

## REFERENCES

- Abe H, Doi Y, Aoki H, Akehata T, Hori Y, Yamaguchi A. Physical properties and enzymic degradability of copolymers of (R)-3-hydroxybutyric and 6-hydroxyhexanoic acids. **Macromolecules** 1995; 28(23): 7630–7637.
- Agus J, Kahar P, Abe H, Doi Y, Tsuge T. Molecular weight characterization of poly[(R)-3-hydroxybutyrate] synthesized by genetically engineered strains of *Escherichia coli*. **Polym Degrad Stab** 2006; 91: 1138–1146.
- Ajandouz el H, Castan S, Jakob S, Puigserver A. A fast, sensitive HPLC method for the determination of esterase activity on alpha-tocopheryl acetate. **J. Chromatogr. Sci** 2006; 44(10): 631–633.
- Alias Z, Tan IK. Isolation of palm oil-utilising, polyhydroxyalkanoate (PHA)-producing bacteria by an enrichment technique. **Bioresour Technol** 2005; 96(11): 1229-1234.
- Altekar M, Homon CA, Kashem MA, Mason SW, Nelson RM, Patnaude LA, Yingling J, Taylor PB. Assay optimization: A statistical design of experiments approach. **Journal of the Association for Laboratory Automation** 2006; 11: 33-41.
- Anderson AJ, Dawes EA. Occurrence, metabolism, metabolic role, and industrial uses of bacterial polyhydroxyalkanoates. **Microbiological Reviews** 1990; 54(4): 450-472.
- Andrea Legat A, Gruber C, Zangger K, Wanner G, Stan-Lotter H. Identification of polyhydroxyalkanoates in *Halococcus* and other haloarchaeal species. **Appl Microbiol Biotechnol** 2010; 87(3): 1119–1127.
- Arshad MU, Jamil N, Naheed N, Hasnain S. Analysis of bacterial strains from contaminated and non-contaminated sites for the production of biopolymers. **Afr Biotechnol** 2007; 6: 1115-1121.
- Arun A, Arthi R, Shanmugabalaji V, Eyini M. Microbial production of poly-beta-hydroxybutyrate by marine microbes isolated from various marine environments. **Bioresource Technology** 2009; 100: 2320-2323.

- Atlas RM. **Handbook of microbiological media**. 3rd ed. Boca Raton, Fla.: CRC Pr; 2004.
- Baisier WM, Labuza TP. Maillard browning kinetics in a liquid model system. **Journal of Agriculture and Food Chemistry** 1992; 40: 707–713.
- Barnard GN, Sanders JK. The poly- $\beta$ -hydroxybutyrate granule *in vivo*. A new insight based on NMR spectroscopy of whole cells. **J Biol Chem** 1989; 264(6): 3286–3291.
- Beegom R, Beegom R, Niaz MA, Singh RB. Diet, central obesity and prevalence of hypertension in the urban population of South India. **International Journal of Cardiology** 1995; 51: 183-191.
- Braunegg G, Genser K, Bona R, Haage G, Schellauf F, Winkler E. Production of PHAs from agricultural material. **Macromol Symp** 1999; 144: 375-383.
- Brenner DJ, Krieg NR, Staley JT, editors. **Bergey's manual of determinative bacteriology: volume 2, the proteobacteria**. 2<sup>nd</sup> ed. New York: Springer; 2005.
- Burdon KL. Fatty material in bacteria and fungi revealed by staining dried, fixed slide preparations. **J Bacterial** 1946; 52: 665-678.
- Byrom D. Production of poly- $\beta$ -hydroxybutyrate: Poly- $\beta$ -hydroxyvalerate copolymers. **FEMS Microbiology Letters** 1992; 103(2-4): 247-250.
- Campbell TC, Junshi C. Diet and chronic degenerative diseases: perspectives from China. **American Journal of Clinical Nutrition** 1994; 59: 1153S-1161S.
