



DAFTAR PUSTAKA

- Ajiwe, U. I. E., and Anyadiegwo, I. E., 2000, Recovery of Silver From Industrial Wastes Cassava Solution Effects, *Seppurif Techno*, 18, 89-92.
- Anderson, P.R., Kim, B., and Catherine, O., 2000, Photocatalytic Process for Silver Recovery and Wash Water Reuse, *Dessalination Research and Development Program Report*, Illionis Institute Technology of Chicago, Illionis, No. 50.
- Apriyani, N., 2015, Ekstraksi Fenol dan Asam Askorbat dari Daun Sirih (*Piper Betle L.*) dan Pemanfaatannya Untuk Fotoreduksi Ion Ag(I) dalam Limbah Fotografi, *Tesis*, FMIPA, Universitas Gadjah Mada, Yogyakarta.
- Bas, A.D., and Yazici, E. Y., 2014, Recovery of Silver From X-ray Film Processing Effluents by Hydrogen Peroxide Treatment, *Hydrometallurgy*, 121-124, 22-77.
- Bielefeldt, A.R., Kowalski, K., and Summers, R.S., 2009, Bacterial Treatment Effectiveness of Point-of-Use Ceramic Water Filters, *Water Research*, 43, 3559-3563.
- Brooks, G. F., Butel, J. S., and Morse, S., 2005, Medical Microbiology, Mc Graw Hill Book Company, London.
- Brooks, G.F., Butel, J.S., and Morse, S., 2005, *Medical Microbiology*, Mc Graw Hill, New York.
- Buzea, C., Pacheco, II., and Robbie, K., 2007, Nanomaterials and Nanoparticles: Sources and Toxicity, *Biointerphases*, 4, 17-71.
- Cribbs, T. P., and Dagon, T. J., 1986, Disposal of Small Volumes of Photographic Processing Solutions, *Kodak Publication*, Eastmen Kodak Company, New York.
- Djunaidi, M. C., D. S., Widodo, dan Anwar, S., 2007, Recovery Perak dari Limbah Fotografi Melalui Membran Cair Berpendukung dengan Senyawa Pembawa Asam Di-2-Etil Heksilfosfat (D2EHPA).
- Feng, Q.L., Wu, J., Chen, G.Q., Cui, F.Z., Kim, T.N., and Kim, J.O., 2000, A Mechanistic Study of The Antibacterial Effect of Silver Ions on Escherichia Coli and Staphyococcus aureus, *J. Biomed. Mater. Res.*, 52(4), 662-668.



Fitri, 2006, Pengendapan Perak Hasil Kromatografi Pertukaran Ion dari Limbah Cuci Film Secara Elektrolisis, *Skripsi*, FMIPA, Universitas Gadjah Mada, Yogyakarta.

Gao, L., Gan, W., Xiao, S., Zhan, X., and Li, J., 2016, A Robust Superhydrophobic Antibacterial Ag-TiO₂ Composite Film Immobilized on Wood Substrate for Photodegradation of Phenol Under Visible-Light Illumination, *Ceram. Int.*, 42, 2170-2179.

Gogoi, S.K., Gopinath, P., Paul, A., Ramesh, A., Ghosh, S.S., and Chattopadhyay, A., 2006, Green Fluorescent Protein-Expressing *Escherichia Coli* as a Model System for Investigating the Antimicrobial Activities of Silver Nanoparticles, *Langmuir*, 22, 9322-9328.

Gupta, K., Singh, R.P., Pandey, A., and Pandey, A., 2013 Photocatalytic Antibacterial Performance of TiO₂ and Ag-doped TiO₂ against *S.aureus*, *P. Aeruginosa*, and *E. Coli*, *Beilstein J. Nanotechnol*, 4, 345-351.

Hadiyanto, M. F., 2003, Pengambilan Perak dari Limbah Pencuci Film Melalui Pengendapan Elektronik, *Skripsi*, FMIPA, Universitas Gadjah Mada, Yogyakarta.

Hatchett, D.W., and Henry, S., 1996, Electrochemistry of Sulfur Adlayers on Low-Index Faces of Silver, *J. Phys. Chem.*, 100, 9854-9859.

Hasan, A., 2006, Dampak Lingkungan Klorin, *J. Tek. Ling. P3TL-BPPT*, 7, 90-96.

