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Caging ruthenium complexes with non-toxic ligands for photoactivated chemotherapy

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LIST OF PUBLICATIONS

A. Bahreman, **J. A. Cuello-Garibo**, and S. Bonnet, “Yellow-light sensitization of a ligand photosubstitution reaction in a ruthenium polypyridyl complex covalently bound to a Rhodamine dye”, *Dalton Trans.*, **2014**, 43, 4494-4505.

J. A. Cuello-Garibo, E. Pérez-Gallent, L. van der Boon, M. A. Siegler, and S. Bonnet, “Influence of the steric bulk and solvent on the photoreactivity of ruthenium polypyridyl complexes coordinated to L-proline”, *Inorg. Chem.*, **2017**, 56, 4818-4828.

J. A. Cuello-Garibo, M. S. Meijer, and S. Bonnet, “To cage or to be caged? The cytotoxic species in ruthenium-based photoactivated chemotherapy is not always the metal”, *Chem. Commun.*, **2017**, 53, 6768-6771.

J. A. Cuello-Garibo, C. James, M. A. Siegler, and S. Bonnet, “Ruthenium-based PACT compounds based on an N,S non-toxic ligand: a delicate balance between photoactivation and thermal stability”, *Chem²*, **2017**, *in press*.

J. A. Cuello-Garibo, C. James, S. L. Hopkins, M. A. Siegler, and S. Bonnet, “Tuning the stereoselectivity, photoreactivity, and redox potential of cycloruthenated complexes by small changes in the N,S ligand”, *manuscript in preparation*.

J. A. Cuello-Garibo, S. Bronkhorst, Y. Batsuin, V. H. S. van Rixel, C. Schmidt, I. Ott, M. A. Siegler, and S. Bonnet, “PACT or PDT: are ruthenium(II) complexes photosubstituting a non-toxic ligand also phototoxic under hypoxic conditions?”, *manuscript in preparation*.

CURRICULUM VITAE

Jordi-Amat Cuello-Garibo was born in Puçol, País Valencià (Spain) on 9 April 1989. In 2007, he graduated from the Puçol High School. In that year, he started his BSc studies in Chemistry at the Universitat de València. During his studies, he visited Leiden University within the Erasmus Exchange Program for his Master Thesis, which was performed under the supervision of Dr. Sylvestre Bonnet with the title “*Fluorescent labeling of photoreactive ruthenium polypyridyl complexes: probing molecular motion at the surface of a lipid bilayer*”. In 2013, he received the *Licenciatura* degree (equivalent to Master of Science) in Chemistry at Universitat de València.

After a short experience in the industry (Octoplus B.V.), he started his PhD studies under the supervision of Dr. Sylvestre Bonnet and Prof. dr. Bouwman in the research group ‘Metals in Catalysis, Biomimetics, and Inorganic Materials’ (MCBIM) of the Leiden Institute of Chemistry, Leiden University. During his PhD studies he collaborated with Prof. dr. Snaar-Jagalska (Leiden University) and Prof. dr. I. Ott (TU Braunschweig). He supervised three BSc students and three MSc students from Ukraine, France, United Kingdom, and The Netherlands.

Parts of the results reported in this thesis were presented at the following meetings and conferences:

- Holland Research School of Molecular Chemistry (HRSMC) Symposiums, in Amsterdam and Leiden, The Netherlands, in 2015 (poster) and 2016 (oral), respectively.
- HRSMC Photochemistry Summer School in Maastricht, The Netherlands, 2016 (poster award).
- HRSMC Advanced Metal-Organic Chemistry and Catalysis Summer School in Eindhoven, The Netherlands, 2014 (poster).
- Chemistry as Innovating Science (CHAINS) in Veldhoven, The Netherlands, 2015 (poster) and 2016 (poster).
- 25th Lecture Conference on Photochemistry (GDCh) in Jena, Germany, 2016 (oral).

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