

DAFTAR PUSTAKA

- Ajizah, N.L., Wijaya, I.M.M., Antara, N.S. 2021. Variasi Konsentrasi Glukosa pada Media Tumbuh dan Lama Fermentasi Dalam Memproduksi Etanol oleh Isolat BM1-CP14. *Jurnal Rekayasa dan Manajemen Agroindustri* 9(2):208. DOI:10.24843/JRMA.2021.v09.i02.p06
- Badura, J., Medic, M., Wyk, N.V., Krause, B., Semmler, H., Brezina, S., Petrorius, I.S., Rauhut, D., & Wallbrunn, C.V. 2022. Synthesis of Aroma Compounds as a Function of Different Nitrogen Sources in Fermentations Using Non-*Saccharomyces* Wine Yeasts. *Microorganisms*, 11 (4), 1-23. <https://doi.org/10.3390/microorganisms11010014>
- Cordente, A. G., Schmidt, S., Beltran, G., Torija, M. J., & Curtin, C. D. 2019. Harnessing yeast metabolism of aromatic amino acids for fermented beverage bioflavouring and bioproduction. *Applied Microbiology and Biotechnology*, 103(11), 4325–4336. <https://doi.org/10.1007/s00253-019-09840-w>
- Cueto-Rojas, H. F., Maleki Seifar, R., Ten Pierick, A., van Helmond, W., Pieterse, M. M., Heijnen, J. J., & Wahl, S. A. 2016. In Vivo Analysis of NH₄⁺ Transport and Central Nitrogen Metabolism in *Saccharomyces cerevisiae* during Aerobic Nitrogen-Limited Growth. *Applied and environmental microbiology*, 82(23), 6831–6845. <https://doi.org/10.1128/AEM.01547-16>
- Diana, L., Zuza-Alves, Walicyranison, P., Silva-Rocha., & Chaves, G.M. 2017. An Update on *Candida tropicalis* Based on Basic and Clinical Approaches. *Frontiers in Microbiology*, 8(1) : 1-25. <https://doi.org/10.3389/fmicb.2017.01927>.
- Digital Journal. (2022). Natural Butyl Butyrate Market Study providing information on Top Key Players | Jidong Solvent, Celanese Corporation And More
- Fairbairn, S., McKinnon, A., Musarurwa, H.T., Ferreira, A.C., Bauer, F.F. 2017. The Impact of Single Amino Acids on Growth and Volatile Aroma Production by *Saccharomyces cerevisiae* Strains. *Frontiers in Microbiology*, 8 (1). <https://doi.org/10.3389/fmicb.2017.02554>
- Feng, J., Zhang, J., Ma, Y., Feng, Y., Wang, S., Guo, N., Wang, H., Wang, P., Jiménez-Bonilla, P., Gu, Y., Zhou, J., Zhang, Z.T., Cao, M., Jiang, D., Wang, S., Liu, X.W., Shao, Z., Borovok, I., Huang, H., & Wang, Y. 2021. Renewable fatty acid ester production in *Clostridium*. *Nat Commun*. 12(1):4368. <https://doi.org.1038/s41467-021-24038-3>.
- Fernandes, D.S.F., de Souza, É. S., Carneiro, L. M., Alves Silva, J. P., de Souza, J. V. B., & da Silva Batista, J. 2022. Current Ethanol Production Requirements for the Yeast *Saccharomyces cerevisiae*. *International journal of microbiology*, 2022: 1-14 7878830. <https://doi.org/10.1155/2022/7878830>

- Guo X, Zhang H, Feng J, Yang L, Luo K, Fu H, & Wang J. 2023. De novo biosynthesis of butyl butyrate in engineered *Clostridium tyrobutyricum*. *Metab Eng.* 77: 64-75. <https://doi.org/10.1016/j.ymben.2023.03.009>.
- Gutiérrez-Ríos, H.G., Suárez-Quiroz, M., Hernández-Estrada, Z.J., Castellanos-Onorio, O.P., Alonso-Villegas, R., Rayas-Duarte, P., Cano-Sarmiento, C., Figueroa-Hernández, C.Y., González-Ríos, O. 2022. Yeasts as Producers of Flavor Precursors during Cocoa Bean Fermentation and Their Relevance as Starter Cultures: A Review. *Fermentation* : 8, 331. <https://doi.org/10.3390/fermentation8070331>
- Hosoglu, M. I., Guneser, O., & Yuceer, Y. K. (2018). Different Bioengineering Approaches on Production of Bioflavor Compounds. In *Role of Materials Science in Food Bioengineering* (pp. 37–71). Elsevier. <https://doi.org/10.1016/B978-0-12-811448-3.00002-4>
- Khan, Z., Javed, F., Shamair, Z., Hafeez, A., Fazal, T., Aslam, A., Zimmerman, W. B., & Rehman, F. (2021). Current developments in esterification reaction: A review on process and parameters. *Journal of Industrial and Engineering Chemistry*, 103, 80–101. <https://doi.org/10.1016/j.jiec.2021.07.018>
- Liu, S., Laaksonen, O., Marsol-Vall, A., Zhu, B., & Yang, B. 2020. Comparison of Volatile Composition between Alcoholic Bilberry Beverages Fermented with Non-*Saccharomyces* Yeasts and Dynamic Changes in Volatile Compounds during Fermentation. *Journal of agricultural and food chemistry*, 68(11), 3626–3637. <https://doi.org/10.1021/acs.jafc.0c01050>
- Lv, Y., Jiang, Y., Lu, J., Gao, H., Dong, W., Zhou, J., Zhang, W., Xin, F., & Jiang, M. 2021. Comprehensive evaluation for the one-pot biosynthesis of butyl acetate by using microbial mono- and co-cultures. *Biotechnology for biofuels*, 14(1), 203. <https://doi.org/10.1186/s13068-021-02053-2>
- Martins, L.C., Monteiro, C.C., Semedo, P.M., & Correia, I., 2020. Valorisation of pectin-rich agro-industrial residues by yeasts: potential and challenges. *Applied Microbiology and Biotechnology*, 104: 6527-6547. <https://link.springer.com/article/10.1007/s00253-020-10697-7>
- Marullo, P., Trujillo, M., Viannais, R., Hercman, L., Guillaumie, S., Colonna-Ceccaldi, B., Albertin, W., & Barbe, J.-C. (2021). Metabolic, Organoleptic and Transcriptomic Impact of *Saccharomyces cerevisiae* Genes Involved in the Biosynthesis of Linear and Substituted Esters. *International Journal of Molecular Sciences*, 22(8), 4026. <https://doi.org/10.3390/ijms22084026>
- Maslanka, R., Zadrag-Tecza, R., & Kwolek-Mirek, M. 2020. Linkage between Carbon Metabolism, Redox Status and Cellular Physiology in the Yeast *Saccharomyces cerevisiae* Devoid of SOD1 or SOD2 Gene. *Genes*, 11(7) :780. <https://doi.org/10.3390/genes11070780>
- Noh, H. J., Lee, S. Y., & Jang, Y.-S. (2019). Microbial production of butyl butyrate, a flavor and fragrance compound. *Applied Microbiology and*

