



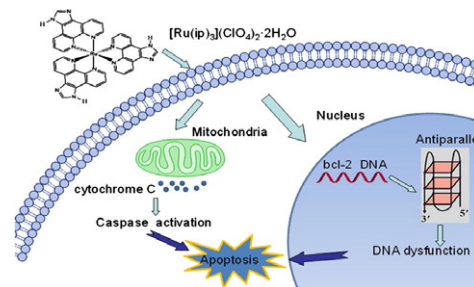
Contents

Jingnan Zhang, Qianqian Yu, Qian Li,
Licong Yang, Lanmei Chen,
Yanhui Zhou, Jie Liu

Journal of Inorganic Biochemistry 134 (2014)
1–11

A ruthenium(II) complex capable of inducing
and stabilizing bcl-2 G-quadruplex formation
as a potential cancer inhibitor

$[\text{Ru}(\text{ip})_3](\text{ClO}_4)_2 \cdot 2\text{H}_2\text{O}$ (complex 1) stabilizes the combination of bcl-2 G-quadruplex to form the antiparallel conformation and causes cell apoptosis mediated by caspase activation.



Konstantis F. Konidaris, Georgios A. Dalkas,
Eugenia Katsoulakou, George Pairas,
Catherine P. Raptopoulou, Fotini N. Lamari,
Georgios A. Spyroulias, Evy Manessi-Zoupa

Journal of Inorganic Biochemistry 134 (2014)
12–19

Zn^{II} /pyridyloxime complexes as potential
reactivators of OP-inhibited
acetylcholinesterase: In vitro and docking
simulation studies

Novel Zn^{II} /pyridyloxime complexes have
been synthesized, crystallographically
characterized and tested in vitro as potential
reactivators of paraoxon-inhibited
acetylcholinesterase. The results have
been evaluated in the light of predicted
complex-enzyme interactions based on
docking simulation studies.

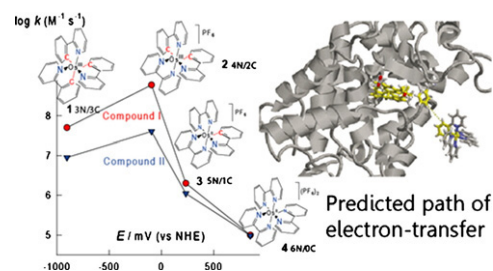


Ricardo Cerón-Camacho,
Ronan Le Lagadec, Igor V. Kurnikov,
Alexander D. Ryabov

Journal of Inorganic Biochemistry 134 (2014)
20–24

A glance at the reactivity of osmium(II)cycles
 $[\text{Os}(\text{C}-\text{N})_x(\text{bpy})_{3-x}]^{m+}$ ($x = 0-3$)
Covering a 1.8 V Potential Range toward
Peroxidase through Monte Carlo
Simulations ($\text{C}-\text{N} = o\text{-}2\text{-}$
phenylpyridinato, bpy = 2,2'-bipyridine)

Mono, bis and tris-cyclometalated osmium
complexes react fast with peroxidase;
theoretical analysis by Monte Carlo simulations
suggests a plausible reaction
pathway.

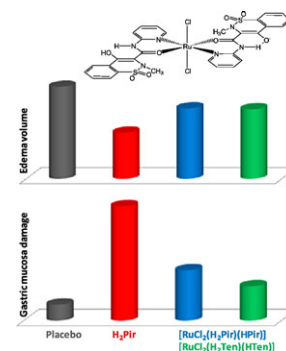


Gabriella Tamasi, Caterina Bernini, Gianfranco Corbini, Natalie F. Owens, Luigi Messori, Federica Scaletti, Lara Massai, Pietro Lo Giudice, Renzo Cini

Journal of Inorganic Biochemistry 134 (2014) 25–35

Synthesis, spectroscopic and DFT structural characterization of two novel ruthenium(III) oxicam complexes. *In vivo* evaluation of anti-inflammatory and gastric damaging activities

Two original ruthenium(III)–oxicam complexes showed *in vivo* higher anti-edema and lower undesired effects when compared to free ligands.

