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DAFTAR PUSTAKA

Adhianata, H., 2012, *Uji Aktivitas Senyawa Antimikroba Ekstrak Mikroalga (Tetraselmis chuii) Metode Sonikasi*, Fakultas Teknologi Pertanian Universitas Brawijaya, Malang.

Aini, N., Purwono, B., Tahir, I., 2007, Analisis Hubungan Struktur – Aktivitas Antioksidan dari Isoeugenol, Eugenol, Vanilin, dan Turunannya, Indonesian Journal of Chemistry, 7(1), 61-66.

Ajiboye, T. O., Yakubu, M. T., & Oladiji, A. T., 2011, *Electrophilic, Free Radical and Reactive Oxygen Species Scavenging and Detoxification Potentials of Lophiraalata Stem Bark Extract*, Free Radicals and Antioxidants, 1(3), 40–47.

Amarowicz, R., Shahidi, F., 2017, *Antioxidant activity of broad bean seed extract and its phenolic composition*, Journal of Functional Foods 38, 656–662.

Amic´, D., Davidovic´-Amic´, D., Besˇlo, D., Trinajstic´, N., 2003, *Structure–radical scavenging activity relationships of flavonoids*, Croat. Chem. Acta 76, 55–61.

Anggraeni, O. N., Fasya, A. G., Abidin, M., Hanapi, A., 2014, *Uji Aktivitas Antioksidan Fraksi Etil Asetat, Kloroform, Petroleum Eter, dan N-heksana Hasil Hidrolisis Ekstrak Metanol Mikroalga Chlorella sp.*, ALCHEMY, Vol. 3 No. 2, hal 173-188.

Backer, C.A., Bakhuizen van den Brink, R.C., 1965, *Flora of Java, Spermatophytes Only*, I, N.V.P. Noordhoff-Groningen-The Netherland.

Blois, M. S., 1958, *Antioxidant Determinations by the Use of a Stable Free Radical*, Nature, 181(4617), 1199-1200.

Bondet, V., Brand-Williams, W., & Berset, C., 1997, *Kinetics and Mechanisms of Antioxidant Activity using the DPPH.Free Radical Method*, LWT - Food Science and Technology, 30(6), 609–615.

Chakraborty, S., & Mueen Ahmed, K. K., 2011, *Introducing a New Journal: Free Radicals Antioxidants*, Free Radicals and Antioxidants, 1(1), 1–3.

Chang, C.L., Shen, C.C., Ni, C.L., and Chen, C.C., 2012, *A new sesquiterpene from E.scaber*. Hiromitsu J., 65: 49-56.

Cholbi, M. R., Paya, M., Alcaraz, M. J., 1990, *Inhibitory effects of phenolic compounds on CCL3-induced microsomal lipid peroxidation*, Experientia 47: 195-199.

Cai, W., Chen, Y., Xie, L., Zhang, H. and Hou, C., 2014, *Characterization and density functional theory study of the antioxidant activity of quercetin and*

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Aktivitas Penangkapan Radikal DPPH Senyawa Flavonoid dalam Daun Tapak Liman serta Analisis Hubungan Struktur-Aktivitas Antioksidan
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its sugar-containing analogues, European Food Research and Technology, *238*(1), pp.121-128.

Contreras-Guzman, E.S., Strong, F.C., 1982, *Determination of tocopherols (Vitamin E) by reduction of cupric ion*, JAOAC 65:1215–1222.

Cotelle, N., 2001, *Role of flavonoids in oxidative stress.* Curr. Top. Med. Chem. 1, 569–590.

Daisy, P., Vargese, L., Priya, C.E., 2009b, *Comparative studies on the different leaf extracts of Elephantopus scaber*, on STZ-induced diabetic rats. Eur. J. Sci. Res, 32 (4), 304–313.

De Rijke, E., Out, P., Niessen, W. M. A., Ariese, F., Gooijer, C., & Brinkman, U. A. T., 2006, *Analytical separation and detection methods for flavonoids.* Journal of Chromatography A, *1112(1-2), 31–63.*

Deng, J., Cheng, W., Yang, G., 2011, *A novel antioxidant activity index (AAU) for natural products using the DPPH assay*, Food Chemistry 125 (4), 1430–1435.

Depkes, 2006, *Kotranas*, Departemen Kesehatan RI, Jakarta.

