

- temperature stabilization of oral, live attenuated *Salmonella enterica* serovar Typhi-vectored vaccines. *Vaccine* 29(15):2761–2771.
18. Truong-Le V, Ohtake S, Chiueh G, Martin R, Saxena A, Pham B, Lechuga-Ballesteros D. 2010. Formulation for room temperature stabilization of a live attenuated bacterial vaccine. WO2011032108.
 19. Ao Y, Vehring R. 2008. Preservation of bioactive materials by freeze dried foam. US7381425.
 20. Jin HY, Xia F, Zhao YP. 2012. Preparation of hydroxypropyl methyl cellulose nanoparticles with mixed solvent using supercritical antisolvent process and its application in co-precipitation of insulin. *Adv Powder Technol* 23(2):157–163.
 21. Sarkari M, Darrat I, Knutson BL. 2003. CO₂ and fluorinated solvent-based technologies for protein microparticle precipitation from aqueous solutions. *Biotechnol Prog* 19(2):448–454.
 22. Caliceti P, Salmaso S, Elvassore N, Bertucco A. 2004. Effective protein release from PEG/PLA nano-particles produced by compressed gas anti-solvent precipitation techniques. *J Control Release* 94(1):195–205.
 23. Cesta MC, Di Cesare P, Gentile M. 2002. Supercritical fluids processing: Preparation of protein microparticles and their stabilisation. WO2003035673.
 24. Sievers RE, Sellers SP, Carpenter JF. 2000. Supercritical fluid-assisted nebulization and bubble drying. US20040067259.
 25. Wan Y, Ma J, Zhou W, Zhu Y, Song X, Li H. 2004. Preparation of titania–zirconia composite aerogel material by sol–gel combined with supercritical fluid drying. *Appl Catal A: Gen* 277(1–2):55–59.
 26. Canham LT, Cullis AG, Pickering C, Dosser OD, Cox TI, Lynch TP. 1994. Luminescent anodized silicon aerocrystal networks prepared by supercritical drying. *Nature* 368:133–135.
 27. Cao W, Carrillo AL, Klotz IM, McGovern WE, Moses JM, Rouanet SF. 1994. Method of forming particles using a supercritical fluid, aerogel particles formed thereby, and antiperspirants containing aerogel particles. US5725836.
 28. Reverchon E, Adami R, Cardea S, Della Porta G. 2009. Supercritical fluids processing of polymers for pharmaceutical and medical applications. *J Supercrit Fluids* 47(3):484–492.
 29. Nakamura T, Mizukami-Murata S, Ando A, Murata Y, Takagi H, Shima J. 2008. Changes in gene expression of commercial baker's yeast during an air-drying process that simulates dried yeast production. *J Biosci Bioeng* 106(4):405–408.
 30. Champagne CP, Raymond Y, Simon JP. 2012. Effect of water activity and protective solutes on growth and subsequent survival to air-drying of *Lactobacillus* and *Bifidobacterium* cultures. *Appl Microbiol Biotechnol* 95(3):745–756.
 31. Schultz-Fademrecht T, Bassarab S, Garidel P. 2012. Method for manufacturing protein solutions and their concentration. WO2013026763.
 32. Gabel R-D, Mattern M, Winter G, Wirl A, Woog H. 1998. Process for the manufacture of dry, amorphous products comprising biologically active material by means of convection drying and products obtainable by the process. EP0913178.
 33. Fellowes ON. 1969. Foot-and-mouth disease virus: Stability of neutralizing antibody after freeze-drying and air-drying. *Appl Microbiol* 17(3):488.
 34. Colaco C, Sen S, Thangavelu M, Pinder S, Roser B. 1992. Extraordinary stability of enzymes dried in trehalose: Simplified molecular biology. *Biotechnology* 10(9):1007–1011.
 35. Brinkhous KM, Read MS. 1978. Preservation of platelet receptors for platelet aggregating factor/von Willebrand factor by air drying, freezing, or lyophilization: New stable platelet preparations for von Willebrand factor assays. *Thromb Res* 13(4):591–597.
 36. Mahmoud BS, Yamazaki K, Miyashita K, Kawai Y, Shin IS, Suzuki T. 2006. Preservative effect of combined treatment with electrolyzed NaCl solutions and essential oil compounds on carp fillets during convective air-drying. *Int J Food Microbiol* 106(3):331–337.
 37. Dissa AO, Desmorieux H, Bathiebo J, Koulidiati J. 2008. Convective drying characteristics of Amelie mango (*Mangifera indica* L. cv. 'Amelie') with correction for shrinkage. *J Food Eng* 88(4):429–437.
 38. Santivarangkna C, Kulozik U, Foerst P. 2007. Alternative drying processes for the industrial preservation of lactic acid starter cultures. *Biotechnol Prog* 23(2):302–315.
 39. Foerst P, Kulozik U, Schmitt, Bauer SA, Santivarangkna C. 2012. Storage stability of vacuum-dried probiotic bacterium *Lactobacillus paracasei* F19. *Food Bioprod Process* 90:295–300.
 40. Bennett A, Moti H. 2007. A dry food product containing live probiotic. US20100074994.
 41. Amellal H, Benamarra S. 2008. Vacuum drying of common date pulp cubes. *Drying Technol* 26(3):378–382.
 42. Long W, Takahiro O, Yukiharu O, Akio T. 2007. Vacuum drying characteristics of eggplants. *J Food Eng* 83:422–429.
 43. Palacio J, Vasquez J, Llyin I. 2012. Vacuum dried fruit product. WO2013101517.
 44. Ishida K, Ishioka Y, Kai F, Kumazawa E. 1976. Method for the production of fish meat powder retaining functional characteristics of fresh fish meat. US4215153.
 45. Rossi S, Buera MP, Moreno S, Chirife J. 1997. Stabilization of the restriction enzyme EcoRI dried with trehalose and other selected glass-forming solutes. *Biotechnol Prog* 13(5):609–616.
 46. Uritani M, Takai M, Yoshinaga K. 1995. Protective effect of disaccharides on restriction endonucleases during drying under vacuum. *J Biochem* 117(4):774–779.
 47. Akahoshi R, Matashige E. 1990. Studies on microwave draft drying. Part II. Drying of sliced potatoes by microwave heating with flowing air. *Nippon Shokuhin Kogyo Gakkaishi* 37(8):581–588.
 48. Matashige E, Akahoshi R. 2002. Production of dehydrated chicken meat by forced draft microwave drying. Studies on forced draft microwave drying. Part III. *Nippon Shokuhin Kagaku Kogaku Kaishi* 49(6):359–367.
