

DAFTAR PUSTAKA

- Albuquerque, B. R., Prieto, M. A., Barreiro, M. F., Rodrigues, A., Curran, T. P., Barros, L., & Ferreira, I. C. F. R. (2017). Catechin-based extract optimization obtained from *Arbutus unedo* L. fruits using maceration/microwave/ultrasound extraction techniques. *Industrial Crops and Products*, 95, 404–415. <https://doi.org/10.1016/j.indcrop.2016.10.050>
- Ana Yulyana, Annisya Maulidia Putri, & Eko Mugiyanto. (2025). Development and Optimization of Facial Wash Gel with Okra Fruit (*Abelmoschus esculentus*) Extract: A Study on HPMC Concentration Variations. *Journal of Natural Product for Degenerative Diseases*, 2(2), 72–85. <https://doi.org/10.58511/jnpdd.v2i2.8392>
- Ardana, M., Aeyni, V., & Ibrahim, A. (2015). Formulasi dan Optimasi Basis Gel HPMC (Hidroxy Propyl Methyl Cellulose) dengan Berbagai Variasi Konsentrasi. *Journal of Tropical Pharmacy and Chemistry*, 3(2), 101–108. <https://doi.org/10.25026/jtpc.v3i2.95>
- Atmaka, W. (2021). Pengaruh Variasi Konsentrasi Kappa Karagenan terhadap Karakteristik Fisik dan Kimia Gel Cincau Hijau (*Cyclea barbata* L. Miers). 38, 25–35. <https://doi.org/10.32765/wartaihp.v38i1.6093>
- Bagde, P. P., Dhenge, S., & Bhivgade, S. (2017). Extraction Of Pectin From Orange Peel And Lemon Peel. 4(3). <https://doi.org/10.5923/j.food.20130305.01>
- Bajaj, S., Singla, D., & Sakhuja, N. (2012). Stability Testing of Pharmaceutical Products. *Journal of Applied Pharmaceutical Science*, 02(03), 129–138. <https://doi.org/10.7324/JAPS.2012.2322>
- Baranova, I., Kovalenko, Khokhlenkova, Martyniuk, & Kutsenko. (2017). Prospects of Using Synthetic and Semi-Synthetic Gelling Substances in Development of Medicinal and Cosmetic Gels. *Asian Journal of Pharmaceutics*, 11(2). <https://doi.org/10.22377/ajp.v11i02.1267>
- Bhandare, D. S. D., & Deokar, D. G. S. (2022). Hen's Egg Test – Chorioallantoic Membrane (Het-Cam) Test Method For Examination Of Dermal Or Cutaneous Irritation Of Me.Cp As A Polymer. 11(6). <https://doi.org/10.20959/wjpr20226-23981>
- Budai, P., Kormos, É., Buda, I., Somody, G., & Lehel, J. (2021). Comparative evaluation of HET-CAM and ICE methods for objective assessment of ocular

- irritation caused by selected pesticide products. *Toxicology in Vitro*, 74, 105150. <https://doi.org/10.1016/j.tiv.2021.105150>
- Burdock, G. A. (2007). Safety assessment of hydroxypropyl methylcellulose as a food ingredient. *Food and Chemical Toxicology*, 45(12), 2341–2351. <https://doi.org/10.1016/j.fct.2007.07.011>
- Chan, S. Y., Choo, W. S., Young, D. J., & Loh, X. J. (2017). Pectin as a rheology modifier: Origin, structure, commercial production and rheology. *Carbohydrate Polymers*, 161, 118–139. <https://doi.org/10.1016/j.carbpol.2016.12.033>
- Chen, T., Xu, C., Wang, M., Cui, Y., Cheng, R., Zhang, W., Gao, X., Wang, L., Qi, H., Yu, S., Chen, J., Ma, L., & Guo, H. (2024). Preparation of Patchouli Oil Microemulsion Gel and Its Topical Application to Ameliorate Atopic Dermatitis in Mice. *Gels*, 10(12), 796. <https://doi.org/10.3390/gels10120796>
- Chomchoei, N., Leelapornpisid, P., Tipduangta, P., Sangthong, P., Papan, P., Sirithunyalug, B., & Samutrtai, P. (2023). Potential of electro-sprayed purified mangiferin nanoparticles for anti-aging cosmetic applications. *RSC Advances*, 13(50), 34987–35002. <https://doi.org/10.1039/d3ra06308a>
