DAFTAR PUSTAKA

1. Sari DEM, Fitrianingsih S. Analisis Kadar Nilai Sun Protection Factor (SPF) Pada Kosmetik Krim Tabir Surya Yang Beredar Di Kota Pati Secara In Vitro. *Cendekia J Pharm*. 2020;4(1):69-79.
2. Shovyana HH, Zulkarnain AK. Physical Stability And Activity Of Cream W / O Etanolik Fruit Extract Mahkota Dewa (Phaleria macrocarph (scheff .) Boerl ,) As A Sunscreen. *Tradit Med J*. 2013;18(2):109-117.
3. Suhaenah A, Tahir M, Nasra N. Penentuan Nilai SPF (Sun Protecting Factor) Ekstrak Etanol Jamur Kancing (Agaricus Bisporus) Secara In Vitro Dengan Metode Spektrofotometri Uv-Vis. *J Ilm As-Syifaa*. 2019;11(1):82-87. doi:10.33096/jifa.v11i1.523
4. Kamal S, Rusdi MS. Utilization of Catechins in Sunscreen Lotion Formulation. *Borneo J Pharmacy,*. 2018;1(2):68-71.
5. Musdja MY, Rahman HA, Hasan D. Antioxidant Activity Of Catechins Isolate Of Uncaria Gambier Roxb In Male Rats. *LIFE Int J Heal Life-Sciences*. 2018;4(2):34-46. doi:10.20319/lijhls.2018.42.3446
6. Malrianti Y, Kasim A, Asben A, Syafri E, Yeni G, Fadholi A. Catechin Extracted from Uncaria gambier Roxb for Nanocatechin Production : Physical and Chemical Properties. *Int J Des Nat Ecodynamics*. 2021;16(4):393-399. doi:10.18280/ijdne.160406
7. Yeni G, Syamsu K, Suparno O, Mardliyati E, Muchtar H. Repeated Extraction Process of Raw Gambiers (Uncaria gambier Robx .) for the Catechin Production as an Antioxidant. *Int J Appl Eng Researc*. 2014;9(24):24565-24578.
8. Mahendra I, Azhar M. Ekstraksi dan Karakterisasi Katekin Dari Gambir (Uncaria Gambir Roxb). *Chem J Univ Negeri Padang*. 2022;11(1):5-7.
9. Munteanu IG, Apetrei C. Assessment of the Antioxidant Activity of Catechin in Nutraceuticals: Comparison between a Newly Developed Electrochemical Method and Spectrophotometric Methods. *Int J Mol Sci*. 2022;23(15):1-29. doi:10.3390/ijms23158110
10. Aris M, Andi Nur ilmi Adriana. Penentuan Kadar Total Flavonoid Dan Nilai

SPF (Sun Protection Factor) Ekstrak Etanol Rimpang Temu Ireng (Curcuma aeruginosa Roxb.) Secara Spektrofotometri UV/Vis. *Fito Med J Pharm Sci*. 2022;12(2):85-93. http://journal.unpacti.ac.id/index.php/fito