- Biotechnology*, 103(5), 2079–2086. <https://doi.org/10.1007/s00253-018-09603-z>
- Olivares-Marin, I.K., Madrigal-Perez, L.A., Canizal-Garcia, M., García-Almendárez, B.E, González-Hernández, J.C., Regalado-Gonzalez, C. Interactions between carbon and nitrogen sources depend on RIM15 and determine fermentative or respiratory growth in *Saccharomyces cerevisiae*. *Appl Microbiol Biotechnol*. 2018 May;102(10):4535-4548. doi:10.1007/s00253-018-8951-3. Epub 2018 Mar 30. PMID: 29602984.
- Pereira, A. da S., de Souza, A. H., Fraga, J. L., Villeneuve, P., Torres, A. G., & Amaral, P. F. F. (2022). Lipases as Effective Green Biocatalysts for Phytosterol Esters' Production: A Review. *Catalysts*, 12(1), 88. <https://doi.org/10.3390/catal12010088>
- Qureshi, N., Liu, S., & Saha, B.C. 2022. Butyric Acid Production by Fermentation: Employing Potential of the Novel *Clostridium tyrobutyricum* Strain NRRL 67062. *Fermentation*, 8 (10). <https://doi.org/10.3390/fermentation8100491>
- Roy, P., & Gahlawat, V. 2019. A Review Production of Bioflavour from Microbial Sources and its health benefits. *Indian journal of biochemistry & biophysics*. 56(1) : 352-357.
- Sharma, A., Sharma, P., Singh, J., Singh, S., & Nain, L. 2020. Prospecting the Potential of Agroresidues as Substrate for Microbial Flavor Production. *Frontiers in Sustainable Food Systems*, 4. <https://doi.org/10.3389/fsufs.2020.00018>
- Singhania, V., Cortes-Clerget, M., Dussart-Gautheret, J., Akkachairin, B., Yu, J., Akporji, N., Gallou, F., & Lipshutz, B. H. 2022. Lipase-catalyzed esterification in water enabled by nanomicelles. Applications to 1-pot multi-step sequences. *Chemical Science*, 13(5), 1440–1445. <https://doi.org/10.1039/D1SC05660C>
- Sinumvayo, J. P., Li, Y., & Zhang, Y. 2021. Microbial production of butyl butyrate: from single strain to cognate consortium. *Bioresources and Bioprocessing*, 8(1), 50. <https://doi.org/10.1186/s40643-021-00403-4>
- Tekarslan-Sahin, S. H. 2022. Adaptive Laboratory Evolution of Yeasts for Aroma Compound Production. *Fermentation*, 8(8), 372. <https://doi.org/10.3390/fermentation8080372>
- Wardani, R.Y., & Agustini, R. 2017. Pengaruh Konsentrasi Yeast Hydrolysate Enzimatic (YHE) sebagai Suplemen Media Kultur Untuk Pertumbuhan *Lactobacillus bulgaricus*. *UNESA Journal of Chemistry*, 6(1): 25-31.
- Xin, F., Zhang, W., & Jiang, M. (2019). Bioprocessing Butanol into More Valuable Butyl Butyrate. *Trends in Biotechnology*, 37(9), 923–926. <https://doi.org/10.1016/j.tibtech.2019.03.012>
- Zhang, Z., Taylor, S., & Wang, Y. 2017. In situ esterification and extractive fermentation for butyl butyrate production with *Clostridium*



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tyrobutyricum. *Biotechnology and Bioengineering*, 114(7), 1428–1437.
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