- Choudhury, A., Sarma, S., Sarkar, S., Kumari, M., & Dey, B. K. (2022). Polysaccharides Obtained from Vegetables: An effective source of alternative excipient. *Journal of Pharmacopuncture*, 25(4), 317–325. <https://doi.org/10.3831/kpi.2022.25.4.317>
- Ćujić, N., Šavikin, K., Janković, T., Pljevljakušić, D., Zdunić, G., & Ibrić, S. (2016). Optimization of polyphenols extraction from dried chokeberry using maceration as traditional technique. *Food Chemistry*, 194, 135–142. <https://doi.org/10.1016/j.foodchem.2015.08.008>
- Derouiche, M. T. T., & Abdenmour, S. (2017). HET-CAM test. Application to shampoos in developing countries. *Toxicology in Vitro*, 45, 393–396. <https://doi.org/10.1016/j.tiv.2017.05.024>
- Dewi, B. S., & Surini, S. (2024). Study on hydrogel eye mask with Centella asiatica L and Aloe vera L extract. *Journal of Advanced Pharmacy Education and Research*, 14(2), 27–34. <https://doi.org/10.51847/9utowxppyp>
- Dianita, R., & Jantan, I. (2017). Ethnomedicinal uses, phytochemistry and pharmacological aspects of the genus *Premna*: A review. *Pharmaceutical Biology*, 55(1), 1715–1739. <https://doi.org/10.1080/13880209.2017.1323225>
- Dranca, F., Vargas, M., & Oroian, M. (2020). Physicochemical properties of pectin from *Malus domestica* ‘Fălticeni’ apple pomace as affected by non-conventional extraction techniques. *Food Hydrocolloids*, 100, 105383. <https://doi.org/10.1016/j.foodhyd.2019.105383>

- Du, Y., Zhao, C., Wang, J., Bao, Y., Shan, Y., & Zheng, J. (2025). Dynamic changes in the chemical structure and gelling properties of pectin at different stages of citrus maturation and storage. *Food Hydrocolloids*, 158, 110555. <https://doi.org/10.1016/j.foodhyd.2024.110555>
- Elsyana, V., & Alvita, L. (2022). Characterization of Pectin from Cincau (*Premna Oblongifolia* Merr.) Leaves. *IOP Conference Series: Earth and Environmental Science*, 1012(1), 012050. <https://doi.org/10.1088/1755-1315/1012/1/012050>
- European Medicines Agency. (2025). *ICH Q1 Guideline on stability testing of drug substances and drug products_Step 2b*.
- Fatmawati Fatimah, S., Saras Sukmaningrum, G., Vanda Pertiwi, D., & Efiana, N. A. (2024). Formulation of ophtalmic vitamin A nanoemulsion with Kolliphor® EL as surfactant and transcitol as cosurfactant and hen's egg test chorioallantoic membrane (HET CAM) irritation test. *BIO Web of Conferences*, 148, 04018. <https://doi.org/10.1051/bioconf/202414804018>
- Febrianto, S., Praharsini, F. V., Annas, Z. F., & Hanifa, N. I. (2022). Cyclea barbata L. Miers.: Penggunaan tradisional, fitokimia, dan aktivitas farmakologi. *Sasambo Journal of Pharmacy*, 3(2), 69–82. <https://doi.org/10.29303/sjp.v3i2.178>
- Gangga, E., Farida, Y., & Kartiningsih. (2020). Formulation Of Antioxidant Gel From Standardized Green Cincau (*Cyclea Barbata* L. Miers) Ethanolic Extract. *International Journal of Applied Pharmaceutics*, 236–240. <https://doi.org/10.22159/ijap.2020v12i6.38418>
- Gangga, E., Purwati, R., Farida, Y., & Kartiningsih, K. (2017). Determination of Quality Parameters and Antioxidant Activity of Cincau Hijau Leaves (*Cyclea barbata* L.Miers.). *Jurnal Ilmu Kefarmasian Indonesia*, 15(2), 236. <https://doi.org/10.35814/jifi.v15i2.525>
- Gawkowska, D., Cybulska, J., & Zdunek, A. (2018). Structure-Related Gelling of Pectins and Linking with Other Natural Compounds: A Review. *Polymers*, 10(7), 762. <https://doi.org/10.3390/polym10070762>
- Gelling Agents. (2012). In J. K. Fink, *Petroleum Engineer's Guide to Oil Field Chemicals and Fluids* (pp. 275–293). Elsevier. <https://doi.org/10.1016/b978-0-12-383844-5.00008-8>
