

DAFTAR PUSTAKA

- Aizawa, M., Nosaka, Y., Fujii, N., 1991, **FT-IR Liquid Attenuated Total Reflection Study of TiO₂-SiO₂ Sol-Gel Reaction**, *Journal of Non-Crystalline Solid*. Vol 128, Hal. 77-85
- Akarsu, M., Asiltürk, M., Sayilkan, F., Kiraz, N., Arpac, E., and Sayilkan, H., 2006, **A Novel Approach to the Hydrothermal Synthesis of Anatase Titania Nanoparticles and the Photocatalytic Degradation of Rhodamine B**, *Turkish Journal of Chemistry*, Vol. 30, Hal. 333-343
- Ashurst, J., Dimes, F. J., 1998, *Coservation Building and Decorative Stone, Second Edition*, Elsevier, Ltd., Oxford
- Bhushan, B., Jung Y. C., 2011, **Natural and Biomimetic Artificial Surfaces For Superhydrophobicity, Self-Cleaning, Low Adhesion, and Drag Reduction**, *Journal of Progress in Materials Science*, Vol. 56, Hal.1-108
- Brenner, T. M., Flores, T. A., Ndione. P. F., Meinig, E.P., Chen, G., Olson, D. C., Furtak, T. E., Collins, R. T., **Etch-Resistant Zn_{1-x}Mg_xO Alloys: An Alternative to ZnO for Carboxylic Acid Surface Modification**, *Journal of Physical Chemistry*, Vol. 118 (24), Hal. 12599-12607
- Chun, H., Park, S., You, S., Kang, G., Bae, W., Kim, K., Park, J., Öztürk, A., and Shin, D., 2009, **Preparation of A Transparent Hydrophilic TiO₂ Thin Film Photocatalyst**, *Journal of Ceramic Processing Research*, Vol. 10, Hal. 219-223
- Daoud, W. A., 2013, *Self-Cleaning Materials and Surfaces : A Nanotechnology Approach*, John Wiley and Sons, Ltd., United Kingdom
- Dash, B., 2010, *Competitive Adsorption of Dyes (Congo Red, Methylene Blue, Malachite Green) on Activated Carbon*, Thesis, Department Of Chemical Engineering National Institute Of Technology, Rourkela, India
- Doehne, E., and Price, C. A., 2010, *Stone Conservatiom : An Overview of Current Research, Second Edition*, The Getty Conservation Institute, Los Angeles
- Fatimah, I., Alawiyah, T., Sumarlan, I., 2013, **Preparasi Fe³⁺/TiO₂ Montmorillonit Sebagai Katalis Pada Degradasi Zat Warna Azo**, *Reaktor*, Vol. 14, Hal. 255-260

- Fox, M. A., Dulay, M. T., 1993, **Heterogeneous Photocatalysis**, *Journal of American Chemical Society*, Vol. 93, Hal. 341-357
- Gurav, A. B., Xu, Q., Latthe, S. S., Vhatkar, R.S., Liu, S., Yoon, H., Yoon, S.S., 2014, **Superhydrophobic Coatings Prepared From Methylmodified Silica Particles Using Simple Dip-Coating Method**, *Manuscript, Journal of Ceramics International*
- Harbowo, D. G., 2011, **Pengaruh Limbah Cair Perawatan Candi Borobudur Terhadap Fisiologis Ikan Mas (*Cyprinus caprio*)**, *Jurnal Konservasi Cagar Budaya Borobudur*, Vol. 5, Hal. 13-20
- Hong, J., He, Y., 2014, **Polyvinylidene Fluoride Ultrafiltration Membrane Blended with Nano-Zno Particle For Photo-Catalysis Self-Cleaning**, *Journal of Desalination*, Vol. 332, Hal. 67-75
- Hoffmann, M. R., Martin, S. T., Choi, W. and Bahnemann, D.W., 1995, **Environmental Application of Semiconductor Photocatalysis**, *Chemical Reviews*, Vol. 95; Hal. 69-96.
- Illecas, J. F., Mosquera, M. J., 2012, **Producing Surfactant-Synthesized Nanomaterials In Situ on a Building Substrate, without Volatile Organic Compounds**, *American Chemical Society Journal*, Vol. 4, Hal. 4259-4269
- Ishihara Sangyo Kaisha, Ltd., *Functional Material*, didapat dari : <<http://www.iskweb.co.jp/eng/products/functional05.html>> [diakses pada 01 November 2014]
- Ismail, A. A., Bouzid, H., 2013, **Synthesis of Mesoporous Ceria/Titania Thin Films for Self-Cleaning Applications**, *Journal of Colloid and Interface Science*, Vol. 404, Hal. 127-134
- Kesmez, O., Camurlu, H. E., Burunkaya, E., Arpac, E., 2009, **Sol-Gel Preparation and Characterization of Anti-Reflective And Self-Cleaning SiO₂-TiO₂ Double-Layer Nanometric Films**, *Journal of Solar Energy Materials & Solar Cells*, Vol. 93, Hal. 1833-1839
- Lestari, Y. D., Wardhani, S., Khunur, M. M., 2015, **Degradasi Methylene Blue Menggunakan Fotokatalis TiO₂-N/Zeolit Dengan Sinar Matahari**, *Kimia.Student Journal Universitas Brawijaya*, Vol. 1, Hal. 592-598

