

7. REFERENCES

- Acar, B. Ç., & Yüksekdağ, Z. (2023). Beta-Glycosidase Activities of *Lactobacillus* spp. and *Bifidobacterium* spp. and The Effect of Different Physiological Conditions on Enzyme Activity. *Natural and Engineering Sciences*, 8(1), 1–17. <https://doi.org/10.28978/nesciences.1223571>
- Acin-Albiac, M., Filannino, P., Arora, K., Da Ros, A., Gobbetti, M., & Di Cagno, R. (2021). Role of lactic acid bacteria phospho- β -glucosidases during the fermentation of cereal by-products. *Foods*, 10(1), 1–14. <https://doi.org/10.3390/foods10010097>
- Ahmadi, E., Alizadeh-Navaei, R., & Rezai, M. S. (2015). Efficacy of probiotic use in acute rotavirus diarrhea in children: A systematic review and meta-analysis. *Caspian Journal of Internal Medicine*, 6(4), 187–195.
- Ale, E. C., Rojas, M. F., Reinheimer, J. A., & Binetti, A. G. (2020). *Lactobacillus fermentum*: Could EPS production ability be responsible for functional properties? *Food Microbiology*, 90(February), 103465. <https://doi.org/10.1016/j.fm.2020.103465>
- Aschenbrenner, M., Foerst, P., & Kulozik, U. (2016). Freeze-drying of Probiotics. In P. Foerst & C. Santivarangkna (Eds.), *Advances in Probiotic Technology* (pp. 213–241). CRC Press. <https://doi.org/10.1201/b18807>
- Atanasov, N., Trifonova, E., Evstatieva, Y., & Nikolova, D. (2023). Effect of Two Lyoprotectants on the Survival Rate and Storage Stability of Freeze-Dried Probiotic Lactic Acid Bacterial Strains. *Journal of Chemical Technology and Metallurgy*, 58(6), 1003–1010.
- Balantič, K., Weiss, V. U., Allmaier, G., & Kramar, P. (2022). Calcium ion effect on phospholipid bilayers as cell membrane analogues. *Bioelectrochemistry*, 143, 107988. <https://doi.org/10.1016/J.BIOELECTHEM.2021.107988>
- Basso, T. O., Gomes, F. S., Lopes, M. L., De Amorim, H. V., Eggleston, G., & Basso, L. C. (2014). Homo- and heterofermentative lactobacilli differently affect sugarcane-based fuel ethanol fermentation. *Antonie van Leeuwenhoek, International Journal of General and Molecular Microbiology*, 105(1), 169–177. <https://doi.org/10.1007/s10482-013-0063-6>
- Bavisetty, S. C. B., & Venkatachalam, K. (2021). Physicochemical qualities and antioxidant properties of juice extracted from ripe and overripe wax apple as affected by pasteurization and sonication. *Journal of Food Processing and Preservation*, 45(6), 1–12. <https://doi.org/10.1111/jfpp.15524>
- Blainski, A., Lopes, G. C., & De Mello, J. C. P. (2013). Application and analysis of the folin ciocalteu method for the determination of the total phenolic content from *limonium brasiliense* L. *Molecules*, 18(6), 6852–6865. <https://doi.org/10.3390/molecules18066852>

- Bodzen, A., Jossier, A., Dupont, S., Mousset, P. Y., Beney, L., Lafay, S., & Gervais, P. (2021). Design of a new lyoprotectant increasing freeze - dried *Lactobacillus* strain survival to long - term storage. *BMC Biotechnology*, 1–10. <https://doi.org/10.1186/s12896-021-00726-2>
- Bora, A. F. M., Kouame, K. J. E.-P., Li, X., Liu, L., & Pan, Y. (2023). New insights into the bioactive polysaccharides, proteins, and triterpenoids isolated from bitter melon (*Momordica charantia*) and their relevance for nutraceutical and food application: A review. *International Journal of Biological Macromolecules*, 231, 123173. <https://doi.org/10.1016/J.IJBIOMAC.2023.123173>
- Bryman, A., & Cramer, D. (2005). *Quantitative Data Analysis with SPSS 12 and 13: A Guide for Social Scientists*. Routledge - Taylor and Francis Group. https://books.google.co.id/books?hl=en&lr=&id=GHMgwxYHbREC&oi=fnd&pg=PR13&dq=spss+13+analysis&ots=ldstkOZzZH&sig=zQzYV208Df-gPMN-LA2VbT6mt6k&redir_esc=y#v=onepage&q=spss 13 analysis&f=false
- Butler, M. J., & Barrientos, R. M. (2020). The impact of nutrition on COVID-19 susceptibility and long-term consequences. *Brain, Behavior, and Immunity*, 87(April), 53–54. <https://doi.org/10.1016/j.bbi.2020.04.040>
- Cairns, J. R. K., & Esen, A. (2010). β -Glucosidases. *Cellular and Molecular Life Sciences*, 67(20), 3389–3405. <https://doi.org/10.1007/s00018-010-0399-2>
- Cao, L. C., Wang, Z. J., Ren, G. H., Kong, W., Li, L., Xie, W., & Liu, Y. H. (2015). Engineering a novel glucose-tolerant β -glucosidase as supplementation to enhance the hydrolysis of sugarcane bagasse at high glucose concentration. *Biotechnology for Biofuels*, 8(1), 1–12. <https://doi.org/10.1186/s13068-015-0383-z>
- CAZy - GH. (2023). <http://www.cazy.org/Glycoside-Hydrolases.html>
- Cheng, Z., Yan, X., Wu, J., Weng, P., & Wu, Z. (2022). Effects of freeze drying in complex lyoprotectants on the survival, and membrane fatty acid composition of *Lactobacillus plantarum* L1 and *Lactobacillus fermentum* L2. *Cryobiology*, 105, 1–9. <https://doi.org/10.1016/J.CRYOBIOL.2022.01.003>
- Cui, S., Hu, M., Sun, Y., Mao, B., Zhang, Q., & Zhao, J. (2023). *Effect of Trehalose and Lactose Treatments on the Freeze-Drying Resistance of Lactic Acid Bacteria in High-Density Culture*. 1–11.