 49. Eikevik TM, Alves-Filho O, Bantle M. 2012. Microwave-assisted atmospheric freeze drying of green peas: A case study. *Drying Technol* 30:1592–1599.
 50. Wang R, Zhang M, Mujumdar AS, Sun JC. 2010. Effect of food ingredient on microwave freeze drying of instant vegetable soup. *LWT – Food Sci Technol* 43(7):1144–1150.
 51. Durance TD, Meyer RS, Wang JL. 1999. Process for drying mango and pineapples. US5962057.
 52. de Jesus SS, Filho RM. 2011. Optimizing drying conditions for the microwave vacuum drying of enzymes. *Drying Technol* 29:1828–1835.
 53. Gomes AM, Leonhardt GF, Torloni M, Borzani W. 1975. Microwave drying of microorganisms: I. Influence of the microwave energy and of the sample thickness on the drying of yeast. *J Microw Power* 10(3):265–270.
 54. Farrel G, McMinn WAM, Magee TRA. 2005. Microwave-vacuum drying kinetics of pharmaceutical powders. *Drying Technol* 23(9):2131–2146.
 55. Kardum JP, Sander A, Skansi D. 2001. Comparison of convective, vacuum, and microwave drying chlorpropamide. *Drying Technol* 19(1):167–183.
 56. Fu J, Durance TD, Yaghmaee P. 2010. Microwave vacuum-drying of organic materials. WO2011085467.
 57. Ahmad S, Durance TD, Yaghmaee P, Zhang G. 2007. Method of drying biological material. WO200892228.
 58. Forster EI, Creighton PJ. 1973. Microwave drying process for synthetic polymers. US3771234.
 59. Gallego-Juarez JA, Rodriguez-Corral G, Galvez-Moraleda JC, Yang TS. 1999. A new high-intensity ultrasonic technology for food dehydration. *Drying Technol* 17(3):597–608.
 60. Patist A, Bates D. 2008. Ultrasonic innovations in the food industry from the laboratory to commercial production. *Innovative Food Sci Emerg Technol* 9:147–154.
 61. Aversa M, Van der Voort A-J, de Heij W, Tournois B, Curcio S. 2011. An experimental analysis of acoustic drying of carrots: Evaluation of heat transfer coefficients in different drying conditions. *Drying Technol* 29:239–244.

- 62.** Garcia-Perez JV, Carcel JA, Riera E, Rosello C, Mulet A. 2012. Intensification of low-temperature drying by using ultrasound. *Drying Technol* 30:1199–1208.
- 63.** Glaznev VN, Koptyug IV, Korobeinikov YG. 1999. Physical features of acoustic drying of wood. *J Eng Phys Thermophys* 72(3):409–411.
- 64.** Swamy KM, Narayana KL, Murty JS. 1988. Acoustic drying of coal. *Drying Technol* 6(3):501–514.
- 65.** Ensminger D. 1988. Acoustic and electroacoustic methods of dewatering and drying. *Drying Technol* 6(3):473–499.
- 66.** Lee S-H, Jeon Y-J. 2010. Effects of far infrared radiation drying on antioxidant and anticoagulant activities of *Acklonia cava* extracts. *J Korean Soc Appl Biol Chem* 53(2):175–183.
- 67.** Nowak D, Lewicki PP. 2004. Infrared drying of apple slices. *Innovative Food Sci Emerg Technol* 5(3):353–360.
- 68.** Baysal T, Icier F, Ersus S, Yildiz H. 2003. Effects of microwave and infrared drying on the quality of carrot and garlic. *Eur Food Res Technol* 218:68–73.
- 69.** McHugh TH, Pan Z. 2005. Novel infrared dry branching (idb) and infrared drying technologies for food processing. WO2006020749.
- 70.** Srinivasa PC, Ramesh MN, Kumar KR, Tharanathan RN. 2004. Properties of chitosan films prepared under different drying conditions. *J Food Eng* 63(1):79–85.
- 71.** Pavkov I, Babic L, Babic M, Radojcic M. 2009. Osmotic drying of apricot (*Prunus armeniaca*) in sucrose solution. *Agriculturae Conspectus Scientificus* 74(3):253–257.
- 72.** Gerelt B, Ikeuchi Y, Suzuki A. 2000. Meat tenderization by proteolytic enzymes after osmotic dehydration. *Meat Sci* 56(3):311–318.
- 73.** Chafer M, Gonzalez-Martinez C, Fernandez BP, Perez L, Chiralt A. 2003. Effect of blanching and vacuum pulse application on osmotic dehydration of pear. *Food Sci Technol Int* 9(5):321–328.
- 74.** Camirand WM, Forrey RR. 1966. Osmotic dehydration of coated foods. US3425848.
- 75.** Aebi KJ, Aung T, Grypa RD, Lee MJ. 1991. Process for preparing dehydrated vegetable products and the resulting products. WO1992010940.
- 76.** Sarang S, Sastry SK, Knipe L. 2008. Electrical conductivity of fruits and meats during ohmic heating. *J Food Eng* 87:351–356.
- 77.** Lakkakula NR, Lima M, Walker T. 2004. Rice bran stabilization and rice bran oil extraction using ohmic heating. *Bioresour Technol* 92:157–161.
- 78.** Zhong T, Lima M. 2003. The effect of ohmic heating on vacuum drying rate of sweet potato tissue. *Bioresour Technol* 87:215–220.
- 79.** Huang L, Chen Y, Morrissey MT. 1997. Coagulation of fish proteins from frozen fish mince wash water by ohmic heating. *J Food Process Eng* 20(4):285–300.
- 80.** Becker HA, Sallans HR. 1961. Drying wheat in a spouted bed: On the continuous, moisture diffusion controlled drying of solid particles in a well-mixed, isothermal bed. *Chem Eng Sci* 13(3):97–112.
- 81.** Feng H, Tang J. 1998. Microwave finish drying of diced apples in a spouted bed. *J Food Sci* 63(4):679–683.
- 82.** Markowski AS. 1992. Drying characteristics in a jet-spouted bed dryer. *Can J Chem Eng* 70:938–944.
- 83.** Grabowski S, Mujumdar AS, Ramaswamy HS, Strumillo C. 1997. Evaluation of fluidized versus spouted bed drying of baker's yeast. *Drying Technol* 15(2):625–634.
- 84.** Jono K, Ichikawa H, Miyamoto M, Fukumori Y. 2000. A review of particulate design for pharmaceutical powders and their production by spouted bed coating. *Powder Technol* 113(3):269–277.
