

DAFTAR PUSTAKA

- Addano, M., Bellardita, M., Di Paola, A., and Palmisano, L., 2006, Preparation and Photoactivity of Nanostructured Anatase, Rutile and Brookite TiO₂ thin Films, *Chem. Commun*, 4943-4945.
- Albrecht, M.A., Evans, C.W., and Raston, C.L., 2006, Green Chemistry and The Health Implications of Nanoparticles, *Green Chem*, 8, 417.
- Al-Thabaiti, S.A., Al-Nowaiser, F.M., Obaid, A.Y., Al-Youbi, A.O., and Khan, Z., 2008, Formation and Characterization of Surfactant Stabilized Silver Nanoparticles: A Kinetic Study, *Colloid Surf. B: Biointerfaces*, 67, 230-237.
- Ariyanta, H.A., Wahyuni, S., dan Priatmoko, S., 2014, Preparasi Nanopartikel Perak dengan Metode Reduksi dan Aplikasinya sebagai Antibakteri Penyebab Infeksi, *Indones. J. Chem.*, 3(1), 1-6.
- Bakir, 2011, Pengembangan Biosintesis Nanopartikel Perak Menggunakan Air Rebusan Daun Bisbul (*Diospyros blancoi*) untuk Deteksi Ion Tembaga (II) dengan Metode Kolorimetri, *Skripsi*, Program Studi Fisika FMIPA Universitas Indonesia, Depok.
- Banfield, J.F. and Veblen, D.R., 1992, Conversion of Perovskite to Anatase and TiO₂ (B): a TEM Study and The Use of Fundamental Building Blocks for Understanding Relationship Among the TiO₂ Minerals, *Am. Mineral.*, 77, 545-557.
- Bankar, A., Joshi, B., Kumar, A. R., and Zinjarde, S., 2010, Banana peel extract mediated novel route for the synthesis of silver nanoparticles, *Colloids Surf A Physicochem Eng Asp.*, 368, 58-63.
- Blaser, S.A., Scheringer, M., MacLeod, M., and Hungerbühler, K., 2008, Estimation of Cumulative Aquatic Exposure and Risk due to Silver: Contribution of Nano-Functionalized Plastics and Textiles, *Sci. Total Environ.*, 390, 396-409.
- Castanon, G.A.M., Mendoza, J.R.M., Ruiz, F., and Hernandez, J.G., 2007, Synthesis and Optical Characterization Of Zns, Zns: Mn and (Zns:Mn)-Cds Core-Shell Nanoparticles, *Inorg. Chem. Commun*, 10, 531-534.
- Chave, T., Grunenwald, A., Ayrat, A., Lacroix-Desmazes, P., and Nikitenko, S. I., 2013, Sonochemical deposition of platinum nanoparticles on polymer beads and their transfer on the pore surface of a silica matrix, *J. Colloid Interface Sci.*, 395, 81-84.

