

Book of Abstracts

7th International Symposium on Bioorganometallic Chemistry

ISBOMC 2014, July 22nd – 25th 2014



University of Vienna

Institute of Inorganic Chemistry

Währinger Str. 42, 1090-Vienna, Austria

Wednesday, July 23, 2014

Session 3

Session chair. Ingo Ott

9.20–10.00	Roger Alberto	KL1
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Coffee break

10.30–10.50	Péter Buglyó	O09
10.50–11.10	Federico Giannini	O10
11.10–11.30	Carsten A. Vock	O11
11.30–11.50	Lydia Paul	O12
11.50–12.10	Siden Top	O13
12.10–12.30	Michèle Salmain	O14

Lunch

Session 4

Session chair. Bernhard Keppler

13.30–13.45	Award Ceremony	
13.45–14.45	Bioorganometallics Award Lecture	
14.45–15.25	Gérard Jaouen	KL2

Coffee break

Poster Session

Complexes of Rh(III)(η^5 -Cp^{*}) with N/O-donor bidentate ligands: solution equilibrium and interaction with human serum albumin

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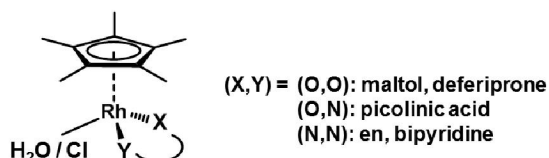
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Recently, the interest in metal based anticancer research shows a pronounced shift towards compounds possessing cytotoxic effect different from platinum based compounds. The most promising candidates in this field are Ru(III)-based complexes KP1019 and NAMI-A, which have been investigated in clinical trials with promising results. At the same time there are clear evidences that the active form contains the reduced metal ion, hence half sandwich Ru(II)-arene complexes are extensively investigated. Os(II), Rh(III), Ir(III) complexes are isoelectronic with Ru(II); and introducing of η^6 -arene or η^5 -arenyl ligands in the coordination sphere improve a several orders of magnitude higher ligand exchange rate, which is a prerequisite of efficacy for this type of complexes [1].

Here we report the solution equilibrium studies on four [Rh(III)(η^5 -Cp^{*})]²⁺ complexes formed with (O,O) and (N,N) ligands. These studies were performed using pH-potentiometry, UV-Vis spectrophotometry and ¹H NMR spectroscopy.

Further interesting question is the exploration of possible transport mechanisms in blood serum. The most abundant transporter in blood serum is albumin that has an extraordinary capacity to transport a wide variety of compounds. Therefore spectrofluorometry, capillary electrophoresis, ¹H NMR and ultrafiltration–UV-Vis techniques were used to get a deeper insight into the nature and strength of the interaction of complexes with (O,O) and (N,O) donors towards human serum albumin.

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References:

[1] Geldmacher, Y.; Oleszak, M.; Sheldrick, W.S., Rhodium(III) and iridium(III) complexes as anticancer agents. *Inorg. Chim. Acta* 2012, 393 84–102.