

## DAFTAR PUSTAKA

- Aftring, R. P., and F. T. Barrie. 1981. Aerobic and anaerobic catabolism of phthalic acid by a nitrate-respiring bacterium. *Archives of Microbiology* 130: 101-104.
- Ainsworth, E. A. and K. M. Gillespie. 2007. Estimation of total phenolic content and other oxidation substrates in plant tissues using Folin-Ciocalteu reagent. *Nature Protocols* 2:875-877.
- Andrea, H. 2009. Phthalic acid and its isomers (isophthalic acid and terephthalic acid). *The MAK Collection for Occupational Health and Safety* 1:194-221.
- Ansari, M. I. and Malik, A. 2013. Antibiotic resistance gene pool and bacterial adaptation to xenobiotics in the environment. Department of Agricultural Microbiology. Faculty of Agricultural Sciences. Aligarh Muslim University. Skripsi.
- Arahal, D. R., M. T. Garcia, C. Vargas, D. Canovas, J. J. Nieto, and A. Ventosa. 2001. *Chromohalobacter salexigens* sp. nov., a moderately halophilic species that includes *Halomonas elongate* DSM 3043 and ATCC 33174. *International Journal of Systematic and Evolutionary Microbiology* 51:1457-1462.
- Aquino, J. M., K. N. Parra, D. W. Miwa, and A. J. Motheo. 2015. Removal of phthalic acid from aqueous solution using a photo-assisted electrochemical method. *Journal of Environmental Chemical Engineering* 3: 429-435.
- Ates, O., E. T. Oner, and K. Y. Arga. 2011. Genome-scale reconstruction of metabolic network for a halophilic extremophile, *Chromohalobacter salexigens*. *New Biotechnology* 5:1-13.
- Atlas, R. M., A. E. Brown, K. W. Debora and L. Miller. 1984. *Experimental Microbiology: Fundamentals and Applications*. MacMillan Publishing Co., New York.
- Ayranci, E. and E. Bayram. 2005. Adsorption of phthalic acid and its esters onto high-area activated carbon-cloth studied by in situ UV-spectroscopy. 2005. *Journal of Hazardous Materials* 122: 147-153.
- Branner, D. K., N. R. Krieg, J. T. Staley and G. M. Garrity. 2004. *Bergey's Manual of Systematic Bacteriology*. Second Edition, Volume Two The Proteobacteria, Part B, The Gammaproteobacteria. Springer, USA, p:316-317
- Brar, S.K., M. Verma, R.D. Tyagi, J.R. Valero, and R.Y. Surampalli. 2009. Concurrent degradation of dimethyl phthalate (DMP) during production of *Bacillus thuringiensis* based biopesticides. *Journal of Hazardous Materials* 171:1016-1023.
- Cartwright, C. D., S. A. Owen, I. P. Thompson, and R. G. Burns. 2000. Biodegradation of diethyl phthalate in soil by a novel pathway. *Federation of European Microbiological Societies Microbiology Letters* 186:27-34.

