



DAFTAR PUSTAKA

- Abdelmonem, R. *et al.* (2021) ‘Formulation and characterization of acetazolamide/carvedilol niosomal gel for glaucoma treatment: In vitro, and in vivo study’, *Pharmaceutics*, 13(2). Available at: <https://doi.org/10.3390/pharmaceutics13020221>.
- Abdeltawab, H., Svirskis, D. and Sharma, M. (2020) ‘Formulation strategies to modulate drug release from poloxamer based in situ gelling systems’, *Expert Opinion on Drug Delivery*. Available at: <https://doi.org/10.1080/17425247.2020.1731469>.
- Agarwal, P. and Rupenthal, I.D. (2016) ‘In vitro and ex vivo corneal penetration and absorption models’, *Drug Delivery and Translational Research*. Available at: <https://doi.org/10.1007/s13346-015-0275-6>.
- Agarwal, P. and Rupenthal, I.D. (2023) ‘Non-aqueous formulations in topical ocular drug delivery – A paradigm shift?’, *Advanced Drug Delivery Reviews*. Available at: <https://doi.org/10.1016/j.addr.2023.114867>.
- Akhter, S. *et al.* (2016) ‘Improving the topical ocular pharmacokinetics of an immunosuppressant agent with mucoadhesive nanoemulsions: Formulation development, in-vitro and in-vivo studies’, *Colloids and Surfaces B: Biointerfaces*, 148. Available at: <https://doi.org/10.1016/j.colsurfb.2016.08.048>.
- Akkaya, S. (2018) ‘The Effect of Long Term Computure Use on Dry eye’, *Northern Clinics of Istanbul* [Preprint]. Available at: <https://doi.org/10.14744/nci.2017.54036>.
- Algahtani, M.S., Ahmad, M.Z. and Ahmad, J. (2020) ‘Nanoemulgel for improved topical delivery of retinyl palmitate: Formulation design and stability evaluation’, *Nanomaterials*, 10(5). Available at: <https://doi.org/10.3390/nano10050848>.
- Algahtani, M.S., Ahmad, M.Z. and Ahmad, J. (2022) ‘Investigation of Factors Influencing Formation of Nanoemulsion by Spontaneous Emulsification : Impact on Droplet Size , Polydispersity Index , and Stability’.
- Ammar, H.O. *et al.* (2009) ‘Nanoemulsion as a potential ophthalmic delivery system for dorzolamide hydrochloride’, *AAPS PharmSciTech*, 10(3). Available at: <https://doi.org/10.1208/s12249-009-9268-4>.
- Ammar, H.O. *et al.* (2010) ‘Development of dorzolamide hydrochloride in situ gel nanoemulsion for ocular delivery’, *Drug Development and Industrial Pharmacy*, 36(11). Available at: <https://doi.org/10.3109/03639041003801885>.
- Annisa, V. *et al.* (2022) ‘Validation of RP-HPLC method for determination of pH-dependent solubility of ketoconazole in phosphate buffer pH 6.8’, *Journal of Research in Pharmacy*, 26(6), pp. 1694–1702.
- Anokwah, D. *et al.* (2022) ‘Evaluation of the anti-inflammatory and antioxidant potential of the stem bark extract and some constituents of Aidia genipiflora (DC.) dandy (rubiaceae)’, *Heliyon*, 8(8). Available at: <https://doi.org/10.1016/j.heliyon.2022.e10082>.
- Anonim (2024) *Vitamin A Palmitate*.
- AOAC International (2016) ‘Appendix F: Guidelines for Standard Method



Performance Requirements', *AOAC International and Official Method of Analysis* [Preprint].

Arbelaez-Camargo, D. et al. (2018) 'Osmolality predictive models of different polymers as tools in parenteral and ophthalmic formulation development', *International Journal of Pharmaceutics*, 543(1–2). Available at: <https://doi.org/10.1016/j.ijpharm.2018.03.052>.

Asa, P.S. and Mirzaeei, S. (2022) 'Design and Evaluation of Novel Sustained-Release Floating Microspheres for Oral Delivery of Ciprofloxacin Hydrochloride', *Pharmaceutical Sciences*, 28(2). Available at: <https://doi.org/10.34172/PS.2021.45>.

Asasutjarit, R. et al. (2011) 'Optimization and evaluation of thermoresponsive diclofenac sodium ophthalmic in situ gels', *International Journal of Pharmaceutics*, 411(1–2). Available at: <https://doi.org/10.1016/j.ijpharm.2011.03.054>.

Bachu, R.D. et al. (2018) 'Ocular drug delivery barriers—role of nanocarriers in the treatment of anterior segment ocular diseases', *Pharmaceutics*. Available at: <https://doi.org/10.3390/pharmaceutics10010028>.

