

REFERENCES

- Antony, J. (2014). Full Factorial Designs. In *Design of Experiments for Engineers and Scientists* (pp. 63–85). Elsevier. <https://doi.org/10.1016/b978-0-08-099417-8.00006-7>
- Asiah, N., Aqil, M., Dwiranti, S., & David, W. (2019). *Asia Pacific Journal of Sustainable Agriculture Food and Energy (APJSAFE) Sensory and Chemical Changes of Cold and Hot Brew Arabica Coffee at Various Resting Time* (Vol. 7).
- Assefa, A. D., Saini, R. K., & Keum, Y. S. (2017). Extraction of antioxidants and flavonoids from yuzu (*Citrus junos* Sieb ex Tanaka) peels: a response surface methodology study. *Journal of Food Measurement and Characterization*, 11(2), 364–379. <https://doi.org/10.1007/s11694-016-9405-1>
- Atta, E. M., Mohamed, N. H., & Abdelgawad, A. A. M. (2017). ANTIOXIDANTS: AN OVERVIEW ON THE NATURAL AND SYNTHETIC TYPES. *European Chemical Bulletin*, 6(8), 365. <https://doi.org/10.17628/ecb.2017.6.365-375>
- Banwo, K., Sanni, A., Sarkar, D., Ale, O., & Shetty, K. (2022). Phenolics-Linked Antioxidant and Anti-hyperglycemic Properties of Edible Roselle (*Hibiscus sabdariffa* Linn.) Calyces Targeting Type 2 Diabetes Nutraceutical Benefits in vitro. *Frontiers in Sustainable Food Systems*, 6. <https://doi.org/10.3389/fsufs.2022.660831>
- BC Centre for Disease Control. (2017). *Nitro cold brew coffee food safety risks Summary of search information*.
- ben Ahmed, Z., Yousfi, M., Viaene, J., Dejaegher, B., Demeyer, K., Mangelings, D., & Heyden, Y. vander. (2016). Determination of optimal extraction conditions for phenolic compounds from: *Pistacia atlantica* leaves using the response surface methodology. *Analytical Methods*, 8(31), 6107–6114. <https://doi.org/10.1039/c6ay01739h>
- Berger, P. D., Maurer, R. E., & Celli, G. B. (2018). *Experimental Design With Applications in Management, Engineering, and the Sciences Second Edition*.
- Borrás-Linares, I., Fernández-Arroyo, S., Arráez-Roman, D., Palmeros-Suárez, P. A., del Val-Díaz, R., Andrade-González, I., Fernández-Gutiérrez, A., Gómez-Leyva, J. F., & Segura-Carretero, A. (2015). Characterization of phenolic compounds, anthocyanidin, antioxidant and antimicrobial activity of 25 varieties of Mexican Roselle (*Hibiscus sabdariffa*). *Industrial Crops and Products*, 69, 385–394. <https://doi.org/10.1016/j.indcrop.2015.02.053>
- Briliantama, A., Oktaviani, N. M. D., Rahmawati, S., Setyaningsih, W., & Palma, M. (2022). Optimization of Ultrasound-Assisted Extraction (UAE) for Simultaneous Determination of Individual Phenolic Compounds in 15 Dried Edible Flowers. *Horticulturae*, 8(12). <https://doi.org/10.3390/horticulturae8121216>

