

เอกสารและสิ่งอ้างอิง

- กัญญา สอนสนิท. 2537. การผลิตไซลิตอลจากน้ำตาลไซโลสโดยยีสต์. วิทยานิพนธ์ปริญญาโท, มหาวิทยาลัยเกษตรศาสตร์.
- ประเสริฐ สุดใจประภารัตน์. 2546. การคัดเลือกและศึกษาอนุไซม์สำคัญในวิธีการเปลี่ยนแปลงเมทานอลของเมทิลโลโทรฟิยีสต์ที่ทนอุณหภูมิสูง. วิทยานิพนธ์ปริญญาโท, มหาวิทยาลัยเกษตรศาสตร์.
- วรสิทธิ์ โทจำปา. 2541. การผลิตไซลิตอลโดยการหมวนเวียนเซลล์ด้วย **hollow fibers**. วิทยานิพนธ์ปริญญาโท, มหาวิทยาลัยเกษตรศาสตร์.
- Aguiar, W.B., L.F.F. Faria, M.A.P.G. Couto, O.Q.F. Araujo and N. Pereira Jr. 2002. Growth model and prediction of oxygen transfer rate for xylitol production from D-xylose by *C. guilliermondii*. **Biochem. Eng. J.** 12: 49-59.
- Anthony, C. 1982. **The Biochemistry of Methyloprophs**. Academic Press, London.
- Arthur, H. and K. watson. 1976. Thermal adaptation in yeast: growth temperatures, membrane lipid, and cytochrome composition of psychrophilic, mesophilic and thermophilic yeasts. **J. Bacteriol.** 128(1): 56-68.
- Banat, I.M., G. McMullan, P. Nigam, F. Smyth and R. Marchant. 2000. Decolorization of remazol black-B using a thermotolerant yeast, *Kluyveromyces marxianus* IMB3. **Environ. Int.** 26: 75-79.
- Bar, A. 1988. Caries prevention with xylitol. **World Rev. Nutrition Diet.** 55: 183-209.

- Barbosa, M.F.S., M.B. de Medeiros, I.M. de Mancilha, H. Schneider and H. Lee. 1988. Screening of yeasts for production of xylitol from D-xylose and some factors which affect xylitol yield in *Candida guilliermondii*. **J. Ind. Microbiol.** 3: 241-251.
- Barnett, J.A., R.W. Payne and D. Yarrow. 2000. **Yeasts: Characteristic and Identification.** 3th ed. Cambridge University Press, Cambridge.
- Boze, H., G. Moulin and P. Galzy. 1992. Production of food and fodder yeasts. **Crit. Rev. Biotechnol.** 12: 65-86.
- Brock, T.D. 1986. **Thermophiles: Genetic and Molecular Apply Microbiology.** John Wiley and Sons, Inc., New York.
- Brown, A.D. 1978. Compatible solutes and extreme water stress in eukaryotic microorganism. **Adv. Microbiol. Phys.** 17: 181-242.
- Burrow, S. 1970. Baker' yeast, pp. 349-420. In A.H. Rose and J.S. Harrison, eds. **The Yeast.** vol. 3. Academic Press, New York.
- Burschaper, J., D. Chustolla, K. Schugerl, H. Roper and J.C. Troostembergh. 2002. Engineering aspects of the production of sugar alcohols with the osmophilic yeast *Monilliela tomentosa var pollinis*. Part I. Batch and fed-batch operation in stirred tank. **Process Biochem.** 38: 497-506.
- Calorie Control Council. 2003. Reduced-calorie sweeteners: sorbitol. Reduce-calorie sweeteners. Available Source: <http://www.caloriecontrol.org/thml>, September 12, 2003.
- Cao, N-J., R. Tang, C.S. Gong and L.F. Chen. 1994. The effect of cell density on the production of xylitol from D-xylose by yeast. **Appl. Biochem. Biotechnol.** 45-46: 515-519.

