

DAFTAR PUSTAKA

- Abadleh, H. A., Mifflin, A. L., Bertin, P. A., Nguyen, S. T., dan Geiger, F. M. 2005. Control of Carboxylic Acid and Ester Groups on Chromium (VI) Binding to Functionalized Silica/Water Interfaces Studied by Second Harmonic Generation. *J. Phys. Chem. B* 2005, 109, 9691-9702.
- Aldmour, T. S., Burke, I.T., Andrew, W.B., Daniel, L.B., Andrew, B.R., Fiona, L.G., Giannotonio C., Michael, E.R., Douglas, I. S. 2018. Abiotic Reduction of Cr(VI) by Humic Acids Derived from Peat and Lignite: Kinetics and Removal Mechanism. *Environmental Science and Pollution Research* 26:4717–4729.
- Alimin, 2000, Fraksinasi Asam Humat dan Pengaruhnya pada Kelarutan Ion Logam Seng(II), Kadmium(II), Magnesium(II), dan Kalsium(II), *Tesis*, Program Pascasarjana, Universitas Gadjah Mada, Yogyakarta.
- Asmadi, A., S, E., dan Oktiawan, W., 2018, Pengurangan Chrom(Cr) dalam Limbah Cair Industri Kulit pada Proses Tannery menggunakan Senyawa Alkali Ca(OH)₂, NaOH dan NaHCO₃, *J. Air Indonesia*, 5(1), 41-54.
- Ashtari, M., Carbognani, L., and Pereira-Almao, P., 2016, Asphaltenes Aqueous Conversion to Humic and Fulvic Analogs via Oxy-Cracking, *Energy Fuels.*, 30, 5470-5482.
- Aydin, Y.A. dan Aksoy, N.D., 2009, Adsorption of chromium on chitosan: Optimization, kinetics and thermodynamics, *Chem. Eng. J.*, 15(1), 188-194.
- Basuki, R., Rusdiarso, B., dan Santosa, S.J., 2017, Ekstraksi Adsorben Ramah Lingkungan dari Matriks Biologi : Asam Humat, *Chempublish J.*, 2, 13–25.
- Carlos, L., Einschlag, F.S.G., González, M.C. dan Mártire, D.O., 2013, Application of Magnetite Nanoparticles for Heavy Metal Removal from Wastewater, *InTech.*, <http://dx.doi.org/10.5772/54608>.
- Castro, A.L., Nunes, M.R., Carvalho, A.P., Costa, F.M., dan Florêncio, M.H., 2008,

Synthesis of anatase TiO₂ nanoparticles with high temperature stability and photocatalytic activity, *Solid State Sci.*, 7(2), 42-46.

Chaidir, Z., Hasanah, Q., dan Zein, R., 2015, Penyerapan Ion Logam Cr(III) dan Cr(VI) dalam Larutan Menggunakan Kulit Buah Jengkol, *J. Ris. Kim.*, 8, 189–199.

Correa, R.F., Giraldo, L., dan Piraján, J.C.M., 2013, Trivalent Chromium Removal from Aqueous Solution with Physically and Chemically Modified Corncob Waste, *J. Anal. Appl. Pyrolysis*, 101, 132-141

Dula dan Siraj, 2014, Adsorption of Hexavalent Chromium from Aqueous Solution Using Chemically Activated Carbon Prepared from Locally Available Waste of Bamboo (*Oxytenanthera Abyssinica*), Program studi kimia, *Universitas Jimma: Ethiopia*.

El-kharrag, R., Amin, A. dan Greish, Y.E., 2011, Low Temperature Synthesis of Monolithic Mesoporous Magnetite Nanoparticles, *Ceram. Int.* (2011), doi:10.1016/j.ceramint.2011.07.052.

Elovitz, M. S., dan Fish, W. 1995. Redox Interactions of Cr(VI) and Substituted Phenols: and Mechanism. *Environ. Sci. Technol.* 1995, 29, 1933-1943.

