

DAFTAR PUSTAKA

- Ahmad, M., dan Benjakul, S., 2011. Characteristics of Gelatin from the Skin of Unicorn Leatherjacket (*Aluterus monoceros*) as Influenced by Acid Pretreatment and Extraction Time., *Food Hydrocoll.*, 25:381-388.
- Aguila, G., Guerrero, S. dan Araya, P., 2013, Effect of the Preparation Method and Calcination Temperature on the Oxidation Activity of CO at Low Temperature on CuO-CeO₂/SiO₂ Catalysts, *Appl. Catal., A*, 462-463:56-63
- AlOthman, Z.A. dan Aplett, A.W., 2010, Metal Ion Adsorption Using Polyamine-Functionalized Mesoporous Materials Prepared from Bromopropyl-Functionalized Mesoporous Silica. *J. Hazard. Mater.*, 182:581-590
- AlOthman, Z.A, 2012, A Review : Fundamental Aspects of Silicate Mesoporous Materials, *Materials.*, 5:2874-2902.
- Anggreini, S.D., 2007, Hidrorengkah oli bekas menjadi fraksi bensin dan diesel menggunakan katalis Fe₂O₃ dan Fe yang diimbangkan pada zeolit alam aktif (dengan/tanpa Nb₂O₅), Tesis, Program studi S2 Kimia Pasca Sarjana Fakultas Matematika dan Ilmu Pengetahuan Alam, Yogyakarta.
- Asghar, A., dan Henrickson, R.L., 1982, *Chemical, Biochemical, Functional, and Nutritional Characteristics of Collagen in Food Systems*. dalam C.O. Chischester, E.M. Mark, & G.F. Stewart, *Advances in Food Research*, Vol. 28, Academic Press, London.
- Ashley, J.H., dan Mitchell, P.C.H., 1968, Cobalt-Molybdenum-Alumina Hydrodesulphurization Catalysts. Part I. A Spectroscopic and Magnetic Study of the Fresh Catalyst and Model Compunds, *J. Chem. Soc. A*, 1968:2821-2827.
- Augustine, R.L., 1996, *Heterogeneous Catalysis for the Synthetic Chemist*, Marcel Dekker Inc, New York.
- Bagshaw, S.A., Prouzet, E., dan Pinnavaia, T.J., 1995, Templating of Mesoporous Molecular Sieves by Nonionic Polyethylene Oxide Surfactants, *Science*, 269:1242-1244.
- Bateman, J.F., Lamandé, S.R., dan Ramshaw, J.A.M., 1996, *Collagen superfamily* dalam W.D. Comper (Ed.), *Extracellular Matrix. Molecular Components and Interactions*, Vol.2, Harwood Academic Publishers, UK.

- Beck, J.S., 1991, US Patent No.5.057, 296.
- Bej, A.K., Dalai, A.K., dan Adjaye, J., 2001, Effect of Hydrotreating Condition on the Conversion of Residual Fraction and Microcarbon Residue Present in Oil Sands Derived Heavy Gas Oil, *Energy and Fuels*, American Chemical Society, 15, 1103-1109.
- Bell, A.T., 1987, *Supports and Metal Support interactions in Catalyst Design*. dalam Hegedus, L.L., *Catalyst Design : Progress and Perspectives*, John Willey and Sons Inc, New York.
- Chang, H.J., Yang, Y.M., Lin, C.C., Luo, Y.C., Chang, H.C., Lin, H.P., Lin, Y.C., Tang, C.Y. dan Lin, C.Y., 2008, Using Gelatin as Protecting Agent and Organic Template to Synthesize Noble Metal Nanoparticles and Metal Nanoparticles@Mesoporous Silica for SERS and CO Oxidation Application, *Sens. and mater.*, 20:389-396.
- Colilla, M., Balas, F., Manzano, M. dan Vallet-Regí, M., 2007, Novel Method to Enlarge the Surface Area of SBA-15. *Chem. Mater.*, 19:3099–3101.