11. Ediningsih, Rahayungsih S. Ekstraksi, Isolasi, Karakterisasi dan Uji Aktivitas Antioksidan Senyawa Katekin Gambir (Uncaria gambir (Hunter). Roxb. *Al-Kimia*. 2019;7(2):177-188.
12. Alhabsyi DF, Suryanto E, Wewengkang DS. Aktivitas Antioksidan Dan Tabir Surya Pada Ekstrak Kulit Buah Pisang Goroho (Musa acuminate L .). *Pharmacon*. 2014;3(2):107-114.
13. Wang H, Gao S, Zhang D, et al. Encapsulation of catechin or curcumin in co-crystallized sucrose: Fabrication, characterization and application in beef meatballs. *Lwt*. 2022;168:113911. doi:10.1016/j.lwt.2022.113911
14. Bakhtiar A, Gaesari SR, Zaini E. Pembentukan Kokristal Katekin dengan Nikotinamida. *J Farm Sains dan Terap*. 2015;2(2):28-32.
15. Berga M, Logviss K, Lauberte L, Paulausks A, Mohylyuk V. Flavonoids in the Spotlight: Bridging the Gap between Physicochemical Properties and Formulation Strategies. *Pharmaceuticals*. 2023;16(10):1-28. doi:10.3390/ph16101407
16. Eesam S, Bhandaru JS, Akkinepally RR, Bobbala RK. Cocrystallization of Gliclazide with Improved Physicochemical Properties. *Futur J Pharm Sci*. 2021;7(124):1-13. doi:10.1186/s43094-021-00261-z
17. Kumar S, Nanda A. Pharmaceutical Cocrystals : An Overview. *Indian J Pharm Sci*. 2017;79(6):858-871. doi:10.4172/pharmaceutical-sciences.1000302
18. Rahman F, Winantari AN, Setyawan D, Siswandono. Comparison Study of Grinding and Slurry Method on Physicochemical Characteristic of Acyclovir – Succinic Acid Cocrystal. *Asian J Pharm Clin Res*. 2017;10(3):153-158. doi:10.22159/ajpcr.2017.v10i3.15925
19. Najih YA, Izazi F, Siswandono S, Putri BA. Studi in Silico Pembentukan Kokristal Meloxicam Dengan Berbagai Koformer Perbandingan (1 : 1). *J Ilm Ibnu Sina Ilmu Farm dan Kesehat*. 2023;8(1):31-38.

doi:10.36387/jiis.v8i1.1086

20. Singh M, Barua H, Jyothi VGSS, et al. Cocrystals by Design : A Rational Coformer Selection Approach for Tackling the API Problems. *Pharmaceutics*. 2023;15(1161):1-43.
21. Liu F, Li JY, Han CB, et al. First cocrystal of esculetin: Simultaneously optimized in vitro/vivo properties and antioxidant effect. *Eur J Pharm Sci*. 2023;187:106469. doi:10.1016/J.EJPS.2023.106469
22. Setyawan D, Paramanandana A, Erfadrin VE, Sari R, Paramita DP. Compression force effect on characteristics of loratadine-succinic acid cocrystal prepared by slurry method. *J Res Pharm*. 2020;24(3):410-415. doi:10.35333/jrp.2020.163
23. Yeni G, Syamsu K, Mardliyati E, Muchtar H. Penentuan Teknologi Proses Pembuatan Gambir Murni Dan Katekin Terstandar Dari Gambir Asalan. *J Litbang Ind*. 2017;7(1):1-10.
24. Marlinda. Identifikasi Kadar Katekin Pada Gambir (Uncaria gambier Roxb). *J Optim*. 2018;4(1):47-53.
25. Evans WC. *Trease and Evans Pharmacognosy*. 16th Editi. Saunders Elsevier; 2009.
26. Sulistyowaty MI, Setyawan D, Sari R, Paramanandana A, Maharani NA, Simorangkir TP. Preparation and Physicochemical Characterizations of p-Methoxycinnamic acid – Succinic Acid Cocrystal by Solvent Evaporation Technique. *J Med Sci*. 2022;7(10):1444-1449.
27. Wicaksono Y, Setyawan D, Siswandono, Siswoyo TA. Preparation and Characterization of a Novel Cocrystal of Atorvastatin Calcium with Succinic Acid Coformer. *Indones J Chem*. 2019;19(3):660-667. doi:10.22146/ijc.35801
28. Junior JAP, Rocchi AJS, Biagioni BT, et al. Chemical , Spectroscopic Characterization , Molecular Modeling and Antibacterial Activity Assays of A Silver (I) Complex with Succinic Acid. *Eclética Química J*. 2021;46(2):26-35. doi:10.26850/1678-4618eqj.v46.2.2021.p26-35
29. Yadav BK, Khursheed A, Singh RD. Cocrystals: a Complete Review on

Conventional and Novel Methods of Its Formation and Its Evaluation. *Asian J Pharm Clin Res*. 2019;12(7):68-74. doi:10.22159/ajpcr.2019.v12i7.33648