- Chen, D., Qian, Z., Fengsan, Z., Xutao, D. and Fatang, L., 2012, Synthesis and Photocatalytic Performances of The TiO₂ Pillared Montmorillonite, *J. Hazard Mater*, 235,186-193.
- Chen, X. and Mao, S.S., 2007, Titanium Dioxide Nanomaterials: Synthesis, Properties, Modifications, and Applications, *Chem Rev.*, 10, 2891-2959.
- Chen, Y., Yang, S., Wang, K. and Lou, L., 2005, Role Of Primary Active Species and TiO₂ Surface Characteristic in UV-Illuminated Photodegradation of Acid Orange 7, *J. Hazard Mater*, 172, 47-54.
- Chen, Y.H., Yi, Y.L., Rong, H.L. and Fu, S.Y., 2009, Photocatalytic Degradation of p-phenylenediamine With TiO₂-Coated Magnetic PMMA Microspheres in an Aqueous Solution, *J. Hazard Mater*, 163, 973-981.
- Chiba, Y., Islam, A., Watanabe, Y., Komiya, R., Koide, N. and Han, L. (2006). Dye-Sensitized Solar Cells with Conversion Efficiency of 11.1%. *Jpn. J. Appl. Phys.*, 45, 638-640.
- Choi, J., Park, H., and Hoffmann, M.R., 2009, Effects of Single Metal-Ion Doping on the Visible-Light Photo-reactivity of TiO₂, *J. Phys. Chem. C.*, 114, 2, 783-792.
- Cooke, J., Hebert, D., and Kelly, J.A., 2015, Sweet Nanochemistry: A Fast, Reliable Alternative Synthesis of Yellow Colloidal Silver Nanoparticles Using Benign Reagents, *J. Chem, Educ.*, 92, 345-349.
- Das, R.K., Babu, P.J., Gogoi, N., Sharma, P., and Bora, U., 2012, Microwave-Mediated Rapid Synthesis of Gold Nanoparticles Using Calotropis Procera Latex and Study of Optical Properties, *ISRN Nanomaterials*, 2012, 1-6.
- Diantoro, M., Santana, J. dan Fuad, A., 2010, Kajian Evolusi Struktur Kristal dan Magnetodielektrisitas Senyawa Spintronik Ti_{1-x}CO_xO_{2+δ}, *Journal Sains*, 39, 21-26.
- Dong, X., Ji, X., Wu, H., Zhao, L., Li, J., and Yang, W., 2009, Shape Control of Silver Nanoparticles by Stepwise Citrate Reduction, *J. Phys. Chem. C.*, 113, 6573-6576.
- Dong, X., Ji, X., Wu, H., Zhao, L., Li, J., and Yang, W., 2009, Shape Control of Silver Nanoparticles by Stepwise Citrate Reduction, *J. Phys. Chem. C.*, 113, 6573-6576.

- Duong, T.D., Phan, N.P., and Shin, E.W., 2011, Morphological Effect of TiO₂ Catalysts on Photocatalytic Degradation of Methylene Blue, *J. Ind. Eng. Chem.*, 17, 397-400.
- El-Kheshen, A.A., and El-Rab, F.G., 2012, Effect of Reducing and Protecting Agents on Size of Silver Nanoparticles and Their Anti-Bacterial Activity, *Pharma Chem.*, 4, 53-65.
- Elsupikhe, R. F., Shameli K., and Ahmad, M.B., 2015, Effect of Ultrasonic Radiation's Times to the Control Size of Silver Nanoparticles in κ-carrageenan., *Res Chem Intermediat*, 1-10.
- Evanoff Jr., D. D. and Chumanov, G., 2004, Size-Controlled Synthesis of Nanoparticles. 1. "Silver-Only" Aqueous Suspensions via Hydrogen Reduction, *J. Phys. Chem.*, 108, 13948-13956.
- Farahmandjou, M. and Khalili, P., 2013, Study of Nano SiO₂/TiO₂ Superhydrophobic Self-Cleaning Surface Produced by Sol-Gel, *Aus. J. Basic and Appl. Sci.*, 7, 6, 462-465.
- Faried, M., Shameli, K., Miyake, M., Hara, H., and Khairuddin, N.B.A., 2015, Green Sonochemical Synthesis of Silver Nanoparticles using marine seaweed as Biopolymer Media, *Dig J Nanomater Biostruct.*, 10, 1419-1426.
- Fujishima, A., and Honda, K., 1972, Electronical Photolysis of Water at a Semiconductor Electrode, *Nature*. 238, 37.
- Fujishima, A., Hashimoto, K. and Watanabe, T., 1999, TiO₂ Photocatalysis Fundamental and Application, *Bkc. Inc.*, Tokyo, Japan.
- Fujishima, A., Zhang, X., and Tryk, D.A, 2008, TiO₂ Photocatalysis and Related Surface Phenomena, *Surf. Sci. Rep.*, 63 515-582.
- Ganesh, I., Kumar, P.P., Annapoorna, I., Sumliner, J.M., Ramakrishna, M., Hebalkar, N.Y., Padmanabham, G, and Sundararajan, G., 2014, Preparation and Characterization of Cu-doped TiO₂ Materials for Electrochemical, Photoelectrochemical, and Photocatalytic Applications., *Appl. Surf. Sci.*, 293, 229-247.
- Gao, X., Zhou, B., and Yuan, R., 2015, Doping a Metal (Ag, Al, Mn, Ni and Zn) on TiO₂ Nanotubes and Its Effect on Rhodamine B Photocatalytic Oxidation, *Environ. Eng. Res.*, 20,4.

