

REFERENCES

- Aharoni, A., Giri, A.P., Verstappen, F.W.A., Berteau, C.M., Sevenier, R., Sun, Z., Jongsma, M.A., Schwab, W., and Bouwmeester, H.J., 2004, Gain and Loss of Fruit Flavor Compounds Produced by Wild and Cultivated Strawberry Species, *Plant Cell*, 16, 3110–3131.
- Amelia, Z.R., Supriyanto, and Wulandari, A.S., 2019, Budidaya Tanaman *Melaleuca alternifolia* (Maiden & Betche) Cheel untuk Produksi Minyak Atsiri Tea Tree, *Thesis*, Department of Forestry IPB, Bogor.
- Assmann, C.E., Cadoná, F.C., Bonadiman, B.S.R., Dornelles, E.B., Trevisan, G., and Cruz, I.B.M., 2018, Tea Tree Oil Presents in vitro Antitumor Activity on Breast Cancer Cells without Cytotoxic Effects on Fibroblasts and on Peripheral Blood Mononuclear Cells, *Biomed. Pharmacother.*, 103, 1253–1261.
- Baker, G., Lowe, R, and Southwell, I., 2000, Comparison of Oil Recovered from Tea Tree Leaf by Ethanol Extraction and Steam Distillation, *J. Agric. Food Chem.*, 48, 4041-4043.
- Bhayatti, S., Bogar, C., Bhat, K., and Dandagi, G, 2018, Evaluation of Anticancer Activity of *Melaleuca Alternifolia*. (i. e. tea tree oil) on Breast Cancer Cell Line (MDA MB) - An in vitro study, *IP Int. J. Med. Microbiol. Trop. Dis.*, 4(3), 176-180.
- Bouvier, F., Rahier, A., and Camara, B., 2005, Biogenesis, Molecular Regulation and Function of Plant Isoprenoids, *Prog. Lipid Res.*, 44, 357–429.
- Carson, C.F., Hammer, K.A., and Riley, T.V., 2006, *Melaleuca alternifolia* (Tea Tree) Oil: A Review of Antimicrobial and Other Medicinal Properties, *Clin. Microbiol. Rev.*, 19, 50.
- Cava, C. and Castiglioni, I., 2020, Integration of Molecular Docking and in vitro Studies: A Powerful Approach for Drug Discovery in Breast Cancer, *Appl. Sci.*, 10, 1–18.
- Chan, H.C.S., Shan, H., Dahoun, T., Vogel, H., and Yuan, S., 2019, Advancing Drug Discovery via Artificial Intelligence, *Trends Pharmacol. Sci.*, 40, 592–604.
- Chang, E.C., Frasor, J., Komm, B., and Katzenellenbogen, B.S., 2006, Impact of Estrogen Receptor β on Gene Networks Regulated by Estrogen Receptor α in Breast Cancer Cells, *Endocrinology.*, 147, 4831–4842.
- Clamp, A., Danson, S., and Clemons, M., 2003, Hormonal and Genetic Risk Factors for Breast Cancer, *Surg. J. R. Coll. Surg. Edinb. Irel.*, 1(1), 23-31.

