

DAFTAR PUSTAKA

- Amaro-Ortiz, A., Yan, B., & D’Orazio, J. A. (2014). Ultraviolet radiation, aging and the skin: Prevention of damage by topical cAMP manipulation. *Molecules*, 19(5), 6202–6219. <https://doi.org/10.3390/molecules19056202>
- Amini, A., Hamdin, C. D., Muliasari, H., & Subaidah, W. A. (2020). Efektivitas Formula Krim Tabir Surya Berbahan Aktif Ekstrak Etanol Biji Wali (*Brucea javanica* L. Merr). *Jurnal Kefarmasian Indonesia*, March, 50–58. <https://doi.org/10.22435/jki.v10i1.2066>
- Anusree, V. Rasheed, S.P. Mohammed, B. Thasleena, V.P. Pharvathy, S.L. Khais, M. (2020). Identification And Quantification of Dm Dm Hydantoin In Selected ShAnusree, V. Rasheed, S.P. Mohammed, B. Thasleena, V.P. Pharvathy, S.L. Khais, M. (2020). Identification And Quantification of Dm Dm Hydantoin In Selected Shampoos. *Der Pharma Chemica*, 12(6). *Der Pharma Chemica*, 12(6), 31–35.
- Aqsyah, M., & Mardiyanti, S. (2023). Uji Stabilitas Krim Antibakteri Ekstrak Rimpang Jahe Gajah (*Zingiber officinale* Roscoe). *Jurnal Farmasi Dan Farmakoinformatika*, 1(1), 76–83. <https://doi.org/10.35760/jff.2023.v1i1.8071>
- Ashari, S., Hanin, H., Ida, F., & Sholichah, R. (2020). Potensi senyawa flavonoid dalam tanaman sebagai lotion tabir surya. *Proceedings National Conference PKM Center*, 1(1), 164–166.
- Azzahra, F.-, Fauziah, V.-, Nurfajriah, W.-, & Emmanuel, S. W. (2023). Daun Kelor (*Moringa oleifera*): Aktivitas Tabir Surya Ekstrak dan Formulasi Sediaan Lotion. *Majalah Farmasetika*, 8(2), 133. <https://doi.org/10.24198/mfarmasetika.v8i2.43662>
- Barbar, A. Y., Kakayi, M., & Aksu, B. (2023). Optimization and evaluation of moisturizing cream containing dexpanthenol. *Aurum Journal of Health Sciences*, 5(1), 9–20. <https://dergipark.org.tr/en/pub/ajhs/issue/77119/1290409%0Ahttps://dergipark.org.tr/en/download/article-file/3114055>
- Baskara, I. B. B., Suhendra, L., & Wrsiati, L. P. (2020). Pengaruh Suhu Pencampuran dan Lama Pengadukan terhadap Karakteristik Sediaan Krim. *Jurnal Rekayasa Dan Manajemen Agroindustri*, 8(2), 200. <https://doi.org/10.24843/jrma.2020.v08.i02.p05>
- Bernal-Chávez, S. A., Romero-Montero, A., Hernández-Parra, H., Peña-Corona, S. I., Del Prado-Audelo, M. L., Alcalá-Alcalá, S., Cortés, H., Kiyekbayeva, L., Sharifi-Rad, J., & Leyva-Gómez, G. (2023). Enhancing chemical and physical stability of pharmaceuticals using *Freeze-Thaw* method: challenges and opportunities for process optimization through quality by design approach. *Journal of Biological Engineering*, 17(1), 1–18.

<https://doi.org/10.1186/s13036-023-00353-9>

- Bhattacharya, S., & Sherje, A. P. (2020). Development of resveratrol and green tea sunscreen formulation for combined photoprotective and antioxidant properties. *Journal of Drug Delivery Science and Technology*, 60(1), 102000. <https://doi.org/10.1016/j.jddst.2020.102000>
- BPOM RI. (2022). Peraturan BPOM No 10 Tahun 2022 Pedoman Uji Toksisitas Pratinik Secara In Vivo. *Bpom Ri*, 490, 1–16.
