

DAFTAR PUSTAKA

- Ahafidz, Z. I., S. Nurjanah, & T. Rialita. 2022. Antifungal activity test on α -guaiene patchouli oil against *aspergillus niger* and *Candida albicans*. *Jurnal Industri Teknologi Pertanian* 16: 31-36.
- Ali, N. A. A., R. A. Crouch, M. A. A-Fatimi, N. Arnold, A. Teichert, W. N. Setzer, & L. Wessjohann. 2012. Chemical composition, antimicrobial, antiradical and anticholinesterase activity of the essential oil of *Pulicaria stephanocarpa* from Soqotra. *Natural Product Communications* 7: 113-116.
- Ali, N., M. Junaid, D. Ahmad, M. urRahman, & G. Katzenmeier. 2014. Antibacterial and antifungal activity of solvent extracts from *Plumeria obtusa* Linn. *Tropical Biomedicine* 31: 607-615.
- Aljaafari, M. N., M. A. Alkhoori, M. Hag-Ali, W. H. Cheng, S. H. E. Lim, J. Y. Loh, & K. S. Lai. 2022. Contribution of aldehydes and their derivatives to antimicrobial and immunomodulatory activities. *Molecules* 27: 1-12.
- Alvarez-Garcia, S., S. Mayo-Prieto, G. Carro-Huerga, A. Rodriguez-Gonzalez, O. Gonzalez-Lopez, S. Gutierrez, & P. A. Casquero. 2021. Volatile Organic Compound Chamber: A Novel Technology for Microbiological Volatile Interaction Assays. *Journal of Fungi* 7: 1-19.
- Ameri, A., J. G. Vaidya, & S. S. Deokule. 2019. In vitro evaluation of anti-staphylococcal activity of *Ganoderma lucidum*, *Ganoderma praelongum*, and *Ganoderma resinaceum* from Pune, India. *International Scholars Journals* 13: 1-9.
- Antoine, B. B., A. Kouabenan, D. Mohamed, K. K. Gaston, K. K. Fernand, T. Seydou, N. Kone, K. N. Pacome, & K. Daouda. 2016. Analysis of *Sclerotinia* expression due to *Sclerotium rolfii* fungus in market gardening crops in the different agroecological zones of Côte d'Ivoire. *Journal of Agriculture and Ecology Research* 6: 1-12.
- Astafyeva, O., I. Sukhenko, E. Kurashov, J. Krylova, M. Egorov, Y. Bataeva, & A. Baimukhambetova. 2018. Chemical composition and antibacterial properties of *Achillea micrantha*. *Indian Journal of Pharmacy Science* 80: 434-441.
- Barghouthi, S. A., I. Ayyad, M. Ayesh, & S. Abu-Lafi. 2017. Isolation, identification of the novel antibacterial agent methoxyphenil-oxime from *Streptomyces pratensis* QUBC97 isolate. *Journal of Antibiotics Research* 1: 1-11.
- Bartram, A., M. Lynch, J. Stearns, G. Moreno-Hagelsieb, & J. Neufeld. 2011. Generation of multimillion-sequence 16S rRNA gene libraries from complex microbial communities by assembling paired-end illumina reads. *Applied Environmental Microbiology* 77: 3846-3852.

- Bazaid, A. S., A. Aldarhami, M. Patel, M. Adnan, A. Hamdi, M. Snoussi, H. Qanash, M. Imam, M. K. Monjed, & A. M. Khateb. 2022. The antimicrobial effects of Saudi sumra honey against drug resistant pathogens: phytochemical analysis, antibiofilm, anti-quorum sensing, and antioxidant activities. *Pharmaceuticals* 15: 1-17.
- Bukvicki, D., D. Gottardi, M. Veljic, P. D. Marin, L. Vannini, & M. E. Guerzoni. 2012. Identification of volatile components of liverwort (*Porella cordaeana*) extracts using GC/MS-SPME and their antimicrobial activity. *Molecules* 17: 6982-6995.
