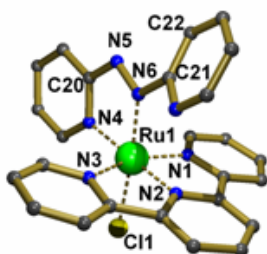


Development of Anticancer Ruthenium Compounds

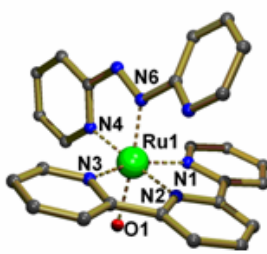
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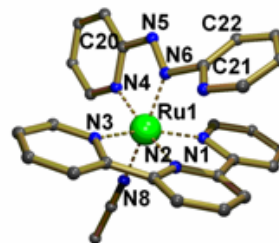
Recently a large interest has grown in ruthenium polypyridyl complexes as a possible alternative to the use of platinum in chemotherapy¹. Some of these complexes, such as Ru(tpy)Cl₃ (where tpy = 2,2':6',2''-terpyridine), have demonstrated an improved anticancer activity with respect to cisplatin in several fronts². Three ruthenium polypyridyl compounds of structural formula [Ru(apy)(tpy)Lⁿ](ClO₄)_(2-n) (apy = 2,2'-azobispyridine; tpy = 2,2':6',2''-terpyridine; L = Cl, H₂O, CH₃CN) (**1a-c**) were synthesized and crystallized³. The ligand 2,2'-azobispyridine (apy)⁴, has the potential capability of acting as a bridge between the Ruthenium atom and a second metal⁵. Finally, the sixth coordination site is occupied by ligands with different properties, which could yield useful results in the search for Structure-Activity Relationships of such compounds.



1a



1b



1c

1. J. Reedijk, *PNAS* 2003, **100**, 3611-16.
2. O. Nováková, J. Kaspárková, O. Vrána, P.M. van Vliet, J. Reedijk, V. Brabec, *Biochemistry* 1995, **34**, 12369.
3. E. Corral, A.C.G. Hotze, D.M. Tooke, A.L. Spek, J. Reedijk, *Inorg. Chim. Acta* 2003, to be submitted.
4. A. Kirpal, E. Reiter, *Chem. Ber.* 1927, **60B**, 664.
5. W. Kaim, *Coord. Chem. Rev.* 2001, **219-221**, 463-488.