Synthesis, structure and biological activity of nickel(II) complexes of 5-methyl 2-furfural thiosemicarbazone

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Résumé en anglais	5-Methyl 2-furfuraldehyde thiosemicarbazone (M5HFTSC) with nickel(II) leads to three types of complexes: $[Ni(M5HFTSC)_2X_2]$, $[Ni(M5FTSC)_2]$ and $[Ni(M5FTSC)_2]\cdot 2DMF$. In the first type the ligand remains in thione form, while in the two other, the anionic thiolato form is involved. The species $[Ni(M5HFTSC)_2X_2]$ has been characterized spectroscopically. The structures of $[Ni(M5FTSC)_2]\cdot 2DMF$ and $[Ni(M5FTSC)_2]$ have been solved using X-ray diffraction. Biological studies of $[Ni(M5HFTSC)_2Cl_2]$ have been carried out in vitro for antifungal activity on human pathogenic fungi, *Aspergillus fumigatus* and *Candida albicans*, and in vivo for toxicity on mice. The results are compared to those of the ligand, the metal salt and a similar copper complex $[Cu(M5HFTSC)Cl_2]$.
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