- Chen GQ. Plastics completely synthesized by bacteria: polyhydroxyalkanoates. In: Chen GQ, editor. **Plastics from bacteria**. Heidelberg: Springer Berlin; 2010.
- Chen CW, Trong-Ming D, Hsiao-Feng Y. Enzymatic extruded starch as a carbon source for the production of poly(3-hydroxybutyrate-co-3-hydroxyvalerated) by *Haloferax mediterranei*. **Process Biochem** 2006; 41: 2289-2296.
- Chen GQ, Zhang G, Park SJ, Lee SY. Industrial scale production of poly(3-hydroxybutyrate-co-3-hydroxyhexanoate). **Appl. Microbiol. Biotechnol** 2001; 57: 50-55.
- Chen G, Wu Q. The application of polyhydroxyalkanoates as tissue engineering materials. **Biomaterials** 2005; 26(33): 6565-6578.

- Chien CC, Chen CC, Choi MH, Kung SS, Wei YH. Production of poly- $\beta$ -hydroxybutyrate (PHB) by *Vibrio* spp. isolated from marine environment. **Journal of Biotechnology** 2007; 132(3): 259-263.
- Choi JI, Lee SY. High-level production of poly(3-hydroxybutyrate-co-3-hydroxyvalerate) by fed-batch culture of recombinant *Escherichia coli*. **Appl Environ Microbiol** 1999; 65: 4363–4368.
- Cromwick AM, Foglia T, Lenz RW. The microbial production of poly(hydroxyalkanoates) from tallow. **Appl Microbiol Biotechnol** 1996; 46: 464–469.
- Dai Z, Zou X, Chen G. Poly(3-hydroxybutyrate-co-3-hydroxyhexanoate) as an injectable implant system for prevention of post-surgical tissue adhesion. **Biomaterials** 2009; 30(17): 3075-3083.
- Dawes EA, Senior PJ. The role and regulation of energy reserve polymers in micro-organisms. **Adv Microb Physiol** 1973; 10: 135-266.
- Dubois M, Gilles KA, Hamilton JK, Rebers PA, Smith F. Colorimetric method for determination of sugars and related substances. **Anal Chem** 1956; 28: 350-356.
- Durner R, Witholt B, Egli T. Accumulation of poly[(R)-3-hydroxyalkanoates] in *Pseudomonas oleovorans* during growth with octanoate in continuous culture at different dilution rates. **Appl Environ Microbiol** 2000; 66: 3408–3414.
- Egli T, Zinn M. The concept of multiple-nutrient-limited growth of microorganisms and some of its possible applications in biotechnology processes. **Biotechnology Advances** 2003; 22: 35-43.
- Emeruwa AC, Hawirko RZ. Poly- $\beta$ -hydroxybutyrate metabolism during growth and sporulation of *Clostridium botulinum*. **J bacteriol** 1973; 116(2): 989-993.
- Erdogdu F. **Optimization in food engineering**. New York: CRC Press; 2009.
- Evan JD, Sikdar SK. Biodegradable plastic: An idea whose time has come. **Chemtech** 1990; 20: 38-42.
- Federle TW, Barlaz MA, Pettigrew CA, Kerr KM, Kemper JJ, Nuck BA, Schechtman LA. Anaerobic biodegradation of aliphatic polyesters: poly(3-hydroxybutyrate-co-3-hydroxyoctanoate) and poly( $\epsilon$ -caprolactone). **Biomacromolecules** 2002; 3: 813-822.

- Finkler C, Giacomet C, Muschner VC, Salzano FM, Freitas LB. Molecular investigations of pathogenesis-related Bet v1 homologues in *Passiflora* (*Passifloraceae*). **Genetica** 2005; 124: 117-125.
- Gouda MK, Swellam AE, Omar SH. Production of PHB by a *Bacillus megaterium* strain using sugarcane molasses and corn steep liquor as sole carbon and nitrogen sources. **Microbiological Research** 2001; 156(3): 201-207.
