

DAFTAR PUSTAKA

- Akoh, C.C., 1993, Lipase-Catalyzed Synthesis of Partial Glyceride, *Biotech. Lett.*, 15 (9), 949-954.
- Allinger, N.L., Cava, M.P., De Jongh, D.C., Johnson, C.R., Lebel, N.A. and Steven C.L., 1976, *Organic Chemistry*, 2nd Ed., Worth Publisher, New York.
- Allocati, N., Masulli, M., Alexeyev, M.F., and Illo, C.D., 2013, *Escherichia coli* in Europe: An Overview, *Int. J. Environ. Res. Publish Health*, 10, 6235-6254.
- Anindito, B., 2008, Peningkatan Nilai Produk Gliserol Hasil Pembuatan Biodiesel, Skripsi, Universitas Gadjah Mada, Yogyakarta.
- Asamoah, P.S., and Asare, R., 2012, Impact of Temperature on Bacterial Growth and Survival in Drinking Water Pipes, *Research J. of Environ. an Earth Sci.*, 807-817.
- Batovska, D.I., Todorova, I.T., Tsvetkova, I.V., and Nadjenski, H.M., 2009, Antibacterial Study of The Medium Chain fatty Acids and Their 1-Monoglycerides: Individual Effects and Synergistic Relationships, *Pol. J. Microbiol.*, 58 (1), 43-47.
- Bergsson, G., Arnfinnsson, J., Steingrimsson, O., and Thormar, H., 2001, *In vitro* Killing of *Candida albicans* by Fatty Acids and Monoglycerides, *Antimicrob. Agents Chemother.*, 45, 3209-3212.
- Bossaert, W.D., De Vos, D.E., Van Rhijn, W.M., Bullen, J., Grobet, P.J., and Jacobs, P.A., 1999, Mesoporous Sulfonic Acids as Selective Heterogeneous Catalysts for the Synthesis of Monoglycerides, *J. Catal.*, 182, 156-164.
- Champoux, J.J., Neidhardt, F.C., Drew W.L. and Plorde, J.J., 2004, *Medical Microbiology*, 4th Ed., McGraw-Hill, New York.
- Chao, H.C., Chen, C.C., Chen, S.Y., and Chiu, C.H., 2006, Bacterial Enteric Infections in Children: Etiology, Clinical Manifestations and Antimicrobial Therapy, *Expert Rev. Anti Infect. Ther.*, 4 (4), 629-638.
- Chen, F., Feng, X., Xu., H., Zhang, D. and Ouyang, P. 2012. Propionic Acid Productionin a Plant Fibrous-Bed Bioreactor with Immobilized *Propionibacterium freudenreichii* CCTCCM M207015. *J. Biotechnol.*, 164, 202.
- Chiller, K., Selkin, B.A., and Murakawa, G.J., 2001, Skin Microflora and Bacterial Infections of the Skin, *JIDSP.*, 6, 170-174.
- Choi, J. I., Hong, W. H., and Cham, H. N., 1996, Reaction Kinetics of Lactic Acid with Methanol Catalyzed by Acid Resins, *Int. J. Chem. Kinet.*, 28, 37-41.

