

DC ELECTRICAL CONDUCTIVITY OF IODINE DOPED OF BRIDGED TETRAPYRAZINOPORPHRAZINEVANADYL OXIDE

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ABSTRACT

A bridged compound from TetrapyrazinoporphrazineVanadyloxide and p- Dicyanobenzene was synthesized. A thin surface film from the bridged compound and the complex were cast on a glass substrate and its dc electrical conductivity was measured. The two thin surface films from the two complexes were doped with Iodine vapour for one night. The excess iodine was removed by heating at 110 °C for one hour and their dc electrical conductivity were measured and compared. The electrical measurement shows that the iodine doped thin film have higher conductivity than the undoped due to the oxidation of the complex by the Iodine. The bridged complex with p-Dicyano benzene has lower dc conductivity than the unabridged, which could be attributed to the separation gap between the ring groups by p-Dicyanobenzene.

KEYWORDS: Tetrapyrazinoporphrazinevanadyl Oxide, Its Bridged Complex, Iodine doping and electrical Properties