- Burt, S. 2004. Essential oils: their antibacterial properties and potential applications in foods--a review. *International Journal of Food Microbiology* 94: 223-253.
- Carmen, G., & G. Hancu. 2014. Antimicrobial and Antifungal Activity of Pelargonium roseum Essential Oils. *Advanced Pharmaceutical Bulletin* 4: 511-514.
- Chauhan, N. M., R. B. Shinde, & S. M. Karuppayil. 2013. Effect of alcohols on filamentation, growth, viability and biofilm development in *Candida albicans*. *Brazilian Journal of Microbiology* 44: 1315-1320.
- Chaves-López, C., A. Serio, A. Gianotti, G. Sacchetti, M. Ndagijimana, C. Ciccarone, A. Stellarini, A. Corsetti, & A. Paparella. 2015. Diversity of food borne *Bacillus* volatile compounds and influence on fungal growth. *Journal of Applied Microbiology* 119: 487-499.
- Davis, T. S., T. L. Crippen, R. W. Hofstetter, & J. K. Tomberlin, 2013. Microbial volatile emissions as insect semiochemical. *Journal of Chemical Ecology* 39: 1-20.
- Deveau, A., G. Bonito, J. Uehling, M. Paoletti, M. Becker, S. Bindschedler, S. Hacquard, V. Hervé, J. Labbé, O. A. Lastovetsky, S. Mieszkin, L. J. Millet, B. Vajna, P. Junier, P. Bonfante, B. P. Krom, S. Olsson, J. D. van Elsas, & L. Y. Wick. 2018. Bacterial-fungal interactions: ecology, mechanisms and challenges. *FEMS Microbiology Review* 42: 335-352.
- Effmert, U., J. Kalderás, R. Warnke, & B. Piechulla. 2012. Volatile mediated interactions between bacteria and fungi in the soil. *Journal of Chemical Ecology* 38: 665–703.
- Elansary, H. O., A. Szopa, M. Klimek-Szczykutowicz, H. Ekiert, A. A. Barakat, & F. A. Al-Mana. 2020. Antiproliferative, antimicrobial, and antifungal activities of polyphenol extracts from ferocactus species. *Processes* 8: 1-11.
- Elhidar, N., A. Nafis, A. Kasrati, A. Goehler, J. A. Bohnert, A. Abbad, L. Hassani, & N. E. Mezrioui. 2019. Chemical composition, antimicrobial activities and synergistic effects of essential oil from *Senecio anteuphorbium*, a Moroccan endemic plant. *Industrial Crops & Products* 130: 310-315.

- Fatouma, B., H. Fella, M. S. Hamaidi, & S. Fairouz. 2017. Chemical composition and antimicrobial properties of Algerian *Cedrus atlanticam* essential oils composition. *Revue Agrobiologia* 7: 355-362.
- Frank, J. A., C. I. Reich, S. Sharma, J. S. Weisbaum, B. A. Wilson & G. J. Olsen. 2008. Critical evaluation of two primer commonly used for amplification of bacterial 16S rRNA genes. *Applied Environmental Microbiology* 74: 2461-2470.
- Frey-Klett, P., P. Burlinson, A. Deveau, M. Barret, M. Tarkka, & A. Sarniguet. 2011. Bacterial-fungal interactions: hyphens between agricultural, clinical, environmental, and food microbiologist. *Microbiology and Molecular Biology Reviews* 75: 583-609.
- Gonzalez, A. M., M. I. Tracanna, S. M. Amani, C. Schuff, M. J. Poch, H. Bach, & C. A. N. Catalan. 2012. Chemical composition, antimicrobial and antioxidant properties of the volatile oil and methanol extract of *Xenophyllum poposum*. *Natural Product Communications* 7: 1663-1666.
- Grafakou, M. E., A. Diamanti, E. L. Antaloudaki, Z. Kypriotakis, A. Ciric, M. Sokovic, & H. Skaltsa. 2020. Chemical composition and antimicrobial activity of the essential oils of three closely related hypericum species growing wild on the island of Crete, Greece. *Applied Sciences* 10: 1-12.