- Grøndahl L, Chandler-Temple A, Trau M. Polymeric grafting of acrylic acid onto poly(3-hydroxybutyrate-co-3-hydroxyvalerate): surface functionalization for tissue engineering applications. **Biomacromolecules** 2005; 6: 2197–2203.
- Grothe E, Young MM, Chisti Y. Fermentation optimization for the production of poly( $\beta$ -hydroxybutyric acid) microbial thermoplastic. **Enzyme Microb Technol.** 1999; (25): 132–141.
- Griebel RJ, Merrick JM. Metabolism of poly- $\beta$ -hydroxybutyrate: effect of mild alkaline extraction on native poly- $\beta$ -hydroxybutyrate granules. **J Bacteriol** 1971; 108: 782–789.
- Griebel R, Smith Z, Merrick JM. Metabolism of poly- $\beta$ -hydroxybutyrate. I. Purification, composition and properties of native poly- $\beta$ -hydroxybutyrate granules from *Bacillus megaterium*. **Biochemistry** 1968; 7(10): 3676–3681.
- Halami PH. Production of polyhydroxyalkanoate from starch by the native isolate *Bacillus cereus* CFR06. **World J Microbiol Biotechnol** 2008; 24: 805–812.
- Helm J, Wendlandt KD, Jechorek M, Stottmeister U. Potassium deficiency results in accumulation of ultra-high molecular weight poly-beta-hydroxybutyrate in a methane-utilizing mixed culture. **J Appl Microbiol** 2008; 105: 1054-1061.
- Hodge J. Chemistry of browning reactions in model systems. **Journal of Agriculture and Food Chemistry** 1953; 1: 928–934.
- Hogarth DM. Genetics of sugarcane. In: D.J. Heinz, editor. **Sugarcane improvement through breeding**. Amsterdam: Elsevier; 1987: 255–271.
- Hrabak O. Industrial production of poly- $\beta$ -hydroxybutyrate. **FEMS Microbiology Letters** 2006; 103: 251–255.
- Jacquel N, Lo CW, Wei YH, Wu HS, Wang SS. Isolation and purification of bacterial poly(3-hydroxyalkanoates). **Biochemical Engineering Journal** 2008; 39(1): 15-27.

- James PC. **Cane sugar handbook**. 11<sup>th</sup> ed. New York: A Wiley Interscience Publication; 1985.
- Jing H, Kitts DD. Chemical and biochemical properties of casein–sugar Maillard reaction products. **Food and Chemical Toxicology** 2002; 40: 1007–1015.
- Jogdand SN. **Bioplastic** [Online] 1999 [cited 2008 May 26]. Available from: <http://members.rediff.com/jogsn/>
- Kadouri D, Jurkevitch E, Okon Y, Castro-Sowinski S. Ecological and agricultural significance of bacterial polyhydroxyalkanoates. **Critical Reviews in Microbiology** 2005; 31: 55-67.
- Kallio RE, Harrington AA. Sudanophilic granules lipid of *Pseudomonas methanica*. **J Bacteriol** 1960; 80: 321-324.
- Keshavarz T, Roy I. Polyhydroxyalkanoates: Bioplastics with a green agenda. **Current Opinion in Microbiology** 2010; 13(3): 321-326.
- Khanna S, Srivastava A K. Statistical media optimization studies for growth and PHB production by *Ralstonia eutropha*. **Process Biochemistry** 2005; 40(6): 2173-2182.
- Kim BS. Production of poly(3-hydroxybutyrate) from inexpensive substrates. **Enzyme Microb Technol** 2000; 27: 774–777.
- Kim BS, Chang HN. Control of glucose feeding using exit gas data and its application to the production of PHB from tapioca hydrolysates by *Alcaligenes eutrophus*. **Biotechnol Techniques** 1995; 9: 311–314.
- Kim GJ, Lee IY, Choi DK, Yoon SC, Park YH. High cell density cultivation of *Pseudomonas putida* BM01 using glucose. **J Microbiol Biotechnol** 1996; 6: 221–224.
