

“Manuscript Number:2024_CSIJ_127406”

The manuscript titled “Synthesis of New Dihydropyrimidine-2-thione Derivatives for Antibacterial Purposes” has been reviewed, It could be accepted after major revision. The comments are as follows:

Title and Bioactivity Screening (Table 1):

The title of the manuscript mentions the synthesis of “dihydropyrimidine-2-thione” derivatives; however, in the bioactivity screening (Table 1), the inclusion of compounds 3a-3h is unnecessary. Furthermore, the authors should compare the effect of different substituents on both types of derivatives to better understand their influence on bioactivity.

Introduction Section:

The introduction is quite brief. It would benefit from the addition of the aim of the current study, as well as a discussion of earlier, well-known methods related to this topic. Additionally, the authors should highlight the drawbacks of these previous methods, particularly in terms of bioactivity.

References:

The references cited are not up to the journal’s standards. The authors need to include more recent studies, particularly those from internationally peer-reviewed journals, to reflect the current state of research in this field.

Experimental Section:

The experimental section requires refinement. For instance, the phrase “Capillary tubes allowed us to measure” is unnecessary and should be omitted. Instead, the authors should specify the type of melting point apparatus used, including the make and model.

Tense in Experimental Section:

The procedures in the experimental section are written in the present tense. This needs to be revised to the past tense, as the procedures were conducted in the past.

Scheme 2 (Mechanism for Chalcone Preparation):

The mechanism for chalcone preparation is available in textbooks. The authors should present the mechanism more scientifically, ensuring that arrows are properly directed and the flow of the reaction is clear.

Table 1 (Bioactivity Results):

In Table 1, all chalcones show the same inhibition diameter, regardless of the substituent pattern. For example, compounds 3a-3f (EA, SA, and PA) all show a diameter of 6 mm. This should be addressed, as it raises questions about the consistency of the results and the influence of the substituents.

References (Current Status of Derivatives):

The reference section needs to be updated to reflect the latest developments in the field and provide a more comprehensive background on the current status of these derivatives.