- Chang, H. P., Ma, C. C., & Chen, H. S. (2020). The impacts of young consumers' health values on functional beverages purchase intentions. *International Journal of Environmental Research and Public Health*, 17(10).
<https://doi.org/10.3390/ijerph17103479>
- Chang, M. Y., Lin, Y. Y., Chang, Y. C., Huang, W. Y., Lin, W. S., Chen, C. Y., Huang, S. L., & Lin, Y. S. (2020). Effects of infusion and storage on antioxidant activity and total phenolic content of black tea. *Applied Sciences (Switzerland)*, 10(8).
<https://doi.org/10.3390/APP10082685>
- Chemat, F., Rombaut, N., Sicaire, A. G., Meullemiestre, A., Fabiano-Tixier, A. S., & Abert-Vian, M. (2017a). Ultrasound assisted extraction of food and natural products. Mechanisms, techniques, combinations, protocols and applications. A review. In *Ultrasonics Sonochemistry* (Vol. 34, pp. 540–560). Elsevier B.V.
<https://doi.org/10.1016/j.ultsonch.2016.06.035>
- Chemat, F., Rombaut, N., Sicaire, A. G., Meullemiestre, A., Fabiano-Tixier, A. S., & Abert-Vian, M. (2017b). Ultrasound assisted extraction of food and natural products. Mechanisms, techniques, combinations, protocols and applications. A review. In *Ultrasonics Sonochemistry* (Vol. 34, pp. 540–560). Elsevier B.V.
<https://doi.org/10.1016/j.ultsonch.2016.06.035>
- Chen, G. L., Chen, S. G., Xiao, Y., & Fu, N. L. (2018). Antioxidant capacities and total phenolic contents of 30 flowers. *Industrial Crops and Products*, 111, 430–445.
<https://doi.org/10.1016/j.indcrop.2017.10.051>
- Chong, F. C., & Gwee, X. F. (2015). Ultrasonic extraction of anthocyanin from *Clitoria ternatea* flowers using response surface methodology. *Natural Product Research*, 29(15), 1485–1487. <https://doi.org/10.1080/14786419.2015.1027892>
- Christian, K. R., & Jackson, J. C. (2009). Changes in total phenolic and monomeric anthocyanin composition and antioxidant activity of three varieties of sorrel (*Hibiscus sabdariffa*) during maturity. *Journal of Food Composition and Analysis*, 22(7–8), 663–667. <https://doi.org/10.1016/j.jfca.2009.05.007>
- Cordoba, N., Pataquiva, L., Osorio, C., Moreno, F. L. M., & Ruiz, R. Y. (2019). Effect of grinding, extraction time and type of coffee on the physicochemical and flavour characteristics of cold brew coffee. *Scientific Reports*, 9(1).
<https://doi.org/10.1038/s41598-019-44886-w>
- Damiani, E., Bacchetti, T., Padella, L., Tiano, L., & Carloni, P. (2014). Antioxidant activity of different white teas: Comparison of hot and cold tea infusions. *Journal of Food Composition and Analysis*, 33(1), 59–66.
<https://doi.org/10.1016/j.jfca.2013.09.010>
- Deng, M., Deng, Y., Dong, L., Ma, Y., Liu, L., Huang, F., Wei, Z., Zhang, Y., Zhang, M., & Zhang, R. (2018). Effect of storage conditions on phenolic profiles and antioxidant activity of Litchi pericarp. *Molecules*, 23(9).
<https://doi.org/10.3390/molecules23092276>

