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 invites analysis of some synthetic methodologies for the formation of quinolone derivatives, which are structures with a wide range of proven biological activities. Despite indicating relevant information, it is not presented in a correct, aesthetically pleasing, or well-formulated manner.

Below are some deficiencies in the document that could be improved:

-All figures and schemes should be standardized with one style; I recommend using the ACS style, and the sizes of the structures should be appropriate.

-Shift the introduction's focus more towards green synthesis methods rather than the biological activities of quinolones, as it is not the primary focus of the work.

-When indicating the biological activities of quinolones, it should include a value of activity for these compounds and a reference value for comparison and analysis of their effectiveness.

-Review throughout the manuscript, figures, and schemes the molecular formulas; some subscripts are not correctly displayed.

- In most of the reactions shown, there is no commentary on the percentage yield, making it difficult to analyze whether the methodologies are highly efficient.

- Figure 6: No presence of triazole scaffold in the structure.

- Figure 8: The structure displays a bond that, instead of being linked by oxygen, is erroneously linked by the hydrogen of the OH group.

- Scheme 1: Draw the heat symbol to a reasonable scale.

- Scheme 2: The beta-keto ester is incorrectly drawn; an oxygen atom is missing.

- Scheme 3: Hours are symbolized with "h," not "hr."

- Scheme 4: I cannot find the eco-friendly variation of this synthesis; it presents an advantage in enantioselectivity but is a traditional method of obtaining it.

- Scheme 5: In other schemes, "EtOH" is used to refer to ethanol, but here the full word is written. Let's unify the writing format. The hour symbol is inappropriate. The R radical is missing in the product.

- Scheme 6: The text mentions a temperature of 1200 °C when it should be 120 °C. The hour symbol is inappropriate.

- Scheme 7: Specify the structure of the amines used. Improve the overall scheme, ensuring arrows are at the same height.

- Scheme 8: Mentions obtaining N, N'-diaryl urea compounds, but the scheme does not show them. Show these products in another scheme if possible.

- Scheme 9: The synthesis shown is not developed using any unconventional method that contributes to green chemistry.

- Scheme 10: The groups of the R radical are unknown.

- Schemes 11 and 12: Typographical error (CS instead of Cs), Et3N with the N as a subscript, Me_3?

- Scheme 13: Where does R' come from?

- Scheme 14: Why use R3 when there is no presence of R2 in the structures? Indicate only R1 and R2.

- Schemes 16 and 17: Standardize the way substituents are written.

- Schemes 18 and 19 are the same.

In conclusion, the work requires substantial improvement, total restructuring, and a greater focus on the intended thematic topic.