Fairhurst, A.J., P. Warwick, S. Richardson, 1995, The influence of humic acid on the adsorption of europium onto inorganic colloids as a function of pH, *Colloid Surf. A* 99,187–199.

Ghanbari, D., Salavati-Niasari, M. dan Ghasemi-Kooch, M., 2016, In Situ and Ex Situ Synthesis of Poly(Vinyl Alcohol)-Fe₃O₄ Nanocomposite Flame Retardants, *Particuology*, 26, 87-94.

Ginting, C., 2014, *Nutrisi Tanaman*, Instiper Yogyakarta, Yogyakarta.

Hariani, P.L., Faizal, M., Ridwan, R., Marsi, M., dan Setiabudidaya, D., 2013, Synthesis and Properties of Fe₃O₄ Nanoparticles by Co-precipitation Method

to Removal Procion Dye, *Int. J. Environ. Sci. Dev.*, 336-340.

Hasnah, S.D. dan Ridwan, 2012, Sintesis dan Karakterisasi Nanopartikel Fe₃O₄ Magnetik untuk Adsorpsi Kromium Heksavalen, *Ind. J. Mater. Sci.*, 13(2), 136-140.

Hermansson, H.P., 2004, the Stability of Magnetite and its Significance as a Passivating Film in the Repository Environment., *Research article of Swedish Nuclear Power Inspectorate (SKI)*, 1104-1374.

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

Illes, E., and Tombacz., E., 2006, The Effect of Humic Acid Adsorption on pH Dependent Surface Charging and Aggregation of Magnetite Nanoparticles. *J. Colloid Interf A.*, 203, 99-109.

Indrajaya, M.I., 2010, Kemurnian Endapan Kopresipitasi, *Universitas Hasanuddin*, Makassar.

Jayaganesh S. dan Senthurpandian, V.K., 2010, Extraction and Characterization of Humic and Fulvic Acids from Latosols under Tea Cultivation in South India, *J. Asian. Earth. Sci.*, 3, 130-135.

Jiang, W., 2014, *Cr(VI) Adsorption and Reduction by Humic Acid Coated on Magnetite*, Department of Chemistry and Biochemistry, Miami, USA: Florida International University.

Koesnarpadi, S., Juari, S., Siswanta, D., dan Rusdiarso, B., 2015, Synthesis and characterizatation of magnetite nanoparticle coated humic acid (Fe₃O₄-HA), *Procedia Environ. Sci.*, 30, 103–108.

Koesnarpadi, S., Santosa, S.J., Siswanta, D., dan Rusdiarso, B., 2017, Humic Acid Coated Fe₃O₄ Nanoparticle for Phenol Sorption, *Indonesian Journal Chem*, 17(2), 274–283.

Koesnarpadi, S. dan Tarigan, D., 2016, Kinetika Adsorpsi Cr(VI) Menggunakan

Adsorben Magnetit (Fe_3O_4) dan Magnetit Terlapis Asam Humat (Fe_3O_4 /AH),. In, *Prosiding Seminar Kimia Nasional*. ISBN : 978-602-19421-0-9.

Kolasinski, K.W., 2012, *Surface Science: Foundations of Catalysis and Nanoscience*, Third Edition, John Wiley and Sons.

Krisbiantoro, P.A., Santosa, S.J., dan Kunarti, E.S., 2017, Synthesis of Fulvic Acid-Coated Magnetite (Fe_3O_4 -FA) and Its Application for the Reductive Adsorption of $[\text{AuCl}_4]^-$, *Indones. J. Chem.*, 17(3), 453–460.

Kumari, M., Pittman, C.U., dan Mohan, D., 2015, Heavy metals [chromium (VI) and lead (II)] removal from water using mesoporous magnetite (Fe_3O_4) nanospheres, *J. Colloid Interface Sci.*, 442, 120–132.

