

Review of: "Synthesis and Antibacterial Screening of Cefradine Schiff Bases and Their Metal Salts"

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Potential competing interests: No potential competing interests to declare.

The manuscript "Synthesis and Antibacterial Screening of Cefradine Schiff Bases and Their Metal Salts" describes the synthesis, characterisation and antibacterial studies of a series of salts and complexes with Schiff Bases derived from cefradine. The methodology applied to synthesize the compounds were simple but the spectroscopic methods used not provide a proper characterisation of the compounds. Some data are not properly interpreted and the activity is not so good. My overall comment is that these data do not present interest for the readers in this form. I therefore recommend rejection having in view the following aspects:

- Excepting Na⁺ and K⁺ species, the compounds are not salts but complexes.
- The chemical analyses are missing so the composition of compounds is not provided. The species could contain water in composition and this can be evidenced by chemical or thermal analyses.
- The Ag⁺ species are photosensitive so requires special condition for synthesis.
- The used ions generate compounds with a low stability in solution so the species tested for biological activity are not the same with that separated in syntheses.

Wrong presented data:

- A structure for a complex cannot be ascertained by spectroscopic data. For these species single crystal X-ray diffraction is required.
- In IR spectra of complexes two bands appear for carboxylate group and not for C=O (Carboxylic) indicating by their position either free carboxylate presence (in salts) or the coordination mode in complexes.
- The bacterial source is not presented (i.e. ATCC or others).
- Is not mentioned if samples were inoculated as solid or solution.
- In Scheme 1 n is not mentioned and M is not only + but also 2+.
- In Table 3 are not structures presented.