Baghirova, L., Kaya Tilki, E. and Öztürk, A.A. (2022) 'Evaluation of Cell Proliferation and Wound Healing Effects of Vitamin A Palmitate-Loaded PLGA/Chitosan-Coated PLGA Nanoparticles: Preparation, Characterization, Release, and Release Kinetics', *ACS Omega* [Preprint]. Available at: <https://doi.org/10.1021/acsomega.2c07232>.

BASF (2019) 'Technical Information: Kolliphor® EL', in. BASF.

Begum, G. et al. (2020) 'Rapid assessment of ocular drug delivery in a novel ex vivo corneal model', *Scientific Reports*, 10(1). Available at: <https://doi.org/10.1038/s41598-020-68254-1>.

Bernauer, U. et al. (2016) *Scientific Committee on Consumer Safety SCCS Opinion on Vitamin A (Retinol, Retinyl Acetate, Retinyl Palmitate)*, *Scientific Committee on Consumer Safety SCCS OPINION ON Vitamin A*.

Bhalerao, H., Koteshwara, K. and Chandran, S. (2020) 'Design, optimisation and evaluation of in situ gelling nanoemulsion formulations of brinzolamide', *Drug Delivery and Translational Research*, 10(2). Available at: <https://doi.org/10.1007/s13346-019-00697-0>.

Borba, C.M. et al. (2019) 'Physical and chemical stability of β-carotene nanoemulsions during storage and thermal process', *Food Research International* [Preprint]. Available at: <https://doi.org/10.1016/j.foodres.2019.03.045>.

BPOM (2013) *Petunjuk Operasional Penerapan Pedoman CPOB 2012, Badan Pengawas Obat dan Makanan*.

Bruschi, M.L. (2015) *Strategies to Modify the Drug Release from Pharmaceutical Systems, Strategies to Modify the Drug Release from Pharmaceutical Systems*. Available at: <https://doi.org/10.1016/C2014-0-02342-8>.

Carlotti, M.E. et al. (2004) 'Vitamin A palmitate photostability and stability over time', *Journal of Cosmetic Science*, 55(3). Available at: https://doi.org/10.1111/j.1467-2494.2004.00233_1.x.

Carlotti, M.E., Rossatto, V. and Gallarate, M. (2002) 'Vitamin A and vitamin A



- palmitate stability over time and under UVA and UVB radiation', *International Journal of Pharmaceutics*, 240(1–2). Available at: [https://doi.org/10.1016/S0378-5173\(02\)00128-X](https://doi.org/10.1016/S0378-5173(02)00128-X).
- Chelala, E. et al. (2013) 'The role of topical vitamin A in promoting healing in surface refractive procedures: A prospective randomized controlled study', *Clinical Ophthalmology*, 7. Available at: <https://doi.org/10.2147/OPTH.S52280>.
- Curry, D.J. et al. (2004) 'Surfactant poloxamer 188-related decreases in inflammation and tissue damage after experimental brain injury in rats.', *Journal of neurosurgery*, 101(1 Suppl). Available at: <https://doi.org/10.3171/ped.2004.101.2.0091>.
- Danaei, M. et al. (2018) 'Impact of particle size and polydispersity index on the clinical applications of lipidic nanocarrier systems', *Pharmaceutics*. Available at: <https://doi.org/10.3390/pharmaceutics10020057>.
- Daull, P., Lallemand, F. and Garrigue, J.S. (2014) 'Benefits of cetalkonium chloride cationic oil-in-water nanoemulsions for topical ophthalmic drug delivery', *Journal of Pharmacy and Pharmacology*. Available at: <https://doi.org/10.1111/jphp.12075>.
- Dave, V. et al. (2015) 'Effect of in vitro transcorneal approach of aceclofenac eye drops through excised goat, sheep, and buffalo corneas', *Scientific World Journal*, 2015. Available at: <https://doi.org/10.1155/2015/432376>.
- Dewan, M. et al. (2015) 'Effect of methyl cellulose on gelation behavior and drug release from poloxamer based ophthalmic formulations', *International Journal of Biological Macromolecules*, 72. Available at: <https://doi.org/10.1016/j.ijbiomac.2014.09.021>.
- Diao, Y. et al. (2017) 'Vitamin A palmitate eye gel improves the density of conjunctival goblet cells and the production of mucin-5 subtype AC in rabbits with dry eye syndrome', *International Journal of Clinical and Experimental Medicine*, 10(12).
- Dinte, E. et al. (2020) 'Ophthalmic nanosystems with antioxidants for the prevention and treatment of eye diseases', *Coatings* [Preprint]. Available at: <https://doi.org/10.3390/coatings10010036>.
- Duarte Fávaro, R.M., Iha, M.H. and Pires Bianchi, M.D.L. (2003) 'Liquid chromatographic determination of geometrical retinol isomers and carotene in enteral feeding formulas', *Journal of Chromatography A*, 1021(1–2). Available at: <https://doi.org/10.1016/j.chroma.2003.09.016>.
- Dubald, M. et al. (2018) 'Ophthalmic drug delivery systems for antibiotherapy- A review', *Pharmaceutics*. Available at: <https://doi.org/10.3390/pharmaceutics10010010>.
- Eserian, J.K. and Lombardo, M. (2015) 'Method validation in pharmaceutical analysis: from theory to practical optimization', *INNOVATIONS in pharmacy*, 6(1). Available at: <https://doi.org/10.24926/iip.v6i1.376>.
- Fadlilaturrahmah, F. et al. (2022) 'Identifikasi Fitokimia dan Uji Aktivitas Antiinflamasi In vitro Fraksi n- heksana Kapur Naga (*Calophyllum soulattri* Burm F) Dengan Metode Uji Penghambatan Denaturasi Protein Menggunakan Spektrofotometer Uv-Vis', *Jurnal Pharmascience*, 9(2). Available at:



- [https://doi.org/10.20527/jps.v9i2.14372.](https://doi.org/10.20527/jps.v9i2.14372)
- Felton, L. *et al.* (2016) ‘Remington : Essentials of Pharmaceutics Edited by Felton , Linda’, in *International Journal of Nanomedicine*.
- Fu, P.P. *et al.* (2007) ‘Photodecomposition of Vitamin A and Photobiological Implications for the Skin†’, *Photochemistry and Photobiology*, 83(2). Available at: <https://doi.org/10.1562/2006-10-23-ir-1065>.
- Fu, Y. and Kao, W.J. (2010) ‘Drug release kinetics and transport mechanisms of non-degradable and degradable polymeric delivery systems’, *Expert Opinion on Drug Delivery*. Available at: <https://doi.org/10.1517/17425241003602259>.
- Gawin-Mikołajewicz, A. *et al.* (2021) ‘Ophthalmic Nanoemulsions: From Composition to Technological Processes and Quality Control’, *Molecular Pharmaceutics*. Available at: <https://doi.org/10.1021/acs.molpharmaceut.1c00650>.
- Ge, Y. *et al.* (2020) ‘Penetratin-modified lutein nanoemulsion in-situ gel for the treatment of age-related macular degeneration’, *Expert Opinion on Drug Delivery* [Preprint]. Available at: <https://doi.org/10.1080/17425247.2020.1735348>.
- Giannopoulou, I., Saïs, F. and Thomopoulos, R. (2015) *Handbook of Pharmaceutical Excipients Sixth edition, Revue des Nouvelles Technologies de l'Information*.
- Goetz, H.J. *et al.* (2016) ‘An HPLC–MS/MS method for the separation of α-retinyl esters from retinyl esters’, *Journal of Chromatography B: Analytical Technologies in the Biomedical and Life Sciences*, 1029–1030. Available at: <https://doi.org/10.1016/j.jchromb.2016.06.043>.
- González-Fernández, F.M. *et al.* (2021) ‘Lipid-based nanocarriers for ophthalmic administration: Towards experimental design implementation’, *Pharmaceutics*. Available at: <https://doi.org/10.3390/pharmaceutics13040447>.
- Gu, J.H. *et al.* (2013) ‘Poloxamer 188 Protects Neurons against Ischemia/Reperfusion Injury through Preserving Integrity of Cell Membranes and Blood Brain Barrier’, *PLoS ONE*, 8(4). Available at: <https://doi.org/10.1371/journal.pone.0061641>.
- Gulcin, İ. and Alwasel, S.H. (2023) ‘DPPH Radical Scavenging Assay’, *Processes*. Available at: <https://doi.org/10.3390/pr11082248>.
- Gustavo González, A. and Ángeles Herrador, M. (2007) ‘A practical guide to analytical method validation, including measurement uncertainty and accuracy profiles’, *TrAC - Trends in Analytical Chemistry*, 26(3). Available at: <https://doi.org/10.1016/j.trac.2007.01.009>.
- Harmita, H. (2004) ‘Petunjuk Pelaksanaan Validasi Metode Dan Cara Perhitungannya’, *Majalah Ilmu Kefarmasian*, 1(3). Available at: <https://doi.org/10.7454/prs.v1i3.3375>.
- He, W. *et al.* (2013) ‘In vitro and in vivo studies on ocular vitamin A palmitate cationic liposomal in situ gels’, *International Journal of Pharmaceutics*, 458(2). Available at: <https://doi.org/10.1016/j.ijpharm.2013.10.033>.
- Hemelryck, S. Van *et al.* (2019) ‘In vitro evaluation of poloxamer in situ forming gels for bedaquiline fumarate salt and pharmacokinetics following intramuscular injection in rats’, *International Journal of Pharmaceutics: X*, 1.