- 85.** Oliveira AC, Moretti TS, Boschini C, Boliero JCC, Freitas LAP, Freitas O, Favaro-Trindade CS. 2007. Microencapsulation of *B. lactis* (BI 01) and *L. acidophilus* (LAC 4) by complex coacervation followed by spouted-bed drying. *Drying Technol* 25(10):1687–1693.
- 86.** Bayrock D, Ingleudew WM. 1997. Fluidized bed drying of baker's yeast: Moisture levels, drying rates, and viability changes during drying. *Food Res Int* 30(6):407–415.
- 87.** Reyes A, Alvarez PI, Marquardt FH. 2002. Drying of carrots in a fluidized bed. I. Effects of drying conditions and modeling. *Drying Technol* 20(7):1463–1483.
- 88.** Adamiec J. 2002. Drying of waste sludges in a fluidized bed dryer with a mixer. *Drying Technol* 20(4–5):839–853.
- 89.** Edwards DN, Jorgensen RJ, Lee KH, Marcinkowsky AE. 1989. Preparation of very low molecular weight polyethylene in a fluidized bed. US5068489.
- 90.** Cleland JL, Jones AJ, Powell MF. 1994. Method for preparing microspheres comprising a fluidized bed drying step. WO1995011009.
- 91.** Davies WL, Gloor WT, Jr. 1971. Batch production of pharmaceutical granulations in a fluidized bed. I. Effects of process variables on physical properties of final granulation. *J Pharm Sci* 60(12):1869–1874.
- 92.** Al-Bargash L, Caron DA. 2006. Combined-step process for pharmaceutical compositions. WO2006102750.
- 93.** Geidobler R, Winter G. 2013. Controlled ice nucleation in the field of freeze-drying: Fundamentals and technology review. *Eur J Pharm Biopharm* 85(2):214–222.
- 94.** Searles JA, Carpenter JF, Randolph TW. 2001. Annealing to optimize the primary drying rate, reduce freezing-induced drying rate heterogeneity, and determine T_g' in pharmaceutical lyophilization. *J Pharm Sci* 90(7):872–887.
- 95.** Hof H-G. 1998. Gefriertrocknungsanlage. European Patent EP0777092B1.
- 96.** Petersen A, Rau G, Glasmacher B. 2006. Reduction of primary freeze-drying time by electric field induced ice nucleus formation. *Heat Mass Transfer* 42(10):929–938.
- 97.** Rambhatla S, Ramot R, Bhugra C, Pikal Michael J. 2004. Heat and mass transfer scale-up issues during freeze drying: II. Control and characterization of the degree of supercooling. *AAPS PharmSciTech* 5(4):e58.
- 98.** Patel SM, Bhugra C, Pikal MJ. 2009. Reduced pressure ice fog technique for controlled ice nucleation during freeze-drying. *AAPS PharmSciTech* 10(4):1406–1411.
- 99.** Konstantinidis AK, Kuu W, Otten L, Nail SL, Sever RR. 2011. Controlled nucleation in freeze-drying: Effects on pore size in the dried product layer, mass transfer resistance, and primary drying rate. *J Pharm Sci* 100(8):3453–3470.
- 100.** Nakagawa K, Hottot A, Vessot S, Andrieu J. 2006. Influence of controlled nucleation by ultrasounds on ice morphology of frozen formulations for pharmaceutical proteins freeze-drying. *Chem Eng Process* 45(9):783–791.
- 101.** Hottot A, Nakagawa K, Andrieu J. 2008. Effect of ultrasound-controlled nucleation on structural and morphological properties of freeze-dried mannitol solutions. *Chem Eng Res Des* 86(2):193–200.
- 102.** Saclier M, Peczalski R, Andrieu J. 2010. Effect of ultrasonically induced nucleation on ice crystals' size and shape during freezing in vials. *Chem Eng Sci* 65(10):3064–3071.
- 103.** Kramer M, Sennhenn B, Lee G. 2002. Freeze-drying using vacuum-induced surface freezing. *J Pharm Sci* 91(2):433–443.
- 104.** Liu J, Viverette T, Virgin M, Anderson M, Dalal P. 2005. A study of the impact of freezing on the lyophilization of a concentrated formulation with a high fill depth. *Pharm Dev Technol* 10(2):261–272.
- 105.** Geidobler R, Konrad I, Winter G. 2013. Can controlled ice nucleation improve freeze-drying of highly-concentrated protein formulations? *J Pharm Sci* 102(11):3915–3919.
- 106.** Johnson RE, Oldroyd ME, Ahmed SS, Gieseler H, Lewis LM. 2010. Use of manometric temperature measurements (MTM) to characterize the freeze-drying behavior of amorphous protein formulations. *J Pharm Sci* 99(6):2863–2873.
- 107.** Overcashier DE, Patapoff TW, Hsu CC. 1999. Lyophilization of protein formulations in vials: Investigation of the relationship between resistance to vapor flow during primary drying and small-scale product collapse. *J Pharm Sci* 88(7):688–695.
- 108.** Fonseca F, Passot S, Cunin O, Marin M. 2004. Collapse temperature of freeze-dried *Lactobacillus bulgaricus* suspensions and protective media. *Biotechnol Prog* 20(1):229–238.
- 109.** Colandene JD, Maldonado LM, Creagh AT, Vrettos JS, Goad KG, Spitznagel TM. 2007. Lyophilization cycle development for a high-concentration monoclonal antibody formulation lacking a crystalline bulking agent. *J Pharm Sci* 96(6):1598–1608.

- 110.** Lewis LM, Johnson RE, Oldroyd ME, Ahmed SS, Joseph L, Saracovan I, Sinha S. 2010. Characterizing the freeze-drying behavior of model protein formulations. *AAPS PharmSciTech* 11(4):1580–1590.
- 111.** Xu HS, Zhang M, Duan X, Mujumdar AS, Sun JC. 2009. Effect of power ultrasound pretreatment on edamame prior to freeze drying. *Drying Technol* 27(2):186–193.
- 112.** Woo MW, Mujumdar AS. 2010. Effects of electric and magnetic field on freezing and possible relevance in freeze drying. *Drying Technol* 28(4):433–443.
- 113.** Cui ZW, Li CY, Song CF, Song Y. 2008. Combined microwave-vacuum and freeze drying of carrot and apple chips. *Drying Technol* 26(12):1517–1523.
- 114.** Gassler M, Rey L. 2004. Development of a new concept for bulk freeze-drying: Lyoguard freeze-dry packaging. In *Freeze drying/lyophilization of pharmaceutical and biological products*; Rey L, May JC, Ed. New York City, New York: Marcel Dekker, pp 325–348.