30. Permatasari D, Ramadhani S, Sopyan I, Muchtaridi. Ko-Kristal: Teknik Pembuatan Ko-Kristal. *Farmaka*. 2016;14(4):98-115. doi:10.24198/jf.v14i4.10461
31. Triyana R, Nurhabibah, Sopyan I. Artikel Tinjauan: Kokristal, Kokristal Ibuprofen dengan Berbagai Koformer, Virtual Screening Tools. *Maj Farmasetika*. 2021;6(1):23-37.
32. Sopyan I, Fudholi A, Muchtaridi, Sari IP. Simvastatin-Nicotinamide Co-crystal : Design , Preparation and Preliminary Characterization. *Trop J Pharm Res*. 2017;16(2):297-303. doi:10.4314/tjpr.v16i2.6
33. Kotak U, Prajapati V, Solanki H, Jani G, Jha P. Co-Crystallization Technique Its Rationale And Recent Progress. *World J Pharm Pharm Sci*. 2015;4(4):1484-1508.
34. Kharisma RM, Sopyan I. Dissolution Rate Repairing of Simvastatin as A New Approach in Cocrystallization. *Sch Res Libr*. 2017;9(6):18-27.
35. Alatas F, Soewandhi SN, Sasongko L, Ismunandar. Kelarutan Dan Stabilitas Kimia Kompleks Didanosin Dengan Nikotinamid Atau L-Arginin. *J Sains Mater Indones*. 2014;15(2):94-102.
36. Rachmaniar R, Tristiyanti D, Sari DY. [Review] Pengaruh Koformer Nikotinamid Dan Metode Pembentukan Kokristal Terhadap Kelarutan Zat Aktif Tidak Larut Air. *J Sains dan Teknol Farm Indones*. 2020;9(1):27-40. doi:10.58327/jstfi.v9i1.134
37. Sobhanan A, Chandur VK, Thayyil AR, Shabaraya AR. Pharmaceutical Co-Crystals : an Overview. *World J Pharm Pharm Sci*. 2020;9(11):556-569. doi:10.20959/wjpps202011-17537
38. Baby P, Shabaraya AR, Bhavyashree T. Pharmaceutical Cocrystals: a Novel Approach for Solubility Modification. *World J Pharm Res*. 2021;10(4):1707-1724. doi:10.20959/wjpr20214-20205
39. Septian MT, Wahyuni FD, Nora A. Uji Aktivitas Antioksidan Dengan Metode DPPH Dan Identifikasi Golongan Metabolit Sekunder Pada Daging

Ubi Jalar Dari Berbagai Daerah Di Indonesia. *SPIN J Kim Pendidik Kim*. 2022;4(2):185-196. doi:10.20414/spin.v4i2.5734

