DAFTAR PUSTAKA

Accelrys, E.P. 2005. *Introduction to the Discovery Studio Visualizer*. USA: Accelrys Software Inc.

Afifi, F.U., Saket, M., Jaghabir, M. 1998. Hypoglycemic effect of linalool in normal and streptozotocin diabetic rats. *J Acta Technol Leg Med*. 9:101-6.

Amalia, D., Ngadiwiyana, Fachriyah, E. 2013. Sintesis etil sinamat dari sinamaldehid pada minyak kayu manis (Cinnamomum cassia) dan uji aktivitas sebagai antidiabetes. *Jurnal Sain dan Matematika*. 21(4): 108-113.

Aslam M., Tan C. K., Prayitno A. 2003. Farmasi Klinis Menuju Pengobatan Rasional dan Penghargaan Pilihan Pasien. Jakarta: PT Gramedia.

Augustyns, K., Van der Veken, P., Senten, K., Haemers, A. 2005. The Therapeutic Potential of Inhibitor of Dipeptidyl Peptidase IV (DPP IV) and Related Proline-Specific Dipeptidyl Aminopeptidases. *Current Medicinal Chemistry*. 12: 971-98.

Balasubramaniam, D., Anuradha, C.V. 2011. Linalool, a plant derived monoterpene alcohol, rescues kidney from diabetes-induced nephropathic changes via blood glucose reduction. *J Diabetologia Croatica.* 40(4):121-37.

Balitbang Kemenkes RI. 2013. *Riset Kesehatan Dasar Tahun 2013*. Jakarta: Kemenkes RI.

Bergeron *et al*. 2006. Peroxisome Proliferator-Activated Receptor (PPAR)-α Agonism Prevents the Onset of Type 2 Diabetes in Zucker Diabetic Fatty Rats: A Comparison with PPARγ Agonism. Endocrinology. 147(9): 4252-4262.

Bernardo, M.A. 2015. Research Article: Effect of Cinnamon Tea on Postprandial Glucose Concentration. *Journal of Diabetes Research*. Volume 1(1): 1-6.

Bethesda, M.D. 2004. National Library of Medicine (US), National Center for Biotechnology Information: PubChem Compound Summary for CID 5281515. *https://pubchem.ncbi.nlm.nih.gov/beta-Caryophyllene.* 19 Desember 2020 (11.45).

Cheng, D.M., Khun, P., Poulev. A., Rojo, L.E., Lila, M.A., Raskin, I. 2012. In vivo and in vitro antidiabetic effects of aqueous cinnamon extract and cinnamon polyphenol-enhanced food matrix. *Food Chem* 135(4): 2994-3002.

Chiazza, F., Collino, M. 2016. *Molecular Nutrition and Diabetes*. Italy: Department of Drug Science and Technology, University of Turin.

Croom E. 2012. Toxicology and Human Environments. Progress in Molecular Biology and Translational Science. 112(8): 1-435.

Darusman F., Putri A. p>, Syafnir L., Septi R., Audina M. 2016. Sistem Penghantaran Obat Glimepirid Sebagai Antidiabetika Oral Dengan Pelepasan Dimodifikasi Melalui Pembentukan Mikrogranul Mukoadhesif Untuk Penyakit Diabetes Mellitus Tipe II. Prosiding. 6(2): 53-61

Decroli, E. 2019. *Diabetes Mellitus Tipe 2*. Padang. Pusat Penerbitan Bagian Imu Penyakit Dalam.

DeLano, W.L. dan Bromberg, S. 2004. *Pymol User's Guide*. USE: DeLano Scientific LLC.

Demkow U. dan Ploski R. 2016. Next Generation Sequencing in Pharmacogenomics. Cambridge: Academic Press.

Devalaraja, S., Jain, S., Yadav, H. 2011. Exotic Fruits as Therapeutic Complements for Diabetes, Obesity, and Metabolic Syndrome, *J. Food Res. Int.* 44: 1856-1865.diabetic rats. *J. Food Biochem*. 44(3). 131-136

Emilda. 2018. Efek Senyawa Bioaktif Kayu Manis *Cinnamomum burmanii* NEES EX.BL.) Terhadap Diabetes Melitus: Kajian Pustaka. *Jurnal Fitofarmaka Indonesia*. 5(1):246-252.

Ervina, M., Nswu, Y.E., Esar, S.Y. 2016. Comparison of In Vitro Antioxidant Activity of Infusion, Extract and Fractions of Indonesian Cinnamon (Cinnamomum burmanii) Bark. *International Food Research Journal*. 23(3):1346-1350.

