



BIOGRAPHICAL SKETCH

NAME Rafael Nunes	POSITION TITLE MSc Student		
EDUCATION / TRAINING			
INSTITUTION AND LOCATION	DEGREE	MM/YY	FIELD OF STUDY
Faculdade de Ciências, Universidade de Lisboa	Master	Ongoing	Chemistry
Faculdade de Ciências, Universidade de Lisboa	Graduation	09/2012	Biochemistry
Instituto de Tecnologia Química e Biológica, Universidade Nova de Lisboa	University Extension Course	11/2010	Bioorganic Chemistry

Scientific Interests

Carbohydrate Chemistry, Bioorganic and Medicinal Chemistry, Organic Synthesis, Molecular Modeling and Simulation, Computational Chemistry

Research Activity

- 09/2013 - ongoing: MSc thesis entitled "Synthesis of new antibiotic glycosides and computational studies on their interaction with model lipid bilayers", supervised by Prof. Amélia Pilar Rauter and Dr. Miguel Machuqueiro, Carbohydrate Chemistry Group/Inorganic and Theoretical Chemistry Group, Faculdade de Ciências, Universidade de Lisboa.
- 02/2011 - 07/2013: Undergraduate student, supervised by Prof. Eduarda Mendes, Prof. M. Jesus Perry and Prof. Ana Paula Francisco, Medicinal Chemistry Group, Research Institute for Medicines and Pharmaceutical Sciences, Faculdade de Farmácia, Universidade de Lisboa. Project: "Synthesis of antitumoral triazene derivatives for metastatic melanoma chemotherapy."

- 10/2009 - 10/2010: Research integration fellowship (BII, FCT-MCTES, Portugal) supervised by Dr. M. Rita Ventura, Instituto de Tecnologia Química e Biológica, Universidade Nova de Lisboa. Final project entitled "Synthesis of sugar derivatives for protein stabilization studies".

Publications

- A. S. Monteiro, J. Almeida, G. Cabral, P. Severino, P. A. Videira, A. Sousa, R. Nunes, J. D. Pereira, A. P. Francisco, M. J. Perry, E. Mendes. Synthesis and evaluation of *N*-acylamino acids derivatives of triazenes. Activation by tyrosinase in human melanoma cell lines. *European Journal of Medicinal Chemistry*, 70, **2013**: 1-9.

Conferences (communications, participation, organization)

Poster communications

- R. Nunes, J. P. Pais, C. Dias, A. P. Rauter. Towards the efficient production of antibiotics from sugars: synthesis of new alkyl glycosides and their antimicrobial activity. 1st EFMC Young Medicinal Chemistry Symposium, Lisbon, Portugal, September 2014.
- P. Serra, A. Almeida, V. Cachatra, C. Dias, R. Nunes, J. Pais, A. Martins, M. S. Santos, A. Pelerito, A. P. Rauter. Exploiting alkyl deoxy glycosides as antimicrobial agents: synthesis, bioactivity and surface properties. CQB Day, Lisbon, Portugal, July 2014.
- R. Nunes, D. Vila-Viçosa, A. P. Rauter, M. Machuqueiro. A molecular view on the interaction of antibiotic deoxy glycosides with model phospholipid bilayers. Protein Electrostatics - satellite meeting of EBEC 2014, Lisbon, Portugal, July 2014.
- R. Nunes, D. Vila-Viçosa, A. P. Rauter, M. Machuqueiro. Interaction of antibacterial sugar-based surfactants with model lipid membranes: insights from molecular dynamics simulations. 4th Portuguese Young Chemists Meeting, Coimbra, Portugal, April-May 2014.
- R. Nunes, D. Vila-Viçosa, A. P. Rauter, M. Machuqueiro. Molecular dynamics simulations of antimicrobial deoxy glycoside-based surfactants: micellization and structural insights. 1^o Encontro de Jovens Investigadores de Biologia Computacional Estrutural, Porto, Portugal, December 2013.
- R. S. Nunes, E. C. Lourenço, M. R. Ventura. Synthesis of glycoside derived compatible solutes for protein stabilization. Ciência 2010 - Encontro com a Ciência e Tecnologia em Portugal, Lisbon, Portugal, July 2010.

Organization

- Member of the organizing committee of Protein Electrostatics - satellite meeting of EBEC 2014, Lisbon, Portugal, July 2014.
- Member of the organizing committee of the 6th Spanish-Portuguese-Japanese Organic Chemistry Symposium, Lisbon, Portugal, July 2012.

Other activities

Training courses

- "Dynamics *nano*- and *glyco*-sciences", spring training school organized by COST Action CM1102 (MultiGlycoNano - Multivalent Glycosystems for Nanoscience), University of Namur, Belgium, April 2014.
- "Structure and Conformation of Carbohydrate Molecules: NMR and Molecular Recognition", update course lectured by Prof. Jesus Jimenez-Barbero and members of his research team, Faculdade de Ciências, Universidade de Lisboa, Lisboa, Portugal, February 2011.

Languages

- Portuguese: native speaker.
- English: excellent level of speaking, reading and writing.
- French: basic level of speaking, reading and writing.