DAFTAR PUSTAKA

Abdul-Rahman, T., Awuah, W. A., Mikhailova, T., Kalmanovich, J., Mehta, A., Ng, J. C., Coghlan, M. A., Zivcevska, M., Tedeschi, A. J., de Oliveira, E. C., Kumar, A., Cantu-Herrera, E., Lyndin, M., Sikora, K., Alexiou, A., Bilgrami, A. L., Al-Ghamdi, K. M., Perveen, A., Papadakis, M., & Ashraf, G. M. (2024). Antioxidant, anti-inflammatory and epigenetic potential of curcumin in Alzheimer's disease. In *BioFactors* (Vol. 50, Number 4, pp. 693–708). John Wiley and Sons Inc. https://doi.org/10.1002/biof.2039

Adianingsih, O. R., Latifani, S., Fitriani, A. N., Wardani, A. D., Qurrotuain, I., Wahyudi, R. T., Dewi, A. M. P., Dhinata, J. A. W., Rumabutar, G. A., Puspita, O. E., Ihsan, B. R. P., Riawan, W., Danimayostu, A. A., & Yurina, V. (2025). Anti-aging evaluation of transfersome and nanostructured lipid carrier gels containing Curcuma longa and Glycyrrhiza glabra extract on ultraviolet-B-irradiated rats. *Pharmacia*, *72*, 1–22. https://doi.org/10.3897/pharmacia.72.e174188

Agbangba, C. E., Sacla Aide, E., Honfo, H., & Glèlè Kakai, R. (2024). On the use of post-hoc tests in environmental and biological sciences: A critical review. In *Heliyon* (Vol. 10, Number 3). Elsevier Ltd. https://doi.org/10.1016/j.heliyon.2024.e25131

Agmo Hernández, V. (2023). An overview of surface forces and the DLVO theory. *ChemTexts*, *9*(4). https://doi.org/10.1007/s40828-023-00182-9

Alyahya, E. M., Alwabsi, K., Aljohani, A. E., Albalawi, R., El-Sherbiny, M., Ahmed, R., Mortagi, Y., & Qushawy, M. (2023). Preparation and Optimization of Itraconazole Transferosomes-Loaded HPMC Hydrogel for Enhancing Its Antifungal Activity: 2^3 Full Factorial Design. *Polymers*, *15*(4). https://doi.org/10.3390/polym15040995

Ambarwati, R. (2022). Formulasi Transfersom Ekstrak Daun Pandan Wangi (Pandanus amaryllifolius. R) dengan Variasi Konsentrasi Fosfolipid dan Tween 80 Sebagai Pembentuk Vesikel. *Jurnal Ilmu Kefarmasian*, *3*(2).

B. J. Berne and R. Pecora. (2000). *Dynamic Light Scattering_ With Applications to Chemistry, Biology, and Physics*. John Wiley & Sons,Inc.

Balasubramanyam, P., Sudheer, P., Sreeharsha, N., Nair, A. B., & Ramachandra, D. P. (2025). Transfersomes Mediated Transdermal Delivery of Curcumin: In Vitro and In Vivo Evaluation. *Pharmaceutical Sciences*, *31*(2), 203–215. https://doi.org/10.34172/PS.025.40996

Barbalho, G. N., Brugger, S., Raab, C., Lechner, J. S., Gratieri, T., Keck, C. M., Rupenthal, I. D., & Agarwal, P. (2024). Development of transferosomes for topical ocular drug delivery of curcumin. *European Journal of Pharmaceutics and Biopharmaceutics*, *205*. https://doi.org/10.1016/j.ejpb.2024.114535

Batur, E., Özdemir, S., Durgun, M. E., & Özsoy, Y. (2024). Vesicular Drug Delivery Systems: Promising Approaches in Ocular Drug Delivery. In *Pharmaceuticals* (Vol. 17, Number 4). Multidisciplinary Digital Publishing Institute (MDPI). https://doi.org/10.3390/ph17040511

Bhinge, S. D., Kamble, S., Randive, D., Bhutkar, M., Nadaf, S., Merekar, A., Sonawane, K., Jadhav, N., Makandar, A., Khan, M. S., & Gurav, S. (2024). Development, characterization, and assessment of PLAROsomal vesicular system of curcumin for enhanced stability and therapeutic efficacy. *Future Journal of Pharmaceutical Sciences*, *10*(1). https://doi.org/10.1186/s43094-024-00733-y

Dwi Nanda, A., Santika, K., Achmad, R. ∗, Nur, V., Mugiyanto, E., Farmasi, J., Kesehatan, I., Muhammadiyah, U., Pekalongan, P., Ambokembang, J. R., & Abstrak, I. A. (2025). Indonesian Journal of Chemical Science Validation of Methods and Determination of Curcumin Levels in Carrying Herbal Medicine of Turmeric Tamarind Using UV-Vis Spectrophotometer. *J. Chem. Sci*, *14*(2). http://journal.unnes.ac.id/sju/index.php/ijcsNo.8KedungwuniKab.Pekalongan Telp.

