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Metallo drugs as protein modulators

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Publication List and Curriculum Vitae

Publications (published)

*authors contributed equally to the work

- de Almeida, A.*, Martins, A.P*, Mósca, A. Wijma, H.J., Prista, C., Soveral, G., Casini, A. (submitted) Exploring the gating mechanisms of aquaporin-3: new clues for inhibitor's design? (2016) *Mol. Biosyst.* DOI: 10.1039/C6MB00013D (In this thesis)

- Tsitsa, I., Tarushi, A., Kalogiannis, S., Perdih, F., de Almeida, A., Papadopoulos, A., Casini, A., Turel, I., Psomas, G. (2016) Structure and biological perspectives of metal complexes of flumequine. *RSC Advances* 6: 19555-19570, DOI: 10.1039/C5RA25776J

- Wenzel, M.*, de Almeida, A.*, Bigaeva, E., Bertrand, B., Le Gendre, P., Bodio, E., Picquet, M., Casini, A. (2016) Fluorescent polynuclear metal complexes with anticancer properties: towards new theranostics. *Inorg. Chem.*, DOI: 10.1021/acs.inorgchem.5b02910 (In this thesis)

- Spinello, A., de Almeida, A., Casini, A. and Barone, G. (2015) The inhibition of glycerol permeation through aquaglyceroporin-3 induced by mercury(II): a molecular dynamics study. *J.Inorg. Biochem.* DOI:10.1016/j.jinorgbio.2015.11.027 (In this thesis)

- Casini, A. and de Almeida, A. (2015) Aquaporins in health and disease: New molecular targets for drug discovery. Chapter: Inorganic compounds as aquaporin substrates or as potent inhibitors: a coordination chemistry point of view. *CRC Press/Taylor & Francis Group* (In this thesis)

- de Almeida, A., Soveral, G., Casini, A. (2014) Gold compounds as aquaporin inhibitors: new opportunities for therapy and imaging. *Med. Chem. Comm.* 5: 1444-1453 DOI: 10.1039/c4md00265b (In this thesis)

- Khan, R.A, Al-Farhan, K., de Almeida, A., Alsahme, A., Casini, A., Ghazzali, M., Reedijk, J. (2014) Light-stable bis(norharmane)silver(I) compounds: synthesis, characterization and antiproliferative effects in cancer cells. *J. Inorg. Biochem.* 140:1-5. DOI: 10.1016/j.jinorgbio.2014.06.019

- Madeira, A.*, de Almeida, A.*, de Graaf, C., Camps, M., Zorzano, A., Moura, T. F., Casini, A. and Soveral, G. (2014), A Gold Coordination Compound as a Chemical Probe to Unravel Aquaporin-7 Function. *Chem. Bio. Chem.*, 15: 1487–1494. DOI: 10.1002/cbic.201402103 (In this thesis)

- Bertrand, B.*, de Almeida, A.*, van der Burgt, E. P. M., Picquet, M., Citta, A., Folda, A., Rigobello, M. P., Le Gendre, P., Bodio, E. and Casini, A. (2014), New Gold(I) Organometallic Compounds with Biological Activity in Cancer Cells. *Eur. J. Inorg. Chem.* DOI: 10.1002/ejic.201402248 (Front cover picture) (In this thesis)

- Rubbiani, R., Salassa, L., de Almeida, A., Casini, A. and Ott, I. (2014), Cytotoxic Gold(I) N-heterocyclic Carbene Complexes with Phosphane Ligands as Potent Enzyme Inhibitors. *Chem. Med. Chem*, 9: 1205–1210. DOI: 10.1002/cmdc.201400056 (VIP paper, Front cover picture)

- Frik, M., Jiménez, J., Vasilevski, V., Carreira, M., de Almeida, A., Gascón, E., Benoit, F., Sanaú, M., Casini, A. and Contel, M. (2014). Luminescent iminophosphorane gold, palladium and platinum complexes as potential anticancer agents. *Inorg. Chem. Front.* 1, 231-241 DOI: 10.1039/C4QI00003J (**Front cover picture**)