- Deshaware, S., Gupta, S., Singhal, R., & Variyar, P. S. (2019). Influence of different pasteurization techniques on antidiabetic, antioxidant and sensory quality of debittered bitter gourd juice during storage. *Food Chemistry*, 285(November 2018), 156–162. <https://doi.org/10.1016/j.foodchem.2019.01.140>
- Di Cagno, R., Filannino, P., & Gobbetti, M. (2016). Fermented Foods: Fermented Vegetables and Other Products. In *Encyclopedia of Food and Health* (1st ed.). Elsevier Ltd. <https://doi.org/10.1016/B978-0-12-384947-2.00284-1>

- Dongare, M. L., Buchade, P. B., & Shaligram, A. D. (2015). Refractive index based optical Brix measurement technique with equilateral angle prism for sugar and Allied Industries. *Optik*, 126(20), 2383–2385. <https://doi.org/10.1016/j.ijleo.2015.05.137>
- Esen, A. (1993). β -Glucosidases: Overview. In *ACS Symposium Series, American Chemical Society* (Vol. 533, pp. 1–14). <https://doi.org/10.1021/bk-1993-0533.ch001>
- Feldsine, P. T., Leung, S. C., Lienau, A. H., & Mui, L. A. (2003). SimPlate Total Plate Count – Color Indicator Methods and Conventional Culture Methods : Collaborative Study. *Journal of AOAC International*, 86(2), 296–313. <https://doi.org/10.1093/jaoac/86.2.257>
- Fonseca, S. C., Rivas, I., Romaguera, D., Quijal, M., Czarlewski, W., Vidal, A., Fonseca, J. A., Ballester, J., Anto, J. M., Basagana, X., Cunha, L. M., & Bousquet, J. (2020). Association between consumption of fermented vegetables and COVID-19 mortality at a country level in Europe. *MedRxiv*. <https://doi.org/10.1101/2020.07.06.20147025>
- Galanakis, C. M. (2023). The "Vertigo" of the Food Sector within the Triangle of Climate Change, the Post-Pandemic World, and the Russian-Ukrainian War. *Foods* 2023, Vol. 12, Page 721, 12(4), 721. <https://doi.org/10.3390/FOODS12040721>
- Gan, R. Y., Lui, W. Y., Chan, C. L., & Corke, H. (2017). Hot Air Drying Induces Browning and Enhances Phenolic Content and Antioxidant Capacity in Mung Bean (*Vigna radiata* L.) Sprouts. *Journal of Food Processing and Preservation*, 41(1), 1–8. <https://doi.org/10.1111/jfpp.12846>
- Gao, H., Wen, J. J., Hu, J. L., Nie, Q. X., Chen, H. H., Nie, S. P., Xiong, T., & Xie, M. Y. (2019). Momordica charantia juice with Lactobacillus plantarum fermentation: Chemical composition, antioxidant properties and aroma profile. *Food Bioscience*, 29(July 2018), 62–72. <https://doi.org/10.1016/j.fbio.2019.03.007>
- Gayathry, K. S., & John, J. A. (2022). A comprehensive review on bitter gourd (*Momordica charantia* L.) as a gold mine of functional bioactive components for therapeutic foods. *Food Production, Processing and Nutrition*, 4(1). <https://doi.org/10.1186/s43014-022-00089-x>
- Ghasemzadeh, A., Jaafar, H. Z. E., & Rahmat, A. (2010). Antioxidant activities, total phenolics and flavonoids content in two varieties of malaysia young ginger (*Zingiber officinale* Roscoe). *Molecules*, 15(6), 4324–4333. <https://doi.org/10.3390/molecules15064324>
- Godse, R., Bawane, H., Tripathi, J., & Kulkarni, R. (2021). Unconventional β -Glucosidases: A Promising Biocatalyst for Industrial Biotechnology. *Applied Biochemistry and Biotechnology*, 193(9), 2993–3016. <https://doi.org/10.1007/s12010-021-03568-y>

- Gul, L. B., Con, A. H., & Gul, O. (2020). Storage stability and sourdough acidification kinetic of freeze-dried *Lactobacillus curvatus* N19 under optimized cryoprotectant formulation. *Cryobiology*, 96(July), 122–129. <https://doi.org/10.1016/j.cryobiol.2020.07.007>
- Hartajanie, L., Fatimah-Muis, S., Heri-Nugroho Hs, K., Riwanto, I., & Sulchan, M. (2020). Probiotics Fermented Bitter Melon Juice as Promising Complementary Agent for Diabetes Type 2: Study on Animal Model. *Journal of Nutrition and Metabolism*, 2020. <https://doi.org/10.1155/2020/6369873>
