

AC ELECTRICAL CONDUCTIVITY OF OCTAPHENY TETRAPYRAZINOPORPHRAZINE NIKEL (II)

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ABSTRACT

The ac conductivity of Octapheny tetrapyrazinoporphrazine Nickel (II) (OpTpPzNI (II),) was measured in the frequency range of 5×10^3 to 5×10^5 Hz, and temperature range 303 to 393 K. The dc conductivity was measured in the same temperature range. The measured ac conductivity, consists of frequency independent part (dc conductivity) and frequency dependent part (pure ac conductivity). The ac conductivity results from hopping of charge carriers, between localized sites around Fermi levels. The hopping site is the indication of the degree of imperfection, in the crystal. The number of the hopping sites was calculated, using Webb and William equation, which is estimated to be 7.6×10^{18} eV- 1cm^3 .

KEYWORDS: Octaphenyl Tetrapyrazinoporphrazine Nickel(II), Frequency Independent Conductivity(Dc Conductivity) & Frequency Dependent Conductivity (Ac Conductivity)