- Available at: <https://doi.org/10.1016/j.ijpx.2019.100016>.
- Hotujac Grgurević, M. et al. (2017) 'Tear fluid-eye drops compatibility assessment using surface tension', *Drug Development and Industrial Pharmacy*, 43(2). Available at: <https://doi.org/10.1080/03639045.2016.1238924>.
- Huang, Q., Yu, H. and Ru, Q. (2010) 'Bioavailability and delivery of nutraceuticals using nanotechnology', *Journal of Food Science* [Preprint]. Available at: <https://doi.org/10.1111/j.1750-3841.2009.01457.x>.
- Huang, Z. et al. (2018) 'Role of Vitamin A in the Immune System', *Journal of Clinical Medicine*, 7(9). Available at: <https://doi.org/10.3390/jcm7090258>.
- Huber, L. (2003) 'Validation of analytical methods and processes', in *Pharmaceutical Process Validation: An International, An International Third Edition, Revised and Expanded*. Available at: <https://doi.org/10.1201/9780203912119-19>.
- ICCVAM (2010) 'Recommended Test Method Protocol : Hen ' s Egg Test – Chorioallantoic Membrane (HET-CAM) Test Method', *ICCVAM Test Method Evaluation Report*, 13(10).
- ICH (2005) 'ICH Topic Q2 (R1) Validation of Analytical Procedures : Text and Methodology', *International Conference on Harmonization*, 1994(November 1996).
- Ilyas, H. and Costine, R. (2024) 'The Effects of Low Viscosity Preservative-Free Chloroprocaine Ophthalmic Gel 3% versus BAK-Containing Tetracaine 0.5% on the Bactericidal Action of Povidone-Iodine', *Clinical Ophthalmology*, 18. Available at: <https://doi.org/10.2147/OPHTHS454496>.
- Jeirani, Z. et al. (2012) 'The optimal mixture design of experiments: Alternative method in optimizing the aqueous phase composition of a microemulsion', *Chemometrics and Intelligent Laboratory Systems*, 112. Available at: <https://doi.org/10.1016/j.chemolab.2011.10.008>.
- Jumelle, C. et al. (2020) 'Advances and limitations of drug delivery systems formulated as eye drops', *Journal of Controlled Release*. Available at: <https://doi.org/10.1016/j.jconrel.2020.01.057>.
- Kementerian Kesehatan RI (2020) *Farmakope Indonesia Edisi VI*, Kemenkes RI. Jakarta: Kementerian Kesehatan RI.
- Kim, E.C. et al. (2012) 'The wound healing effects of vitamin A eye drops after a corneal alkali burn in rats', *Acta Ophthalmologica*, 90(7). Available at: <https://doi.org/10.1111/j.1755-3768.2012.02496.x>.
- Kim, H.M. et al. (2021) 'Permeability of the Retina and RPE-Choroid-Sclera to Three Ophthalmic Drugs and the Associated Factors', *Pharmaceutics*, 13(5). Available at: <https://doi.org/10.3390/pharmaceutics13050655>.
- Kwiecień, A., Hubicka, U. and Krzek, J. (2010) 'Determination of retinyl palmitate in ointment by HPLC with diode array detection', *Acta Poloniae Pharmaceutica - Drug Research*, 67(5).
- Laxmi, M. et al. (2015) 'Development and characterization of nanoemulsion as carrier for the enhancement of bioavailability of artemether', *Artificial Cells, Nanomedicine and Biotechnology*, 43(5). Available at: <https://doi.org/10.3109/21691401.2014.887018>.
- Lim, L.T., Ah-Kee, E.Y. and Collins, C.E. (2014) 'Common eye drops and their