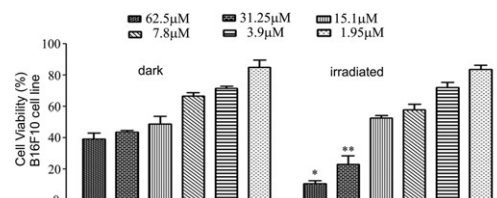


Zumira A. Carneiro, Juliana C. Biazzotto, Anamaria D.P. Alexiou, Sofia Nikolaou

Journal of Inorganic Biochemistry 134 (2014) 36–38

Nitric oxide photorelease from a trinuclear ruthenium nitrosyl complex and its *in vitro* cytotoxicity against melanoma cells

The [Ru₃O(CH₃COO)₆(4-pic)₂(NO)]PF₆ trinuclear nitrosyl cluster (**1**) reduces B16F10 melanoma cell viability up to 90% when irradiated with visible light (λ = 532 nm). The solvated species does not reduce cell viability at all, demonstrating that **1** acts as a pro-drug by delivering NO, the actual active species.

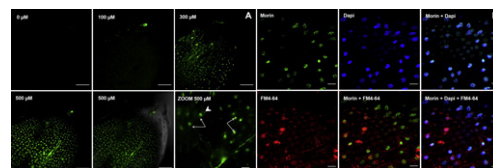


Jesús E. de A. Bojórquez-Quintal, Lucila A. Sánchez-Cach, Ángela Ku-González, Cesar de los Santos-Briones, María de Fátima Medina-Lara, Ileana Echevarría-Machado, José A. Muñoz-Sánchez, S.M. Teresa Hernández Sotomayor, Manuel Martínez Estévez

Journal of Inorganic Biochemistry 134 (2014) 39–48

Differential effects of aluminum on *in vitro* primary root growth, nutrient content and phospholipase C activity in coffee seedlings (*Coffea arabica*)

Aluminum has differential effects on *in vitro* primary root growth, nutrient content and phospholipase C activity in *Coffea arabica* seedlings.

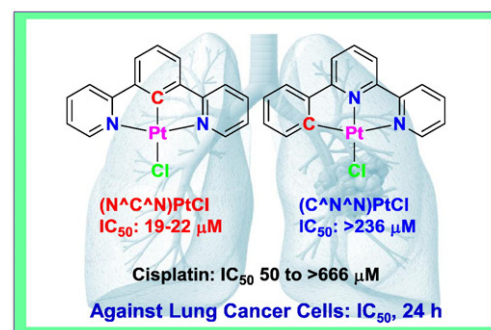


Dileep A.K. Vezzu, Qun Lu, Yan-Hua Chen, Shouquan Huo

Journal of Inorganic Biochemistry 134 (2014) 49–56

Cytotoxicity of cyclometalated platinum complexes based on tridentate NCN and CNN-coordinating ligands: Remarkable coordination dependence

Drastic difference in cytotoxicity was found between isomeric platinum complexes (N[^]C[^]N)PtCl and (C[^]N[^]N)PtCl. The N[^]C[^]N-coordinated Pt complex demonstrated remarkably higher *t* against a series of human lung cancer cells and a prostate cancer cell, which was attributed to the trans effect of the carbon donor in N[^]C[^]N-coordinated complex.

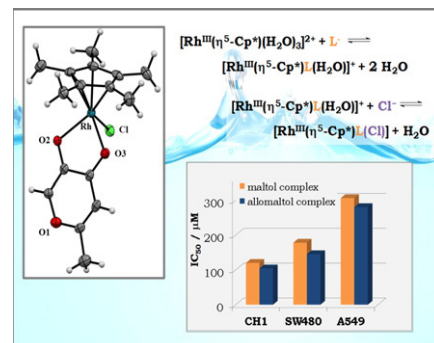


Orsolya Dömötör, Sabine Aicher, Melanie Schmidlehner, Maria S. Novak, Alexander Roller, Michael A. Jakupec, Wolfgang Kandoller, Christian G. Hartinger, Bernhard K. Keppler, Éva A. Enyedy

