DAFTAR PUSTAKA

Adahoun, M.A., Al-Akhras, M.A.H., Jaafar, M.S., dan Bououdina, M., 2017, Enhanced Anti-Cancer and Antimicrobial Activities of Curcumin Nanoparticles, *Artif Cells Nanomed Biotechnol*, 45, 98–107.

Aditya, N.P., Hamilton, I.E., Noon, J., dan Norton, I.T., 2019, Microwave-Assisted Nanonization of Poorly Water-Soluble Curcumin, *ACS Sustain. Chem. Eng.*, 7, 9771–9781.

Apriyati, E., Utami, R., dan Djaafar, T.F., 2016, Kajian Teknologi Pembuatan Bubuk Simplisia Lengkuas, Balai Pengkajian Teknologi Pertanian Yogyakarta, Yogyakarta.

Bagchi, A., 2012, Extraction of Curcumin, *IOSR J. Environ. Sci. Toxicol. Food Techol.*, 1, 1–16.

Bhawana, Basniwal, R.K., Buttar, H.S., Jain, V.K., dan Jain, N., 2011, Curcumin Nanoparticles: Preparation, Characterization, and Antimicrobial Study, *J. Agric. Food Chem.*, 59, 2056–2061.

Binello, A., Grillo, G., Barge, A., Allegrini, P., Ciceri, D., dan Cravotto, G., 2020, A Cross-Flow Ultrasound-Assisted Extraction of Curcuminoids from Curcuma Longa L.: Process Design to Avoid Degradation, *Foods*, 9(6), 743.

Chen, J., Qin, X., Zhong, S., Chen, S., Su, W., dan Liu, Y., 2018, Characterization of Curcumin/Cyclodextrin Polymer Inclusion Complex and Investigation on Its Antioxidant and Antiproliferative Activities, *Molecules*, 23(5), 1179.

Chen, M.H. dan Huang, T.C., 2016, Volatile and Nonvolatile Constituents and Antioxidant Capacity of Oleoresins in Three Taiwan Citrus Varieties as Determined by Supercritical Fluid Extraction, *Molecules*, 21, 1–12.

Cheng, C., Peng, S., Li, Z., Zou, L., Liu, W., dan Liu, C., 2017, Improved Bioavailability of Curcumin in Liposomes Prepared using A Ph-Driven, Organic Solvent-Free, Easily Scalable Process, *RSC Adv*, 7, 25978–25986.

Chopra, H., Dey, P.S., Das, D., Bhattacharya, T., Shah, M., Mubin, S., Maishu, S.P., Akter, R., Rahman, M.H., Karthika, C., Murad, W., Qusty, N., Qusti, S., Alshammari, E.M., Batiha, G.E.S., Altalbawy, F.M.A., Albooq, M.I.M., dan Alamri, B.M., 2021, Curcumin Nanoparticles as Promising Therapeutic Agents for Drug Targets, *Molecules*, 26(16), 4998.

Christina, I.A.M., Kencana, I.N., dan Permana, I.D.G.M., 2018, Pengaruh Metode Pengeringan dan Jenis Pelarut terhadap Rendemen dan Kadar Kurkumin Ekstrak Kunyit (*Curcuma domestica Val*), *J. Ilm. Teknol. Pertanian Agrotech.*, 3(2), 319–324.

EFSA, Bampidis, V., Azimonti, G., Bastos, M. de L., Christensen, H., Kos Durjava, M., Kouba, M., López-Alonso, M., López Puente, S., Marcon, F., Mayo, B., Pechová, A., Petkova, M., Ramos, F., Sanz, Y., Villa, R.E., Woutersen, R., Brantom, P., dan Chesson, A., 2020, Safety and Efficacy of Turmeric Extract, Turmeric Oil, Turmeric Oleoresin and Turmeric Tincture from *Curcuma longa L.* Rhizome when Used as Sensory Additives in Feed for All Animal Species, *EFSA Journal*, 18, .

Flora, G., Gupta, D., dan Tiwari, A., 2013, Nanocurcumin: A Promising Therapeutic Advancement over Native Curcumin, *Crit Rev Ther Drug Carrier Syst*, 30(4), 331–368.