- implications for pH measurements in the management of chemical eye injuries', *International Journal of Ophthalmology*. Available at: <https://doi.org/10.3980/j.issn.2222-3959.2014.06.29>.
- Lowry, G. V. et al. (2016) 'Guidance to improve the scientific value of zeta-potential measurements in nanoEHS', *Environmental Science: Nano*, 3(5). Available at: <https://doi.org/10.1039/c6en00136j>.
- M.A. Fathalla, Z. et al. (2017) 'Poloxamer-based thermoresponsive ketorolac tromethamine in situ gel preparations: Design, characterisation, toxicity and transcorneal permeation studies', *European Journal of Pharmaceutics and Biopharmaceutics*, 114. Available at: <https://doi.org/10.1016/j.ejpb.2017.01.008>.
- Mahboobian, M.M. et al. (2019) 'Brinzolamide-loaded nanoemulsions: ex vivo transcorneal permeation, cell viability and ocular irritation tests', *Pharmaceutical Development and Technology*, 24(5). Available at: <https://doi.org/10.1080/10837450.2018.1547748>.
- Mahboobian, M.M., Mohammadi, G. and Mohammadi, M. (2021) 'Thermosensitive brinzolamide in situ gel nanoemulsions, in vitro and ex vivo evaluation', *Biointerface Research in Applied Chemistry*, 11(1). Available at: <https://doi.org/10.33263/BRIAC111.77547764>.
- Mahboobian, M.M., Mohammadi, M. and Mansouri, Z. (2020) 'Development of thermosensitive in situ gel nanoemulsions for ocular delivery of acyclovir', *Journal of Drug Delivery Science and Technology*, 55. Available at: <https://doi.org/10.1016/j.jddst.2019.101400>.
- Majumdar, D., Mishra, S. and Mohanty, B. (2013) 'Effect of formulation factors on in vitro transcorneal permeation of voriconazole from aqueous drops', *Journal of Advanced Pharmaceutical Technology & Research*, 4(4). Available at: <https://doi.org/10.4103/2231-4040.121416>.
- Mandal, S. et al. (2012) 'Formulation and evaluation of an in situ gel-forming ophthalmic formulation of moxifloxacin hydrochloride', *International Journal of Pharmaceutical Investigation*, 2(2). Available at: <https://doi.org/10.4103/2230-973x.100042>.
- Mazet, R. et al. (2020) 'Recent advances in the design of topical ophthalmic delivery systems in the treatment of ocular surface inflammation and their biopharmaceutical evaluation', *Pharmaceutics* [Preprint]. Available at: <https://doi.org/10.3390/pharmaceutics12060570>.
- McKenzie, B. et al. (2015) 'The hen's egg chorioallantoic membrane (HET-CAM) test to predict the ophthalmic irritation potential of a cysteamine-containing gel: Quantification using Photoshop® and ImageJ', *International Journal of Pharmaceutics*, 490(1–2). Available at: <https://doi.org/10.1016/j.ijpharm.2015.05.023>.
- Mehanna, M.M., Mneimneh, A.T. and Abed El Jalil, K. (2020) 'Levofloxacin-loaded naturally occurring monoterpene-based nanoemulgel: a feasible efficient system to circumvent MRSA ocular infections', *Drug Development and Industrial Pharmacy*, 46(11). Available at: <https://doi.org/10.1080/03639045.2020.1821048>.
- Mitra, A.K. (2003) *Ophthalmic drug delivery systems*. New York: Marcel Dekker,



Inc.

- Moghimipour, E., Salimi, A. and Yousefvand, T. (2017) 'Preparation and evaluation of celecoxib nanoemulsion for ocular drug delivery', *Asian Journal of Pharmaceutics*, 11(3).
- Mohajeri, E., Ansari, M. and Pardakhty, A. (2015) 'Controlled release imatinib mesylate tablet formulation: Using hydrophilic matrix system', *Pharmaceutical Sciences*, 21(3). Available at: <https://doi.org/10.15171/PS.2015.31>.
- Morsi, N. et al. (2017) 'Nanoemulsion-based electrolyte triggered in situ gel for ocular delivery of acetazolamide', *European Journal of Pharmaceutical Sciences*, 104. Available at: <https://doi.org/10.1016/j.ejps.2017.04.013>.
- Nugroho, A.K. (2014) 'Compartmental Modeling Approach of Losartan Transdermal Transport In Vitro', *Indonesian Journal of Pharmacy*, 25(1). Available at: <https://doi.org/10.14499/indonesianjpharm25iss1pp31>.
- Odaka, A. et al. (2012) 'Efficacy of retinol palmitate eye drops for dry eye in rabbits with lacrimal gland resection', *Clinical Ophthalmology*, 6(1). Available at: <https://doi.org/10.2147/OPTH.S35584>.
- Okafor, C. (2012) *Formulation and Stability Testing of Eye Drop Preparations Containing Phenylephrine Hydrochloride*. Nelson Mandela Metropolitan University.
- Osborne, D.W. and Musakhnian, J. (2018) 'Skin Penetration and Permeation Properties of Transcutol®—Neat or Diluted Mixtures', *AAPS PharmSciTech*. Available at: <https://doi.org/10.1208/s12249-018-1196-8>.
- Pandey, M. et al. (2021) 'Potential of stimuli-responsive in situ gel system for sustained ocular drug delivery: Recent progress and contemporary research', *Polymers*. Available at: <https://doi.org/10.3390/polym13081340>.
- Patel, N. et al. (2016) 'Development of loteprednol etabonate-loaded cationic nanoemulsified in-situ ophthalmic gel for sustained delivery and enhanced ocular bioavailability', *Drug Delivery* [Preprint]. Available at: <https://doi.org/10.1080/10717544.2016.1223225>.
- Pathak, M.K., Chhabra, G. and Pathak, K. (2013) 'Design and development of a novel pH triggered nanoemulsified in-situ ophthalmic gel of fluconazole: Ex-vivo transcorneal permeation, corneal toxicity and irritation testing', *Drug Development and Industrial Pharmacy*, 39(5). Available at: <https://doi.org/10.3109/03639045.2012.707203>.
- Patil, Sachinkumar et al. (2015) 'Formulation and evaluation of an in situ gel for ocular drug delivery of anticonjunctival drug', in *Cellulose Chemistry and Technology*.
- Prusty, A. and Patra, A. (2022) 'Formulation and Evaluation of Ciprofloxacin Colon Targeted Tablets By Compression Coating Technique Using Guar Gum and Hydroxypropyl Methylcellulose', *Journal of Research in Pharmacy*, 26(6). Available at: <https://doi.org/10.29228/jrp.251>.
- PubChem (2024a) 2-Hydroxypropyl octanoate. Available at: <https://pubchem.ncbi.nlm.nih.gov/compound/2-Hydroxypropyl-octanoate> (Accessed: 12 September 2024).
- PubChem (2024b) Caprylic capric triglyceride. Available at:



<https://pubchem.ncbi.nlm.nih.gov/compound/Caprylic-capric-triglyceride>
(Accessed: 12 September 2024).