Journal of Inorganic Biochemistry 134 (2014) 57–65

Antitumor pentamethylcyclopentadienyl rhodium complexes of maltol and allomaltol: Synthesis, solution speciation and bioactivity

$\text{Rh}^{\text{III}}(\text{Cp}^*)(\text{L})\text{Cl}$ complexes of hydroxy-pyrones were prepared under standard and microwave conditions and their antiproliferative activity was tested against cancer cell lines. Stoichiometry and stability of the complexes were characterized by combination of different methods in aqueous solution and formation of mono complexes with moderate stability was found.

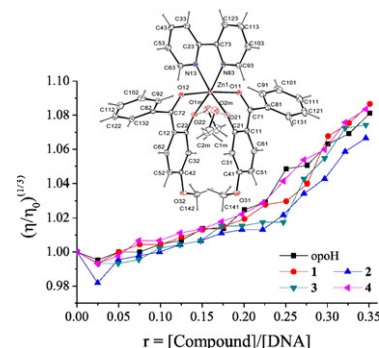


Emina Mrkalić, Ariadni Zianna, George Psomas, Maria Gdaniec, Agnieszka Czapik, Evdoxia Coutouli-Argyropoulou, Maria Lalia-Kantouri

Journal of Inorganic Biochemistry 134 (2014) 66–75

Synthesis, characterization, thermal and DNA-binding properties of new zinc complexes with 2-hydroxyphenones

Zinc complexes of the formulae $[\text{Zn}(\text{keto})_2(\text{H}_2\text{O})_2]$ and $[\text{Zn}(\text{keto})_2(\text{enR})]$ with 2-hydroxyphenones (ketoH) and N,N'-donor ligands (enR) have been synthesized and characterized. The complexes bind tightly to CT DNA probably by intercalation and compete with ethidium bromide for the intercalation site of DNA.

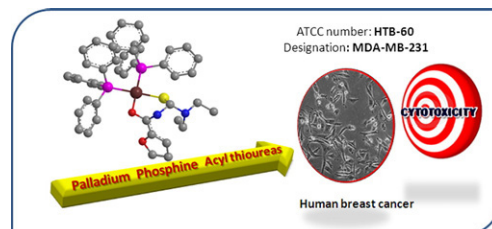


Ana M. Plutín, Raúl Mocelo, Anislay Alvarez, Raúl Ramos, Eduardo E. Castellano, Marcia R. Cominetti, Angelica E. Graminha, Antonio G. Ferreira, Alzir A. Batista,

Journal of Inorganic Biochemistry 134 (2014) 76–82

On the cytotoxic activity of Pd(II) complexes of N,N-disubstituted-N'-acyl thioureas

The synthesis, characterization and the cytotoxicity of Pd(II) complexes of N,N-disubstituted-N'-acyl thioureas against DU-145 (human prostate cancer cells), MDA-MB-231 (human breast cancer cells) and the toxicity against the L929 cell line (health cell line from mouse) are reported in this article.

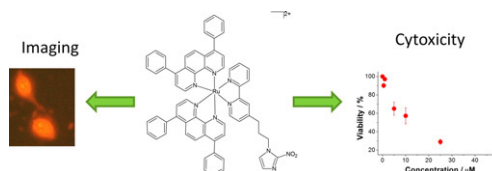


Olga Mazuryk, Monika Maciuszek, Grażyna Stochel, Franck Suzenet, Małgorzata Brindell

Journal of Inorganic Biochemistry 134 (2014) 83–91

2-Nitroimidazole-ruthenium polypyridyl complex as a new conjugate for cancer treatment and visualization

Ru(II) complex bearing two 4,7-diphenyl-1,10-phenanthroline ligands and 2,2'-bipyridine anchoring 2-nitroimidazole was designed towards its application in treatment and visualization of cancer.

