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Imaging of alkyne-functionalized ruthenium complexes for photoactivated chemotherapy

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LIST OF PUBLICATIONS

Articles

V.H.S. van Rixel, **A. Busemann**, A.J. Göttle, and S. Bonnet, "Preparation, stability, and photoreactivity of thiolato ruthenium polypyridyl complexes: Can cysteine derivatives protect ruthenium-based anticancer complexes?", *J. Inorg. Biochem.*, **2015**, *150*, 174-181.

V. H. S. van Rixel, B. Siewert, S. L. Hopkins, S. H. C. Askes, **A. Busemann**, M. A. Siegler and S. Bonnet, "Green light-induced apoptosis in cancer cells by a tetrapyrrolyl ruthenium prodrug offering two trans coordination sites", *Chem. Sci.* **2016**, *7* (8), 4922-4929.

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V. H. S. van Rixel, **A. Busemann**, M.F. Wissingh, S.L. Hopkins, B. Siewert, C. van de Griend, M. A. Siegler, T. Marzo, F. Papi, M. Ferraroni, P. Gratteri, C. Bazzicalupi, L. Messori, and S. Bonnet, "Induction of a four-way junction-like structure in the DNA palindromic hexanucleotide 5'-d(CGTACG)-3' by a mononuclear platinum complex", *Angew. Chem. Int. Ed.* **2019**, Accepted Author Manuscript. doi:10.1002/ange.201814532

A. Busemann, M.C. Araman, I. Flashpohler, A. Pratesi, X-Q. Zhou, V.H.S. van Rixel, M. Siegler, S.I. van Kasteren, L. Messori, and S. Bonnet, "Alkyne functionalization of photoactivated ruthenium complex [Ru(tpy)(bpy)(Hmte)](PF₆)₂ for protein interaction studies", *manuscript in preparation*.

Poster Presentations

A. Busemann, T. van Teijlingen, S.I. van Kasteren, and S. Bonnet, "Preparation of alkyne-modified ruthenium complexes for pull-down experiments", *Reedijk Symposium 2016* in Leiden, The Netherlands.

A. Busemann, T. van Teijlingen, S.I. van Kasteren, and S. Bonnet, "Preparation of alkyne-modified ruthenium complexes for pull-down experiments", *Chemistry as Innovating Science (CHAINS) 2016* in Veldhoven, The Netherlands.

A. Busemann, S.I. van Kasteren, and S. Bonnet, "Interaction of ruthenium-based anticancer compounds with biomolecules" *Figon Dutch Medicine Days 2017* in Ede, The Netherlands.

A. Busemann, P. Del Bufalo, S.I. van Kasteren, and S. Bonnet, "Alkyne-modified ruthenium complexes for pull-down experiments" *Chemistry as Innovating Science (CHAINS) 2017* in Veldhoven, The Netherlands.

A. Busemann, M.C. Araman, I. Flaspohler, S.I. van Kasteren, and S. Bonnet, "Investigation of the interaction of ruthenium-based anticancer compounds with biomolecules", *Gordon Research Conference "Metals in Medicine" 2018* in Andover, NH, USA (**poster award**).

A. Busemann, S. Le Dévédec, V. DeRose, S. Bonnet, "Cell imaging of click-enabled ruthenium complexes for photoactivated chemotherapy", *Holland Research School of Molecular Chemistry (HRSMC) Symposium 2018* in Leiden, The Netherlands (**poster award**).

Oral Presentations

A. Busemann, S. Le Dévédec, V. DeRose, S. Bonnet, "Cell imaging of click-enabled ruthenium complexes for photoactivated chemotherapy" *Figon Dutch Medicine Days 2018* in Ede, The Netherlands.

A. Busemann, S. Le Dévédec, V. DeRose, S. Bonnet, "Cell imaging of click-enabled ruthenium complexes for photoactivated chemotherapy" *Chemistry as Innovating Science (CHAINS) 2018* in Veldhoven, The Netherlands.

CURRICULUM VITAE

Anja Busemann was born in Naumburg (Saale), Germany, on 20th December 1988. In 2007, she graduated from Landesschule Pforta. In 2012, she received her Bachelor of Science degree in Chemistry from the Radboud University in Nijmegen. She moved to Leiden and in 2014, she obtained her Master of Science degree in Chemistry at Leiden University. Her MSc thesis was entitled: *"Synthesis of [Ru(tpy)(bpy)(SR)]⁺ complexes and photoreactivity studies"*. During her MSc studies she visited the University of Nottingham for six months within the Erasmus Exchange Program for a Minor MSc Thesis, entitled: *"Transition metal macrocyclic complexes"*.

In 2014, she started her PhD studies under the supervision of Dr. Sylvestre Bonnet and Prof. Elisabeth Bouwman in the research group 'Metals in Catalysis, Biomimetics, and Inorganic Materials' (MCBIM) of the Leiden Institute of Chemistry, Leiden University. During her PhD studies she collaborated with Dr. Sander van Kasteren (Leiden University), Dr. Sylvia Le Dévédec (Leiden University), Prof. Ingo Ott (TU Braunschweig), Prof. Ben Giepmans (UMC Groningen), and Prof. Luigi Messori (University of Florence). In addition, she went on a two-month study trip to the University of Oregon, Eugene, OR, USA, where she worked with Prof. Vickie DeRose on fluorescent microscopy imaging. During her PhD studies, she assisted at a number of first year chemistry lab courses, and supervised eleven 2nd year BSc students, three 3rd year BSc students and three MSc students.

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