- Hartajanie, L., Lindayani, L., Novita, A., Sutanto, T. E., & Sundoro, A. A. (2018). *Lactobacillus fermentum* LLB3 improves antioxidant activity of bitter melon (*Momordica charantia*). *Microbiology Indonesia*, 12(2), 65–68. <https://doi.org/10.5454/mi.12.2.5>
- Hohakay, J. J., Pontoh, J., & Yudistira, A. (2019). PENGARUH METODE PENERINGAN TERHADAP KADAR FLAVONOID DAUN SESEWANUA (*Clerodendron squamatum* Vahl.). *Pharmacon*, 8(3), 748. <https://doi.org/10.35799/pha.8.2019.29401>
- Hossain, T. J. (2022). Functional genomics of the lactic acid bacterium *Limosilactobacillus fermentum* LAB-1: metabolic, probiotic and biotechnological perspectives. *Heliyon*, 8(11), e11412. <https://doi.org/10.1016/j.heliyon.2022.e11412>
- Hsieh, H. J., Lin, J. A., Chen, K. T., Cheng, K. C., & Hsieh, C. W. (2021). Thermal treatment enhances the α -glucosidase inhibitory activity of bitter melon (*Momordica charantia*) by increasing the free form of phenolic compounds and the contents of Maillard reaction products. *Journal of Food Science*, 86(7), 3109–3121. <https://doi.org/10.1111/1750-3841.15798>
- Ibrahim, S. A. (2016). Lactic Acid Bacteria: *Lactobacillus* spp.: Other Species. In *Reference Module in Food Science*. Elsevier. <https://doi.org/10.1016/b978-0-08-100596-5.00857-x>
- Illera, A. E., Sanz, M. T., Benito-Román, O., Varona, S., Beltrán, S., Melgosa, R., & Solaesa, A. G. (2018). Effect of thermosonication batch treatment on enzyme inactivation kinetics and other quality parameters of cloudy apple juice. *Innovative Food Science and Emerging Technologies*, 47(2017), 71–80. <https://doi.org/10.1016/j.ifset.2018.02.001>
- International Diabetes Federation. (2021). Table 3.4, Top 10 countries or territories for number of adults (20–79 years) with diabetes in 2021 and 2045. In D. Magliano & E. Boyko (Eds.), *IDF DIABETES ATLAS [Internet]*. (10th ed.). National Library of Medicine. <https://www.ncbi.nlm.nih.gov/books/NBK581940/table/ch3.t4/>
- Jang, T. H. (2017). Cryopreservation and its clinical applications | Elsevier Enhanced Reader. *Integrative Medicine Research*, 6(1), 12–18. <https://doi.org/10.1016/j.imr.2016.12.001>

- Jia, S., Shen, M., Zhang, F., & Xie, J. (2017). Recent advances in momordica charantia: Functional components and biological activities. *International Journal of Molecular Sciences*, 18(12). <https://doi.org/10.3390/ijms18122555>
- Johnson, J. B., Mani, J. S., Broszczak, D., Prasad, S. S., Ekanayake, C. P., Strappe, P., Valeris, P., & Naiker, M. (2021). Hitting the sweet spot: A systematic review of the bioactivity and health benefits of phenolic glycosides from medicinally used plants. *Phytotherapy Research*, 35(7), 3484–3508. <https://doi.org/10.1002/ptr.7042>
- Juániz, I., Ludwig, I. A., Huarte, E., Pereira-Caro, G., Moreno-Rojas, J. M., Cid, C., & De Peña, M. P. (2016). Influence of heat treatment on antioxidant capacity and (poly)phenolic compounds of selected vegetables. *Food Chemistry*, 197, 466–473. <https://doi.org/10.1016/j.foodchem.2015.10.139>
- Lange, K. W. (2021). Food science and COVID-19. *Food Science and Human Wellness*, 10(1), 1–5. <https://doi.org/10.1016/j.fshw.2020.08.005>
- Lee, Y., Ji, Y. R., Lee, S., Choi, M. J., & Cho, Y. (2019). Microencapsulation of probiotic lactobacillus acidophilus kbl409 by extrusion technology to enhance survival under simulated intestinal and freeze-drying conditions. *Journal of Microbiology and Biotechnology*, 29(5), 721–730. <https://doi.org/10.4014/jmb.1903.03018>
- Mahwish, Saeed, F., Tauseef Sultan, M., Riaz, A., Ahmed, S., Bigiu, N., Amarowicz, R., & Manea, R. (2021). Bitter melon (*Momordica charantia* L.) fruit bioactives charantin and vicine potential for diabetes prophylaxis and treatment. *Plants*, 10(4). <https://doi.org/10.3390/plants10040730>
- Marcellino, S. A. (2022). *Fermentation of Bitter Melon (Momordica charantia L.) Juice Extract Using Lactobacillus fermentum LLB3 and Quantification of Bioactive Components*. Thesis (Unpublished). Soegijapranata Catholic University.
