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Specific features of spin-variable properties of [Fe(acen)pic₂]BPh₄ · nH₂O

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Abstract

© 2016, Pleiades Publishing, Ltd. The [Fe(acen)pic₂]BPh₄ · nH₂O compound has been synthesized and studied in the temperature interval of 5–300 K by the methods of EPR and magnetic susceptibility. The existence of ferromagnetic interactions between Fe(III) complexes in this compound has been revealed, in contrast to unhydrated [Fe(acen)pic₂]BPh₄. The reduction in the integrated intensity of the magnetic resonance signal as the temperature decreases below 80 K has been explained by the transition of high-spin ions to the low-spin state. It has been shown that the phase transition temperature in the presence of intermolecular (ferromagnetic) interactions is lower than that in the case of noninteracting centers.

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