

เอกสารอ้างอิง

- [1] ปุณณมา ศิริพันธ์ โนน และคณะ “โครงการเตรียมวัสดุเชิงประกอบไฮดรอกซีอะพาไทต์/พอลิเอทิลีนกลูตาเรตสำหรับการประยุกต์ใช้ทางการแพทย์” 2549.
- [2] จุฑารัตน์ กลิ่นแก้วณรงค์ “เซรามิกชีวภาพไฮดรอกซีอะพาไทต์ผลึกระดับนาโนเมตรโดยวิธีพอลิเมอร์เชิงซ้อน: การสังเคราะห์ การศึกษาคุณลักษณะ และพฤติกรรมการเผาผนึก” วิทยานิพนธ์วิทยาศาสตรมหาบัณฑิต มหาวิทยาลัยขอนแก่น 2548.
- [3] M. Akao, H. Aoki, A. Kato, Sato, Dense Polycrystalline β -tricalcium phosphate for prosthetic application., Journal of Material Science, 1982, 17(2), p. 343-346.
- [4] F. H. Perera, F. J. Martinez-Vazquez, P. Miranda, Angel L. Ortiz, Angel L. Ortiz and Antonia Pajares, Clarifying the effect of sintering conditions on the microstructure and mechanical properties of β -tricalcium phosphate, Ceramics International, 2010, 36(6), p. 1926-1935
- [5] J.P. Gittings, C.R. Bowen, A.C.E. Dent, I.G. Turner, F.R. Baxter and J.B. Chaudhuri, Electrical characterization of hydroxyapatite-based bioceramics, Acta biomaterials, 2009, 5(2), p. 743-754
- [6] Joon B. Park, Joseph D. Bronzino, Ceramic Biomaterials: Biomaterials principles and application, CRC Press LLC , (2003) 21-31.
- [7] ชูศักดิ์ เวชแพทย์, สมศรี ดาวฉาย, วัสดุทางการแพทย์และอวัยวะเทียม, Biomaterials and artificial organs, กรุงเทพมหานคร, กรกฎาคม 2528.
- [8] P.N. Kumta, C. Sfeir , D.H. Lee, D. Olton, D. Choi , Nanostructure calcium phosphates for biomedical applications: novel synthesis and characterization, Acta Biomaterialia, 2005, 1(1), p. 65-83.

- [9] W. Suchanek, M. Yoshimura, Processing and properties of hydroxyapatite-based biomaterials for use as hard tissue replacement implants, *Journal of Materials Research*, 1998, 13(1), p. 94-117.
- [10] G. Goller, F.N. Oktar, S. Agathopoulos, D.U. Tulyaganov, J.M.F Ferreira, E.S. Kayali, I. Peker, Effect of sintering temperature on mechanical and microstructural properties of bovine hydroxyapatite (BHA), *Journal of Sol-Gel Science and Technology*, 2006, 37(2), p. 111-115.
- [11] L. Hench, J. Wilson, *An Introduction to Bioceramics*, World Scientific, Singapore, 1993.
- [12] E. Fukada, and I. Yasuda, On the piezoelectric effect of bone, *Journal of the Physical Society of Japan*, 1957, 12(10), p. 1158-1162.
- [13] G.W. Hastings and F.A. Mahmud, The electromechanical properties of fluid – filled bone: A new dimension. *Journal of Materials: Science Materials in Medicine*, 1991, 2(2) , p. 118-124.
- [14] J.H. McElhaney, The Charge distribution on the human femur due to load, *The journal of bone and joint surgery*, 1967, 49(8), p. 1561-1571.
- [15] J. Feng, H.P. Yuan., and X.D. Zhang, Promotion of osteogenesis by piezoelectric biological ceramic, *Biomaterials*, 1997, 18(23), p. 1531-1534.
- [16] T. Koboyashi, S. Nakamura and K. Yamashita, Enhanced osteobonding by negative surface charges of electrically polarized hydroxyapatite, *Journal of Biomedical Materials Research*, 2001, 57(4), p. 477-484.
- [17] ดร.จินตมัย สุวรรณประทีป, สารานุกรมไทยสำหรับเยาวชน, วท.บ.(วัสดุศาสตร์)จุฬาลงกรณ์มหาวิทยาลัย, ph.D.(Biomaterial) University of London, U.K. นักวิจัยศูนย์เทคโนโลยีโลหะและวัสดุแห่งชาติ
- [18] http://www.amfed.org/t_mohs.htm [ออนไลน์ วันที่ 8 มีนาคม 2555]