- Mazlan, F. A., Suffian, M., & Sharifuddin, Y. (2015). Biotransformation of *Momordica charantia* fresh juice by *Lactobacillus plantarum* BET003 and its putative anti-diabetic potential. *PeerJ*, 2015(10), 1–18. <https://doi.org/10.7717/peerj.1376>
- Mendoza-Avenidaño, C., Meza-Gordillo, R., Ovando-Chacón, S. L., Luján-Hidalgo, M. C., Ruiz-Cabrera, M. A., Grajales-Lagunes, A., Ruiz-Valdiviezo, V. M., Gutiérrez-Miceli, F. A., & Abud-Archila, M. (2019). EVALUATION OF BIOACTIVE AND ANTI-NUTRITIONAL COMPOUNDS DURING SOYMILK FERMENTATION WITH *Lactobacillus plantarum* BAL-03-ITTG AND *Lactobacillus fermentum* BAL-21-ITTG. *Revista Mexicana de Ingeniería Química*, 18(3), 967–978. <https://doi.org/10.24275/uam/izt/dcbi/revmexingquim/2019v18n3/Mendoza>
- Meneghel, J., Passot, S., Dupont, S., & Fonseca, F. (2017). Biophysical characterization of the *Lactobacillus delbrueckii* subsp. *bulgaricus* membrane during cold and osmotic stress and its relevance for cryopreservation. *Applied Microbiology and Biotechnology*, 101(4), 1427–1441. <https://doi.org/10.1007/s00253-016-7935-4>

- Mercier, P., Yerushalmi, L., Rouleau, D., & Dochain, D. (1992). Kinetics of lactic acid fermentation on glucose and corn by *Lactobacillus amylophilus*. *Journal of Chemical Technology & Biotechnology*, 55(2), 111–121. <https://doi.org/10.1002/jctb.280550204>
- Michalska, K., Tan, K., Li, H., Hatzos-Skintges, C., Bearden, J., Babnigg, G., & Joachimiak, A. (2013). GH1-family 6-P- β -glucosidases from human microbiome lactic acid bacteria. *Acta Crystallographica Section D: Biological Crystallography*, 69(3), 451–463. <https://doi.org/10.1107/S0907444912049608>
- Michlmayr, H., & Kneifel, W. (2013). β -Glucosidase activities of lactic acid bacteria: Mechanisms, impact on fermented food and human health. *FEMS Microbiology Letters*, 352(1), 1–10. <https://doi.org/10.1111/1574-6968.12348>
- Mladenović, D., Pejin, J., Kocić-Tanackov, S., Djukić-Vuković, A., & Mojović, L. (2019). Enhanced Lactic Acid Production by Adaptive Evolution of *Lactobacillus paracasei* on Agro-industrial Substrate. *Applied Biochemistry and Biotechnology*, 187(3), 753–769. <https://doi.org/10.1007/s12010-018-2852-x>
- National Center for Biotechnology Information. (2023). *PubChem Enzyme Summary for Enzyme 3.2.1.21, Beta-glucosidase (EC 3.2.1.21)*. <https://pubchem.ncbi.nlm.nih.gov/protein/EC:3.2.1.21>
- Nguyen, T. T. T., & Nguyen, H. V. H. (2020). Effects of Fermentation Conditions Using *Lactobacillus plantarum* on the Charantin, Stigmasterol Glucoside and β -sitosterol Glucoside Contents of Bitter Gourd (*Momordica charantia* L.) Juice. *Plant Foods for Human Nutrition*, 75(4), 656–658. <https://doi.org/10.1007/s11130-020-00860-w>