- Gu, Z., R. Elis, & M. Schlesner. 2016. Complex heatmaps reveal patterns and correlation in multidimensional genomic data. *Bioinformatics* 32: 2847-2849.
- Hammerbacher, A., T. A. Coutinho, & J. Gershezon. 2019. Roles of plant volatiles in defence against microbial pathogens and microbial exploitation of volatiles. *Plant, Cell, & Environment* 42: 2827-2843.
- He, X., L. Zhang, J. Chen, J. Sui, G. Yi, J. Wu, & Y. Ma. 2019. Correlation between chemical composition and antifungal activity of *Clausena lansium* essential oil against *Candida* spp. *Molecules* 24: 1-11.
- Hu, Y., S. Ahmed, J. Li, B. Luo, Z. Gao, Q. Zhang, X. Li, & X. Hu. 2017. Improved ganoderic acids production in *Ganoderma lucidum* by wood decaying components. *Scientific Reports* 7: 1-10.
- Joshi, R. K., C. Pande, M. H. Mujawar, & S. D. Kholkute. 2009. Chemical composition and antimicrobial activity of the essential oil of *Anaphalis nubigena* Var. *Monocephala*. *Natural Product Communications* 4: 993-996.
- Kaddes, A., M. L. Fauconnier, K. Sassi, B. Nasraoui, M. H. Jijakli. 2019. Antifungal properties of two volatile organic compounds on barley pathogens and introduction to their mechanism of action. *International Journal of Environmental Research Public Health* 16: 1-14.

- Kaddes, A., M. L. Fauconnier, K. Sassi, B. Nasraoui, M. H. Jijakli. 2019. Endophytic fungal volatile compounds as solution for sustainable agriculture. *Molecules* 24: 1-16.
- Kirk, P. M., P. F. Cannon, D. W. Minter, & J. A. Stalpers. 2008. *Dictionary of the Fungi*. CAB International, United Kingdom.
- Kluger, B., S. Zeilinger, G. Wiesenberger, D. Schöfbeck, & R. Schuhmacher. 2013. Detection and Identification of Fungal Microbial Volatile Organic Compounds by HS-SPME-GC-MS. In: V. Gupta, M. Tuohy, M. Ayyachamy, K. Turner, A. O'Donovan (eds) *Laboratory Protocols in Fungal Biology*. Springer, New York.
- Korpi, A., J. Järnberg, & A. L. Pasanen. 2009. Microbial volatile organic compounds. *Critical Reviews in Toxicology* 39: 139–193.
- Lammers, A., M. Lalk, & P. Garbeva. 2022. Air ambulance: antimicrobial power of bacterial volatiles. *Antibiotics* 11: 1-15.
- Li, X., P. Garbeva, X. Liu, P. J. A. Klein-Gunnewiek, A. Clocchiatti, M. P. J. Hundscheid, X. Wang, & X. de Boer. 2020. Volatile-mediated antagonism of soil bacterial communities against fungi. *Environmental Microbiology* 22: 1025–1035.
- Lin, L. & J. Xu. 2020. Fungal pigments and their roles associated with human health. *Journal of Fungi* 6: 1-37.
- Majeed, A., S. Guleria, N. Sharma, K. H. Salaria, F. Aiman, B. Singh, & V. K. Gupta. 2023. Antioxidant capacity and combinatorial antimicrobial effects of *Nardostachys jatamansi* essential oil with conventional antibiotics against some drug resistant bacteria. *Current Research in Biotechnology* 5: 1-8.
- Medina-Romero, Y. M., G. Roque-Flores, M. Macías-Rubalcava. 2017. Volatile organic compounds from endophytic fungi as innovative postharvest control of *Fusarium oxysporum* in cherry tomato fruits. *Applied Microbiology and Biotechnology* 101: 8209–8222.