- Copeland, A. K. O'Connor, S. Lucas, A. Lapidus, K. W. Berry, J. C. Detter, T. G. D. Rio, N. Hammon, A. Dalin, H. Tice, S. Pitluck, D. Bruce, L. Goodwin, C. Han, R. Tapia, E. Saunders, J. Schmutz, T. Brettin, F. Larimer, M. Land, L. Hauser, C. Vargas, J. J. Nieto, N. C. Kyrpides, N. Ivanova, M. Goker, H. Klenk, L. N. Csonka, and T. Woyke. 2011. Complete genome sequence of the halophilic and highly halotolerant *Chromohalobacter salexigens* type strain (1H11T). *Standards in Genomic Sciences* 5:379-388.
- Dastgheib, S. M. M., M. A. Amoozegar, K. Khajeh, M. Shavandi, and A. Ventosa. 2012. Biodegradation of polycyclic aromatic hydrocarbons by a halophilic microbial. *Applied Microbiology and Biotechnology* 95: 789-798.
- Engelhardt, G., P. R. Wallnofer, and H. G. Rast. 1976. Metabolism of *o*-phthalic acid by different Gram-negative and Gram-positive soil bacteria. *Archives of Microbiology* 109: 109-114.
- Fan, Y., Y. Wang, P. Qian, and J. Gu. 2004. Optimization of phthalic acid batch biodegradation and the use of modified Richards model for modelling degradation. *International Biodeterioration and Biodegradation* 53: 57-63.
- Fang, C., Y. Long, and D. Shen. 2009. Comparison on the removal of phthalic acid diesters in a bioreactor landfill and a conventional landfill. *Bioresource Technology* 100: 5664-5670.
- Gao, J., Y. Hu, S. Li, Y. Zhang, and X. Chen. 2013. Adsorption of benzoic acid, phthalic acid on gold substrates studied by surface-enhanced Raman scattering spectroscopy and density functional theory calculations. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 104: 41-47.
- Garcia-Segura, S., R. Salazar, and E. Brillas. 2013. Mineralization of phthalic acid by solar photoelectron-Fenton with a stirred boron-doped diamond/air-diffusion tank reactor: Influence of  $\text{Fe}^{3+}$  dan  $\text{Cu}^{2+}$  catalysts and identification of oxidation products. *Electrochimica Acta* 113: 609-619.
- Gooch, J. W. 2007. Phthalic acid. *Encyclopedic Dictionary of Polymers*. Springer, USA, p: 717-717.
- Guo, G., T. Fang, C. Wang, Y. Huang, F. Tian, Q. Cui, and H. Wang. 2015. Isolation and characterization of two novel halotolerant Catechol 2, 3-dioxygenases from a halophilic bacterial consortium. *Scientific Reports* 5:1-13.
- Herwijnen, R., D. Springael, P. Slot, H. A. J. Govers, and J. R. Parsons. 2003. Degradation of anthracene by *Mycobacterium* sp. strain LB501T proceeds via a novel pathway, through *o*-phthalic acid. *Applied and Environmental Microbiology* 69: 186-190.
- Hottes, A. K., P. L. Freddolino, A. Khare, Z. N. Donnell, J. C. Liu, and S. Tavazole. 2013. Bacterial adaptation through loss of function. *PLoS Genetics* 9:1-13.

- Karapagam, S. and D. Lalithakumari. 1999. Plasmid-mediated degradation of o- and p-phthalate by *Pseudomonas fluorescens*. *World Journal of Microbiology and Biotechnology* 15: 565–569.
- Khan, N.A., B.K. Jung, Z. Hasan, and S.H. Jung. 2015. Adsorption and removal of phthalic acid and diethyl phthalate from water with zeolitic imidazolate and metal-organic frameworks. *Journal of Hazardous Materials* 282:194-200.
- Khumaira, Annisa. 2013. Karakterisasi dan Identifikasi Bakteri Halofilik Penghasil Protease dari Bledug Kuwu. Fakultas Pertanian. Universitas Gadjah Mada. Skripsi.
- Kim, D., S. W. Kim, K. Y. Choi, J. S. Lee and E. Kim. 2008. Molecular cloning and functional characterization of the genes encoding benzoate and p-hydroxybenzoate degradation by the halophilic *Chromohalobacter* sp. strain HS-2. *Federation of European Microbiological Societies* 280: 235-241.
- Kleerebezem, R., L. W. H. Pol, and G. Lettinga. 1999. Anaerobic biodegradability of phthalic acid isomers and related compounds. *Biodegradation* 10:63-73.
- Li, J., Y. Shi, Y. Cai, S. Mou, and G. Jiang. 2008. Adsorption of di-ethyl-phthalate from aqueous solutions with surfactant-coated nano/microsized alumina. *Chemical Engineering Journal* 140:214-220.
- Liang, D., T. Zhang, H.H.P. Fang, and J. He. 2008. Phthalates biodegradation in the environment. *Applied Microbiology Biotechnology* 80:183-198.
- Liu, S. M., and W. C. Chi. 2003. CO<sub>2</sub>-H<sub>2</sub> dependent anaerobic biotransformation of phthalic acid isomers in sediment slurries. *Chemosphere* 52:951-958.
- McAdams, H.H., B. Srinivasan, and A.P. Arkin. 2004. The evolution of genetic regulatory systems in bacteria. *Nature Publishing Group* 5:169-178.
- Miftahussurur, M. 2015. Degradasi 2,4-Diklorofenoksi Asam Asetat oleh Bakteri Halofilik. Fakultas Pertanian. Universitas Gadjah Mada. Skripsi.
- Mwirichia, R. I. Alam, M. Rashid, M. Vinu, W. Ba-Alawi, A. A. Kamau, D. K. Ngugi, M. Goker, H. Klenk, V. Bajic, and U. Stingl. 2016. Metabolic traits of uncultured archaeal lineage –MSBL1– from brine pools of the Red Sea. *Scientific Reports* 6:1-14.
- Narasingarao, P., S. Podell, J. A. Ugalde, C. Brochier-Armanet, J. B. Emerson, J. J. Brooks, K. B. Heidelberg, J. F. Banfield, and E. E. Allen. 2012. *De novo* metagenomic assembly reveals abundant novel major lineage of Archaea in hypersaline microbial communities. *The ISME Journal* 6: 81-93.

