



DAFTAR PUSTAKA

- Abbas, H., Kamel, R., El-sayed, N., 2018, Dermal antioxidant, antiinflammatory and anti-aging effects of Compritol ATO-based Resveratrol colloidal carriers prepared using mixed surfactants, *International Journal of Pharmaceutics*, 541(1–2), 37–47.
- Abla, M. J., Banga, A. K., 2014, Formulation of tocopherol nanocarriers and in vitro delivery into human skin, *International Journal of Cosmetic Science*, 36, 239–246.
- Ahmad, I., Akhter, S., Ahmad, M. Z., Shamim, M., Rizvi, M. A., Khar, R. K., Ahmad, F. J., 2014), Collagen loaded nano-sized surfactant based dispersion for topical application: Formulation development, characterization and safety study, *Pharmaceutical Development and Technology*, 19(4), 460–467.
- Akbarzadeh, A., Rezaei-sadabady, R., Davaran, S., Joo, S. W., Zarghami, N., 2013, Liposome : classification , preparation , and applications. *Nanoscale Research Letters*, 8(1), 1.
- Alzahabi, S., Sakr, O. S., 2019, Nanostructured lipid carriers incorporating prickly pear seed oil for the encapsulation of vitamin A, *Journal of Cosmetic Dermatology*, 1–10.
- Arora, D., Khurana, B., Nanda, S., 2020, DoE directed optimization, development and evaluation of resveratrol loaded ultradeformable vesicular cream for topical antioxidant benefits, *Drug Development and Industrial Pharmacy*, 46(2), 227-235.
- Asik, C., Karatoprak, G., Degim, I., 2019, Anti aging formulation of rosmarinic acid-loaded ethosomes and liposomes, *Journal of Microencapsulation*, 36(2), 180-191.
- Avadhani, K. S., Manikkath, J., Tiwari, M., Chandrasekhar, M., Godavarthi, A., Vidya, S. M., Hariharapura, R. C., Kalthur, G., Udupa, N., Mutalik, S., 2017, Skin delivery of epigallocatechin-3-gallate (EGCG) and hyaluronic acid loaded nano-transfersomes for antioxidant and anti-aging effects in UV radiation induced skin damage. *Drug Delivery*, 24(1), 61–74.
- Aziz, Z. A. A., Mohd-Nasir, H., Ahmad, A., Siti, S. H., Peng, W. L., Chuo, S. C., Khatoon, A., Umar, K., Yaqoob, A. A., Mohamad Ibrahim, M. N., 2019, Role of Nanotechnology for Design and Development of Cosmeceutical: Application in Makeup and Skin Care. *Frontiers in Chemistry*, 7(November), 1–15.
- Back, P. I., Furtado, L. R., Nemitz, M. C., Balestrin, L. A., Nathiely, F., Fachel, S., Gomes, H. M., Schuh, R. S., Moreira, J. C., Poser, G. L. Von, Teixeira, H. F., 2018, Skin Permeation and Oxidative Protection Effect of Soybean Isoflavones from Topical Nanoemulsions — a Comparative Study of Extracts and Pure Compounds, *AAPS PharmSciTech*, 7–10.
- Berneburg, M., Plettenberg, H., Krutmann, J., 2000, Photoaging of human skin, *Photodermatology, Photoimmunology & Photomedicine*, 16, 239–244.
- Borges, A., Freitas, V. De, Mateus, N., Fernandes, I., Oliveira, J., 2020, Solid Lipid Nanoparticles as Carriers of Natural Phenolic Compounds, *Antioxidant*, 9(998), 1-24.



- Brownlow, B., Nagaraj, V. J., Nayel, A. M. Y., Joshi, M., Elbayoumi, T., 2015, Development and In Vitro Evaluation of Vitamin E-Enriched Nanoemulsion Vehicles Loaded with Genistein for Chemoprevention Against UVB-Induced Skin Damage. *Pharmaceutical Nanotechnology*, 104, 3510–3523.
