S06-FP16

DESIGN, SYNTHESIS AND CHARACTERIZATION OF NOVEL HETEROBIMETALLIC RUTHENIUM(II)-GOLD(I) COMPLEXES AS POTENTIAL ANTICANCER DERIVATIVES

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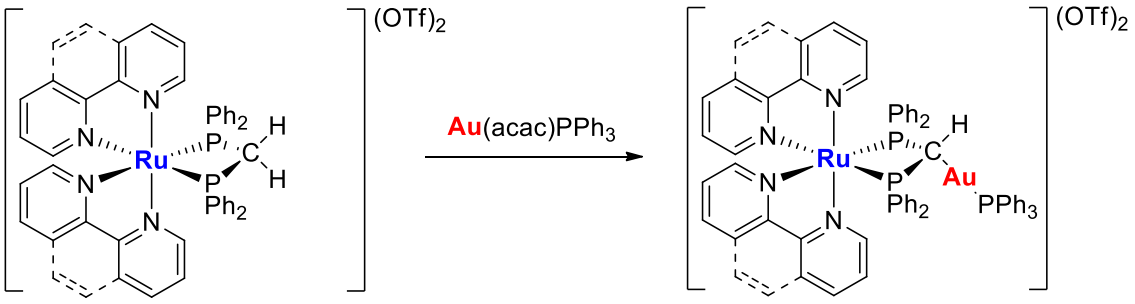
Keywords: *Ruthenium, Gold, anticancer, luminescence*

Heterobimetallic compounds are designed to exploit the chemistry and the beneficial effects shown by distinct metal species. [1] Based on the combined anticancer properties of several Ruthenium and Gold compounds, [2] the heterobimetallic ruthenium(II)-gold(I) complexes were obtained with the aim of investigating whether multifunctional heterometallic compounds could be promising candidates for cancer treatment.

The new complexes were synthesized starting from ruthenium(II) precursors bearing bidentate nitrogen donor heterocyclic ligands, specifically $[Ru(bpy)_2Cl_2]$ **(1)** and $[Ru(phen)_2Cl_2]$ **(2)** (bpy = 2,2'bipyridine or phen = 1,10-phenanthroline). Both ruthenium(II) and gold(I) organometallic fragments were incorporated through linkers trifunctional diphosphane methanide ligands **(Scheme 1)**.

The resulting complexes have been studied by analytical and spectroscopic techniques (ESI-ms, IR and heteronuclear bidimensional NMR). The cytotoxic activity of these complexes in cancer cells have been studied and in addition, as they have luminescent properties, biodistribution studies in order to know the possible biological target have been performed.



References

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