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Journal Name:	**Microbiology Research Journal International**
Manuscript Number:	**Ms_MRJI_45718**
Title of the Manuscript:	**Utilization of Terminalia superba Sawdust as Substrate for Laccase Production by Trametes sp. isolate B7 under Solid State Fermentation.**
Type of the Article	**Original Research Article**

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty'**, provided the manuscript is scientifically robust and technically sound.
To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Compulsory REVISION comments	Overall, it is well organized and properly structured work on an interesting topic related to the laccase. Authors are encouraged to improve the manuscript following mandatory suggestions. 1. Editorial issues: The Latin names and Greek letters should be presented in italic in whole manuscript, units presentation should be unified in the whole manuscript, abbreviations presentation should be unified. 2. Referencing is not always right and Introduction lacks recent literature. There is very little recent literature from the lignocellulose viewpoint in the introduction and discussion sections. Since the work is all about the valorization of lignocellulose as a potential source for induce laccase production, it would be better to extend this part with recent literature. I suggest to consult the followings and add them. Arevalo-Gallegos et al. 2017. Lignocellulose: a sustainable material to produce value-added products with a zero waste approach—A review. *International journal of biological macromolecules*, *99*, 308-318. Alemán-Nava et al. 2018. Biotechnological revalorization of Tequila waste and by-product streams for cleaner production–A review from bio-refinery perspective. *Journal of Cleaner Production*, *172*, 3713-3720. Bilal et al. (2018). Engineering Ligninolytic Consortium for Bioconversion of Lignocelluloses to Ethanol and Chemicals. Protein and peptide letters, 25(2), 108-119. Bilal et al. (2018). Metabolic engineering and enzyme-mediated processing: A biotechnological venture towards biofuel production–A review. Renewable and Sustainable Energy Reviews, 82, 436-447. Bilal et al. 2017. Biotransformation of lignocellulosic materials into value-added products—a review. *International journal of biological macromolecules*, *98*, 447-458. Iqbal et al. 2013. Advances in the valorization of lignocellulosic materials by biotechnology: an overview. *BioResources*, *8*(2), 3157-3176. Asgher et al. (2013). Alkali and enzymatic delignification of sugarcane bagasse toexpose cellulose polymers for saccharification and bio-ethanol production. Industrial Crops and Products, 44, 488-495. Asgher et al. (2014). A comprehensive ligninolytic pre-treatment approach from lignocellulose green biotechnology to produce bio-ethanol. Chemical Engineering Research and Design, 92(8), 1571-1578. 3. Line 28: The coated reference [5] is not right here. Authors have mentioned different strains while Ref. [5] only covers Trametes hirsute. How about a valid reference for other mentioned strains? Please update the statement and add following references: Iqbal et al. (2011). Optimization of physical and nutritional factors for synthesis of lignin degrading enzymes by a novel strain of Trametes versicolor. *BioResources*, *6*(2), 1273-1287. Asgher et al. (2012). Kinetic characterization of purified laccase produced from Trametes versicolor IBL-04 in solid state bio-processing of corncobs. *BioResources*, *7*(1), 1171-1188. Asgher et al. (2016). Statistical correlation between ligninolytic enzymes secretion and Remazol Brilliant Yellow-3GL dye degradation potential of Trametes versicolor IBL-04. *Water Environment Research*, *88*(4), 338-345. Asgher et al. (2012). Improvement of catalytic efficiency, thermo-stability and dye decolorization capability of Pleurotus ostreatus IBL-02 laccase by hydrophobic sol gel entrapment. *Chemistry Central Journal*, *6*(1), 110. Asgher et al. (2013). Novel catalytic and effluent decolorization functionalities of sol-gel	