Fadillah, R.U. 2014. Antidiabetic Effect of Morinda Citrifolia L. as A Treatment of Diabetes Mellitus. *Jurnal Majority*. 3(7):107-112.

Fajar, A., Anmar, G.A., Hamizah, M., Manurung, R., Abduh, M.Y. 2019. Effect of Tree Age on the Yield, Productivity, and Chemical Composition of Essential Oil from *Cinnamomum burmanii*. *Current Research on Biosciences and Biotechnology* 1(1): 17-22.

Febrinda, A.E, Astawan, M., Wresdiyati, T., Yuliana, N.D. 2013. Kapasitas antioksidan dan inhibitor alfa glukosidase ekstrak umbi bawang dayak. *J. Teknol. dan Industri Pangan.* 24(2):161-167.

Finch A. dan Pillans P. 2014. P-glycoprotein and its role in drug-drug interactions. Australian Prescriber. 37(4): 137-139.

Food and Drug Administration. 2008. *Guidance for Industry Diabetes Mellitus-Evaluating Cardiovascular Risk in New Antidiabetic Therapies to Treat Type 2 Diabetes*. U.S. Department of Health and Human Services Food and Drug Administration Center for Drug Evaluation and Research (CDER)

Funkhouser. 2007. *Protein-ligand Docking Methods*. Princeton. New Jersey, U.S.A: Universitas Princeton.

Grant, P. dan Dworakowska, D. 2013. *Tea and diabetes: the laboratory and the real world in Tea in Health and Disease Prevention*. New York: Elsevier Inc.

Guenther, E. 1990. *Minyak Atsiri*. Jilid IIIA. Diterjemahkan oleh S. Ketaren. Jakarta:UI-Press.

Guo J., Zhu X., Badawy S., Ihsan A., Liu Z., Xie C., Wang X. 2021. Metabolism and Mechanism of Human Cytochrome P450 Enzyme 1A2. Current Drug Metabolism. 22(1): 40-49.

Guo X et al . 2017. Effect of Cinnamaldehyde on Glucose Metabolism and Vessel Function. *Medical Science Monitor*. 2017; 23: 3844–3853.

Hardono, B.Y., Santoso, B. dan Da'i, M. 2013, Analisis Molecular Docking Energi Ikatan Turunan Diketoperazin (DKP) Sebagai Inhibitor Histon Deasetilasi (HDACi), *Thesis*, Universitas Muhammadiyah Surakarta

Harmoko, A. D. 2012. Potensi anti fungal ekstrak kayu manis (Cinnamomum burmanii) terhadap pertumbuhan Candida albicans secara in Vitro. *Skiripsi*. Fakultas Kedokteran. Universitas Sebelas Maret.

Hashimoto N., Nakamichi N., Yamazaki E., Oikawa M., Masuo Y., Schinkel A. H., Kato, Y. 2017. P-Glycoprotein in skin contributes to transdermal absorption of topical corticosteroids. International Journal of Pharmaceutics. 521(1-2):365-373

Hegarty *et al.* 2004. Peroxisome proliferator-activated receptor (PPAR) activation induces tissue specific effects on fatty acid uptake and metabolism in vivo. A study using the novel PPAR α/γ agonist tesaglitasar. *Endocrinology.* 145: 3158-3164.

Idris, H. dan Nurmansyah. 2018. Pestisida Nabati Minyak Kayu manis dan Serai wangi untuk Pengendalian Hama Penggulung Daun Nilam Pachyzancla stutalis. *Bul.Littro*, 28(2): 163–170.

Ince .I, Knibbe C.A., Danhof M. 2013. Developmental changes in the expression and function of cytochrome P450 3A isoforms: evidence from in vitro and in vivo investigations. Clinical Pharmacokinetics 52: 333–345.

Inna M. 2010. Potential Use of Cinnamomum burmanii Essential Oil-based Chewing Gum as Oral Antibiofilm Agent: Literature Review. *Journal of Dentistry Indonesia 2010*. 17(3): 80-86.

International Diabetes Federation. 2017. IDF Western Pacific Members. *https://idf.org/our-network/regionsmembers/westernpacific/members/104-indonesia.html* (diakses tanggal 20 Desember 2020).