Kurniawati, P., Wiyantoko, B., Kurniawan, A., dan Purbaningtyas, T.E., 2013, Kinetic study of Cr(VI) Adsorption on Hydrotalcite Mg/Al with Molar Ratio 2:1, *Eksakta*, 13, 11–21.

Kustomo dan Santosa, S.J., 2019, Studi Kinetika dan Adsorpsi Zat Warna Kation (Metilen Biru) dan Anion (Metil Orange) pada Magnetit Terlapis Asam Humat, *Jurnal Jejaring Matematika dan Sains*, 1(2), 64–69.

Laurent, S., D. Forge, M. Port, A. Roch, C. Robic, L. Vander Elst and R.N. Muller, 2008, Magnetic Iron Oxide Nanoparticles: Synthesis, Stabilization, Vectorization, Physic Chemical Characterizations and Biological Applications, *Chem. Rev.*, 108, 2064-2110.

Li, Y., Q. Yue, B. Gao, Q. Li, C. Li, 2008, Adsorption thermodynamic and kinetic studies of dissolved chromium onto humic acids, *Colloid Surf.*, B 65, 25–29.

Maity, D. dan D.C. Agrawal, 2007, Synthesis of Iron Oxide Nanoparticles Under Oxidizing Environment and Their Stabilization in Aqueous and Non Aqueous Media, *J. Magn. Magn. Mater.*, 308, 46-55.

Manahan, S.E., 2017, Environmental chemistry, In *Environmental Applications of Instrumental Chemical Analysis*, Apple Academic Press, (pp. 189–228).

- Muniroh, S. dan Rahmayanti, M., 2019, Kinetika Adsorpsi Kromium(VI) yang Terkandung dalam Limbah Batik pada Asam Humat Termodifikasi Magnetit (AH-Fe₃O₄), *Integr. Lab J.*, 07, 42–46.
- Mustanginah, T., 2011., Analisis Spesies Logam Fe(II), Fe(III), Cr(III) dan Cr(VI) Dalam Limbah Cair Industri Menggunakan Metode Kombinasi Spektrofotometri Uv-Tampak Dan Spektrofotometri Serapan Atom (AAS). *Tesis. Kimia: UGM.*
- Noor, M., 2001, Pertanian Lahan Gambut : Potensi dan Kendala, Penerbit Kanasius, Yogyakarta.
- Pauzan, M., Kato, T., Iwata, S., dan Suharyadi, E., 2013, Pengaruh Ukuran Butir dan Struktur Kristal terhadap Sifat Kemagnetan pada Nanopartikel Magnetit (Fe₃O₄),. In, *Prosiding Pertemuan Ilmiah XXVII HFI Jateng & DIY.*, hal. 24–28.
- Peng, L., Qin, P.F., Lei, M., Zeng, Q., Song, H.J., Yang, J., Shao, J.H., Liao, B.H. dan Gu, J.D, 2012, Modifying Fe₃O₄ Nanoparticles with Humic for Removal of Rhodamine B in Water, *J. Hazard. Mater.*, 2012, 209–210, 193-198.
- Petcharoen, K. dan Sirivat, A., 2012, Synthesis and Characterization of Magnetite Nanoparticles via the Chemical Co-precipitation Method, *Mater. Sci. Eng.*, 177, 421-427.
- Rahmawati, A., 2011, Isolasi dan Karakterisasi Asam Humat dari Tanah Gambut, *J. Phenom.*, 2(1), 117–136.
- Rahmayanti, M., Abdillah, G., dan Santosa, S.J., 2019, Application of Humic Acid Isolated From Kalimantan Peat Soil Modifying Magnetite for Recovery of Gold, *Integr. Lab. J.*, 8(2), 77–83.
- Rahmayanti, M., Yunita, E., dan Prandini, M.N., 2019, Isolasi Asam Humat dari Tanah Gambut Sumatera dan Kalimantan dan Analisis Kandungan Gugus Fungsionalnya, *Integr Lab. J.*, 7(2), 132–139.

