to the large number of Pc and MPc PDT agents studied to date, all of which produce $^1O_2$ in solution. JM 2929 is, to our knowledge, the first transition metal MPc to show PDT activity. The exact nature of the Type I reaction which is involved in the JM 2929 mediated phototoxicity is currently being investigated.

Conclusions

Novel water soluble RuPcs sensitisers have been synthesised using the versatile precursor (Pc)Ru(PhCN)$_2$. These new complexes can be easily prepared in high yield as non-isomeric pure compounds. The biological properties of one of these complexes, JM 2929, have been extensively studied and it has been found to be a potent PDT agent both *in vitro* and *in vivo*. The development of JM 2929 and other ruthenium based sensitisers is continuing towards clinical evaluation.

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The Published Platinum Metal Alloy Systems

Phase Diagrams of Precious Metal Alloys, First Supplement

COMPILED BY HE CHUNXIAO, ZHOU YUEHAU AND WANG WENNA

The Metallurgical Industry Press, People's Republic of China, 1993, 340 pages, U.S.$60

Some ten years ago, an important compilation of phase diagrams of precious metals alloy systems which had been published prior to 1976, was brought to the attention of readers (*Platinum Metals Rev.*, 1984, **28**, (3), 108). During the years 1976 to 1985 there were significant developments in the study of precious metal alloy phase diagrams, and by the end of 1985 the number of known systems had reached 754, mainly ternary and quaternary systems. In order to meet the needs of researchers, a First Supplement to the former book – which was published in 1983 – has now been compiled (mainly in Chinese but supported where necessary in English). This supplement collects together information on 380 systems of 641 phase diagrams published from 1976 to 1985, including 150 binary, 212 ternary and 15 quaternary systems that contain a precious metal. Of these over 85 binary, 160 ternary and eight quarternary systems involve the platinum group metals.

It is worth noting that the systems occurring in both the earlier book and this supplement are listed in the contents section of the latter. In addition to over 1765 binary and ternary compounds of the precious metals, their structures and crystal lattice constants are given, together with supporting references.

This First Supplement will be a valuable reference book for people working in the field of precious metal alloys. Both it and the earlier 1983 publication can be purchased from The Metallurgical Industry Press, Mr. Zhang Wei, Beijing 100009, People's Republic of China, or contact direct Prof. He Chunxiao, Institute of Precious Metals, Kunming 650221, People's Republic of China. L.G.-F.