- Fathimah, R. N., Setyaningsih, W., Carrera, C., Astari, A. D., Masithoh, R. E., Suryaningtyas, I. T., & Palma, M. (2021). A microwave-based technique to determine saccharides and polyols contents in *Spirulina* (*Arthrospira platensis*). *Arabian Journal of Chemistry*, 14(4). <https://doi.org/10.1016/j.arabjc.2021.103094>
- Fathimah, R. N., Setyaningsih, W., Carrera, C., & Palma, M. (2020). Microwave-Assisted Extraction of *Hibiscus sabdariffa* Antioxidants: Method Development and Validation †. In *Proceedings* (Vol. 2020). www.mdpi.com/journal/proceedings
- Ferreira, O., & Pinho, S. P. (2012). Solubility of flavonoids in pure solvents. *Industrial and Engineering Chemistry Research*, 51(18), 6586–6590. <https://doi.org/10.1021/ie300211e>
- Ferreira, S. L. C., Bruns, R. E., Ferreira, H. S., Matos, G. D., David, J. M., Brandão, G. C., da Silva, E. G. P., Portugal, L. A., dos Reis, P. S., Souza, A. S., & dos Santos, W. N. L. (2007). Box-Behnken design: An alternative for the optimization of analytical methods. In *Analytica Chimica Acta* (Vol. 597, Issue 2, pp. 179–186). <https://doi.org/10.1016/j.aca.2007.07.011>
- Gonçalves, F., Gonçalves, J. C., Ferrão, A. C., Correia, P., & Guiné, R. P. F. (2020). Evaluation of phenolic compounds and antioxidant activity in some edible flowers. *Open Agriculture*, 5(1), 857–870. <https://doi.org/10.1515/opag-2020-0087>
- Hapsari, B. W., Manikharda, & Setyaningsih, W. (2021). Methodologies in the analysis of phenolic compounds in roselle (*Hibiscus sabdariffa* L.): Composition, biological activity, and beneficial effects on human health. In *Horticulturae* (Vol. 7, Issue 2, pp. 1–36). MDPI AG. <https://doi.org/10.3390/horticulturae7020035>
- Helya, N., Kamaludin, I., Ain, N., & Abdullah, H. (2015). Evaluation of Antioxidant Activity and Total Phenolic Content from the Selected Malaysian Traditional Herbs Extract Expression of spidroin silk protein from *Nephila pilipes* in *Pichia pastoris* host View project. In *Article in Advances in Environmental Biology*. <https://www.researchgate.net/publication/298642865>
- ICH. (1995). *ICH Topic Q 2 (R1) Validation of Analytical Procedures: Text and Methodology Step 5 Note for Guidance on Validation of Analytical Procedures: Text and Methodology (CPMP/ICH/381/95) Approval by CPMP November 1994 Date for Coming into Operation*. <http://www.emea.eu.int>
- Izza, N., & Tristantini, D. (2021). The optimization of ultrasonic-assisted extraction of antioxidant compounds from butterfly pea flower (*Clitoria ternatea* L.) by using response surface methodology. *IOP Conference Series: Earth and Environmental Science*, 743(1). <https://doi.org/10.1088/1755-1315/743/1/012046>
- Jaya Prakkash, M. A., Ragunathan, R., & Jesteena, J. (2019). Evaluation of bioactive compounds from *Jasminum polyanthum* and its medicinal properties. *Journal of Drug Delivery and Therapeutics*, 9(2), 303–310. <https://doi.org/10.22270/jddt.v9i2.2413>

- Kedare, S. B., & Singh, R. P. (2011). Genesis and development of DPPH method of antioxidant assay. In *Journal of Food Science and Technology* (Vol. 48, Issue 4, pp. 412–422). <https://doi.org/10.1007/s13197-011-0251-1>
- Kumar, K., Srivastav, S., & Sharanagat, V. S. (2021a). Ultrasound assisted extraction (UAE) of bioactive compounds from fruit and vegetable processing by-products: A review. In *Ultrasonics Sonochemistry* (Vol. 70). Elsevier B.V. <https://doi.org/10.1016/j.ultsonch.2020.105325>
- Kumar, K., Srivastav, S., & Sharanagat, V. S. (2021b). Ultrasound assisted extraction (UAE) of bioactive compounds from fruit and vegetable processing by-products: A review. In *Ultrasonics Sonochemistry* (Vol. 70). Elsevier B.V. <https://doi.org/10.1016/j.ultsonch.2020.105325>
- Kwok, R., Lee Wee Ting, K., Schwarz, S., Claassen, L., & Lachenmeier, D. W. (2020). Current Challenges of Cold Brew Coffee—Roasting, Extraction, Flavor Profile, Contamination, and Food Safety. *Challenges*, 11(2), 26. <https://doi.org/10.3390/challe11020026>
- Kyroglou, S., Laskari, R., & Vareltzis, P. (2022). Optimization of Sensory Properties of Cold Brew Coffee Produced by Reduced Pressure Cycles and Its Physicochemical Characteristics. *Molecules*, 27(9). <https://doi.org/10.3390/molecules27092971>
- la Peña, M. M. De, Welte-Chanes, J., & Martín-Belloso, O. (2016). Application of novel processing methods for greater retention of functional compounds in fruit-based beverages. In *Beverages* (Vol. 2, Issue 2). MDPI AG. <https://doi.org/10.3390/beverages2020014>
- Larrauri, A., & Saura-Calixto, F. (1998). A Procedure to Measure the Antiradical Efficiency of Polyphenols. In *J Sci Food Agric* (Vol. 76).
- Li, A. N., Li, S., Li, Y., Xu, D. P., & Li, H. bin. (2016). Optimization of ultrasound-assisted extraction of natural antioxidants from the *Osmanthus fragrans* flower. *Molecules*, 21(2). <https://doi.org/10.3390/molecules21020218>
- Li, Q., Li, S., Xu, T., & Xieli, C. (2020). Study on the stability of the effective components cinnamic acid in the decoction of cinnamon. *Journal of Pharmaceutical Practice*, 38(3), 255–258.
- Liu, Q. M., Yang, X. M., Zhang, L., & Majetich, G. (2010). Optimization of ultrasonic-assisted extraction of chlorogenic acid from *Folium eucommiae* and evaluation of its antioxidant activity. *Journal of Medicinal Plants Research*, 4(23), 2503–2511. <http://www.academicjournals.org/JMPR>
- Liu, Y., Luo, L., Liao, C., Chen, L., Wang, J., & Zeng, L. (2018). Effects of brewing conditions on the phytochemical composition, sensory qualities and antioxidant activity of green tea infusion: A study using response surface methodology. *Food Chemistry*, 269, 24–34. <https://doi.org/10.1016/j.foodchem.2018.06.130>