- Rouquerol, F., Rouquerol, J., dan Sing, K.S.W., 2014, Thermodynamics of Adsorption at the Gas/Solid Interface., In, *Adsorption by Powders and Porous Solids: Principles, Methodology and Applications: Second Edition*.
- Salampak, P., 2019, Peningkatan Produktivitas Tanah Gambut yang Disawahkan, Google Books, Bumi Jati, Tangerang.
- Sari, F.I.P., 2017, Sintesis, Karakterisasi Nanopartikel Magnetit, Mg/Al NO₃⁻ Hidrotalsit dan Komposit Magnetit-Hidrotalsit, *Jurnal Kimia VALENSI*, 3(1), 44–49.
- Sau, T.K. dan Rogach, A.L., 2012, Complex-Shaped Metal Nanoparticles: Bottom-Up Syntheses and Applications, John Wiley and Sons.
- Sehol, M., Santosa, S.J., dan Siswanta, D., 2018, The Immobilization of Humic Acid on Chitin and Its Application as Adsorbent of Cr (III), *Indo. J. Chem. Res.*, 5(2), 63–68.
- Shen, Y. F., J. Tang, Z. H. Nie, Y. D. Wang, Y. Ren dan L. Zuo. 2009. Preparation and Application of Magnetite Fe₃O₄ Nanoparticles for Waste Water Purification. *Separation and Purification Technology*.
- Stevenson, F.J., 1994, Structural Basis of Humic Substances., In, *Humus Chemistry: Genesis, Composition, Reactions*. Interscience Publication, John Willey & Sons, Inc New York.
- Sutton, R., G. and Sposito, 2005, Molecular structure in soil humic substances: the new view, *Environ. Sci. Technol.* 39, 9009–9015.
- Swanson, H.E., McMurdie, H.F., Morris, M.C. dan Evans, E.H., 1967, *Standard X-ray Diffraction Powder Patterns*, U.S Government Printing Office, Washington D.C.
- Umaningrum, D., Santoso, U.T., Nurmasari, R., dan Yunus, R., 2010, Adsorption Kinetics of Pb(II) and Cr(III) on Adsorbent Produced by Protected-Crosslinking of Humic Acid-Chitosan, *Indones. J. Chem.*, 10, 80–87.

- Viswanathan, N., dan Meenakshi, S. 2010. Selective fluoride Adsorption by a Hydrocalcite/Chitosan Composite. *Appl. Clay Sci.*, 48(2), 607-611.
- Wang, Z., Huang, B., Dai, Y., Qin, X., Zhang, X., Wang, P., et al., 2009, Highly photocatalytic ZnO/In₂O₃ heteronanostructures synthesized by a coprecipitation method, *Journal of Physical Chemistry C*, 113(11), 4612–4617.
- Yuliyati, Y.B. dan Natanael, C.L., 2016, Isolasi Karakterisasi Asam Humat dan Penentuan Daya Serapnya Terhadap Ion Logam Pb(II), Cu(II), dan Fe(II), *Journal AI-Kimia*, 4(1), 43–53.
- Yuniarti, M., 2013, Studi Adsorpsi-Reduksi Ion [AuCl₄] pada Magnetit Terlapis Asam Humat (Fe₃O₄/HA), *Skripsi*, Departemen Kimia, FMIPA UGM, Yogyakarta.
- Yusoff, A.H.M., Salimi, M.N. dan Jamlos, M.F., 2017, Synthesis and Characterization of Biocompatible Fe₃O₄ Nanoparticles at Different pH, *AIP Conference Proceeding*, 8-9 Desember 2016, Kaohsiung.
- Zhang, Xiang, Panyue, Z., Zhen, Wu, Ling, Z., Guangming, Z., 2013, Adsorption of Methylene Blue onto humic acid-coated Fe₃O₄ nanoparticles, *J.of Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 435, 85-90.