Devasagayam, T.P.A., Tiak, J.C., Boolor, K.K, Sane, K.S., Gaskadbhi, S.S., & Lele, R.D., 2004, *Free Radicals and Antioxidants in Human Health: Current Status and Future Prospects*, Japi, 52, 4.

Di Carlo, G., Mascolo, N., Izzo, A. A., Capasso, F., 1999, *Flavonoids: old new aspects of a class of natural therapeutic drugs*, Life Sciences, 65, 337-353.

Duraipandiyan, V., Ignacimuthu, S., 2011, *Antifungal activity of traditional medicinal plants from Tamil Nadu, India*, Asian Pac. J. Trop. Biomed. 1, S204–S215.

Dureja, A., & Dhiman, K., 2012, *Free radical scavenging potential and total phenolic and flavonoid content of Ziziphus mauritiana and Ziziphus nummularia fruit extracts*, International Journal of Green Pharmacy, 6(3), 187.

Farkas, O., Jakus, J., Heberger, K., 2004, *Quantitative Structure- Antioxidant Activity Relationships of Flavonoid Compound*, Molecules, 9, 1079-1088.

Fried, B., & Sherma, J., 1994, *Thin Layer Chromatography Techniques and Application*, 3rd edition, Revise and Expended, Marcel Dekker Inc, New York.

Gandjar, I. G., & Rohman, A., 2007, *Kimia Farmasi Analisis*, UGM Press, Yogyakarta.

UNIVERSITAS
GADJAH MADA
**Aktivitas Penangkapan Radikal DPPH Senyawa Flavonoid dalam Daun Tapak Liman serta Analisis Hubungan
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Universitas Gadjah Mada, 2020 | Diunduh dari http://etd.repository.ugm.ac.id/

Gangarao, B., Rao, Y.V., Pavani, S., Dasari, V.S.P., 2012, *Qualitative and quantitative phytochemical screening and in vitro antioxidant and antimicrobial activities of Elephantopus scaber Linn*, Recent Res. Sci. Technol, 4 (4), 15–20.

Gao, Z., Huang, K., Yang, X., Xu, H., 1999, *Free radical scavenging and antioxidant activities of flavonoids extracted from the radix of Scutellaria baicalensis Georgi*, Biochim Biophys Acta 472: 643-650

Guo, F., Liang, Q.L., Min, Z.D., 2002, *Study on the flavonoids from Elephantopus scaber*, Chin. Tradit. Herb. Drugs, 33:303-304.

Harborne, J.B., 1986, *Nature, Distribution and Function of Plant Flavonoids*, dalam Cody, V., Middleton E., Harborne, J.B., Alan, R., (Eds.), *Plant Flavonoids in Biology and Medicine*, Liss, New York.

Harmita, 2004, *Petunjuk Pelaksanaan Validasi Metode dan Cara Perhitungannya*, Majalah Ilmu Kefarmasian, Vol. I, No 3, 117-135.

Heim, K. E., Tagliaferro, A. R., & Bobilya, D. J., 2002, *Flavonoid antioxidants: chemistry, metabolism and structure-activity relationships*, The Journal of Nutritional Biochemistry, 13(10), 572–584.

Hernandez-Campos, A., Velazquez-Martinez, I., Castillo, R., Lopez-Vallejo, F., Jia, P., Yu, Y., Giulianotti, M.A., Medina-Franco, J.L., 2010, *Docking of protein kinase B inhibitors: Implications in the structure-based optimization of a novel scaffold*, Chem. Biol. Drug, 76, 269-276.

Hiradeve, S.M., Rangari, V.D., 2014, *Elephantopus scaber Linn.: A review on its etnomedical, phytochemical dan pharmacological profile*, Journal of Applied Biomedicine, 12(2), 49-61.

Hirano, R., Sasamoto, W., Matsumoto, A., Itakura, H., Igarashi, O., Kondo, K., 2001, *Antioxidant ability of various flavonoid against DPPH radicals and LDL oxidation*, J Nutr Sci Vitamino (Tokyo) 47: 357-362.

Hisham, A., Pieters, L., Claeys, M., Dommisse, R., Berghe, D.V., and Vlietinck, A., 1992, *Guainolide glucosisdes from E.scaber*, Planta Med., 58: 48: 474-475.

Hu, J. P., Calomme, M., Lasure, A., De Bruyne, T., Pieters, L., Vlietinck, A., & Vanden Berghe, D. A., 1995, *Structure-activity relationship of flavonoids with superoxide scavenging activity*, Biological Trace Element Research, 47(1-3), 327-331.