Jadhav R. dan Puchchakayala G. 2012. Hypoglycemic And Antidiabetic Activity Of Flavonoids: Boswellic Acid, Ellagic Acid, Quercetin, Rutin On Streptozotocin-Nicotinamide Induced Type 2 Diabetic Rats. International Journal of Pharmacy and Pharmaceutical Sciences. 4(2):251-256

Katzung B. G., Masters B. S., Trevor J. A. Basic & Clinical Pharmacology. 12th edition. San Francisco: McGraw Hill.

Khasanah, L.U., B.K. Anandhito, Q. Uyun, R. Utami & G.J. Manuhara. 2017. Optimasi Proses Ekstraksi dan Karakterisasi Oleoresin Daun Kayu Manis (Cinnamomum burmannii) Dua Tahap. *Indonesian Journal of Essential Oil*. 2(1), 20-28.

Kujawski J., Popielarska H., Myka A., Drabinska B., Bernard M. K. 2012. The log P Parameter as a Molecular Descriptor in the Computer-aided Drug Design. Computational Methods In Science And Technology. 18(2): 81-88.

Kumawat, V.; Kaur, G. 2020. Insulinotropic and antidiabetic effects of beta-caryophyllene with l -arginine in type 2

Kusmardi, K., Tedjo, A., Fadilah, F., Arsianti, A., Paramita, R.I. 2018. Identification by Docking Simulation and in vivo Effect of Essential Oil from Cinnamomum burmannii as Anti-obesity with Leptin Receptor in the Olfactory System of Mice Balb C. *Pharmacogn J.* 10(5): 875-879.

Lachman L., H.Lieberman dan J.N. Kanig. 1986. The Theory and Practice of Industrial Pharmacy Edisi ke-3. Amerika Serikat.

Landani A. dan Kurniawaty E. 2018. Pengaruh Pemberian Kayu Manis (Cinnamomum cassia) Terhadap Penurunan Gula Darah Pada Penderita Diabetes Melitus Tipe 2. *Jurnal Agromedicine*. 5(1): 546-551.

Lei, L., Liu, S., Yongqiang, L., Song, H., Lianchao, H., Quan, L., Sujuan, S., Yan, L., Zhufang, S. 2018. The potential role of glucokinase activator SHP289-04 in anti-diabetes and hepatic protection. *European journal of pharmacology*. 826: 17–23.

Leonardo, F., Ricardo, D.S., Glaucius, O., Adriano, A. 2015. Molecular Docking and Structure-based Drug Design Strategies. *Molecules*. 20(7):13384-13421

Lu B., Munoz G. M., Ikeda Y. 2018. The two major glucokinase isoforms show conserved functionality in β-cells despite different subcellular distribution. *Biol-Chem.* 399(6): 565-576.

More, T.A., Kulkarni, B.R., Nalawade, M.L., Arvindekar, A.U. 2014. Antidiabetic activity of linalool and limonene in streptozotocin-induced diabetic rat: a combinatorial therapy approach. *International Journal and Pharmaceutical Sciences*. 6(8): 169-163.

Morris, G.M., Huey, R., Lindsyrom, W., Sanner, M.F., Belew, R.K., Goodsell, D.S., Olson, A.J. 2009. AutoDock 4 and AutoDock Tools 4: automated

docking with selective receptor flexibility. *Journal of Computation Chemistry*. 30(16):2785-2791.

Mukesh, B., dan Rakesh, K. 2011. Molecular Docking: A review. *IJRAP*. 2(6): 1746-1751.

Narko, T., Permana, B., Prasetiawati, R., Soni, D., Khairiyah, F. 2017. Molecular Docking Study of Bulb of Bawang Dayak (Eleutherine palmifolia (L) Merr) Compound as Anti Servical Cancer. *Jurnal Ilmiah Farmako Bahari*. 8(2):1-14.

Noviani N. dan Nurilawati V. 2017. Farmakologi. Jakarta: Kementrian Kesehatan RI.

Nursamsiar, Awaluddin S., Megawati, Soko Y. M., Aswad M. 2019. Simulasi Docking Senyawa Aglikon Kurkuligosida A dan Turunannya pada Protein Tyrosine Phosphatase 1B (PTP1B). Pharmaceutical Journal of Indonesia. 16 (2): 216-227.

Nusantoro Y. R. dan Fadlan A. 2020. Analisis Sifat Mirip Obat, Prediksi ADMET, dan Penambatan Molekular Isatinil -2Aminobenzoilhidrazon dan kompleks logam transisi Co(II), Ni(II), Cu(II), Zn(II) Terhadap BCL2-XL. *Jurnal Akta Kimia Indonesia*. 5(2): 114-126.

