**Title:** Synthesis, structure characterization, DNA binding, and cleavage properties of mononuclear and tetranuclear cluster of copper(II) complexes

Dear Editor of Journal Acta Chimica Slovenica

Thank you for your useful comments our manuscript. We have modified the manuscript accordingly, and the detailed corrections are listed below point by point:

General comments  
There is still necessary to improve the language. I advise you to use one of the available web manuscripts editing service or to ask an English speaking scientist to help you in this matter.

We sent the manuscript to “Radan English Edit” to edit and check the English professionally by native English speaking chemist to avoid language errors.



**Reviewer A**:  
  
Comments for the authors::

The paper by Vafazadeh et al. describes the synthesis of two copper(II) complexes have been synthesized by reacting acetylacetone and benzohydrazide with CuCl2  and their DNA binding, and cleavage properties. This paper might become suitable for publication in Acta Chimica Slovenica.  
  
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**Reviewer B:**  
  
Comments for the authors::

The manuscript deals with the synthesis of mononuclear and tetranuclear cluster of copper(II) complexes , and their evaluation on Nuclease activities. The results may be an interesting addition to this area. It should be of interest to the readership of the above Acta Chimica Slovenica. Therefore I recommend acceptance of the paper and publication after the following minor issues have been addressed:  
1. References should be updated; several of them are quite dated. Such as No. 15 -16. Cite reviews that are post-2005 .References to other DNA bonding copper(II)  compounds are lacking. The authors should conduct a thorough literature check and discuss their results in the context of known work.

The old references were replaced by the new updated references in the manuscript (ref. 15, 16 ...…).

2. The solvent was DMSO and DMF, but the blank test have not been provided by Authors.

The spectra were recorded against an analogous blank solution containing the same concentration of DNA.

The explanation was added to the text.

3. The DNA interactions should be studied using UV-vis spectroscopy, spectrofluirometric titrations, viscosity measurements and melting experiments.

The investigation of the DNA interactions were performed with UV spectroscopy. However, we could not perform DNA solution viscosity measurements, cyclic voltammetry, spectrofluirometric titrations and melting experiments due to unavailability of required devices,.

Many investigation of the DNA interactions have been performed only with UV spectroscopy, for example: Inorg. Chim. Acta 376 (2011) 264–270, J. Photochem. Photobiol. B 104 (2011) 449–456, Polyhedron 49 (2013) 167–176, J. Coord. Chem. 66 (2013) 227–242.

4. Can a better quality electrophoresis figure (Fig .4.) be shown? It is not very clear from the current one what the differences are between different complexes' concentrations (and even with respect to the control).  
A better quality electrophoresis figure was added to the text, I think the original file (figure 4.tiff) is clearer.

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**Reviewer C:**  
  
Comments for the authors::   
        Authors present biological evaluation of two copper complexes bonded to the ligands prepared from acetylacetone and benzohydrazide. One of these complexes is novel and its X-ray structure is described.  
The authors discuss the issues regarding the ligand preparation since the condensation of acetylacetone and benzohydrazide lead to the formation of substituted pyrazolines that can, after a subsequent hydrolysis act as a suitable ligands.  
Manuscript deals also with DNA binding studies of both complexes and binding constants were determined. Furthermore plasmid DNA cleavage was also studied.   
My recommendation is to accept the manuscript after minor corrections.  
  
Some suggestions:  
- Scheme 1: it would be easy to follow if a structure of cluster 1 would be schematically presented (at least in a simplified manner - the tetranuclear core ...)

The scheme 1 has been revised in accordance with the suggestion.

- I would suggest inserting also a Scheme presenting the preparation of the bzpyzn ligand and the complex 2.

The new scheme (scheme 2) was added to text.to present the preparation of the bzpyzn ligand and complex 2.

- Some up-to-date references are missing. I strongly recommend to include the work of Psomas group, like review paper Dalton Trans. 2013, 42, 6252-6276 and his other work with Cu(II) complexes: J. Inorg. Biochem. 2012, 117, 35-47; J. Inorg. Biochem. 2012, 113, 55-65;  J. Inorg. Biochem. 2011, 105, 476-489.

Suggested references had been added to the manuscript. Also, in the revised manuscript, the old references were replaced by the new updated references.

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