- Lease, N., Vasilevski, V., Carreira, M., de Almeida, A., Sanaú, M., Hirva, P., Contel, M. (2013). Potential anticancer heterometallic Fe-Au and Fe-Pd agents: initial mechanistic insights. *J. Med. Chem.*, 56 (14), pp 5806–5818 DOI: 10.1021/jm4007615

- Martins, A. P., Ciancetta, A., de Almeida, A., Marrone, A., Re, N., Soveral, G. and Casini, A. (2013), Aquaporin Inhibition by Gold(III) Compounds: New Insights. *Chem. Med. Chem.*, 8: 1086–1092. doi: 10.1002/cmdc.201300107 (**In this thesis**)

- de Almeida, A., Oliveira, B. L., Correia, J. D. G., Soveral, G., & Casini, A. (2013). Emerging protein targets for metal-based pharmaceutical agents: An update. *Coordination Chemistry Reviews*, 1–16. DOI:10.1016/j.ccr.2013.01.031 (**In this thesis**)

Publications (submitted)

**authors contributed equally to the work*

- de Almeida, A., Mósca, A., Soveral G., Casini, A. (submitted) Insights in the mechanism of aquaporin inhibition by gold compounds with N-donor ligands (**In this thesis**)

- Martins, A.P*, de Almeida, A.*, Mósca, A.*, Wijma, H.J., Madeira, A., Loureiro-Dias, M.C., Casini, A., Moura, T.F., Prista, C., Soveral, G., (submitted) Human aquaporin-7 expressed in yeast reveals pH gating (**In this thesis**)

- Boorsma, C.E., Putri, K.S.S., de Almeida, A., Maud, Thais, Brandsma, C., van den Berge, M., Olinga, P., Timens, W., Casini, A., Melgert, B.N. (submitted) The Role of Tartrate Resistant Acid Phosphatase in Alveolar Macrophages in the Context of Obstructive Pulmonary Diseases

- Khan, R.A.*, de Almeida, A.*, Al-Farhan, K., Alsalme, A., Casini, A., Ghazzali, M., Reedijk, J. (submitted) First-row transition-metal norharmane compounds as possible cytotoxic agents: new insights based on a coordination chemistry perspective

Publications (in preparation)

- de Almeida, A., Veelthuis, S., Schulze, M., Timens, W., Melgert, B.N., Casini, A. (*in preparation*) Role of aquaporins in diseases: aquaglyceroporin-3 in lung tissue and lung carcinoma

- de Almeida, A., Veelthuis, S., Schulze, M., Casini, A. (*in preparation*) Effects of anticancer treatment in aquaglyceroporin-3 expression

- de Almeida, A., Martins, A.P, Soveral, G., Casini, A. (*in preparation*) Dinuclear organogold(III) compounds as aquaglyceroporin-3 inhibitors

Curriculum Vitae

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For updated contact information and publication list, use the following QR-codes to access ResearchGate and LinkendIn profiles:



Work Exerience

-
- | | |
|---------------|---|
| 01.April.2012 | PHD IN THE FIELD OF MEDICINAL INORGANIC CHEMISTRY |
| 08.April.2016 | Metallo drugs as Protein Modulators
Pharmacokinetics, Toxicology and Targeting Group, Research Institute of Pharmacy, Rijksuniversiteit Groningen |