- Chovatia, Y.S., Gandhi, S.P., Gorde, P.L. and Bagade, S.B., 2010, Synthesis and Antibacterial Activity of some Pyrazoline Derivatives, *Orient. J., Chem.*, 26, 275-278.
- Cosgrove, S.E., Sakoulas, G., Perencevich, E.N., Schwaber, M.J., and Karchmer, A.W., 2003, Comparison of Mortality Associated with Methicillin-Resistant and Methicillin-Susceptible *Staphylococcus aureus* Bacteremia: A Meta-Analysis. *CID.*, 36, 53-59.
- Davis and Stout, 1971, Disc Plate Method Of Microbiological Antibiotic Essay, *J. Microbiol.*, 22, 4.
- Doughari, J. H., 2006, Antimicrobial Activity of *Tamarindus indica* Linn, *TJPR.*, 5 (2), 597-603.
- EFSA, 2011, EFSA Panel on Additives and Products or Substances used in Animal Feed (FEEDAP) Scientific Opinion on the Safety and Efficacy of Propionic Acid, Sodium Propionate, Calcium Propionate and Ammonium Propionate for All Animal Species. *EFSA Journal*, 9, 22.
- Eman, N. A., and Cadence, I.T., 2013, Characterization of Biodiesel Produced from Palm Oil via Base Catalyzed Transesterification, *Proc. Eng.*, 53, 7-12.
- EMPRES, 2011, Transboundary Animal Diseases, *Bulletin* 39, ISSN., 1564-2615.
- FDA, 1984, Propionic Acid. In: Services, D.O.H.A.H. (ed). United States of America: Government Printing Office, 21 CFR 184, 1081.
- Gelosa, D., Ramaioli, M., Valente, G., and Morbidelli, M., 2003, Chromatographic Reactors: Esterification of Glycerol with Acetic Acid using Acidic Polymeric Resins, *Ind. Eng. Chem. Res.*, 42, 6536-6544.
- Gould, D., 2010, Causes, Prevention and Treatment of *Escherichia coli* Infections, *Nursingstandard*, 24 (31), 50-56.
- Handayani, A.S., Marsudi, S., Nasikin, M., dan Sudibandriyo, M., 2006, Reaksi Esterifikasi Asam Oleat dan Gliserol Menggunakan Katalis Asam, *Jurnal Sains Materi Indonesia*, 102-105.
- Hess, R., Borscheuer, U., Capewell, A. and Scheper, T., 1995, Lipase-Catalysed Synthesis of Monostearoylglycerol in Organic Solvents from 1,2-O-Isopropylidene Glycerol, *Enzyme Microb. Tech.*, 17 (8), 725-728.
- Hill, J.C.G., 1997, *An Introduction to Chemical Engineering Kinetics and Reactor Design*, John Wiley and Sons. Inc., New York.
- Huang, CH. B., George, B., and Ebersole, J. L., 2010, Antimicrobial Activity of n-6, n-7, and n-9 Fatty Acids and Their Esters for Oral Microorganisms, *Arch. Oral. Biol.*, 55, 555-560.

- Jacobsen, C.N., Nielsen, V.R., Hayford, A.E., Moller, P.L., Michaelsen, K.F., Parregaard, A., Sandstorm, B., Tvede, M. and Jacobsen, M., 1999, Screening of Probiotic Activities of Forty-Seven Strains of *Lactobacillus spp.* by In Vitro Techniques and Evaluation of The Colonization Ability of Five Selected in Humans, *Appl. Environ. Microbiol.*, 65 (11), 4949-4956.
- Jawetz, E., Melnick, J. L., Adelberg, E. A., Brooks, G. F., Butel, S. J., and Ornston, L. N., 1991, Pseudomonads, Acinetobacter and uncommon gram-negative bacteria. In: Review of Medical Microbiology, 19th edn. (ed. Jawetz E) Appleton and Langue Publishing Prentice Hall, Los Altos, California, USA, pp., 224-229.
- Kabara, J.J., Vrable, R., and Lie, K.J., 1977, Antimicrobial Lipids: Natural and Synthetic Fatty Acids Monoglycerides, *Lipids*, 753-759.
- Knox, J., Uhlenmann, A.C. and Lowy, F.D., 1998, *Staphylococcus aureus* Infections: Transmission within Households and The Community, *Trends Microbiol.*, 23 (7), 437-444.
- Liu, Y.J., Lotero, E. and Goodwin, J.G., 2006, A Comparison of The Esterification of Acetic with Methanol Using Heterogeneous Versus Homogeneous Acid Catalyst, *J. Catal.*, 278-286.
- Lotero, E., Liu, Y.J., Lopez, D.E., Suwannakarn, K., Bruce, D.A., and Goodwin, J.G., 2005, Synthesis of Biodiesel Via Acid Catalyst, *Ind., Eng. Chem. Res.*, 5353-5363.
- Lowy, F.D., 1998, *Staphylococcus aureus* infections. *NEJM.*, 339, 520–532.
- Machado, M.S., Pariente, J.P., Satre, E., Cardoso, D., and Guerenu, A.M., 2000, Selective of Glycerol Monolaurate with Zeolitic Molecular Sieves, *Appl. Catal., A*, 321-328.
- Mirzayanti, W. Y., 2014, Pemurnian Gliserol dari Proses Transesterifikasi Minyak Jarak dengan Katalis Sodium Hidroksida, Jurusan Teknik Kimia, Institut Teknologi Adhi Tama Surabaya.
- Monteiro, J. B., Nascimento, M. G., and Ninow, J. L., 2003, Lipase-Catalyzed Synthesis of Monoacylglycerol in a Homogeneous System, *Biotechnol. Lett.*, 25, 641-644.
- Nitbani, O. F., Jumina, Siswanta, D., and Solikhah E. N., 2015, Reaction Path Synthesis of Monoacylglycerol from Fat and Oils, *Int. J. Pharm. Sci. Rev. Res.*, 35 (1), 126-136.