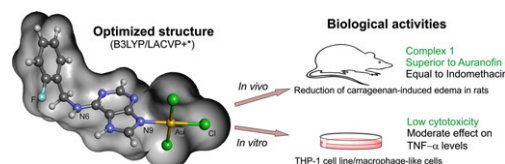


**Radka Křikavová, Jan Hošek,
Pavel Suchý Jr., Ján Vančo,
Zdeněk Trávníček**

Journal of Inorganic Biochemistry 134 (2014)
92–99

Diverse in vitro and in vivo anti-inflammatory effects of trichlorido-gold(III) complexes with N6-benzyladenine derivatives

Au(III) complexes of the type $[\text{Au}(\text{HL1-5})\text{Cl}_3] \cdot n\text{H}_2\text{O}$ involving N6-benzyladenine derivatives were prepared and fully characterized. They showed negligible in vitro cytotoxicity, moderate in vitro anti-inflammatory activity on LPS-activated THP-1 macrophages, and significant in vivo anti-oedematous activity, even exceeding the activity of gold-containing metallodrug Auranofin.

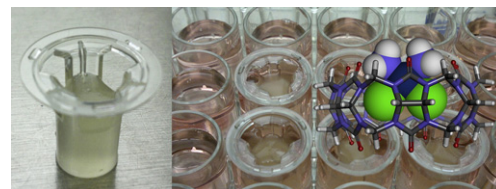


Rabbab Oun, Jane A. Plumb, Nial J. Wheate

Journal of Inorganic Biochemistry 134 (2014)
100–105

A cisplatin slow-release hydrogel drug delivery system based on a formulation of the macrocycle cucurbit[7]uril, gelatin and polyvinyl alcohol

A hydrogel-based delivery system of PVA and gelatin is more effective for delivering cucurbit[7]uril encapsulated cisplatin compared with the free drug in human ovarian tumour xenografts.

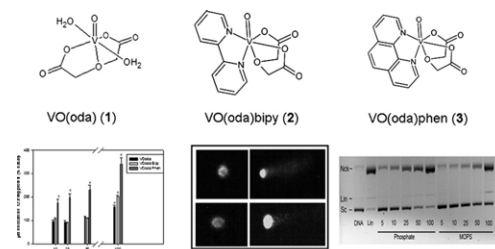


**I.E. León, N. Butenko, A.L. Di Virgilio,
C.I. Muglia, E.J. Baran, I.Cavaco,
S.B. Etcheverry**

Journal of Inorganic Biochemistry 134 (2014)
106–117

Vanadium and cancer treatment: Antitumoral mechanisms of three oxidovanadium(IV) complexes on a human osteosarcoma cell line

Bioactivity of three oxovanadium(IV) complexes with oxodiacetate (oda) (a multiple oxygen donor) and intercalating DNA related ligands: odabipy and oda-phen, was evaluated in the human osteosarcoma cell line (MG-63). Cytotoxicity, genotoxicity, and mechanisms of action correlated with the chemical structures. VO(oda)phen was the most potent antitumoral complex of this series.



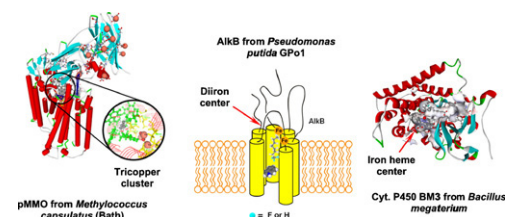
Early Career Focused Review

**Yao-Sheng Chen, Wen-I Luo,
Chung-Ling Yang, Yi-Jung Tu,
Chun-Wei Chang, Chih-Hsiang Chiang,
Chi-Yao Chang, Sunney I. Chan,
Steve S.-F. Yu**

Journal of Inorganic Biochemistry 134 (2014)
118–133

Controlled oxidation of aliphatic C–H bonds in metallo-monoxygenases: Mechanistic insights derived from studies on deuterated and fluorinated hydrocarbons

Deuterated and fluorinated hydrocarbon substrates are deployed to probe the high regio-specificity and unusual stereo-selectivity in the efficient substrate oxidation mediated by the high-valent metal active sites in three metalloproteins: particulate methane monooxygenase (pMMO), alkane hydroxylase (AlkB) and cytochrome P450 BM3.



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