

DAFTAR PUSTAKA

- Abdulloh, Purkan, Hardiansyah, N., 2017, Preparasi Dan Karakterisasi α - Fe_2O_3 /Zeolit Y Untuk Reaksi Perengkahan Asam Palmitat, *Jurnal Kimia Riset*, **2**, 57-64
- Abnisa, F., and Daud, W. M., 2014, A Review on Co-Pyrolysis of Biomass: An Optional Technique to Obtain A High-Grade Pyrolysis Oil. *Energy Conversion And Management*, **87**, 71-85
- Anam, C., 2007, *Analisis Gugus Fungsi Pada Sampel Uji, Bensin dan Spiritus Menggunakan Spektroskopi FTIR*, Laboratorium Fisika Atom & Nuklir, Fakultas MIPA
- Anand, B. P., and Srinivasan, C. A., 2010, Performance and Exhaust Emission of Turpentine Oil Powered Direct Injection Diesel Engine, *Renewable Energy*, **35**, 1179-1184
- Anggraeni, W., Manurung, P., 2014, *Sintesis Dan Karakterisasi ZrO_3 -CuO Sebagai Fungsi Perbandingan Mol*, Laporan Penelitian, Universitas Lampung Bandar, Lampung
- Apreutesei, R., Catrinescu, C., & Teodosiu, C., 2008, Surfactant-Modified Natural Zeolites for Environmental Applications In Water Purification, *Journal of Environmental Engineering And Management*, **7**, 149-161
- Arryanto, Y. S., 2011, Zeolit Dan Masa Depan Bangsa: Roadmap Revitalisasi Peranan Zeolit
- Atkins P. W., 2010, *Physical Chemistry, 9th edition*, W. H. Freeman and Company, New York
- Augustine, R., 1996, *Heterogeneous Catalysis For The Synthetic Chemist*, Marcel Dekker Inc, New York
- Banon, C., dan Suharto, E., 2008, Adsorpsi Amoniak Oleh Adsorben Zeolit Alam yang Diaktivasi Dengan Larutan Amonium Nitrat, *Jurnal Gradien*, **4**
- Bansal, V., Rautaray, D.I Bharde, A., Ahire, K., Sanyal, A., Ahmad, A., and Sastry, M., 2005, J. Mater, *Chem.*, **15**, 2583-2589
- Botianovi, A., 2012, *Modifikasi Zeolit Alam Malang Dari Mikropori Ke Mesopori Dengan Penambahan Surfaktan CtaBr (Cetyltrimethylammoniumbromide)*, UIN Maulana Malik Ibrahim, Jurusan Kimia Fakultas Sains Dan Teknologi, Malang
- Brahmana, H. D., & Ginting, M., 1998, *Pemanfaatan Asam Lemak Bebas Minyak Kelapa Sawit dan Inti Sawit Dalam Pembuatan Nilon 99 dan Ester Sorbitol Asam Lemak*, Dewan Riset Nasional, Jakarta
- Cheetam, D. A., 1992, *Solid State Compound*, Oxford University Press, England