- Li, F., Li, Q., Kima, H., 2013, **Spray Deposition of Electrospun TiO₂ Nanoparticles with Self-Cleaning and Transparent Properties Onto Glass**, *Journal of Applied Surface Science*, Vol. 276, Hal. 390– 396
- Li, K., Zeng, X., Li, H., Lai, X., Xie H, 2014, **Effects of Calcination Temperature on The Microstructure And Wetting Behavior of Superhydrophobic Polydimethylsiloxane/Silica Coating**, *Colloids and Surfaces A: Physicochem. Eng. Aspects Journal*, Vol. 445, Hal. 111-118
- Li, X., Reinhoudt, D., Crego-Calama, M., 2007, *What Do We Need For a Superhydrophobic Surface? A Review on The Recent Progress in The Preparation of Superhydrophobic Surfaces*, *Royal Society of Chemistry Journal*, Vol. 36, Hal 1350-1368
- Mosquera¹, M. J., Santos, D. M. D., Rivas, T., Sanmartin, P., and Silva, B., 2009, **New Material for Protecting and Consolidating Stone**, *Journal of Nano Research*, Vol. 8, Hal. 1-12
- Mosquera², M. J., Santos, D. M. D., Valdez-Castro, L., Esquivias, L., 2008, **New route for producing crack-free xerogel: Obtaining uniform pore size**, *Journal of Non-Crystalline Solids*, Vol. 354, Hal. 645-650
- Nakamoto, K., 1986, *Infrared and Raman Spectra of Inorganic and Coordination Compounds, Fourth Edition*, John Wiley and Sons, Inc., USA
- Pakdel¹, E., Daoud, W. A., 2013, **Self-Cleaning Cotton Functionalized With TiO₂/SiO₂: Focus on The Role of Silica**, *Journal of Colloid and Interface Science*, Vol. 401, Hal. 1–7
- Pakdel², E., Daoud, W.A., Wang, X., 2013, **Self-Cleaning and Superhydrophilic Wool by TiO₂/SiO₂ Nanocomposite**, *Journal of Applied Surface Science*, Vol. 275, Hal. 397– 402
- Pinho¹, L., Elhaddad, F., Facio, D. S., Mosquera, M. J., 2013, **A Novel TiO₂–SiO₂ Nanocomposite Converts a Very Friable Stone Into a Self-Cleaning Building Material**, *Journal of Applied Surface Science*, Vol. 275, Hal. 389– 396
- Pinho², L., Rojas, M., Mosquera, M. J., 2014, **Ag-SiO₂–TiO₂ Nanocomposite Coatings with Enhanced Photoactivity for Self-Cleaning Application On Building Materials**, Manuscript, *Journal of Applied Catalysis B: Environmental*

- Quagliarini¹, E., Bondiolib, F., Goffredoa, G. B., Licciulli, A., Munafò, P., 2013, **Self-Cleaning Materials on Architectural Heritage: Compatibility of Photo-Induced Hydrophilicity of TiO₂ Coatings on Stone Surfaces**, *Journal of Cultural Heritage*, Vol. 14, Hal 1–7
- Quagliarini², E., Bondiolib, F., Goffredoa, G. B., Licciulli, A., Munafò, P., 2012, **Smart Surfaces for Architectural Heritage: Preliminary Results About The Application of TiO₂-Based Coatings on Travertine**, *Journal of Cultural Heritage*, Vol. 13, Hal. 204–209
- Rahaq, Y., Wang, H., Kumar, V., 2014, **Fabricating The Solution-Processable Inverted Photovoltaic Devices by The Dip-Coating Method**, *Journal of Organic Electronics*, Vol. 15, Hal. 984–990
- Rahmawati, I. D., 2011, **Penggunaan Ion Kompleks [Fe(SCN)]²⁺ Berpendukung Titanium Silikat (TS-1) pada Degradasi Fotokatalitik Congo Red**, *Skripsi*, UNAIR, Surabaya
- Rissa, L. V., Priatmoko, S., Harjito, 2012, **Sintesis Lapis Tipis Berbasis Nanopartikel Titania Termodifikasi Silika secara Sol-gel Sebagai Bahan Antifogging**, *Jurnal MIPA Unnes*, Vol. 35, Hal. 57-65
- Saif¹, M., El-Molla, S. A., Aboul-Fotouh, S. M. K., Hafez, H., Ibrahim, M. M., Abdel-Mottaleb, M. S. A., Ismail, L. F. M., 2013, **Synthesis of Highly Active Thin Film Based on TiO₂ Nanomaterial for Self-Cleaning Application**, *Journal of Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, Vol. 112, Hal. 46–51
- Saif², M., El-Molla, S. A., Aboul-Fotouh, S. M. K., Ibrahim, M. M., Ismail, L. F. M., Dahn, D. C., 2014. **Nanostructured Gd³⁺-TiO₂ Surfaces for Self-Cleaning Application**, *Journal of Molecular Structure*, Vol. 1067, Hal. 120–126
- Sas, I., Gorga, R. E., Joines, J. A., Thoney, K. A., 2012, **Literature Review on Superhydrophobic Self-Cleaning Surfaces Produced by Electrospinning**, *Journal of Polymer Science*, Hal. 1-22
- Shirgholami, M. A., Nazari, A., Mirjalili, M., 2014, **Statistical Optimization of Self-Cleaning Technology and Color Reduction in Wool Fabric by Nano Zinc Oxide and Eco-Friendly Cross-Linker**, Springer-Verlag Berlin Heidelberg
- Sikong, L., Masaea, M., Kooptarnonda, K., Taweepredab, W., Saitoc, F., 2012, **Improvement Of Hydrophilic Property of Rubber Dipping Former**