- Mukherjee, P.K., H. Wang, M. Retuerto, H. Zhang, B. Burkey, M. A. Ghannoum & C. Eng. 2017. Bacteriome and mycobiome associations in oral tongue cancer. *Oncotarget* 8: 1-17.
- Nair, A. K., M. J. N. Chandrasekar, & P. S. Shijikumar. 2016. Phytochemical and pharmacological aspects of *Strobilanthes ciliatus* Nees (Bremek): a review. *International Journal of Research Ayurveda Pharmacy* 7: 72-77.
- Nasr, Z. S., H. El-shershaby, K. M. Sallam, N. Abed, I. A. El-ghany, N. Sidkey. 2022. Evaluation of antimicrobial potential of tetradecane extracted from *Pediococcus acidilactici* DSM: 20284 - CM isolated from curd milk. *Egyptian Journal of Chemistry* 65: 705-713.

- Nazzaro, F., F. Fratianni, L. D. Martino, R. Coppola, & V. D. Feo. 2013. Effect of essential oils on pathogenic bacteria. *Pharmaceuticals* 6: 1451-1474.
- Ousaaid, D., H. Laaroussi, M. Bakour, H. Ennaji, B. Lyoussi, & I. E. Arabi. 2021. Antifungal and antibacterial activities of apple vinegar of different cultivars. *International Journal of Microbiology* 2021: 1-6.
- Pagans, E., X. Font, & A. Sánchez. 2006. Emission of volatile organic compounds from composting of different solid wastes: abatement by biofiltration. *Journal of Hazardous Materials* 131: 179–186. *Applied and Environmental Microbiology* 66:5334-5339.
- Ranjard, L., E. Brothier, & S. Nazaret. 2000. Sequencing bands of ribosomal intergenic spacer analysis fingerprints for characterization and microscale distribution of soil bacterium populations responding to mercury spiking.
- Ranjard, L. F. Poly, J. C. Lata, C. Mougl, J. Thioulouse, & S. Nazaret. 2001. Characterization of bacterial and fungal soil communities by automated ribosomal intergenic spacer analysis fingerprints: biological and methodological variability. *Applied and Environmental Microbiology* 67:4479-4487.
- Renda, G., Y. Kalayci, B. Korkmaz, S. A. Karaoglu, & N. Yayli. 2017. Chemical composition and antimicrobial activity of the essential oils of five *Scrophularia* L. species from Turkey. *Records of Natural Products* 11: 521-531.
- Sadgrove, N. J., G. F. Padilla-Gonzales, M. Phumtum. 2022. Fundamental chemistry of essential oils and volatile organic compounds, methods of analysis and authentication. *Plants* 11: 1-34.
- Samiyappan, R., R. Bhaskaran, & P. Rethinam. 1996. Diagnosis for early detection of *Ganoderma* diseases in perennial crops: approaches and prospect. *Journal of Plant Disease and Protection* 103: 85-93.
- Schmidt, R., D. W. Etalo, V. de Jager, S. Gerards, H. Zweers, W. de Boer, & P. Garbeva. 2016. Microbial small talk: volatiles in fungal–bacterial interactions. *Frontier Microbiology* 6: 1-12.
- Schmidt, R., V. Cordovez, W. de Boer, J. Raajimakers, & P. Garbeva. 2015. Volatile affairs in microbial interactions. *The International Society for Microbial Ecology Journal* 9: 2329-2335.
- Schulz-Bohm K., L. Martín-Sánchez, & P. Garbeva. 2017. Microbial volatiles: small molecules with an important role in intra and inter-kingdom interactions. *Frontier Microbiology* 8: 1-10.
- Schulz-Bohm, K., O. Tyc, W. de Boer, N. Peereboom, F. Debets, N. Zaagman, Thierry K.S. Janssens & P. Garbeva. 2016. Fungus-associated bacteriome in charge of their host behavior. *Fungal Genetics and Biology* 102: 38-48.