- Nguyen, T. T. T., & Nguyen, H. V. H. (2022). Effects of fermentation conditions using *Lactobacillus plantarum* on antioxidant properties and bitterness of bitter gourd (*Momordica charantia* L.) juice. *International Journal of Agriculture, Environment and Food Sciences*, 6(3), 435–441. <https://doi.org/10.1007/s11130-020-00860-w>
- Oluwatosin, S. O., Tai, S. L., & Fagan-Endres, M. A. (2022). Sucrose, maltodextrin and inulin efficacy as cryoprotectant, preservative and prebiotic – towards a freeze dried *Lactobacillus plantarum* topical probiotic. *Biotechnology Reports*, 33, e00696. <https://doi.org/10.1016/j.btre.2021.e00696>
- Oyelere, S. F., Ajayi, O. H., Ayoade, T. E., Santana Pereira, G. B., Dayo Owoyemi, B. C., Ilesanmi, A. O., & Akinyemi, O. A. (2022). A detailed review on the phytochemical profiles and anti-diabetic mechanisms of *Momordica charantia*. *Heliyon*, 8(4), e09253. <https://doi.org/10.1016/j.heliyon.2022.e09253>
- Papoutsis, K., Zhang, J., Bowyer, M. C., Brunton, N., Gibney, E. R., & Lyng, J. (2021). Fruit, vegetables, and mushrooms for the preparation of extracts with α -amylase and α -glucosidase inhibition properties: A review. *Food Chemistry*, 338(May 2020), 128119. <https://doi.org/10.1016/j.foodchem.2020.128119>

- Perera, W. H., Shivanagoudra, S. R., Jose, L. P., Kim, D. M., Sun, Y., Jayaprakasha, G. K., & Patil, B. S. (2021). Anti-Inflammatory, Antidiabetic Properties and In Silico Modeling of Cucurbitane-Type Triterpene Glycosides from Fruits of an Indian Cultivar of *Momordica charantia* L. *Molecules*, *26*(4), 1038.
- Perez, J. L., Shivanagoudra, S. R., Perera, W. H., Kim, D. M., Wu, C. S., Sun, Y., Jayaprakasha, G. K., & Patil, B. S. (2021). Bitter melon extracts and cucurbitane-type triterpenoid glycosides antagonize lipopolysaccharide-induced inflammation via suppression of NLRP3 inflammasome. *Journal of Functional Foods*, *86*(April). <https://doi.org/10.1016/j.jff.2021.104720>
- Platzer, M., Kiese, S., Herfellner, T., Schweiggert-Weisz, U., & Eisner, P. (2021). How does the phenol structure influence the results of the folin-ciocalteu assay? *Antioxidants*, *10*(5), 1–13. <https://doi.org/10.3390/antiox10050811>
- Plaza-Diaz, J., Ruiz-Ojeda, F. J., Gil-Campos, M., & Gil, A. (2019). Mechanisms of Action of Probiotics. *Advances in Nutrition*, *10*, S49–S66. <https://doi.org/10.1093/advances/nmy063>
- Putri, I., Jannah, N., & Purwantisari, S. (2020). Isolation and characterization of lactic acid bacteria from *Apis mellifera* and their potential as antibacterial using in vitro test against growth of *Listeria monocytogenes* and *Escherichia coli*. *NICHE Journal of Tropical Biology*, *3*(1), 26–34. <https://ejournal2.undip.ac.id/index.php/niche>
- Qadri, T., Naik, H. R., Hussain, S. Z., & Naseer, B. (2022). Storage stability of spray dried apple powder: Effect of anti-caking agents and storage conditions. *The Pharma Innovation Journal*, *11*(2), 1830–1836.
