

References

- Agustin, E., Insanu, M., & Mauludin, R. (2023). Improvement in Pharmacological Activity of Mahkota Dewa (*Phaleria macrocarpa* (Scheff. Boerl)) Seed Extracts in Nanoemulsion Dosage Form: In Vitro and In Vivo Studies. *Pharmaceutical nanotechnology*, 12(1), 90–97. Advance online publication. <https://doi.org/10.2174/2211738511666230602100045>
- Aini, N. N., Wijayatri, R., & Pribadi, P. (2022). NANOEMULSION CHARACTERISTICS PREPARATIONS ETHANOL LEAF EXTRACTS IN VARIOUS PLANTS: LITERATURE REVIEW. *Jurnal Farmasi Sains Dan Praktis*, 215–226. <https://doi.org/10.31603/pharmacy.v8i3.4786>
- Al-Madhagy, S., Mostafa, N., Youssef, F., Eldahshan, O., & Singab, A. N. (2019). Isolation and structure elucidation of compounds from *Coccinia grandis* leaves extract. *Egyptian Journal of Chemistry*, 62(10), 1869–1877. <https://doi.org/10.21608/ejchem.2019.10925.1700>
- Al-Sakkaf, M., & Onaizi, S. (2023). Crude oil/water nanoemulsions stabilized by rhamnolipid biosurfactant: Effects of acidity/basicity and salinity on emulsion characteristics, stability, and demulsification. *Fuel*. <https://doi.org/10.1016/j.fuel.2023.128052>.
- Alzeer, J., & Hadeed, K. (2016). Ethanol and its Halal status in food industries. *Trends in Food Science and Technology*, 58, 14-20. <https://doi.org/10.1016/J.TIFS.2016.10.018>.
- Alzeer, J. (2023). The Role of Buffers in Establishing a Balance of Homeostasis and Maintaining Health. *American Journal of Medicinal Chemistry*, 4(1), 1–6. <https://doi.org/10.31487/j.ajmc.2023.01.01>
- Ali, M., Alam, M., Alam, N., Anwer, T., & Safhi, M. (2013). Accelerated Stability Testing of a Clobetasol Propionate-Loaded Nanoemulsion as per ICH Guidelines. *Scientia Pharmaceutica*, 81, 1089 - 1100. <https://doi.org/10.3797/scipharm.1210-02>.
- Anjum, V., Bagale, U., Kadi, A., Malinin, A., Potoroko, I., Alharbi, A., Khafaga, D., AlMetwally, M., Qenawy, A., Anjum, A., & Ali, F. (2024). Process Optimization of *Tinospora cordifolia*

- Extract-Loaded Water in Oil Nanoemulsion Developed by Ultrasound-Assisted Homogenization. *Molecules*, 29. <https://doi.org/10.3390/molecules29081797>.
- Artiga-Artigas, M., Lanjari-Pérez, Y., & Martín-Belloso, O. (2018). Curcumin-loaded nanoemulsions stability as affected by the nature and concentration of surfactant.. *Food chemistry*, 266, 466-474 . <https://doi.org/10.1016/j.foodchem.2018.06.043>.
- Bergfreund, J., Siegenthaler, S., Lutz-Bueno, V., Bertsch, P., & Fischer, P. (2021). Surfactant Adsorption to Different Fluid Interfaces. *Langmuir*, 37(22), 6722–6727. <https://doi.org/10.1021/acs.langmuir.1c00668>
- Bhatt, M., Saeed, A., Marwat, M., Shah, A., Naz, R., Abidin, S., Akbar, S., Khan, R., Navid, M., & Saeed, A. (2019). Assessment of total phenolic and flavonoid contents of selected fruits and vegetables. , 18, 686-693.
- Brand-Williams, W., Cuvelier, M. E., & Berset, C. L. W. T. (1995). Use of a free radical method to evaluate antioxidant activity. *LWT-Food science and Technology*, 28(1), 25-30.
- Ch, M., Lakshmi, A., & Sridevi, V. (2009). Effect of pH and Inoculum Size on Phenol Degradation by *Pseudomonas Aeruginosa*. *international journal of chemical sciences*, 7, 2246-2252.
- Chang, C.-C., Yang, M.-H., Wen, H.-M., & Chern, J.-C. (2020). Estimation of total 21 flavonoid content in propolis by two complementary colometric methods. *Journal of Food and Drug Analysis*, 10(3). <https://doi.org/10.38212/2224-6614.2748>
- Cottrell, A. (2019). Ternary Phase Diagrams. An Introduction to Metallurgy. <https://doi.org/10.1201/9780429293917-16>.
- Deleebeeck, L., Snedden, A., & Stoica, D. (2022). Reconciling the pHe measurements of bioethanol: pHabs measurements of buffered 50-50 wt% water-ethanol mixtures. *Analytica Chimica Acta: X*, 10, 100085. <https://doi.org/10.1016/j.acax.2022.100085>

