



เอกสารอ้างอิง

- ธงชัย วงศ์สุวรรณ. 2550. การผลิตพอลิไฮดรอกซีอัลคาโนเอตโดยใช้กรดคาร์บอกซิลิกที่ได้จากการหมักเส้นใยปาล์ม. วิทยานิพนธ์วิทยาศาสตร์มหาบัณฑิต มหาวิทยาลัยสงขลานครินทร์.
- ปิ้วรา บุตรวงศ์. 2546. การสังเคราะห์ PHA จากกระบวนการแอนแอโรบิกแอโรบิกแอคทีเวเต็ด สลัดจ์ที่ใช้บำบัดน้ำเสียต่างชนิด. วิทยานิพนธ์วิศวกรรมศาสตรมหาบัณฑิต มหาวิทยาลัยเทคโนโลยีพระจอมเกล้าธนบุรี.
- โสภา ชินเวชกิจวานิชย์. 2547. อิทธิพลของอุณหภูมิต่อการผลิตพีเอชเอเชื่อมผสมโดยน้ำเสีย. วิทยานิพนธ์วิศวกรรมศาสตรดุษฎีบัณฑิต จุฬาลงกรณ์มหาวิทยาลัย.
- Alias, Z. and Tan I.K.P. 2005. Isolation of palm oil-utilising, polyhydroxyalkanoate (PHA) producing bacteria by an enrichment technique. *Bioresource Technol.* 96: 1229-1234.
- Anderson, A. J. and Wynn, J. P. (1995). Microbial Polyhydroxyalkanoates, Polysaccharides and Lipids. *In Basic Biotechnology*. 2nd ed. (Ratledge, C. and Kristion, B., eds.) p 325-333. Cambridge: Cambridge University Press.
- APHA, AWWA and WPCF. 2001. Standard Method of the Examination of the Water and Wastewater 20thed. American Public Health Association, Wastington, DC.
- Argelier S, Delgenes J.H. and Moletta R. 1998. Design of acidogenic reactors for the anaerobic treatment of the organic fraction of solid food waste. *Bioprocess Eng.* 18: 309-315.
- Arunpan, N. 1998. Production of Poly- β -hydroxyalkanoate from Microorganism. Master of Science Thesis in Biotechnology. Prince of Songkla University.
- Aslim, A., Caliskan, F., Beyath, Y., and Gunduz, U. 1998. Poly- β -hydroxybutyrate production by lactic acid bacteria. *FEMS Microbiol Lett.* 159: 293-297.
- Bhubalan, K., Lee, W., Loo, C., Yamamoto, T., Tsuge, T., Doi, Y. and Sudesh, K. 2008. Controlled biosynthesis and characterization of poly(3-hydroxybutyrate-co-3-hydroxyvalerate-co-3-hydroxyhexanoate) from mixtures of palm kernel oil and 3HV-precursors. *Pol. Degrad. Stab.* 93: 17-23.
- Borsodi, A.K., Micsinai, A., Kovács, G., Tóth, E., Schumann, P., Kovács, A.L., Böddi, B. and Márialiget, K. 2003. *Pannonibacter phragmitetus* gen. nov., sp. nov., a novel alkalitolerant bacterium isolated from decomposing reed rhizomes in a Hungarian soda lake. *Int. J. Syst. Evol. Microbiol.* 53: 555-561.