- 115.** Mumenthaler M, Leuenberger H. 1991. Atmospheric spray-freeze drying: A suitable alternative in freeze-drying technology. *Int J Pharm* 72(2):97–110.
- 116.** Leuenberger H, Plitzko M, Puchkov M. 2006. Spray freeze drying in a fluidized bed at normal and low pressure. *Drying Technol* 24(6):711–719.
- 117.** Sonner C, Maa YF, Lee G. 2002. Spray-freeze-drying for protein powder preparation: Particle characterization and a case study with trypsinogen stability. *J Pharm Sci* 91(10):2122–2139.
- 118.** Maa YF, Nguyen PA, Sweeney T, Shire SJ, Hsu CC. 1999. Protein inhalation powders: Spray drying vs spray freeze drying. *Pharm Res* 16(2):249–254.
- 119.** Day JB, Nguyen H, Sharma SK, Al-Khalidi SF, Hao YY. 2009. Effect of dehydrated storage on the survival of *Francisella tularensis* in infant formula. *Food Microbiol* 26(8):932–935.
- 120.** Cryz SJ, Jr., Pasteris O, Varallyay SJ, Furer E. 1996. Factors influencing the stability of live oral attenuated bacterial vaccines. *Dev Biol Stand* 87:277–281.
- 121.** Corbel MJ. 1996. Reasons for instability of bacterial vaccines. *Dev Biol Stand* 87:113–124.
- 122.** Weaire D, Hutzler S. 2001. *The physics of foams*. New York CityNY: Oxford University Press, p 264.
- 123.** Saye RI, Sethian JA. 2013. Multiscale modeling of membrane rearrangement, drainage, and rupture in evolving foams. *Science* 340(6133):720–724.
- 124.** Vehring R. 2008. Pharmaceutical particle engineering via spray drying. *Pharm Res* 25(5):999–1022.
- 125.** White S, Bennett DB, Cheu S, Conley PW, Guzek DB, Gray S, Howard J, Malcolmson R, Parker JM, Roberts P, Sadrzadeh N, Schumacher JD, Seshadri S, Slaggert GW, Stevenson CL, Harper NJ. 2005. EXUBERA: Pharmaceutical development of a novel product for pulmonary delivery of insulin. *Diabetes Technol Ther* 7(6):896–906.
- 126.** Labrude P, Rasolomanana M, Vigneron C, Thirion C, Chaillot B. 1989. Protective effect of sucrose on spray drying of oxyhemoglobin. *J Pharm Sci* 78(3):223–229.
- 127.** Mumenthaler M, Hsu CC, Pearlman R. 1994. Feasibility study on spray-drying protein pharmaceuticals: Recombinant human growth hormone and tissue-type plasminogen activator. *Pharm Res* 11(1):12–20.
- 128.** Ohtake S, Martin RA, Yee L, Chen D, Kristensen DD, Lechuga-Ballesteros D, Truong-Le V. 2010. Heat-stable measles vaccine produced by spray drying. *Vaccine* 28(5):1275–1284.
- 129.** Vehring R, Foss RW, Lechuga-Ballesteros D. 2007. Particle formation in spray drying. *J Aerosol Sci* 38:728–746.
- 130.** Crowe C, Sommerfeld M, Tsuji Y. 1998. *Multiphase flows with droplets and particles*. Boca Raton, Florida: CRC Press.
- 131.** Jin Y, Chen XD. 2009. A three-dimensional numerical study of the gas/particle interactions in an industrial-scale spray dryer for milk powder production. *Drying Technol* 27(10):371–381.
- 132.** Negiz A, Lagergren ES, Cinar A. 1995. Mathematical models of concurrent spray drying. *Ind Eng Chem Res* 34(10):3289–3302.
- 133.** Barreto V, Plummer J. 2012. Solving baghouse performance problems in spray-drying systems. *Powder Bulk Eng Apr*.
- 134.** Garcia-Contreras L, Wong YL, Muttal P, Padilla D, Sadoff J, Derouesse J, Germishuizen WA, Goonesekera S, Elbert K, Bloom BR, Miller R, Fourie PB, Hickey A, Edwards D. 2008. Immunization by a bacterial aerosol. *Proc Natl Acad Sci USA* 105(12):4656–4660.
- 135.** Jin TH, Tsao E, Goudsmit J, Dheenadhayalan V, Sadoff J. 2010. Stabilizing formulations for inhalable powders of an adenovirus 35-vectorized tuberculosis (TB) vaccine (AERAS-402). *Vaccine* 28(27):4369–4375.
- 136.** Corbanie EA, Remon JP, Van Reeth K, Landman WJ, van Eck JH, Vervaet C. 2007. Spray drying of an attenuated live Newcastle disease virus intended for respiratory mass vaccination of poultry. *Vaccine* 25(49):8306–8317.
- 137.** Muttal P, Prego C, Garcia-Contreras L, Pulliam B, Fallon JK, Wang C, Hickey AJ, Edwards D. 2010. Immunization of guinea pigs with novel hepatitis B antigen as nanoparticle aggregate powders administered by the pulmonary route. *AAPS J* 12(3):330–337.
- 138.** Maa Y-F, Prestrelski SJ, Zhao L. 2001. Powder compositions. WO2001093829.
- 139.** Truong-Le V, Yee L, Lechuga-Ballesteros D, Ohtake S. 2008. Formulations for preservation of rota virus. US8241886.
- 140.** Jin TH, Tsao EI-F. 2010. Stable, spray dried, immunogenic, viral compositions. WO2010135495.
- 141.** Ohtake S, Truong-Le V, Yee L, Martin R, Lechuga-Ballesteros D. 2010. Methods and compositions for stabilization of a virus vaccine. US20110243988.
- 142.** Costantino HR, Andya JD, Nguyen PA, Dasovich N, Sweeney TD, Shire SJ, Hsu CC, Maa YF. 1998. Effect of mannitol crystallization on the stability and aerosol performance of a spray-dried pharmaceutical protein, recombinant humanized anti-IgE monoclonal antibody. *J Pharm Sci* 87(11):1406–1411.
- 143.** Kaye RS, Purewal TS, Alpar OH. 2009. Development and testing of particulate formulations for the nasal delivery of antibodies. *J Control Release* 135(2):127–135.
- 144.** Kaye RS, Purewal TS, Alpar HO. 2009. Simultaneously manufactured nano-in-micro (SIMANIM) particles for dry-powder modified-release delivery of antibodies. *J Pharm Sci* 98(11):4055–4068.