- Gostin, I. N. (2023). Glandular and Non-Glandular Trichomes from *Phlomis herba-venti* subsp. *pungens* Leaves: Light, Confocal, and Scanning Electron Microscopy and Histochemistry of the Secretory Products. *Plants*, 12(13), 2423. <https://doi.org/10.3390/plants12132423>
- Goudie, K. J., McCreath, S. J., Parkinson, J. A., Davidson, C. M., & Liggat, J. J. (2023). Investigation of the influence of PH on the properties and morphology

- of gelatin hydrogels. *Journal of Polymer Science*, 61(19), 2316–2332. <https://doi.org/10.1002/pol.20230141>
- Handayani, N. F., Elya, B., & Puspitasari, N. (2018). Cyclea Barbata Leaf Extract: Lipoxygenase Inhibitory Activity And Phytochemical Screening. *International Journal of Applied Pharmaceutics*, 10(1), 106. <https://doi.org/10.22159/ijap.2018.v10s1.22>
- Hikmawanti, N. P. E., Yumita, A., Hanani, E., Faradisa, S., Az-Zahra, S. F., & Ashfiya, S. R. (2023). Anatomi Jaringan, Identifikasi Mikroskopis, serta Kadar Polifenol Ekstrak Etanol Daun dari Tiga Jenis Jambu Genus Syzygium. *MPI (Media Pharmaceutica Indonesiana)*, 5(1), 36–48. <https://doi.org/10.24123/mpiv5i1.5311>
- Holm, C., Morisbak, E., Kalfoss, T., & Dahl, J. E. (2015). *In vitro* element release and biological aspects of base–metal alloys for metal–ceramic applications. *Acta Biomaterialia Odontologica Scandinavica*, 1(2–4), 70–75. <https://doi.org/10.3109/23337931.2015.1069714>
- Idrus, I., Apriyanti, R., Katadi, S., Rahmat, N., Wahab, S., & Asfi, D. (2023). The Effect of Variations in HPMC and Carbopol Bases on The Physical Stability of Okra (*Abelmoschus esculentus* L.) Fruit Gel Formulations. *Biocity Journal of Pharmacy Bioscience and Clinical Community*, 2(1), 35–48. <https://doi.org/10.30812/biocity.v2i1.3399>
- Isvandaria Devie, S., Abbas Thalib, F., & Ayu Wulansari, S. (2025). The Effect of HPMC (Hydroxypropyl Methylcellulose) on the Physical Stability of Peel-Off Gel Masks Containing Aloe Vera (*Aloe vera*) and Moringa Leaves (*Moringa oleifera* L.): Pengaruh HPMC (Hydroxy Propyl Methyl Cellulose) Terhadap Stabilitas Fisik Masker Gel Peel-Off Ekstrak Lidah Buaya (*Aloe vera*) dan Daun Kelor (*Moringa oleifera* L.). *Journal Pharmasci (Journal of Pharmacy and Science)*, 10(2), 168–176. <https://doi.org/10.53342/ncmszk19>
- Jakubczyk, E., Kamińska-Dwórznička, A., & Kot, A. (2022). The Rheological Properties and Texture of Agar Gels with Canola Oil—Effect of Mixing Rate and Addition of Lecithin. *Gels*, 8(11), 738. <https://doi.org/10.3390/gels8110738>
- Jati, N. K., Prasetya, A. T., & Mursiti, S. (2019). *Isolasi, Identifikasi, dan Uji Aktivitas Antibakteri Senyawa Alkaloid pada Daun Pepaya*. <https://doi.org/10.15294/ijmns.v42i1.22633>
- Karimi, S., Kazemi, S., & Kazemi, N. (2016). Syneresis measurement of the HPAM-Cr (III) gel polymer at different conditions: An experimental investigation. *Journal of Natural Gas Science and Engineering*, 34, 1027–1033. <https://doi.org/10.1016/j.jngse.2016.08.011>

- Kastner, H., Einhorn-Stoll, U., & Drusch, S. (2017). Structure formation in sugar containing pectin gels—Influence of gel composition and cooling rate on the gelation of non-amidated and amidated low-methoxylated pectin. *Food Hydrocolloids*, 73, 13–20. <https://doi.org/10.1016/j.foodhyd.2017.06.023>
- Kementerian Kesehatan Republik Indonesia. (2017). *Farmakope Herbal Indonesia Edisi II*.