Hung, H.F., Hou, C.W., Chen, Y.L., Lin, C.C., Fu, H.W., Wang, J.S., Jeng, K.C., 2011, *Elephantopus scaber inhibits lipopolysaccharide-induced liver injury by suppression of signaling pathways in rats*, Am. J. Chin. Med, 39 (4), 705–717.

UNIVERSITAS
GADJAH MADA
**Aktivitas Penangkapan Radikal DPPH Senyawa Flavonoid dalam Daun Tapak Liman serta Analisis Hubungan
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Indriani, N., 2018, *Aktivitas Penangkapan Radikal DPPH (2,2-difenil-1-pikrilhidrazil) Fraksi-fraksi Ekstrak Etanolik Daun Pecut Kuda (Stachytarpheta jamaicensis)*, Skripsi, Fakultas Farmasi Universitas Gadjah Mada, Yogyakarta.

Irianti, T.T., Sugiyanto, Nuranto, S., Kuswandi, 2017, *Antioxidant*, Penerbit Grafika Indah, Yogyakarta.

Jabeen, E., Janjua, N.K., Ahmed, S., Murtaza, I., Ali, T., Hameed, S., 2017, *Radical scavenging propensity of Cu 2+, Fe 3+ complexes of flavonoids and in-vivo radical scavenging by Fe 3+-primuletin*, Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 171, 432–438.

Jenny, A., Saha, D., Paul, S., Dutta, M., Uddin, M.Z., Nath, A.K., 2012, *Antibacterial activity of aerial part of extract of Elephantopus scaber Linn*, Bull. Pharm. Res, 2 (1), 38–41.

Jovanovic, S. V., Steenken, S. Simic, M.G., Hara, Y., 1998, in: C. Rice-Evans, L. Packer (Eds.), Flavonoids *in health and disease*, Marcel Dekker Inc., New York, 137-161.

Justino, G. C., Santos, M. R., Cnario, S., Borges, C., Florencio, M. H., Mira, L., 2004, *Plasma quercetin metabolites: structure-antioxidant activity relationship*, Biochemistry and Biophysics 432, 109-121.

Kharat, S. N., & Mendhulkar, V. D. 2016, *Synthesis, characterization and studies on antioxidant activity of silver nanoparticles using Elephantopus scaber L. leaf extract*, Materials Science and Engineering: C, *62, 719–724.*

Kedare, S. B., & Singh, R. P., 2011, *Genesis and development of DPPH method of antioxidant assay,* Journal of Food Science and Technology, 48(4), 412–422.

Kubo, I., Masuoka, N., Xiao, P., & Haraguchi, H., 2002, *Antioxidant Activity of Dodecyl Gallat,* Journal of Agricultural and Food Chemistry, *50(12), 3533–3539.*

Kumar, S., Jyotirmayee, K., Sarangi, M., 2013, *Thin Layer Chromatography: A Tool of Biotechnology for Isolation of Bioactive Compounds from Medical Plants,* International Journal of Pharmaceutical Sciences Review and Research, 18, 126-132.

Kuncahyo, I., Sunardi, 2007, *Uji Aktivitas Antioksidan Ekstrak Belimbing Wuluh (Averrhoa bilimbi, L.) terhadap 1,1-diphenyl-2-picrylhidrazyl (DPPH)*, Seminar Nasional Teknologi 2007, Hal. 1-9.

Kushwah, A.S., Kaurm P., & Singh, R., 2013, *In-Vitro Antioxidant Potential and Phytochemical Screening of Tectona grandis Linn. Leaves*, Department of

UNIVERSITAS GADJAH MADA
Aktivitas Penangkapan Radikal DPPH Senyawa Flavonoid dalam Daun Tapak Liman serta Analisis Hubungan Struktur-Aktivitas Antioksidan
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Pharmacology Research Laboratory ASBASJSM College of Pharmacy, India.

Li, C., Du, H., Wang, L., Shu, Q., Zheng, Y., Xu, Y., Zhang, J., Yang, R., and Ge, Y., 2009, *Flavonoid composition and antioxidant activity of tree Peony (Paeonia Section Moutan) yellow flowers*, Journal of Agricultural and Food Chemistry 57**:**8496-8503**.**

Li, K., Fan, H., Yin, P., Yang, L., Xue, Q., Li, X., Sun, L., Liu, Y., 2017, *Structure-activity relationship of eight high content flavonoids analyzed with a preliminary assign-score method and their contribution to antioxidant ability of flavonoids-rich extract from Scutellaria baicalensis shoots*, Arabian Journal of Chemistry.