- Kim YB, Lenz RW. Polyesters from microorganisms. In : Babel W, Steinbüchel A., editor. **Biopolyesters** Heidelberg: Springer Berlin; 2001. Vol. 71; 51-79.
- Kim HO, Wee YJ, Kim JN, Yun JS, Ryu HW. Production of lactic acid from cheese whey by batch and repeated batch cultures of *Lactobacillus* sp. RKY2. **Appl Biochem Biotechnol** 1995; 131: 694-704.
- Koller M, Atlić A, Dias M, Reiterer A, Braunegg, G. Microbial PHA production from waste raw materials. In: Chen GQ, editor. **Plastics from bacteria**. Heidelberg: Springer Berlin; 2010.

- Kominek LA, Halvorson HO. Metabolism of poly-beta-hydroxybutyrate and acetoin in *Bacillus cereus*. **J Bacteriol** 1965; 90(5): 1251–1259.
- Lana X, Liu P, Xia S, Jia C, Mukunzi D, Zhang X, et al. Temperature effect on the non-volatile compounds of Maillard reaction products derived from xylose–soybean peptide system: Further insights into thermal degradation and cross-linking. **Food chemistry** 2010; 120(2): 967-972.
- Law JH, Slepecky RA. Assay of poly-3-hydroxybutyric acid. **Chem J Bacteriol** 1961; 82: 33–36.
- Lee SY. Bacterial polyhydroxyalkanoates, **Biotechnol Bioeng** 1996; 49: 1–14.
- Lee J, Lee SY, Park S, Middelberg APJ. Control of fed-batch fermentations. **Biotechnol Adv** 1999; 17: 29–48.
- Leejarkpai T. **Bioplastics**. Bangkok: MTEC; 2006.
- Lin LP, Sadoff HL. Encystment and polymer production by *Azotobacter vinelandii* in the presence of beta-hydroxybutyrate. **J Bacteriol** 1968; 95(6): 2336–2343.
- Luengo JM, García B, Sandoval A, Naharro G, Olivera ER. Bioplastics from microorganisms. **Current Opinion in Microbiology** 2003; 6(3): 251-260.
- Madison LL, Huisman GW. Metabolic engineering of poly(3-hydroxyalkanoates): from DNA to plastic. **Microbiol Mol Biol Rev** 1999; 63(1): 21–53.
- McCool GJ, Fernandez T, Li N, Cannon MC. Polyhydroxyalkanoate inclusion-body growth and proliferation in *Bacillus megaterium*. **FEMS Microbiology Letters** 1996; 138: 41-48.
- Merrick JM, Doudoroff M. Depolymerization of poly-β-hydroxybutyrate by an intracellular enzymes system. **J Bacteriol** 1964; 88: 60–71.
- Meyer A. **Praktikum der botanischen bakterienkunde**. Jena, 1903.
- Mizuno K, Ohta A, Hyakutake M, Ichinomiya Y, Tsuge T. Isolation of polyhydroxyalkanoate-producing bacteria from a polluted soil and characterization of the isolated strain *Bacillus cereus* YB-4. **Polymer Degradation and Stability** 2010; 95(8): 1335-1339.
- Morales FJ, Van Boekel MAJS. A study on advanced Maillard reaction in heated casein/sugar solutions: Fluorescence accumulation. **International Dairy Journal** 1997; 7: 675–683.

- Moreira JR. Sugarcane for energy recent results and progress in Brazil. **Energy Sustain Develop** 2000; 4: 43–54.
- Myers RH, Montgomery DC. **Response surface methodology: process and product optimization using designed experiments**. New York: John Wiley & Sons; 1995.
- Nakata HM. Effect of pH on intermediates produced during growth and sporulation of *Bacillus cereus*. **J Bacteriol** 1963; 86: 577-581.