- Chen, H., Chiang, T., Wu, M., 2012, Evolution of Morphology of Nano-Scale CuO Grown on Copper Metal Sheets in 5 wt% NaClNaCl Solution of Spray Environment, *Journal of Surface Engineered Materials and Advanced Technology*, **2**, 278-283
- Christian, G. D., 1994, *Analytical Chemistry, Edisi Kelima*, John Wiley & Sons Inc, New York
- Clark, P. A., and Oyama, S. T., 2003, Alumina-Supported Molybdenum Phosphide Hydroprocessing Catalysts. *Journal of Catalysis*, **218**, 78-87
- Cleveland, C., and Szostak, R., 2011, *Cracking*, The Encyclopedia of Earth
- Citra A.A., Kinanti dan Irmina K., Murwani., 2012, Pengamatan Struktur CuO/CaF₂ dengan Berbagai Loading Cu, *Jurnal Sains dan Seni ITS*, **1**, 1-4
- Dewi, W.U., 2017, Evaluasi Kinetika Dekomposisi Termal Propelan Komposit AP/HTPB Dengan Metode Kissinger, Flynn Wall Ozawa dan Coats-Redfren, *Jurnal Teknologi Dirgantara*, Bogor, **15**, 115-132
- Dyer, A., 1988, *An Introduction to Zeolite Molecular Sieves*, John Wiley And Sons Ltd, England Chichester
- Eisenberg, D., and Crothers, D., 1979, *Physical Chemistry With Application to The Life Sciences*, The Benjamin/Cumming Publishing Company Inc, California
- Emeis, C.A., 1993, Determination of Integrated Molar Extinction Coefficients for Infrared Absorption of Pyridine Adsorbed on Solid Acid Catalysts, *Journal of Catalysist*, **141**, 347-354
- Erlina, N.O., Analia, S., Nurul, S.K., 2013, *Preparasi, Modifikasi dan Karakterisasi Katalis Bifungsional Sn-H-Zeolit Alam Malang*, Jurnal Kimia Fakultas Sains dan Teknologi UIN Maulana Malik Ibrahim Malang, **2**, 154-161
- ESDM, T. K., 2018, *Kementerian Energi Dan Sumber Daya Mineral Republik Indonesia*, Diambil Kembali Dari Mengenal Standar Emisi Gas Buang Standar Eropa: <https://www.esdm.go.id/id/media-center/arsip-berita/mengenal-standar-emisi-gas-buang-standar-eropa> (Diakses tanggal 11 Oktober 2018)
- Farouq, A.Twaiq, A. N., and Subhashbhatia, 2003, Catalytic Conversion of Palm Oil Over Meso Porousaluminosilicate MCM 41 for The Production of Liquid Hydrocarbon Fuel, Fuel Processing Technology, *Elsevier Science B.V.*, **84**, 105-120
- Fessenden, R. J., dan Fessenden, J. S., 1986, *Kimia Organik Jilid Kedua* (3rd Ed.), (A. T. Alih Bahasa Pudjaatmaka, Penerj.), Penerbit Erlangga, Jakarta
- Fiolida, I.A.S, 2016, *Preparasi Dan Karakterisasi Komposit CuO-Zeolit Alam Untuk Fotodegradasi Zat Warna Rhodamin B Dengan Sinar Ultraviolet*,

Universitas Negeri Yogyakarta, Fakultas Matematika Dan Ilmu Pengetahuan Alam, Yogyakarta

- Forsyth, J. B., and Hull, S., 1991, The Effect of Hydrostatic Pressure on The Ambient Temperature Structure of CuO, *Journal of Physics*, **3**(28), 5257
- Geidel, E., Lechert, H., Dobler, J., Jobic, H., Calzaferri, G., and Bauer, F., 2003, Characterization of Mesoporous Materials by Vibrational Spectroscopic Techniques, *Microporous and Mesoporous Material*, **65**(1), 31-42
- Ghane, M., Sadeghi, B., Jafari, A. R., and Paknejhad, A. R., 2010, Synthesis and Characterization of A Bi-Oxide Nanoparticle ZnO/CuO by Thermal Decomposition of Oxalate Precursor Method, *International Journal of Nano Dimension*, **1**(1), 33-40
- Giancoli, D. C., 2001, *Fisika Jilid 2*, (Y. H. Edition, Penerj.), Penerbit Erlangga, Jakarta
- Guinset, M., Gnep, N.S., Morin, S., 2000, Mechanism of Xylene Isomerization Over Acidic Solid Catalysts, *Microporous and Mesoporous Materials*, **35-36**, 47-59
- Gunlazuardi, J., and Lindu, W. A., 2005, Photocatalytic Degradation of Pentachlorophenol in Aqueous Solution Employing Immobilized TiO₂ Supported on Titanium Metal, *Journal of Photochemistry and Photobiology A: Chemistry*, **173**(1), 51-55
- Handoko, D., 2002, Preparasi Katalis Cr/Zeolit Melalui Zeolit Alam, *Ilmu Dasar*, **3**, 15-23
- Handoko, D. S., 2009, Aktivitas Katalis Ni/Zeolit Pada Konversi Katalitik Metil Ester Minyak Goreng Jelantah (MEWCO) Pada Temperatur 450 °C Menjadi Senyawa Fraksi Bahan Bakar, *Jurnal ILMU DASAR*, **8**(1), 1-13
- Hashemian, S., Hosseini, S. H., Salehifar, H., and Salari, K., 2013, Adsorption of Fe (III) From Aqueous Solution by Linde Type-A Zeolite, *American Journal Of Analytical Chemistry*, **4**(7), 123
- Hendayana, S., 2006, *Kimia Pemisahan Metode Kromatografi Dan Elektroforesis Modern*, PT. Remaja Rosdakarya, Bandung
- Higton, A., Clemmet, M., Golding, E., Jones, A.V., 1999, *Access to Chemistry*, Royal Society of Chemistry, Nottingham UK
- Hisham, M., Moustafa, E., and Ehab, A., 2012, Synthesis of Mordenite Zeolite in Absence of Organic Template, *Powder Technol*, **23**, 757-760
- Holleman, L. W., 1970, *Kimia Organik*, (A. A. Djohari, Penerj.) Penerbit Universitas Indonesia, Jakarta