- Lopane, S. (2018). *An Investigation of the Shelf Life of Cold Brew Coffee and the Influence of Extraction Temperature using Chemical, Microbial and Sensory Analysis*.
- Lyu, J. Il, Kim, J. M., Kim, D. G., Kim, J. B., Kim, S. H., Ahn, J. W., Kang, S. Y., Ryu, J., & Kwon, S. J. (2020). Phenolic compound content of leaf extracts from different roselle (*Hibiscus sabdariffa*) accessions. *Plant Breeding and Biotechnology*, 8, 1–10. <https://doi.org/10.9787/PBB.2020.8.1.1>
- Mercedes, M. C., Javier, H. ndez M., Gabriel, L. R. elas, Yol, a, S. M., L, S. R., & Javier, C. R. (2013). Influence of variety and extraction solvent on antibacterial activity of roselle (*Hibiscus sabdariffa* L.) calyxes. *Journal of Medicinal Plants Research*, 7(31), 2319–2322. <https://doi.org/10.5897/jmpr12.1242>
- Mishra, B. B., Gautam, S., & Sharma, A. (2006). Microbial decontamination of tea (*Camellia sinensis*) by gamma radiation. *Journal of Food Science*, 71(6). <https://doi.org/10.1111/j.1750-3841.2006.00057.x>
- Mojica, L., Rui, L., & Gonzalez De Mejia, E. (2012). *Hibiscus sabdariffa* L.: Phytochemical composition and nutraceutical properties. *ACS Symposium Series*, 1109, 289–305. <https://doi.org/10.1021/bk-2012-1109.ch017>
- Mota, F. L., Carneiro, A. P., Queimada, A. J., Pinho, S. P., & Macedo, E. A. (2009). Temperature and solvent effects in the solubility of some pharmaceutical compounds: Measurements and modeling Temperature and solvent effects in the solubility of some pharmaceutical compounds: Measure-ments and modeling. *European Journal of Pharmaceutical Sciences*, 37(4), 499–507. <https://doi.org/10.1016/j.ejps.2009.04.009>
- Müller, A. L. H., De Oliveira, J. A., Prestes, O. D., Adaime, M. B., & Zanella, R. (2019). Design of experiments and method development. In *Solid-Phase Extraction* (pp. 589–608). Elsevier. <https://doi.org/10.1016/B978-0-12-816906-3.00022-4>
- Muller, M., De Beer, D., Truzzi, C., Annibaldi, A., Carloni, P., Girolametti, F., Damiani, E., & Joubert, E. (2020). Cold brewing of rooibos tea affects its sensory profile and physicochemical properties compared to regular hot, and boiled brewing. *LWT*, 132. <https://doi.org/10.1016/j.lwt.2020.109919>
- Osei-Kwarteng, M., Gweyi-Onyango, J. P., & Mahunu, G. K. (2021). Harvesting, storage, postharvest management, and marketing of *Hibiscus sabdariffa*. In *Roselle (Hibiscus sabdariffa): Chemistry, Production, Products, and Utilization* (pp. 15–31). Elsevier. <https://doi.org/10.1016/B978-0-12-822100-6.00010-0>
- Padda, M. S., & Picha, D. H. (2008). Effect of low temperature storage on phenolic composition and antioxidant activity of sweetpotatoes. *Postharvest Biology and Technology*, 47(2), 176–180. <https://doi.org/10.1016/j.postharvbio.2007.06.014>
- Pérez-Burillo, S., Giménez, R., Rufián-Henares, J. A., & Pastoriza, S. (2018). Effect of brewing time and temperature on antioxidant capacity and phenols of white tea: Relationship with sensory properties. *Food Chemistry*, 248, 111–118. <https://doi.org/10.1016/j.foodchem.2017.12.056>