	immobilized Pleurotus ostreatus IBL-02 manganese peroxidase produced from bio-processing of wheat straw. *Chinese Journal of Catalysis*, *34*(9), 1756-1761. 4. Line 34-35: Laccases from different organisms show considerable diversity in substrate specificity, molecular weight, pH optimum and other properties. A valid reference should be given to this statement. 5. Line 119: For centrifugation, it is not correct to indicate the rpm in scientific work. The authors should mention RCF/g or provide information about the used rotors. 6. Subsections 2.5.1 to 2.5.7 should be merged all in the main section 2.5. 7. Throughout the manuscript “laccase concentration” should be replaced with “laccase activity”. 8. All Figures are missing error bars. Please reconstruct. 9. Results are poorly discussed without proper comparison with the literature. Please use the above suggested references and strengthen this part accordingly. 10. Line 41: The coated references [8, 9, 10] are not covering the all mentioned applications. Please add more relevant and up to date references as suggested below: Bilal et al. (2018). Peroxidases-assisted removal of environmentally-related hazardous pollutants with reference to the reaction mechanisms of industrial dyes. *Science of the Total Environment*, *644*, 1-13. Bilal et al. (2018). Magnetic nanoparticles as versatile carriers for enzymes immobilization: A review. *International journal of biological macromolecules*. 120, 2530-2544. Bilal et al. (2018). Multi-point enzyme immobilization, surface chemistry, and novel platforms: a paradigm shift in biocatalyst design. *Critical reviews in biotechnology*, 1-18. Adeel et al. (2018). Graphene and graphene oxide: Functionalization and nano-bio-catalytic system for enzyme immobilization and biotechnological perspective. *International journal of biological macromolecules*. 120, 1430-1440. Bilal et al. (2018). Horseradish peroxidase immobilization by copolymerization into cross-linked polyacrylamide gel and its dye degradation and detoxification potential. *International journal of biological macromolecules*, *113*, 983-990. Zdarta et al. (2018). Developments in support materials for immobilization of oxidoreductases: A comprehensive review. *Advances in colloid and interface science*. Asgher et al. (2018). Protease-based cross-linked enzyme aggregates with improved catalytic stability, silver removal, and dehairing potentials. *International Journal of Biological Macromolecules*. 118, 1247-1256. Barrios-Estrada et al. (2018). Potentialities of active membranes with immobilized laccase for Bisphenol A degradation. *International journal of biological macromolecules*, *108*, 837-844. Bilal et al. (2018). Photocatalytic degradation, toxicological assessment and degradation pathway of CI Reactive Blue 19 dye. *Chemical Engineering Research and Design*, *129*, 384-390. Salazar-López et al. (2017). Induced Degradation of Anthraquinone-Based Dye by Laccase Produced from Pycnoporus sanguineus (CS43). *Water, Air, & Soil Pollution*, *228*(12), 469. Bilal et al. (2017). Enhanced bio-ethanol production from old newspapers waste through alkali and enzymatic delignification. *Waste and Biomass Valorization*, *8*(7), 2271-2281. Ahmed et al. (2017). Enzyme-based biodegradation of hazardous pollutants—An overview. *J. Exp. Biol. Agric. Sci*, *5*(4), 402-411. Chatha et al. (2017). Enzyme-based solutions for textile processing and dye contaminant biodegradation—a review. *Environmental Science and Pollution Research*, *24*(16), 14005-14018.	

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Minor REVISION comments	1. Km and Vmax are not properly expressed. Please correct as: K_M and V_{max}. 2. Figure 4, Y-axis is labelled wrong. Please correct following any of the above suggested reference. 3. In abstract: The word waste waters seems to be miswritten. Consider replacing it as a single word “Wastewater”. 4. Line 24: It appears that you are missing a comma after the introductory phrase However. Consider adding a comma. 5. Line 24: “in” is overused. Please remove “in” before ”some insects” and “a few bacteria”. 6. Line 39: The spelling of decolouration is a non-American variant. For consistency, consider replacing it with the American English spelling. 7. Line 87: The spelling of millilitres is a non-American variant. For consistency, consider replacing it with the American English spelling. 8. Line125: Replace “Weigh” with “Weight”. 9. Line 168: It appears that you are missing a comma after the introductory phrase After incubation. Consider adding a comma. 10. Line 215: It appears that the singular verb “is” does not agree with the plural compound subject The activity and stability of the partially purified laccase. Consider changing the verb to the plural form “are”. 11. Lines 267 & 276: It appears that “**one dimensional” and** “low cost” are missing a hyphen. Consider adding the hyphen(s). “**one-dimensional” and** “low-cost”	
Optional/General comments	Referencing is not right and the whole manuscript lacks recent literature. Please fully revise the whole manuscript considering the above suggested references. Add them in the list too.	

PART 2:

	Reviewer’s comment	**Author’s comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	

Reviewer Details:

Name:	***Hafiz Iqbal***
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