Galano, A., Álvarez-Diduk, R., Ramírez-Silva, M.T., Alarcón-Ángeles, G., dan Rojas-Hernández, A., 2009, Role of the Reacting Free Radicals on The Antioxidant Mechanism of Curcumin, *Chem Phys*, 363(1-3), 13–23.

Hanna, D.H. dan Saad, G.R., 2020, Nanocurcumin: Preparation, Characterization and Cytotoxic Effects Towards Human Laryngeal Cancer Cells, *RSC Adv*, 10(35), 20724–20737.

Haryani, F., Hakim, A., dan Hanifa, N.I., 2021, Perbandingan Pelarut Etanol 96% dan Aseton pada Ekstraksi dan Isolasi Kurkuminoid dari Rimpang Kunyit, *Jurnal Ilmu Kefarmasian*, 2(2), 112–117.

Hettiarachchi, S.S., Dunuweera, S.P., Dunuweera, A.N., dan Rajapakse, R.M.G., 2021, Synthesis of Curcumin Nanoparticles from Raw Turmeric Rhizome, *ACS Omega*, 6(12), 8246–8252.

Honda, S., Aoki, F., Tanaka, H., Kishida, H., Nishiyama, T., Okada, S., Matsumoto, I., Abe, K., dan Mae, T., 2006, Effects of Ingested Turmeric Oleoresin on Glucose and Lipid Metabolisms in Obese Diabetic Mice: A DNA Microarray Study, *J. Agric. Food Chem.*, 54(24), 9055–9062.

Irianto, I.D.K., Purwanto, P., dan Mardan, M.T., 2020, Aktivitas Antibakteri dan Uji Sifat Fisik Sediaan Gel Dekokta Sirih Hijau (Piper betle L.) sebagai Alternatif Pengobatan Mastitis Sapi, *Majalah Farmaseutik,* 16(2), 202-210.

Jiang, T., Ghosh, R., dan Charcosset, C., 2021, Extraction, Purification and Applications of Curcumin from Plant Materials-A Comprehensive Review, *Trends Food Sci Technol*, 112, 419–430.

Kakran, M., Sahoo, N.G., Tan, I.L., dan Li, L., 2012, Preparation of Nanoparticles of Poorly Water-Soluble Antioxidant Curcumin by Antisolvent Precipitation Methods, *J. Nanopart. Res.*, 14, 1-11.

Karthikeyan, A., Senthil, N., dan Min, T., 2020, Nanocurcumin: A Promising Candidate for Therapeutic Applications, *Front Pharmacol*, 11, 487.

Kartini, I., Wahyuningsih, T.D., Hatmanto, A.D., Roza, V.A., dan Kurniawan, Y.S., 2023, Titanium Dioxide-Curcumin Composite Materials from Aceh Curcuma Natural Source and Their Evaluation as Antiradical Agents Through In Vitro Study, *Indones. J. Chem.*, 5(23), 1248.

Khan, W.H. dan Rathod, V.K., 2014, Process Intensification Approach for Preparation of Curcumin Nanoparticles Via Solvent-Nonsolvent Nanoprecipitation using Spinning Disc Reactor, *Chem. Eng. Process.*, 80, 1–10.

Kocaadam, B. dan Şanlier, N., 2017, Curcumin, an Active Component of Turmeric (Curcuma Longa), and Its Effects on Health, *Crit. Rev. Food Sci. Nutr.*, 57(13), 2889–2895.

Li, S., Yuan, W., Deng, G., Wang, P., dan Yang, P., 2011, Chemical Composition and Product Quality Control of Turmeric *(Curcuma longa L.)*, *Pharm. Corps*, 2, 28–54.

Liu, D., Schwimer, J., Liu, Z., Woltering, E.A., dan Greenway, F.L., 2008, Antiangiogenic Effect of Curcumin in Pure Versus in Extract Forms, *Pharm. Biol.*, 46(10-11), 677–682.

Maizura, M., Aminah, A., dan Aida, W., 2011, Total Phenolic Content and Antioxidant Activity of Kesum (Polygonum Minus), Ginger (Zingiber Officinale) and Turmeric (Curcuma Longa) Extract, *Int. Food Res. J.*, 18(2), 526–531.

