EPR AND NMR STUDY OF PARAMAGNETIC RUTHENIUM (IV) AND RUTHENIUM (III) COMPLEXES OF 3-AMINO-2-CHLOROPYRIDINE

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Among the non-platinum metal-based chemotherapeutics much attention has been paid to ruthenium complexes. Recently a series of new paramagnetic mononuclear Ru(III) (d⁵) and Ru(IV) (d⁴) complexes of 3-amino-2-chloropyridine (acp) have been prepared, structurally characterized and their cytotoxic effect was evaluated. Here we report EPR and ¹H-, C¹³-NMR spectroscopic studies of the complexes, namely (Hacp)⁺[Ru(IV)Cl₅(acp)]⁺(1), trans-[Ru(IV)Cl₄(acp)₂] (2) and (Hacp)⁺ [Ru(III)Cl₄(acp)₂] (3) (Fig. 1). NMR spectroscopy was applied for the study of the molecular stability and the hydrolysis of the complexes in an aqueous solution. The solid and solution EPR characterization was used to investigate the redox stability of the complexes.

References