- Chandrika, U. G., & Prasad Kumara, P. A. A. S. (2015). Gotu Kola (*Centella asiatica*): Nutritional Properties and Plausible Health Benefits. *Advances in Food and Nutrition Research*, 76, 125–157. <https://doi.org/10.1016/bs.afnr.2015.08.001>
- D’Ruiz, C. D., Plautz, J. R., Schuetz, R., Sanabria, C., Hammonds, J., Erato, C., Klock, J., Vollhardt, J., & Mesaros, S. (2023). Preliminary clinical pharmacokinetic evaluation of bemotrizinol - A new sunscreen active ingredient being considered for inclusion under FDA’s over-the-counter (OTC) sunscreen monograph. *Regulatory Toxicology and Pharmacology*, 139(February), 105344. <https://doi.org/10.1016/j.yrtph.2023.105344>
- Dianursanti, Prakasa, M. B., & Nugroho, P. (2020). The effect of adding microalgae extract *Spirulina platensis* containing flavonoid in the formation of Sunscreen towards cream stability and SPF values. *AIP Conference Proceedings*, 2255. <https://doi.org/10.1063/5.0015249>
- Elcistia, R., Zulkarnain, A. K., & Yogyakarta, M. (2018). Optimasi Formula Sediaan Krim o/w Kombinasi Oksibenzon dan Titanium Dioksida Serta Uji Aktivitas Tabir Suryanya Secara In Vivo Formula Optimization of o/w Cream Combination Oxybenzone and Titanium Dioxide and Its In Vivo Activity Testing. *Mf*, 14(2), 63–78.
- Ghalla, M., Dixit, R., Murthy, K. S., & Katta, T. P. (2021). Expert consensus on the use of sunscreen agents: Indian perspective. *International Journal of Research in Dermatology*, 8(1), 168. <https://doi.org/10.18203/issn.2455-4529.intjresdermatol20214928>
- Hasanah, S., Ahmad, I., Rijai, L., Penelitian, L., & Tropis, F. (n.d.). *Fast Tanning , Suntan*. 1(4), 175–180.
- Hashim, D. M., Sheta, N. M., Elwazzan, V. S., & Sakran, W. S. (2019). Enhancing the Sunscreen Efficacy of Bemotrizinol Micropigment By Using O/W Nanoemulsion Topical Preparations. *International Journal of Pharmacy and Pharmaceutical Sciences*, 11(7), 47–56. <https://doi.org/10.22159/ijpps.2019v11i7.32652>
- Hidayanti, N., Tilaqza, A., Swastika, A., & Widyaningrum, I. (2024). *Formulasi dan Uji Stabilitas Sediaan Krim Natrium Diklofenak dengan Perbandingan Konsentrasi Cera Alba*. 4(2012), 72–79.

- Higea, J. F. (2025). *Optimasi Asam Stearat dan Setil Alkohol Pada Formula Sediaan Night Cream Kedelai (Glycine max (L .) Merrill)*. 17(1).
- Jana, K., & Mahanti, B. (2020). Challenges of hplc method development and validation for the assay of bemotrizinol from complex matrix in cosmeceutical preparation. *International Journal of Pharmaceutical Quality Assurance*, 11(3), 310–316. <https://doi.org/10.25258/ijpqa.11.3.2>
- Kaffah, W. A. S. (2020). PENGARUH COKELAT (Theobroma cacao L.) TERHADAP KESEHATAN KULIT. *Jurnal Medika Utama*, 01(03), 109–116.