- 145.** Dani B, Platz R, Tzannis ST. 2007. High concentration formulation feasibility of human immunoglobulin G for subcutaneous administration. *J Pharm Sci* 96(6):1504–1517.
- 146.** Bowen J, Turok R, Maa Y-F. 2013. Spray drying of monoclonal antibodies: Investigating powder-based biologic drug susbtance bulk storage. *Drying Technol* 31:1441–1450.
- 147.** Scherer T, Truong-Le V. 2005. High pressure spray-dry of bioactive materials. US20040185091.
- 148.** Maa YF, Nguyen PA, Andya JD, Dasovich N, Sweeney TD, Shire SJ, Hsu CC. 1998. Effect of spray drying and subsequent processing conditions on residual moisture content and physical/biochemical stability of protein inhalation powders. *Pharm Res* 15(5):768–775.
- 149.** Duddu SP, Sisk SA, Walter YH, Tarara TE, Trimble KR, Clark AR, Eldon MA, Elton RC, Pickford M, Hirst PH, Newman SP, Weers JG. 2002. Improved lung delivery from a passive dry powder inhaler using an Engineered PulmoSphere powder. *Pharm Res* 19(5):689–695.
- 150.** Chan HK, Clark AR, Feeley JC, Kuo MC, Lehrman SR, Pikal-Cleland K, Miller DP, Vehring R, Lechuga-Ballesteros D. 2004. Physical stability of salmon calcitonin spray-dried powders for inhalation. *J Pharm Sci* 93(3):792–804.
- 151.** Patton JS, Foster L, Platz RM. 1995. Methods and compositions for pulmonary delivery of insulin. US5997848.
- 152.** Dailey LA, Lalonde G, Lechuga-Ballesteros D, Liang Y. 2008. Pulmonary delivery of a macrolide antibiotic. WO2009064469.
- 153.** Brown J, Lai J, Stapleton KW. 2012. Dry powder fosfomycin/tobramycin formulation for inhalation. WO2012154483.
- 154.** Dolly P, Anishaparvin A, Joseph GS, Anandharamakrishnan C. 2011. Microencapsulation of *Lactobacillus plantarum* (mtcc 5422) by spray-freeze-drying method and evaluation of survival in simulated gastrointestinal conditions. *J Microencapsul* 28(6):568–574.

- 155.** Gao Y, Zhu CL, Zhang XX, Gan L, Gan Y. 2011. Lipid-polymer composite microspheres for colon-specific drug delivery prepared using an ultrasonic spray freeze-drying technique. *J Microencapsul* 28(6):549–556.
- 156.** Wang SH, Kirwan SM, Abraham SN, Staats HF, Hickey AJ. 2012. Stable dry powder formulation for nasal delivery of anthrax vaccine. *J Pharm Sci* 101(1):31–47.
- 157.** Tong HH, Du Z, Wang GN, Chan HM, Chang Q, Lai LC, Chow AH, Zheng Y. 2011. Spray freeze drying with polyvinylpyrrolidone and sodium caprate for improved dissolution and oral bioavailability of oleanolic acid, a BCS Class IV compound. *Int J Pharm* 404(1–2):148–158.
- 158.** Audouy SA, van der Schaaf G, Hinrichs WL, Frijlink HW, Wilschut J, Huckriede A. 2011. Development of a dried influenza whole inactivated virus vaccine for pulmonary immunization. *Vaccine* 29(26):4345–4352.
- 159.** Cheow WS, Ng ML, Kho K, Hadinoto K. 2011. Spray-freeze-drying production of thermally sensitive polymeric nanoparticle aggregates for inhaled drug delivery: Effect of freeze-drying adjuvants. *Int J Pharm* 404(1–2):289–300.
- 160.** Maa YF, Zhao L, Payne LG, Chen D. 2003. Stabilization of alum-adjuvanted vaccine dry powder formulations: Mechanism and application. *J Pharm Sci* 92(2):319–332.
- 161.** Carpenter JF, Pham BV, Truong-Le V. 2003. Spray freeze dry of compositions for intranasal administration. US20040042972.
- 162.** Carpenter JF, Pham BV, Randolph T, Seid R, Truong-Le V. 2003. Spray freeze dry of compositions for pulmonary administration. WO2003087339.
- 163.** Lucas P, Anderson K, Potter UJ, Staniforth JN. 1999. Enhancement of small particle size dry powder aerosol formulations using an ultra low density additive. *Pharm Res* 16(10):1643–1647.
- 164.** Lechuga-Ballesteros D, Charan C, Stults CL, Stevenson CL, Miller DP, Vehring R, Tep V, Kuo MC. 2008. Trileucine improves aerosol performance and stability of spray-dried powders for inhalation. *J Pharm Sci* 97(1):287–302.
- 165.** Najafabadi AR, Gilani K, Barghi M, Rafiee-Tehrani M. 2004. The effect of vehicle on physical properties and aerosolisation behaviour of disodium cromoglycate microparticles spray dried alone or with L-leucine. *Int J Pharm* 285(1–2):97–108.
- 166.** Bot AI, Tarara TE, Smith DJ, Bot SR, Woods CM, Weers JG. 2000. Novel lipid-based hollow-porous microparticles as a platform for immunoglobulin delivery to the respiratory tract. *Pharm Res* 17(3):275–283.
- 167.** Weers J. 2012. Dry powder formulations of particles that contain two or more active ingredients for treating obstructive or inflammatory airways diseases. WO2012106575.
- 168.** Kuo M-C, Lechuga-Ballesteros D. 2000. Dry powder compositions having improved dispersivity. WO2001032144.
- 169.** Chew NY, Shekunov BY, Tong HH, Chow AH, Savage C, Wu J, Chan HK. 2005. Effect of amino acids on the dispersion of disodium cromoglycate powders. *J Pharm Sci* 94(10):2289–2300.
- 170.** Bosquillon C, Lombray C, Preat V, Vanbever R. 2001. Influence of formulation excipients and physical characteristics of inhalation dry powders on their aerosolization performance. *J Control Release* 70(3):329–339.
- 171.** Vanbever R, Ben-Jebria A, Mintzes JD, Langer R, Edwards DA. 1999. Sustained-release of insulin from insoluble inhaled particles. *Drug Dev Res* 48:178–185.
- 172.** Colombo G, Padera R, Langer R, Kohane DS. 2005. Prolonged duration local anesthesia with lipid-protein-sugar particles containing bupivacaine and dexamethasone. *J Biomed Mater Res A* 75(2):458–464.
- 173.** Liu W, Wu WD, Selomulya C, Chen XD. 2011. Facile spray-drying assembly of uniform microencapsulates with tunable core-shell structures and controlled release properties. *Langmuir* 27(21):12910–12915.