- Nath A, Dixit M, Bandiya A, Chavda S, Desai AJ, Enhanced PHB production and scale up studies using cheese whey in fed batch culture of *Methylobacterium* sp. ZP24. **Bioresour Technol** 2008; 99: 5749–5755.
- Nikel PI, Pettinari MJ, Méndez BS, Galvagno MA. Statistical optimization of a culture medium for biomass and poly(3-hydroxybutyrate) production by a recombinant *Escherichia coli* strain using agro-industrial by products. **Int Microbiol** 2005; 8(4): 243-250.
- Norback JB. Techniques for optimization of food processes. **Food Tech** 1980; 34(2): 86-88.
- Obruca S, Marova I, Melusova S, Mravcova L. Production of polyhydroxyalkanoates from cheese whey employing *Bacillus megaterium* CCM 2037. In: Sorlini C, editor. **Annals of Microbiology**. Heidelberg: Springer Berlin; 2011.
- Oeding V, Schlegel HG.  $\beta$ -Ketothiolase from *Hydrogenomonas eutropha* H16 and its significance in the regulation of poly- $\beta$ -hydroxybutyrate metabolism. **Biochem J** 1973; 134: 239-248.
- Ojumu TV, Yu J, Solomon BO. Production of polyhydroxyalkanoates, a bacteria biodegradable polymer. **African Journal of Biotechnology** 2004; 3(1): 18-24.
- Olabi AG, Casalino G, Benyounis KY, Rotondo A. Minimisation of the residual stress in the heat affected zone by means of numerical methods. **Materials & Design** 2007; 28(8): 2295-2302.
- Ostle AG, Holt JG. Nile blue A as a fluorescent stain for poly- $\beta$ -hydroxybutyrate. **Appl Environ Microbiol** 1982; 44: 238–241.
- Page WJ, Cornish A. Growth of *Azotobacter vinelandii* UWD in fish peptone medium and simplified extraction of poly- $\beta$ -hydroxybutyrate. **Appl Environ Microbiol** 1993; 59: 4236–4244.

- Pomeranz Y, Meloan CE. **Food Analysis: Theory and practice**. 3<sup>rd</sup> ed. New York: Chapman & Hall; 1994.
- Postma J, van Veen JA, Walter S. Influence of difference initial soil moisture contents on the distribution and population dynamics on introduced *Rhizobium leguminosarum*. **Soil Biol Biochem** 1989; 21: 437-442.
- Purushothaman M, Anderson R, Narayana S, Jayaraman V. Industrial byproducts as cheaper medium components influencing the production of polyhydroxyalkanoates (PHA)-biodegradable plastics. **Bioprocess Biosyst Eng** 2001; 24: 131-136.
- Ramadas NV, Singh SK, Soccol CR, Pandey A. Polyhydroxybutyrate production using agro-industrial residue as substrate by *Bacillus sphaericus* NCIM 5149. **Braz. Arch. Biol. Technol** 2009; 52: 17-23.
- Reddy CS, Ghai R, Rashmi, Kalia VC. Polyhydroxyalkanoates: an overview. **Bioresource Technology** 2003; 87(2): 137-146.
- Ryu HW, Hahn SK, Chang YK, Chang HN. Production of poly(3-hydroxybutyrate) by high cell density fed-batch culture of *Alcaligenes eutrophus* with phosphate limitation. **Biotechnol Bioeng** 1997; 55: 28-32.
- Segura D, Cruz T, Espín J. Encystment and alkylresorcinol production by *Azotobacter vinelandii* strains impaired in poly-beta-hydroxybutyrate synthesis. **Arch Microbiol** 2003; 179: 437-443.
- Silva JA, Tobella LM, Becerra J, Godoy F, Martínaz MA. Biosynthesis of poly-beta-hydroxyalkanoate by *Brevundimonas vesicularis* LMG P-23615 and *Sphingopyxis macrogoltabida* LMG 17324 using acid-hydrolyzed sawdust as carbon source. **J Biosci Bioeng** 2007; 103(6): 542-546.
