

Structural, spectroscopic and magnetic properties of Mn(II), Co(II) and Ni(II) complexes with 2-hydroxy-6-methylpyridine ligand.

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Streszczenie

New $[M(SCN)_2(L)_4]$ complexes, where $M = Mn(II)$, $Co(II)$, $Ni(II)$ and $L = 2$ -hydroxy-6-methylpyridine were synthesized. Electronic structures of the complexes were calculated using DFT method, and the descriptions of frontier molecular orbitals and the relocation of the electron density of the compounds were determined. The crystal field splitting, Racah repulsion and nephelauxetic parameters and determined from the electronic spectra of the complexes. The magnetic properties of the complexes were determined in the range 1.8–300 K. In the lowest temperature range a very weak antiferromagnetic interactions between $M(II)$ centers in the crystal lattice were observed.

Słowa kluczowe

Manganese(II), Cobalt(II), nickel(II), 2-Hydroxy-6-methylpyridine, X-ray structure, DFT calculation, electronic structures, luminescence, Magnetic properties

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