- Caddeo, C., Letizia, M., Esteban, J., Usach, I., Diez-sales, O., Matos, M., Fernández-busquets, X., Maria, A., Manconi, M., 2018, Tocopherol-loaded transfersomes : In vitro antioxidant activity and efficiency in skin regeneration, *International Journal of Pharmaceutics*, 551(July), 34–41.
- Chaiittianan, R., Sripanidkulchai, B., 2014, Development of a nanoemulsion of *Phyllanthus emblica* L . branch extract, *Drug Development and Industrial Pharmacy*, 9045(12), 1597–1606.
- Clares, B., Calpena, A. C., Parra, A., Abrego, G., Alvarado, H., Fanguero, J. F., Souto, E. B., 2014, Nanoemulsions (NEs), liposomes (LPs) and solid lipid nanoparticles (SLNs) for retinyl palmitate : Effect on skin permeation. *Internasional Journal of Pharmaceutics*, 1–8.
- Daisy, A., Bharat, K., Sanju, N., 2020, Statistical development and in vivo evaluation of resveratrol loaded topical gel containing deformable vesicles for a significant reduction in photoinduced skin aging and oxidative stress. *Drug Development and Industrial Pharmacy*, 46(11), 1898-1910.
- Daré, R. G., Costa, A., Nakamura, C. V, Truiti, M. C. T., Ximenes, V. F., 2020, Evaluation of lipid nanoparticles for topical delivery of protocatechuic acid and ethyl protocatechuate as a new photoprotection strategy. *International Journal of Pharmaceutics*, 582(March), 1-12.
- Dhanvir, K., Sandeep, K., 2018, Niosomes : Present Scenario and Future Aspects, *Journal of Drug Delivery and Therapeutics*, 8(5), 35–43.
- Duong, V.-A., Nguyen, T.-T.-L., Maeng, H.-J., 2020, Preparation of Solid Lipid Nanoparticles and Nanostructured Lipid Carriers for Drug Delivery and the Effects of Preparation Parameters of Solvent, *Molecules*, 25(4781), 1–36.
- Effiong, D. E., Uwah, T. O., Jumbo, E. U., Akpabio, A. E., 2020, Nanotechnology in Cosmetics : Basics, Current Trends and Safety Concerns — A Review, *Advances in Nanoparticles*, 9(1), 1–22.
- Egambaram, O. P., Pillai, S. K., & Ray, S. S, 2020, Invited Review Materials Science Challenges in Skin UV Protection : A Review, *Photochemistry and Photobiology*, 5(96): 779–797.
- El-Leithy, E. S., Makky, A. M., Khattab, A. M., Hussein, D. G., 2018, Optimization of nutraceutical coenzyme Q10 nanoemulsion with improved skin permeability and anti-wrinkle efficiency. *Drug Development and Industrial Pharmacy*, 44(2), 316–328.
- Farage, M. A., Miller, K. W., Elsner, P., Maibach, H. I., 2008, Intrinsic and extrinsic factors in skin ageing: A review. *International Journal of Cosmetic Science*, 30(2), 87–95.
- Fernández-garcía, R., Lalatsa, A., Statts, L., Bolás-, F., Ballesteros, M. P., Serrano, D. R., 2019, Transfersomes as nanocarriers for drugs across the skin : quality by design from lab to industrial scale. *International Journal of Pharmaceutics*, 118817.
- Ganesan, P., Narayanasamy, D., 2017, Lipid nanoparticles : Different preparation



- techniques, characterization, hurdles, and strategies for the production of solid lipid nanoparticles and nanostructured lipid carriers for oral drug delivery, *Sustainable Chemistry and Pharmacy*, 6(May), 37–56.
- Garg, V., Singh, H., Bimbrawh, S., Singh, S. K., Gulati, M., Vaidya, Y., Kaur, P., 2018, Ethosomes and Transfersomes: Principles, Perspectives and Practices, *Current Drug Delivery*, 14(5), 613–633.
- Ghate, V. M., Lewis, S. A., Prabhu, P., Dubey, A., Patel, N., 2016, Nanostructured lipid carriers for the topical delivery of tretinoin. *European Journal of Pharmaceutics and Biopharmaceutics*, 108, 253–261.
