Review Form 3

Journal Name:	**International Research Journal of Pure and Applied Chemistry**
Manuscript Number:	**Ms_IRJPAC_130290**
Title of the Manuscript:	**Identification of Potential Candida albicans Inhibitors Through Pharmacophore Modeling and Virtual Screening**
Type of the Article	**Research**

PART 1: Comments

	Reviewer's comment	**Author's Feedback** *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.	This research integrating advanced in silico techniques to discover antifungal agents targeting *Candida albicans* lanosterol 14-alpha demethylase (CYP51), addressing the critical challenge of drug resistance. It employs a pharmacophore-based strategy combined with virtual screening of the Enamine database, followed by a meticulous molecular docking workflow (HTVS, SP, XP, and IFD).	
Is the title of the article suitable? (If not please suggest an alternative title)	Identification of Potential *Candida albicans* Inhibitors Through Pharmacophore Modeling and Virtual Screening techniques	

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Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	**The abstract is generally well-written and provides a comprehensive overview of the study. However, there are some points where clarity and balance could be improved to make it more impactful and reader-friendly. Below are suggestions for improvement:** • Mention the broader goal of addressing drug resistance explicitly (e.g., developing inhibitors with better efficacy and reduced resistance potential). • Briefly mention the rationale for focusing on benzimidazole derivatives and rhodanine-based pharmacophores to connect the methodology with the problem being addressed. • Indicate the size of the Enamine database screened, providing context for the scale of virtual screening. • Specify how the methods or findings compared to existing studies. • Include a brief statement about the structural diversity or potency of the identified compounds to add weight to the results. • Conclude with a more specific statement on how these findings could contribute to the antifungal drug pipeline or clinical applications.	
Is the manuscript scientifically, correct? Please write here.	1. In abstract, mentioned rhodanine (5-membered heterocyclic organic compound possessing a thiazolidine core) derivatives were generated but none of the structure correlates in the final 26 hits. 2. As the introduction focused on fungal infections to human health. But the target protein selected 1AE1 obtained from *Mycobacterium tuberculosis,* clear reason for the selection of the protein instead from Homo sapiens need to include in materials and methods section. 3. In introduction mentioned life-threatening fungal infection – Give statistical data relevant to this statement in India and World. 4. Give abbreviation to QMI 5. Drugs fall into 5 main classes: azoles, allylamines, polyenes, fluoropyrimidines and thiocarbamates – Give marketed drugs examples with their MOA, Adverse effects to compare with the results. 6. Through out manuscript *Candida albicans* need to keep in italics. 7. Include some references for 2.6 High throughput virtual screening and molecular docking 8. In results and discussion 3.7 Prediction of ADMET parameters – Here mentioned toxicity also but not included any toxicity data. Suggested to include toxicity of the 26 compounds and need to write clear discussion of ADMET studies by comparing the existing marketed antifungal agents. 9. Binding mode, interactions of the standard images not included. 10. Figure and Table numbers are not given properly. Follow as per the author guidelines. 11. It is recommended to retain the top 4 or 5 2D and 3D interaction images of the hit molecules in the main manuscript for clarity, as including all images makes it difficult to read and understand. The remaining images can be included in the supporting information file. 12. References 14, 20 mentioned Schrödinger version 2017_4 and in reference 25 mentioned 2019-4: give justification on version used. 13. Suggested to compare the results with more number of standard drugs and need to discuss these 26 are better in docking, and ADMET studies. 14. Through out manuscript need to use similar font. 15. Give some SAR of these 26 molecules why gave better score in conclusion part. 16. Reference 22 is incomplete. 17. Follow the uniform reference style for all the references as per the author guidelines (Reference No. 12). 18. For validation of results the top 2 or 3 hits suggested to perform MD simulation studies.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	There is no literature from the last five years. Suggested to include recent literature to support the methodology.	
Is the language/English quality of the article suitable for scholarly communications?	The language and English quality of the article are suitable for scholarly communication, as it is clear, precise, and well-structured. However, minor refinements in phrasing or sentence flow could further enhance readability and professionalism.	
Optional/General comments		

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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:	**C. Naresh Babu**
Department, University & Country	**Raghavendra Institute of Pharmaceutical Education and Research, India**