- Garcia, C.G., Polo, A.S. and Murakami Iha, N.Y. , 2003, Photoelectrochemical Solar Cell Using Extract of Eugenia Jambolana Lam a A Natural Sensitizer, *Ann. Med. Sect. Pol. Acad. Sci*, 75, 163-165.
- Gedanken, A., Pol, G. V., and Calderon-Moreno, J., 2003, Deposition of Gold Nanoparticles on Silica Spheres: A Sonochemical Approach, 15, 1111-1118.
- Gerfin, T., Gratzel, M. and Walder, L, 1997, Molecular Level Artificial Photosynthetic Materials, *Prog. Inorg. Chem.*, 44, 345-393.
- Girginov, Ch., Stefchev, P., Vitanov, P., and Dikov, Hr., 2012, Silver Doped TiO₂ Photocatalyst for Methyl Orange Degradation, *J. Eng. Sci. Techno. Rev.*, 5, 4, 14-17.
- Gunlazuardi, J., 2001, Fotokatalisis pada Permukaan TiO₂, Aspek Fundamental dan Aplikasinya, *Pleno 6 Prosiding Seminar Kimia Fisika II*, Serpong, 1-14.
- 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.
- Guzmán, 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.
- Handayani, W., Bakir, Imawan, C., dan Purbaningsih, S., 2010, Potensi Ekstrak Beberapa Jenis Tumbuhan sebagai Agen Pereduksi untuk Biosintesis Nanopartikel Perak, *Seminar Nasional Biologi pada tanggal 24-25 September 2010*, Universitas Gadjah Mada, Yogyakarta.
- Haryono, A. dan Harmami, S. B., 2010, Aplikasi Nanopartikel Perak pada Serat Katun sebagai Produk Jadi Tekstil Antimikroba, *Jurnal Kimia Indonesia*, 5 (1), 1-6.
- Hasmiah, 2012, Penggunaan Natrium Silikat dari Bahan Dasar Abu Sekam Padi Sebagai Elektrolit Pelapis dalam Sintesis Nanopartikel Magnetit, *Skripsi*, Jurusan Kimia FMIPA Universitas Hasanuddin, Makassar.
- He, J., Ichinose, I., Kunitake, T. and Nakao, A., 2002, In situ Synthesis of Nobel Metal Nanoparticles in Ultrathin TiO₂-gel Films by a Combination of Ion-exchange and Reduction Processes, *Langmuir*, 18, 10005-10010.

- Hoffmann, M.R., Martin, S.T., Choi, W. and Bahnemann, D.W., 1995, Environmental Application of Semiconductor Photocatalysis, *Chem Rev*, 95, 69-96.
- Houas, A., Lachheb, H., Ksibi, M., Elaloui, E., Guillard, C., and Herman, M.M., 2001, Photocatalytic Degradation Pathway of Methylene Blue in Water, *App. Catal. B.*, 31, 145-157.
- Huang, H.T., and Yang, Y., 2008, Preparation of Silver Nanoparticles In Inorganic Clay Suspensions, *Compos. Sci. Technol.*, 68, 2948-2953.
- Irwan R, Zakir, M., dan Budi, P., 2016, Effect of AgNO₃ Concentration and Synthesis Temperature On Surface Plasmon Resonance (SPR) Of Silver Nanoparticles, *Ind. J. Chem. Res.*, 4, 1, 356-361.
- Khan, Z. and Talib, A., 2010, Growth of Different Morphologies (Quantum Dots to Nanorod) of Ag-Nanoparticles: Role of Cysteine Concentrations, *Colloid Surf. B: Biointerfaces*, 76, 164-169.
- Khopkar, S.M., 2007, Konsep Dasar Kimia Analitik, UI Press, Jakarta.
- Kim, Y.H., Lee, D.K., and Kang, Y.S., 2005, Synthesis and Characterization of Ag and Ag-SiO₂ Nanoparticles, *Colloids Surf., A*, 257-258, 272-276.
- Ko, S., Banerjee, C.K. and Sankar, J., 2011, Photochemical Synthesis and Photocatalytic Activity in Simulated Solar Light of Nanosized Ag Doped TiO₂ Nanoparticle Composite, *Compos. Part B-Eng.*, 42, 3, 579-583.
- Kumar, D. A., Palanichamy, V., and Roopan, S. M., 2014, Green synthesis of silver nanoparticles using *Alternanthera dentata* leaf extract at room temperature and their antimicrobial activity., *Spectrochim. Acta Mol. Biomol. Spectrosc*, 127, 168-171.
- Kumar, V., and Yadav, S. K., 2009, Plant-Mediated Synthesis of Silver and Gold Nanoparticles and heir applications, *J. Chem. Technol. Biot*, 84, 151-157.
- Kundu, S., Mandal, M., Ghosh, SK., and Pal, T., 2004, Photochemical Deposition of SERS Active Silver Nanoparticles on Silica Gel and Their Application as Catalysts for The Reduction of Aromatic Nitro Compounds, *J Colloid Interface Sci.*, 272, 134.
- Lai, Y., Huang, J., Cui, Z., Ge, M., Ke-Qin Zhang, Chen, Z., and Chi, L., 2016, Recent Advances in TiO₂-Based Nanostructured Surfaces with Controllable Wettability and Adhesion, *SMALL Journal*, 12,16, 2203-2224.