- Chiang, C. and S.G. Knight. 1960. Metabolism of D-xylose by molds. 1960. **Nature**. 188: 79-81.
- Choi, D.B. and E.Y. Park. 2005. Enhanced production of mouse α -amylase by feeding combined nitrogen and carbon source in fed-batch culture of recombinant *Pichia pastoris*. **Process Biochem.** 41: 390-397.
- Choi, J., E.E. Kim, Y.I. Park and Y.S. Han. 2002. Expression of the active human and duck hepatitis B virus polymerase in heterologous system of *Pichia methanolica*. **Antiviral Res.** 55: 279-290.
- Converti, A., P. Perego and J.M. Dominguez. 1999. Xylitol production from hardwood hemicellulose hydrolysates by *Pachysolen tannophilus*, *Debaryomyces hansenii* and *Candida guilliermondii*. **Appl. Biochem. Biotechnol.** 82: 141-151.
- _____, _____, P. Torre and S.S. Silva. 2000. Mixed inhibitions by methanol, furfural and acetic acid on xylitol production by *Candida guilliermondii*. **Biotechnol. Lett.** 22(10) : 1895-1898.
- Cooney, C.L. and D.W. Levine. 1975. SCP production from methanol by yeast, p. 402. In S.R. Tannenbaum and D.I.C. Wang, eds. **Single Cell Protein**. vol. 2. MIT Press, Cambridge.
- Cregg, J.M., J.L. Cereghino, J. Shi and D.R. Heggins. 2000. Recombinant protein expression in *Pichia pastoris*. **Mol. Biotechnol.** 16: 23-52.
- _____. 1993. Recent advances in expression of foreign genes in *Pichia pastoris*. **Biol. Technol.** 11: 905-910.
- Culbert, S., Y.M. Wang. 1986. Oral xylitol in american adults. **Nutrition Res.** 6: 913-922.

- Dahiya, J.S. 1991. Xylitol production by *Petromyces albertensis* grown on medium containing D-xylose. **Can. J. Microbiol.** 37: 14-18.
- Denenu, E.O. and A.L. Demain. 1981. Enzymatic basis for overproduction of tryptophan and its metabolites in *Hansenula polymorpha* mutants. **Appl. Environ. Microbiol.** 42: 497-501.
- de Silva, S.S. and A.S. Afschar. 1994. Microbial production of xylitol from D-xylose using *Candida tropicalis*. **Bioprocess. Eng.** 11: 129-134.
- Douma, A.C., M. Veenhuis, W. de Koning, M. Evers and W. Harder. 1985. Dihydroxyacetone synthase is localized in the peroxisomal matrix of methanol-grown *Hansenula polymorpha*. **Arch. Microbiol.** 143: 237-243.
- du Preez, J.C. 1994. Process parameters and environmental factors affecting D-xylose fermentation by yeasts. **Enzyme Microb. Technol.** 16: 944-956.
- , J.L.F. Kock, A.M.T. Monteiro and B.A. Prior. 1985. The vitamin requirement of *Candida shehatae* for xylose fermentation. **FEMS Microbiol. Lett.** 28: 271-275.
- , B. van Driessel and B.A. Prior. 1989. Effect of aerobiosis on fermentation and key enzyme levels during growth of *Pichia stipitis*, *Candida shehatae* and *Candida tenuis* on D-xylose. **Arch. Microbiol.** 152: 143-147.
- Edgley, M. and A.D. Brown. 1983. Response of xerotolerant and non-xerotolerant yeasts of water stress. **J. Gen. Microbiol.** 104: 343-345.
- Emodi, A. 1978. Xylitol: its properties and food applications. **Food Technol.** 32: 28-31.