- Deng, L.-L., Taxipalati, M., Que, F., & Zhang, H. (2016). Physical characterization and antioxidant activity of thymol solubilized Tween 80 micelles. *Scientific Reports*, 6(1). <https://doi.org/10.1038/srep38160>
- Dhouha Krichene, & María Desamparados Salvador. (2015). Stability of Virgin Olive Oil Phenolic Compounds during Long-Term Storage (18 Months) at Temperatures of 5–50 °C. *Journal of Agricultural and Food Chemistry*, 63(30), 6779–6786. <https://doi.org/10.1021/acs.jafc.5b02187>
- Durazzo, A., Lucarini, M., Souto, E., Cicala, C., Caiazzo, E., Izzo, A., Novellino, E., & Santini, A. (2019). Polyphenols: A concise overview on the chemistry, occurrence, and human health. *Phytotherapy Research*, 33, 2221 - 2243. <https://doi.org/10.1002/ptr.6419>.
- Ehanathan Shanmuganathan, Ashanthi, D., Gamage, K., & Anoja Priyadarshani Attanayake. (2022). Selection and optimisation of extraction technique for the preparation of phenolic- and flavonoid-rich extract of leafy vegetable, *Coccinia grandis* (Linn.) Voigt. *International Food Research Journal*, 29(5), 1032–1042. <https://doi.org/10.47836/ifrj.29.5.06>
- Ercoli, S., Cartes, J., Cornejo, P., Tereucán, G., Winterhalter, P., Contreras, B., & Ruiz, A. (2021). Stability of phenolic compounds, antioxidant activity and colour parameters of a coloured extract obtained from coloured-flesh potatoes. *LWT*, 136, 110370. <https://doi.org/10.1016/j.lwt.2020.110370>
- Falleh, H., Ben Jemaa, M., Neves, M. A., Isoda, H., Nakajima, M., & Ksouri, R. (2021). Peppermint and Myrtle nanoemulsions: Formulation, stability, and antimicrobial activity. *LWT*, 152, 112377. <https://doi.org/10.1016/j.lwt.2021.112377>

- Głód, B., Wantusiak, P., Piszcz, P., Lewczuk, E., & Zarzycki, P. (2015). Application of micro-TLC to the total antioxidant potential (TAP) measurement.. *Food chemistry*, 173, 749-54 .
<https://doi.org/10.1016/j.foodchem.2014.10.058>.
- Gonçalves, A. C., Bento, C., Jesus, F., Alves, G., & Silva, L. R. (2018). Sweet Cherry Phenolic Compounds: Identification, Characterization, and Health Benefits. *Studies in Natural Products Chemistry*, 31–78. <https://doi.org/10.1016/b978-0-444-64179-3.00002-5>
- Gülçin, İ., & Alwasel, S. (2023). DPPH radical scavenging assay. *Processes*, 11(8), 2248–2248.
<https://doi.org/10.3390/pr11082248>
- Hafez, D. A., Elkhodairy, K. A., Teleb, M., & Elzoghby, A. O. (2020). Nanomedicine-based approaches for improved delivery of phyto-therapeutics for cancer therapy. *Expert Opinion on Drug Delivery*, 17(3), 279–285. <https://doi.org/10.1080/17425247.2020.1723542>
- Håkansson, A., & Rayner, M. (2018). *Nanoemulsions*. In *Formulations, Applications and Characterization* (pp.103–139).Academic Press.
<https://doi.org/10.1016/b978-0-12-811838-2.00005-9>
- Holstein, N. (2015). Monograph of *Coccinia* (Cucurbitaceae). *PhytoKeys*, 54, 1–166.
<https://doi.org/10.3897/phytokeys.54.3285>
- Hossain, Md. S., Jahan, I., Islam, M., Nayeem, J., Anzum, T. S., Afrin, N. A., Mim, F. K., 22 & Hasan, Md. K. (2024). *Coccinia grandis*: Phytochemistry, pharmacology and health benefits. *Clinical Traditional Medicine and Pharmacology*, 5(2), 200150.
<https://doi.org/10.1016/j.ctmp.2024.200150>

