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Synthesis and characterization of tolbutamide palladium complex by thermal, spectral and X-ray studies
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Abstract

This paper deals with the synthesis and characterization of a tolbutamide(I)-palladium complex. Tolbutamide is an oral hypoglycemic agent. The conductometric titrations were conducted using monovariation method which shows the ligand:metal ratio as 2:1. Molar conductance value indicate that complex as non-ionic in nature. Analytical results agree to the molecular formula (C₁₂H₁₇N₂O₃S)₂Pd·2H₂O. Structure of the complex was assigned as octahedral in which ligand molecules joining the central palladium atom and one water molecule each attached vertically with the palladium. Infrared spectral studies confirm coordination of sulfonyl oxygen on side and enolic oxygen attached from other side with the palladium ion. IR and ¹H NMR studies supports structure (II) proposed on the basis of analytical data. Magnetic susceptibility data suggested that complex is diamagnetic. Thermal studies supports the presence of ligand moieties and coordinated water. X-ray diffraction data also support the structures of the complex.

Author Keywords

Characterization; Palladium-Tolbutamide complex; Synthesis

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