- Colton, R.T., and G.J. Murtagj, 1999, *Cultivation of Tea Tree*, 9, Harwood Academic Publishers, Amsterdam.
- Cui, W., Aouidate, A., Wang, S., Yu, Q., Li, Y., and Yuan, S., 2020, Discovering Anti-Cancer Drugs via Computational Methods, *Front. Pharmacol.*, 11, 733.
- Degenhardt, J., Köllner, T.G., and Gershenzon, J., 2009, Monoterpene and Sesquiterpene Synthases and the Origin of Terpene Skeletal Diversity in Plants, *J. Phytochem.*, 70, 1621-1637.
- Eguchi, Hidetaka, Tanimoto, Keiji, Omoto, Yoko, Hayashi, S.-I., Eguchi, H, Tanimoto, K, Yoshida, T., Omoto, Y, Inoue, A., Yosida, N., and Yamaguchi, Y., 2003, The Expression and Function of Estrogen Receptor Alpha and Beta in Human Breast Cancer and its Clinical Application, *Endocr.-Relat. Cancer*, 10, 193-202.
- EIRI, 2015, *Essential Oils Process & Formulations Handbook*, Engineers India Research Institute, Delhi.
- Gautam, N., Mantha, A.K., and Mittal, S., 2014, Essential Oils and Their Constituents as Anticancer Agents: A Mechanistic View, *Biomed Res. Int.*, 2014, 1-23.
- Greay, S.J., Ireland, D.J., Kissick, H.T., Levy, A., Beilharz, M.W., Riley, T. V., and Carson, C.F., 2010, Induction of Necrosis and Cell Cycle Arrest in Murine Cancer Cell Lines by *Melaleuca alternifolia* (Tea Tree) Oil and Terpinen-4-ol, *Cancer Chemother. Pharmacol.*, 65, 877–888.
- Harrewijn, P., 2002, Natural Terpenoids as Messengers. A Multidisciplinary Study of Their Production, Biological Functions and Practical Applications, *Ann. Bot.*, 90, 299–300.
- Hayashi, S-I, Eguchi, H., Tanimoto, K., Yoshida, T., Omoto, Y., Inoue, A., Yosida, N., and Yamaguchi, Y., The Expression and Function of Estrogen Receptor alpha and beta in Human Breast Cancer and its Clinical Application, *Endocr.-Relat. Cancer*, 10, 193-202.
- Holliday, I., 2004, *Melaleuca: A Field and Garden Guide*, 2, Reed New Holland Publishers, Holland.
- Homer, L.E., Leach, D.N., Lea, D., Lee, L.S., Henry, R.J., and Baverstock, P.R., 2000, Natural Variation in the Essential Oil Content of *Melaleuca alternifolia* Cheel (Myrtaceae), *Biochem. Syst. Ecol.*, 28, 367-382.
- Huynh, Q., Phan, T.D., Thieu, V.Q.Q., Tran, S.T., and Do, S.H., 2012, Extraction and Refining of Essential Oil from Australian Tea Tree, *Melaleuca alterfornia*, and the Antimicrobial Activity in Cosmetic Products, *J. Phys.: Conf. Ser.*, 352, 1-7.

- Keszei, A., Brubaker, C.L., Carter, R., Köllner, T., Degenhardt J., Foley, W.J., 2010, Functional and Evolutionary Relationships between terpene synthases from Australian Myrtaceae, *Phytochem.*, 71, 844-852.
- Lee, S. and Chappell, J., 2008, Biochemical and Genomic Characterization of Terpene Synthases in *Magnolia grandiflora*, *Plant Physiol.*, 147, 1017–1033.
- Li, C., Sarangapani, S., Wang, Q., Nadimuthu, K., and Sarojam, R., 2020, Metabolic Engineering of the Native Monoterpene Pathway in Spearmint for Production of Heterologous Monoterpenes Reveals Complex Metabolism and Pathway Interactions, *Int. J. Mol. Sci.*, 21, 6164.
- Massardi, N.A., 2021, The Role of Estrogen in the Development of Breast Cancer, *Biomed. J. Indones.*, 7, 231–241.
- Meng, X.-Y., Zhang, H.-X., Mezei, M., and Cui, M., 2011, Molecular Docking: A powerful approach for structure-based drug discovery, *Curr. Comput. Aided Drug Des.*, 7, 146–157.
- Morris, G. M., Huey, R., Lindstrom, W., Sanner, M. F., Belew, R. K., Goodsell, D. S. and Olson, A. J., 2009, Autodock4 and AutoDockTools4: Automated Docking with Selective Receptor Flexibility, *J. Comput. Chem.*, 30, 2785-2791.
- Murningsih, T., Chairul, and Kuncari, E.S., 2009, Metil Eugenol, Khemotipe dari Minyak Atsiri *Melaleuca* spp. (Myrtaceae) yang Tumbuh di Kebun Raya Cibodas, *Berita Biol.*, 9(6), 809–816.
- Mylanda, V., Ramadhan, N.E., and Viviani, R.N., 2021, Studi Penambatan Molekuler Senyawa Bioaktif Biji *Habbatussauda* (*Nigella sativa*) Terhadap ER α sebagai Alternatif Pengobatan Kanker Payudara dalam Upaya Pemberian Data Ilmiah Thibbun Nabawi, *BIMF*, 8(1), 1-24.
- Nielsen, J.B., 2007, What You See May Not Always Be What You Get – Bioavailability and Extrapolation from In Vitro Tests, *Toxicol In Vitro*, 22, 1038-1042.
- Polyak, K., 2007, Breast Cancer: Origins and Evolution, *J. Clin. Investig.* 117, 3155–3163.
- Ramak, P., Osaloo, S.K., Sharifi, M., Ebrahimzadeh, H., and Behmanesh, M., 2014, Biosynthesis, Regulation and Properties of Plant Monoterpenoids, *J. Med. Plant Res.*, 8(29), 983-991.
- Rehman, R., Hanif, M.A., Mushtaq, Z., and Al-Sadi, A.M., 2016, Biosynthesis of Essential Oils in Aromatic Plants: A Review, *Food Rev. Int.*, 32, 117–160.