- Nitbani, O. F., Jumina, Siswanta, D., and Sholikhah, E.N., 2016, Isolation and Antibacterial Activity Test of Lauric Acid from Crude Coconut Oil (*Cocos nucifera* L.), *Proc. Chem.*, 18, 132-140.
- Noviana, H., 2004, Pola Kepekaan Antibiotika *Escherichia coli* yang Diisolasi dari Berbagai Spesimen Klinis, *J Kedokteran Trisakti*, 23 (4), 122-126.
- Nuryoto, H. S., Suprihastuti S. R., dan Sutijan, 2011, Kinetika Reaksi Esterifikasi Gliserol dengan Asam Asetat Menggunakan Katalisator Indion 225 Na. *Jurnal Rekayasa Proses*, 5 (2).
- Ozorio, L. P., Pianzoli, R., Beatriz, M., Mota, S., and Mota, C. J. A., 2012, Reactivity of Glycerol/Acetone Ketal (Solketal) and Glycerol/Formaldehyde Acetals toward Acid-Catalyzed Hydrolysis, *J. Braz. Chem. Soc.*, 23 (5), 931-937.
- Parsonnet, J., Hansmann, M.A., Seymour, J., Delaney, M.L., and Dubois, A.M., 2010, Persistence Survey of Toxic Shock Syndrome Toxin-1 Producing *Staphylococcus aureus* and Serum Antibodies to this Superantigen in Five Groups of Menstruating Women, *Bmc. Infect. Dis.*, 10 (249), 1-8.
- Pecnik, S., and Knez, Z., 1992, Enzymatic Fatty Ester Synthesis, *J. Am. Oil Chem. Soc.*, 69, 261-265.
- Pouilloux, Y., Metayer, S., and Barrault, J., 2000, Synthesis of Glycerol Monoctadecanoate from Octadecanoic Acid and Glycerol Influence of Solvent on the Catalytic Properties of Basic Oxides, *J. Surf. Chem. and Catal.*, 3 (7), 589-594.
- Prasetyo, A. E., Widhi A., dan Widayat, 2012, Potensi Gliserol Dalam Pembuatan Turunan Gliserol Melalui Proses Esterifikasi. *Jurnal Ilmu Lingkungan*, 10, Issue 1 : 26-31, ISSN., 1829-8907.
- Preuss, H.G., Enig, M., Echard, B., Dadgar, A., Talpur, N., and Manohar, V., 2005, Effects of Essential Oil and Monolaurin on *Staphylococcus aureus*: In Vitro and In Vivo Studies, *Toxicol. Mech. Meth.*, 15, 279-285.
- Qi W., Ding D., and Salvi R.J., 2008, Cytotoxic Effects of Dimethyl Sulphoxide (DMSO) on Cochlear Organotypic Cultures. *Hearing Research*, 236, 52-60.
- Raetz, C.R.H., 1993, Discovery of New Biosynthetic Pathway: Lipid A Story, *J. Bacteriol.*, 178, 5745-5763.
- Ronnback, R., Salmi, T., Vuori, A., Haario, H., Lehtonen, J., Sundqvist, A., and Tirronen, E., 1997, Development of Kinetic Model for the Esterification of Acetic Acid with Methanol in the Presence of A Homogeneous Acid Catalyst, *Chem. Eng Sci.*, 52, 3369-3381.