- Kalangi, S. J. R. (2014). Histofisiologi Kulit. *Jurnal Biomedik (Jbm)*, 5(3), 12–20. <https://doi.org/10.35790/jbm.5.3.2013.4344>
- Lumentut, N., Edi, H. J., & Rumondor, E. M. (2020). Formulasi dan Uji Stabilitas Fisik Sediaan Krim Ekstrak Etanol Kulit Buah Pisang Goroho (Musa acuminata L.) Konsentrasi 12.5% Sebagai Tabir Surya. *Jurnal MIPA*, 9(2), 42. <https://doi.org/10.35799/jmuo.9.2.2020.28248>
- Minerva, P. (2019). Penggunaan Tabir Surya Bagi Kesehatan Kulit. *Jurnal Pendidikan Dan Keluarga*, 11(1), 87. <https://doi.org/10.24036/jpk/vol11-iss1/619>
- Miranti, R. M., Salsabila, N. S., Norhikmah, N., & Nurma, N. (2024). Edukasi Penggunaan Sunscreen pada Siswa MAN 2 Barito Kuala. *Jurnal Pengabdian Masyarakat Bangsa*, 1(11), 3082–3086. <https://doi.org/10.59837/jpmmba.v1i11.653>
- Mishra, S. K. (2015). Ethnopharmacological importance of Centella asiatica with special reference to neuroprotective activity. *Asian Journal of Pharmacology and Toxicology*, 03(10), 49–53. <https://www.researchgate.net/publication/281772550>
- Mukhlisah, N. R. I., & Ningrum, D. M. (2020). Uji Daya Iritasi dan Pelindung Kulit (SPF) Ekstrak Etanol Buah Rukem (Flacourta Rukam) Dalam Sediaan Sunscreen Basis Gel. *Jurnal Penelitian Dan Kajian Ilmiah Kesehatan*, 6(1), 52–57.
- Murdiana, H. E., Putri, M. K., Rosita, M. E., Kristariyanto, Y. A., & Kurniawaty, A. Y. (2022). Optimasi Formula Sediaan Krim Beras (Oryza Sativa L.) Tipe M/a Dengan Variasi Asam Stearat, Setil Alkohol Dan Trietanolamin. *Jurnal Farmamedika (Pharmamedica Journal)*, 7(2), 55–63. <https://doi.org/10.47219/ath.v7i2.161>
- Muslim, N. S., Hariyadi, P., & Andarwulan, N. (2025). *Optimasi Proses Maserasi Vanili (Vanilla tahitensis JW Moore) Kering pada Produksi Ekstrak Vanili Menggunakan RSM Optimization of Dried Vanilla (Vanilla tahitensis JW Moore) Maceration Process in Vanilla Extract Production Using RSM*. 12(1), 47–56. <https://doi.org/10.29244/jmpi.2025.12.1.47>

- Nelda, A. F., & Minerva, P. (2024). FORMULASI DAN UJI KADAR FLAVANOID DAN TANIN FACIAL WASH GEL EKSTRAK DAUN PEGAGAN (*Centella asiatica*). *Jurnal Medika Malahayati*, 8(1), 79–88. <https://doi.org/10.33024/jmm.v8i1.12886>
- Nurvianthi, R. Y., Asmal, A., & Djafar, T. (2023). Formulasi Krim Ekstrak Kayu Secang (*Caesalpinia sappan*) dengan Lilin Lebah Sumbawa. *Jurnal Kesehatan Luwu Raya*, 9(2), 73–80.
- Patmayuni, D., Cempaka, R., & Rendowaty, A. (2023). Ekstrak Etanol Daun Alpukat (*Persea Americana* Mill.) : Formulasi Krim dan Potensinya sebagai Antijerawat. *Jurnal Ilmiah Bakti Farmasi*, 8(1), 25–32. <https://doi.org/10.61685/jibf.v8i1.98>
- Pokhrel, S. (2024). OPTIMASI SEDIAAN KRIM TABIR SURYA EKSTRAK ETANOL RIMPANG KUNYIT (*Curcuma longa* L.) MENGGUNAKAN ASAM STEARAT DAN TRIETANOLAMIN SEBAGAI EMULGATOR. *Ayan*, 15(1), 37–48.
- Priani, S. E., Septian, M. T., & Soewondo, B. P. (2023). Optimasi Transcutol dan Propilenglikol Sebagai Peningkat Penetrasi dalam Gel Natrium Diklofenak Menggunakan Simplex Lattice Design. *Jurnal Mandala Pharmacon Indonesia*, 9(1), 87–93. <https://doi.org/10.35311/jmpi.v9i1.307>
- Putriana, R., Reynelda, J. S., & Pretty F. A., K. (2021). Tinjauan Pustaka Bentuk Sediaan Tabir Surya Bahan Alam, Keamanan dan Efektivitas Tabir Surya. *Jurnal Farmasi Indonesia*, 13, 25–39.