- Huber, G. W., and Corma, A., 2007, Synergies Between Bio-And Oil Refineries For The Production of Fuels From Biomass, *Angewandte Chemie International Edition*, **46**(38), 7184-7201
- Irmawati Syahrir, 2009, Proses Perengkahan Asam Oleat Basis Minyak Sawit Menjadi fraksi Gasoline Dengan Katalis HZSM-5, *Jurnal Teknik Kimia*, **3**(2)
- Jacobs, W. P., Demuth, D.G., Schunk S. A., and Schüth F., 1997, Orientation of The Acidity Probes Benzene, Acetonitrile and Pyridine In SAPO-5 And Gaapo-5 Molecular Sieves: An FTIR Microscopy Study, *Microporous Materials*, **10**, 95–109
- Jamaluddin, A. M., & Tahir, D., 2016, Analisis Kandungan Logam Oksida Menggunakan Metode XRF (X-Ray Fluorescence), *Jurnal Geofisika FMIPA Universitas Hasanuddin*
- Jamaludin, A., & Adiantoro, D., 2012, Analisis Kerusakan X-Ray Fluorescence, *Pusat Teknologi Bahan Bakar Nuklir*, 1979-2409
- Ketaren, S., 1986, *Pengantar Teknologi Minyak Dan Lemak Pangan* (1st Ed.), UI-Press, Jakarta
- Khabib, I., 2013, *Studi Deaktivasi Dan Regenerasi Katalis Ni/ZA Pada Reaksi Perengkahan Polipropena*, Universitas Negeri Semarang, Fakultas Matematika Dan Ilmu Pengetahuan Alam, Semarang
- Kimura, S., Isobe, N., Wada, M., Kuga, S., Ko, J., & Kim, U., 2011, Enzymatic Hydrolysis of Chitosan-Dialdehyde Cellulose Hydrogels, *Carbohydrate Polymers*, **83**(4), 1850
- Kubicka, D., & Kaluza, L., 2010, Deoxygenation of Vegetable Oils Over Sulfided Ni, Mo And Ni-Mo Catalysts, *Applied Catalysis A: General*, **372**(2), 199-208
- Layman, K. A., Ivey, M. M., & Hemminger, J. C., 2003, Pyridine Adsorption And Acid/Base Complex Formation On Ultrathin Films of α -Al₂O₃ on Ni-Al, *The Journal of Physical Chemistry*, **107**(33), 8538-8546
- Leofanti, G., Tozzola, G., Padovan, M., Petrini, G., Bordiga, S., & Zecchina, A., 1997, Catalyst Characterization: Characterization Techniques, *Catal Today*, **34**, 307-327
- Lestari, D. Y., 2010, *Kajian Modifikasi Dan Karakterisasi Zeolit Alam Dari Berbagai Negara*, Universitas Yogyakarta, Prosiding Seminar Nasional Kimia Dan Pendidikan, Yogyakarta
- Liu, J., Cao, Z., & Xu, X., 2006, Hydro-Upgrading of FCC Gasoline On Ni-Mo-P/USY Catalysts, *Buletin of The Catalysis Society of India*, 87-93