- Spiekermann P, Rehm BHA, Kalscheuer R, Baumeister D, Steinbüchel A. A sensitive, viable-colony staining method using Nile red for direct screening of bacteria that accumulating polyhydroxyalkanoic acids and other lipid storage compounds. **Arch Microbiol** 1999; 171: 73-80.
- Steinbüchel A, Hein S. Biochemical and molecular basis of microbial synthesis of polyhydroxyalkanoates in microorganisms. **Advances in Biochemical Engineering/Biotechnology** 2001; 71: 81-123.

- Steinbüchel A, Aerts K, Babel W, Föllner C, Liebergesell M, Madkour MH et al. Considerations on the structure and biochemistry of bacterial polyhydroxyalkanoic acid inclusions. **Can J Microbiol** 1995; 41(Suppl1): 94–105.
- Steinbüchel A, Lutke-Eversloh T. Metabolic engineering and pathway construction for biotechnological production of relevant polyhydroxyalkanoates in microorganisms. **Biochem Eng J** 2003; 16: 81-96.
- Stowe RA, Mayer RP. Efficient screening of process variables. **Ind Eng Chem** 1966; 58(2): 36–40.
- Sudesh K, Abe H, Doi Y. Synthesis, structure and properties of polyhydroxyalkanoates: Biological polyesters. **Progress in Polymer Science** 2000; 25(10): 1503-1555.
- Sumaya-Martínez T, Castillo-Morales A, Favela-Torres E, Huerta-Ochoa S, Prado-Barragán LA. Fish protein hydrolysates from Gold Carp (*Carassius auratus*): I. A study of hydrolysis parameters using response surface methodology. **J Sci Food Agric** 2005; 85: 98–104.
- Tanaka T, Yabe T, Teramachi S, Iwata T. Mechanical properties and enzymatic degradation of poly[(R)-3-hydroxybutyrate] fibers stretched after isothermal crystallization near  $t_g$ . **Polymer Degradation and Stability** 2007; 92(6): 1016-1024.
- Taniguchi I, Kagotani K, Kimura Y. Microbial production of poly(hydroxyalkanoate)s from waste edible oils. **Green Chem** 2003; 5(5): 545–548.
- Tesema Y, Raghavan D, Stubbs J. Bone cell viability on methacrylic acid grafted and collagen immobilized porous poly(3-hydroxybutyrate-co-3-hydroxyvalerate). **J Appl Polym Sci** 2005; 98: 1916–1921.
- Uppal SK, Thind KS, Gill RS. Feasibility of ethanol production from cultivated sugarcane varieties of Punjab. **Sugar Technol** 2006; 8: 180–183.
- Valappil SP, Misra SK, Boccaccini AR, Keshavarz T, Bucke C, Roy I. Polyhydroxyalkanoate (PHA) biosynthesis from structurally unrelated carbon sources by a newly characterized *Bacillus* spp. **J. Biotechnol** 2007; 127: 475-487.

- Van Elsas JD, van Overbreek LS. In: Kjelleberg S, editor. Bacterial responses to soil stimuli. **Starvation in bacteria**. Plenum: New York; 1993.
- Vicente G, Martínez M, Aracil J, Optimization of integrated biodiesel production. Part I. A study of the biodiesel purity and yield. **Bioresour Technol** 2007; 98: 1724–1733.
- Wang Y, Inoue Y. Effect of dissolved oxygen concentration in the fermentation medium on transformation of the carbon sources during the biosynthesis of poly(3-hydroxybutyrate-co-3-hydroxypropionate) by *Alcaligenes latus*. **International Journal of Biological Macromolecules** 2001; 28(3): 235-243.
- Wang J, Yu J. Kinetic analysis on inhibited growth and poly(3-hydroxybutyrate) formation of *Alcaligenes eutrophus* on acetate under nutrient-rich conditions. **Process Biochemistry** 2000; 36: 201-207.