- Lee, S., and Park, S.J., 2013, TiO₂ photocatalyst for Water Treatment Applications, *J. Ind. Eng. Chem.*, 19, 1761-1769.
- Lestari, D., Wisnu, S., dan Eko, B.S., 2012, Preparasi Nanokomposit ZnO/TiO₂ Dengan Sonokimia serta Uji Aktivitasnya untuk Fotodegradasi Fenol, *Indo. J. Chem. Sci.*, 1, 1.
- Li, X.Z., Liu, H., Cheng, L.F. and Tong, H.J., 2003, Photocatalytic Oxidation Using A New Catalyst TiO₂ Microsphere for Water and Wastewater Treatment, *Environ. Sci. Technol.*, 37, 17, 3989-3994.
- Li, H.B., Zhu, Feng, Y., Wang, S., Zhang, S., and Huang, W., 2007, Synthesis, Characterization of TiO₂ Nanotubes-Supported MS (TiO₂NTs@MS, M=Cd, Zn) and their Photocatalytic Activity. *J. Solid State Chem.*, 180, 2136-2142.
- 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, X., Li, Y., and Ye Z., 2011, Preparation of Macroporous Bead Adsorbents Based Onpoly (vinyl alcohol)/Chitosan and Their Adsorption Properties for Heavy Metals From Aqueous Solution, *Chem. Eng. J.*, 8, 178, 60-68.
- Liang, J., Shen, S., Ye, S., and Ye, L., 2015, Prediction of Size Distribution of Ag Nanoparticles Synthesized via Gamma-Ray Radiolysis, *Radiat. Phys. Chem.*, 114, 5-11.
- Liang, Y.Q., Cui, Z.D., Zhu, S.L., Liu, Y., and Yang, X.J., 2010, Silver Nanoparticles Supported on TiO₂ Nanotubes as Active Catalysts for Ethanol Oxidation, *J. Catal.*, 278, 276-287.
- Linic, S., Christopher, P., and Ingram, DB., Plasmonic-Metal Nanostructures for Efficient Conversion of Solar to Chemical Energy, *Nat Mater*, 2011, 10, 911-921.
- Linsbiger, A.L., Lu, G. and Yates Jr., J.T., 1995, Photocatalysis on TiO₂ Surfaces: Principle, Mechanism, and Selected Result, *Chem Rev*, 95, 735-758.
- Lu, C., Wu, H. and Kale, R.B., 2007, Synthesis of Photocatalytic TiO₂ Thin Films via The High Pressure Crystallization Process at Low Temperatures, *J. Hazard Mater*, 147, 213-218.