- Mahardiani, L., Kurniawan, E., & Trisunaryanti, W., 2011, Hidrorengkah Metil Ester Asam Lemak (MEPO) Menggunakan Zeolit Alam Teraktivasi Hydrocracking of Fatty Acid Metil Ester (Fame) Using Activated Natural Zeolite, *Molekul*, **6**(2), 105-112
- Manyasree, D., Kiran, M.P., Ravikumar, R., 2017, CuO Nanoparticles: Synthesis, Characterization and Their Bacteridal Efficacy, *International Journal of Applied Pharmaceutics*, **9**(6), 71-74
- Matti, A., dan Surchi, K., 2014, Comparison The Properties of Zeolite Nay Synthesized by Different Procedures, *International Journal of Innovative Research in Science, Engineering and Technology*, **3**, 1-10
- Mei, P., Aziz, A., Palanichamy, M., & Gill, S., 2013, Selective Cracking of Durene to Para Dimethyl Benzene Over ZSM-5 Zeolite, *International Journal of Control And Automotion*, **6**(5), 181-190
- Meier, W., 1951, The Crystal Structure of Mordenite, *Zeitschrift Fur Kristallographic*, **115**, 439-450
- Mier, J.L., 2003, Thermal Analysis Of Organic Materials, Spain
- Mockovciakova, A. M., Orolí'Nova', Z., Hudec, P., & Kmecova, E., 2007, Structural Characteristics of Modified Natural Zeolite, *J.Porous Mater*
- Mohamed, M. M., Salama, T. M., Othman, I., & Ellah, I. A., 2005, Synthesis of High Silica Mordenite Nanocrystals Using o-Phenylenediamine Template, *Microporous And Mesoporous Materials*, **84**(1-3), 84-96
- Mohanty, M., 2012, New Renewable Energy Sources, Green Energy Development And Climate Change: Implications To Pacific Island Countries. *Management of Environmental Quality: An International Journal*. **23**(3), 264-274
- Mutngimaturrohmah, G.K., 2009, Aplikasi Zeolit Alam Terdealuminasi dan Termodifikasi HDTMA Sebagai Adsorben Fenol, Skripsi Lab Analitik Jurusan Kimia Fakultas MIPA, Universitas Diponegoro, Semarang
- Noegrohati, M., 1996, *Prinsip Dasar Dan Aplikasi Kromatografi Gas*, Universitas Gadjah, Laboratorium Analisa Kimia Dan Fisika Pusat, Yogyakarta
- Octaviani, S., 2012, Sintesis dan Karakterisasi Zeolit ZSM-5 Mesopori Dengan Metode Desilikasi dan Studi Awal Katalisis Oksidasi Metana, Universitas Indonesia, FMIPA, Depok
- Oprea, C., Popescu, V., & Birghila, S., 2006, New Studies About The Modified Mordenites, *Rom. Journ. Phys.*, **53**, 231-239
- Ozawa, & Kang., 2004, Balls And Stick : Easy-To-Use Structure Visualisasi And Animation Creating Program, *Journal Applied Crystallography*, **37**, 679

- Pan, F., Lu, X., Wang, Y., Chen, S., Wang, T., & Yan, Y., 2014, Synthesis And Crystallization Kinetics of ZSM-5 Without Organic Template From Coalseries Kaolinite, *Journal Catal*, **184**, 134-140
- Panalytical, B., 2009, *X-Ray Fluorescence Spectrometry*. Netherlands
- Panalytical, B., 2010, *Theory of XRF* (Vol. 3), Netherlands
- Perry, R. H., Green, D. W., & Maloney, J. O., 1997, *Perry's Chemical Engineers' Handbook*
- Platon, A., & Thomson, W. J., 2003, Quantitative Lewis/ Brønsted Ratios Using DRIFTS, *Applied Catalysis Industrial Engineering Chemistry Research*, **42**, 5988-5992
- Pradita, A., Abdulloh, & Ahmadi, J., 2018, *Sintesis Dan Karakterisasi H-Aluminosilikat Sebagai Katalis Sintesis Biogasoline Dari Asam Palmitat*, Universitas Airlangga, Fakultas Sains Dan Teknologi, Surabaya
- Prihandana, R., Noerwijari, K., Gamawati, P., Adinurani., S. D., Setiadi, S., & Hendroko, R., 2007, *Bioetanol Ubi Kayu Bahan Bakar Masa Depan*, Jakarta: Penebar Swadaya
- Pulungan, A., 2011, *Preparasi Dan Karakterisasi Katalis NiO-CoO-MoO/Zeolit Alam Dan NiO-CoO-MoO/Zeolit-Y Untuk Reaksi Hidrorengkah Minyak Laka Menjadi Fraksi Bensin Dan Diesel*, Skripsi, Universitas Gajah Mada, Jurusan Kimia, FMIPA, Yogyakarta
- Rahayu, P. E., 2012, *Konversi Minyak Sawit Menjadi Biogasoline Menggunakan Katalis Ni/Zeolit Alam*, Doctoral Dissertation, Universitas Negeri Semarang, Semarang
- Ramadhana, A.K.K., Wardhani, S., Purwonugroho, D., 2013, *Jurnal Ilmu Kimia Universitas Brawijaya* , **1**(2), 168-174
- Ratnaningsih, D., 2000, *Pengetahuan Umum Tentang Kromatografi Gas Spektrometri Massa (GCMS)*, PUSAR PEDAL-BAPEDAL, Jakarta
- Reddy, C.R., Bhat, Y.S., Nagendrappa, G., Jai Prakash, B.S., 2009, Brønsted and Lewis Acidity of Modified Montmorillonite Clay Catalysts Determined by FT-IR Spectroscopy, *Catalysis Today*, **141**, 157-180
- Richardson, J., 1989, *Principles of Catalyst Development*, Plenum Press, New York
- Roque-Malherbe, R., 2007, *Adsorption and Diffusion In Nanoporous Materials*, CRC Press, New York
- Sastrohamidjojo, H., 1992, *Spektrometri Infrared*, Liberti, University Gajah Mada Press, Yogyakarta