- [19] M.V.Regi, J.M. Gonzalez-Callbet, Calcium phosphate as substitution of bone tissues, Progress in solid state chemistry, 2004, 32(1-2), p. 1-31.
- [20] W. Suchanek, M. Yashimura, Processing and properties of hydroxyapatite based bioceramic for us hard tissue replacement implants, Journal of Materials Research, 1998, 13(1), p. 94-117.
- [21] M. Fabbri, G.C. Celotti, A. Ravaglioli, Hydroxyapatite-based porous aggregates: physico-chemical nature, structure, texture and architecture, Biomaterials, 1995, 16(3), p. 225-228.
- [22] W. Suchanek, M. Yashima, M. Kakihana, M. Yoshimura, Hydroxyapatite ceramics with selected sintering additives, Biomaterials, 1997, 18(13), p.923-933.
- [23] S. Langstaff, M. Sayer, T.J.N. Smith, S.M. Pugh, S.A.M. Hesp, W.T. Thompson, Resorbablebioceramics based on stabilized calcium phosphates.Part I: rational design, sample preparation and material characterization, 1999, Biomaterials, 20(18), p. 1727-1741.
- [24] N.O. Engin, A.C. Tas, Preparation of Porous $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$ and $\beta\text{-Ca}_3(\text{PO}_4)_2$ Bioceramics,Journal of the American Ceramic Society, 2000, 83(7), p. 1581-84.
- [25] L. Cerroni , R. Filocamo, M. Fabbri , C. Piconi , S. Caropreso , S.G. Condo, Growth of osteoblast-like cells on porous hydroxyapatite ceramics:an in vitro study, Biomolecular Engineering, 2002, 19(2-6), p. 119-124.
- [26] R. Murugan, T.S. SampathKumar ,K. PandurangaRao , Fluorinated bovine hydroxyapatite: preparation and characterization, Materials Letters, 2002, 57(2), p. 429-433.
- [27] E. Landi, G. Celotti, G. Logroscino, A. Tampieri, Carbonated hydroxyapatite as bone substitute, Journal of the European Ceramic Society, 2003, 23(15), p. 2931-2937.
- [28] นิสา จันทร์พวง, พฤติกรรมในหลอดแก้วของกลาสเซรามิก ที่มีเบตาแคลเซียมไฮดรอกซีฟอสเฟต, สาขาวิศวกรรมเซรามิก มหาวิทยาลัยสุรนารี

- [29] D. Hill, Design Engineering of Biomaterials for Medical Devices, England, John Wiley & Sons Ltd.
- [30] สุมิตร พงษ์ศิริ, การใช้กระดูกเทียมในการศัลยกรรมในช่องปาก, 13-49.
- [31] M.E. Gomes, R.L. Reis, A.M. Cunha, C.A. Blitterswijk, J.D. de Bruijn, Cytocompatibility and response of osteoblastic-like cells to starch-based polymer : effect of several additives and processing conditions, 2001
- [32] T. Kokubo, Bioactive glass ceramic: properties and application, *Biomaterials* 12, (1991) 155-63.
- [33] M. Ogino, T. NaKamura, LL. Hench, Compositional dependence of the formation of calcium phosphate film on bioglass, *Journal of Biomedical Materials Research* 14, (1980) 55-64.
- [34] T. Kitsugi, T. NaKamura, T. Yamamuro, T. Kokubo, T. Shibuya, M. Takagi, SEM-EPMA observation of three types of apatite containing glass ceramic implanted in bone: the variance of a Ca, P-rich layer, *Journal of Biomedical Materials Research* 21, (1987) 1255-1271.
- [35] T. Kokubo, C.Ohtsuki, S. Kotani, S. Kotani, T. Kitsugi, T. Yamamuro, Surface structure of bioactive glass-ceramic A-W implanted into sheep and human vertebra, In:G. Heimke, editor, *Bioceramic 2*, Cologne: German ceramic society, (1990) 113-121.
- [36] T. Kobubo, S. Ito, T. Hayashi, S. Sakka, T. Kitsugi, Ca,P-rich layer formed on high-strength bioactive glass-ceramic A-W, *Journal of Biomedical Materials Research* 24, (1990) 331-343.
- [37] MR. Filgueiras, GL. Torre, LL. Hench, Solution effects on the surface reaction of bioactive glass, *Journal of Biomedical Materials Research* 27, (1993) 445-453.