Ergin, A. D., İnal, Ö., & Barakat, A. (2023). In vitro and ex vivo assessments of surfactant-free topical curcumin emulgel. *Journal of Research in Pharmacy*, *27*(2), 544–556. https://doi.org/10.29228/jrp.336

Espinoza-Torres, S., López, R., Sotomayor, M. D. P. T., Tuesta, J. C., Picasso, G., & Khan, S. (2023). Synthesis, Characterization, and Evaluation of a Novel Molecularly Imprinted Polymer (MIP) for Selective Quantification of Curcumin in Real Food Sample by UV-Vis Spectrophotometry. *Polymers*, *15*(16). https://doi.org/10.3390/polym15163332

Ghumman, S. A., Ijaz, A., Noreen, S., Aslam, A., Kausar, R., Irfan, A., Latif, S., Shazly, G. A., Shah, P. A., Rana, M., Aslam, A., Altaf, M., Kotwica-Mojzych, K., & Bin Jardan, Y. A. (2023). Formulation and Characterization of Curcumin Niosomes: Antioxidant and Cytotoxicity Studies. *Pharmaceuticals*, *16*(10). https://doi.org/10.3390/ph16101406

Górnicka, J., Mika, M., Wróblewska, O., Siudem, P., & Paradowska, K. (2023). Methods to Improve the Solubility of Curcumin from Turmeric. In *Life* (Vol. 13, Number 1). MDPI. https://doi.org/10.3390/life13010207

Gutiérrez-Méndez, N., Chavez-Garay, D. R., & Leal-Ramos, M. Y. (2022). Lecithins: A comprehensive review of their properties and their use in formulating microemulsions. In *Journal of Food Biochemistry* (Vol. 46, Number 7). John Wiley and Sons Inc. https://doi.org/10.1111/jfbc.14157

Hun, H., & Munna, K. (2024). *karakterisasi material nanopartikel size analyzer*. https://doi.org/10.13140/RG.2.2.36203.35365

Jabur, L., Pandey, R., Mikhael, M., Niedermayer, G., Gyengesi, E., Mahns, D., & Münch, G. (2025). Pharmacokinetic Analysis of the Bioavailability of AQUATURM®, a Water-Soluble Curcumin Formulation, in Comparison to a Conventional Curcumin Tablet, in Human Subjects. *Pharmaceuticals*, *18*(7). https://doi.org/10.3390/ph18071073

Javani, R., Hashemi, F. S., Ghanbarzadeh, B., & Hamishehkar, H. (2021). Quercetin-loaded niosomal nanoparticles prepared by the thin-layer hydration method: Formulation development, colloidal stability, and structural properties. *LWT*, *141*. https://doi.org/10.1016/j.lwt.2021.110865

Khan, I., Needham, R., Yousaf, S., Houacine, C., Islam, Y., Bnyan, R., Sadozai, S. K., Elrayess, M. A., & Elhissi, A. (2021). Impact of phospholipids, surfactants and cholesterol selection on the performance of transfersomes vesicles using medical nebulizers for pulmonary drug delivery. *Journal of Drug Delivery Science and Technology*, *66*. https://doi.org/10.1016/j.jddst.2021.102822

Khan, M. I., Yaqoob, S., Madni, A., Akhtar, M. F., Sohail, M. F., Saleem, A., Tahir, N., Khan, K. ur R., & Qureshi, O. S. (2022). Development and In Vitro / Ex Vivo Evaluation of Lecithin-Based Deformable Transfersomes and Transfersome-Based Gels for Combined Dermal Delivery of Meloxicam and Dexamethasone. *BioMed Research International*, *2022*. https://doi.org/10.1155/2022/8170318

Knysh, A., Sokolov, P., & Nabiev, I. (2023). Dynamic Light Scattering Analysis in Biomedical Research and Applications of Nanoparticles and Polymers. *Journal of Biomedical Photonics and Engineering*, *9*(2). https://doi.org/10.18287/JBPE23.09.020203

Kurnia Putri. (2023). Pengaruh Waktu Sonikasi Terhadap Ukuran Partikel, Indeks Polidispersitas Zeta Potensial Pada Fitosom Ekstrak Teh Hijau. *Indonesian Journal of Health Science*, *3*.