Park *et al*. 2013. Potent Anti-Diabetic Effects of MHY908, a Newly Synthesized PPAR α/γ Dual Agonist in db/db Mice. *Journal Plos one*. 8(11).

Park, J.H., Bae, J.H., Im, S.S., and Song, D.K. 2014. Green tea and type 2 diabetes: A review. *Journal Integrative Med Res*. 3(1): 4-10.

Peana, A.T., D'Aquila, P.S., Panin, F. 2002. Anti-inflammatory activity of linalool and linalyl acetate constituents of essential oils. *Journal Phytomedicine*. 9:721-6

Pires D. E. V., Blundell T.L., Ascher D. B. 2015. pkCSM Predicting Small-Molecule Pharmacokinetic And Toxicity Properties Using Graph-Based Signature. Journal Of Medicinal Chemistry. 58(1): 4066-4072.

Pujiastuti, M.W. dan Sanjaya, I.G.M. 2017. Penentuan Aktivitas Senyawa Turunan Mangiferin Sebagai Antidiabetes pada Diabetes Mellitus Tipe 2 Secara In Silico. *Journal of Chemistry* 6(3): 172-176.

Rao, P.V. dan Gan, S.H. 2014. Cinnamon: A Multifaced Medicinal Plant. *Journal Evidence Based Complementary and Alternative Medicine*: 1-12, 642942

Rollando, R. 2018. Pendekatan Struktur Aktivitas dan Penambatan Molekul Senyawa 2-iminoethyl 2-(2-(1-hydroxypentan-2-yl) phenyl) acetate Hasil Isolasi Fungi Endofit Genus Fusarium sp pada Enzim β-ketoasil-ACP KasA Sintase dan Enzim Asam Mikolat Siklopropana Sintase. *Pharmaceutical Journal of Indonesia* 3(2): 45-52.

Sangal A. 2011. Role of cinnamon as beneficial antidiabeticfood adjunct. Advances in Applied Science Research. 2(4): 440-450.

Santoso, B., Hanwar, D., Suhendi, A. 2015. Predikasi 3D Molekular Aktivitas Turunan Senyawa Polihidroksi Zerumbon terhadap Glikogen Sintase Kinase-3 Beta (GSK-3β) Menggunakan DOCK6. 2nd Univ. Res. Coloquium 2015 1–7.

Sari I. W., Junaidin, Partiwi D. 2020. Studi Molecular Docking Senyawa Flavonoid Herba Kumis Kucing (*Orthosiphon stamineus* B.) Pada Alfa-Glukosidase Sebagai Antidiabetes Tipe 2. *Jurnal Farmagazine*. 7(2): 54-60.

Shan B et al. 2007. Antibacterial Properties and Major Bioactive Components of Cinnamon Stick (Cinnamomum Burmannii): Activity Against Foodborne Pathogenic Bacteria. *Journal Agriculture Food Chemistry* 55(14):5484-5490.

Shao Z., Lianna G., Kyriakopoulou, Ito S. 2020. Methods of Therapeutic Drug Monitoring Including Pharmacogenetics. Handbook of Analytical Separations. 7: 1-354.

Singh, G.S., Maurya, M.P., Delampasona, Catalan. 2007. A Comparison of Chemical, Antioxidant and Antimicrobial Studies of Cinnamon Leaf and Bark Volatile Oils, Oleoresins and Their Constituents. *Journal of Food and Chemical Toxicology* 45 (1), 16501661.

Sivapriya T. dan John S. 2015. Cinnamon: Potential Role in the Prevention of Type 2 Diabetes Mellitus. International Journal of Nutrition and Diabetics. 3(1): 45-54.

Stefek, M., Soltesova, P.M., Majekova, M., Rechlin, C., Heine, A., dan Klebe, G. 2015, Identification of Novel Aldose Reductase Inhibitors Based on Carboxymethylated Mercapto-Triazino-Indole Scaffold, *Journal Medicinal Chemistry*. 58(6):2649-2657.

Suhadi, A., Rizarullah, Feriyani. 2019. Simulasi Docking Senyawa Aktif Daun Binahong Sebagai Inhibitor Enzyme Aldose Reductase. *Jurnal Penelitian Kesehatan* 6(2): 55-65.

Sun, Jia., Chao Q., Wang Y., Huang H., Zhang M., Li H., Zhang Y., Wang Y., Zou W. 2016. PTP1B, A Potential Of Type 2 Diabetes Mellitus. Molecular Biology. 5(4):1-6.