- Bouvet, P.J.M. and Grimont, P.A.D. 1986. Taxonomy of the genus *Acinetobacter* with the recognition of *Acinetobacter baumannii* sp. nov. *Acinetobacter haemolyticus* sp. nov. *Acinetobacter johnsonii* sp. nov. and *Acinetobacter junii* sp. nov. and emended descriptions of *Acinetobacter calcoaceticus* and *Acinetobacter lwoffii*. Inter J. Syst Bacterio. 36: 228-240.
- Burdon, K.L. 1946. Fatty materials in bacteria and fungi revealed by staining dried fixed slide preparations. J. Bacterio. 52: 665-668.
- Choi, J. and Lee, S.Y. 1997. Process analysis and economic evaluation for poly(3-hydrobutyrate) production by fermentation. Bioprocess Eng. 17: 335-342.
- Crocetti, G.R., Hugenholtz, P., Bond, P.L., Schuler, A. Keller, J., Jenkins, D. and Blackall, L.L. 2000. Identification of polyphosphate-accumulating organisms and design of 16S rRNA-directed probes for their detection and quantitation. Appl. Environ. Microbiol. 66: 1175-1182.
- Crocetti, G.R., Banfield, J.F., Keller, J., Bond, P.L., and Blackall, L.L. 2002. Glycogen-accumulating organisms in laboratory-scale and full-scale wastewater treatment processes. Microbiol. 148: 3353-3364.
- Dai, Y., Yuan, Z., Wang, X., Oehmen, A. and Keller, J. 2007. Anaerobic metabolism of *Defluviicoccus vanus* related glycogen accumulating organisms (GAOs) with acetate and propionate as carbon sources. Water Res. 41: 1885-1896.
- Dionisi, D., Carucci, G., Petrangeli Papini, M., Riccardi, C., Majone, M. and Carrasc, F. 2005. Olive oil mill effluents as a feedstock for production of biodegradable polymers. Water Res. 39: 2076-2084.
- Doi, Y. 1990. Microbial polyester. VCH, New York. 156 pp.
- Du, G., Si, Y. and Yu, J. 2001. Inhibitory effect of medium-chain-length fatty acids on synthesis of polyhydroxyalkanoates from volatile fatty acids by *Ralstonia eutropha*. Biotechnol. Lett. 23: 1613-1617.
- Eschenlauer, A. C., Stoup, S. K. Sriece, F. and Somers, D. A. 1996. Production of heteropolymeric polyhydroxyalkanoate in *Escherichia coli* from a single carbon source. Int. J. Biol. Macromol. 19: 121-130.

- Ganzeveld, K. J., Hagen, A. V., Agteren, M. H. V., Koning, W. D. and Uiterkamp, A. J. M. S. 1999. Upgrading of organic waste: production of copolymer poly-3-hydroxybutyrate-co-valerate by *Ralstonia eutrophus* with organic waste as sole carbon source. *J. Clean Prod.* 7: 413-419.
- Grothe, E. and Chisti, Y. 2000. Poly (β -hydroxybutyric acid) thermoplastic production by *Alcaligenes latus* : Behavior of fed-batch cultures. *Bioprocess Eng.* 22: 441-449.
- Grothe, E., Murray, M. Y. and Yusuf, C. 1999. Fermentation optimization for the production of poly (β -hydroxybutyric acid) microbial thermoplastic. *Enzyme Microb. Tech.* 25: 132 – 141.
- Hocking, P.J. and Marchessault R.H. 1994. Biopolyesters. *In Chemistry and Technology of biodegradable polymers.* (Griffin, G. J. L. ed.). p. 48–95. Chapman and Hall, London.
- Jogdand, S.N. 2004. Welcome to the Eco-Friendly Plastic (online). Available : <http://www.biotechsupportindae.com/jogsn/.html> (2004, March).
- Jorgensen, K.S. and Pauli, A.S.L. 1995. Polyphosphate accumulation among denitrifying bacteria in activated sludge. *Anaerobe Environ. Microb.* 1: 161-168.
- Jung, Y.M., Park, J. S. and Lee, Y. H. 2000. Metabolic engineering of *Alcaligenes eutrophus* through the transformation of cloned phbCAB genes for the investigation of the regulatory mechanism of polyhydroxyalkanoate biosynthesis. *Enzyme. Microb. Technol.* 26: 201-208.
- Kango, S. and Patel, B. K. C. 2003. *Microvirgo subterranean* gen. nov., sp. Nov., a moderate thermophile from a deep subsurface australian thermal aquifer. *Int. J. Syst Bacteriol.* 53: 401-406.
- Kasemsap, C. and Wantawin, C. 2007. Batch production of polyhydroxyalkanoate by low polyphosphate content activated sludge at varying pH. *Bioresource Technol.* 98: 1020-1027.
- Kemavongse, K., Prasertsan, P. Upaichit, A. and Methacanon, P. 2007. Effect of co-substrate on production of poly- β -hydroxybutyrate (PHB) and copolymer PHBV from newly identified mutant *Rhodobacter sphaeroides* U7 cultivated under aerobic-dark condition. *Songklanakarin J. Sci. Technol.* 29: 1101-1113.
- Kemavongse, K., Prasertsan, P. Upaichit, A. and Methacanon, P. 2008. Poly- β -hydroxyalkanoate production by halotolerant *Rhodobacter sphaeroides* U7. *World J Microbiol Biotechnol.* 24: 2073–2085.