Langevin, D. (2021). Light scattering by liquid surfaces, new developments. In *Advances in Colloid and Interface Science* (Vol. 289). Elsevier B.V. https://doi.org/10.1016/j.cis.2021.102368

Le, N. T. T., Cao, V. Du, Nguyen, T. N. Q., Le, T. T. H., Tran, T. T., & Thi, T. T. H. (2019). Soy lecithin-derived liposomal delivery systems: Surface modification and current applications. In *International Journal of Molecular Sciences* (Vol. 20, Number 19). MDPI AG. https://doi.org/10.3390/ijms20194706

Miatmoko, A., Marufah, N. A., Nada, Q., Rosita, N., Erawati, T., Susanto, J., Purwantari, K. E., Nurkanto, A., Purwati, P., & Soeratri, W. (2022). The effect of surfactant type on characteristics, skin penetration and anti-aging effectiveness of transfersomes containing amniotic mesenchymal stem cells metabolite products in UV-aging induced mice. *Drug Delivery*, *29*(1), 3443–3453. https://doi.org/10.1080/10717544.2022.2149895

Milak, S., Chemelli, A., Glatter, O., & Zimmer, A. (2020). Vancomycin loaded glycerol monooleate liquid crystalline phases modified with surfactants. *Pharmaceutics*, *12*(6), 1–16. https://doi.org/10.3390/pharmaceutics12060521

Mointi, S. S., Kuncahyo, I., & Harmastuti, N. (2025). Science Midwifery Development and optimization of curcumin transfersomes in gel formulations as an antioxidant. In *Science Midwifery* (Vol. 13, Number 4). Online. www.midwifery.iocspublisher.orgJournalhomepage:www.midwifery.iocspublisher.org

Momekova, D., Gugleva, V., & Petrov, P. (2024a). Development and evaluation of curcumin-loaded vesicular carriers: impact of formulation variables. *Pharmacia*, *71*, 1–8. https://doi.org/10.3897/PHARMACIA.71.E127997

Momekova, D., Gugleva, V., & Petrov, P. (2024b). Development and evaluation of curcumin-loaded vesicular carriers: impact of formulation variables. *Pharmacia*, *71*, 1–8. https://doi.org/10.3897/PHARMACIA.71.E127997

Motawea, A., Maria, S. N., Maria, D. N., Jablonski, M. M., & Ibrahim, M. M. (2024). Genistein transfersome-embedded topical delivery system for skin melanoma treatment: in vitro and ex vivo evaluations. *Drug Delivery*, *31*(1). https://doi.org/10.1080/10717544.2024.2372277

Nayak, D., & Tippavajhala, V. K. (2021). A comprehensive review on preparation, evaluation and applications of deformable liposomes. In *Iranian Journal of Pharmaceutical Research* (Vol. 20, Number 1, pp. 186–205). Iranian Journal of Pharmaceutical Research. https://doi.org/10.22037/ijpr.2020.112878.13997

Opatha, S. A. T., Titapiwatanakun, V., & Chutoprapat, R. (2020). Transfersomes: A promising nanoencapsulation technique for transdermal drug delivery. In *Pharmaceutics* (Vol. 12, Number 9, pp. 1–23). MDPI AG. https://doi.org/10.3390/pharmaceutics12090855

Pavani, P., Kumar, K., Rani, A., Venkatesu, P., & Lee, M. J. (2021). The influence of sodium phosphate buffer on the stability of various proteins: Insights into protein-buffer interactions. *Journal of Molecular Liquids*, *331*. https://doi.org/10.1016/j.molliq.2021.115753

Permata Risna. (2018). *Formulasi dan Karakterisasi Fisetin Transfersom dengan Metode Hidrasi Lapis Tipis*.

Primi, W., Rian, A., Agustina Dika, & Sri, R. (2025). FORMULASI DAN KARAKTERISASI SEDIAAN GEL ITRACONAZOLE DENGAN SISTEM PEMBAWA VESICULAR TRANSFERSOM SEBAGAI ANTIJAMUR. *Pharmacoscript*.

Raymond C Rowe, Paul J Sheskey, & Marian E Quinn. (2009). *Handbook of Pharmaceutical Excipients*.

