

Review of: "Synthesis of 1, 2-Disubstituted Benzimidazoles at Ambient Temperature Catalyzed by 1-Methylimidazolium Tetrafluoroborate ([Hmim] BF₄) and Investigating Their Anti-ovarian Cancer Properties Through Molecular Docking Studies and Calculations"

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Potential competing interests: No potential competing interests to declare.

This paper presents intriguing findings, yet there are several areas requiring attention:

1. Structure and Logic of the Manuscript:

1) Regarding the substituents (R groups) on compound 3a in Table 1: If they are hydrogen atoms (H), is it necessary to include them?

2) Tables 3, 4, and 5 share identical titles despite containing different data. Moreover, the contents of these tables do not align with their titles.

3) The purpose of the four images presented in Figure 4 is unclear.

4) The section titled "Molecular Docking Study of Anti-Ovarian Cancer Activity of Synthesized 1, 2-Disubstituted Benzimidazoles" contains redundant information, specifically: According to the principles established by Lee Pinsky, the molecular mass of a pharmaceutical should not exceed 500 g/mol to ensure adequate absorption and permeability. This rule has been followed for all compounds synthesized, as reiterated.

5) The sentence structure and logical flow seem questionable in the statement: " On the other hand, the increase in molecular weight due to the decrease in solubility and the decrease in surrounding water molecules causes a decrease in the gastrointestinal absorption of the drug."

6) It would be more logical to position the section "Comparison of the Prepared Catalyst with Reported Ones" between the "Catalytic Performance" and "Molecular Docking Study of Anti-Ovarian Cancer Activity of Synthesized 1, 2-Disubstituted Benzimidazoles" sections.

2. Experimental Data:

1) For compound structure characterization, it is advisable to include elemental analysis and NMR spectra.

2) Although the MTT assay is relatively straightforward, adding data from this experiment would enhance the quality of the article.