Dimethyl sulfoxide containing platinum(II) and palladium(II) chelate complexes of glyoxylic and pyruvic acid thiosemicarbazones. A new class of cytotoxic metal complexes.

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he complexes [Pt(DMSO)(GT)]·DMSO (1), [Pt(DMSO)(PT)]·1/2DMSO (2) and [Pd(DMSO)-(PT)] (3), where DMSO = dimethyl sulfoxide, H2GT = glyoxylic acid thiosemicarbazone andH2PT = pyruvic acid thiosemicarbazone, have been synthesized and characterized by elemental anal-ysis, molar electric conductivity, IR, electronic and NMR (1H and13C) spectra. The single crystalX-ray diffraction analysis has revealed for1(orthorhombic,Pnma,a=12.941(3),b=7.108(2),c=15.148(3) °A,Z=4) that the doubly deprotonated thiosemicarbazone molecule is coordinatedto Pt(II)viathe carboxylato O, azomethine N and thiolato S atoms forming two condensed five-membered chelate rings. The fourth coordination site of Pt(II) is occupied by the S atom of DMSO.All the atoms of the complex molecule are coplanar except the methyl groups. The O atom of DMSOis incis-position towards the thiolato-S atom (point groupCs). A system of hydrogen bonds of thetype N–H···O links the complex molecules between them and with the lattice DMSO molecules.Similar structures have been deduced for the remaining two complexes on the basis of spectroscopicdata. The three complexes and the ligand H2GT exhibit cytotoxic activity against F4N leukemia cells,whereas the ligand H2PT is inactive

Słowa kluczowe

Palladium(II) and Platinum(II) Thiosemicarbazonato Complexes, Crystal Structure, Cytotoxic Activity

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