- 174.** Mert O, Lai SK, Ensign L, Yang M, Wang YY, Wood J, Hanes J. 2011. A poly(ethylene glycol)-based surfactant for formulation of drug-loaded mucus penetrating particles. *J Control Release* 157(3):455–460.
- 175.** Bhat MG, Cuff GW, Wolff RK. 2001. Protein powder for pulmonary delivery. WO2001093387.
- 176.** Manzo RP, Vollhardt J, Malkan N, Friars G. 1997. Liposome encapsulated active agent dry powder composition. US5783211.
- 177.** Seville PC, Learoyd TP, Li H-Y, Williamson IJ, Birchall JC. 2007. Amino acid-modified spray-dried powders with enhanced aerosolisation properties for pulmonary drug delivery. *Powder Technol* 178(1):40–50.
- 178.** Learoyd TP, Burrows JL, French E, Seville PC. 2008. Chitosan-based spray-dried respirable powders for sustained delivery of terbutaline sulfate. *Eur J Pharm Biopharm* 68(2):224–234.
- 179.** Vehring R. 2008. Pharmaceutical particle engineering via spray drying. *Pharm Res* 25(5):999–1022.
- 180.** Clark AR, Egan M. 1994. Modelling the deposition of inhaled powdered drug aerosols. *J Aerosol Sci* 25:175–186.
- 181.** Sadrzadeh N, Miller DP, Lechuga-Ballesteros D, Harper NJ, Stevenson CL, Bennett DB. 2010. Solid-state stability of spray-dried insulin powder for inhalation: Chemical kinetics and structural relaxation modeling of Exubera above and below the glass transition temperature. *J Pharm Sci* 99(9):3698–3710.
- 182.** Weiler C, Egen M, Trunk M, Langguth P. 2010. Force control and powder dispersibility of spray dried particles for inhalation. *J Pharm Sci* 99(1):303–316.
- 183.** Maa YF, Costantino HR, Nguyen PA, Hsu CC. 1997. The effect of operating and formulation variables on the morphology of spray-dried protein particles. *Pharm Dev Technol* 2(3):213–223.
- 184.** Broadhead J, Rouan SKE, Rhodes CT. 1992. The spray drying of pharmaceuticals. *Drug Dev Ind Pharm* 18:1169–1206.
- 185.** Broadhead J, Rouan SK, Hau I, Rhodes CT. 1994. The effect of process and formulation variables on the properties of spray-dried betagalactosidase. *J Pharm Pharmacol* 46(6):458–467.
- 186.** Stahl K, Claesson M, Lilliehorn P, Linden H, Backstrom K. 2002. The effect of process variables on the degradation and physical properties of spray dried insulin intended for inhalation. *Int J Pharm* 233(1–2):227–237.
- 187.** Hageman MJ. 1988. The role of moisture in protein stability. *Drug Dev Ind Pharm* 14:2047–2070.
- 188.** Adhikari B, Howes T, Bhandari BR, Truong V. 2003. Surface stickiness of drops of carbohydrate and organic acid solutions during convective drying: Experiments and modeling. *Drying Technol* 21:839–873.
- 189.** Maa YF, Hsu CC. 1997. Protein denaturation by combined effect of shear and air-liquid interface. *Biotechnol Bioeng* 54(6):503–512.
- 190.** Maa YF, Costantino HR. 2004. Spray freeze-drying of biopharmaceuticals: Applications and stability considerations. In *Lyophilization of biopharmaceuticals*; Costantino HR, Pikal M, Eds. Alexandria, Virginia: AAPPS Press, pp 519–561.
- 191.** Costantino HR, Firouzabadian L, Hogeland K, Wu C, Beganski C, Carrasquillo KG, Cordova M, Griebelow K, Zale SE, Tracy MA. 2000. Protein spray-freeze drying. Effect of atomization conditions on particle size and stability. *Pharm Res* 17(11):1374–1383.
- 192.** Maa YF, Prestrelski SJ. 2000. Biopharmaceutical powders: Particle formation and formulation considerations. *Curr Pharm Biotechnol* 1(3):283–302.
- 193.** Maa YF, Nguyen PA. 2001. Method of spray freeze drying proteins for pharmaceutical administration. US6284282.
- 194.** Webb SD, Golledge SL, Cleland JL, Carpenter JF, Randolph TW. 2002. Surface adsorption of recombinant human interferon-gamma in lyophilized and spray-lyophilized formulations. *J Pharm Sci* 91(6):1474–1487.
- 195.** Leuenberger H. 2002. Spray freeze-drying—The process of choice for low water soluble drugs? *J Nanopart Res* 4(2):111–119.
- 196.** Rogers TL, Nelsen AC, Hu J, Brown JN, Sarkari M, Young TJ, Johnston KP, Williams RO, 3rd. 2002. A novel particle engineering technology to enhance dissolution of poorly water soluble drugs: Spray-freezing into liquid. *Eur J Pharm Biopharm* 54(3):271–280.
- 197.** Rogers TL, Nelsen AC, Sarkari M, Young TJ, Johnston KP, Williams RO, 3rd. 2003. Enhanced aqueous dissolution of a poorly

- water soluble drug by novel particle engineering technology: Spray-freezing into liquid with atmospheric freeze-drying. *Pharm Res* 20(3):485–493.
- 198.** Hu J, Rogers TL, Brown J, Young T, Johnston KP, Williams RO, III. 2002. Improvement of dissolution rates of poorly water soluble APIs using novel spray freezing into liquid technology. *Pharm Res* 19(9):1278–1284.
- 199.** Rogers S, Wu WD, Saunders J, Chen XD. 2008. Characteristics of milk powders produced by spray freeze drying. *Drying Technol* 26(4):404–412.
- 200.** Webb SD, Cleland JL, Carpenter JF, Randolph TW. 2003. Effects of annealing lyophilized and spray-lyophilized formulations of recombinant human interferon-gamma. *J Pharm Sci* 92(4):715–729.
- 201.** Mawson S, Kanakia S, Johnston KP. 1997. Coaxial nozzle for control of particle morphology in precipitation with a compressed fluid antisolvent. *J Appl Polym Sci* 64(11):2105–2118.
- 202.** Sellers SP, Clark GS, Sievers RE, Carpenter JF. 2001. Dry powders of stable protein formulations from aqueous solutions prepared using supercritical CO₂-assisted aerosolization. *J Pharm Sci* 90(6):785–797.