- Ilyasov, I. R., Beloborodov, V. L., Selivanova, I. A., & Terekhov, R. P. (2020). ABTS/PP Decolorization Assay of Antioxidant Capacity Reaction Pathways. *International journal of molecular sciences*, 21(3), 1131. <https://doi.org/10.3390/ijms21031131>
- Jahan, N., Aslam, S., Rahman, K. U., Fazal, T., Anwar, F., & Saher, R. (2016). Formulation and characterisation of nanosuspension of herbal extracts for enhanced antiradical potential. *Journal of Experimental Nanoscience*, 11(1), 72–80. <https://doi.org/10.1080/17458080.2015.1025303>
- Jaiswal, M., Dudhe, R., & Sharma, P. K. (2015). Nanoemulsion: An advanced mode of drug delivery system. *3 Biotech*, 5(2), 123–127. <https://doi.org/10.1007/s13205-014-0214-0>
- Jusril, N. A., Abu Bakar, S. I., Khalil, K. A., Md Saad, W. M., Wen, N. K., & Adenan, M. I. (2022). Development and Optimization of Nanoemulsion from Ethanolic Extract of *Centella asiatica* (NanoSECA) Using D-Optimal Mixture Design to Improve Blood-Brain Barrier Permeability. *Evidence-Based Complementary and Alternative Medicine*, 2022, 1–18. <https://doi.org/10.1155/2022/3483511>
- Khalid, H., Zhari, I., Amirin, S., & Pazilah, I. (2011). Accelerated Stability and Chemical Kinetics of Ethanol Extracts of Fruit of *Piper sarmentosum* Using High Performance Liquid Chromatography. *Iranian journal of pharmaceutical research : IJPR*, 10(3), 403–413.
- Kleiman, M., Keun Ah Ryu, & Esser-Kahn, A. P. (2015). Determination of Factors Influencing the Wet Etching of Polydimethylsiloxane Using Tetra-*n*-butylammonium Fluoride. *Macromolecular Chemistry and Physics*, 217(2), 284–291. <https://doi.org/10.1002/macp.201500225>
- Kumar, M., Bishnoi, R. S., Shukla, A. K., & Jain, C. P. (2019). Techniques for Formulation of Nanoemulsion Drug Delivery System: A Review. *Preventive nutrition and food science*, 24(3), 225–234. <https://doi.org/10.3746/pnf.2019.24.3.225>

- Kusumawati, G.A., & Sumadewi, N.L. (2021). Physical Characteristics, Total Phenolic, and Total Flavonoid Contents of *Coccinia grandis* (L.) Voigt Leaves Extract.
- Kuswandi, B., Fantoni, M., Hidayat, M., & Ningsih, I. (2020). Paper microzone plate based on DPPH as a simple colorimetric assay of the total antioxidant content of herbal extracts. *Journal of Food Science and Technology*, 57, 1971-1976. <https://doi.org/10.1007/s13197-020-04378-6>.
- Laftouhi, A., Eloutassi, N., Ech-Chihbi, E., Rais, Z., Abdellaoui, A., Taleb, A., Beniken, M., Nafidi, H.-A., Salamatullah, A. M., Bourhia, M., & Taleb, M. (2023). The Impact of Environmental Stress on the Secondary Metabolites and the Chemical Compositions of the Essential Oils from Some Medicinal Plants Used as Food Supplements. *Sustainability*, 15(10), 7842. <https://doi.org/10.3390/su15107842>
- Lee, I. Y., & Joo, N. (2022). Identification and Quantification of Key Phytochemicals, Phytohormones, and Antioxidant Properties in *Coccinia grandis* during Fruit Ripening. *Antioxidants*, 11(11), 2218. <https://doi.org/10.3390/antiox11112218>
- Lesten, E. C. C., & Kingsley, M. (2019). The influence of solvents polarity on physicochemical properties and oil yield extracted from pumpkin (*Cucurbita maxima*) seed. *Journal of Agricultural Biotechnology and Sustainable Development*, 11(3), 40–47. <https://doi.org/10.5897/jabsd2019.0354>
- Levitt D. G. (2013). Quantitation of small intestinal permeability during normal human drug absorption. *BMC pharmacology & toxicology*, 14, 34. <https://doi.org/10.1186/2050-6511-14-34>
- Lim, T. K. (2012). *Edible medicinal and non-medicinal plants* (1st ed., Vol. 49). Springer Netherlands.
- Maher, P., Fenelon, M., Zhou, Y., Haque, M., & Roos, Y. (2011). Optimization of β -casein stabilized nanoemulsions using experimental mixture design.. *Journal of food science*, 76 8, C1108-17 . <https://doi.org/10.1111/j.1750-3841.2011.02343.x>.

