Review of: "Synthesis of 1, 2-Disubstituted Benzimidazoles at Ambient Temperature Catalyzed by 1-Methylimidazolium Tetraflouroborate ([Hmim] BF_4) and Investigating Their Anti-ovarian Cancer Properties Through Molecular Docking Studies and Calculations"

Zeinab Ghasemishahrestani[1]

1 University of Cape Town

Potential competing interests: No potential competing interests to declare.

The article presents a well-articulated examination of green synthesis and computational calculations. However, it falls short in adequately characterizing synthesized molecules and confirming their identity and purity through elemental analysis. Structural and logical issues also emerge, necessitating clarification on aspects such as the alignment of table titles with their respective contents. Certain sections could be repositioned to improve coherence, and the addition of in vitro studies would enhance the robustness of the experimental data. While the article provides valuable insights into benzimidazole synthesis and potential anticancer properties, substantial revisions and further experimental validation are imperative before publication. Addressing these concerns will reinforce the manuscript's contribution to the field of medicinal chemistry and drug design.

Recommendations:

1. Improve the abstract's clarity to summarize the main results rather than resembling the introduction and conclusion.
2. Enrich the introduction with references to previous work, providing context for the reactions used.
3. Provide more detailed experimental procedures, including characterization techniques like FT-IR, 1HNMR, and 13CNMR spectroscopy.
4. Investigate the anticancer properties of synthesized compounds through cytotoxicity tests (MTT/ WST/ PrestoBlue/ CyQUANT, …).
5. Revise the manuscript for grammar, spelling, and clarity.
6. Specify computational methods used, provide detailed procedures for molecular docking, and mention how ADMET properties were obtained.
7. Enhance the discussion of results rather than simply tabulating them and align data presentation for better comprehension.
8. Provide more comprehensive references to support the claims made in the article.