Review of: "Thiazole Schiff Bases as Potential Breast Cancer Drugs through Design, Synthesis, and In Silico Analysis"

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Potential competing interests: No potential competing interests to declare.

The manuscript entitled "*Design, Synthesis, and In-Silico Analysis of Thiazole Embedded Schiff Base Derivatives for Breast Cancer Therapeutic Potential*" by Maher Afroj Khanam et al. deals with the design and synthesis of thiazole group-bearing hydrazone derivatives (TZ1-TZ3). Moreover, the medicinal potential of the compounds (TZ1-TZ10) was evaluated by computational approaches. The article needs a great deal of revision; after that, it can be published. Several points should be addressed by the authors. These are given below.

1. The authors synthesized and characterized three thiosemicarbazones and the corresponding thiazole derivatives, which are not new to the literature. However, in the computational part, they studied 10 molecules, some of which were studied for the first time. So, why did the authors not synthesize and characterize the whole set of compounds (TZ1-TZ10)? In terms of novelty, the synthetic part is not original.
2. In the experimental part, it was stated in the synthesis of compounds (4-6) that "in acidic medium." Which acid and how much mL, molar, etc., were used?
3. In Scheme 1, it is written 4-5, but there are three compounds with the same skeleton. There should be 4-6.
4. The mass spectra of the compounds can be added.
5. In chapter 3.1., in the last sentence, it is said that "All the spectral data of synthesized compounds are given in Table 1-3." However, tables 1-3 are not related to the spectral data, and in the same chapter, there is "Figure X"; please correct it.
6. It is stated in the experimental part, "This mixture was refluxed at 60 °C for 3 hours," and in the caption of Scheme 1, "reflux for 3 h at 60-70 ^{o}C." Ethanol boils at around 78^{o}C. Was the mixture refluxed or heated? Please check it.
7. The known compounds (4-6 and TZ1-TZ3) can be cited with previously reported studies.

Finally, the synthetic part of the study is lacking in novelty. It is advised that whether the compounds (TZ-4-10) can be included by synthesizing or the synthetic part can be excluded so that it can be accepted as a theoretical study. In the current situation, the theoretical part and the experimental part of the article will be imbalanced. I would like to see the final state of the manuscript before publication.