- Maher, S., Geoghegan, C., & Brayden, D. J. (2023). Safety of surfactant excipients in oral drug formulations. *Advanced Drug Delivery Reviews*, 202, 115086. <https://doi.org/10.1016/j.addr.2023.115086>
- Majeed, A., Bashir, R., Farooq, S., & Maqbool, M. (2019). Preparation, Characterization and Applications of Nanoemulsions: An Insight. *Journal of Drug Delivery and Therapeutics*, 9(2), 520–527. <https://doi.org/10.22270/jddt.v9i2.2410>
- Maršálek, R. (2008). The Influence of Surfactants on the Zeta Potential of Coals. *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, 31(1), 66–75. <https://doi.org/10.1080/15567030701468142>
- Midekessa, G., Godakumara, K., Ord, J., Viil, J., Lättekivi, F., Dissanayake, K., Kopanchuk, S., Rinken, A., Andronowska, A., Bhattacharjee, S., Rinken, T., & Fazeli, A. (2020). Zeta Potential of Extracellular Vesicles: Toward Understanding the Attributes that Determine Colloidal Stability. *ACS Omega*, 5, 16701 - 16710.
- Mirza Nipa Monalisa, Abdullah Al-Nahain, & Rahmatullah, M. (2014). *Coccinia grandis*: A Plant With Multiple Ethnomedicinal Uses. *World Journal of Pharmacy and Pharmaceutical Sciences*, 3(9).
- Muniappan, R., Reddy, G. V. P., & Raman, A. (2009). *Coccinia grandis* (L.) voigt (cucurbitaceae). *Biological control of tropical weeds using arthropods*. Cambridge University Press, New York, USA, 175-182.
- Nagare, S., Deokar, G. S., Nagare, R., & Phad, N. (2015). Review on *Coccinia grandis* (L.) voigt (Ivy Gourd). *World journal of pharmaceutical research*, 4(10), 728-743.
- Namchaiw, P., Jaisin, Y., Niwaspragrit, C., Malaniyom, K., Auvuchanon, A., & Ratanachamnong, P. (2021). The Leaf Extract of *Coccinia grandis* (L.) Voigt Accelerated In Vitro Wound Healing by