- Lynch, J., Giannini, G., Cooper, J.K., Loiudice, A., Sharp, I.D., and Bousanti, R., 2015, Substitutional or Interstitial Site-Selective Nitrogen Doping in TiO₂ nanostructures, *J. Physical Chem. C*, 119, 7443-7452.
- Maiyalagan, T., 2008, Synthesis, Characterization and Electrocatalytic Activity of Silver Nanorods Towards the Reduction of Benzyl Chloride, *Applied Catalysis A: General*, 340, 191-195.
- Marambio-Jones, C., and Hoek, EMV., 2010, A Review of the Antibacterial Effects of Silver Nanomaterials and Potential Implications for Human Health and The Environment, *J Nanopart Res.*, 12, 1531-155.
- Moore, A., and Goettmann, F., 2006, The Plasmon Band in Noble Metal Nanoparticles: an Introduction to Theory and Applications, *New J. Chem*, 30, 1121-1132.
- Mugundan, S., Rajamanna, B., Viruthagiri, G., Shanmugam, N., Gobi, R., and Praveen, P., 2015, Synthesis and Characterization of Undoped and Cobalt Doped TiO₂ Nanoparticles Via Sol-Gel Technique, *Appl. Nano. Sci*, 5, 449-456.
- Mukherjee, P., Ahmad, A., Mandal, D., Senapati, S., Sainkar, S. R., Khan, K., I., Parishcha, R., Ajaykumar, P. V., Alam, Mansoor., Kumar, Rajiv., and Sastry, Murali., 2001, Fungus-Mediated Synthesis of Silver Nanoparticles and Their Immobilization in the Mycelial Matrix: A Novel Biological, *Nano Lett*, 1, 10.
- Nino-Martinez, N., Martinez-Castanon, G.A., Aragon-Pina, A., MartinezGutierrez, F., Martinez-Mendoza, J.R. and Ruiz, F., 2008, Characterization of Silver Nanoparticles Synthesized on Titanium Dioxide Fine Particles, *Nanotechnology*, 19, 6, 1-8.
- Oliviera, E.C., Deflon, E., Machado, K.D., Silva, T.G., and Mangrich, A.S., 2012, Structural, Vibrational, and Optical Studies On an Amorphous Se90P10 Alloy Produced by Mechanical Alloying, *J. Phys Condens. Matter.*, 24, 115802.
- Parasmayanti, F., 2013, Pengaruh Lama Sonikasi Pada Pembuatan Film PANI-Ag/Ni Terhadap Kristalinitas dan Konduktivitasnya, *Skripsi*, Program Studi Fisika, Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Negeri Malang.
- Peerakiatkhajohn, P., Onreabroy, W., Chawengkijwanich, C. and Chiarakorn, S., 2011, Preparation of Visible-Light-Responsive TiO₂ Doped Ag Thin Film on PET Plastic for BTEX Treatment, *Int. j. renew. energy environ. eng.*, 2, 12.

