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Title: Ni(II) and Mn(II) complexes of NNS tridentate ligand N'-[(2-methoxyphenyl)carbonothioyl]pyridine-2-carbohydrazide (H₂mcph): Synthesis, spectral and structural characterization

Authors: Singh, Sanjay (/jspui/browse?type=author&value=Singh%2C+Sanjay)

Keywords: Crystal structure
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Abstract: The ligand N'-[(2-methoxyphenyl)carbonothioyl]pyridine-2-carbohydrazide (H₂mcph), having NNS donor sequence, has been found to form [Ni(Hmcph)₂]·CH₂Cl₂·0.5C₆H₆ and [Mn(Hmcph)₂]·2H₂O which have been characterized by spectroscopic and spectrometric techniques including magnetic susceptibility measurements and single crystal X-ray of both complexes. The compounds crystallize in the triclinic and monoclinic systems with the space group P₁ and P2₁/c, respectively with a distorted octahedral geometry about the M(II) center. The ligand is coordinated through the ring nitrogen, hydrazinic N and thione sulfur. The hydrazinic nitrogen coordinates with a shorter M-N distance than the ring nitrogen and the bond lengths in the chelate ring systems are intermediate between single and double bond distances, suggesting considerable delocalization of charge.

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