Kim, J.S., Kuk, E., Yu, K.M., Kim, J.H., Park, S.J., Lee, H.J., Kim, S.H., Park, Y.K., Park, Y.H., Hwang, C.Y., Kim, Y.K., Lee, Y.S., Jeong, D.H., and Cho, M.H., 2007, Antimicrobial Effects of Silver Nanoparticles, *Nanomedicine*, 3, 95-101.

Ko, S., Banerjee, K.C., and Sankar, J., 2011, Photochemical Synthesis and Photocatalytic Activity in Simulated Light of Nanosized Ag Doped TiO₂Nanoparticle Composite, *Composites Part B*, 42, 579-583.

Koci, K., Mateju, K., Obalova, L., Krejcikova, S., Lacny, Z., Placha, D., Capek, L., Hospodkova, A., and Solcova, O., 2010, Effect of Silver Doping on teh TiO₂ for Photocatalytic Reduction of CO₂, *Appl. Catal*, B, 96, 239-244.

Lee, S.M., Hong, S., and Mohseni, M., 2005, Synthesis of Photocatalytic Nanosized TiO₂-Ag Particles With Sol-Gel Method Using Reduction Agent, *J. Mol. Catal. A: Chem.*, 242, 135-140.



- Li, J., Yan, B., Shao, X., Wang, S., Tian, H., and Zhang, Q., 2015, Influence of Ag/TiO₂ Nanoparticle on the Surface Hydrophilicity and Visible-Light Response Activity of Polyvinylidene Fluoride Membrane, *Appl. Surf. Sci.*, 324, 82-89.
- Li, M., Norrega-Trevino, M.E., Nino-martinez, N., Maramhio-Jones, C., Wang, J., Domoiseaux, R., Ruiz, F., and Hoek, E.M.V., 2011, Synergetic Bacterial Activity of TiO₂-AgNanoparticles in Both Light and Dark Condition Environ, *Sci Techno.*, 45, 8989-8995.
- Li, Q., Mahendra, S., Lyon, D., Y., Brunet, L., Liga, M., V., Li, D., and Alvarez, P.J.J., 2008, Antimicrobial Nanomaterials for Water Disinfection and Microbial Control: Potential Applications and Implications, *Water Rex*, 42, 4591-4602.
- Mahesti, D., 2014, Kajian Recovery Logam Perak dari Limbah Fotografi Menggunakan Asam Organik dari Limbah Buah dan Sayur Sebagai Reduktor dan Pengaruh Penambahan Gas N₂, *Tesis*, FMIPA, Universitas Gadjah Mada, Yogyakarta.
- Mamahit, F. G., 2016, Sintesis Film Komposit Kitosan-TiO₂-Ag Sebagai Material Antibakteri, *Skripsi*, FMIPA, Universitas Gadjah Mada, Yogyakarta.
- Manjunath, K., Yadav, L.S.R., Jayalakshmi, T., Reddy, V., Rajanaika, H., and Nagaraju, G., 2017, Ionic Liquid Assisted Hydrothermal Synthesis of TiO₂ Nanoparticles: Photocatalytic and Antibacterial Activity, *J. Mater. Res. Technol*, 251, 1-7.
- Matsura, Y., Yoshikata, K., Kunisaki, S., and Tscuhido, T., 2003, Mode of Bacterial Action of Silver Zeolite and Its Comparison with That of Silver Nitrate, *Appl. Environ. Microbial.*, 69, 4278-4281
- McCharthy and Mmerritt, 1999, *Chemistry of Photography*, Chemical Heritage Faoundation, London.
- Morones, J.R., Elechiguerra, J.L., Camacho, A., Holt, K., Kouri, J.B., Ramirez, J.T., and Yacaman, M.J., 2005, The Bacterial Effect of Silver Nanoparticles, *Nanotechonology*, 19, 1-8.
- Nino-Martinez, N., Martinez-Castanon, G.A., Aragon-Pina, A., Martinez-Gutierrez, F., Martinez-Mendoza, J.R., and Ruiz, F., 2008, Characterization of Silver Nanoparticles Synthesized on Titanium Dioxide Fine Particles, *Nanotechnology*, 19, 1-8.