- Kheowmung, W. (2024). Pectin from Durian (*Durio zibethinus* Murray) Peel: Microwave-Assisted Extraction Followed by Solvent Extraction. *Trends in Sciences*, 21(7), 7627. <https://doi.org/10.48048/tis.2024.7627>
- Kolo, S. M. D., Obenu, N. M., & Rohy, N. T. (2022). Pengaruh Perlakuan Awal Ampas Biji Jewawut (*Setaria italica* L.) dengan Microwave Irradiation Untuk Produksi Bioetanol. *ALCHEMY Jurnal Penelitian Kimia*, 18(2), 183. <https://doi.org/10.20961/alchemistry.18.2.59819.183-192>
- Laksana, K. P., Oktavillariantika, A. A. I. A. S., Pratiwi, N. L. P. A., Wijayanti, N. P. A. D., & Yustiantara, P. S. (2017). Optimasi Konsentrasi Hpmc Terhadap Mutu Fisik Sediaan Sabun Cair Menthol. *Jurnal Farmasi Udayana*, 15. <https://doi.org/10.24843/JFU.2017.v06.i01.p04>
- Liu, J., Lei, D., Tang, L., Zeng, F., Guan, Y., Wu, Q., & Li, H. (2025). The influence of pH and calcium ions on the gelation of low methoxy pectin from potato. *Journal of Food Science*, 90(4), e70202. <https://doi.org/10.1111/1750-3841.70202>
- Machado, J. C. B., Ferreira, M. R. A., & Soares, L. A. L. (2021). Optimization of the drying process of standardized extracts from leaves of *Spondias mombin* L. using Box–Behnken design and response surface methodology. *Journal of Food Processing and Preservation*, 45(7). <https://doi.org/10.1111/jfpp.15595>
- Makkar, H. P. S., & Becker, K. (1994). Isolation of Tannins from Leaves of Some Trees and Shrubs and Their Properties. *Journal of Agricultural and Food Chemistry*, 42(3), 731–734. <https://doi.org/10.1021/jf00039a026>
- Mandal, S. C., Chakraborty, R., & Sen, S. (Eds.). (2021). *Evidence Based Validation of Traditional Medicines: A Comprehensive Approach*. Springer Singapore Pte. Limited.
- Mane, P. K., & Dangare, A. (2020). *Herbal Face Wash Gel Of Cy Nodon Dacty Lon Having Antimicrobial, Anti - Inflammatory Action*. 3(1). <https://pharmacy.dypvp.edu.in/pharmaceuticalresonance/downloads/original-research-articles/Volume3-Issue1/Article-0010-36-43.pdf>
- Mariana, L., & Andayani, Y. (2013). Analisis Senyawa Flavonoid Hasil Fraksinasi Ekstrak Diklorometana Daun Keluwih. *November*, 6. <https://doi.org/10.35799/cp.6.2.2013.3494>

- Marlina, D., Fadly, F., & Aulia, D. Z. Z. (2021). Formulasi Masker Gel Peel-Off Ekstrak Kulit Petai (*Parkia Speciosa* Hassk.) Dengan Variasi Pva Sebagai Gelling Agent. *JKPharm Jurnal Kesehatan Farmasi*, 3(1), 32–42. <https://doi.org/10.36086/jpharm.v3i1.902>
- Marlina, Salman, Filza, H., Nur, E., & Poppy, A. N. (2023). Antioxidant serum gel formulation with a combination of secretome from mesenchymal stem cells and rosemary oil. *IOP Conference Series: Earth and Environmental Science*, 1228(1), 012036. <https://doi.org/10.1088/1755-1315/1228/1/012036>
- Marsiglia-Fuentes, R., Chiralt, A., & García-Zapateiro, L. A. (2023). Investigating the Water Relations in Aqueous Extract Powders of Mango (*Mangifera indica*) Peel and Seed Waste for Their Use in Food Matrices as a Value-Added By-Product. *Foods*, 12(18), 3497. <https://doi.org/10.3390/foods12183497>