- Furlan, S.A., P. Boutlroud, P. Strehaiano and J.P. Riba. 1991. Study of xylitol formation from xylose under oxygen limiting conditions. **Biotechnol. Lett.** 13: 203-206.
- Gaffar, A., J.C. Blake-Haskins, R. Sullivan, A. Simone, R. Schmidt and F. Saunders. 1998. Cariostatic effects of a xylitol/NaF dentifrice in vivo. **Int. Dent. J.** 48: 32-39.
- Gellissen, G. 2000. Heterologous protein production in methylotrophic yeasts. **Appl. Microbiol. Biotechnol.** 54: 741-750.
- _____, Z.A. Janowicz, A. Merckelbach, M. Pirotek and C.P. Hollenberg. 1991. Heterologous gene expression in *Hansenula polymorpha*: efficient secretion of glucoamylase. **Biol. Technol.** 9: 291-295.
- Girio, F.M., C. Amaro, H. Azinheira, F. Pelica and M.T. Amaral-Collaco. 2000. Polyols production during single and mixed substrate fermentations in *Debaryomyces hansenii*. **Bioresour. Technol.** 71: 245-251.
- Goncharova, I.A., V.G. Babitskaya and A.G. Lobanok. 1977. Growth and formation of protein biomass by fungi *Trichoderma* and *Penicillium* on methanol, p. 187. In G.K. Skryabin, M.V. Invanov, E.N. Kondratieva, G.A. Zavarzin, Y.A. Trotsenko and A.I. Nesterov, eds. **Microbial Growth on C₁ compound**. USSR Academy of science, Moscow.
- Goodman, J.M. 1985. Dihydroxyacetone synthase is an abundant constituent of the methanol induced peroxisome of *Candida boidinii*. **J. Biol. Chem.** 260: 7108-7113.
- _____, C.W. Scott, P.N. Donahue and J.P. Atherton. 1984. Alcohol oxidase assembles post-translationally into the peroxisome of *Candida boidinii*. **J. Biol. Chem.** 259: 8485-8493.
- Hahn-Hagerdal, B., H. Jeppson, K. Skoog and B.A. Prior. 1994. Biochemistry and physiology of xylose fermentation by yeasts. **Enzyme Microb. Technol.** 16: 933-943.

- Hansen, H. and C.P. Hollenberg. 1994. *Hansenula polymorpha (Pichia angusta)*, pp. 293-311.
In K. Wolf, ed. **Nonconventional Yeasts in Biotechnology : A Handbook**. Springer, Berlin.
- Harder, W. and A.G. Brooke. 1990. Methylotrophic yeast, pp. 395-428. In H.V.R. De mot.
Yeast:Biotechnology and Biocatalysis. Marcel dekker, New York.
- Hari Krishna, S., T. Janardhan Reddy and G.V. Chowdary. 2001. Simultaneous saccharification and fermentation of lignocellulosic wastes to ethanol using a thermotolerant yeast.
Bioresour. Technol. 35: 193-196.
- Hazeu, W., J.C. de Bruyn and P. Bos. 1972. Methanol assimilation by yeasts. **Arch. Technol.** 87: 185-188.
- Hereendeen, S.L., R.A. van Bogelen and F.C. Neidhardt. 1979. Levels of major proteins of *Escherichia coli* during growth at different temperatures. **J. Bacteriol.** 139: 185-194.
- Horitsu, H., Y. Yahashi, K. Takamizawa, K. Kawai, T. Suzuki and N. Watanabe. 1992.
Production of xylitol from D-xylose by *Candida tropicalis*: optimization of production rate. **Biotechnol. Bioeng.** 40: 1085-1091.
- Hyvonen, L. and P. Koivistoinen. 1982. Food technological evaluation of xylitol, pp. 373-403.
In C.O. Chechester, ed. **Advance in Food Research**. vol. 280. Academic Press, Inc., New York.
- Ikeuchi, T., M. Azuma, J. Kato and H. Ooshima. 1999. Screening of microorganisms for xylitol production and fermentation behavior in high concentrations of xylose. **Biomass Bioenergy.** 16: 333-339.
- Invitrogen corporation. 2002. *Pichia* fermentation process guideline. version B. Available source: [http:// www. Invitrogen. com](http://www.Invitrogen.com), June 20, 2005.