- Davis, M.E., 1992, *Large and Extra-Large Pore Molecular Sieves*, Chem.Ind, London.
- de Almeida, P.F., da Silva Lannes, S.C., Calarge, F.A., de Brito Farias, T.M., dan Santana, J.C., 2012, FTIR Characterization of Gelatin from Chicken Feet, *J. Chem. Chem. Eng.*, 6:1029-1032
- Dewi, T.K., Mediana, M. dan Hidayati, N., 2014, Pengaruh Suhu Pada Hydrocracking Oli Bekas Menggunakan Cr/ZAA, *Tek.Kim*, 20:64-69.
- Gates, B., Katzer, J., dan Schuit G., 1979, *Chemistry of Catalytic Processes*, 2nd edition, McGraw-Hill Book Company, New York.
- Gates, B.C., 1992, *Catalytic Chemistry*, John Willey and Sons Inc., New York.
- Girgis, M.J. dan Gates, B.C., 1991, Reactivities, Reaction Networks, and Kinetics in High-Pressure Catalytic Hydroprocessing. *Ind. Eng. Chem.*, 30:2021.
- Gomez-Guillen, M. C., Turnay, J., Fernandez-Diaz, M. D., Ulmo, N., Lizarbe, M. A., dan Montero, P., 2002, Structural and Physical Properties of Gelatin Extracted from Different Marine Species: a Comparative Study, *Food Hydrocoll.*, 16:25-34.
- Gregg, S. J., dan Sing, K. S. W., 1982. *Adsorption, Surface Area and Porosity*, Academic Press, London.

- Hegedus, L.L., 1987, *Catalysis Design : Progress and Perspectives*, John Willey and Sons, New York.
- Hermanto, S., Sumarlin, L.O. dan Fatimah, W., 2013, Differentiation of Bovine and Porcine Gelatin Based on Spectroscopic and Electrophoretic Analysis, *J.Food.Pharm.Sci*, 1:68-73
- Hsu, C.H., Lin, H.P., Tang, C.Y., dan Lin, C.Y., 2007, Synthesis of mesoporous silica and mesoporous carbon using gelatin as organic template, *Stud. Surf. Sci. Catal.*, 165:385-388.
- Huda, N.W., Atmaka, W., dan Nurhartadi, E., 2013, Kajian Karakteristik Fisika dan Kimia Gelatin Ekstrak Tulang Kaki Ayam (*Gallus gallus bankiva*) dengan Variasi Lama Perendaman dan Konsentrasi Asam, *Jurnal Teknosains Pangan*, 2:70-75.
- Isabela, 2014, Sintesis Silika Mesopori Menggunakan Cetakan Gelatin Tulang Sapid an Penentuan Kapasitas Adsorpsinya Terhadap Metilen Biru, *Tesis*, Program studi S2 Kimia Pasca Sarjana Fakultas Matematika dan Ilmu Pengetahuan Alam, Yogyakarta.
- Isoda, T., Nagao, Ma, S.X., Korai, Y. dan Mochida, I., 1997, Catalytic Activities of NiMo and CoMo/Al₂O₃ of Variable Ni and Co Contents for the Hydrodesulfurization of 4,6-Dimethyldibenzothiophene in the Presence of Naphthalene, *Appl. Catal.*, 150:1-11.
- Jiang, T., Shen, W., Tang, Y., Zhao, Q., Li, M. dan Yin, H., 2008, Stability and Characterization of Mesoporous Molecular Sieve Using Natural Clay as a Raw Material Obtained by Microwave Irradiation. *Appl. Surf. Sci.*, 254:4797-4805.
- Johnston-Banks, F.A., 1990, *Gelatin*, dalam P. Harris, *Food Gels* (pp. 233-289), Elsevier Applied Science Publishers, London.