PubChem (2024c) *Vitamin A palmitate*. Available at: <https://pubchem.ncbi.nlm.nih.gov/compound/Vitamin-A-Palmitate> (Accessed: 5 September 2024).

Račić, A. and Krajišnik, D. (2023) ‘Biopolymers in Mucoadhesive Eye Drops for Treatment of Dry Eye and Allergic Conditions: Application and Perspectives’, *Pharmaceutics*. Available at: <https://doi.org/10.3390/pharmaceutics15020470>.

Rupenthal, I.D., Green, C.R. and Alany, R.G. (2011) ‘Comparison of ion-activated in situ gelling systems for ocular drug delivery. Part 2: Precorneal retention and in vivo pharmacodynamic study’, *International Journal of Pharmaceutics*, 411(1–2). Available at: <https://doi.org/10.1016/j.ijpharm.2011.03.043>.

Russo, E. and Villa, C. (2019) ‘Poloxamer hydrogels for biomedical applications’, *Pharmaceutics*. Available at: <https://doi.org/10.3390/pharmaceutics11120671>.

Samimi, M.S., Mahboobian, M.M. and Mohammadi, M. (2021) ‘Ocular toxicity assessment of nanoemulsion in-situ gel formulation of fluconazole’, *Human and Experimental Toxicology* [Preprint]. Available at: <https://doi.org/10.1177/09603271211017314>.

Sanopoulou, M. and Papadokostaki, K.G. (2017) ‘Controlled drug release systems: Mechanisms and kinetics’, in *Biomedical Membranes And (Bio)artificial Organs*. Available at: https://doi.org/10.1142/9789813223974_0001.

Sarheed, O., Dibi, M. and Ramesh, K.V.R.N.S. (2020) ‘Studies on the effect of oil and surfactant on the formation of alginate-based O/W lidocaine nanocarriers using nanoemulsion template’, *Pharmaceutics*, 12(12). Available at: <https://doi.org/10.3390/pharmaceutics12121223>.

Sawant, D., Dandagi, P.M. and Gadad, A.P. (2016) ‘Formulation and evaluation of sparfloxacin emulsomes-loaded thermosensitive in situ gel for ophthalmic delivery’, *Journal of Sol-Gel Science and Technology*, 77(3). Available at: <https://doi.org/10.1007/s10971-015-3897-8>.

Shabir, G.A. (2003) ‘Validation of high-performance liquid chromatography methods for pharmaceutical analysis: Understanding the differences and similarities between validation requirements of the US Food and Drug Administration, the US Pharmacopeia and the International Conference on Harmonization’, in *Journal of Chromatography A*. Available at: [https://doi.org/10.1016/S0021-9673\(02\)01536-4](https://doi.org/10.1016/S0021-9673(02)01536-4).

Shah, J. et al. (2019) ‘Nanoemulsion based vehicle for effective ocular delivery of moxifloxacin using experimental design and pharmacokinetic study in rabbits’, *Pharmaceutics*, 11(5). Available at: <https://doi.org/10.3390/pharmaceutics11050230>.

Singh, M. et al. (2020) ‘Therapeutic nanoemulsions in ophthalmic drug administration: Concept in formulations and characterization techniques for ocular drug delivery’, *Journal of Controlled Release* [Preprint]. Available at: <https://doi.org/10.1016/j.jconrel.2020.10.025>.

Sinko, P.J. (2014) *Farmasi Fisika dan Ilmu Farmasetika*. 5th edn. Jakarta: Penerbit Buku Kedokteran EGC.