- Izumori, K. and K. Tuzaki. 1988. Production of xylitol from D-xylulose by *Mycobacterium smegmatis*. **J. Ferment. Technol.** 66: 33-36.
- Katakura, Y., W. Zhang, G. Zhuang, T. Omasa, M. Kishimoto, Y. Goto and K. Suga. 1998. Effect of methanol concentration on the production of human β_2 – glycoprotein I domain V by a recombinant *Pichia pastoris*: A simple system for the control of methanol concentration using a semiconductor gas sensor. **J. Ferment. Bioeng.** 86: 482-487.
- Kato, N., T. Higuchi, C. Sakazawa, Y. Tani and H. Yamada. 1982. Purification and properties of a transketolase responsible for formaldehyde fixation in methanol-utilizing yeast, *Candida boidinii* No. 2201. **Biochem. Biophys. Acta.** 715: 143-450.
- _____, H. Kobayashi, M. Shima and C. Sakazawa. 1986. Dihydroxyacetone production from methanol by a dihydroxyacetone kinase deficient methanol of *Hansenula polymorpha*. **Appl. Microbiol. Biotechnol.** 23: 180-186.
- _____, N., Y. Omori, Y. Tani and K. Ogata. 1976. Alcohol oxidase of *Kloekera* sp. and *Hansenula polymorpha*. Catalytic properties and subunit structures. **Eur. J. Biochem.** 64: 341-350.
- Kern, M., B. Nidetzky, K.D. Kulbe and D. Haltrich. 1998. Effect of nitrogen sources on the levels of aldose reductase and xylitol dehydrogenase activities in the xylose-fermenting yeast *Candida tenuis*. **J. Ferment. Bioeng.** 85: 196-202.
- Kida, K., S. Morimura and Y. Sonoda. 1992. Repeated batch fermentation process using a thermotolerant flocculating yeast constructed by protoplast fusion. **J. ferment. Biotechnol.** 74: 169-173.
- Kim, S.Y., J.H. Kim and D.K. Oh. 1997. Improvement of xylitol production by controlling oxygen supply in *Candida parapsilosis*. **J. Ferment. Bioeng.** 83: 267-270.

- Kiran Sree, N., M. Sridhar, K. Suresh, I.M. Banat and L. Venkateswar Rao. 2000. Isolation of thermotolerant, osmotolerant, flocculating *Saccharomyces cerevisiae* for ethanol production. **Bioresour. Technol.** 72: 43-46.
- Kuhad, R.C., A. Singh, K.K. Tripathi, R.K. Saxena and K.E.L. Eriksson. 1997. Microorganisms as an alternative source of protein. **Nutrition Rev.** 55: 65-75.
- Kuriyama, H. and M. Kobayashi. 1993. Effect of nitrogen supply on yeast growth and metabolism in continuous fermentation. **J. Ferment. Bioeng.** 75: 364-367.
- Kurtzman, C.P. 2005. Description of *Komagataella phaffii* sp. nov. and the transfer of *Pichia pseudopastoris* to the methylotrophic yeast genus *Komagataella*. **Int. J. Syst. Evolut. Microbiol.** 55: 973-976.
- Kurtzman, C.P. and J.W. Fell. 1998. **The Yeast: A Taxonomy Study.** 4 th ed. Elsevier Science, Amsterdam.
- Laoteng, K., R. Ruenwai, M. Tanticharoen and S. Cheevadhanarak. 2005. Genetic modification of essential fatty acids biosynthesis in *Hansenula polymorpha*. **FEMS Microbiol. Lett.** 245: 169-178.
- Lee, C.Y., S.J. Lee, K.H. Jung, S. Katoh and E.K. Lee. 2003 a. High dissolved oxygen tension enhances heterologous protein expression by recombinant *pichia pastoris*. **Process Biochem.** 38: 1147-1151.
- _____, A. Nakano, N. Shiomi, E.K. Lee and S. Katoh. 2003 b. Effects of substrate feed rates on heterologous protein expression by *Pichia pastoris* in DO-stat fed-batch fermentation. **Enzyme Microb. Technol.** 33: 358-365.
- Lee, J.D. and K. Komagata. 1980. Taxonomic study on methanol-assimilation yeasts. **J. Gen. Appl. Microbiol.** 26: 133-139.