- Petrova, I., Petkova, N. T., & Ivanov, I. (2016). Five edible flowers-Valuable source of antioxidants in human nutrition Study of the possibilities for obtaining functional dairy products with dietary fibers View project emulsifiers, sponge cake, cake, View project. In *Article in International Journal of Pharmacognosy and Phytochemical Research*. www.ijppr.com
- Raghunath, S., & Mallikarjunan, K. (2020). Optimization of ultrasound-assisted extraction of cold-brewed black tea using response surface methodology. *Journal of Food Process Engineering*, 43(11). <https://doi.org/10.1111/jfpe.13540>
- Ramić, M., Vidović, S., Zeković, Z., Vladić, J., Cvejin, A., & Pavlić, B. (2015). Modeling and optimization of ultrasound-assisted extraction of polyphenolic compounds from Aronia melanocarpa by-products from filter-tea factory. *Ultrasonics Sonochemistry*, 23, 360–368. <https://doi.org/10.1016/j.ultsonch.2014.10.002>
- Reis Giada, M. de L. (2013). Food Phenolic Compounds: Main Classes, Sources and Their Antioxidant Power. In *Oxidative Stress and Chronic Degenerative Diseases - A Role for Antioxidants*. InTech. <https://doi.org/10.5772/51687>
- Re, R., Pellegrini, N., Proteggente, A., Pannala, A., Yang, M., & Rice-Evans, C. (1999). *Original Contribution Antioxidant Activity Applying an Improved ABTS Radical Cation*.
- Salehi, B., Martorell, M., Arbiser, J. L., Sureda, A., Martins, N., Maurya, P. K., Sharifi-Rad, M., Kumar, P., & Sharifi-Rad, J. (2018). Antioxidants: Positive or negative actors? In *Biomolecules* (Vol. 8, Issue 4). MDPI AG. <https://doi.org/10.3390/biom8040124>
- Salum, M. L., Arroyo Mañez, P., Luque, F. J., & Erra-Balsells, R. (2015). Combined experimental and computational investigation of the absorption spectra of E- and Z-cinnamic acids in solution: The peculiarity of Z-cinnamics. *Journal of Photochemistry and Photobiology B: Biology*, 148, 128–135. <https://doi.org/10.1016/j.jphotobiol.2015.03.032>
- Šamec, D., Karalija, E., Šola, I., Vujčić Bok, V., & Salopek-Sondi, B. (2021). The role of polyphenols in abiotic stress response: The influence of molecular structure. In *Plants* (Vol. 10, Issue 1, pp. 1–24). MDPI AG. <https://doi.org/10.3390/plants10010118>
- Schwarz, S., Claassen, L., Kwok, R., Lee, K., Ting, W., Claassen, L., & Lachenmeier, D. W. (2020). *Current Challenges of Cold Brew Coffee-Roasting, Extraction, Flavor Profile, Contamination, and Food Safety*. <https://doi.org/10.20944/preprints202007.0076.v1>
- Setyaningsih, W., Saputro, I. E., Palma, M., & Barroso, C. G. (2016). Stability of 40 phenolic compounds during ultrasound-assisted extractions (UAE). *AIP Conference Proceedings*, 1755. <https://doi.org/10.1063/1.4958517>