- Radeloff, M. A., & Beck, R. H. F. (2014). Starch hydrolysis – nutritive syrups and powders. *Sugar Industry, October*, 222–227. <https://doi.org/10.36961/si15448>
- Raina, K., Kumar, D., & Agarwal, R. (2016). Promise of bitter melon (*Momordica charantia*) bioactives in cancer prevention and therapy. *Seminars in Cancer Biology*, *40–41*, 116–129. <https://doi.org/10.1016/j.semcancer.2016.07.002>
- Reddy, K. B. P. K., Awasthi, S. P., Madhu, A. N., & Prapulla, S. G. (2009). Role of cryoprotectants on the viability and functional properties of probiotic lactic acid bacteria during freeze drying. *Food Biotechnology*, *23*(3), 243–265. <https://doi.org/10.1080/08905430903106811>
- Ríos-Ríos, K. L., Montilla, A., Olano, A., & Villamiel, M. (2019). Physicochemical changes and sensorial properties during black garlic elaboration: A review. *Trends in Food Science and Technology*, *88*(February), 459–467. <https://doi.org/10.1016/j.tifs.2019.04.016>
- Romyasamit, C., Saengsuwan, P., Boonserm, P., Thamjarongwong, B., & Singkhamanan, K. (2021). Optimization of cryoprotectants for freeze-dried potential probiotic *Enterococcus faecalis* and evaluation of its storage stability. *Drying Technology*, *0*(0), 1–10. <https://doi.org/10.1080/07373937.2021.1931294>

- Salgado, J. C. S., Meleiro, L. P., Carli, S., & Ward, R. J. (2018). Glucose tolerant and glucose stimulated B-glucosidases – A review. *Bioresource Technology*, 267(July), 704–713. <https://doi.org/10.1016/j.biortech.2018.07.137>
- Sánchez-Maldonado, A. F., Schieber, A., & Gänzle, M. G. (2011). Structure-function relationships of the antibacterial activity of phenolic acids and their metabolism by lactic acid bacteria. *Journal of Applied Microbiology*, 111(5), 1176–1184. <https://doi.org/10.1111/j.1365-2672.2011.05141.x>
- Sandberg, T. E., Lloyd, C. J., Palsson, B. O., & Feist, A. M. (2017). Laboratory Evolution to Alternating Substrate Environments Yields Distinct Phenotypic and Genetic Adaptive Strategies. *Applied and Environmental Microbiology*, 83(13), 10–17. <https://doi.org/10.1128/AEM.00410-17>
- Sean, M. (2022). *Quantification of Bioactive Compounds in Freeze-Dried Fermented Bitter Melon (Momordica charantia L.) Extract Using Lactobacillus fermentum LLB3*. Thesis (Unpublished). Soegijapranata Catholic University.
- Sengupta, S., Datta, M., & Datta, S. (2023). β -Glucosidase: Structure, function and industrial applications. *Glycoside Hydrolases: Biochemistry, Biophysics, and Biotechnology*, 97–120. <https://doi.org/10.1016/B978-0-323-91805-3.00004-6>
- Shivanagoudra, S. R., Perera, W. H., Perez, J. L., Athrey, G., Sun, Y., Wu, C. S., Jayaprakasha, G. K., & Patil, B. S. (2019). In vitro and in silico elucidation of antidiabetic and anti-inflammatory activities of bioactive compounds from *Momordica charantia* L. *Bioorganic and Medicinal Chemistry*, 27(14), 3097–3109. <https://doi.org/10.1016/j.bmc.2019.05.035>
- Shu, C. H., Jaiswal, R., Peng, Y. Y., & Liu, T. H. (2022). Improving bioactivities of *Momordica charantia* broth through fermentation using mixed cultures of *Lactobacillus plantarum*, *Gluconacetobacter* sp. and *Saccharomyces cerevisiae*. *Process Biochemistry*, 117, 142–152. <https://doi.org/10.1016/J.PROCBIO.2022.03.023>
- Shu, G., Wang, Z., Chen, L., Wan, H., & Chen, H. (2018). Characterization of freeze-dried *Lactobacillus acidophilus* in goat milk powder and tablet: Optimization of the composite cryoprotectants and evaluation of storage stability at different temperature. *LWT - Food Science and Technology*, 2018. <https://doi.org/10.1016/j.lwt.2017.12.013>
- Silva-Espinoza, M. A., Ayed, C., Foster, T., Del Mar Camacho, M., & Martínez-Navarrete, N. (2020). The impact of freeze-drying conditions on the physico-chemical properties and bioactive compounds of a freeze-dried orange puree. *Foods*, 9(1). <https://doi.org/10.3390/foods9010032>
- Singh, V., Kaur, R., Devashree, Y., Kaur, D., & Gupta, S. (2022). In vitro Antimicrobial Activity of *Cucumis* L. and *Momordica* L. against Human Pathogens. *Doklady Biological Sciences*, 504(1), 85–93. <https://doi.org/10.1134/S0012496622030048/METRICS>