- 203.** Sievers RE, Karst U, Schaefer JD, Stoldt CR, Watkins BA. 1996. Supercritical CO₂-assisted nebulization for the production and administration of drugs. *J Aerosol Sci* 27(S1):497–498.
- 204.** Sievers RE, Huang ETS, Villa JA, Kawamoto JK, Evans MM, Brauer PR. 2001. Low-temperature manufacturing of fine pharmaceutical powders with supercritical fluid aerosolization in a Bubble Dryer. *Pure Appl Chem* 73(8):1299–1303.
- 205.** Pyo D. 2009. Two different shapes of insulin microparticles produced by solution enhanced dispersion supercritical fluid (SEDS) process. *Bull Korean Chem Soc* 30(5):1215–1217.
- 206.** Debenedetti PG, Tom JW, Kwauk X, Yeo S-D. 1993. Rapid expansion of supercritical solutions (RESS): Fundamentals and applications. *Fluid Phase Equilibria* 82:311–321.
- 207.** Martin A, Pham HM, Kilzer A, Kareth S, Weidner E. 2010. Micronization of polyethylene glycol by PGSS (particles from gas saturated solution)-drying of aqueous solutions. *Chem Eng Process: Process Intensification* 49(12):1259–1266.
- 208.** Dos Santos IR, Richard J, Pech B, Thies C, Benoit JP. 2002. Microencapsulation of protein particles within lipids using a novel supercritical fluid process. *Int J Pharm* 242(1–2):69–78.
- 209.** Dillon AK, Dehghani F, Hrkach JS, Foster NR, Langer R. 1999. Bacterial inactivation by using near- and supercritical carbon dioxide. *Proc Nat Acad Sci USA* 96(18):10344–10348.
- 210.** Okamoto H, Danjo K. 2008. Application of supercritical fluid to preparation of powders of high-molecular weight drugs for inhalation. *Adv Drug Del Rev* 60(3):433–446.
- 211.** Winters MA, Knutson BL, Debenedetti PG, Sparks HG, Przybycien TM, Stevenson CL, Prestrelski SJ. 1996. Precipitation of proteins in supercritical carbon dioxide. *J Pharm Sci* 85(6):586–594.
- 212.** Weibel GL, Christopher KO. 2003. An overview of supercritical CO₂ applications in microelectronics processing. *Microelectron Eng* 65(1–2):145–152.
- 213.** Sheth P, Sandhu H, Singhal D, Malick W, Shah N, Kislaoglu MS. 2012. Nanoparticles in the pharmaceutical industry and the use of supercritical fluid technologies for nanoparticle production. *Curr Drug Del* 9(3):269–284.
- 214.** Mille Y, Obert JP, Beney L, Gervais P. 2004. New drying process for lactic bacteria based on their dehydration behavior in liquid medium. *Biotechnol Bioeng* 88(1):71–76.
- 215.** Lemetais G, Dupont S, Beney L, Gervais P. 2012. Air-drying kinetics affect yeast membrane organization and survival. *Appl Microbiol Cell Physiol* 96:471–480.
- 216.** Carvalho AS, Silva J, Ho P, Teixeira P, Malcata FX, Gibbs P. 2003. Protective effect of sorbitol and monosodium glutamate during storage of freeze-dried lactic acid bacteria. *Lait* 83(3):203–210.
- 217.** Schoug A, Mahlin D, Jonson M, Hakansson S. 2010. Differential effects of polymers PVP90 and Ficoll400 on storage stability and viability of *Lactobacillus coryniformis* Si₃ freeze-dried in sucrose. *J Appl Microbiol* 108(3):1032–1040.
- 218.** Yao AA, Bera F, Franz C, Holzapfel W, Thonart P. 2008. Survival rate analysis of freeze-dried lactic acid bacteria using the arrhenius and z-value models. *J Food Protection* 71(2):431–434.
- 219.** Conrad PB, Miller DP, Cielenski PR, de Pablo JJ. 2000. Stabilization and preservation of *Lactobacillus acidophilus* in saccharide matrices. *Cryobiology* 41(1):17–24.
- 220.** www.linn.de, last accessed on May 2nd, 2014.
- 221.** www.thermex-thermatron.com, last accessed on May 2nd, 2014.
- 222.** www.enwave.net, last accessed on May 2nd, 2014.
- 223.** www.industrialmicrowave.com, last accessed on May 2nd, 2014.
- 224.** Li H, Ramaswamy HS. 2008. Microwave drying. In *Food drying science and technology*; Hui YH, Clary C, Farid MM, Fasina OO, Noomhorn A, Welti-Chanes, Eds. Lancaster, Pennsylvania: DEStech Publications, Inc., pp 127–155.
- 225.** Mandal TK. 1995. Evaluation of microwave drying for pharmaceutical granulations. *Drug Dev Ind Pharm* 21(14):1683–1688.
- 226.** Dolan JP, Scott EP. 1994. Microwave freeze-drying of aqueous solutions. *Adv Heat Mass Transfer Biol Syst* 288:91–98.
- 227.** Kowalski SJ, Rajewska K. 2009. Effectiveness of hybrid drying. *Chem Eng Process: Process Intensification* 48:1302–1309.
- 228.** Garcia A, Bueno JJ. 1998. Improving energy efficiency in combined convective-microwave drying. *Drying Technol* 16:123–140.
- 229.** Goluannec P, Lecharpentier D, Noel H. 2002. Experimental survey on the combination of radiating infrared and microwave sources for the drying of porous materials. *Appl Therm Eng* 22:1689–1703.
- 230.** Salagnac P, Glouannec P, Lecharpentier D. 2004. Numerical modelling of heat and mass transfer in porous medium during combined hot air, infrared and microwave drying. *Int J Heat Mass Transf* 47:4479–4489.
- 231.** Drouzas AE, Schubert H. 1996. Microwave application in vacuum drying of fruits. *J Food Eng* 28:203–209.
- 232.** Cui Q, Xu SY, Sun DW. 2003. Dehydration of garlic slices by combined microwave-vacuum and air drying. *Drying Technol* 21(7):1173–1184.
- 233.** Therdthai N, Northongkom H. 2011. Characterization of hot air drying and microwave vacuum drying of fingerroot (*Boesenbergia pandurata*). *Int J Food Sci Technol* 46(3):601–607.
- 234.** Song XJ, Zhang M, Mujumdar AS, Fan LP. 2009. Drying characteristics and kinetics of vacuum microwave-dried potato slices. *Drying Technol* 27(9):969–974.
- 235.** Gunasekaran S. 1999. Pulsed microwave-vacuum of food materials. *Drying Technol* 17(3):395–412.
