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

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Potential competing interests: No potential competing interests to declare.

The manuscript QEIOS-P5M2Z8 is a review article on Green Strategies for the Synthesis of Quinolone Derivatives. The text is very comprehensive. However, my opinion is to reject the paper as it is. Several issues need to be resolved before it can be published. Some contributions aimed at making the text more precise for the reader are set out below:

1. The article focuses on green chemistry and presents several methods for synthesizing quinolone derivatives. However, it does not compare classical reactions to advances obtained through sustainable chemistry. The authors basically presented an overview of the syntheses used in each of the derivatives, but it is not clear in each procedure what the contribution of green chemistry is. This contribution needs to be discussed in all reactions. In some cases, the contribution is demonstrated, but the question is, can it be better valued? Green chemistry is the article's topic, so it needs to be demonstrated.
2. Indeed, the paper explored much more biological activity than the contribution of green chemistry.
3. Divisions into subchapters grouping the similarities between the methods can be included, such as transition metal reactions, reactions using light as a catalyst, metal-free reactions, etc.
4. The figures and diagrams require standardization, as they currently lack consistency. For instance, some structures depict substituents as OMe and OEt, whereas others represent them as OCH3 and OCH2CH3. The size of the figures, bond lengths, etc., should be standardized.
5. Caption for Figure 8: What are the names of the substances presented? The authors are not placing generic structures but specific structures of compounds with names. Please put this information in the figure caption and apply it throughout the text.
6. Page 9: At position C-7, several replacements were also made ... What is position 7 in the structure? Identify this position to make the reader's life easier.
7. Figures 12a, 12b: The titles do not represent the figures. The figures show three chemical structures but no interactions. This situation must be checked throughout the text.
8. Please carefully review Schemes 4, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17. For example, in Scheme 4, what catalyst was used? ºC, not ºC? In Scheme 5, where is the R group in the product?
9. Schemes 18 and 19 – What catalysts were used? Toluene, is it a green solvent? Where is the green aspect in the reaction?
10. I suggest including the DOI for all references. This will facilitate the search for cited references.

In summary, all figures and schemes must be reviewed very carefully, checking stereochemistry, substituents, and reaction conditions. The review work has potential, but it needs to be carefully reviewed.