

Title: Synthesis of organometallic ruthenium(II) complexes with strong activity against several human cancer cell lines

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Abstract: A new family of "RuCp" (Cp= η^5 -C₅H₅) derivatives with bidentate N,O and N,N'-heteroaromatic ligands revealed outstanding cytotoxic properties against several human cell lines namely, A2780, A2780CisR, HT29, MCF7, MDAMB231, and PD. IC₅₀ values were much lower than those found for cisplatin. Crystal structure of compound 4 was determined by X-ray diffraction studies. Density functional theory (DFT) calculations performed for compound 1 showed electronic flow from the ruthenium center to the coordinated bidentate ligand, in agreement with the electrochemical studies and the existence of a metal-to-ligand charge-transfer (MLCT) band evidenced by spectroscopic data. (C) 2012 Elsevier Inc. All rights reserved.

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