Susanti, N.M.P., Saputra, D.P.D., Hendrayati, P.L., Parahyangan, I.P.D.N, Swandari, I.A.D.G. 2018. *Molecular Docking* Sianidin dan Peonidin Sebagai Antiinflamasi pada Aterosklerosis Secara *in Silico*. *Jurnal Farmasi Udayana*. 7(1): 28-33.

Syahputra, G.L., Ambarsari, T., Sumaryada. 2014. Simulasi Docking Kurkumin Etanol, Bisdemetoksikurkumin dan Analoginya Sebagai Inhibitor Enzim 12-Lipoksigenase. *Jurnal Biofisika*. 10(1):55-67.

Tan M. V., Rorong J. A., Sangi M. S. 2018. Fotoreduksi Besi Fe^{3+} Menggunakan Ekstrak Daun Kayu Manis (*Cinnamomum burmanii*). Jurnal Ilmiah Sains. 18(1): 1-9.

Tambunan, Usman, S.F., Noval, A., Arli, A.P. 2012. In Silico design of cyclic peptides as influenza Virus, a Subtype H1N1 neuraminidase Inhibitor. *African Journal of Biotechnology*. 11(52):11474-11491.

Tong, J.C., Ranganathan, S. 2013. *Computer-aided vaccine design*. Oxfor: Woodhead

Toulis *et al*. 2020. Glucokinase Activators for Type 2 Diabetes: Challenges and Future Developments. *Drugs*. 80:467-475.

Ulinnuha, M. 2018. Pasca Panen Kayu manis. 3 hlm. *https://alat-uji.com/pasca-panen-kayu-manis* di akses 13 November 2020.

Vijayakumar, K., Prasanna, B., Rengarajan, R.L., Rathinam, A., Velayuthaprabhu, S., Vijaya, A.A. 2020. Anti-diabetic and hypolipidemic effects of Cinnamon cassia bark extracts: an in vitro, in vivo, and in silico approach. *Arch Physiol Biochem*: 1-11.

Vistoli, Giulio, Pedretti, A., Mazzolari, A. 2010. VEGA: A versatile program to convert, handle and visualize molecular structure on Windows-based PCs. *Journal of Molecular Graphics and Modelling.* 21(1): 47-49.

Waiting, D. 2010. Oral bioavailability of P-glycoprotein substrate drugs do not differ between ABCB 1-1 D and ABCB 1 wild type dogs. J Vet Pharmacol Ther. 33(5):453–460.

Widodo A. 2019. Prediksi Farmakokinetik, Toksisitas, dan Aktivitas Enzim Protease HIV-1 Inhibitor dari Daun J. gendarussa. Journal of Pharmacy Science and Practice. 6(1): 1-5.

Widyasari E. M., Sriyani M. E., Daruwati I., Halimah I., Nuraeni W. 2019. Karakteristik Fisiko-kimia senyawa bertanda 99m Tc-kuersetin. *Jurnal Sains dan Teknologi Nuklir Indonesia*. 20(1): 9-18.

World Health Organization. 2016. *Global Report on Diabetes*. WHO Library Cataloguing-in Publication Data

Xu R.A., Gu E.M., Liu T.H., Ou-yang Q.G., Hu G.X., Cai J.P. 2018. The effects of cytochrome P450 2C19 polymorphism on the metabolism of voriconazole in vitro. Journal Infection and Drug Resistance. 11: 2129-2135.

Yamamoto, Y. 2006. Antihyperlipidemia effect of quercetin in rats fed with high fat high sucrose diet. *Biosci Biotechnol Biochem*. 70

Yamashita, Y., Wang, L., Nanba, F., Toda, T., Ashida, H. 2016. Procyanidin Promotes Translocation of Glucose Transporter 4 in Muscle of Mice through Activation of Insulin and AMPK Signaling Pathways. *Journal Plos One*. 11(9): 1-19.

Yan A., Wang Z., Cai Z. 2008. Prediction of Human Intestinal Absorption by GA Feature Selection and Support Vector Machine Regression. Int J Mol Sci. 9(10): 1961-1976.

Yusof NS. 2012. Phytochemical Studies and Biological Activity of Cinnamomum Microphyllum. *Tesis*. Faculty of Resource Science and Technology. Universiti Malaysia 51. Sarawak.

Zhou J. 2010. Multi-Drug Resistance in Cancer. Amerika: Humana Press.