- Goindi, S., Guleria, A., Aggarwal, N., 2015, Development and evaluation of solid lipid nanoparticles of n-6-furfuryl adenine for prevention of photoaging, *Journal of Biomedical Nanotechnology*, 11(10), 1734–1746.
- Graghani, A., Cornick, S. Mac, Chominski, V., Marcos, S., Noronha, R. De, Aparecida, S., Corrêa, A., & Ferreira, L. M., 2014, Review of Major Theories of Skin Aging, *Advances in Aging Research*, 3(September), 265–284.
- Hameed, A., Fatima, R., Malik, K., Muqadas, A., Fazal-Ur-Rehman, M., 2019, Scope of Nanotechnology in Cosmetics: Dermatology and Skin Care Products. *Journal of Medicinal and Chemical Sciences Review J. Med. Chem. Sci*, 2(2), 9–16.
- Harwansh, R. K., Mukherjee, P. K., Bahadur, S., Biswas, R., 2015, Enhanced permeability of ferulic acid loaded nanoemulsion based gel through skin against UVA mediated oxidative stress, *Life Sciences*, 141, 202–211.
- Heydari, S., Ghanbarzadeh, S., Anoush, B., Javadzadeh, Y., Kouhsoltani, M., Hamishehkar, H., 2017, Nanoethosomal formulation of gammaoryzanol for skin-aging protection and wrinkle improvement: a histopathological study. *Drug Development and Industrial Pharmacy*, 43(7), 1154–1162.
- Jain, A., Garg, N. K., Jain, A., Kesharwani, P., Jain, A. K., Nirbhavane, P., Tyagi, R. K., 2015, A synergistic approach of adapalene-loaded nanostructured lipid carriers, and vitamin C co-administration for treating acne carriers, and vitamin C co-administration for treating acne, *Drug Development and Industrial Pharmacy*, 9045(November), 1-9.
- Jeon, H. S., Seo, J. E., Kim, M. S., Kang, M. H., Oh, D. H., Jeon, S. O., Jeong, S. H., Choi, Y. W., Lee, S., 2013, A retinyl palmitate-loaded solid lipid nanoparticle system: Effect of surface modification with dicetyl phosphate on skin permeation in vitro and anti-wrinkle effect in vivo. *International Journal of Pharmaceutics*, 452(1–2), 311–320.
- Kamel, R., Abbas, H., Fayez, A., 2017, Diosmin/essential oil combination for dermal photo-protection using a lipoid colloidal carrier. *Journal of Photochemistry and Photobiology B: Biology*, 170, 49–57.
- Kaul, S., Gulati, N., Verma, D., Mukherjee, S., Nagaich, U., 2018, Role of Nanotechnology in Cosmeceuticals: A Review of Recent Advances, *Journal of Pharmaceutics*, 2018, 1–19.
- Kaur, I., Agrawal, R., 2008, Nanotechnology: A New Paradigm in Cosmeceuticals. *Recent Patents on Drug Delivery & Formulation*, 1(2), 171–182.
- Khavkin, J., Ellis, D. A. F., 2011, Aging Skin: Histology, Physiology, and Pathology. *Facial Plastic Surgery Clinics of North America*, 19(2), 229–234.



- Lacatusu, I., Arsenie, L. V., Badea, G., Popa, O., Oprea, O., Badea, N., 2018, New cosmetic formulations with broad photoprotective and antioxidative activities designed by amaranth and pumpkin seed oils nanocarriers. *Industrial Crops and Products*, 123(December 2017), 424–433.
- Libertini, G., 2019, Aging Definition. *Encyclopedia of Gerontology and Population Aging*, 1–10.
