Review of: "[Review Article] Green Strategies for the Synthesis of Quinolone Derivatives"

Omaima Mohamed Aboulwafa

Potential competing interests: No potential competing interests to declare.

Review manuscript entitled: “Green Strategies for the Synthesis of

Quinolone Derivatives". Authors reported a study that summarizes the recent advancements in green chemistry methods for establishing quinolone scaffolds from various scientific journals, online databases, and libraries, which will help scientists to develop non-toxic and eco-friendly techniques for the synthesis and development of novel drugs.

Here are some suggestions about the manuscript when significant revisions are required. To improve its quality, the following points should be clarified:

- The title conveniently represents the study.
- English language should be checked throughout the manuscript and corrected. There are language, typographical, spelling, and grammatical mistakes. Some verbs are not correct or not reported in the proper tense, and many sentences should be reconstructed.
- Introduction: The word "microbes" is vague and should be more specific, replaced by "Gram-negative bacteria." The same mistake has been repeated on page 6 when authors mentioned Gram-positive microorganisms. The word "gram" should be corrected to "Gram" as it represents the scientist's name.
- On the same page at positions 7, 5, and 6, "membrane rings" should be corrected to "5 and 6 membered rings." "Stage" should be changed to "position."
- On page 7, in the paragraph concerned with the anticonvulsant activity, the first nomenclature is completely wrong: 7-benzyloxy-4, 5-dihydro[1][2][4]triazolo[4,3-a]. What does it mean? The sentence should also be reconstructed. Figure 6 on page 8 should also be reconsidered as no triazole rings are present.
- On page 8, the title "antiplatelet activity" should be changed to "antiplatelet aggregation activity."
- On page 9, the anticancer activity of quinolones is mentioned. However, within the text, authors discuss the antibacterial activity. Please clarify.
- On page 10, the antitumor activity of quinolones is discussed. This paragraph should be combined with the previous section dealing with anticancer activity.
- On page 11, I suppose that on line 2, "bovine cytochrome bc1" is not correct. The first 2 lines are not clear.
- The legends of figures 12a and 12b are not correct.
- The last sentence on page 12 is talking about compound c, compound 8b, and compound 8f. What are these compounds?

- Figure 12c also did not show any interaction. To show binding interactions in figures 12a-c, molecular docking into the respective receptors/enzymes should be provided. Actual drawings did not show any interactions.
- All figure numbers and schemes should appear in the text at their proper places.
- All structures should be reconsidered and redrawn. Please use standard bond lengths and bond angles. All drawings should be of the same size and drawn using the same font size !!!
- On page 4, arrows should be redrawn indicating that the keto form is more stable than the enol form.
- A list of abbreviations should be provided for tumor cells and for all reagents/catalysts.
- On scheme 4 (page 14), what is meant by "PG-free amine"? Please explain.
- On page 15, the sentence: “Malaria is the most deadly infection, killing millions of people yearly, and this synthetic approach is beneficial to treat various malarial ailments” is a general information that has been previously cited in other places.
- In scheme 7 (page 15), please insert conditions for the Conrad-Limpach reaction. Please correct the reaction name.
- In scheme 8 (page 15), please correct N,N’-diarylurease to diarylurea.
- On page 16, what is meant by "allopathic chain lengths"?
- On scheme 11 (page 17), please correct CS2CO3 to CsCO3.
- In scheme 13, the sentence: “This method is needed to eliminate the column and atom economies and uses catalysts that are good for the environment and can be changed” should be reconsidered and explained.
- In scheme 14, combination of 37 and 38. Explain what is meant by these numbers.
- On page 20, what does "amber light NaSr1L" stand for?
- Another confusing point is the reference section.

Many references are available from internet sites that will not be accessed after some time. Could they be changed into other well-documented references?

Reference 63 has been fully capitalized.

The above-mentioned major changes should be considered before the paper can be recommended for publication.