- Khanna, S. and Srivastava, A.K. 2005. Recent advances in microbial polyhydroxyalkanoates. *Process Biochem.* 40 : 607-619.
- Kinoshita, S., Kulprecha, K. and Chao, A. 1991. Microbial Production of Poly- β -hydroxybutyric Acid. *In Annual Report of IC Biotech* (Oshima, Y.,ed). Osaka: Osaka University. p.347-349.
- Koller, M., Bona, R., Chiellini, E., Fernandes, E.G., Horvat, P., Kutschera, C., Hesse, P. and Braunegg, G. 2008. Polyhydroxyalkanoate production from whey by *Pseudomonas hydrogenovor*. *Bioresource Technol.* 99: 4854-4863.
- Kumar, M.S., Mudliar, S.N., Reddy, K.M.K. and Chakrabarti, T. 2004. Production of biodegradable plastics from activated sludge generated from a food processing industrial wastewater treatment plant. *Bioresource Technol.* 95: 327-330.
- Lageveen, R.G., Huisman, G.W., Preusting, H., Ketelaar, P., Eggink, G. And Witholt, B. 1988. Formation of polyesters by *Pseudomonas oleovorans*: Effect of substrates on formation and composition of poly-(R)- 3-hydroxyalkanoates and poly-(R)-3-hydroxyalkenoates. *Appl. Environ. Microbiol.* 54: 2924-32.
- Lee, I.Y., Kim, M.K., Kim, G.J., Chang, H.N. and Park, Y.H. 1995. Production of poly (β -hydroxybutyrate-co- β -hydroxyvalerate) from glucose and valerate in *Alcaligenes eutrophus*. *Biotechnol.Lett.* 17: 571-574.
- Lee, S.Y. 1996. Bacterial Polyhydroxyalkanoates. *Biotechnol. Bioeng.* 49: 1-14.
- Lee, W-H., Loo, C-Y., Nomura, C.T. and Sudesh, K. 2008. Biosynthesis of polyhydroxyalkanoate copolymers from mixtures of plant oils and 3-hydroxyvalerate precursors. *Bioresource Technol.* 99: 6844-6851.
- Lemos, P.C., Serafim, L.S. and Reis, M.A.M. 2006, Synthesis of polyhydroxyalkanoates from different short-chain fatty acids by mixed cultures submitted to aerobic dynamic feeding. *J. Biotechnol.* 122: 226-238.
- Lorrunguang, C., Marthong, J., Sasaki, K. and Noparatnaraporn, N. 2006. Selection of photosynthetic bacterium *Rhodobacter sphaeroides* 14F for polyhydroxyalkanoate production with two-stage aerobic dark cultivation. *J. Biosci. Bioeng.* 102: 128-131.
- Luengo, J.M., Garcia, B., Sandoval, A., Noharro, G. and Olivera, E.R. 2003. Bioplastics from microorganisms. *Curr. Opin. Microbiol.* 6: 256-260.