- Ligthelm, M.E., B.A. Prior and J.C. du Preez. 1988. The oxygen requirement of yeasts for the fermentation of D-xylose and D-glucose to ethanol. **Appl. Microbiol. Biotechnol.** 28: 63-68.
- Limtong, S., N. Srisuk, W. Yongmanitchai, H. Kawasaki, H. Yurimoto, T. Nakase and N. Kato. 2004. Three new thermotolerant methylotrophic yeasts, *Candida krabiensis* sp. nov., *Candida sithepensis* sp. nov., and *Pichia siamensis* sp. nov., isolated in Thailand. **J. Gen. Appl. Microbiol.** 50: 119-127.
- Limtong, S., N. Srisuk, W. Yongmanitchai, H. Yurimoto, T. Nakase and N. Kato. 2005. *Pichia thermomethanolica* sp. nov., a novel thermotolerant, methylotrophic yeast isolated in Thailand. **Int. J. Syst. Evolut. Microbiol.** 55: 2225-2229.
- Levine, D.W. and C.L. Cooney. 1973. Isolation and characterization of a thermotolerant methanol-utilizing yeasts. **Appl. Microbiol.** 26: 982-990.
- Mahler, G.P. and D.V. Guebel. 1994. Influence of magnesium concentration on growth, ethanol and xylitol production by *Pichia stipitis* NRRL Y-7124. **Biotechnol. Lett.** 1: 407-412.
- Makinen, K.K. 1992. Latest dental studies on xylitol and mechanism of action of xylitol in caries limitation, pp. 331-362. In T.H. Greenby, ed. **Progress in sweeteners.** Elsevier Applied Science, London.
- Makiness, K.K. 2000. The rocky road of xylitol to its clinical application. **J. Dent. Res.** 79: 1352-1355.
- Meyrial, V., J.P. Delgenes, R. Moletta and J.M. Navarro. 1991. Xylitol production by *Candida guilliermondii*: fermentation behavior. **Biotechnol. Lett.** 13: 281-286.
- Minami, K., M. Yamamura, S. Shimizu, K. Ogawa and N. Sekine. 1978. Screening method for thermophilic and high growth rate ethanol yeasts. **J. Gen. Appl. Microbiol.** 24: 155-163.

- Minning, S., A. Serrano, P. Ferrer, C. Sola, R.D. Schmid and F. Valero. 2001. Optimization of the high-level production of *Rhizopus oryzae* lipase in *Pichia pastoris*. **J. Biotechnol.** 86: 59-70.
- Muller, F., A. Tieke, D. Waschk, C. Muhle, M. Seigelchifer, A. Pesce, V. Jenzelewski and G. Gellissen. 2002. Production of IFN α -2a in *Hansenula polymorpha*. **Process Biochem.** 38: 15-25.
- Murdanoto, A.P., Y. Sakai, T. Konishi, Y. Tani and N. Kato. 1997. Purification and properties of methyl formate synthase, a mitochondrial alcohol dehydrogenase, participating in formaldehyde oxidation in methylotrophic yeasts. **Appl. Environ. Microbiol.** 63: 1715-1720.
- Nahlik, J., M. Palatova, F. Girio and C. Roseiro. 2003. Model identification and physiological control of xylitol production using *Debaryomyces hansenii*. **Process Biochem.** 38: 1695-1705.
- Nidetzky, B., W. Neuhauser, D. Haltrich and K. Kulbe. 1996. Continuous enzymatic synthesis of xylitol with simultaneous coenzyme regeneration in a charged membrane reactor. **Biotechnol. Bioeng.** 52: 387-396.
- Nigam, P. and D. Singh. 1995. Process for fermentative production of xylitol: a sugar substitute. **Process Biochem.** 30: 117-124.
- Ogata, K., H. Nishikawa and M. Ohsugi. 1969. A yeast capable of utilizing methanol. **Agr. Biol. Chem.** 33: 1519-1520.
- , Y. Tani and N. Kato. 1975. Oxidation of methanol by yeast, p. 99. In H.W. van Verseveld and J.R. Duine, eds. **Microbial growth on C₁ compounds**. Biological center of university of Gronigen, Netherlands.