- Kaneda, K., Wada, T., Murata, S., dan Nomura, M., 1998, Hydrocracking of Dibenzothiophene Catalyzed by Palladium and Nickel Coloaded Y-Type Zeolite, *Energy and Fuels*, 12:298-303.
- Kresge, C.T., Leonowicz, M.E., Roth, W.J., Var-Tuli, J.C., dan Beck, J.S., 1992, Ordered Mesoporous Molecular Sieves Synthesized by a Liquid-Crystal Template Mechanism, *Nature*, 359:710-712.
- Kusumawati, R., Tazwir., Wawasto, A., 2008, Pengaruh Perendaman Dalam Asam Klorida Terhadap Kualitas Gelatin Tulang Kakap Merah (*Lutjanus. Sp*), *Jurnal Pascapanen dan Bioteknologi Kelautan dan Perikanan*, 3:63-68.

- Laemmli, U. K., 1970, Cleavage of Structural Proteins During Assembly of Head of Bacteriophage T4. *Nature*, 227:680-685.
- Llorca, J., Homs, N., Sales, J., Fierro, J.L.G., and de la Piscina, P.R., 2002, Efficient Production of Hydrogen over Supported Cobalt Catalyst from Ethanol Steam Reforming, *J.Catal.*, 209:306-307.
- Looi, P.Y., Tye, C.T. and Mohammed, A.R., 2013, Reaction of Used Motor Oil and Residual Oil Using Mesoporous Mo/Al₂O₃, *Journal-The Institution of Engineers*, 74:21-27.
- Mugianton, 2003, *Pengaruh Rasio Mo/Ni terhadap Karakter Katalis Mo-Ni/ γ -Al₂O₃ dan Aktivitasnya pada Hidrorengkah Aspalten Turunan Aspal Buton*, Skripsi, Jurusan Kimia FMIPA UGM, Yogyakarta.
- Musta.R., 2011, Hidrodesulfurisasi Tiofen Menggunakan katalis CoMo/H-Zeolit Y, *Flux*, 8:1-6.
- Muyonga, J.H., Cole, C.G.B., dan Duodu, K.G., 2004, Fourier Transform Infrared (FTIR) Spectroscopic Study of Acid Soluble Collagen from Skins and Bones of Young and Adult Nile Perch (*Lates niloticus*), *Food. Chem.*, 86:325-332.
- Nagarajan, M., Benjakul, S., Prodpran, T., Songtipya, P., dan Kishimura, H., 2012, Characteristics and Functional Properties of Gelatin from Splendid Squid (*Loligo formosa*) Skin as Affected by Extraction Temperatures, *Food Hydrocoll.*, 29:389-297.
- Ornelas, C., Fuentes, S., Chianelli, R. and Alonso, G., 2001, Comparative Study Between Catalyst (Ni-Mo/Al₂O₃) and Catalyst "CoMo, NiMo" on HDS of DBT, carlos.ornelas@cimav.edu.mx.
- Pattiasina, P., 2014, Pemanfaatan Gelatin Tulang Sapi Sebagai Cetakan dalam Sintesis Silika Mesopori Menggunakan Metode Hidrotermal dan Sonokimia serta Uji Kapasitas Adsorpsinya Terhadap Metilen Biru, *Tesis*, Program studi S2 Kimia Pasca Sarjana Fakultas Matematika dan Ilmu Pengetahuan Alam, Yogyakarta.
- Puputti, J., Jin, H., Rosenholm, J., Jiang, H. dan Lindén, M., 2009, The Use of an Impure Inorganic Precursor for the Synthesis of Highly Siliceous Mesoporous Materials Under Acidic Conditions., *Microporous Mesoporous Mater.*, 126:272-275.