- Segura, A., L. Molina, S. Fillet, T. Krell, P. Bernal, J. Munoz-Rojas, & J. L. Ramos. 2012. Solvent tolerance in Gram-negative bacteria. *Current Opinion on Biotechnology* 23: 415-421.
- Semangun, H. 1990. Penyakit-Penyakit Tanaman Perkebunan di Indonesia. Gadjah Mada University Press, Yogyakarta.
- Sikkema, J., J. de Bont, & B. Poolman. 1995. Mechanisms of membrane toxicity of hydrocarbons. *Microbiology and Molecular Biology Reviews* 59: 201-222.
- Song, C., R. Schmidt, V. de Jager, D. Krzyzanowska, E. Jongedijk, K. Cankar, A. Van Veen, W. de Boer, J. A. van Veen. 2015. Exploring the genomic traits of fungus-feeding bacterial genus *Collimonas*. *BMC Genomics* 16: 1-17.
- Susanto, A. 1998. Sifat-sifat biokimiawi dan fabrikasi *Ganoderma*, jamur patogen pohonan. *Jurnal Perlindungan Tanaman Indonesia* 4: 83-91.
- Tahir, H.A.S., Q. Gu, H. Wu, Y. Niu, R. Huo, & X. Gao. 2017. *Bacillus* volatiles adversely affect the physiology and ultra-structure of *Ralstonia solanacearum* and induce systemic resistance in tobacco against bacterial wilt. *Scientific Reports* 7: 1-15.
- Taskin, H., E. Kafkas, Ö. Çakiroğlu, S. Büyükalaca. 2013. Determination of volatile aroma compounds of *Ganoderma lucidum* by gas chromatography mass spectrometry (GC-MS). *African Journal of Traditional Complementary Alternative Medicine* 10: 353-355.
- Tirranen, L. S. & I.I. Gitelson. 2006. The role of volatile metabolites in microbial communities of the LSS higher plant link. *Advances in Space Research* 38: 1227-1232.
- Ullah, I., A. L. Khan, L. Ali, A. R. Khan, M. Waqas, J. Hussain, I. J. Lee, & J. H. Shin. 2015. Benzaldehyde as an insecticidal, antimicrobial, and antioxidant compound produced by *Photorhabdus temperata* M1021. *The Journal of Microbiology* 53: 127-133.
- Wang, C. J., C. Thanarut, P. L. Sun, W. H. Chung. 2020. Colonization of human opportunistic *Fusarium oxysporum* (HOFo) isolates in tomato and cucumber tissues assessed by a specific molecular marker. *PLoS ONE* 15: e0234517.
- Weisskopf, L., S. Schulz, & P. Garbeva. 2021. Microbial volatile organic compounds in intra-kingdom and inter-kingdom interactions. *Nature Reviews Microbiology* 19: 391-404.
- Yu, Z., & W. W. Mohn. 2001. Bacterial diversity and community structure in an aerated lagoon revealed by ribosomal intergenic spacer analyses and 16S ribosomal DNA sequencing. *Applied and Environmental Microbiology* 67: 1565-1574.

- Zhang, B., L. Yan, Q. Li, J. Zou, H. Tan, W. Tan, W. Peng, X. Li, & X. Zhang. 2018. Dynamic succession of substrate-associated bacterial composition and function during *Ganoderma lucidum* growth. *Peer Journal* 6: 1-23.
- Zhao, X., J. Zhou, R. Tian, & Y. Liu. 2022. Microbial volatile organic compounds: antifungal mechanisms, applications, and challenges. *Frontiers Microbiology* 13: 1-13.
- Zheng, J., L. Wang, W. Hou, & Y. Han. 2022. *Fusarium oxysporum* associated with *Fusarium* wilt on *Pennisetum sinense* in China. *Pathogens* 11: 1-8.
- Zhu, H., J. Zhu, L. Wang, & Z. Li. 2016. Development of a SPME-GC-MS method for the determination of volatile compounds in Shanxi aged vinegar and its analytical characterization by aroma wheel. *Journal of Food Science Technology* 53: 171-183.