadjahmada.

Pylypchuk, I. V., Kołodyńska, D., Kozioł, M., and Gorbyk, M. M., 2016, Gd-DTPA Adsorption on Chitosan/Magnetite Nanocomposites, *Nanoscale Res. Lett.*, 11, 168.

Qu, R., Wang, M., Sun, C., Zhang, Y., Ji, C., Chen, H., Meng, Y., and Yin, P., 2008, Chemical Modification of Silica-Gel with Hydroxyl- or Amino-terminated Polyamine for Adsorption of Au(III), *Appl. Surf. Sci.*, 255, 3361–3370

Qu, R., Sun, C., Wang, M., Ji, C., Xu, Q., Zhang, Y., and Yin, P., 2009, Adsorption of Au(III) from Aqueous Solution Using Cotton Fiber/Chitosan Composite Adsorbents, *Hydrometallurgy*, 100(1-2), 65–71.

Radnia, A., Ghoreyshia, A. A., Younesib, H., and Najafpour, G. D., 2012, Adsorption of Fe(II) Ions from Aqueous Phase by Chitosan Adsorbent: Equilibrium, Kinetic, and Thermodynamic Studies, *Desalin. Water Treat.*, 50, 348–359.

Ren, Y., Abbood, H. A., He, F., Peng, H., and Huang, K., 2013, Magnetic EDTA-Modified Chitosan/SiO_2/Fe_3O_4 Adsorbent: Preparation, Characterization, and Application in Heavy Metal Adsorption, *Chem. Eng. J.*, *226*, 300–311.

Rinaudo, M., 2006, Chitin and Chitosan: Properties and Applications, *Prog. Polym. Sci.*, 31, 603–632.

Rojas, G., Silva, J.,Flores, J. A., Rodriguezb, A., Lyc, M., Maldonadob, H., 2005, Adsorption of Chromium onto Cross-linked Chitosan, *Sep. Purif. Technol*., 44, 31–36.

Roldan, P.S., Alcântara, I.L., Padilha, C.C.F., and Padilha, P.M., 2005. Determination of Copper, Iron, Nickel and Zinc in Gasoline by FAAS after Sorption and Preconcentration on Silica Modified with 2-Aminotiazole Groups. *Fuel.*, 84, 305-309.

Rubcumintara, T., 2015, Adsorptive Recovery of Au(III) from Aqueous Solution Using Modified Bagasse Biosorbent, *Int. J. Chem. Eng. Appl.*, 6(2), 95–100.

Rusdiarso, B., 2007, Studi Ekstraksi Pelarut Emas (III) Dalam Larutan Konsentrat Tembaga PT Freeport dengan 8-Metylxantin, *Berkala MIPA*, 17(2), 15-22.

Rusianto, T., Wildan, M. W., Abraha, K., and Kusmono., 2015, Various Sizes of The Synthesized Fe_3O_4 Nanoparticles Assisted by Mechanical Vibrations, *Ind. J. Eng. Mater. Sci.*, 22(2), 175–180.

Sahoo, P. R., and Venkatesh, A. S., 2015, Constraints of Mineralogical Characterization of Gold Ore: Implication For Genesis, Controls and Evolution of Gold from Kundarkocha Gold Deposit, Eastern India, *J. As. Earth Sci.*, 97(PA), 136–149.

Sakti, S. C. W., 2010, Sintesis dan Karakterisasi Hibrida Amino Silika Tercetak Ionik sebagai Adsorben Ion Au(III), *Tesis*, Jurusan Kimia FMIPA UGM, Yogyakarta.

Šapic, I. M., Bistrici, L., Volovšek, V., Danani, V., 2014, Vibrational Analysis of 3-Glycidoxypropyltrimethoxysilane Polymer, *Macromol. Symp.*, 339, 122–129.

Setiawati, L. D., Rahman, T. P., Nugroho, D.W., Nofrizal, Ikono, R., Suryandaru, Yuswono, Siswato, dan Rochman, N.T., 2013, Ekstraksi Titanium Dioksida (TiO_2) dari Pasir Besi dengan Metode Hidrometalurgi, *Prosiding Semirata MIPA Universitas Lampung*, 465-468.

Shahbazi, F., and Amani, K., 2014, Synthesis, Characterization, and Heterogenous Catalytic Activity of Diamine-Modified Silica Coated

Magnetite-Polyoxomatalate Nanoparticles as a Novel Magnetically-Recoverable Nanocatalyst, *J. Cat. Com.*, 55, 57-64.

Shirosaki, Y., Tsuru, K., Hayakawa, S., Osaka, A., Lopes, M. A., Santos, J. D., and Fernandes, M. H., 2005, In Vitro Cytocompatibility of MG63 Cells on Chitosan-Organosiloxane Hybrid Membranes, *Biomaterials*, 26(5), 485–493.