- Ramasamy, S., Ntho, T., Witcomb, M. and Scurr, M., 2009, Co Oxidation over Anatase TiO₂ Supported Au: Effect of Nitrogen Doping, *Catal Lett.*, 130, 341-349.
- Rastegarzadeh, S., and Hashemi, F., 2014, A Surface Plasmon Resonance Sensing Method for Determining Captopril based on in situ Formation of Silver Nanoparticles using Ascorbic Acid, *Spectrochim. Acta, Part A*, 122, 536-541.
- Salthammer, T. and Fuhrmann, F., 2007, Photocatalytic Surface Reactions on Indoor Wall Paint, *Environ. Sci. Technol.*, 41, 6573-6578.
- Sangchaya, W., Sikonga, L. and Kooptarnonda, K., 2012, Comparison of Photocatalytic Reaction of Commercial P25 and Synthetic TiO₂-AgCl Nanoparticles, *Procedia Eng.*, 32, 590-596.
- Sartep, Z., Pirbazari, A. E., and Aroon, M. A., 2016, Silver Doped TiO₂ Nanoparticles: Preparation, Characterization and Efficient Degradation of 2,4-dichlorophenol Under Visible Light, *J. Water Environ. Nanotechnol.*, 1,2, 135-144.
- Sastrohamidjojo, H., 1991, *Spektroskopi Inframerah*, cetakan pertama, Liberty, Yogyakarta.
- Sastrohamidjojo, H., 2007, *Spektroskopi*, Edisi ketiga, Liberty, Yogyakarta.
- Seery, M.K., George, R., Floris, P and Pillai, S.C., 2007, Silver Doped Titanium Dioxide Nanomaterials for Enhanced Visible Light Photocatalysis, *J. Photoch. Photobio. A*, 189, 258-263.
- Sharma, V.K., Ria A. Y, and Yekaterina L., 2009, Silver Nanoparticles: Green Synthesis and Their Antimicrobial Activities, *Adv. Colloid Interface Sci.*, 145, 83-96.
- Shrivastava, K., Shankar, R., and Dewangan, K., 2015, Gold Nanoparticles as a Localized Surface Plasmon Resonance based Chemical Sensor for On-Site Colorimetric Detection of Arsenic in Water Samples, *Sens. Actuators, B*, 220, 1376-1383.
- Šileikaitė, A., Puišo, J., Prosyčėvas, I., and Tamulevičius, S., 2009, Investigation of Silver Nanoparticles Formation Kinetics during Reduction of Silver Nitrate with Sodium Citrate, *Mater Sci. (Medžiagotyra)*, 15, 1, 21-27.

- Singha, D., Barman, N., and Sahu, K., 2014, A Facile Synthesis of High Optical Quality Silver Nanoparticles by Ascorbic Acid Reduction in Reverse Micelles at Room Temperature, *J. Colloid Interface Sci.*, 413, 37-42.
- Sobana, N., Muruganadham, M., and Swaminathan, M., 2006, Nano-Ag Particles Doped TiO₂ for Efficient Photodegradation of Direct Azo Dyes, *J. Mol. Catal. A: Chem.*, 9, 258, 124-132.
- Solano-Ruiz, E.; Berru, R. S.; Flores, J. O.; and Saniger, J.M., Synthesis of silver nanoparticles induced reduction. Application in SERS, *J. Nanopart. Res.*, 2010, 9, 67-81.
- Spurr, R., and Myers, H., 1957, Quantitative Analysis of Anatase-Rutile Mixtures with an X-Ray Diffractometer, *Anal. Chem.*, 29, 760-762.
- Stuart, B., 2004, Infrared Spectroscopy: Fundamentals and Applications. John Wiley and Sons, NewYork.
- Sun, L., Li, J., Wang, C., Li, S., Lai, Y., Chen, H. and Lin, C., 2009, Ultrasound aided Photochemical Synthesis of Ag Loaded TiO₂ Nanotube Arrays to Enhance Photocatalytic Activity, *J. Hazard. Mater.*, 171, 1045-1050.
- Suwankar, M. B., Dhabbe, R. S., Kadam, A. N., and Garadkar, K. M., 2014, Enhanced photocatalytic activity of Ag doped TiO₂ nanoparticles synthesized by a microwave assisted method, *Ceram. Int.*, 40(4), 5489-5496.
- Tahta, Malik, A. B. dan Darminto, 2012, Sintesis dan Karakterisasi XRD Multiferroik BiFeO₃ Didoping Pb, *Jurnal Sains dan Seni ITS*, 1, B81-B86.
- Tian, B., Donga, R., Zhang, J., Bao, S., Yang, F., and Zhang, J., 2014, Sandwich-structured AgCl@Ag@TiO₂ with Excellent Visible-Light Photocatalytic Activity for Organic Pollutant Degradation and E. Coli K12 Inactivation, *Appl. Catal., B.*, 158-159, 76-84.
- Timuda, GE., 2009, Sintesis Nanopartikel TiO₂ dengan Metode Sonokimia Untuk Aplikasi Sel Surya Tersensitasi Dye Menggunakan Ekstrak Kulit Buah Manggis dan Plum sebagai Photosensitizer, *Tesis*, Fakultas Matematika dan Ilmu Pengetahuan Alam, Institut Pertanian Bogor.
- Tripathi, S., Mehrotra, G. K., and Dutta, P. K., 2011, Chitosan-Silver-Oxide Nanocomposite Film; Preparation and Antimicrobial Activity. *Bull. Mater. Sci.*, 34, 1, 29-35.
- Vanaja, M., Paulkumar, K., Baburaja, M., Rajeshkumar, S., Gnanajobitha, G., Malarkodi, C., Sivakavinesan, M., and Annadurai, G., 2014, Degradation

of Methylene Blue Using Biologically Synthesized Silver Nanoparticles, *Bioinorg Chem Appl.*, 8.