- Rodríguez-Concepción, M. and Boronat, A., 2002, Elucidation of the Methylerythritol Phosphate Pathway for Isoprenoid Biosynthesis in Bacteria and Plastids. A Metabolic Milestone Achieved through Genomics, *Plant Physiol.*, 130, 1079–1089.
- Rohdich, F., Zepeck, F., Adam, P., Hecht, S., Kaiser, J., Laupitz, R., Grä, T., Amslinger, S., Eisenreich, W., Bacher, A., and Arigoni, D., 2003, The Deoxyxylulose Phosphate Pathway of Isoprenoid Biosynthesis: Studies on the Mechanisms of the Reactions Catalyzed by IspG and IspH Protein, *Proc. Natl. Acad. Sci.*, 100, 1585–1591.
- Malathi, S., Lahari, S., Rajani, K., Sampagavi, and Sushma, M., 2020, Total Survey on Leaves of *Melaleuca alternifolia* (Tea Tree Oil), *World J. Curr. Med. Pharm. Res.*, 2(4), 271–279.
- Rehman, R., Hanif, M.A., Mushtaq, Z., and Al-Sadi, A.M., 2016, Biosynthesis of Essential Oils in Aromatic Plants: A Review, *Food Rev. Int.* 32(2), 117-160.
- Roy, S.S. and Vadlamudi, R.K., 2012, Role of Estrogen Receptor Signaling in Breast Cancer Metastasis, *Int. J. Breast Cancer*, 1-8.
- Sgroi, D.C., 2010, Preinvasive Breast Cancer, *Annu. Rev. Pathol.: Mech. Dis.*, 5, 193–221.
- Salih, A.K. and Fentiman, S.I, 2001, Breast Cancer Prevention: Present and Future, *Cancer Treat. Rev.*, 27, 261-273.
- Sager, J.E., Lutz, J.D., Foti, R.S., Davis, C., Kunze, K.L., and Isoherranen, N., 2014, Fluoxetine- and Norfluoxetine-Mediated Complex Drug–Drug Interactions: In Vitro to In Vivo Correlation of Effects on CYP2D6, CYP2C19, and CYP3A4, *Clin. Pharmacol. Ther.*, 95(6), 653-662.
- Suganya, J., Radha, M., Naorem, D.L., and Nishandini, M., 2014, In Silico Docking Studies of Selected Flavonoids – Natural Healing Agents against Breast Cancer, *Asian Pac. J. Cancer Prev.*, 15(19), 8155-8159.
- Sun, Y.S., Zhao, Z., Yang, Z.N., Xu, F., Lu, H.J., Zhu, Z.Y., Shi, W., Jiang, J., Yao, P.P., and Zhu, H.P., 2017, Risk Factors and Preventions of Breast Cancer, *Int. J. Biol. Sci.*, 13(11), 1387-1397.
- Sung, H., Ferlay, J., Siegel, R.L., Laversanne, M., Soerjpmataram, I., Jemal, A., and Bray, F., 2021, Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries, *CA. Cancer J. Clin.*, 71, 209–249.
- Thomas, C. and Gustafsson, J.Å., 2011, The Different Roles of ER Subtypes in Cancer Biology and Therapy, *Nat. Rev. Cancer*, 11, 597–608.

- Tranchida, P.Q., Shellie, R.A., Purcaro, G, Conte, L.S., Dugo, P., Dugo, G., and Mondello, L., 2010, Analysis of Fresh and Aged Tea Tree Essential Oils By Using GC×GC–qMS, *J. Chromatogr. Sci*, 48, 262-266.
- Twaij, B. and Hasan, M., 2022, Bioactive Secondary Metabolites from Plant Sources: Types, Synthesis, and Their Therapeutic Uses, *Int J. Plant Biol.*, 13, 4–14.
- Rechernberg, C.V., 1910, *Theorie der Gewinnung und Trennung der Ätherischen Öle durch Destillation*. Miltitz bei Leipzig: Selbstverlag von Schimmel & Co., Germany.
- Webb, H., Lanfear, R., Hamill, J., Foley, W.J., and Kulheim, C., 2013, The Yield of Essential Oils in *Melaleuca alternifolia* (Myrtaceae) is Regulated Through Transcript Abundance of Genes in the MEP Pathway, *PLoS ONE*, 8(3), 1-8.
- Wu, C.S., Chen, Y.J., Chen, J.J.W., Shieh, J.J., Huang, C.H., Lin, P.S., Chang, G.C., Chang, J.T., and Lin, C.C., 2012, Terpinen-4-ol Induces Apoptosis in Human Nonsmall Cell Lung Cancer In Vitro and In Vivo, *Evid. Based Complement Alternat. Med.*, 2012, 1-13.