Review of: "Effect of daylight and air oxygen on nanozymatic activity of unmodified silver nanoparticles: Shelf-stability"

Anna Tverdokhlebova[1]

1 Clarkson University

Potential competing interests: No potential competing interests to declare.

The experimental paper entitled " Effect of daylight and air oxygen on nanozymatic activity of unmodified silver nanoparticles: Shelf-stability" is well readable, and quite actual.

Please see the comments below:

1. No need to explain TMB abbreviation for several times.
2. Try to improve the quolity of the abstract picture (structural formulas).
3. Introduction section:

- “However, their application in medical science was also damned, especially for the design of hematological tests to diagnose different diseases for instance neurodegenerative diseases [11].” “For instance” should be separated by commas.
- “The new field of catalysis which was introduced as an alternative to enzyme-based catalysis is called enzyme-based catalysis.” Unclear sentence.
- “Afterward, the stability of the catalytic activity of the as-prepared nanozymes was also checked upon their storage at ambient temperature in different storage conditions dark, daylight, and open air.” Use colon for enumeration.

4. Section 2.2: explain the reason for using $NaBH_4$.
5. Section 2.3: double check the properties of acetate buffer: pH 0.4?
6. Section 3.1:

- “In this regard, the TEM image of the as-prepared nanozyme was recorded and the results are shown in Figure 1, as shown in this figure, the as-prepared silver nanoparticles showed uniform morphology with spherical particles.” The statement should be revised.
- Additional data for characterization of nanozymes is needed.

7. Section 3.2:

- “The results are shown in Figure 2, as shown in this figure, in the presence of TMB, the as-synthesized nanozymes catalyze the oxidation process of TMB by hydrogen peroxide to produce its corresponding blue-colored cation radical, TMB-ox with a shoulder 440-485 nm (λmax of 460 nm) and a symmetric spectrum over 500-750 nm (λmax of 658 nm).”

The statement should be revised.

- Change Figure 3 to Figure 2.

8. Section 3.3: clarify if you provided the daylight during night hours, and if so, how.
9. Uniform the using of the term nanoparticles or nanozymes throughout the manuscript.