Synthesis, structure and antifungal activity of thiophene-2,3-dicarboxaldehyde bis(thiosemicarbazone) and nickel(II), copper(II) and cadmium(II) complexes: Unsymmetrical coordination mode of nickel complex

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Résumé en anglais	AbstractThe reaction of nickel(II), copper(II) chlorides and cadmium(II) chloride and bromide with thiophene-2,3-dicarboxaldehyde bis(thiosemicarbazone) (2,3BTSTCH2) leads to a series of new complexes: [Ni(2,3BTSTCH)]Cl, [Cu(2,3BTSTC)], [CdCl2(2,3BTSTCH2)] and [CdBr2(2,3BTSTCH2)]. The crystal structures of the ligand and of [Ni(2,3BTSTCH)]Cl complex have been determined. In this case, we remark an unusual non-symmetrical coordination mode for the two functional groups: one acting as a thione and the second as a deprotonated thiolate. All compounds have been tested for their antifungal activity against human pathogenic fungi: Candida albicans, Candida glabrata and Aspergillus fumigatus, the cadmium complexes exhibit the highest antifungal activity. Cytotoxicity was evaluated using two biological methods: human MRC5 cultured cells and brine shrimp Artemia salina bioassay.
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Liens
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