- 236.** Sablani SS. 2006. Drying of fruits and vegetables: Retention of nutritional/functional quality. *Drying Technol* 24(2):123–135.
- 237.** Zhang J, Zhang M, Shan L. 2007. Microwave-vacuum heating conditions for processing savory crisp bighead carp slices. *J Food Eng* 79(3):885–891.
- 238.** Zhang M, Jiang H, Lim R-X. 2010. Recent developments in microwave-assisted drying of vegetables, fruits, and aquatic products—Drying kinetics and quality considerations. *Drying Technol* 28:1307–1316.
- 239.** Drouzas AE, Tsami E, Saravacos GD. 1999. Microwave/vacuum drying of model fruit gels. *J Food Eng* 39:117–122.
- 240.** Ang TK, Ford JD, Pei DCT. 1977. Microwave freeze-drying of food: A theoretical investigation. *Int J Heat Mass Transfer* 20(5):517–526.
- 241.** Meda V, Gupta M, Opoku A. 2008. Drying kinetics and quality characteristics of microwave-vacuum dried Saskatoon berries. *The J Microw Power Electromagn Energy* 42(4):4–12.
- 242.** Copson DA. 1958. Microwave sublimation of foods. *Food Technol* 12:270–272.
- 243.** Jiang H, Zhang M, Mujumdar AS. 2010. Physico-chemical changes during different stages of MFD/FD banana chips. *J Food Eng* 101:140–145.
- 244.** Duan X, Zhang M, Mujumdar AS, Wang S. 2010. Microwave freeze drying of sea cucumber (*S. japonicus*). *J Food Eng* 96(4):491–497.

- 245.** Duan X, Zhang M, Mujumdar AS. 2007. Studies on the microwave freeze drying technique and sterilization characteristics of cabbage. *Drying Technol* 25(10):1725–1731.
- 246.** Wang R, Zhang M, Mujumdar AS. 2010. Effects of vacuum and microwave freeze drying on microstructure and quality of potato slices. *J Food Eng* 101:131–139.
- 247.** Clark DE, Sutton WH. 1996. Microwave processing of materials. *Annu Rev Mater Sci* 26:299–331.
- 248.** Zhang M, Tang J, Mujumdar AS, Wang S. 2006. Trends in microwave-related drying of fruits and vegetables. *Trends Food Sci Technol* 17(10):524–534.
- 249.** Meryman HT. 1959. Sublimation freeze-drying without vacuum. *Science* 130(3376):628–629.
- 250.** Claussen IU, Ustad TS, Strommen I, Walde PM. 2007. Atmospheric freeze drying—A review. *Drying Technol* 25(6):947–957.
- 251.** www.pueschner.com, last accessed on May 2nd, 2014.
- 252.** Ang TK, Ford JD, Pei DCT. 1977. Microwave freeze-drying of food: A theoretical investigation. *Int J Heat Mass Transfer* 20:517–526.
- 253.** Jiang H, Zhang M, Mujumdar A, Lim R-X. 2013. Analysis of temperature distribution and SEM images of microwave freeze drying banana chips. *Food Bioprocess Technol* 6(5):1144–1152.
- 254.** Arsem HB, Ma YH. 1985. Aerosol formation during the microwave freeze dehydration of beef. *Biotechnol Prog* 1(2):104–110.
- 255.** Scarborough DE, Sujith RI, Zinn BT. 2006. The effect of resonant acoustic oscillations on heat and mass transfer rates in a convection air dryer. *Drying Technol* 24(8):931–939.
- 256.** Riera E, Garcia-Perez JV, Acosta VM, Carcel JA, Gallego-Juarez JA. 2011. A computational study of ultrasound-assisted drying of food materials. In: *Multiphysics simulation of emerging food processing technologies*; Knoerzer K, Juliano P, Roupas P, Versteeg C, Eds. Chicago: IFT Press, pp 265–302.
- 257.** Moy JH, DiMarco GR. 1970. Exploring airborne sound in a non-vacuum freeze drying process. *J Food Sci* 35(6):811–817.
- 258.** Moy JH, DiMarco GR. 1972. Freeze-drying with ultrasound. *Trans ASABE* 15(2):373–376.
- 259.** Perry RH, Green D. 1984. *Perry's chemical engineers' handbook*. New York: McGraw-Hill.
- 260.** Garcia-Perez JV, Carcel JA, Benedito J, Mulet A. 2007. Power ultrasound mass transfer enhancement in food drying. *Food Bioprod Process* 85(3):247–254.
- 261.** Boukouvalas CJ, Krokida MK, Maroulis ZB, Marinos-Kouris D. 2006. Density and porosity: Literature data compilation for foodstuffs. *Int J Food Properties* 9:715–746.
- 262.** Stathopoulos PB, Scholz GA, Hwang Y-M, Rumfeldt JAO, Lepock JR, Meiering EM. 2004. Sonication of proteins causes formation of aggregates that resemble amyloid. *Protein Sci* 13(11):3017–3027.
- 263.** Uesugi K, Ogi H, Fukushima M, So M, Yagi H, Goto Y, Hirao M. 2013. Mechanism of ultrasonically induced fibrillation of amyloid β_{1-40} peptides. *Jpn J Appl Phys* 52(07HE10):1–6.
- 264.** Azura E, Garcia HS, Beristain CI. 1996. Effect of centrifugal force on osmotic dehydration of potatoes and apples. *Food Res Int* 29(2):195–199.
- 265.** Moreira R. 2001. Impingement drying of foods using hot air and superheated steam. *J Food Eng* 49(4):291–295.
- 266.** Borquez R, Bustos P, Caro F, Ferrer J. 2013. Atmospheric freeze-impingement drying of an autochthonous microencapsulated probiotic strain. *Drying Technol* 31:535–548.
- 267.** Lin Y-P, Tsen J-H, King VA-E. 2005. Effects of far-infrared radiation on the freeze-drying of sweet potato. *J Food Eng* 68:249–255.
- 268.** Pham QT. 1983. Behaviour of a conical spouted-bed dryer for animal blood. *Can J Chem Eng* 61:426–434.
- 269.** Hashinaga F, Bajgai TR, Isobe S, Barthakur NN. 1999. Electro-hydrodynamic (EHD) drying of apple slices. *Drying Technol* 17(3):479–495.
- 270.** Asakawa Y. 1976. Promotion and retardation of heat transfer by electric fields. *Nature* 261:220–221.
- 271.** d'Arsonval M, Bordas F. 1906. De la distillation et de la dessication dans le vide a l'aide des basses temperatures. *Comptes Rendus Hebdomadaires des Seances de l'Academie des Sci* 143:567–570.