- Noyola, A., H. Macarie, and J. P. Guyot. 1990. Treatment of terephthalic acid plant wastewater with an anaerobic fixed film reactor. *Environmental Technology* 11:239-248.
- Ozkan, K., S. Ergin, S. Isik, and I. Isikh. 2015. A new classification scheme of plastic wastes based upon recycling labels. *Waste Management* 35:29-35.
- Qiu, Y-L., Y. Sekiguchi, H. Imachi, Y. Kamagata, I-C. Tseng, S-S Cheng, A. Ohashi, and H. Harada. 2004. Identification and isolation of anaerobic, syntrophic phthalate isomer-degrading microbes from methanogenic sludges treating wastewater from terephthalate manufacturing. *Applied and Environmental Microbiology* 70:1617–1626
- Rohman, M. S. 1998. Upaya Melakukan Adaptasi Bakteri *Pseudomonas aeruginosa* PAO1 terhadap 2,4-Diklorofenoksi Asam Asetat. Fakultas Pertanian. Universitas Gadjah Mada. Skripsi.
- Springael, D. and E. M. Top. 2004. Horizontal gene transfer and microbial adaptation to xenobiotics: new types of mobile genetic elements and lessons from ecological studies. *Trends in Microbiology* 12:53-58.
- Saeger, V. W. and Tucker E. S. 1976. Biodegradation of phthalic acid esters in river water and activated sludge. *Applied Environmental Microbiology* 1:29-34.
- Sun, X., X. Zhou, M. Cai, J. Zhou, and Y. Zhang. 2010. Significant stimulation of *o*-phthalic acid in biosynthesis of aspergiolide A by a marine fungus *Aspergillus glaucus*. *Bioresource Technology* 101:3609-3616.
- Sun, S., Z. Zhang, Y. Chen, and Y. Hu. 2016. Biosorption and biodegradation of BDE-47 by *Pseudomonas stutzeri*. *International Biodeterioration dan Biodegradation* 108:16-23.
- Szybalski, W., and Bryson, V. 1952. Genetic studies on microbial cross resistance to toxic agents I.: Cross Resistance of *Escherichia coli* to Fifteen Antibiotics. *Journal of Bacteriology* 64: 489–499.
- Tanaka, T., K. Yamada, T. Iijima, T. Iriguchi, and Y. Kido. 2006. Complete degradation of the endocrine-disrupting chemical *phthalic acid* by *Flavobacterium* sp. *Health Science* 52:800-804.
- Tran, N.H., T. Urase, H.H. Ngo, J. Hu, and S.L. Ong. 2013. Insight into metabolic and cometabolic activities of autotrophic and heterotrophic microorganisms in the biodegradation of emerging trace organic contaminants. *Bioresource Technology* 146: 721-731.
- Vargas, C., A. Kallimanis, A. I. Koukkou, M. I. Calderon, D. Canovas, F. Iglesias-Guerra, C. Drainas, A. Ventosa, and J. J. Nieto. 2005. Contribution of chemical changes in membrane lipids to the osmoadaptation of the halophilic bacterium *Chromohalobacter salexigens*. *Systematic and Applied Microbiology* 28: 571-581.

- Vargas, C. A. Garcia-Yoldi, J. M. Rodrguez, M. Argandona, M. Canovas, J. M. P. Hernandez, and J. J. Nieto. 2009. Genome-scale reconstruction of the metabolic network in *Chromohalobacter salexigens*. *New Biotechnology* 5:1-13.
- Wang, Y., Y. Fan and J. Gu. 2003. Aerobic degradation of phthalic acid by *Comamonas acidovorans* Fy-1 and dimethyl phthalate ester by two reconstituted consortia from sewage sludge at high concentrations. *World Journal of Microbiology and Biotechnology* 19: 811-815.
- Zhao, H.M., H. Du, N.X. Feng, L. Xiang, Y.W. Li, H. Li, Q.Y. Cai, and C.H. Mo. 2016. Biodegradation of di-n-butylphthalate and phthalic acid by a novel *Providencia* sp. 2D and its stimulation in a compost-amended soil. *Biology and Fertility of Soils* 52:65-76.
- Zuo, Y., K. Zhang, J. Wu, B. Men, and M. He. 2011. Determination of *o*-phthalic acid in snow and its photochemical degradation by capillary gas chromatography coupled with flame ionization and mass spectrometric detection. *Chemosphere* 83: 1014-1019.