40. Tristantini D, Ismawati A, Pradana BT, Jonathan JG. Pengujian Aktivitas Antioksidan Menggunakan Metode DPPH pada Daun Tanjung (Mimusops elengi L). In: *Prosiding Seminar Nasional Teknik Kimia "Kejuangan" Pengembangan Teknologi Kimia Untuk Pengolahan Sumber Daya Alam Indonesia Yogyakarta*. ; 2016:1-7.
41. Adawiyah R. Penentuan Nilai Sun Protection Factor Secara In Vitro Pada Ekstrak Etanol Akar Kalakai (Stenochlaena palustris Bedd) Dengan Metode Spektrofotometer Uv-Vis. *J Surya Med*. 2019;4(2):26-31.
42. Widyawati E, Ayunintyas ND, Pitarisa AP. Penentuan Nilai SPF Ekstrak Dan Losio Tabir Surya Ekstrak Etanol Daun Kersen (Muntingia calabura L.) Dengan Metode Spektrofotometri Uv-Vis. *J Ris Kefarmasian Indones*. 2019;1(3):189-202.
43. Puspitasari AD, Setyowati DA. Evaluasi Karakteristik Fisika Kimia dan Nilai SPF Sediaan Gel Tabir Surya Ekstrak Etanol Daun Kersen (Muntingia calabura L). *J Pharmascience*. 2018;5(2):153-162.
44. Sahumena MH, Ruslin, Asriyanti, Djuwarno EN. Identifikasi Jamu Yang Beredar Di Kota Kendari Menggunakan Metode Spektrofotometri Uv-Vis. *J Syifa Sci Clin Res*. 2020;2(2):65-72.
45. Ahriani, Zelviani S, Hernawati, Fitriyanti. Analisis Nilai Absorbansi Untuk Menentukan Kadar Flavonoid Daun Jarak Merah (Jatropha gossypifolia L.) Menggunakan Spektrofotometer Uv-Vis. *J Fis dan Ter*. 2021;8(2):56-64. doi:10.24252/jft.v8i2.23379
46. Abdelrahman H, Essa E, Maghraby G El, Arafa M. L-Proline as Co-Crystal Forming Amino Acid for Enhanced Dissolution Rate of Lamotrigine : Development of Oral Dispersible Tablet. *Indones J Pharm*. 2023;34(4):574-583.
47. Sulistyowaty MI, Setyawan D, Prameswari PPM, et al. A Comparison Study between Green Synthesis of Microwave Irradiation and Solvent Evaporation Methods in The Formation of p-Methoxycinnamic Acid-Succinic Acid

Cocrystals. *Sci Technol Indones*. 2024;9(3):629-636. doi:10.26554/sti.2024.9.3.629-636

48. Gozali D, Bahti HH, Soewandhi SN, Abdassah M. Pembentukan Kokristal Antara Kalsium Atorvastatin dengan Isonikotinamid Dan Karakterisasinya. *J Sains Mater Indones*. 2014;15(2):103-110.
49. Setyawan D, Oktavia IP, Farizka R, Sari R. Physicochemical Characterization and In Vitro Dissolution Test of Quercetin-Succinic Acid Co- crystals Prepared Using Solvent Evaporation. *Turkish J Pharm Sci*. 2017;14(3):280-284. doi:10.4274/tjps.16362
50. Hasanah M, Maharani B, Munarsih E. Daya Antioksidan Ekstrak Dan Fraksi Daun Kopi Robusta (Coffea robusta) Terhadap Pereaksi DPPH (2,2-difenil-1-pikrilhidrazil). *Indones J Pharm Sci Technol*. 2017;4(2):42-49.
51. Zaky M, Rusdiana N, Darmawati A. Formulasi Dan Evaluasi Fisik Sediaan Gel Antioksidan Ekstrak Etanol 70% Daun Belimbing Wuluh (Averrhoa bilimbi L.) Menggunakan Metode DPPH. *J Farmagazine*. 2021;8(2):26-36.
52. Pratiwi PD, Rizki NP, Elisma, Maharini I. Comparison Of Antioxidant Activity Of Crude Extract And Gel Preparation From Alstonia scholaris L. Leaf Extract. *SANITAS J Teknol dan Seni Kesehat*. 2023;14(2):95-105.
53. Liony B, Suhartiningsih. Pengaruh Penambahan Ekstrak Gambir Terhadap Sifat Fisik Dan Nilai Sun Protection Factor (SPF) Pada Hasil Jadi Krim Tabir Surya. *J Tata Rias*. 2014;3(1):209-216.
54. Liu W, Ma R, Liang F, et al. New Cocrystals of Antipsychotic Drug Aripiprazole: Decreasing the Dissolution through Cocrystallization. *Molecules*. 2021;26(9):1-16. doi:10.3390/molecules26092414
55. Jiang L, Yang J, Wang Q, Ren L, Zhou J. Physicochemical properties of catechin/β-cyclodextrin inclusion complex obtained via co-precipitation. *CYTA - J Food*. 2019;17(1):544-551. doi:10.1080/19476337.2019.1612948
56. Ober CA, Gupta RB. Formation of itraconazole-succinic acid cocrystals by gas antisolvent cocrystallization. *AAPS PharmSciTech*. 2012;13(4):1396-1406. doi:10.1208/S12249-012-9866-4/METRICS
57. Hasanah U, Fitriani L, Putri VN, Zaini E. Formulation and evaluation of

orally disintegrating film (ODF) containing piperine-succinic acid cocrystal. *Pharmaciana*. 2023;13(1):108. doi:10.12928/pharmaciana.v13i1.25286