- Saga, T., and Yamaguchi, K., 2009, History of Antimicrobial Agents and Resistant Bacteria, *Jpn. Med. Assoc. J.*, 52 (2), 103-108.
- Schlievert, P.M., Deringer, J.R., Kim, M.H., Projan S.J., and Novick, R.P., 1992, Effect of Glycerol Monolaurate on Bacterial Growth and Toxin Production. *Ant. Agents Chem.*, 36, 626-631.
- Schuchardta, U., Serchelia, R., and Vargas, R. M., 1998, Transesterification of Vegetable Oils: a Review, *J. Braz. Chem. Soc.*, 9, 199-210.
- Shan, G., Zheng, L.X., Juan, W. W., Ping, C. W., and Guo Y. J., 2007, High Efficient Acetalization of Carbonyl Compounds with Diols Catalyzed by Novel Carbon-Based Solid Strong Acid Catalyst, *Chin. Sci. Bull.*, 52, 2892-2895.
- Shantha, N.C., and Napolitano, G.E., 1990, Gas Chromatography of Fatty Acid, *J. Chromatogr.*, 624, 37-51.
- Singgih, T., 2016, Sintesis Monolinolein dari Minyak Jagung dan Uji Aktivitasnya Sebagai Antibakteri, Skripsi, Departemen Kimia, FMIPA UGM, Yogyakarta.
- Skrivanova, E., Marounek, M., Benda, V., and Brezina P., 2006, Susceptibility of *Escherichia coli*, *Salmonella* sp. and *Clostridium Perfringens* to Organic Acids and Monolaurin, *Vet. Med.*, 51 (3), 81-88.
- Smith, J. and Hong-Shum, L. 2003. *Food Aditives Data Book*, UK, Blackwell Science.
- Sola, A., Rodriguez, S.A., Gancedo, G., Villas, P., and Gil-Fernandez., C., 1986, Inactivation and Inhibition of African Swine Fever Virus by Monoolein, Monoolein, and γ -Linolenyl Alcohol, *Arch. Virol.*, 88, 285-292.
- Sonntag, N.O., 1982, Glycerolysis of Fats and Methyl Esters Status, Review and Critique, *J. Am. Oil Chem. Soc.*, 59, 795A-802A.
- Strandberg K.L., Peterson M.L., and Schaeffers M.M., 2009, Reduction in *Staphylococcus aureus* Growth and Exotoxin Production and in Vaginal Interleukin 8 Levels due to Glycerol Monolaurate in Tampons. *Clin. Infect. Dis.*, 49, 1711-7.
- Suzuki, R., Iwasaki, S., Ito, Y., Hasegawa, T., and Yamamoto, T., 2003, Adult *Staphylococcus* Scalded Skin Syndrome in Peritoneal Dialysis Patient, *JSN.*, 7, 77-80.
- Tortora, G.J., Funke, B.R., and Case, C.L., 2010, *Microbiology: an Introduction*, 10th Ed., Benjamin Cummings, San Fransisco.

- Valgas, C., DeSouza, S.M., Smania, E.F., and Smania Jr. A., 2007, Screening Methods to Determine Antibacterial Activity of Natural Products, *Braz. J. Microbiol.*, 38, 369-380.
- Violante D.G., Zerrouk N., Richard I., Provot G., Chaumeil J.C., and Arnaud P., 2002, Evaluation of the Cytotoxicity Effect of Dimethyl Sulfoxide (DMSO) On CaCO₂/TC7 Colon Tumor Cell Cultures. *Biol. Pharm. Bull.*, 25 (12), 1600-3.
- Wahyudin, T., 2016, Sintesis Kandidat Senyawa Antibakteri Monopalmitin Melalui Transesterifikasi Etil Palmitat dan Dliserol Terproteksi 1,3-Dioxolan, Tesis, Departemen Kimia, FMIPA UGM, Yogyakarta.
- Wang, Xiaosan, Wang Xingguo, Jin, Qingzhe, Wang, 2013, Improved Synthesis of Monopalmitin on a Large Scale by Two Enzymatic Method, *J. Am. Oil Chem. Soc.*, 90, 1455-1463.
- Wang, Y.F., Lalonde, J.J., Momongan, M., Bergbreiter, D.E. and Wong, C.H., 1988, Lipase-catalyzed Irreversible Transesterifications Using Enol Esters an Acylating Reagents: Preparative Anantio- and Regioselective Synthesis of Alcohols, Glycerol Derivatives, Sugars, and Organometallics, *J. Am. Chem. Soc.*, 110, 7200-7205.
- Wang, Z., and Shang-Tian 2013. Propionic Acid Production in Glycerol/Glucose co-Fermentation by *Propionibacterium freudenreichii subsp. Shermanii*, *Biore source Tech.*, 137, 116.
- Widiyarti, G., Hanafi, M., and Soewarso, W. P., 2009, Study on Synthesis of Monolaurin as Antibacterial Agent Against *Staphylococcus aureus*, *Indo. J. Chem.*, 9 (1), 99-106.
- Wong, W.C., Basri, M., Razak, C.A.N., and Salleh, A.B., 2006, Synthesis of Medium-Chain Glycerides using Lipase from *Candida rugosa*, *JAACS*, 77: 85-89
- Yu, C. C., Lee, Y. S., Cheon, B. S., and Lee, S. H., 2003, Synthesis of Glycerol Monostearate with High Purity, *Bull. Korean Chem. Soc.*, 24 (8), 1229-1231.
- Yuswono, T., dan Tahir, I., 2008, Transesterifikasi Minyak Sawit dengan Metanol Menggunakan Katalis Kalium Hidroksida. *Indo. J. Chem.*, 8 (2), 219-225.