- Surface with Ni/B/TiO₂ Nano-Composite Film**, *Applied Surface Science Journal*, Vol. 258, Hal. 4436-4443
- Skoog, D. A., West, D. M., 1980, *Principle of Instrumental Analysis, Second Edition*, Saunders College, Philadelphia
- Sulasmono, B., 2012., **Studi Komparasi Pengaruh Dispersant Terhadap Stabilitas Suspensi dan Sifat Hidrofilik Nanopartikel TiO₂ Berbasis Air.**, *Tesis*, UI, Depok
- Sunardi., Irawati U., Sybianti N. R., 2012, **Syntesis And Characterization Kaolin-TiO₂ Composite as A Photocatalyst for Degradation of Rhodamine B Dye**, *Jurnal Sains dan Terapan Kimia*, Vol.6, Hal. 118 - 129
- Tadanaga, K., Katata, N., Minami, T., 1997, **Super-Water-Repellent Al₂O₃ Coating Film with High Transparency**, *Journal of the American Ceramic Society*, Vol. 80, Hal. 1040
- Tait, J. G., Rand, B. P., Heremans, P., 2013, **Concurrently Pumped Ultrasonic Spray Coating for Donor:Acceptor and Thickness Optimization of Organic Solar Cells**, *Journal of Organic Electronics*, Vol. 14, Hal. 1002–1008
- Thompson, C. S., Fleming, R. A., .Zou, M., 2013, **Transparent Self Cleaning and Antifogging Silica Nanoparticle Films**, *Journal of Solar Energy Materials & Solar Cells*, Vol. 115, Hal. 108–113
- Tryba, B., Piszcz, M., and Morawski, A. W., 2010, **Photocatalytic and Self-Cleaning Properties of Ag-Doped TiO₂**, *The Open Materials Science Journal*, Vol. 4, Hal. 5-8
- Vasconcelos, D, C, L., Costa, V, C., Nunes, E, H, M., Sabioni, A, C, S., Gasparon, M., Vasconcelos, W, L., 2011, **Infrared Spectroscopy of Titania Sol-Gel Coatings on 316L Stainless Steel**, *Material Sciences and Application Journal*, Vol. 2, Hal. 1375-1382
- Wang, J., Lu, C., Xiong, J., 2014, **Self-Cleaning And Depollution of Fiber Reinforced Cement Materials Modified by Neutral TiO₂/SiO₂ Hydrosol Photoactive Coatings**, *Article in Press, Journal of Applied Surface Science*
- Wang, P., Wang, d., Li, H., Xie, t., Wang, H., Du, Z., 2007, **A Facile Solution-Phase Synthesis of High Quality Water-Soluble Anatase TiO₂ Nanocrystals**, *Journal of Colloid and Interface Science*. Vol. 347, Hal. 337-340

- Wheeler, G., 2005, *Alkoxysilanes and The Consolidations of Stone*, The Getty Conservations Intitute., California
- Widihati, I. A. G., Diantariani, N. P., dan Nikmah, Y. H., 2011, **Fotodegradasi Metilen Biru dengan Sinar UV dan Katalis Al_2O_3** , *Jurnal Kimia*, Vol. 1, Hal. 31-42
- Widodo, S., 2010, **Teknologi Sol Gel Pada Pembuatan Nano Kristalin Metal Oksida Untuk Aplikasi Sensor Gas**, Seminar Rekayasa Kimia dan Proses, Universitas Diponegoro, Semarang
- Wiguna, E. N., 2011, **Rekayasa Film TiO_2 untuk Kaca Helm Anti Kabut**, *Skripsi*, UI, Depok
- Yavus, H., 2011, **Effect Of Freeze–Thaw And Thermal Shock Weathering On The Physical And Mechanical Properties Of An Andesite Stone**, *Bull Eng Geol Environ*, Vol. 70, Hal. 187-192
- Yuan, Y., Lee, T. R., 2013, *Surface Science Techniques*, Springer-Verlag Berlin Heidelberg, New York, Vol. 51, Hal. 3-34
- Zohoori, S., Karimi, L., Nazari, A., 2014, **Photocatalytic Self-cleaning Synergism Optimization of Cotton Fabric using Nano $SrTiO_3$ and Nano TiO_2** , *Fibres & Textils in Eastern Europe*, Vol. 22, Hal. 104