

Review of: "Investigation and Synthesis of Benzothiazole-Derived Schiff Base Ligand Against Mycobacterium tuberculosis"

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Potential competing interests: No potential competing interests to declare.

The authors have presented the Synthesis and characterization of a new Benzothiazole-Derived Schiff Base Ligand Against Mycobacterium tuberculosis. The work is good; however, it could be improved. I added some comments that could help to enhance the quality of the work.

1. The Celsius degree appears with errors in some places in the main text; it must be superscript.
2. The abbreviation for Mycobacterium tuberculosis should be in uppercase and not lowercase (MTB)
3. The "WHO Report 2020" sentence should be bound with the rest of the main text.
4. The introduction could be improved. The authors explained the relevance of the Schiff base and the Nobel prize, and suddenly, they started explaining the medicinal applications. The authors should connect both sentences because they have no relationship in the context.
5. The authors wrote about metal complexes with Schiff bases as ligands in the introduction but did not show any metal compound in their work. The authors should explain the relevance of showing metal complexes in the introduction or delete this information that does not have relevance to the article
6. "Anti-tuberculosis" appears repeated
7. The yield of the reaction should show only in materials and method, but no in the introduction
8. The authors should correct the sentence "For this reason, he is not recognized in the department"
9. In the introduction, the authors did not explain the relevance of choosing the enzyme selected, nor the relationship with MTB and the focus of the work.
10. The details and the chemical explanation of the synthesis reaction should be in the results and not the methodology
11. The authors mentioned that they used diphenylmethane in the synthesis; however, this molecule does not correspond to the molecule included in the Scheme-1
12. The authors should correct the sentence "Check the structure for missing atoms and broken chains".
13. In the IR spectra, the Cm^{-1} should be a superscript
14. The author should delete the blue title of Fig. 1. Both titles correspond to the same molecule, and this information is shown in the figure caption.
15. The authors should explain in detail which proton corresponds to each signal of the NMR spectra. The solution characterization could be improved.

16. The NMR spectrum is not clear. Should include a spectrum with better quality
17. The authors showed the UV-Vis spectra of the molecule and the assignation of the electron transitions. These designations are based on theoretical calculations or previous work? This information should be clear in the work
18. In mass spectrometry, the authors should indicate what molecule corresponds to the molecular ion. ¿Does this molecule have the same molecular weight reported in the main text?
19. The docking figure would be better with a white background