- Sriraman, S., Ramanujam, G. M., Ramasamy, M. K., & Dubey, G. P. (2015). Identification of beta-sitosterol and stigmasterol in *Bambusa bambos* (L.) Voss leaf extract using HPLC and its estrogenic effect in vitro. *Journal of Pharmaceutical and Biomedical Analysis*, *115*, 55–61. <https://doi.org/10.1016/j.jpba.2015.06.024>
- Srivastava, N., Rathour, R., Jha, S., Pandey, K., Srivastava, M., Thakur, V. K., Sengar, R. S., Gupta, V. K., Mazumder, P. B., Khan, A. F., & Mishra, P. K. (2019). Microbial beta glucosidase enzymes: Recent advances in biomass conversion for biofuels application. *Biomolecules*, *9*(6), 1–23. <https://doi.org/10.3390/biom9060220>
- Starowicz, M., & Zieliński, H. (2019). How Maillard Reaction Influences Sensorial Properties (Color, Flavor and Texture) of Food Products? *Food Reviews International*, *35*(8), 707–725. <https://doi.org/10.1080/87559129.2019.1600538>
- Steenblock, C., Hassanein, M., Khan, E. G., Yaman, M., Kamel, M., Barbir, M., Lorke, D. E., Rock, J. A., Everett, D., Bejtullah, S., Heimerer, A., Tahirukaj, E., Beqiri, P., & Bornstein, S. R. (2022). Diabetes and COVID-19: Short- and Long-Term Consequences. *Hormone and Metabolic Research*, *54*(8), 503–509. <https://doi.org/10.1055/a-1878-9566>
- Stefanello, R. F., Nabeshima, E. H., Iamanaka, B. T., Ludwig, A., Fries, L. L. M., Bernardi, A. O., & Copetti, M. V. (2018). Survival and stability of *Lactobacillus fermentum* and *Wickerhamomyces anomalus* strains upon lyophilisation with different cryoprotectant agents. *Food Research International*, *115*(July), 90–94. <https://doi.org/10.1016/j.foodres.2018.07.044>
- Swain, M. R., Anandharaj, M., Ray, R. C., & Parveen Rani, R. (2014). Fermented Fruits and Vegetables of Asia: A Potential Source of Probiotics. *Biotechnology Research International*, *2014*, 1–19. <https://doi.org/10.1155/2014/250424>
- Talluri, V. P., & Lanka, S. S. (2017). Optimization of Cultural Parameters for the Production of Antimicrobial Compound from *Lactobacillus fermentum* (MTCC No. 1745). *Journal of Bacteriology & Mycology: Open Access*, *4*(5). <https://doi.org/10.15406/jbmoa.2017.04.00107>
- Tan, S. P., Kha, T. C., Parks, S. E., & Roach, P. D. (2016). Bitter melon (*Momordica charantia* L.) bioactive composition and health benefits: A review. *Food Reviews International*, *32*(2), 181–202. <https://doi.org/10.1080/87559129.2015.1057843>
- Thomas, B., Prasad, B. R., Kumari, N. S., Radhakrishna, V., & Ramesh, A. (2019). A comparative evaluation of the micronutrient profile in the serum of diabetes mellitus Type II patients and healthy individuals with periodontitis. *Journal of Indian Society of Periodontology*, *23*(1), 12. https://doi.org/10.4103/JISP.JISP_398_18
- Torres, S., Verón, H., Contreras, L., & Isla, M. I. (2020). An overview of plant-autochthonous microorganisms and fermented vegetable foods. *Food Science and Human Wellness*, *9*(2), 112–123. <https://doi.org/10.1016/j.fshw.2020.02.006>

- Trakoolthong, P., Dittawuttikul, N., Sivamaruthi, B. S., Sirilun, S., Rungseevijitprapa, W., Peerajan, S., & Chaiyasut, C. (2022). Antioxidant and 5 α -Reductase Inhibitory Activity of *Momordica charantia* Extract, and Development and Characterization of Microemulsion. *Applied Sciences (Switzerland)*, 12(9). <https://doi.org/10.3390/app12094410>
- Vemuri, S., Ramasamy, M. K., Rajakanu, P., Kumar, R. C. S., & Kalliappan, I. (2018). Application of Chemometrics for the simultaneous estimation of stigmaterol and β -sitosterol in Manasamitra Vatakam-an ayurvedic herbomineral formulation using HPLC-PDA method. *Journal of Applied Pharmaceutical Science*, 8(7), 1–9. <https://doi.org/10.7324/JAPS.2018.8701>
- Venkatachalam, K., Techakanon, C., & Thitithanakul, S. (2018). Impact of the Ripening Stage of Wax Apples on Chemical Profiles of Juice and Cider [Research-article]. *ACS Omega*, 3(6), 6710–6718. <https://doi.org/10.1021/acsomega.8b00680>
- Verce, M., De Vuyst, L., & Weckx, S. (2020). Comparative genomics of *Lactobacillus fermentum* suggests a free-living lifestyle of this lactic acid bacterial species. *Food Microbiology*, 89(July 2019), 103448. <https://doi.org/10.1016/j.fm.2020.103448>