Additional Scientific Training

-
- | | |
|-------------|---|
| 05.Jan.2016 | RESEARCH STAY AT BIOLOGICAL TRANSPORT GROUP |
| 15.Jan.2016 | Prof. Graça Soveral , Faculty of Pharmacy, Universidade de Lisboa, Lisboa, Portugal
<i>Study of the inhibition propertie of gold(III) complexes with N-donor ligands, as AQP3 inhibitors</i> |
| 01.Mar.2014 | SHORT-TERM SCIENTIFIC MISSION AT MIND THE BYTE, SL |
| 14.Mar.2014 | Dr. Alfons Nonell Canals , Barcelona, Spain
Short-Term Scientific Mission (STSM) in the AScope of COST Action CM1106
<i>Molecular modelling approaches to identify novel AQP inhibitors</i> |
| 01.Aug.2013 | SHORT-TERM SCIENTIFIC MISSION AT BIOLOGICAL TRANSPORT GROUP |
| 31.Aug.2013 | Prof. Graça Soveral , Faculty of Pharmacy, Universidade de Lisboa, Lisboa, Portugal
Short-Term Scientific Mission (STSM) in the Scope of COST Action CM0902
<i>Screening of copper complexes as AQP inhibitors</i> |
| 04.Feb.2013 | RESEARCH STAY AT MEDICINAL CHEMISTRY GROUP |
| 15.Feb.2013 | Dr. Chris de Graaf , Faculty of Sciences, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands
<i>Computational Design and Synthesis of Drugs</i> |
| 01.Sep.2009 | TRAINING AT BIOLOGICAL TRANSPORT & MICROBIAL BIOENERGETICS GROUP |
| 31.Jul.2010 | Prof. Teresa Moura & Dr. Joana Matos , REQUIMTE (FCT-UNL), Caparica, Portugal
Prof. M^a Conceição Loureiro Dias & Dr. Catarina Prista , CBAA (ISA-UTL), Lisboa, Portugal
<i>Investigation of transport and metabolism of glucose in S. cerevisiae</i> |
| 01.Mar.2008 | TRAINING AT BIO-PROT GROUP |
| 31.Mar.2009 | Dr. Sofia Pauleta , REQUIMTE (FCT-UNL), Caparica, Portugal
<i>Cloning of the periplasmic sensor domain of a histidine protein kinase, involved in the copper resistance regulation</i> |

Education

15.Dec.2011 **MASTER IN STRUCTURAL AND FUNCTIONAL BIOCHEMISTRY (MSc, 120 ECTS)**
Faculty of Science and Technology, Universidade Nova de Lisboa, Caparica, Portugal

Title of MSc thesis (1 year): *Mathematical modelling of kinetic and metabolic behaviour of S. cerevisiae: pH variations after a glucose pulse*

23.Jul.2009 **LICENCIATURA IN BIOCHEMISTRY (BSc, 188 ECTS)**
Faculty of Science and Technology, Universidade Nova de Lisboa, Caparica, Portugal

Title of BSc thesis (6 months): *Mathematical modelling of kinetic and metabolic behaviour of S. cerevisiae: pH variations after a maltose pulse*

Extra Scientific Activities

Dec.2015 **ORGANIZATION AND VOLUNTEER STAFF AT CEMM 2015**
International Symposium on Clinical and Experimental Metallo drugs in Medicine: Cancer Chemotherapy (CEMM)
Workshop in "Translational Research"
Sullivan Center, University of Hawaii Cancer Center, Honolulu, USA

Aug.2014 **VOLUNTEER STAFF AT MCB SYMPOSIUM**
Symposium organized by the Division of Medicinal Chemistry and Bioanalysis (MCB) of the Groningen University Institute for Drug Exploration (GUIDE) and the Department of Analytical Biochemistry
Groningen Institute of Pharmacy, Groningen, The Netherlands

Feb.2013 **ORGANIZATION AND VOLUNTEER STAFF OF COST ACTION MEETING**
WG1 + WG5 Joint Meeting of the COST Action CM1105
Groningen Institute of Pharmacy, Groningen, The Netherlands

Jun.2010 **VOLUNTEER STAFF AT XVIII YEAST BIOLOGY MEETING**
National meeting "Prof. Nicolau van Uden", organized by the Portuguese Microbiology Society Instituto Superior de Agronomia, Universidade Técnica de Lisboa, Lisboa, Portugal

May.2009 **ORGANIZATION, PLANNING AND VOLUNTEER STAFF AT BIOCHEMISTRY JORTEC**
Meeting organized by students, with invited lectures, open to the academic community.
Faculty of Science and Technology, Universidade Nova de Lisboa, Caparica, Portugal

April.2009 &
April 2009 **VOLUNTEER STAFF AT EXPO-FCT**
Annual open-day at Faculty of Science and Technology, Universidade Nova de Lisboa, Caparica, Portugal

Sep.2008 **TUTORING**
Sep.2009 Tutoring of seven junior students in Biochemistry.
Faculty of Science and Technology, Universidade Nova de Lisboa, Caparica, Portugal