- Rahiem, 2005, *Preparasi dan Karakterisasi Katalis CoMo/ZnO untuk Konversi Isoamil Alkohol dengan Metode Steam Reforming*, Skripsi, Jurusan Kimia FMIPA UGM, Yogyakarta

- Sarifudin, K., 2004, *Pengaruh Rasio Ni/Mo dan Kandungan Nb₂O₅ terhadap Karakter, Aktivitas dan Selektivitas Katalis Ni-Mo/Nb₂O₅- γ -Al₂O₃ dan Modifikasinya untuk Proses Perengkahan Fraksi Aspalten dari Aspal Buton*, Tesis, Jurusan Kimia FMIPA UGM, Yogyakarta.
- Schuth, F., Sing, K.S.W., dan Weitkamp, J., 2002, *Handbook of Porous Solids*, Willey-VCH, New York.
- Selukar, N.B. and Wagh, S.M., 2014, Gasoline and Diesel Synthesis from Waste Lubricating Oil: A Kinetic Approach, *IOSR.J.Appl.Chem.*, 22-25.
- Setyawan, H., dan Balgis, R., 2011, Mesoporous Silicas Prepared from Sodium Silicate Using Gelatin Templating, *Asia-Pac. J. Chem. Eng.*, 7:3.
- Sharaf, J., Mishra, B. dan Sharma, M.B., 2013, Production of Gasoline-Like Fuel Obtained from Waste Lubrication Oil and its Physicochemical Properties, *Int.J.Eng.Appl.*, 3:113-118
- Shu, Y., Murillo, L.E., Bosco, J.P., Huang, W., Frenkel, A.I. dan Chen, J.G., 2008, The Effect of Impregnation Sequence on The Hydrogenation Activity and Selectivity of Supported Pt/Ni Bimetallic Catalysts, *Appl. Catal., A*, 339 :169-179.
- Sihombing, J.L., 2010, *Preparasi dan Karakterisasi Katalis NiO-CoO-MoO-Zeolit Alam dan NiO-MoO-CoO-Zeolit Alam untuk Reaksi Hidrorengkah Pelumas Bekas Menjadi Fraksi Bensin dan Diesel*, Tesis, Program studi S2 Kimia Pasca Sarjana Fakultas Matematika dan Ilmu Pengetahuan Alam, Yogyakarta.
- Sie, S.T., 1993, Acid-Catalyzed Cracking of Paraffinic Hydrocarbon, 3. Evidence for the Protonated Cyclopropane Mechanism from Hydrocracking/Hydroisomerization Experiments, *Ind. Eng. Chem. Res.*, 32.
- Sing, K.S.W., Everett, D.H., Haul, R.A.W., Moscou, L., Pierotti, R.A., Rouquerol, J. dan Siemieniewska, T., 1985, Reporting Physisorption Data for Gas/Solid Systems with Special Reference to the Determination of Surface Area and Porosity, *Pure Appl. Chem*, 57:603-619.
- Song, K., Guan, J., Wang, Z., Xu, C. dan Kan, Q., 2009, Post-Treatment of Mesoporous Material with High Temperature for Synthesis Super-Microporous Materials with Enhanced Hydrothermal Stability. *Appl. Surf. Sci.*, 255:5843-5846

- Steiner, P., 2002, Kinetic and Deactivation Studies of Hydrodesulfurization Catalyst, *Disertation*, The Norwegian University of Science and Technology, Norwegia.
- Tanabe, K., 1981, *Solid Acid and Base Catalysts*. Dalam Anderson, J.R., dan Boudart, M., *Catalysis: Science and Technology*, Springer-Verlag, Berlin.
- Tanev, P.T., dan Pinnavaia, T.J., 1995, A Neutral Templating Route to Mesoporous Molecular Sieves, *Science.*, 267:865-867.
- Trisunaryanti, W., Syoufian, A. dan Purwono, S., 2013, Characterization and Modification of Indonesian Natural Zeolite for Hydrocracking of Waste Lubricant Oil into Liquid Fuel Fraction, *J.Chem.Chem.Eng.*, &:175-180.