Malahayati, N., Widowati, T.W., dan Febrianti, A., 2021, Karakterisasi Ekstrak Kurkumin dari Kunyit Putih (*Kaemferia rotunda L.*) dan Kunyit Kuning (*Curcuma domestica Val.*), *Agritech*, 41(2), 134–144.

Mandal, V., Dewanjee, S., Sahu, R., dan Mandal, S.C., 2009, Design and Optimization of Ultrasound Assisted Extraction of Curcumin as an Effective Alternative for Conventional Solid Liquid Extraction of Natural Products, *Nat. Prod. Commun.*, 4(1), 95–100.

Nugraha, A.A., Kawiji, dan Atmaka, W., 2015, Kadar Kurkuminoid, Total Fenol, dan Aktivitas Antioksidan Oleoresin Temulawak (*Curcuma xanthorrhiza*) dengan Variasi Teknik Pengeringan dan Warna Kain Penutup, *Biofarm.*, 13(1), 6–14.

Nurhayati, L.S., Yahdiyani, N., dan Hidayatulloh, A., 2020, Perbandingan Pengujian Aktivitas Antibakteri Starter Yogurt dengan Metode Difusi Sumuran dan Metode Difusi Cakram, *Jurnal Teknologi Hasil Peternakan*, 1(2), 41-46.

Pandey, K.U., Joshi, A., dan Dalvi, S.V., 2021, Evaluating the Efficacy of Different Curcumin Polymorphs in Transdermal Drug Delivery, *J Pharm Investig*, 51, 75–84.

Paranthaman, R., Moses, J.A., dan Anandharamakrishnan, C., 2022, Powder X-Ray Diffraction Conditions for Screening Curcumin in Turmeric Powder, *J. Food Meas. Charact.*, 16, 1105–1113.

Patel, J.K. dan Pathakk, Y. V, 2021, *Emerging Technologies for Nanoparticle Manufacturing*, Spinger, Switzerland.

Patil, S.S. dan Rathod, V.K., 2022, Combined Effect Of Enzyme Co-Immobilized Magnetic Nanoparticles (Mnps) and Ultrasound for Effective Extraction and Purification of Curcuminoids From Curcuma Longa, *Ind. Crops Prod.*, 177, 114385.

Pawar, H.A., Gavasane, A.J., dan Choudhary, P.D., 2018, A Novel and Simple Approach for Extraction and Isolation of Curcuminoids from Turmeric Rhizomes, *Nat. Prod. Chem. Res.*, 6(1) 1–4.

Popuri, A.K. dan Pagala, B., 2013, Extraction of Curcumin from Turmeric Roots, *Int. J. Innov. Res. Stud.*, 2, 290–299.

Priyadarsini, K.I., 2014, The Chemistry of Curcumin: From Extraction to Therapeutic Agent, *Molecules*, 19(12), 20091–20112.

Putri, N.R.E., Ulfah, A.A., dan Kusumastuti, Y., 2019, Synthesis of Curcumin Nanoparticle from Curcuma xanthorrhiza Roxb Extract by Solvent-Antisolvent Precipitation Method, *Jurnal Rekayasa Proses*, 13(2), 145-150.

Rathore, S., Mukim, M., Sharma, P., Devi, S., Chandra Nagar, J., dan Khalid, M., 2020, Curcumin: A Review for Health Benefits, *Int. J. Res. Rev.*, 7(1), 273-290.

Revathy, S., Elumalai, S., Benny, M., dan Antony, B., 2011, Isolation, Purification and Identification of Curcuminoids from Turmeric (*Curcuma longa L.*) by Column Chromatography, *J. Exp. Sci.*, 2(7), 2218–1768.

Rompas, S.A.T., Wewengkang, D.S., dan Mpila, D.A., 2022, Uji Aktivitas Antibakteri Organisme Laut *Tunikata Polycarpa aurata* Terhadap Bakteri *Escherichia Coli* Dan *Staphylococcus Aureus*, *Pharmacon*, 11(1), 1271–1278.

Sari, Z.A.A. dan Febriawan, R., 2021, Perbedaan Hasil Uji Aktivitas Antibakteri Metode Well Diffusion dan Kirby Bauer Terhadap Pertumbuhan Bakteri, *J. Medika Hutama*, 2(4), 1156–1161.