58. Imanto T, Wikantyasning ER, Nurwaini S, Amalia M, Sambudi NS, Harun NY. Preparation and Solid-State Characterization of Ketoprofen-Succinic Acid-Saccharin Co-Crystal With Improved Solubility. *Int J Appl Pharm*. 2024;16(1):275-279. doi:10.22159/ijap.2024v16i1.48829
59. Khan S, Zahoor M, Rahman MU, Gul Z. Cocrystals; Basic concepts, properties and formation strategies. *Zeitschrift fur Phys Chemie*. 2023;237(3):273-332. doi:10.1515/zpch-2022-0175
60. Gulcin İ, Alwasel SH. DPPH Radical Scavenging Assay. *Processes*. 2023;11(8):1-20. doi:10.3390/pr11082248
61. Rizkayanti R, Diah AWM, Jura MR. Uji Aktivitas Antioksidan Ekstrak Air dan Ekstrak Etanol Daun Kelor (Moringa Oleifera LAM). *J Akad Kim*. 2017;6(2):125. doi:10.22487/j24775185.2017.v6.i2.9244
62. Pratiwi A., Yusran, Islawati, Artati. Analisis Kadar Antioksidan pada Ekstrak Daun Binahong Hijau Anredera cordifolia (Ten.) Steenis. *BiomaJurnal Biol Makassar*. 2023;8(2):66-74. https://journal.unhas.ac.id/index.php/bioma
63. Wibowo NK, Rudyanto M, Purwanto DA. Aktivitas Antioksidan Teh Hijau dan Teh Hitam. *Camellia*. 2022;1(2):48-55.
64. Rivai RI, Citraningtyas G, Rundengan GE. Hubungan Hot (Human, Organization, Technology) Terhadap Benefit Pada Penggunaan Sistem Informasi Manajemen Rumah Sakit X Kota Manado. *Pharmacon*. 2024;13(1):547-556. doi:10.35799/pha.13.2024.49333
65. Mita SR, Husni P, Putriana NA, Maharani R, Hendrawan RP, Dewi DA. A Recent Update on the Potential Use of Catechins in Cosmeceuticals. *Cosmetics*. 2024;11(1):1-17. doi:10.3390/COSMETICS11010023
66. Bahar Y, Sani F, Lestari U. Penentuan Nilai Sun Protection Factor (SPF) Ekstrak Etanol Daun Jeruju (Acanthus Ilicifolius L.) secara In Vitro In Vitro Determination of Sun Protection Factor (SPF) of Jeruju Leaf Ethanol Extract (Acanthus Ilicifolius L.). *Indones J Pharma Sci*. 2021;3(2):91-96.

67. Pratama WA, Zulkarnain AK. Uji SPF In Vitro Dan Sifat Fisik Beberapa Produk Tabir Surya Yang Beredar Di Pasaran. *J Pharm Care Sci*. 2015;11(1):275-283. doi:10.33859/jpcs.v3i1.255

68. Andy Suryadi A, Pakaya MS, Djuwarno EN, Akuba J. Determination of Sun Protection Factor (SPF) Value in Lime (Citrus Aurantifolia) Peel Extract Using Uv-Vis Spectrophotometry Method. *Jambura J Heal Sci Res*. 2021;3(2):169-180. doi:10.35971/jjhsr.v3i2.10319

69. Dachriyanus. *Analisis Struktur Senyawa Organik Secara Spektroskopi*. Lembaga Pengembangan Teknologi Informasi dan Komunikasi (LPTIK) Universitas Andalas; 2004.