- Savitri, N. D., & Veronica., 2010, *Proses Produksi Dietil Eter Dengan Dehidrasi Etanol Pada Fase Cair*, Skripsi, Universitas Diponegoro, Jurusan Teknik Kimia Fakultas Teknik , Semarang
- Schwarz, J. A., Contescu, C., & Contescu, A., 1995, Methods For Preparation of Catalytic Materials, *Chemical Reviews*, **95**(3), 477-510
- Setiadi Dan Pertiwi, A., 2007, Preparasi Dan Karakterisasi Zeolit Alam Untuk Konversi Senyawa ABE Menjadi Hidrokarbon, *Prosiding Konggres Dan Simposium Nasional Kedua MKICS*, **1-4**, 216-4183
- Setyawati, D., Andayani, S., & Yanuhar, U., 2016, Characterization of Fraction of Carica Papaya L. Leaves Ethyl Acetate Extract To African Catfish *Clarias Gariepinus* Leucocytes Using UV-Vis, FTIR And GC-MS Methods, *International Journal of Chemtech Research*, **9**(9), 247-253
- Shechter, G., 1997, Analysis of The Orientational Effects On Infrared Absorption Spectra In P-Type Semiconductor Quantum Wells, *Superlattices And Microstructures*, **19**(4), 383–392
- SKK Migas, K. B., 2017, *Kompas.Com*, Diambil Kembali Dari SKK Migas: Indonesia Tidak Lagi Negara Kaya Minyak Bumi Dan Gas: <https://regional.kompas.com/read/2017/11/02/11192211/skk-migas-indonesia-tidak-lagi-negara-kaya-minyak-bumi-dan-gas> (Diakses tanggal 15 Oktober 2018)
- Smallman, R. E., & Bishop, R. J., 2000, *Metalurgi Fisik Modern & Rekayasa Meterial* (6th Ed.), (S. Djaprie, Penerj.), Penerbit Erlangga, Jakarta
- Srihapsari, D., 2006, Penggunaan Zeolit Alam Yang Telah Diaktivasi Dengan Larutan HCl Untuk Menjerap Logam-Logam Penyebab Kesadahan Air, Skripsi Jurusan Kimia Fakultas Matematika dan Ilmu Pengetahuan Alam, universitas Negeri Semarang
- Sugiarto, Kristian H., 2003, *Dasar-Dasar Kimia Anorganik II*, Jica, Yogyakarta
- Sumantry, T., 2002, Aplikasi XRF Untuk Identifikasi Lempung Pada Kegiatan Penyimpanan Lestari Limbah Radioaktif, *Prosiding Seminar Nasional Teknologi Pengelolaan Limbah VII*, 1410-6086
- Sumarno, 2001, *Kromatografi Teori Dasar*, Bagian Kimia Farmasi Universitas Gadjah Mada, Yogyakarta
- Suminta, S., 2005, Penghalusan Struktur Sangkar Kristal Mordenit Dan Clipnoptilolite Alam Dengan Metode Rietveld, *J. Zeolit Indonesia*, **4**, 78-85
- Suryanarayana, C., & Grant, M., 1998, *X-Ray Diffraction A Practical Approach*, Springer Science Bussines Media, New York