Rezigue, M., Aljabali, A. A. A., & Alshaer, W. (2025). Transethosome-mediated curcumin delivery promotes superior wound healing with reduced toxicity. *Pharmacia*, *72*. https://doi.org/10.3897/pharmacia.72.e161022

Riccardi, D., Baldino, L., & Reverchon, E. (2024). Liposomes, transfersomes and niosomes: production methods and their applications in the vaccinal field. In *Journal of Translational Medicine* (Vol. 22, Number 1). BioMed Central Ltd. https://doi.org/10.1186/s12967-024-05160-4

Samant, B. S., & Kaliappan, R. (2025). The use of surfactants in the extraction of active ingredients from natural resources: a comprehensive review. In *RSC Advances* (Vol. 15, Number 29, pp. 23569–23587). Royal Society of Chemistry. https://doi.org/10.1039/d5ra02072g

Saroha, A., Verma, A., Dahiya, A., Singh, L., & Garg, R. (2022). updated review on topical liposomal gel. *International Journal of Health Sciences*, 7475–7491. https://doi.org/10.53730/ijhs.v6ns1.6595

Scientific, H. (2022). *A GUIDEBOOK TO PARTICLE SIZE ANALYSIS*.

Setiani, D. R., Widianti, A. R., Salsabila, F., Anggraeni, A., Bahti, H. H., & Pratomo, U. (2022). The Effect of Surfactants on Separation of Light Rare Earth Metals using Emulsion Liquid Membrane Method: Review. *Jurnal Akademika Kimia*, *11*(1), 46–55. https://doi.org/10.22487/j24775185.2022.v11.i1.46-55

Squittieri, R., Baldino, L., & Reverchon, E. (2023). Production of Antioxidant Transfersomes by a Supercritical CO2 Assisted Process for Transdermal Delivery Applications. *Nanomaterials*, *13*(12). https://doi.org/10.3390/nano13121812

Taha, T. B., Barzinjy, A. A., Hussain, F. H. S., & Nurtayeva, T. (2022). Nanotechnology and Computer Science: Trends and advances. In *Memories - Materials, Devices, Circuits and Systems* (Vol. 2). Elsevier Ltd. https://doi.org/10.1016/j.memori.2022.100011

Taufiq, Moh., Kiptiyah, K., & Muti'ah, R. (2020). Pengembangan dan Validasi Prosedur Pengukuran Logam Timbal (Pb) dalam Makanan Pendamping Air Susu Ibu Menggunakan Spektroskopi Serapan Atom. *ALCHEMY Jurnal Penelitian Kimia*, *16*(1), 25. https://doi.org/10.20961/alchemy.16.1.35190.25-37

Taymouri, S., Hajhashemi, V., Tabbakhian, M., & Torkashvand, M. (2021). Preparation and Evaluation of Imatinib Loaded Transfersomal gel for the Treatment of Rheumatoid Arthritis. *Iranian Journal of Pharmaceutical Research*, *20*(4), 33–46. https://doi.org/10.22037/ijpr.2021.115481.15394

Tomnikova, A., Orgonikova, A., & Krizek, T. (2022). Liposomes: preparation and characterization with a special focus on the application of capillary

electrophoresis. In *Monatshefte fur Chemie*. Springer. https://doi.org/10.1007/s00706-022-02966-0

Treesinchai, S., Pitaksuteepong, T., & Sungthongjeen, S. (2020). Determination of curcumin stability in various gastro-intestinal ph by arrhenius equation using hplc method. *Pharmaceutical Sciences Asia*, *47*(1), 86–96. https://doi.org/10.29090/psa.2020.01.019.0013

Tungadi, R., Sy. Pakaya, M., & D.as'ali, P. W. (2023). Formulasi dan Evaluasi Stabilitas Fisik Sediaan Krim Senyawa Astaxanthin. *Indonesian Journal of Pharmaceutical Education*, *3*(1). https://doi.org/10.37311/ijpe.v3i1.14612

Urquidi, O., Barbosa, N., Brazard, J., & Adachi, T. B. M. (2023). Toward time resolved dynamic light scattering microscopy: Retrieving particle size distributions at high temporal resolutions. *Review of Scientific Instruments*, *94*(8). https://doi.org/10.1063/5.0160156

Zia, A., Farkhondeh, T., Pourbagher-Shahri, A. M., & Samarghandian, S. (2021). The role of curcumin in aging and senescence: Molecular mechanisms. In *Biomedicine and Pharmacotherapy* (Vol. 134). Elsevier Masson s.r.l. https://doi.org/10.1016/j.biopha.2020.111119