- Maskun, Assidiq, H., Mukarramah, N. H. A., & Bachril, S. N. (2021). Threats to the sustainability of biodiversity in Indonesia by the utilization of forest areas for national strategic projects: A normative review. *IOP Conference Series: Earth and Environmental Science*, 886(1), 012071. <https://doi.org/10.1088/1755-1315/886/1/012071>
- Maslii, Y., Ruban, O., Kasparaviciene, G., Kalveniene, Z., Materiienko, A., Ivanauskas, L., Mazurkeviciute, A., Kopustinskiene, D. M., & Bernatoniene, J. (2020). The Influence of pH Values on the Rheological, Textural and Release Properties of Carbomer Polacril® 40P-Based Dental Gel Formulation with Plant-Derived and Synthetic Active Components. *Molecules*, 25(21), 5018. <https://doi.org/10.3390/molecules25215018>
- Mohammed, A. S. A., Naveed, M., & Jost, N. (2021). Polysaccharides; Classification, Chemical Properties, and Future Perspective Applications in Fields of Pharmacology and Biological Medicine (A Review of Current Applications and Upcoming Potentialities). *Journal of Polymers and the Environment*, 29(8), 2359–2371. <https://doi.org/10.1007/s10924-021-02052-2>
- Nakata, P. A. (2002). Calcium oxalate crystal morphology. *Trends in Plant Science*, 7(7), 324. [https://doi.org/10.1016/S1360-1385\(02\)02285-9](https://doi.org/10.1016/S1360-1385(02)02285-9)
- Narayan, S., & Manupriya, C. (2017). 10. A- Review- On- Stability- Studies- Of- Pharmaceutical- Products. <https://www.ijprs.com/wp-content/uploads/2018/09/IJPRS-V7-I1-00003.pdf>

- Nofianti, T., Anwary, S. N. F., & Gustaman, F. (2023). *The Potency mucoadhesive Granules Of extract premna Oblongifolia Merr. As Peptic Ulcer Treatment Agent*. <https://doi.org/10.24198/ijpst.v0i0.50688>
- Nurdin, S. U., Le Leu, R. K., Aburto-Medina, A., Young, G. P., Stangoulis, J. C. R., Ball, A. S., & Abbott, C. A. (2018). Effects of Dietary Fibre from the Traditional Indonesian Food, Green Cincau (*Premna oblongifolia* Merr.) on Preneoplastic Lesions and Short Chain Fatty Acid Production in an Azoxymethane Rat Model of Colon Cancer. *International Journal of Molecular Sciences*, 19(9), 2593. <https://doi.org/10.3390/ijms19092593>
- Nursal, F. K., Nining, & Rahmah, A. S. (2021). Formulation and Development of Grape Seed Oil (*Vitis Vinifera* L) Emulgel Peel-Off Mask using Gelling Agent Hydroxy Propyl Methyl Cellulose (HPMC). *IOP Conference Series: Earth and Environmental Science*, 755(1), 012046. <https://doi.org/10.1088/1755-1315/755/1/012046>
- Nüsken, M., Heinemeier, F., Matzke, S. S., Porebski, P., Forkel, S., Dasari, P., Braun, A., Zautner, A. E., Schön, M. P., & Buhl, T. (2024). Immune response to topical sodium lauryl sulfate differs from classical irritant and allergic contact dermatitis. *European Journal of Immunology*, 54(12), 2350798. <https://doi.org/10.1002/eji.202350798>
- Othman, H., Abu Bakar, N., Rajab, N., Budin, S., Shamsuddin, A., & Mohamed Nor, N. (2019). Primary skin irritation and dermal sensitization assay: In vivo evaluation of the essential oil from *Piper sarmentosum* Roxb. *Pharmacognosy Magazine*, 15(64), 352. https://doi.org/10.4103/pm.pm_635_18
- Park, Y. D., Yoon, K. S., & Lee, C. M. (2008). Thermal Syneresis Affected by Heating Schedule and Moisture Level in Surimi Gels. *Journal of Food Science*, 73(2). <https://doi.org/10.1111/j.1750-3841.2007.00644.x>