Li, Y., Song, Q., Chen, P., Zhao, W., Wang, S. S., 2006, *Synthesis of hidroxystilbene derivates and their antioxidant actvity by DPPH method*, Chem. Res. Chinnese, **22 (**6), 742-746.

Lin, C.C., Tsai, C.C., Yen, M.H., 1995, *The evaluation of hepatoprotective effects of Taiwan folk medicine 'Teng- Khia-U'*, J. Ethnopharmacol, 45, 113–123.

Lluis, J. M., Morales, A., 2008, *Hipoxia y reperfusion. In: radicales libres y stress oxidative*, Aplicaciones medicas. Manual moderno, Mexico, D.F, pp. 169-182.

Markham, K. R., 1988, *Cara Mengidentifikasi Flavonoid*, Bandung, Penerbit ITB.

Marston A., Hotettmann K., 2006, *Separation and Qualification of Flavonoids, Andersen OM, Markham KR, editor, Flavonoid: Chemistry, Biochemistry, and Applications*, CRS Press, Boca Raton.

Masahiro, N., Masahiro, K., Minemitsu. N., Akio. K., Yoshimi. N., 2005, *Non-reductive Scavenging of 1, 1-Diphenyl-2-picrylhydrazyl (DPPH) by Peroxyradical: A Useful Method for Quantitative Analysis of Peroxyradical,* Chem Pharm Bull 53(6):714–716.

Matheos, H., Runtuwene, M. R. J., Sudewi, S., 2014, *Aktivitas Antioksidan dari Ekstrak Daun Kayu Bulan (Pisonia alba)*, PHARMACON Jurnal Ilmiah Farmasi UNSRAT, Vol. 3 No. 3.

Melodita, R., 2011, *Identifikasi Pendahuluan Senyawa Fitokimia dan Uji Aktivitas Antioksidan Ekstrak Daun Cintau Hitam Dengan Perlakuan Jenis Pelarut*, Skripsi, Fakultas Teknologi Pertanian, Universitas Brawijaya, Malang.

Molyneux, P., 2004, *The Use of the Stable Free Radical Diphenylpicryl-hidrazyl (DPPH) for Estimatng Antioxidant Activity*, Songklanakarin Journal of Science and Technology, 211-219.

UNIVERSITAS
GADJAH MADA
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Universitas Gadjah Mada, 2020 | Diunduh dari http://etd.repository.ugm.ac.id/

Naeimi, A. F., Alizadeh, M., 2017, *Antioxidant properties of flavonoid fisetin: an updated review of in vivo and in vitro studies*, Trends in Food Science and Techology 70, 34-44.

Nantasenamat, C., Isarankura-Na-Ayudhya, C., Naenna, T., & Prachayasittikul, V. 2008, *Prediction of bond dissociation enthalpy of antioxidant phenols by support vector machine*, Journal of Molecular Graphics and Modelling, 27(2), 188–196.

Niki, E., 2010, *Assessment of Antioxidant Capacity in vitro and in vivo*, Free Radical Biology and Medicine, 49(4), 503-515.

Patel, V. R., Patel, P. R., & Kajal, S. S., 2010, *Antioxidant Activity of Some Selected Medicinal Plants in Western Region of India*, Advances in Biological Research, 4(1), 23-26.

Plumb, G. W., Price, K. R., Williamson, G., 1999, *Antioxidant propertie of flavonol glycosides from tea*, Redox Rep 4: 13-16.

Pokorny, J., 2001, *Introduction, in* Pokorny, J.M Yanishlieva, N. And Gordon, M., (Eds.), *Antioxidant in Food: Practical Application*, CRC Press, New York.

Prabowo, A. H., 2009, *Produk Reaksi antar* Rajendran, M., Ravichandran, R. and Devapiriam, D., 2013. Electronic description of few selected flavonoids by theoretical study. *International Journal of Computer Applications*, *77*(4). *a Benzaldehid dan Urea dalam Suasana Asam dengan Katalis Asam Klorida*, Skripsi, Fakultas Farmasi UGM, Yogyakarta.

Prakash, A., 2001, *Antioxidant activity*, Med Lab Anal Prog 19(2):1–6.