- Luli, G. W. and Strohl, W. R. 1990. Comparison of Growth, acetate production, and acetate inhibition of *Escherichia coli* strains in batch and fed-batch fermentations. *Appl Environ Microbiol.* 56: 1004-1011.
- Madden, L.A., Andersona, A.J., Asrar, J., Berger, P. and Garrett, P. 2000. Production and characterization of poly(3-hydroxybutyrate-co-3-hydroxyvalerate-co-4-hydroxybutyrate) synthesized by *Ralstonia eutropha* in fed-batch cultures. *Polymer.* 41: 3499–3505.
- Nation Center for Biotechnology Information. 2008. Gene Bank (online). Available : <http://www.ncbi.nlm.nih.gov> (2008, July).
- Pozo, C., Martinez-Toledo, M. V., Rodelas, B. and Gonzalez-Lopez, J. 2002. Effect of culture conditions on the production of polyhydroxyalkanoates by *Azotobacter chroococcum* H23 in media containing a high concentration of alpechin (wastewater from olive oil mills) as primary carbon source. *J. Biotechnol.* 97: 125-131.
- Punrattanasin, W. 2001. The utilization of activated sludge polyhydroxyalkanoates for the production of biodegradable plastics. Ph.D. Dissertation. Virginia Polytechnic Institute and State University.
- Reddy, C. S. K., Rashmi, R. G. and Kalia, V. C. 2003. Polyhydroxyalkanoates : an overview. *Bioresource Technol.* 4: 137 - 146.
- Renner, G., Haage, G. and Braunegg, G. 1996. Production of short-side-chain polyhydroxyalkanoates by various bacteria from the rRNA superfamily III. *Appl. Microbiol. Biotechnol.* 46: 268-272.
- Ryu, H.W., Hahn, S.K., Chang, Y.K. and Chang, H.N. 1997. Production of poly (3-hydroxybutyrate) by high cell density fed-batch culture of *Alcaligenes eutrophus* with phosphate limitation. *Biotechnol. Bioeng.* 55: 28-32.
- Salehizadeh, H. and Van Loosdrecht, M.C.M. 2004. Production of polyhydroxyalkanoates by mixed culture: recent trends and biotechnological importance. *Biotechnol. Adv.* 22: 261-279.
- Sangkharak, K. 2007. Production and Application of Polyhydroxybutyrate (PHB) from Mutant Strain of *Rhodobacter sphaeroides* ES 16. Ph.D. Dissertation. Prince of Songkla University.
- Satoh, H., Iwamoto, Y., Mino, T. and Matsuo, T. 1998. Activated sludge as a possible source of biodegradable plastic. *Water Sci. Technol.* 38: 103-109.

- Sheu, D.S., Chen, W.M., Yang, J.Y. and Chang, R.C. 2009. Thermophilic bacterium *Caldimonas taiwanensis* produces poly (3-hydroxybutyrate-co-3-hydroxyvalerate) from starch and valerate as carbon sources. *Enzyme Microb. Technol.* 44: 289-294.
- Shimisu, H., Shioya, S. and Suga, K. I. 1990. Cultivation condition for production of biodegradable poly- β -hydroxybutyric acid (PHB) production in *Alcaligenes eutrophus* H16 and *Myoplasma rubra* R14 with respect to the dissolved oxygen tension in ammonium limited batch cultures. *Eur. J. Appl. Microbiol. Biotechnol.* 7: 1-10.
- Sudesh, H., Abe, H. and Doi, Y. 2000. Synthesis, structure and properties of polyhydroxyalkanoates : biological polyesters. *Prog. Polym. Sci.* 25: 1503–1555.
- Suriyamongkol, P., Weselake, R., Narine, S., Moloney, M. and Shah, S. 2007. Biotechnological approaches for the production of polyhydroxyalkanoates in microorganisms and plants-A review. *Biotechnol. Adv.* 25: 148-175.
- Thanakoses, P., Black, A.S. and Holtzapple, M.T. 2003. Fermentation of corn stover to carboxylic acids. *Biotechnol. Bioeng.* 83: 191-200.
- Tian, Q.W., Suqin S., Isao, N. and Guo, Q. C. 2002. Two-dimensional fourier transform infrared spectroscopy study of biosynthesized poly(hydroxybutyrate-cohydroxyhexanoate) and poly(hydroxybutyrateco- hydroxyvalerate). *J. Pol. Sci. Polym. Phys.* 40: 649–656.
- Wang, Y.J., Hua, F.L., Tsang, Y.F., Chan, S.Y., Sin, S.N., Chua, H., Yu, P.H.F. and Ren, N.Q. 2007. Synthesis of PHAs from waste under various C:N ratio. *Bioresource Technol.* 98: 1690-1693.
- Weitkamp *et al.*, 2000
- Wikipedia. 2008. Polyphosphate-accumulating organisms. Available: http://en.wikipedia.org/wiki/Polyphosphate-accumulating_organisms (2008, December).
- Yabuuchi, E. and Yano, I. 1981. *Achromobacter* gen. nov. and *Achromobacter xylosoxidans* (ex Yabuuchi and Ohyama 1971) norn. rev. *Int. J. Syst. Bacterio.* 31: 477-478.
- Yamane, T., Chen, X. and Ueda, S. 1996. Growth associated production of poly(3-hydroxyvalerate) from *n*-pentanol by a methylotrophic bacterium, *Paracoccus denitrificans*. *Appl. Environ. Microbiol.* 62: 380-384.
- Yu, J. 2001. Production of PHA from starchy wastewater via organic acids. *J. Biotechnol.* 86: 105-112.