- Patel, K., Panchal, N., & Ingle, Dr. P. (2019). Review of Extraction Techniques Extraction Methods: Microwave, Ultrasonic, Pressurized Fluid, Soxhlet Extraction, Etc. *International Journal of Advanced Research in Chemical Science*, 6(3). <https://doi.org/10.20431/2349-0403.0603002>
- Pattarapisitporn, A., & Noma, S. (2025). Alternative Solvents for Pectin Extraction: Effects of Extraction Agents on Pectin Structural Characteristics and Functional Properties. *Foods*, 14(15), 2644. <https://doi.org/10.3390/foods14152644>
- Pawestri, S. A., & Saifullah Sulaiman, T. N. (2019). The Influence Of Variation Of Hydroxypropyl Methylcellulose And Tween 80 Concentrations On Physical Characteristics And Physical Stabilities Gel Of Water Dry Extract Of Temulawak. *International Journal of Current Pharmaceutical Research*, 44–48. <https://doi.org/10.22159/ijcpr.2019v11i6.36340>

- Preservatives in Cosmetics. (2018). In G. Alvarez-Rivera, M. Llompарт, M. Lores, & C. Garcia-Jares, *Analysis of Cosmetic Products* (pp. 175–224). Elsevier. <https://doi.org/10.1016/b978-0-444-63508-2.00009-6>
- Priamsari, M. R., & Rokhana, A. (2021). Uji Aktivitas Antibakteri Ekstrak Etanolik Daun Mengkudu (*Morinda Citrifolia* L.) Terhadap Bakteri *Streptococcus Pyogenes* secara In Vitro. *Jurnal Farmasi (Journal of Pharmacy)*, 9(2), 15–20. <https://doi.org/10.37013/jf.v9i2.105>
- Putri, Q. U., Augustin, D., & Hasanudin, H. (2022). Kinetika Esterifikasi Asam Lemak Bebas dari Sludge Industri Crude Palm Oil (CPO) Menggunakan Katalis Komposit Montmorillonite/Karbon Tersulfonasi dari Tetes Tebu. *ALCHEMY Jurnal Penelitian Kimia*, 18(1), 48. <https://doi.org/10.20961/alchemy.18.1.50470.48-57>
- Rafly, W., Suryati, S., Masrullita, M., Nurlaila, R., & Sulhatun, S. (2023). Modifikasi Biokomposit Kitosan-Pati Jagung Untuk Pembalut Luka Primer Dengan Asam Sitrat Dan Pektin. *Chemical Engineering Journal Storage (CEJS)*, 3(6), 769–786. <https://doi.org/10.29103/cejs.v3i6.11473>
- Rizwan, M., Yahya, R., Hassan, A., Yar, M., Azzahari, A., Selvanathan, V., Sonsudin, F., & Abouloula, C. (2017). pH Sensitive Hydrogels in Drug Delivery: Brief History, Properties, Swelling, and Release Mechanism, Material Selection and Applications. *Polymers*, 9(4), 137. <https://doi.org/10.3390/polym9040137>
- Robiatun, R. R., Pangondian, A., Paramitha, R., Zulmai Rani, & Gultom, E. D. (2022). Formulation And Evaluation Of Hand Sanitizer Gel From Clove Flower Extract (*Eugenia aromatica* L.). *International Journal of Science, Technology & Management*, 3(2), 484–491. <https://doi.org/10.46729/ijstm.v3i2.472>
- Rodríguez García, S. L., & Raghavan, V. (2022). Green extraction techniques from fruit and vegetable waste to obtain bioactive compounds—A review. *Critical Reviews in Food Science and Nutrition*, 62(23), 6446–6466. <https://doi.org/10.1080/10408398.2021.1901651>
- Rostagno, M., & Prado, J. M. (Eds.). (2022). *Natural product extraction: Principles and applications* (2nd edition). Royal Society of Chemistry.
- Rowe, R. C., Sheskey, P. J., Owen, S. C., & American Pharmacists Association (Eds.). (2009). *Handbook of pharmaceutical excipients: Edited by Raymond C. Rowe, Paul J. Sheskey, Marian E. Quinn* (6th ed). APhA/Pharmaceutical Press.