Pramono, S., 2005, *Penanganan pasca panen dan pengaruhnya terhadap efek terapi obat alam*, Seminar Pokjanan TOI XXVIII, Balai Penelitian Tanaman Rempah dan Obat, Bogor, hal. 1-6.

Pramono, S., Hertiani, T., Mulyani, S., 2012, *Bahan Ajar Galenika*, Departemen Biologi Farmasi, Universitas Gadjah Mada, Yogyakarta.

Pramono, S., 2019, *Kuliah Galenika*, Fakultas Farmasi UGM, Yogyakarta.

Pranowo, H. D., 2016, *Pengantar Kimia Komputasi*, Kementrian Riset, Teknolgi, dan Pendidikan Tinggi UNNES, Semarang.

Prior, Ronald L., Wu, Xianli, & Schanich, Karen, 2005, *Standardized Methods for the Determinatiion of Antioxidant Capacity and Phenolic in Foods and Dietary Supplements,* Department of Agriculture Arkansas Children's Nutrition Center, New Jersey.

Pujimulyani, D., Raharjo, S., Marsono, Y., Santoso, U., 2010, *Pengaruh Blanching Terhadap Aktivitas Antioksidan, Kadar Fenol, Flavonoid, dan*

UNIVERSITAS GADJAH MADA
Aktivitas Penangkapan Radikal DPPH Senyawa Flavonoid dalam Daun Tapak Liman serta Analisis Hubungan Struktur-Aktivitas Antioksidan
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Universitas Gadjah Mada, 2020 | Diunduh dari http://etd.repository.ugm.ac.id/

Tanin Terkondensasi Kunir Putih (Curcuma mangga Val.), Agritech Vol 30, Yogyakarta.

Purnomo, Hari, 2019, *Hubungan Kuantitatif Struktur dan Aktivitas, Edisi I,* Rapha Publishing, Yogyakarta.

Putri, N. K., 2019, *Aktivitas Penangkapan Radikal 2,2-difenil-1-pikrilhidrazil Ekstrak Etanol Herba Patikan Kebo (Euphorbia hirta L.) dan Fraksi Air Serta Fraksi Air Terhidrolisis Asam*, Skripsi, Fakultas Farmasi UGM, Yogyakarta.

Queiroz Ferreira, R., Greco, S.J., Delarmelina, M., Weber, K.C., 2015, *Electrochemical quantification of the structure/antioxidant activity relationship of flavonoids*, Electrochimica Acta 163, 161–166.

Rahmawati, I., Rejeki, E.S., Sardjiman, 2010, *Antioxidant Activity Test of 2,6-bis-(2'-furilidyn)-Cyclohexanone, ; 2,5-bis-(2'-furilidyn)-Cyclopentanone; 1,5-Difuryl-1,4-pentadien-3-one*, Indonesian Journal of Cancer Chemoprevention, **1**(1), 38-42.

Rajendran, M., Ravichandran, R. & Devapiriam, D., 2013, *Electronic description of few selected flavonoids by theoretical study*, International Journal of Computer Applications, *77*(4).

Ratty, A. K., Das, N. P., 1988, *Effects of flavonoids on nonenzymatic lipid peroxidation: structure-activity relationship*, Biochem Med Metab Biol 39: 69-79.

Rohaeti, E., Heryanto, R., Rafi, M., Wahyuningrum, A., Darusman, L.K., 2011, *Prediksi Kadar Flavonoid Total Tempuyung (Sonchus arvenis L.) Menggunakan Kombinasi Spektroskopi IR dengan Regresi Kuadrat Terkecil Parsial*, Jurnal Kimia 5(2), Institut Pertanian Bogor, Bogor.

Rohman, A., 2006, *Pelacak Antioksidan Serta Penentuan Kandungan Fenolik dan Flavonoid Total Buah Mengkudu (Morinda citrifolia L.*), *Tesis*, Fakultas Farmasi Universitas Gadjah Mada, Yogyakarta.

Sadilova, E., Stintzing, E.C., and Carle, R., 2006, *Thermal degradation of acylated and nonacylated anthocyanins*, Journal of Food Science **71:** C504-C512.

Sandoval-Yañez, C., Mascayano, C., Martínez-Araya, J.I., 2017, *A theoretical assessment of antioxidant capacity of flavonoids by means of local hyper–softness*. Arabian Journal of Chemistry.