Smitha, S., Shajesh, P., Mukundan, P., and Warrier, K. G. K., 2008, Sol-gel Synthesis of Biocompatible Silica-Chitosan Hybrids and Hydrophobic Coatings, *J. Mater. Res*., 23(8), 2053-2060.

Tamura, H., and Furuike, T., 2014, Chitin and Chitosan, *Ency. Polym. Nanomater*., 1-4

Tian, Y., Yin. P., Qu. R., Wang. C., Zheng. H., and Yu. Z., 2010, Removal of Transition Metal Ions from Aqueous Solutions by Adsorption Using a Novel Hybrid Material Silica Gel Chemically Modified by Triethylenetetramino methylenephosphonic Acid, *Chem. Eng. J.*, 162, 573-379.

Trisnawati, E., Andesti, D., dan Saleh, A., 2013, Pembuatan Kitosan dari Limbah Cangkang Kepiting sebagai Bahan Pengawet Buah Duku dengan Variasi Lama Pengawetan, *J.Tek.Kim*., 19(2), 17-26.

Tsuruta, T., 2004, Biosorption and Recycling of Gold Using Various Microorganisms, *J. Gener. Appl. Microbiol.*, 50(4), 221–228.

Vansant, E.F., Voort, P.V.D., and Vrancken, K.C, 1995, *Characterization and Chemical Modification of the Silica Surface*, University of Antwerp, Universiteitsplein 1, B-2610 Wilrijk, Belgium.

Viarsagh, M. S., Janmaleki, M., Falahatpisheh, H. M., and Masoumi, J., 2010, Chitosan Preparation from Persian Gulf Shrimp Shells and Investigating the Effect of Time on the Degree of Deacetylation, *J. Paramed. Sci.*, 1(2), 1-7.

Wang, J., Fan, X., Tian, W., Wang, Y., and Li, J., 2011, Ring-Opening Polymerization Of Glycidoxypropyltrimethoxysilane Catalyzed by Multi-Metal Cyanide Catalyst, *J. Polym. Res.*, 18(6), 2133–2139.

Wang, L., Peng, H., Liu, S., Yu, H., Li, P., and Xing, R., 2012, Adsorption Properties of Gold onto a Chitosan Derivative, *Int. J. Biol. Macromol.*, 51(5), 701–704.

Wang, D., 2014, Sol-Gel Silica-Based Tissue Scaffolds: Freeze Casting and SIMS Analysis Strategies, *Thesis*, Department of Materials, Imperial College London, UK.

Watling K. M., 2007, Spectroelectrochemical Studies of Surface Species in The Gold/Thiosulfate System, *Thesis*, Griffith Science Environment Engineering and Technology, Griffth University, Australia.

Wicaksono, H. S., 2011, Analisis Ukuran Partikel Campuran (Pasir Besi, Batubara Dan CaO) dan Lama Penyinaran Gelombang Mikro Pada Reduksi Besi Oksida, *J. Tek. Mater. Metal. ITS Surabaya*, 1-8.

Wu, S., Sun, A., Zhai, F., Wang, J., Xu, W., Zhang, Q., and Volinsky, A.A., 2011, Fe_3O_4 Magnetic Nanoparticles Synthesis from Tailings by Ultrasonic Chemical Co-Precipitation, *Mater. Lett*., 65, 1882-1884.

Xi, F., Wu, J., and Lin, X., 2006, Novel Nylon-Supported Organic–Inorganic Hybrid Membrane with Hierarchical Pores as a Potential Immobilized Metal Affinity Adsorbent, *J. Chromatogr. A*, 112 , 38–51.

Yang, X., Roonasi, P., Jolsterå, R., and Holmgren, A., 2009, Kinetics of Silicate Sorption on Magnetite and Maghemite: An in situ ATR-FTIR study, *Colloids Surf. A*, 343(1-3), 24–29.

Zhang, Y., Xu, Q., Zhang, S., Liu, J., Zhou, J., Xu, H., Xiao, H., and Li, J., 2013, Preparation of Thiol-Modified Fe_3O_4@SiO_2 Nanoparticles and Their Application for Gold Recovery from Dilute Solution, *Sep. Purif. Technol.*,116, 391–397.

Zhao, J., Wang, Y., Luo, G., and Zhu, S., 2011. in situ Synthesis of Magnetic Mesoporous Silica via Sol-Gel Process Coupled with Precipitation and Oxidation, *Particuology*, 9, 56-62.

Zulfalina, dan Manaf. A., 2004, Identifikasi Senyawa Mineral dan Ekstraksi Titanium Dioksida dari Pasir Mineral, *Indo. J. Mater. Sci.*, 5, 46-50.