- Rychen, G., EFSA Panel on Additives and Products or Substances used in Animal Feed (FEEDAP), Aquilina, G., Azimonti, G., Bampidis, V., Bastos, M. de L., Bories, G., Chesson, A., Cocconcelli, P. S., Flachowsky, G., Kolar, B., Kouba, M., López-Alonso, M., López Puente, S., Mantovani, A., Mayo, B., Ramos, F., Saarela, M., Villa, R. E., ... Gropp, J. (2017). Safety and efficacy of sodium and potassium alginate for pets, other non food-producing animals and fish. *EFSA Journal*, 15(7). <https://doi.org/10.2903/j.efsa.2017.4945>
- Saavedra Isusi, G. I., Weilandt, M., Majollari, I., Karbstein, H. P., & Van Der Schaaf, U. S. (2021). Emulsions stabilised with pectin-based microgels: Investigations into the effect of pH and ionic strength on emulsion stability. *Food & Function*, 12(16), 7227–7238. <https://doi.org/10.1039/D1FO00891A>
- Said, N. S., Olawuyi, I. F., & Lee, W. Y. (2023). Pectin Hydrogels: Gel-Forming Behaviors, Mechanisms, and Food Applications. *Gels*, 9(9), 732. <https://doi.org/10.3390/gels9090732>
- Samang, R. H., Sadik, F., & Rahman, I. (2025). Uji Standarisasi Parameter Spesifik dan Nonspesifik serta Penetapan Kadar Total Fenolik Ekstrak Daun Kelor (*Moringa Oleifera*). *Jurnal Syntax Admiration*, 6(1), 7–20. <https://doi.org/10.46799/jsa.v6i1.1622>
- Santiago-Gómez, I., Carrera-Lanestosa, A., González-Alejo, F. A., Guerra-Que, Z., García-Alamilla, R., Rivera-Armenta, J. L., & García-Alamilla, P. (2025). Pectin Extraction Process from Cocoa Pod Husk (*Theobroma cacao* L.) and Characterization by Fourier Transform Infrared Spectroscopy. *ChemEngineering*, 9(2), 25. <https://doi.org/10.3390/chemengineering9020025>
- Santoso, S. S. (2017). *Peran Flavonoid Cincau Hijau (Premna Oblongifolia) Terhadap Tumor Otak*. <https://jurnal.umj.ac.id/index.php/semnastan/article/view/2258>
- Sayah, M. Y., Chabir, R., Benyahia, H., Rodi Kandri, Y., Ouazzani Chahdi, F., Touzani, H., & Errachidi, F. (2016). Yield, Esterification Degree and Molecular Weight Evaluation of Pectins Isolated from Orange and Grapefruit Peels under Different Conditions. *PLOS ONE*, 11(9), e0161751. <https://doi.org/10.1371/journal.pone.0161751>
- Shah, B. N., & Seth, A. K. (2013). *Textbook of pharmacognosy and phytochemistry*. Elsevier.
- Silvia Mawardani, Tiara Ajeng Listyani, & Niken Luthfiyanti. (2025). Formulasi dan Uji Aktivitas Antioksidan Sediaan Lulur Body Scrub Ekstrak Daun Kelor

- (*Moringa oleifera*) dengan Metode DPPH: Pengabdian. *Jurnal Pengabdian Masyarakat Dan Riset Pendidikan*, 4(1), 6477–6488. <https://doi.org/10.31004/jerkin.v4i1.2824>
- Smail, S. S. (2024). Ex Vivo Irritation Evaluation of a Novel Brimonidine Nanoemulsion Using the Hen's Egg Test on Chorioallantoic Membrane (HET-CAM). *Cureus*. <https://doi.org/10.7759/cureus.68280>
- Suharyo, S., Handayani, I. D., & Wahjoerini. (2023). The percentages of chlorophyll, flavonoids, dietary fibre, and water content in *Cyclea barbata*, *Premna oblongata* miq, and *Cocculus orbiculatus* leaves. *IOP Conference Series: Earth and Environmental Science*, 1177(1), 012044. <https://doi.org/10.1088/1755-1315/1177/1/012044>
- Tamboli, A., Nanar, A., & Shendge, R. (2024). Review on Pharmaceutical Gelling Agents. *Physical Science & Biophysics Journal*, 8(1), 1–11. <https://doi.org/10.23880/psbj-16000266>
- Tambun, R., Alexander, V., & Ginting, Y. (2021). Performance comparison of maceration method, soxhletation method, and microwave-assisted extraction in extracting active compounds from soursop leaves (*Annona muricata*): A review. *IOP Conference Series: Materials Science and Engineering*, 1122(1), 012095. <https://doi.org/10.1088/1757-899x/1122/1/012095>
- Thummajitsakul, Worrapan Sitthithaworn, & Kun Silprasit. (2019). High performance thin layer chromatography fingerprint and antioxidant activities of *Cyclea barbata* in Thailand. *Agriculture and Natural Resources*. <https://doi.org/10.34044/j.anres.2019.53.5.06>
- Tjitraepomo, G. (2020). *Morfologi tumbuhan* (Cetakan kedua puluh dua). Gadjah Mada University Press.