Smail, S.S. et al. (2021) ‘Studies on surfactants, cosurfactants, and oils for



- prospective use in formulation of ketorolac tromethamine ophthalmic nanoemulsions', *Pharmaceutics*, 13(4). Available at: <https://doi.org/10.3390/pharmaceutics13040467>.
- Soliman, K.A. et al. (2019) 'Poloxamer-based in situ gelling thermoresponsive systems for ocular drug delivery applications', *Drug Discovery Today*. Available at: <https://doi.org/10.1016/j.drudis.2019.05.036>.
- Sophi, S.L., Martono, S. and Rohman, A. (2016) 'Validation and quantification of theophylline and salbutamol using ion pair liquid chromatography', *Indonesian Journal of Pharmacy*, 27(4). Available at: <https://doi.org/10.14499/indonesianjpharm27iss4pp190>.
- Soriano, J.L. et al. (2021) 'Endogenous antioxidant cocktail loaded hydrogel for topical wound healing of burns', *Pharmaceutics*, 13(1). Available at: <https://doi.org/10.3390/pharmaceutics13010008>.
- Stefanovski, D., Moate, P.J. and Boston, R.C. (2003) 'WinSAAM: A windows-based compartmental modeling system', *Metabolism: Clinical and Experimental*, 52(9). Available at: [https://doi.org/10.1016/S0026-0495\(03\)00144-6](https://doi.org/10.1016/S0026-0495(03)00144-6).
- Sulaiman, T.N.S. (2012) *Optimasi Formula Tablet Lepas Lambat Ranitidin HCl Dengan Sistem Floating dan Korelasi In Vitro-In Vivo*. Universitas Gadjah Mada.
- Syukri, Y. et al. (2016) 'Quantification of andrographolide isolated from andrographis paniculata nees obtained from traditional market in yogyakarta using validated HPLC', *Indonesian Journal of Chemistry*, 16(2). Available at: <https://doi.org/10.14499/ijc-v16i2p190-197>.
- Szalai, B., Budai-Szűcs, M. and Jójárt-Laczkovich, O. (2022) 'Design and optimization of dexamethasone containing in situ gelling mucoadhesive eye drops', in. Available at: <https://doi.org/10.14232/syrptbirs.2022.47>.
- Tabuchi, N. et al. (2017) 'Effect of Retinol Palmitate on Corneal and Conjunctival Mucin Gene Expression in a Rat Dry Eye Model after Injury', *Journal of Ocular Pharmacology and Therapeutics*, 33(1). Available at: <https://doi.org/10.1089/jop.2015.0161>.
- Talaei, S., Mahboobian, M.M. and Mohammadi, M. (2020) 'Investigating the ocular toxicity potential and therapeutic efficiency of in situ gel nanoemulsion formulations of brinzolamide', *Toxicology Research*, 9(4). Available at: <https://doi.org/10.1093/TOXRES/TFAA066>.
- Tavakoli, M. et al. (2021) 'Studying the ophthalmic toxicity potential of developed ketoconazole loaded nanoemulsion in situ gel formulation for ophthalmic administration', *Toxicology Mechanisms and Methods*, 31(8). Available at: <https://doi.org/10.1080/15376516.2021.1941461>.
- Tayel, S.A. et al. (2013) 'Promising ion-sensitive in situ ocular nanoemulsion gels of terbinafine hydrochloride: Design, in vitro characterization and in vivo estimation of the ocular irritation and drug pharmacokinetics in the aqueous humor of rabbits', *International Journal of Pharmaceutics*, 443(1–2). Available at: <https://doi.org/10.1016/j.ijpharm.2012.12.049>.
- Thorel, D. et al. (2020) 'Management of ocular involvement in the acute phase of Stevens-Johnson syndrome and toxic epidermal necrolysis: French national



- audit of practices, literature review, and consensus agreement', *Orphanet Journal of Rare Diseases*. Available at: <https://doi.org/10.1186/s13023-020-01538-x>.
- Toshida, H. et al. (2017) 'Efficacy and safety of retinol palmitate ophthalmic solution in the treatment of dry eye: A Japanese phase II clinical trial', *Drug Design, Development and Therapy*, 11. Available at: <https://doi.org/10.2147/DDDT.S137825>.
- U.S. Pharmacopeia (2023a) *The United States Pharmacopeia, USP 46/The National Formulary, NF 36: <1092> The Dissolution Procedure: Development and Validation*. Baltimore: United Book Press, Inc.
- U.S. Pharmacopeia (2023b) *The United States Pharmacopeia, USP 46/The National Formulary, NF 36: <1225> Validation of Compendial Procedures*. 43rd edn. Baltimore: United States by United Book Press, Inc.
- U.S. Pharmacopeia (2023c) *The United States Pharmacopeia, USP 46/The National Formulary, NF 36: <571> Vitamin A Assay Chromatographic Methods Procedure 4*. 43rd edn. Baltimore: United States by United Book Press, Inc.
- U.S. Pharmacopeia (2023d) *The United States Pharmacopeia, USP 46/The National Formulary, NF 36: <621> Chromatography*. 43rd edn. Baltimore: United States by United Book Press, Inc.
- U.S. Pharmacopeia (2023e) *The United States Pharmacopeia, USP 46/The National Formulary, NF 36*. 43rd edn. Baltimore: United States by United Book Press, Inc.
- U.S. Pharmacopeia (2023) *The United States Pharmacopeia, USP 46/The National Formulary, NF 36, <771> Ophtalmic Product Qulaity Test*. Baltimore: United Book Press, Inc.
- US-FDA (2008) 'Guidance for Industry : Drug Stability Guidelines'. Rockville, MD: US Food and Drug Administration.
- Wang, L. et al. (2021) 'A composite System Combining Self-Targeted Carbon Dots and Thermosensitive Hydrogels for Challenging Ocular Drug Delivery', *Journal of Pharmaceutical Sciences* [Preprint]. Available at: <https://doi.org/10.1016/j.xphs.2021.09.026>.
- Wang, X. et al. (2021) 'Preparation and optimization formulation of zedoary turmeric oil nanoemulsion based thermo-sensitive gel for improved application in ophthalmology', *Journal of Drug Delivery Science and Technology*, 65. Available at: <https://doi.org/10.1016/j.jddst.2021.102682>.
- Van Wayenbergh, E. et al. (2023) 'A simple method for analysis of vitamin A palmitate in fortified cereal products using direct solvent extraction followed by reversed-phase HPLC with UV detection', *Food Chemistry*, 404. Available at: <https://doi.org/10.1016/j.foodchem.2022.134584>.
- Wei, Y. et al. (2020) 'Comparison of thermosensitive in situ gels and drug-resin complex for ocular drug delivery: In vitro drug release and in vivo tissue distribution', *International Journal of Pharmaceutics*, 578. Available at: <https://doi.org/10.1016/j.ijpharm.2020.119184>.
- Wilson, S.L., Ahearne, M. and Hopkinson, A. (2015) 'An overview of current techniques for ocular toxicity testing', *Toxicology* [Preprint]. Available at:



[https://doi.org/10.1016/j.tox.2014.11.003.](https://doi.org/10.1016/j.tox.2014.11.003)

- Yi, J. *et al.* (2016) 'Thermal Degradation and Isomerization of β -Carotene in Oil-in-Water Nanoemulsions Supplemented with Natural Antioxidants', *Journal of Agricultural and Food Chemistry* [Preprint]. Available at: <https://doi.org/10.1021/acs.jafc.5b05478>.
- Yokota, S. and Oshio, S. (2018) 'A simple and robust quantitative analysis of retinol and retinyl palmitate using a liquid chromatographic isocratic method', *Journal of Food and Drug Analysis*, 26(2). Available at: <https://doi.org/10.1016/j.jfda.2017.07.002>.
- Yuliani, H. *et al.* (2015) 'Uji Iritasi Sediaan Gel Penyembuh Luka Ekstrak Etanol Daun Binahong Menggunakan Slug Irritation Test (Irritation Test of Wound Healing Gel of Ethanolic Extract of Binahong Leaf Using Slug Irritation Test)', *Jurnal Ilmu Kefarmasian Indonesia*, 14(2), pp. 135–140.
- Yustina and Sophian, A. (2023) 'Development and Validation of HPLC–Photodiode Array Method for Detecting Steroids in Skin Whitening Products Simultaneously', *Indonesian Journal of Pharmacy*, 34(1). Available at: <https://doi.org/10.22146/ijp.3530>.
- Yuwono, M. and Indrayanto, G. (2005) 'Validation of Chromatographic Methods of Analysis', *Profiles of Drug Substances, Excipients and Related Methodology*. Available at: [https://doi.org/10.1016/S0099-5428\(05\)32009-0](https://doi.org/10.1016/S0099-5428(05)32009-0).
- Zeng, Y. *et al.* (2018) 'Thermo-sensitive gel in glaucoma therapy for enhanced bioavailability: In vitro characterization, in vivo pharmacokinetics and pharmacodynamics study', *Life Sciences* [Preprint]. Available at: <https://doi.org/10.1016/j.lfs.2018.09.050>.
- Zhang, J. *et al.* (2020) 'Cationic nanoemulsions with prolonged retention time as promising carriers for ophthalmic delivery of tacrolimus', *European Journal of Pharmaceutical Sciences*, 144. Available at: <https://doi.org/10.1016/j.ejps.2020.105229>.
- Zhang, J., Yan, X. and Li, H. (2013) 'Analysis of the correlations of mucins, inflammatory markers, and clinical tests in dry eye', *Cornea*, 32(7). Available at: <https://doi.org/10.1097/ICO.0b013e3182801622>.
- Zhang, Y. *et al.* (2010) 'DDSolver: An add-in program for modeling and comparison of drug dissolution profiles', *AAPS Journal*, 12(3). Available at: <https://doi.org/10.1208/s12248-010-9185-1>.
- Ziada, H.E.A. (2017) 'Oral Vitamin A- Including Antioxidant Formula versus Topical Vitamin A Added to Lubricant Eye Drops in Treatment of Dry Eye Syndrome; A Comparative Study', *International Journal of Ophthalmic Research*, 3(4).
- Zulfakar, M.H. *et al.* (2024) 'Medium-Chain Triacylglycerols (MCTs) and Their Fractions in Drug Delivery Systems : A Systematic Review', *Journal of Oleo Science*. Available at: <https://doi.org/10.5650/jos.ess23204>.
- Zuo, J. *et al.* (2014) 'Evaluation of the DDSolver software applications', *BioMed Research International*, 2014. Available at: <https://doi.org/10.1155/2014/204925>.