- Susanti, D. P., & Panjaitan, S., 2010, Manfaat Zeolit Dan Rock Phosphat Dalam Pengomposan Limbah Pasar, *Prosiding PPI Standarisasi*, **1-12**
- Suseno, A., Wijayanto, W., Khanif, M., & Hastuti, R., 2003, Pembuatan Dan Karakterisasi Katalis Nikel Pada Padatan Pendukung Zeolit, *J. Kim.Sains Apl* (6), 7–10
- Svehla, G., 1990, *Analisis Anorganik Kualitatif Makro dan Semimikro Edisi ke-5 Bagian I*, PT. Kalman Media Pustaka, Jakarta
- Tan, S., Zhijun, Z., Jianping, S., & Qingwen, W., 2013, Recent Progress of Catalytic Pyrolysis of Biomass By ZSM-5, *Chinnese Journal of Catalyst*, **34**, 641-650
- Tony Suroto, 2004, Kajian Pengaruh Konsentrasi Asam Klorida Terhadap Distribusi Ukuran pori Zeolit Alam dan Uji Kemampuan Sebagai Adsorben Untuk Kemurnian Minyak Daun Cengkeh, Skripsi Universitas Gajah Mada, Yogyakarta
- Trisunaryanti, W., 2014, *Material Katalis Dan Karakterisasinya*, UGM Press, Yogyakarta
- Trisunaryanti, W., Triwahyuni, E., & Sudiono, S., 2005, Preparasi, Modifikasi Dan Karakterisasi Katalis Ni-Mo/Zeolit Alam Dan Mo-Ni/Zeolit Alam, *TEKNOIN*, **10**(4), 269-282
- Tucker, M., & Hardy, R., 1991, *Techniques In Sedimentology*, (M. Tucker, Penyunt.), Blackwell Scientific Pub, London
- Viklund, 2008, *Teknik Pemeriksaan Material Menggunakan XRF, XRD Dan SEMEDS*, ITB, Bandung
- Wang, L., Maxisch, T., & Ceder, G., 2006, Oxidation Energies of Transition Metal Oxides Within The GGA-U Framework, *Physical Review*, **73** (19)
- Wardhani, S., Rahman, M.F., Purwonugroho, D., Tjahjanto, R.T., Damayanti, C.A., Wulandari, I.O., 2016, Photocatalytic Degradation of Methylene Blue Using TiO₂-Natural Zeolite as A Photocatalyst, *J.Pure App. Chem. Res.*, **5**(1), 19-27
- Weitkamp, L., & Puppe, L., 1999, *Catalysis And Zeolites: Fundamentals And Applications*, Springer Berlin Heidelberg, New York
- Widiarti, N., 2012, Pengaruh Penambahan Oksida CuO Terhadap Karakteristik CuO/TS-1 Sebagai Katalis Alternatif Pada Reaksi Oksidasi Benzena Menjadi Fenol, Jurusan Kimia Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Negeri Semarang, **10**, 133-140
- Wijaya, K., Sugiharto, E., Fatimah, I., Sudiono, S., & Kurniaysih, D., 2006, Utilisasi TiO₂-Zeolit Dan Sinar UV Untuk Fotodegradasi Zat Warna Congo Red. *Jurnal Berkala MIPA*, **16**, 1-10

- Witanto, E., Trisunaryanti, W., & Triyono, 2010, *Preparasi Dan Karakterisasi Katalis Ni-Mo/Zeolit Alam Aktif*, Seminar Nasional VI SDM Teknologi
- Wustoni, S., Mukti, R., Wahyudi, A., & Ismunandar, 2011, Sintesis Zeolit Mordenit Dengan Bantuan Benih Mineral Alam Indonesia, *Jurnal Matematika Dan Sains*, **16**
- Yigezu, Z. D., & Muthukumar, K., 2015, Biofuel Production by Catalytic Cracking of Sunflower Oil Using Vanadium Pentoxide, *Journal of Analytical and Applied Pyrolysis*, **112**, 341-347
- Yusni, N., 2009, *Sintesis Dan Karakterisasi CuO-Bentonit Serta Aplikasinya Sebagai Fotokatalis*, UI Depok
- Zahdy dan Maghfur, 2017, Senyawa Aluminosilikat Sebagai Katalis Asam, *Journal Review*, Jurusan Kimia, Fakultas Matematika dan Ilmu Pengetahuan Alam, Institut Teknologi Sepuluh Nopember, Surabaya
- Zaki, M. I., Hasan, M. A., Al-Sagheer, F. A., & Pasupulety, L., 2001, In Situ FTIR Spectra of Pyridine Adsorbed On $\text{SiO}_2\text{-Al}_2\text{O}_3$, TiO_2 , ZrO_2 And CeO_2 : General Considerations For The Identification Of Acid Sites on Surfaces of Finely Divided Metal Oxides, *Colloids And Surfaces A: Physicochemical And Engineering Aspects*, **190**, 261-274
- Zulkifli, M., & Estiasih, T., 2014, Sabun Dari Distilat Asam Lemak Minyak Sawit, *Jurnal Pangan Dan Agroindustri*, **2(4)**, 170-177