- Utama, N. A., Pranata, I. A., & Pramesi, P. C. (2022). *Maintaining physicochemical and sensory properties of guava var. Getas Merah using alginate and Cyclea barbata leaves powder as edible coating*.
- Vardan, V. (2024). Influence of pH on the Stability of Pharmaceutical Compounds in Japan. *Journal of Chemistry*, 3(2), 21–30. <https://doi.org/10.47672/jchem.2404>
- Warmiati, & Nurhidayati, D. (2024). Moisture Content Measurement In Gelatin: A Comparison Of Gravimetric Methods Using Moisture Analyzer And Oven. *Berkala Penelitian Teknologi Kulit, Sepatu, Dan Produk Kulit*, 23(1), 62–71. <https://doi.org/10.58533/061s5z77>
- Xu, Z. (Ed.). (2017). *Solubility of Polysaccharides*. IntechOpen.
- Yang, X., Nisar, T., Liang, D., Hou, Y., Sun, L., & Guo, Y. (2018). Low methoxyl pectin gelation under alkaline conditions and its rheological properties: Using

- NaOH as a pH regulator. *Food Hydrocolloids*, 79, 560–571. <https://doi.org/10.1016/j.foodhyd.2017.12.006>
- Youssef, F. S., Ovidi, E., Musayeib, N. M. A., & Ashour, M. L. (2021). Morphology, Anatomy and Secondary Metabolites Investigations of *Premna odorata* Blanco and Evaluation of Its Anti-Tuberculosis Activity Using In Vitro and In Silico Studies. *Plants*, 10(9), 1953. <https://doi.org/10.3390/plants10091953>
- Yuliarti, O., Chong, S. Y., & Goh, K. K. T. (2017). Physicochemical properties of pectin from green jelly leaf (*Cyclea barbata* Miers). *International Journal of Biological Macromolecules*, 103, 1146–1154. <https://doi.org/10.1016/j.ijbiomac.2017.05.147>
- Yuliarti, O., & Mardiyah Binte Othman, R. (2018). Temperature dependence of acid and calcium-induced low-methoxyl pectin gel extracted from *Cyclea barbata* Miers. *Food Hydrocolloids*, 81, 300–311. <https://doi.org/10.1016/j.foodhyd.2018.03.004>
- Yusuf, A. L., Nugraha, D., Wahianto, P., Indriastuti, M., Ismail, R., & Himah, F. A. (2022). Formulasi Dan Evaluasi Sediaan Gel Ekstrak Buah Pare (*Momordica Charantia* L.) Dengan Variasi Konsentrasi Carbopol 940. *Pharmacy Genius*, 1(1), 50–61. <https://doi.org/10.56359/pharmgen.v1i01.149>
- Zhang, Q.-W., Lin, L.-G., & Ye, W.-C. (2018). Techniques for extraction and isolation of natural products: A comprehensive review. *Chinese Medicine*, 13(1). <https://doi.org/10.1186/s13020-018-0177-x>
- Zille, M., Ikhsan, M., Jiang, Y., Lampe, J., Wenzel, J., & Schwaninger, M. (2019). The impact of endothelial cell death in the brain and its role after stroke: A systematic review. *Cell Stress*, 3(11), 330–347. <https://doi.org/10.15698/cst2019.11.203>
- Zothanpuui, F., R, R., & K, S. (2020). A Review On Stability Testing Guidelines Of Pharmaceutical Products. *Asian Journal of Pharmaceutical and Clinical Research*, 3–9. <https://doi.org/10.22159/ajpcr.2020.v13i10.38848>