- Reducing Oxidative Stress Injury. *Oxidative Medicine and Cellular Longevity*, 2021, 1–10.
<https://doi.org/10.1155/2021/3963510>
- Nourafkan, E. (2017). Evaluation of adsorption of nonionic surfactants blend at water/oil interfaces. *Journal of Dispersion Science and Technology*, 39(5), 665–675.
<https://doi.org/10.1080/01932691.2017.1381618>
- Packirisamy, M., Ayyakkannu, P., & Sivaprakasam, M. (2018). Antidiabetic effect of *Coccinia grandis* (L.) Voigt (Cucurbitales: Cucurbitaceae) on streptozotocin induced diabetic rats and its role in regulating carbohydrate metabolizing enzymes. *Brazilian Journal of Biological Sciences*, 5(11), 683–698. <https://doi.org/10.21472/bjbs.051107>
- Pekamwar, S. S., Kalyankar, T. M., & Kokate, S. S. (2013). Pharmacological activities of *Coccinia grandis*. *J Appl Pharm Sci*, 3(05), 114-119.
- Pradhan, J., Sahoo, S. K., Lalotra, S., & Sarma, R. S. (2017). Positive impact of abiotic stress on medicinal and aromatic plants. *International Journal of Plant Sciences*, 12(2), 309–313.
<https://doi.org/10.15740/HAS/IJPS/12.2/309-313>
- Preeti Bhadauria, Arora, B., Birendra Vimal, & Akanksha Kulshrestha. (2012). In vitro Antioxidant Activity of *Coccinia Grandis* Root Extracts. *Indo Global Journal of Pharmaceutical Sciences*, 02(03), 230–238. <https://doi.org/10.35652/igjps.2012.28>
- Preeti, Sambhakar, S., Malik, R., Bhatia, S., Al-Harrasi, A., C. Indu Rani, Renu Saharan, Kumar, S., Geeta, & Renu Sehrawat. (2023). Nanoemulsion: An Emerging Novel Technology for Improving the Bioavailability of Drugs. *Scientifica*, 1–25.
<https://doi.org/10.1155/2023/6640103>
- Putra, I. M. W. A., Kusumawati, I. G. A. W., & Sumadewi, N. L. U. (2021). Physical characteristics, total phenolic, and flavonoid content of *Coccinia grandis* (L.) Voigt leaves extract. *Acta Chimica Asiana*, 4(2), 114-119.

- Rao, J., & McClements, D. (2012). Lemon oil solubilization in mixed surfactant solutions: Rationalizing microemulsion & nanoemulsion formation. *Food Hydrocolloids*, 26, 268-276. <https://doi.org/10.1016/j.FOODHYD.2011.06.002>.
- Ribeiro, A. M., Estevinho, B. N., & Rocha, F. (2021). The progress and application of vitamin E encapsulation – A review. *Food Hydrocolloids*, 121, 106998. <https://doi.org/10.1016/j.foodhyd.2021.106998>
- Rigano, L., & Lionetti, N. (2016). *Nanobiomaterials in galenic formulations and cosmetics*. 121–148. <https://doi.org/10.1016/b978-0-323-42868-2.00006-1>
- Roosita, K., Kusharto, C. M., Sekiyama, M., Fachrurrozi, Y., & Ohtsuka, R. (2008). Medicinal plants used by the villagers of a Sundanese community in West Java, Indonesia. *Journal of Ethnopharmacology*, 115(1), 72–81. <https://doi.org/10.1016/j.jep.2007.09.010>
- Rosen, M. J., & Kunjappu, J. T. (2012). *Surfactants and interfacial phenomena*. John Wiley & Sons.
- Sabbah, M., & Esposito, M. (2016). Insight into Zeta Potential Measurements in Biopolymer Film Preparation. *Journal of Biotechnology & Biomaterials*, 6(2). <https://doi.org/10.4172/2155-952x.1000e126>
- Satheesh, L.S., & Murugan, K. (2011). Antimicrobial activity of protease inhibitor from leaves of *Coccinia grandis* (L.) Voigt. *Indian journal of experimental biology*, 49 5, 366-74 .
- Shanmuganathan, E., Arawwawala, L. D. A. M., Wasana, K. G. P., & Attanayake, A. P. (2022). Selection and optimisation of extraction technique for the preparation of phenolic- and flavonoid-rich extract of leafy vegetable, *Coccinia grandis* (Linn.) Voigt. *International Food Research Journal*, 29(5), 1032–1042. <https://doi.org/10.47836/ifrj.29.5.06>
- Singleton, V. L., Orthofer, R., & Lamuela-Raventós, R. M. (1999). [14] Analysis of total phenols and other oxidation substrates and antioxidants by means of folin-ciocalteu reagent. *In Methods*

in *Enzymology* (Vol. 299, pp. 152–178). Elsevier.
[https://doi.org/10.1016/S0076-6879\(99\)99017-1](https://doi.org/10.1016/S0076-6879(99)99017-1)

Tadros, T. F. (2006). *Applied surfactants: principles and applications*. John Wiley & Sons.

