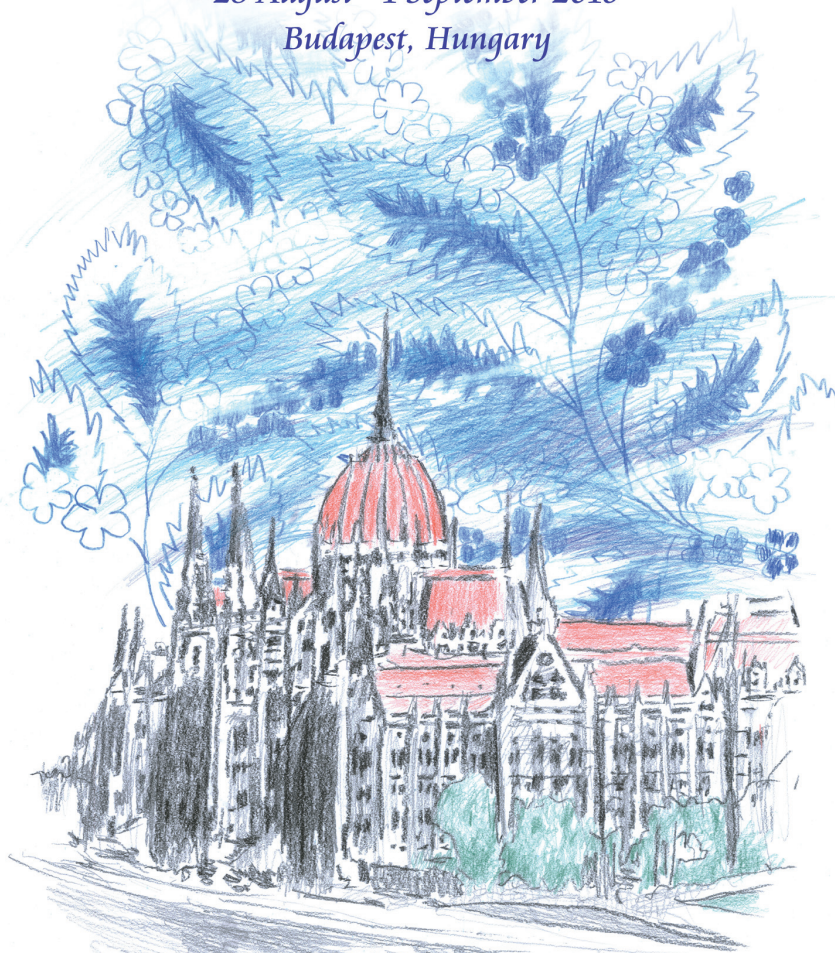


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Program & Book of Abstracts

Zsolt Kovács

Kovács Zsolt 2012

SOLUTION EQUILIBRIA AND STRUCTURAL CHARACTERIZATIONS OF HALF-SANDWICH Rh(η^5 -C₅Me₅) COMPLEXES OF (N,N) DONOR BIDENTATE LIGANDS

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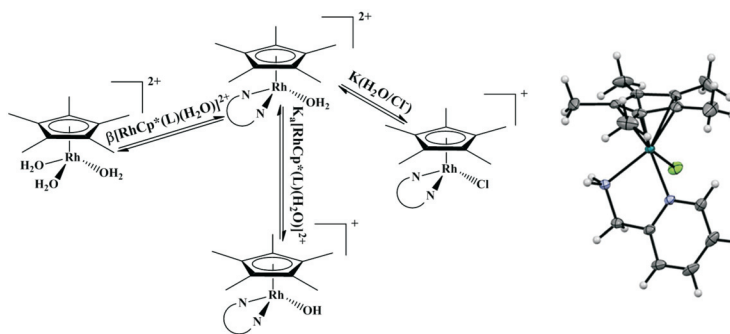
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Cisplatin and its derivatives are successful therapeutics in cancer chemotherapy. Due to their severe side effects Ru(III)-based complexes NAMI-A and NKP-1339 were developed and investigated in clinical trials. Other promising candidates in the development of anticancer metallodrugs are organometallic Ru complexes and prominent representatives are RAED and RAPTA complexes. These drug candidates contain Ru(II) metal centres bonded to an arene ring¹. Their isoelectronic Os, Rh and Ir congeners are also synthesized and characterized.

Herein we report the comparative X-ray structural and solution equilibrium study of six organometallic rhodium complexes formed with (N,N) donor bidentate ligands, namely: ethylenediamine², N,N'-dimethylethylenediamine, N,N,N',N'-tetramethylethylenediamine, 2-picolylamine, 2,2'-bipyridine² and 1,10-phenanthroline. These studies were performed using pH-potentiometry, ¹H NMR spectroscopy and UV-Vis spectrophotometry. The experiments revealed high complex stability and chloride ion affinity. Probably these properties have influence on the mode of action in cells. We have also investigated the possible binding modes to human serum albumin via spectrofluorometry and ¹H NMR spectroscopy.



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