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Synthesis, characterization, and *in vitro* cytotoxicity of a Kiteplatin-Ibuprofen Pt(IV) prodrug.

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Abstract

The Pt(IV) prodrug of kiteplatin, *cis-trans-cis*-[PtCl₂(*RS*-Ibuprofen-H)₂(*cis*-1,4-DACH)], having in the axial positions two molecules of Ibuprofen, has been synthesised, characterized and tested *in vitro*. The aim was to potentiate the cytotoxic effect of kiteplatin with the anti-inflammatory activity of Ibuprofen. The reduction potential of the conjugate resulted comparable to those of other reported Pt(IV) carboxylate complexes, ensuring *in vivo* stability in blood during transport and intracellular reduction with release of the active species. The cytotoxic activity of the complex resulted remarkably potentiated reaching nanomolar activity. It is possible that the coordinated

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