- Villarreal-La Torre, V. E., Guarniz, W. S., Silva-Correa, C., Cruzado-Razco, L., & Siche, R. (2020). Antimicrobial activity and chemical composition of *Momordica Charantia*: A review. *Pharmacognosy Journal*, 12(1), 213–222. <https://doi.org/10.5530/pj.2020.12.32>
- Wang, S., Li, Z., Yang, G., Ho, C. T., & Li, S. (2017). *Momordica charantia*: A popular health-promoting vegetable with multifunctionality. *Food and Function*, 8(5), 1749–1762. <https://doi.org/10.1039/c6fo01812b>
- Wei, Y., Yang, X., Jiang, S., Liang, H., Li, B., & Li, J. (2022). Anti-hygroscopic effect of wheat gluten on freeze-dried apple powder. *Lwt*, 167(August), 113887. <https://doi.org/10.1016/j.lwt.2022.113887>
- Wen, J. J., Li, M. Z., Gao, H., Hu, J. L., Nie, Q. X., Chen, H. H., Zhang, Y. L., Xie, M. Y., & Nie, S. P. (2021). Polysaccharides from fermented *Momordica charantia* L. With *Lactobacillus plantarum* NCU116 ameliorate metabolic disorders and gut microbiota change in obese rats. *Food and Function*, 12(6), 2617–2630. <https://doi.org/10.1039/d0fo02600j>
- Wilberforce, J. O. (2016). Using Refractometer to Determine the Sugar Content in Soft Drinks Commonly Consumed In Abakaliki, Nigeria. *IOSR Journal of Applied Chemistry (IOSR-JAC)*, 9(7), 89–91. <https://doi.org/10.9790/5736-0907018991>
- Wojciech., K. (2019). Dietary polyphenols-important non-nutrients in the prevention of chronic noncommunicable diseases. A systematic review. *Nutrients*, 11(5), 1–35. <http://www.embase.com/search/results?subaction=viewrecord&from=export&id=L2002051255%0AU2%0A-%0AL2002051255>

- Xu, B., Li, Z., Zeng, T., Zhan, J., Wang, S., Ho, C. T., & Li, S. (2022). Bioactives of *Momordica charantia* as Potential Anti-Diabetic/Hypoglycemic Agents. *Molecules*, 27(7), 1–17. <https://doi.org/10.3390/molecules27072175>
- Yang, F., Zhang, Y., Tariq, A., Jiang, X., Ahmed, Z., Zhihao, Z., Idrees, M., Azizullah, A., Adnan, M., & Bussmann, R. W. (2020). Food as medicine: A possible preventive measure against coronavirus disease (COVID-19). *Phytotherapy Research*, 34(12), 3124–3136. <https://doi.org/10.1002/ptr.6770>
- Yeo, S., Shin, H. S., Lee, H. W., Hong, D., Park, H., Holzapfel, W., Kim, E. B., & Huh, C. S. (2018). Determination of optimized growth medium and cryoprotective additives to enhance the growth and survival of *Lactobacillus salivarius*. *Journal of Microbiology and Biotechnology*, 28(5), 718–731. <https://doi.org/10.4014/jmb.1801.01059>
- Zannou, O., Pashazadeh, H., Ghellam, M., Ali Redha, A., & Koca, I. (2022). Enhanced ultrasonically assisted extraction of bitter melon (*Momordica charantia*) leaf phenolic compounds using choline chloride-acetic acid-based natural deep eutectic solvent: an optimization approach and in vitro digestion. *Biomass Conversion and Biorefinery*, 0123456789. <https://doi.org/10.1007/s13399-022-03146-0>
- Zhang, F., Lin, L., & Xie, J. (2016). A mini-review of chemical and biological properties of polysaccharides from *Momordica charantia*. *International Journal of Biological Macromolecules*, 92(235), 246–253. <https://doi.org/10.1016/j.ijbiomac.2016.06.101>
- Zhang, P., Zhang, R., Sirisena, S., Gan, R., & Fang, Z. (2021). Beta-glucosidase activity of wine yeasts and its impacts on wine volatiles and phenolics: A mini-review. *Food Microbiology*, 100(June), 103859. <https://doi.org/10.1016/j.fm.2021.103859>
- Zhang, R., Zhang, B. L., He, T., Yi, T., Yang, J. P., & He, B. (2016). Increase of rutin antioxidant activity by generating Maillard reaction products with lysine. *Bioorganic and Medicinal Chemistry Letters*, 26(11), 2680–2684. <https://doi.org/10.1016/j.bmcl.2016.04.008>
- Zhang, Y. xin, Wang, X., Lu, B. nan, Gao, Y. bin, Zhang, Y. ling, Li, Y. tong, Niu, H. juan, Fan, L., Pang, Z. ran, & Qiao, Y. jiang. (2021). Functional and binding studies of gallic acid showing platelet aggregation inhibitory effect as a thrombin inhibitor. *Chinese Herbal Medicines*, xxxx. <https://doi.org/10.1016/j.chmed.2021.09.001>
- Zheng, Y., Ley, S. H., & Hu, F. B. (2018). Global aetiology and epidemiology of type 2 diabetes mellitus and its complications. *Nature Reviews Endocrinology*, 14(2), 88–98. <https://doi.org/10.1038/nrendo.2017.151>