- Ramdan, S. R. K., Purwanti, D., Kurniasih, N., & Harun, N. (2023). Formulation and SPF Value Sunscreen Cream Combination Gotu Kola Extract (*Centella asiatica* L) with TiO₂. *Medical Sains : Jurnal Ilmiah Kefarmasian*, 8(2), 373–382.
- Reis Mansur, M. C. P. P., Leitão, S. G., Cerqueira-Coutinho, C., Vermelho, A. B., Silva, R. S., Presgrave, O. A. F., Leitão, Á. A. C., Leitão, G. G., Ricci-Júnior, E., & Santos, E. P. (2016). In vitro and in vivo evaluation of efficacy and safety of photoprotective formulations containing antioxidant extracts. *Revista Brasileira de Farmacognosia*, 26(2), 251–258. <https://doi.org/10.1016/j.bjp.2015.11.006>
- Rizal, R., Salman, & Maharani, V. (2023). Formulasi Sediaan Spray Gel Ekstrak Etanol Pegagan (*Centella asiatica* (L.) Urban) dan Uji Daya Tabir Surya. *Journal Sains Farmasi Dan Kesehatan*, 1(1), 48–59.
- Rowe, R., Bhardwaj, S., & Bana, S. 2017. (n.d.). *Handbook of Pharmaceutical Excipients 8ed.pdf*.
- Rozqiah, T. F., Widiyati, E., Martono, A., Putranto, H., Angasa, E., Fitriani, D., Kimia, J., Matematika, F., Ilmu, D., Alam, P., Bengkulu, U., Supratman, J. W., Limun, K., Bangkahulu, M., & Penulis, *. (2023). Pengaruh Konsentrasi

- Titanium Dioksida (TiO₂) dan Ekstrak Etanol Daun Salam (*Eugenia Polyantha* Wight) terhadap Efektivitas Krim Tabir Surya Berbahan Baku Virgin Coconut Oil (VCO). *Jurnal MIPA Unpad*, 11(2), 78–86. <http://jurnal.unpad.ac.id/jcena78>
- Saryanti, D., Setiawan, I., & Safitri, R. A. (2019). OPTIMASI ASAM STEARAT DAN TEA PADA FORMULA SEDIAAN KRIM EKSTRAK KULIT PISANG KEPOK (*Musa paradisiaca* L.). *Jurnal Riset Kefarmasian Indonesia*, 1(3), 225–237. <https://doi.org/10.33759/jrki.v1i3.44>
- Sumarni, N. K. (2022). REVIEW ARTIKEL : Uji Iritasi Sediaan Topikal dari Tumbuhan Herbal. *Jurnal Jejaring Matematika Dan Sains*, 4(1), 13. <https://doi.org/10.36873/jjms.2021.v4.i1.703>
- Sutjahjokartiko, S. (2017). Pengaruh Konsentrasi Pengawet DMDM Hydantoin terhadap Karakteristik, Stabilitas Fisika & pH pada Water Based Pomade yang Mengandung Ekstrak Aloe Vera. *Jurnal Ilmiah Mahasiswa Universitas Surabaya*, 6(2), 553.
- Syam, N. R., Lestari, U., & Muhaimin. (2021). Formulasi dan Uji Sifat Fisik Masker Gel Peel Off dari Minyak Sawit Murni Dengan Basis Carbomer 940. *Indonesian Journal of Pharma Science*, 1(1), 28–41.
- Tari, M., & Indriani, O. (2023). Formulasi Dan Uji Stabilitas Fisik Sediaan Krim Ekstrak Sembung Rambat (*Mikania micrantha* Kunth). *Jurnal Ilmiah Multi Science Kesehatan*, 15(1), 192–211.
