

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.

The manuscript titled "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," requires major revision, and some details must be considered before final publication.

Introduction Section:

- Ensure uniformity and better flow by reorganizing paragraphs to establish a clear correlation between concepts. Start with a broad overview of catalytic reactions, then introduce the specific catalyst and its relevance to the study. Transition into the reaction mechanism to provide a foundation for understanding the subsequent experimental results.

Reaction Mechanism:

- Detail the reaction mechanism involving the catalyst in the chemical reaction and how the catalyst functions in the reaction process.

Effect of Temperature on Reaction Time:

- Explain the observed increase in reaction time at higher temperatures with specific compounds. This provides valuable insights into the kinetics of the reaction and the role of temperature.

Experimental Section:

- Include information on alternative ratios tested (other than 1:1) and their outcomes. This enriches the experimental context and helps validate the findings.

Spectral Data Section:

- All newly synthesized molecules need detailed spectral characterization data such as mass, IR, etc., to provide comprehensive spectral data for reproducibility and validation.

Docking Studies:

- Specify the software and tools utilized for docking studies in the Experimental section for transparency and reproducibility.

Linking Docking Results to Anti-cancer Activity:

- Explain how the results from docking studies inform the anti-cancer activity observed. This connection adds significant value by bridging molecular interactions to biological outcomes. Authors are suggested to perform biological activity studies of the synthesized compounds.

General Revision:

- Conduct substantial revisions across all sections to enhance clarity, coherence, and accuracy. Correct typos, technical errors, and ensure a thorough proofreading before publication.