- Paramita, Rr. C. D., 2014, Fotoreduksi Ion Ag (I) dari Limbah Fotografi dengan Asam Organik Untuk Recovery Perak, Tesis, FMIPA, Universitas Gadjah Mada, Yogyakarta.
- Pasang, T., Namrtha, K., Parvin, T., and Ranganarhaiah, C., 2015, Tuning of Band Gap in TiO₂ and ZnO Nanoparticles by Selective Doping Photocatalytic Applications, *Mater. Res. Innovations*, 19, 72-80.
- Petrova, T. M., Karadjova, V. A., Fachikov, L., and Hristov, J., 2012, Silver Recovery From Spent Photographic Solution by Natural Magnetic: Attempts to Estimate The Process Mechanism and Optimal Process Conditions, *Praise Worthy Prize S. r. l.*, 4-3.
- Photiphitak, C., Rakwamsuk, P., Muthitamongkol, P., Sae-Kung, C., and Thanachayanont, C., 2010, Effect of Silver Nanoparticles Size Prepared by Photoreduction Method on Optical Absorption Spectra of TiO₂/Ag/N719 Dye Composite Film, *Int. J. Chem. Mol. Nucl. Mater. Metall. Eng.*, 4, 12.
- Porras, C.L., Teran, A.T., Becerra, O.V., Yoshida, M.M., Villalobos, M.R., Guaderrama, M.G., and Martinez, J.A.A., 2015, Low-Temperature Synthesis and Characterization of Anatase TiO₂ Nanoparticles by an Acid Assisted Sol-Gel Method, *J. Alloys Compd.*, 647, 627-636.
- Rai, M., Yadav, A., and Gade, A., 2009, Silver Nanoparticles as a New Generation of Microbials, *Biotechnol. Adv.*, 27, 76-83.
- Rendina, N., 2012, Pengambilan Kembali Perak dari Limbah Proses Radiologi dengan Menggunakan Sinar UV dan Penambahan Asam Oksalat serta Asam Malonat, *Skripsi*, FMIPA, Universitas Gadjah Mada, Yogyakarta.
- Rini, R. A., 2010, Pengaruh Asam Organik dan Pemanfaatan Bubur Ketimun (Cucumis Sativus) Sebagai Sumber Asam Organik Terhadap Efektivitas Fotoreduksi Ag (I), *Tesis*, FMIPA, Universitas Gadjah Mada.
- Shang, C., Cheung, L.M., Ho, C.M., and Zheng, M., 2009, Repression of Photoreactivation and Dark Repair of Coliform Bacteria by TiO₂-Modified UV-C Disinfection, *Appl. Catal., B: Environmental*, 89, 536-542.
- Shreve, 1967, *Chemical Process Industries*, Third Edition, Mc Graw Hill Book Company, London.



Sondi, I., and Salopek-sondi, B., 2004, Silver Nanoparticles as Antimicrobial Agent: A case Study on *E. Coli* as a Model for Gram-Negative Bacteria, *J. Colloid Interf. Sci.*, 275, 177-182.

Songkroah, C., Nakbanpote, C., and Thiraretyan, P., 2003, Recovery of Silver-Thiosulphate Complexes with Chitin Process, *Biochem*, 39, 1553-1559.

Sunada, K., Watanabe, T., Hashimoto, K., 2003, Studies on Photokilling of Bacteria on TiO₂ Thin Film, *J. Photochem. Photobiol. A: Chemistry*, 156, 227-233.

Ubonchonlakate, K., Sikong, L., and Saito, F., 2012, Photocatalytic disinfection of *P. aeruginosa* Bacterial Ag-Doped TiO₂ Film, *Procedia Eng.*, 32, 656-662.

Weld, J.T., and Gunther, A., 1946, *The Antibacterial Properties of Sulfur*, Departments of Pathology and Dermatology, College of Physicians and Surgeons, Columbia University, New York.

Widagdo, N.W., 2010, Studi Peningkatan Kualitas Air Menggunakan Filter Tembikar dengan Sistem Ozonisasi, Skripsi, Teknik Lingkungan, Institut Teknologi Sepuluh November (ITS).

Widiyanti, N.L.P.M., dan Ristiani, N.P., 2004, Analisis Kualitatif Bakteri Koliform pada Depo Air Minum Isi Ulang di Kota Singaraja Bali, *Jurnal Ekologi Kesehatan*, 3, 64-73.

Wu, D., You, H., Jin, D., and Li, X., 2011, Enhanced Inactivation of *Escherichia Coli* with Sg-Coated TiO₂ Thin Film Under UV-C Irradiation, *J. Photochem. Photobiol. A: Chemistry*, 217, 177-183.

Ye, X., Zheng, C., Ma, L., and Huang, X., 2015, Microemulsion-assisted Hydrothermal Preparation and Infrared Radiation Properly of TiO₂ Nanomaterials with Tunable Morphologies and Crystal Form, *Mat. Sci. Semicon. Proc.*, 31, 295-301.