- Okumura, S., A. Yamanori, R. Tsugawa and T. Nakase. 1970. Patent specification 1210770. London, England.
- Pal, H.S. and I.Y. Hamdan. 1979. Growth of a methanol utilizing yeast. **Enzyme Microb. Technol.** 1: 265-268.
- Panchal, C.J. 1990. **Yeast Strain Selection**. Vetro Gen Corporation, London, Ontario, Canada Marcel Dekker, INC., New York.
- Parajo, J.C., H. Dominguez and J.M. Dominguez. 1998. Biotechnological production of xylitol. Part 1: Interest of xylitol and fundamentals of its biosynthesis. **Bioresour. Technol.** 65: 191-201.
- Prior, B.A., S.G. Killian and J.C. du Preez. 1989. Fermentation of D-xylose by the yeasts *Candida shehatae* and *Pichia stipitis*. **Process Biochem.** 24: 21-32.
- Rahbarizadeh, F., M.J. Rasaei, M. Forouzandeh and A. Allameh. 2005. Over expression of anti-MUC1 single-domain antibody fragments in the yeast *Pichia pastoris*. **Mol. Immunol.** 43: 426-435.
- Rizzi, M., K. Harwart, N.A. Bui-Thanh and H. Dellweg. 1989. A kinetic study of the NAD⁺ xylitol dehydrogenase from the yeast *Pichia stipitis*. **J. Ferment. Bioeng.** 67: 25-30.
- Roseiro, J.C., M.A. Peito, F.M. Girio and M.T. Amaral-Collaco. 1991. The effect of oxygen transfer coefficient and substrate concentration on the xylose fermentation by *Debaryomyces hansenii*. **Arch. Microbiol.** 156: 484-490.
- Rossi, E.D., P. Brigde, G. Riccardi and D. Matteuzzi. 1989. Plasmid screening in thermophilic *Bacillus*: Physical characterization and molecular cloning. **Curr. Microbiol.** 19: 13-19.

- Ryabova, O.B., O.M. Chmil and A.A. Sibirny. 2003. Xylose and cellobiose fermentation to ethanol by the thermotolerant methylotrophic yeast *Hansenula polymorpha*. **FEMS Yeast Res.** 1578: 1-8.
- Sahm, H. 1977. Metabolism of methanol by yeasts. **Adv. Biochem. Eng.** 6: 77-83.
- Sakai, Y., A.P. Murdanoto, L. Sembiring, Y. Tani and N. Kato. 1995. A novel formaldehyde oxidation pathway in methylotrophic yeasts: methyformate as a possible intermediate. **FEMS Microbiol. Lett.** 127: 229-234.
- _____, A. Saiganji, H. Yurimota, K. Takabe, H. Saiki and N. Kato. 1996. The absence of Pmp47, a putative yeast peroxisomal transporter, causes a defect in transport and folding of a specific matrix enzyme. **J. Cell Biol.** 134: 31-51.
- _____, Y. Tani and N. Kato. 1999. Biotechnological application of cellular function of the methylotrophic yeast. **J. Mol. Catal.** 6: 161-173.
- Sampaio, F.C., C.A. de Moraes, D.D. Faveri, P. Perego, A. Converti, F.M.L. Passos. 2006. Influence of temperature and pH on xylitol production from xylose by *Debaryomyces hansenii* UFV-170. **Process Biochem.** 41: 675-681.
- Sanchez, S., V. Bravo, E. Castro, A.J. Moya and F. Camacho. 1997. The influence of pH and aeration rate on the fermentation of D-xylose by *Candida shehatae*. **Enzyme Microb. Technol.** 21: 355-360.
- _____, _____, A.J. Moya, E. Castro and F. Camacho. 2003. Influence of temperature on the fermentation of D-xylose by *Pachysolen tannophilus* to produce ethanol and xylitol. **Process Biochem.** 39: 673-679.
- _____ and A.L. Demain. 1978. Tryptophan excretion by a bradytroph of *Hansenula polymorpha* growing in methanol. **Appl. Environ. Microbiol.** 35: 459-465.