Tamilselvan, N., Thirumalai, T., Elumalai, E., Balaji, R., & David, E. (2011). Pharmacognosy of *Coccinia grandis*: a review. *Asian Pacific Journal of Tropical Biomedicine*, 1(2), S299–S302.
[doi:10.1016/S2221-1691\(11\)60176-7](https://doi.org/10.1016/S2221-1691(11)60176-7)

Tian, Y., Chen, L., & Zhang, W. (2015). Influence of Ionic Surfactants on the Properties of Nanoemulsions Emulsified by Nonionic Surfactants Span 80/Tween 80. *Journal of Dispersion Science and Technology*, 37(10), 1511–1517.
<https://doi.org/10.1080/01932691.2015.1048806>

Terblanche, U., Mtunzi, F., & Pillay, M. (2017). Screening of Variables Influencing Extraction Yield of *Cotyledon orbiculata*:23 Full Factorial Design. *International Journal of Pharmacognosy and Phytochemical Research*, 9(3). <https://doi.org/10.25258/phyto.v9i3.8079>

Ujilestari, T., Danar Dono, N., Ariyadi, B., Martien, R., & Zuprizal, Z. (2018). Formulation and characterization of self-nano emulsifying drug delivery systems of lemongrass (*cymbopogon citratus*) essential oil. *Malaysian Journal of Fundamental and Applied Sciences*, 14(3), 360–363. <https://doi.org/10.11113/mjfas.v14n3.1070>

Uluata, S., Mcclements, D., & Decker, E. (2015). Physical Stability, Autoxidation, and Photosensitized Oxidation of ω -3 Oils in Nanoemulsions Prepared with Natural and Synthetic Surfactants.. *Journal of agricultural and food chemistry*, 63 42, 9333-40 .
<https://doi.org/10.1021/acs.jafc.5b03572>.

- Umamaheswari, M., & Chatterjee, T. (2008). *In vitro* antioxidant activities of the fractions of *Coccinia grandis* l. leaf extract. *African Journal of Traditional, Complementary and Alternative Medicines*, 5(1). <https://doi.org/10.4314/ajtcam.v5i1.31258>
- Voss, G., & Blass, W. (1973). A solvent-saving extraction-evaporation apparatus developed for residue analysis of pesticides. *The Analyst*, 98(1172), 811–811. <https://doi.org/10.1039/an9739800811>
- Wasantwisut, E., & Viriyapanich, T. (2003). Ivy gourd (*Coccinia grandis* Voigt, *Coccinia cordifolia*, *Coccinia indica*) in human nutrition and traditional applications. *World review of nutrition and dietetics*, 91, 60-66.
- Waugh, W. H., Gallacher, B. J., & Burdess, J. S. (2008). A novel high-sensitivity resonant viscometer realised through the exploitation of nonlinear dynamic behaviour. *2008 IEEE Sensors*, 172–175. <https://doi.org/10.1109/icsens.2008.4716411>
- Wiącek, A. (2009). Electrokinetic properties of n-tetradecane/ethanol emulsions with DPPC and enzyme lipase or phospholipase A2. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 332, 150-156. <https://doi.org/10.1016/J.COLSURFA.2008.09.007>.
- Wiącek, A., & Chibowski, E. (2002). Zeta potential and droplet size of n-tetradecane/ethanol (protein) emulsions. *Colloids and Surfaces B: Biointerfaces*, 25, 55-67. [https://doi.org/10.1016/S0927-7765\(01\)00304-6](https://doi.org/10.1016/S0927-7765(01)00304-6).
- Yen, C., Chen, Y., Wu, M., Wang, C., & Wu, Y. (2018). Nanoemulsion as a strategy for improving the oral bioavailability and anti-inflammatory activity of andrographolide. *International Journal of Nanomedicine*, 13, 669 - 680. <https://doi.org/10.2147/IJN.S154824>
- Zhang, QW., Lin, LG. & Ye, WC. Techniques for extraction and isolation of natural products: a comprehensive review. *Chin Med* 13, 20 (2018). <https://doi.org/10.1186/s13020-018-0177-x>

Zhao, S., Wang, Z., Wang, X., Kong, B., Liu, Q., Xia, X., & Liu, H. (2023). Characterization of Nanoemulsions Stabilized with Different Emulsifiers and Their Encapsulation Efficiency for Oregano Essential Oil: Tween 80, Soybean Protein Isolate, Tea Saponin, and Soy Lecithin. *Foods*, 12(17), 3183–3183. <https://doi.org/10.3390/foods12173183>