RESPONSE TO THE REVIEWERS

The manuscript has been reviewed accordingly to reflect the various corrections suggested by the reviewers and the journal editor.

The changes made are indicated below:

1. Whilst I have little doubt as to the structure of the complexes prepared
in this report, the elemental analysis cannot indicate that the chlorides
are coordinated.  They could be there are non-coordinating anions and the
CHN values would be identical.  The inference that the chlorides are
coordinated is derived from other data and this should be clear.

**Remark:** The micro-analytical data for the complexes indicated a 1:2 (M:L) coordination for the 3-aminopyridine and 3-aminomethylpyridine ligands (L2, L3 and L5); 1:1 (M:L) for the 2-aminopyridine and 2-aminomethylpyridine ligands (L1, L4 and L6). The conductivity values for most of the complexes (L1, L2, L3, L5, and L6) range between 57.95 and 47.80 $Ω^{-1}cm^{2}mol^{-1}$, indicating non-electrolytes. However, the value for the L4 complex corresponds to 1:1 electrolyte.29 These values indicate that the complexes, therefore, have the molecular formula [M(LH)2Cl2].xH2O for ligands L2, L3 and L5; [MLCl] for L1 and L6; and [M(LH)(H2O)Cl]Cl for L4, as presented in figures 1-3. This was further substantiated by the infrared spectral data. **PAGE 8**

1. The reference for the Shelx software suite should be a single citation
to: G. M. Sheldrick, Acta Cryst., A64 (2008), 112.

**Remark:** The structure was solved by the direct method using the program SHELXS-9729 and refined anisotropically by full matrix least-squares on F2 using SHELXL-97.29 **PAGE 8**

 29. G. M. Sheldrick, *Acta. Cryst.* **A64,** (2008) 112.

 3. The MIC studies are interesting but for a coordination chemist there is
no reference to other studies in the literature.  Are these values better or
worse than other systems?  This would be good to include since it gives
useful context to these studies.  The addition of some references would
benefit the manuscript in this regard.

**Remark:** The *o*-vanillin based compounds were very active against the tested organisms especially Candida *albicans*. They exhibited higher antifungal activity than the commercially available anti-fungal drug, ketoconazole, at $10 μg/mL$; it may thus be considered as a promising antifungal agent, upon further study. On chelation, however, the antimicrobial activity of the compounds did not increase as expected, rather the presence of the Cu(II) ion lowered their potency. Although, most free ligands exhibit higher biological activity in the presence of metal ions; 16–21 cases of lower activity upon chelation with metal ions also exist. 40,41 Furthermore, Kowol etal42 has demonstrated that the effect of metal ion on the biological activity of a given bio-active compound is metal specific. **PAGE 14**

1. A part of the work is focused on testing the antimicrobial activity of the synthesized compounds (both the ligands and their Cu(II) complexes). What are the reasons why the authors focused this objective? They should address this question in the Introduction Section, by including and discussing possible backgrounds existing in the scientific literature on this subject.

**Remark:** Schiff bases of aminoalkylpyridines are known to be structurally related to compounds participating in vitamin B6 chemistry.5 They have been demonstrated to possess significant biological activity such as antimicrobial,2,6–12 anti-inflammatory,13 and anti-viral activity.14 Studies have shown that the biological activity of free ligands sometimes become enhanced upon coordination with metal ions.15–21 **PAGE 2**

1. The authors should also emphasize the relevance of the results obtained from the studies of the biological activity; i.e., in addition to the overall assessment of the results obtained (as done in the text), it should be necessary to compare with data collected from the specific literature. Further, based the results obtained in this work, what are the possible conclusions? Where would the authors address their future research?

**Remark:** On chelation, however, the antimicrobial activity of the Schiff base ligands did not increase as expected, rather the presence of the Cu(II) ion lowered their potency. Although, several free ligands exhibit higher biological activity in the presence of metal ions; 16–21 cases of lower activity upon chelation with metal ions also exist. 40,41 Furthermore, Kowol etal42 has demonstrated that the effect of metal ion on the biological activity of a given bio-active compound is metal specific. **PAGE 14**

1. \*At the end of the row 82 (page ) it should be written 2-aminopyridine instead 3-aminopyridine

**Remark:** The procedure was the same as ligand L1 using 3-aminopyridine instead of 2-aminopyridine. **PAGE 3**

1. Are the synthetic procedures for both (MLi) and (MLi)2 similar? If so it should be explained in the text of 128-130 rows.

**Remark:** All the Cu(II) complexes were prepared similarly by modifying the technique used for the preparation of metal complexes of some aminopyridine Schiff base ligands,28 as typified below. **PAGE 5**

1. \*At 178 row, instead the phrase “*The complexes are therefore of the forms…”* it should be more appropriate to write “The complexes have therefore the molecular formula…”
2. **Remark:** These values indicate, therefore, that the complexes have the molecular formula [M(LH)2Cl2].xH2O for ligands L2, L3 and L5; [MLCl] for L1 and L6; and [M(LH)(H2O)Cl]Cl for L4. **PAGE 8**
3. \* Although I am not an expertise in the English language I am afraid that in this case the text should be carefully revised.

**Remark:** The manuscript has been thoroughly revised for grammatical and typographical correctness.

Thanks.