- Wade, J., 2005, An Investigation of TiO₂-ZnFe₂O₄ Nanocomposites for Visible Light Photocatalysis, *Thesis*, Science in Electrical Engineering Departement of Electrical Engineering, Collage of Engineering University of South Florida.
- Wang, P., Wang, D., Xie T., Li, H., Yang, M and Wei, X., 2008, Preparation of Monodisperse Ag/Anatase TiO₂ Core-Shell Nanoparticles, *Mater. Chem. Phys.*, 109, 181-183.
- Wankhede, Y. B., Bahirwar, B. M., Kondawar, S. B., Agone, P. G., 2013, Synthesis and Characterization of Ultrasonicated Silver Nanoparticles Embedded Conducting Polymer Nanocomposites, *Int J Sci Res.* , 4, 438.
- Wolfrum, E.J., Huang, J., M., Blake, D.M., Mannes, P.C., Huang, Z., Fiest, J. and Jacoby, W.A., 2002, Photocatalytic Oxidation of Bacteria, Bacterial and fungal pores, and Model Biofilm Components to Carbon Dioxide on Titanium Dioxide-Coated Surfaces, *Environ. Sci. Technol.*, 36, 3142-3419.
- Wu, C.H., and Chern, J.M., 2006, Kinetics of Photocatalytic Decomposition of Methylene Blue, *Ind. Eng. Chem. Res.*, 45, 6450-6457.
- Wunderlich, W., Oekermann, T., Miao, L., Hue N.T., Tanemura, S. and Tanemura, M., 2004, An Overview of Semiconductor Photocatalysis, *J. Ceram. Process. Res.*, 4, 342.
- Xiong, D.J., Chen, M.L., and Li, H., 2008, Synthesis of *Para*-Sulfonatocalix [4] Arene-Modified Silver Nanoparticles as Colorimetric Histidine Probes, *Chem. Commun.*, 880.
- Yang, L., Wang, F., Shu, C., Liu, P., Zhang, W. and Hu, S., 2016, An in-situ synthesis of Ag/AgCl/TiO₂/hierarchical Porous Magnesian Material and its Photocatalytic Performance, *Sci. Rep.*, 6, 21617.
- Yeniyol, S., He, Z., Yüksel, B., Boylan, R. J., Ürgen, M., Özdemir, T., and Ricci, J. L., 2014, Antibacterial Activity of As-Annealed TiO₂ Nanotubes Doped with Ag Nanoparticles against Periodontal Pathogens, *Bioinorg Chem Appl.*, 8.
- Yeo, S.Y., Lee, H.J. and Jeong, S.H., 2003, Preparation of Nanocomposite Fibers for Permanent Antibacterial Effect, *J. Material Sci.*, 38, 2143-2147.

- Yu, J., Wu, L., Lin, J., Li, P. and Li, Q., 2003, Microemulsion-Mediated Solvothermal Synthesis of Nanosized CdS-Sensitized TiO₂ Crystalline Photocatalyst, *Chem. Commun.*, 13, 1552-1553.
- Yu, J., Zhou, M., Cheng, B., Yu, H. and Zhao, X., 2004, Ultrasonic Preparation of Mesoporous Titanium Dioxide Nanocrystalline Photocatalysts and Evaluation of Photocatalytic Activity, *J. Mol. Catal.*, 227, 75-80.
- Yulianti, I.A., 2011, Sintesis Material Mesopori Ti-MCM-41 serta Pengujian Aktivasnya Pada Fotodegradasi Metilen Biru, *Tesis*, Magister Program, Chemistry Department, Faculty of Mathematics and Natural Science, Universitas Gadjah Mada, Yogyakarta.