- Shahein, Y., el Hakim, A., & Awad, H. (2010). *Biochemical and molecular characterization of three colored types of roselle (Hibiscus sabdariffa L.)*. <https://www.researchgate.net/publication/228340751>
- Sharifi-Rad, M., Anil Kumar, N. V., Zucca, P., Varoni, E. M., Dini, L., Panzarini, E., Rajkovic, J., Tsouh Fokou, P. V., Azzini, E., Peluso, I., Prakash Mishra, A., Nigam, M., El Rayess, Y., Beyrouthy, M. El, Polito, L., Iriti, M., Martins, N., Martorell, M., Docea, A. O., ... Sharifi-Rad, J. (2020). Lifestyle, Oxidative Stress, and Antioxidants: Back and Forth in the Pathophysiology of Chronic Diseases. In *Frontiers in Physiology* (Vol. 11). Frontiers Media S.A. <https://doi.org/10.3389/fphys.2020.00694>
- Shruthi, V. H., & Ramachandra, C. T. (2019). *Roselle (Hibiscus sabdariffa L.) Calyces: A Potential Source of Natural Color and Its Health Benefits*.
- Sompong, R., Siebenhandl-Ehn, S., Linsberger-Martin, G., & Berghofer, E. (2011). Physicochemical and antioxidative properties of red and black rice varieties from Thailand, China and Sri Lanka. *Food Chemistry*, 124(1), 132–140. <https://doi.org/10.1016/j.foodchem.2010.05.115>
- Tarasevičienė, Ž., Vitkauskaitė, M., Paulauskienė, A., & Černiauskienė, J. (2023). Wild Stinging Nettle (*Urtica dioica* L.) Leaves and Roots Chemical Composition and Phenols Extraction. *Plants*, 12(2). <https://doi.org/10.3390/plants12020309>
- Tungmunnithum, D., Thongboonyou, A., Pholboon, A., & Yangsabai, A. (2018). Flavonoids and Other Phenolic Compounds from Medicinal Plants for Pharmaceutical and Medical Aspects: An Overview. *Medicines*, 5(3), 93. <https://doi.org/10.3390/medicines5030093>
- Upadhyay, R., & Mohan Rao, L. J. (2013). An Outlook on Chlorogenic Acids- Occurrence, Chemistry, Technology, and Biological Activities. *Critical Reviews in Food Science and Nutrition*, 53(9), 968–984. <https://doi.org/10.1080/10408398.2011.576319>
- Van Der Sluis, A. A., Dekker, M., & Van Boekel, M. A. J. S. (2005). Activity and concentration of polyphenolic antioxidants in apple juice. 3. Stability during storage. *Journal of Agricultural and Food Chemistry*, 53(4), 1073–1080. <https://doi.org/10.1021/jf040270r>
- Venditti, E., Bacchetti, T., Tiano, L., Carloni, P., Greci, L., & Damiani, E. (2010). Hot vs. cold water steeping of different teas: Do they affect antioxidant activity? *Food Chemistry*, 119(4), 1597–1604. <https://doi.org/10.1016/j.foodchem.2009.09.049>
- Willaert, R., Willaert, R. G., & Baron, G. V. (2021). *Wort boiling today Space microbiology View project Yeast adhesins View project Wort Boiling Today-Boiling Systems with Low Thermal Stress in Combination with Volatile Stripping*. <https://www.researchgate.net/publication/215984266>
- Xu, D. P., Zhou, Y., Zheng, J., Li, S., Li, A. N., & Li, H. Bin. (2016). Optimization of ultrasound-assisted extraction of natural antioxidants from the flower of *jatropha*

integerrima by response surface methodology. *Molecules*, 21(1).
<https://doi.org/10.3390/molecules21010018>

Zannou, O., Kelebek, H., & Selli, S. (2020). Elucidation of key odorants in Beninese Roselle (*Hibiscus sabdariffa* L.) infusions prepared by hot and cold brewing. *Food Research International*, 133. <https://doi.org/10.1016/j.foodres.2020.109133>

Zerajić, S., Savić-Gajić, I., Savić, I., & Nikolić, G. (2019). The optimization of ultrasound-assisted extraction of total flavonoids from pot marigold (*Calendula officinalis* L.) flowers. *Advanced Technologies*, 8(1), 10–18.
<https://doi.org/10.5937/savteh1901010z>

Zhao, L., Fan, H., Zhang, M., Chitrakar, B., Bhandari, B., & Wang, B. (2019). Edible flowers: Review of flower processing and extraction of bioactive compounds by novel technologies. *Food Research International*, 126.
<https://doi.org/10.1016/j.foodres.2019.108660>

Zheng, J., Meenu, M., & Xu, B. (2019). A systematic investigation on free phenolic acids and flavonoids profiles of commonly consumed edible flowers in China. *Journal of Pharmaceutical and Biomedical Analysis*, 172, 268–277.
<https://doi.org/10.1016/j.jpba.2019.05.007>