- Schutte, H., J. Flossdarf, H. Sahn and M.R. Kula. 1976. Purification and properties of formaldehyde dehydrogenase and formate dehydrogenase from *Candida boidinii*. **Eur. J. Biochem.** 62: 151-160.
- Shimizu, S., M. Ishida, N. Kato, Y. Tani and K. Ogata. 1977 a. Derepression of FAD pyrophosphorylase and flavin changes during growth of *Kloeckera* sp. No. 2201 on methanol. **Agr. Biol. Chem.** 41: 2215.
- , ———, Y. Tani and K. Ogata. 1977 b. Production of flavin adenine dinucleotide by methanol-utilizing yeasts. **J. Ferment. Technol.** 55: 603.
- Singleton, R., Jr. Amelunxen and R.E. Amelunxen. 1973. Protein from thermophilic microorganism. **Bacteriol. Rev.** 37: 320-342.
- Sirisansaneeyakul, S., M. Rizzi and M. Reuss. 1992. Microbial production of xylitol from wheat straw hydrolysates. **DECHEMA Biotechnol. Conf.** 5: 541-544.
- , M. Staniszewski and M. Rizzi. 1995. Screening of yeasts for production of xylitol from D-xylose. **J. Ferment. Bioeng.** 80: 565-570.
- Slininger, P.J., P.L. Bolen and C.P. Kurtzman. 1987. *Pachysolen tannophilus*: properties and process consideration for ethanol production from D-xylose. **Enzyme Microb. Technol.** 9: 5-15.
- Smiley, K.L. and P.L. Bolen. 1982. Demonstration of D-xylose reductase and D-xylitol dehydrogenase in *Pachysolen tannophilus*. **Biotechnol. Lett.** 4: 607-610.
- Sreenivas Rao, R., R.S. Prakasham, K. Krishna Prasad, S. Rajesham, P.N. Sarma and L. Venkateswar Rao. 2004. Xylitol production by *Candida* sp.: parameter optimization using Taguchi approach. **Process Biochem.** 39: 951-956.

- Sridhar, M., N. Kiran Sree and L. Venkateswar Rao. 2002. Effect of UV radiation on thermotolerance, ethanol tolerance and osmotolerance *Saccharomyces cerevisiae* VS1 and VS3 strains. **Bioresour. Technol.** 83: 199-202.
- Stokes, J.L. 1971. Influence of temperature on growth and metabolism of yeast. pp, 199-134. In A.H. Rose and J.S. Harrison, eds. **The Yeast: Physiology and biochemistry of yeast.** vol. 2. Academic Press, London.
- Stratton, J., V. Chiruvolu and M. Meagher. 1998. High-cell-density fermentation, pp. 107-120. In D.R. Higgins and J.M. Cregg, eds. **Method in Molecular Biology.** vol. 103. Humana Press, Totowa.
- Suryadi, H., T. Katsuragi, N. Yoshida, S. Suzuki and Y. Tani. 2000. Polyol production by culture of methanol-utilizing yeast. **J. Biosci. Bioeng.** 89: 236-240.
- Szczodrak, J. and Z. Targonski. 1988. Selection of themotolerant yeast strains for simultaneous saccharification and fermentation of cellulose. **Biotechnol. Bioeng.** 31: 300-303.
- Talja, R.A. and Y.H. Roos. 2001. Phase and state transition effects on dielectric, mechanical, and thermal properties of polyols. **Thermochim. Acta.** 380: 109-121.
- Tani, Y. 1984. Microbiology and biochemistry of methylotrophic yeast, pp. 55-85. In C.T. Hou, ed. **Methylotrophic, Microbiology, Biochemistry and Genetics.** CRC Press, Boca Ration, FL.
- Tani, Y. 1985. Methylotroph for biotechnology: methanol as a raw material for fermentative production. **Biotechnol. Genet. Eng. Rev.** 3: 111-135.

- _____, Y. Mitani and H. Yamada. 1982. Utilization of C₁-compounds: phosphorylation of adenylate by oxidative phosphorylation in *Candida boidinii* No. 2201. **Agr. Biol. Chem.** 46: 1097-1892.
- _____ and V. Vongsuvanlert. 1987. Sorbitol production by a methanol yeast *Candida boidinii* (*Kloeckera* sp.) No. 2201. **J. Ferment. Technol.** 65: 405-411.
- Tezuka, H., T. Nakahara, Y. Minoda and K. Yamada. 1975. Production of yeast cell from methanol. **Agr. Biol. Chem.** 39: 285-286.
- Vandeska, E., S. Amartey, S. Kuzmanova and T. Jeffries. 1995 a. Effects of environmental condition on production of xylitol by *Candida boidinii*. **World J. Microbiol. Biotechnol.** 11: 213-218.
- _____, S. Kuzmanova and T. Jeffries. 1995 b. Xylitol formation and key enzyme activities in *Candida boidinii* under different oxygen transfer rates. **J. Ferment. Bioeng.** 80: 513-516.
- van Dijken, J.P. and W. Harder. 1974. Optimal condition for the enrichment and isolation of methanol-assimilating yeast. **J. Gen. Microbiol.** 84: 409-411.
- _____, _____ and J.R. Quayle. 1981. Energy transduction and carbon assimilation in methylotrophic yeasts, p. 191. In H. Dalton, ed. **Microbial Growth on C1 compounds.** Heyden and Son, London.
- Van Dijken, R., K.N. Faber, J.A.K.W. Kiel, M. Veenhuis and I. van der Klei. 2000. The methylotrophic yeast *Hansenula polymorpha*: A versatile cell factory. **Enzyme Microb. Technol.** 26: 793-800.