- Lohani, A., Verma, A., Joshi, H., Yadav, N., Karki, N., 2018, Nanotechnology-Based Cosmeceuticals, *ISRN Dermatology*, 2014, 1-14
- Mahdi, E. S., Noor, A. M., Sakeena, M. H., Abdullah, G. Z., Abdulkarim, M. F., Sattar, M. A., 2011, Formulation and in vitro release evaluation of newly synthesized palm kernel oil esters-based nanoemulsion delivery system for 30% ethanolic dried extract derived from local *Phyllanthus urinaria* for skin antiaging. *International journal of nanomedicine*, 6, 2499–2512.
- Maione-silva, L., Castro, E. G. De, Nascimento, T. L., 2019, Ascorbic acid encapsulated into negatively charged liposomes exhibits increased skin permeation , retention and enhances collagen synthesis by fibroblasts, *Scientific Reports*, 9(522), 1–14.
- Marafon, P., Fachel, F. N. S., Dal Prá, M., Bassani, V. L., Koester, L. S., Henriques, A. T., Braganhol, E., Teixeira, H. F., 2019, Development, physico-chemical characterization and in-vitro studies of hydrogels containing rosmarinic acid-loaded nanoemulsion for topical application. *Journal of Pharmacy and Pharmacology*, 71(8), 1199–1208.
- Masjedi, M., Montahaei, T., 2021, Review on nonionic surfactant vesicles (niosomes) as an approach in modern drug delivery : Fabrication , characterization , pharmaceutical , and cosmetic applications. *Journal of Drug Delivery Science and Technology*, 61(August 2020), 102234.
- Mohiuddin, A. K., 2019, Skin Aging & Modern Age Anti-aging Strategies. *Global Journal of Medical Research*, 19(2), 15–60.
- Montenegro, L., 2014, Nanocarriers for skin delivery of cosmetic antioxidants, *Journal of Pharmacy & Pharmacognosy Research*, 2(4), 73–92.
- Mota, A. H., Rijo, P., Molpeceres, J., Pinto, C., 2017, Broad overview of engineering of functional nanosystems for skin delivery. *International Journal of Pharmaceutics*, 532(2), 710–728.
- Naseema, A., Kovooru, L., Kumar, A., Kumar, K. P. P., Srivastava, P., 2021, A critical review of synthesis procedures , applications and future potential of nanoemulsions. *Advances in Colloid and Interface Science*, 287, 102318.
- Nastiti, C. M. R. R., Ponto, T., Mohammed, Y., Roberts, M. S., Benson, H. A. E., 2020, Novel Nanocarriers for Targeted Topical Skin Delivery of the Antioxidant Resveratrol, *Pharmaceutics*, 12(108), 1-15.
- Oresajo, C., Pillai, S., Manco, M., Yatskayer, M., Mcdaniel, D., 2012, Antioxidants and the skin : Understanding formulation and efficacy, *Dermatologic Therapy*, 25, 252–259.
- Osman, H., Mohamed, M., Mahmoud, D., Samy, E., 2016, Folic acid loaded lipid nanocarriers with promoted skin antiaging and antioxidant efficacy, *Journal of Drug Delivery Science and Technology*, 31, 72–82.
- Otlatici, G., Yeğen, G., Güngör, S., Aksu, B., 2018, Overview on nanotechnology



- based cosmeceuticals to prevent skin aging, *Istanbul J Pharm*, 48(2), 55–62.
- Pando, D., Caddeo, C., Manconi, M., Maria, A., Pazos, C., 2013, Nanodesign of olein vesicles for the topical delivery of the antioxidant resveratrol, *Journal of Pharmacy and Pharmacology*, 65, 1158–1167.
- Patravale, V. B., Mandawgade, S. D., 2008, Novel cosmetic delivery systems: An application update, *International Journal of Cosmetic Science*, 30(1), 19–33.
- Nagaich, U., Deepak, P., Sharma, A., Gulati, N., Chaudhary, A., 2013, Polymeric micelles : potential drug delivery devices, *Indonesian J Pharm*, 24(4), 222–237.
- Shoviantari, F., Erawati, T., Soeratri, W., 2020, Coenzyme Q10 nanostructured lipid carriers as an inducer of the skin fibroblast cell and its irritability test in mice model, *De Gruyter Journal of Basic and Clinical Physiology and Pharmacology*, 1-7.