- [38] T. Kitsugi, T. Yamamuro, T. Nakamura, T. Kokubo, The bonding of glass ceramic to bone, *International Orthopaedics* 13, (1989) 199-206.
- [39] C. Ohtsuki, H. Kushitani, T. Kakubo, S. Kotani, T. Yamamuro, Apatite formation on the surface of Ceravital-type glass-ceramic in the body, *Journal of Biomedical Materials Research* 25, (1991) 1363-1370.
- [40] W. Neuman, M. Neuman, The chemical dynamic of bone mineral. IL: University of Chicago, (1958) 34.
- [41] S. Cho, K. Nakanishi, T. Kokubo, N. Soga, C. Ohtsuki, T. Nakamura, Dependence of apatite formation on silica gel on its structure: effect of heat treatment, *Journal of the American Ceramic Society* 78, (1995) 1769-1974.
- [42] A. Oyane, H.M. Kim, T. Furuya, T. Kokubo, T. Miyazaki, T. Nakamura, Preparation and assessment of revised body fluids. *Journal of Biomedical Materials Research* 65, (2003) 188-195.
- [43] A. Oyane, K. Onuma, A. Ito, H.M. Kim, T. Kokubo, T. Nakamura, Formation and growth of clusters in conventional and new kinds of simulated body fluids, *Journal of Biomedical Materials Research* 64A, (2003) 339-348.
- [44] H. Takadama, M. Hashimoto, M. Mizuno, T. Kokubo, Round-robin test of SBF for in vitro measurement of apatite-forming ability of synthetic materials, *Phosphorus Research Bulletin* 17, (2004) 119-125.
- [45] H.M. Kim, T. Himeno, T. Kokubo, T. Nakamura, Process and kinetics of bonelike apatite formation on sintered hydroxyapatite in Simulated body fluid, *Biomaterials* 26, (2005) 4366-4373.
- [46] William D Callister, Jr. วัสดุศาสตร์และวิศวกรรมวัสดุพื้นฐาน, *Materials Science and Engineering an Introduction*, พิมพ์ครั้งที่ 6, Newyork 2003
- [47] <http://www.med.cmu.ac.th/dept/vascular/human/lesson/lesson6.php> [ออนไลน์ วันที่ 28 พฤศจิกายน 2556]

- [48] http://commons.wikimedia.org/wiki/File:Axial_skeleton_diagram.svg [ออนไลน์ วันที่ 22 กุมภาพันธ์ 2557]
- [49] http://commons.wikimedia.org/wiki/File:Appendicular_skeleton_diagram.svg [ออนไลน์ วันที่ 22 กุมภาพันธ์ 2557]
- [50] Joon B. Park, Joseph D. Bronzino, Ceramic Biomaterials: Biomaterials principles and application, CRC Press LLC , (2003) 21-31
- [51] M. Sunder, N. RameahBabu , P. Sunita , K. Ram Kumar, T.S. Sampath Kumar, Trends Biomater and Artificial Organ. 2005, 18, p. 213-218.
- [52] X. Yang, Z. Wang, Synthesis of biphasic ceramics of hydroxyapatite and β -tricalcium phosphate with controlled phase content and porosity, Journal of Materials Chemistry, 1998, 8(1), p. 2233-2237.
- [53] W. Suchanek, M. Yoshimura, Processing and Properties of Hydroxyapatite-based Biomaterial for Use of Hard Tissue Replacement Implant, Journal of Material Research, 1998, 13(1), p.94-115.
- [54] S. Weiner and H.D. Wagner , The material bone : Structure-Mechanical function Relation, Annual Review of Materials Science, 28 : 271-298.
- [55] <http://www.orthosupersite.com/view.asp?rID=3971> [ออนไลน์ วันที่ 3 ตุลาคม 2550]
- [56] ชูศักดิ์ เวชแพศย์, วัสดุทางการแพทย์และอวัยวะเทียม, Biomaterials and Artificial organ, กรุงเทพมหานคร, กรกฎาคม 2528
- [57] http://www.totaljoints.info/BONECEMENT_HISTORY.htm [ออนไลน์วันที่ 16 กรกฎาคม 2550]
- [58] W. Nhuapeng, W.Thamjaree, T. Tunkasiri, Fabrication of Barium ZirconiumTitanate ceramic by using ultrasonic ballmilling Technique, Advanced Materials Research, 2008, 55(57), p. 213-216.