- van Gorp, K., E. Boerman, C.V. Cavenaghi and P.H. Berben. 1999. Catalytic hydrogenation of fine chemical: sorbitol production. **J. Catal. Today.** 52: 349-361.
- Vonsuvanlert, V. and Y. Tani. 1988 a. Characterization of D-sorbitol dehydrogenase involved in D-sorbitol production of a methanol yeast *Candida boidinii* (*Kloeckera* sp.) No. 2201. **Agr. Biol. Chem.** 52: 419-426.
- _____ and _____. 1988 b. L- iditol production from L-sorbose by methanol yeast, *Candida boidinii* (*Kloeckera* sp.) No. 2201. **J. Ferment. Technol.** 66: 517-523.
- _____ and _____. 1989. Xylitol production by a methanol yeast, *Candida boidinii* (*Kloeckera* sp.) No. 2201. **J. Ferment. Bioeng.** 67: 35-39.
- Walker, G.M. 1994. The roles of magnesium in biotechnology. **Crit. Rev. Biotechnol.** 14: 311-354.
- Watson, K. 1987. Temperature relations, pp. 41-71. In A.H. Rose and J.S. Harrison. 2nd ed. **The Yeast: Yeast and The Enviroment.** vol. 2. Academic Press, London.
- Winkelhausen, E. and S. Kuzmanova. 1998. Microbial conversion of D-xylose to xylitol. **J. Ferment. Bioeng.** 86: 1-14.
- Xia, Y., X. Yu and G.T. Tsao. 1995. Identification of required nutrient components of yeast nitrogen base for *Candida shehatae* ATCC 22984 fermenting xylose to ethanol. **Biotechnol. Lett.** 17: 161-166.
- Yahashi, Y., H. Horitsu, K. Kawai, T. Suzuki and K. Takamizawa. 1996. Production of xylitol from D-xylose by *Candida tropicalis*: the effect of D-glucose feeding. **J. Ferment. Bioeng.** 81: 148-152.

Yamada, K., M. Yoshieda, T. Hori and Y. Tani. 1993. Glycerol production from methanol by a respiration-deficient mutant strain of a methylotrophic yeast, *Candida boidinii* (*Kloeckera* sp.) No. 2201. **Biosci. Biotechnol. Biochem.** 57: 34-38.

Yamamori, J. and T. Yura. 1980. Temperature-induced synthesis of specific protein in *Escherichia coli* evidence for a transcriptional control. **J. Bacteriol.** 142: 843-851.

Yoshitake, J., H. Ishizaki, M. Shimamura and T. Imai. 1973. Xylitol production by an *Enterobacter* sp. **Agr. Biol. Chem.** 37: 2261-2267.

_____, H. Obiwa and M. Shimamura. 1971. Production of polyalcohol by *Corynebacterium* sp. I. Production of pentitol from aldopentose. **Agr. Biol. Chem.** 35: 905-911.

Yurimoto, H., T. Komeda, C.R. Lim, T. Nakagawa, K. Kondo, N. Kato and Y. Sakai. 2000. Regulation and evaluation of five methanol-inducible promoters in the methylotrophic yeast *Candida boidinii*. **Biochem. Biophys. Acta.** 1493: 56-63.

_____, Y. Sakai and N. Kato. 2002. Methanol metabolism, pp. 61-75. In G. Gellissen, ed. **Hansenula polymorpha : Biology and Applications.** Weleg-VCH Verlag GmbH, Weinheim.