**Dear Prof. Milos Duran,**

**Editor**

**Journal of the Serbian Chemical Society**

|  |  |  |
| --- | --- | --- |
| **Manuscript ID** | **:** | **6881** |
| **Title** | **:** | **Spectral, NLO and antimicrobial studies of Co(II), Ni(II) and Cu(II) complexes of Schiff base ligands of 2-amino-6-nitrobenzothiazole** |

Thank you for your useful comments and suggestions on the improvement of our manuscript. We have modified the manuscript and please find enclosed the revised manuscript entitled **“Spectral, NLO and antimicrobial studies of Co(II), Ni(II) and Cu(II) complexes of Schiff base ligands of 2-amino-6-nitrobenzothiazole”** to be considered for publication in the **Journal of the Serbian Chemical Society**.

All the comments of the reviewers are addressed and they are given below,

**Reviewer B:**

Does the manuscript contain enough significant original material?:

 yes

Is the manuscript clearly and concisely written?:

 yes

Are the conclusions adequately supported by the data?:

 yes

Does the manuscript give appropriate credit to related recent publications?:

 yes

Are the references appropriate and free of important omissions?:

 no

Is the length of the manuscript appropriate?:

 no

Does the manuscript need condensation or extension?:

 no

Is the quality of the figures (including legends and axes labelling)

satisfactory?:

 no

Are the nomenclature and units in accordance with SI?:

 yes

Are the English grammar and syntax satisfactory?:

 no

**ADDITIONAL COMMENTS**

**Please indicate the page numbers for suggested corrections. Please, be as specific as possible if major correction by the author(s) is recommended! :**

CHINNARAJ KANAGAVALLI and others reported on the synthesis, spectral, NLO and antimicrobial studies of Co(II), Ni(II) and Cu(II) complexes of Schiff base ligands of 2-amino-6-nitrobenzothiazole.

Their work looks good but, the following points need to be clarified:

1. The language of the manuscript need to be revised carefully.
* **As per your kind suggestion the manuscript has been revised wherever it is needed.**
1. The procedure applied for the complex synthesis is not clear, especially complexes with L4 ligand …..? There must be a bi product of this reaction the authors does not mention it.
* **The unreacted salicylaldehyde may form complexes, but the possibility is very less. Because during synthesis of Schiff base, the final product was checked with TLC and it was found that single product is formed**

1. The structure of the complexes needs to be proved by (single crystal, CHN microanalysis).
* **We could not able to get single crystal, but the elemental analysis of the complexes were done and reported. (Supplementary materials)**
1. The adopted structures of complexes with ligands L1-L3 are highly strained additional characterization methods are required.
* **As per your suggestion CHN analyses were done and reported to prove the structures (Supplementary materials)**
1. The biological activities of the ligands and their metal complexes require more discussion and references must be inserted.
* **As per your instruction, we have included more discussion and references in the biological activity**
1. The effect of substituents on the activity is not adequately discussed.
* **As per your indication, the discussion on the effect of substituents is elaborated**

**After the above mentioned points, the work can be accepted for publication**.

**Reviewer E:**

Does the manuscript contain enough significant original material?:

 yes

Is the manuscript clearly and concisely written?:

 yes

Are the conclusions adequately supported by the data?:

 yes

Does the manuscript give appropriate credit to related recent publications?:

 yes

Are the references appropriate and free of important omissions?:

 yes

Is the length of the manuscript appropriate?:

 yes

Does the manuscript need condensation or extension?:

 no

Is the quality of the figures (including legends and axes labelling) satisfactory?:

 yes

Are the nomenclature and units in accordance with SI?:

 yes

Are the English grammar and syntax satisfactory?:

 yes

**ADDITIONAL COMMENTS**

**Please indicate the page numbers for suggested corrections.**

**Please, be as specific as possible if major correction by the author(s) is recommended! :**

3, 5, 6

REPORT:

The article entitled, Spectral, NLO and antimicrobial studies of Co(II), Ni(II) and Cu(II) complexes of Schiff base ligands of 2-amino-6-nitrobenzothiazole” describes the synthesis and characterization of four Schiff base ligands with electron withdrawing NO2 substituent and electron donating alkyl and hydroxyl groups (ligands L1-L4). The ligands were further used for the synthesis of their complexes with Cu(II),Ni(II) and Co(II) metal ions. Obtained compounds were evaluated in terms of their NLO and antimicrobial activity.

The structure of the ligands is stated on the basis of 1H NMR and FT-IR. I think 13C NMR, MS and elemental analysis should be done as well and the results added to the paper. I recommend recrystallization of the complexes in order to confirm the structural aspects that are deducted from UV-Vis and magnetic susceptibility studies. It would increase the value of the paper.

AAS showed high purity of the complexes with regards to metal ions. It would be good to do at least the elemental analysis as well as ESI-MS to further confirm the purity and structure of the complexes. In general, I think that the paper lacks discussion of the results and comparison of the herein obtained results with other, similar compounds described in literature so far.

Other details that, in my opinion, need to be corrected:

1. Table 1 should be deleted and “X = “ should be added to the Fig. 1.
* **The correction was made as per your indication**
1. -In synthesis of metal complexes: “… in 25 ml of ethanol…”, “MCl2•nH2O”.
* **The correction was made as per your indication**
1. In 1H NMR the number of aromatic protons is missing in case of L1, L3 and L4.
* **The number of aromatic protons is included in 1H NMR of L1, L3 and L4 Schiff bases**
1. In Electronic absorption spectra Authors should uniform the style of numbering: i.e. 10,000 cm-1 and 14684 cm-1.
* **The numbering was made uniform in the discussion of electronic absorption spectra**
1. In antimicrobial screening: instead of “…and their metal complexes are resistant towards the bacterial strains…” should be “…the bacterial strains are resistant towards their metal complexes”.
* **As per your instruction the sentences are corrected by us**
1. Table 3 – what is R?
* **The meaning of R is resistant towards inhibition activity (In this revised manuscript Table 3 is denoted as Table 2)**

After a careful reading I recommend the article for publishing after major revision.

In my opinion, this manuscript should:

be published after major revision and additional review

Once again I thank for your valuable comments to clear my mistakes.

Thank you very much for your efforts in handling this manuscript.

Look forward to seeing your reply.

Yours sincerely,

**Dr. Manivannan Kalanithi**

Associate Professor,

PG and Research Centre of Chemistry,

Jayaraj Annapackium College for Women,

Periyakulam, Theni-62560,

Tamil Nadu, India

\*E-mail: kalacharle@gmail.com