- [59] ภาคภูมิ จารุภูมิ, “การพัฒนาสมบัติเพียโซอิเล็กทริกของโซเดียมโพแทสเซียมไนโอเบตเซรามิกไร้สารตะกั่ว”, วิทยานิพนธ์วิทยาศาสตรมหาบัณฑิต มหาวิทยาลัยเชียงใหม่, 2550
- [60] G.H. Hartling, Ferroelectric Ceramics: History and Technology , Journal of the American ceramic society, 1999, 82, p. 797-818.
- [61] G.A. Smolenskii , V.A. Isupov , A.I. Agranovskaya and N.N. Krainik, New ferroelectrics of complex composition IV, Soviet physics-Solid state, 2 ,1961, p. 2651-2654.
- [62] A.J. Moulson and J.M. Herbert, Electroceramics; Material, Properties and application 2nd ed. John Willy & Sons, West Sussex, 2003.
- [63] C. Jullian., Investigation of Polarization Switching Over Broad Time and Field Domain in Various Ferroelectrics, Master’s Thesis., Science in Materials Science and Engineering, University of Compiegne, 2003.
- [64] I. R. Henderson., Piezoelectric Ceramics: Principle and Applications, USA; APC international, Ltd, 2002.
- [65] N. A. Zakharovand, V. P. Orlovski, Dielectric Characteristics of Biocompatible $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$ Ceramics, Technical Physics Letters, 2001, 27(8), p. 629–631.
- [66] R.Z. Legeros, S. Lin, R. Rohanizadeh, D. Mijares and J.P. Legeros, Biphasic calcium phosphate bioceramic:preparation, properties and applications, Journal of Materials Science: Materials in Medicine, 2003, 14(3), p. 201-209.
- [67] S.J. Lee, Y.S. Yoon, M.H. Lee and N.S. Oh , Highly sinterable β -tricalcium phosphate synthesized from eggshells, Materials Letters , 2007 , **61**(6), p.1279–1282.
- [68] B. Viswanath, R. Raghavan, N.P. Gurao, U. Ramamurty, and N. Ravishankar, Mechanical properties of tricalcium phosphate single crystals grown by molten salt synthesis, ActaBiomaterialia , 2008, 4(5), p. 1448–1454.
- [69] Wei Li , Z. Xu, R. Chu, P.Fu, and G. Zang, Dielectric and piezoelectric properties of $\text{Ba}(\text{Zr}_x\text{Ti}_{1-x})\text{O}_3$ lead-free ceramics, Brazilian Journal of Physics, 2010 , 40, p. 353-356.

- [70] P. Jarupoom, T. Tunkasiri, K. Pengpat, S. Eitssayeam and K. Rujijanagul, Effects of Annealing Time on Ferroelectric and Piezoelectric Properties of B2O3 Doped Ba(Zr_{0.07}Ti_{0.93})O₃ Ceramics, *Ferroelectrics*, 2011, 415(1), p. 88–9.
- [71] S. Mindess, J.F. Young, D. Darwin, Concrete, Pearson Education, Upper Saddle River, 2003
- [72] D.H. Yoon, J.Zhang, B.I. Lee, Dielectric constant and mixing model of BaTiO₃ composite thick films, 2003, 38(5), p. 765-772.
- [73] F.Xing, B.Dong, Z.Li, Dielectric, Piezoelectric, and Elastic Properties of Cement-Based Piezoelectric Ceramic Composites, 91(9), 2008, p.2886-2891.
- [74] T. Furukawa, K. Ishida and E. Fukada, Piezoelectric properties in the composite systems of polymers and PZT ceramics, *Journal of Applied Physics*, 1979, 50, p.4904.
- [75] R. Rianyo, R. Potong, N. Jaitanong, R. Yimnirunamda. Chaipanich, Dielectric ferroelectric and piezoelectric properties of 0-3 bariumtitanate-Portland cement composites, *Applied Physics A*, 2011, 104, p.661-666
- [76] C. R.Bowen, J. Gittings, I.G.Turner, F. Baxter, and J. B. Chaudhuri, Dielectric and piezoelectric properties of hydroxyapatite-BaTiO₃composites, *Applied Physics Letters*, 2006, 89, p.132906.
- [77] R.Potong, R. Rianyo, A.Ngamjarurojana, A. Chaipanich, Dielectric and piezoelectric properties of 1–3 non-lead barium zirconatetitanate-Portland cement composites, *Ceramics International*, 39, 2013, p.53-57.