- 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), 117–124. <https://doi.org/10.37311/ijpe.v3i1.14612>
- Ulfa, R., Firmansyah, F., Khairunnisa, F., & Lestari, P. (2024). A Literature Review On the Formulation, Characterization, and Stability of *Cinnamomum burmannii* Emulgel Extract as an Antioxidant and Sunscreen. *Jurnal Ilmu Farmasi Dan Farmasi Klinik*, 21(1), 48. <https://doi.org/10.31942/jiffk.v21i1.9126>
- Ummah, M. S. (2019). anatomi dan fisiologis tubuh manusia. In *Sustainability (Switzerland)* (Vol. 11, Issue 1). http://scioteca.caf.com/bitstream/handle/123456789/1091/RED2017-Eng-8ene.pdf?sequence=12&isAllowed=y%0Ahttp://dx.doi.org/10.1016/j.regsciurbeco.2008.06.005%0Ahttps://www.researchgate.net/publication/305320484_SISTEM_PEMBETUNGAN_TERPUSAT_STRATEGI_MELESTARI
- Verdia Mutiara, E., Wildan, A., Syukur, M., & Indriyani, E. (2023). Aktivitas Tabir Surya Ekstrak Etanol, Fraksi N-Heksana dan Fraksi Etil Asetat Tanaman Pegagan (*Centella asiatica* (L.) Urban). *Jurnal Ilmiah Cendekia Eksakta*, 8(2), 109–113.

- Wang, T. yang, Li, Q., & Bi, K. shun. (2018). Bioactive flavonoids in medicinal plants: Structure, activity and biological fate. *Asian Journal of Pharmaceutical Sciences*, 13(1), 12–23. <https://doi.org/10.1016/j.ajps.2017.08.004>
- Warnida, H., Wahyuni, D., & Sukawaty, Y. (2019). TENGGAWANG Formulation And Evaluation Of Vanishing Cream Based On Illipe Butter. *Jurnal Penelitian Ekosistem Dipterokarpa*, 5(1), 63–70.
- Wasiaturrahmah, Y., & Jannah, R. (2018). Formulasi dan uji sifat fisik gel hand sanitizer ekstrak daun salam. *Fakultas Kedokteran Universitas Lampung*, 2(2), 87–94.
- Widarika, H. S., Rohmayanti, Yuliasuti, F., & Putri Kurnia Pradani, M. (2017). Skrining Fitokimia Ekstrak Etanol Herba Pegagan dan Analisa Rendemen. *The 6th University Research Colloquium*, 471–476.
- Widyawati, E., Ayuningtyas, N. D., & Pitarisa, A. P. (2019). PENENTUAN NILAI SPF EKSTRAK DAN LOSIO TABIR SURYA EKSTRAK ETANOL DAUN KERSEN (Muntingia calabura L.) DENGAN METODE SPEKTROFOTOMETRI UV-VIS. *Jurnal Riset Kefarmasian Indonesia*, 1(3), 189–202. <https://doi.org/10.33759/jrki.v1i3.55>
- Witanti, L., & Endriyatno, N. C. (2024). FORMULASI DAN UJI FISIK KRIM EKSTRAK HERBA MENIRAN (*Pyllanthus niruri* L.) DENGAN VARIASI ASAM STEARAT DAN TRIETANOLAMIN. *Jurnal Penelitian Farmasi Indonesia*, 13(1), 23–31. <https://doi.org/10.51887/jpfi.v13i1.1854>
- Yuwanda, A., Rahmawati, D., & Anjani, F. S. (2023). Formulasi Dan Evaluasi Aktivitas Antioksidan Pada Sediaan Krim Wajah dari Ekstrak Etanol Daun Pegagan (*Centella asiatica* L.). *Journal of Pharmacy and Halal Studies*, 1(1), 9-16. (2023). Formulasi Dan Evaluasi Aktivitas Antioksidan Pada Sediaan Krim Wajah dari Ekstrak Etanol Daun Pegagan (*Centella asiatica* L.). *Journal of Pharmacy and Halal Studies*, 1(1), 9–16.
- Zhao, C., Wang, F., Lian, Y., Xiao, H., & Zheng, J. (2020). Biosynthesis of citrus flavonoids and their health effects. *Critical Reviews in Food Science and Nutrition*, 60(4), 566–583. <https://doi.org/10.1080/10408398.2018.1544885>
- Zainudin, S., Saifullah TN ., Gunawan, P, W. 2019. Formulasi Krim Kombinasi Herba Pegagan (*Centella asiatica* L.) dan Minyak Zaitun sebagai Tabir Surya Secara In Vitro. *CHMK Pharmaceutical Scientific Journal*, 2(1) :27-38