Sani, R. N., Nisa, F. C., Andriani, R. D., Maligan, J. M., 2014, *Analisis Rendemen dan Skrining Fitokimia Ekstrak Etanol Mikroalga Laut Tetraselmis chuii*, Jurnal Pangan dan Agroindustri Vol 2 No. 2, 121-126.

UNIVERSITAS
GADJAH MADA
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Universitas Gadjah Mada, 2020 | Diunduh dari http://etd.repository.ugm.ac.id/

Sankar, V., Kalirajan, R., Sales, S.V., Raghuraman, S., 2001, *Antiinflammatory activity of Elephantopus scaber in albino rats*, Indian J. Pharm. Sci, 63, 523–525.

Sankaranarayanan, S., Bama, P., Ramachandran, J., Jayasimman, R., Kalaichelvan, P.T., Deccaraman, M., Vijayalakshimi, M., Visveswaran, M., Chitibabu, C.V., 2010, *In vitro platelet aggregation inhibitory effect of triterpenoid compound from the leaf of Elephantopus scaber Linn*, Int. J. Pharm. Pharm. Sci, 2 (2), 49–51.

Sembiring, H. B., Lenny, S., Marpaung, L., 2016, *Aktivitas Antioksidan Senyawa Flavonoida Dari Daun Benalu Kakao (Dendrophthoe pentandra (L.) Miq.)*, Chimica et Natura Acta Vol. 4 No 3: 117-122.

Seyoum, A., Asres, K., & El-Fiky, F. K., 2006, *Structure-radical scavenging activity relationship of flavonoids*, Phytochemistry, 67 (18), 2058-2070.

Sheeba, K.O., Wills, P.J., Latha, B.K., Rajalekshmy, R., Latha, M.S., 2012, *Antioxidant and antihepatotoxic efficacy of methanolic extract of Elephantopus scaber Linn in Wistar rats*, Asian Pac. J. Trop. Dis. 2, S904–S908.

Singh, D.K., Luqman, S., Mathur, A.K., 2015, *Botros -Lawsonia inermis L. – a commercially important primaeval dying and medicinal plant with diverse pharmacological activity: a review*, Industrial Crops and Products. 65, 269–286.

Urbaniak, A., Szelag, M., Molski, M., 2013, *Theoretical investigation of sterochemistry and solvent influence on antioxidant activity of ferulic acid*, Computational and Theoretical Chemistry, 1012, 33-40.

Utama, D. G. A., 2012, *Uji Daya Tangkap Radikal 2,2-difenil-1-pikrilhidrazil dan Daya Reduksi Senyawa Tetrahidropentagamavunon-1 (THPGV-1)*, Skripsi, Fakultas Farmasi UGM, Yogyakarta.

van Acker, S.A., de Groot, M.J., van den Berg, D.J., Tromp, M.N., Donne´-Op den Kelder, G., van der Vijgh, W.J., Bast, A., 1996, *A quantum chemical explanation of the antioxidant activity of flavonoids*, Chem. Res. Toxicol. 9, 1305–1312.

Wen, L., Zhao, Y., Jiang, Y., Yu, L., Zeng, X., Yang, J., 2017, *Identification of a flavonoid C-glycoside as potent antioxidant*, Free Radical Biology and Medicine 110, 92–101.

Winarti, Sri, 2010, *Makanan Fungsional*, Graha Ilmu: Surabaya.

Wolf, G., 2002, *The effect of β-carotene on lung and skin carcinogenesis, Carcinogenesis* 23 : 1263-1265.

UNIVERSITAS
GADJAH MADA
**Aktivitas Penangkapan Radikal DPPH Senyawa Flavonoid dalam Daun Tapak Liman serta Analisis Hubungan
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Universitas Gadjah Mada, 2020 | Diunduh dari http://etd.repository.ugm.ac.id/

Yan, J., Zhang, G., Hu, Y., Ma, Y., 2013, *Effect of luteolin on xanthine oxidase: Inhibition kinetics and interaction mechanism merging with docking simulation,* Food Chemistry, 141(4), 3766-3773.

Zhang, H.B., Kong, L.J., Hang, Q.L., Jiang, J.H., and Min, Z.D., 2011, *Studies on triterpenes from E.scaber,* Chinese J. Exp. Traditional Med. Formulae, 3: 101-103.

Zuo, A., Wan, C. P., Zheng, X., 2016, *Chemical Constituents of Elephantopus scaber,* Chemistry of Natural Compounds, Vol. 52, No.3.