- Wang F, Lee SY. Poly(3-Hydroxybutyrate) Production with high productivity and high polymer content by a fed-batch culture of *Alcaligenes latus* under nitrogen limitation. **Appl Environ Microbiol** 1997; 63: 3703-3706.
- Wang J, Bakken LR. Screening of soil bacteria for poly- $\beta$ -hydroxybutyric acid production and its role in the survival of starvation. **Microb Ecol** 1998; 35: 94–101.
- Wheals AE, Basso LC, Alves DMG, Amorim HV. Fuel ethanol after 25 years. **Trends Biotechnol** 1999; 17: 482–487.
- Williams KR. Statistical approaches to experimental data-comparing screening designs. **Ind. Eng. Chem** 1963; 55(6): 29-32.
- Williams S, Varahramyan K, Maszara W. Statistical optimization and manufacturing sensitivity analysis of 0.18  $\mu\text{m}$  SOI MOSFETs. **Microelectronic Engineering** 1999; 49(3-4): 245-261.
- Williamson DH, Wilkinson JF. The isolation and estimation of the poly- $\beta$ -hydroxybutyrate inclusions of *Bacillus* species. **J Gen Microbiol** 1958; 19: 198-209.
- Wiriyacharee P. **Advanced experimental design**. Chiang Mai: Faculty of Agro-Industry, Chiang Mai University; 2004.

- Wu Q, Huang H, Hu GH, Chen J, Ho KP, Chen GQ. Production of poly-3-hydroxybutyrate by *Bacillus* sp. JMa5 cultivated in molasses media. **Antonie van Leeuwenhoek** 2001; 80: 111–118.
- Yezza A, Halasz A, Levadoux W, Hawari J. Production of poly- $\beta$ -hydroxybutyrate (PHB) by *Alcaligenes latus* from maple sap. **Appl Microbiol Biotechnol** 2007; 77(2): 269-274.
- Yilmaz M, Soran H, Beyatli Y. Determination of poly- $\beta$ -hydroxybutyrate (PHB) production by some *Bacillus* spp. **World J Microbiol Biotechnol** 2005; 21: 565-566.
- Young FK, Kastner JR, May SW. Microbial production of poly-3-hydroxybutyric acid from D-xylose and lactose by *Pseudomonas cepacia*. **Appl Environ Microbiol** 1994; 60: 4195-4198.
- Yu P, Chua H, Huang AL, Ho KP. Conversion of industrial food wastes by *Alcaligenes latus* into polyhydroxyalkanoates. **Applied Biochemistry and Biotechnology** 1999; 78: 445-454.
- Yu DG, Lin WC, Lin CH, Yang MC. Cytocompatibility and antibacterial activity of a PHBV membrane with surface-immobilized water-soluble chitosan and chondroitin-6-sulfate. **Macromol Biosci** 2006; 6: 348–357.
- Zhang F, Miller CA, Robinson BK, Abbas PJ, Hu N. Changes across time in spike rate and spike amplitude of auditory nerve fibers stimulated by electric pulse trains. **J. Assoc. Res. Otol** 2007; 8: 356–372.
- Zhao YH, Li HM, Qin LF, Wang HH, Chen GQ. Disruption of the polyhydroxyalkanoate synthase gene in *Aeromonas hydrophila* reduces its survival ability under stress conditions. **FEMS Microbiology Letters** 2007; 276(1): 34-41.
- Zhaolin D, Xuenan S. A new method of recovering polyhydroxyalkanoate from *Azotobacter chroococcum*. **Chinese Science Bulletin** 2000; 45(3): 252-256.
- Zinn M, Witholt B, Egli T. Dual nutrient limited growth: models, experimental observations, and applications. **J Biotechnol** 2004; 113: 263-279.
- Zoecklein BW, Fugelsang KC, Gump BH, Nury FS, **Wine analysis and production**. Gaithersburg: Chapman & Hall; 1995.