- Trisunaryanti, W., Purwono, S. and Putranto, A., 2008, Catalytic Hydrocracking of Waste Lubricant Oil Into Liquid Fraction Using ZnO, Nb₂O₅, Activated Natural Zeolite and Their Modification, *Indo.J.Chem.*, 8:342-347.
- Vartuli, J.C., Schmitt, K.D., Kresge, C.T., Roth, W.J., Leonowicz, M.E., McCullen, S.B., Hellring, S.D., Beck, J.S., Schlenker, J.L., Olson, D.H., dan Sheppard, E. W., 1994, Effect of Surfactant/Silica Molar Ratios on the Formation of Mesoporous Molecular Sieves: Inorganic Mimicry of Surfactant Liquid-Crystal Phases and Mechanistic Implications, *Chem. Mater.*, 6:2317-2326.
- Wada, T., Kaneda, K., Murata, S., dan Nomura, M., 1996, Effect of Modifier Pd Metal on Hydrocracking of Polyaromatic Compound over Ni Loaded Y-Type Zeolite and it's Application as Hydrodesulfurization Catalyst, *Catal. Today*, 31:113-120.
- Wan, Y., dan Zhou, D., 2007, On the Controllable Soft-Templating Approach to Mesoporous Silicates, *Chem. Rev.*, 107:2821-2860.
- Wang, X., Zhou, G., Zhang, H., Du, S., Xu, Y., dan Wang, C., 2011, Immobilization and Catalytic Activity of Lipase on Mesoporous Silica Prepared from Biocompatible Gelatin Organic Template, *J. Non-Cryst. Solids.*, 357:3027-3032.
- Wei, J., 1987, *Toward the Design of Hydrometallation catalysts*. Dalam Hegedus, L.L., *Catalyst Design : Progress and Perspectives*, John Willey and Sons Inc., New York.
- Yakimets, I., Wellner, N., Smith, A. C., Wilson, R. H., Farhat, I., & Mitchell, J., 2005, Mechanical properties with respect to water content of gelatin films in glassy state, *Polymer*, 46:12577-12585.

- Yang, X.Y., Zhang, S.B., Qiu, Z.M., Tian, G., Feng, Y.F. dan Xiao, F.S., 2004, Stable Ordered Mesoporous Silica Materials Templated by High-Temperature Stable Surfactant Micelle in Alkaline Media, *J. Phys. Chem. B*, 108:4696-4700.
- Yu, S.Y., Li, W., Iglesia, E., 1999, Desulfurization of Thiophene via Hydrogen Transfer from Alkanes on Cation-Modified H-ZSM5, *J.Catal*, 187:257-261
- Yuliana, A., 2004, *Preparasi dan Karakterisasi Katalis Ni-Mo/Nb2O5-Zeolit dan Uji Aktivasnya pada Hidrorengkah N-Dodekana*, Skripsi, Jurusan Kimia FMIPA UGM, Yogyakarta.
- Zelechowska, E., Sadowska, M. dan Turk, M., 2010, Isolation and some Properties of Collagen from the Backbone of Baltic Cod (*Gadus morhua*), *Food Hydrocolloids*, 24:325-329.
- Zhang, Z. , Li, G., and Shi, B., 2006, Physicochemical Properties of Collagen, Gelatin and Collagen Hydrolysate Derived from Bovine Lined Split Wastes, *J. Soc. Leath. Tech. Chem.*, 90:23-28.
- Zhao, D., Huo, Q., Feng, J., Chmelka, B.F., and Stucky, G.D., 1998, Nonionic Triblock and Star Diblock Copolymer and Oligomeric Surfactant Syntheses of Highly Ordered, Hydrothermally Stable, Mesoporous Silica Structures, *J. Am. Chem. Soc.*, 120:6024-6036.
- Zhao, D.J., Sun, Q.L. dan Stucky, G.D., 2000, Morphological Control of Highly Ordered Mesoporous Silica : SBA-15, *Chem. Mater.*, 12:275–279.