- Plainfossé, H., Burger, P., Azoulay, S., Landreau, A., Verger-Dubois, G., & Fernandez, X., 2018, Development of a natural anti-age ingredient based on *Quercus pubescens* Willd. Leaves extract-A case study. *Cosmetics*, 5(1).
- Sahu, G., Sahu, S., Sharma, H., Jha, A. K., 2014, A review of current and novel trends for anti-ageing formulation, *Internasional Journal of Pharmaceutical, Chemical and Biological Sciences*, 4(1), 118–125.
- Salunkhe, S. S., Bhatia, N. M., 2013, Topical delivery of Idebenone using nanostructured lipid carriers : evaluations of sun-protection and anti-oxidant effects, *Journal of Pharmaceutical Investigation*, 287–303.
- Schwarz, J. C., Baisaeng, N., Hoppel, M., Löw, M., Keck, C. M., Valenta, C., 2013, Ultra-small NLC for improved dermal delivery of coenzyme Q10. *International Journal of Pharmaceutics*, 447(1–2), 213–217.
- Sharma, A., dan Baldi, A., 2018, Nanostructured Lipid Carriers : A Review Journal of Developing Drugs, *Journal of Developing Drugs*, 7(2), 1-12.
- Simon, L., Vincent, M., Saux, S. Le, Lapinte, V., Marcotte, N., Morille, M., Dorandeu, C., 2019, Polyoxazolines based mixed micelles as PEG free formulations for an effective quercetin antioxidant topical delivery. *International Journal of Pharmaceutics*, 570(April), 118516.
- Souto, E. B., Baldim, I., Oliveira, W. P., Rao, R., Yadav, N., Gama, F. M., Mahant, S., 2020, Expert Opinion on Drug Delivery SLN and NLC for topical , dermal , and transdermal drug delivery. *Expert Opinion on Drug Delivery*, 1–21.
- Souto, E. B., Fernandes, A. R., Martins-Gomes, C., Coutinho, T. E., Durazzo, A., Lucarini, M., Souto, S. B., Silva, A. M., Santini, A., 2020, Nanomaterials for skin delivery of cosmeceuticals and pharmaceuticals. *Applied Sciences (Switzerland)*, 10(5).
- Suter, F., Schmid, D., Wandrey, F., Züllli, F., 2016, Heptapeptide-loaded solid lipid nanoparticles for cosmetic anti-aging applications, *European Journal of Pharmaceutics and Biopharmaceutics*, 108, 304–309.
- Tavakol, S., Zare, S., Hoveizi, E., Tavakol, B., Rezayat, S. M., 2019, The impact of the particle size of curcumin nanocarriers and the ethanol on beta_1-integrin overexpression in fibroblasts: A regenerative pharmaceutical approach in skin repair and anti-aging formulations, *DARU, Journal of Pharmaceutical Sciences*, 27(1), 159–168.



- Tichota, D. M., Silva, A. C., Sousa Lobo, J. M., Amaral, M. H., 2014, Design, characterization, and clinical evaluation of argan oil nanostructured lipid carriers to improve skin hydration, *International Journal of Nanomedicine*, 9(1), 3855–3864.
- Tobin, D. J., 2017, Introduction to skin aging. *Journal of Tissue Viability*, 26(1), 37–46.
- Verschoore, M., & Nielsen, M., 2017, The Rationale of Anti-Aging Cosmetic Ingredients. *Journal of Drugs in Dermatology*, 16(6), 94–97.
- Vranesic-Bender, D., 2010, The role of nutraceuticals in anti-aging medicine. *Acta Clin Croat*, 49(1), 537–544.
- Yagi, M., & Yonei, Y., 2018, Glycative stress and skin aging. *Glycative Stress Research*, 5(1), 50–54.
- Yanhendri, S. W. Y., 2012, Berbagai Bentuk Sediaan Topikal dalam Dermatological. *Cermin Dunia Kedokteran* 194, 39(6), 423–430.