

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

Qamar Abbas¹

¹ University of Bahrain, Bahrain

Potential competing interests: No potential competing interests to declare.

The research tackles the urgent global health issue of tuberculosis (TB) and explores innovative strategies against multi-drug-resistant strains. This topic is highly relevant and could contribute valuable insights to medicinal chemistry. The synthesis and characterization of the Schiff base ligand, along with computational studies, are meticulously conducted. The use of spectroscopic techniques (FT-IR, UV-Vis, NMR) provides a well-rounded characterization of the synthesized ligand. The manuscript effectively presents the spectroscopic and docking results, making it easier for readers to interpret the data and understand the ligand's properties and potential.

Overall, your manuscript shows solid scientific rigor and offers a promising contribution to anti-tuberculosis research. Implementing these revisions would enhance its clarity, impact, and alignment with publication standards.

Suggestions

The abstract could benefit from a more structured summary, especially detailing the study's main findings. Including quantitative results (e.g., yield, docking score) in a concise format can enhance its impact.

While informative, the introduction could be streamlined to avoid redundancy. Focusing more on the rationale behind choosing the benzothiazole-derived Schiff base and summarizing the background concisely would help maintain readers' engagement.

Minor grammatical improvements and more formal phrasing would elevate the manuscript's readability. For example, revising phrases such as "is now a big problem" to "poses a significant health challenge" would improve the tone.

Adding a schematic or flowchart summarizing the experimental steps in the synthesis and characterization would aid in comprehension, especially for readers less familiar with the synthesis process.

While the results are well-presented, a more in-depth discussion on the ligand's molecular interactions in the docking studies could add value. Explaining why specific binding interactions occur and comparing these with known drugs would strengthen the argument for its anti-TB potential.

Expanding the conclusion to emphasize the broader implications of these findings for future drug development and potential in vivo studies would make the study's contributions more apparent.