Setyawati, A., Indah, F.F., dan Ardani, Y.K., 2022, The Effect of Essential Oil Concentrations on Particle Size of Kencur (*Kaempferia Galanga L.*) Nanoemulsions with Maltodextrin and Tween 80 as Emulgators, *Jurnal Pijar Mipa*, 17(4), 544–548.

Sundaryono, A., 2012, Sintesis Senyawa Analog Kurkumin Simetri (1E, 3E, 8E, 10E)-1, 11-difenil-undeka-1,3,8,10-tetraena-5,7-dion, *J. Gradien*, 8, 734–738.

Thorat, A.A. dan Dalvi, S. V., 2014, Particle Formation Pathways and Polymorphism of Curcumin Induced by Ultrasound and Additives during Liquid Antisolvent Precipitation, *Cryst. Eng. Comm.*, 16(48), 11102–11114.

Tohyeng, N., Dewanti-Hariyadi, R., dan Nuryani Lioe, H., 2018, Aplikasi Ekstrak Kunyit untuk Pengendalian Pertumbuhan Mikroba pada Tahu Selama Penyimpanan, *Jurnal Teknologi dan Industri Pangan*, 29(1), 19–28.

Tseng, J. De, Lee, H.L., Yeh, K.L., dan Lee, T., 2022, Recyclable Positive Azeotropes for The Purification of Curcumin with Optimum Purity and Solvent Capacity, *Chem. Eng. Res. Des.*, 180, 200–211.

Ubeyitogullari, A. dan Ciftci, O.N., 2019, A Novel and Green Nanoparticle Formation Approach to Forming Low-Crystallinity Curcumin Nanoparticles to Improve Curcumin's Bioaccessibility, *Sci. Rep.*, 9(1), 19112.

Ukrainczyk, M., Hodnett, B.K., dan Rasmuson, Å.C., 2016, Process Parameters in the Purification of Curcumin by Cooling Crystallization, *Org. Process Res. Dev.*, 20(9), 1593–1602.

Verma, S., Gokhale, R., dan Burgess, D.J., 2009, A Comparative Study of Top-Down and Bottom-Up Approaches for The Preparation of Micro/Nanosuspensions, *Int J Pharm*, 380(1-2), 216–222.

Vitanti, T.A.P., Kawiji, dan Nurhartadi, E., 2017, Pengaruh Metode Ekstraksi Oleoresin Temulawak (*Curcuma xanthorrhiza*) dengan Pengeringan Solar Dryer Terhadap Kadar Kurkuminoid, Total Fenol, dan Aktivitas Antioksidan, *Biofarm.*, 14, 1–9.

Wahyuningtyas, S.E.P., Permana, I.D.G.M., dan Wiadnyani, A.A.I.S., 2017, Pengaruh Jenis Pelarut terhadap Kandungan Senyawa Kurkumin dan Aktivitas Antioksidan Ekstrak Kunyit (*Curcuma domestica Val.*), *J. ITEPA*, 6(2), 61–70.

Yadav, D. dan Kumar, N., 2014, Nanonization of Curcumin by Antisolvent Precipitation: Process Development, Characterization, Freeze Drying and Stability Performance, *Int J Pharm*, 477(1-2), 564–577.

Yadav, D.K., Sharma, K., Dutta, A., Kundu, A., Awasthi, A., Goon, A., Banerjee, K., dan Saha, S., 2017, Purity Evaluation of Curcuminoids in The Turmeric Extract Obtained by Accelerated Solvent Extraction, *J. AOAC Int.*, 100(3), 586–591.

Yen, F.L., Wu, T.H., Tzeng, C.W., Lin, L.T., dan Lin, C.C., 2010, Curcumin Nanoparticles Improve the Physicochemical Properties of Curcumin and Effectively Enhance its Antioxidant and Antihepatoma Activities, *J. Agric. Food Chem.*, 58(12), 7376–7382.

Zuanon, L.A.C., Malacrida, C.R., dan Telis, V.R.N., 2013, Production of Turmeric Oleoresin Microcapsules by Complex Coacervation with Gelatin-Gum Arabic, *J. Food Process Eng.*, 36(3), 364–373.