

# **Curriculum Vitae**

**Catarina Isabel Vicente Ramos**

# Europass Curriculum Vitae

## Personal information

Full name **Catarina Isabel Vicente Ramos**  
Address Campus Universitário de Santiago  
Chemistry Department  
University of Aveiro - 3810-193 Aveiro, Portugal  
Telephone (+351) 234 370692  
Email [c.ramos@ua.pt](mailto:c.ramos@ua.pt)  
Nationality Portuguese  
Date of birth 19 December 1975  
Gender Female

## Education

Date **April 2012**  
Title of qualification PhD in Chemistry  
Thesis entitled - "Mass spectrometry of tetrapyrrolic macrocycles and their interactions with DNA".  
Main subjects Study of the non-covalent interactions between cationic porphyrins and high order structures of DNA, the G-quadruplexes, by mass spectrometry (Q-ToF, "Ion Trap" and Maldi spectrometers).  
Name and type of organization providing education and training University of Aveiro  
Date **December 2005**  
Title of qualification Master Degree in "Advanced Biomolecular Methods"  
Thesis entitled - "Study by mass spectrometry of the non-covalent adducts of porphyrins and oligonucleotides"  
Main subjects Biomolecular Methods  
Chromatographic Methods  
Mass Spectrometry  
NMR  
Name and type of organization providing education and training University of Aveiro  
Date **June 2001**  
Title of qualification Training (final year of Degree) (classification 16/20)  
Main subjects Application of Gas Chromatography (GC) to study the wine aromatic constituents  
Name and type of organization providing education and training Bairrada Wine Station

Date	<b>June 2000</b>
Title of qualification	Degree in Chemistry - Industrial Chemistry and Management (Final Classification - 13/20)
Grades of some relevant issues	Project final course - "Organic synthesis of phenolic compounds, used in food conservation" (Final classification - 16/20)
Professional skills	Application of the NMR and mass spectrometry techniques in the analysis and identification of the synthesized compounds
Name and type of organization providing education and training	University of Aveiro

### Professional Experience

Date	<b>October 2008 - December 2010</b>
Designation	Teaching practical classes ( 1st year graduation)
Main Subjects	Physical-chemistry Elements
Name and type of organization providing education and training	University of Aveiro
Date	<b>February 2007 - April 2007</b>
Designation	Research scholarship in Organic Group
Main Subjects	Mass Spectrometry characterization of Fullerenes
Name and type of organization providing education and training	Chemistry Department, University of Aveiro
Date	<b>November 2004 - April 2006</b>
Designation	Research scholarship at the Mass Spectrometry Center
Main Subjects	Study of the non-covalent interactions between several organic compounds and oligonucleotides using Electrospray Ionization Mass Spectrometry (Q-ToF and "Ion Trap" spectrometers)
Name and type of organization providing education and training	Chemistry Department, University of Aveiro
Date	<b>November 2002 - October 2004</b>
Designation	Research scholarship at the Mass Spectrometry Center
Main Subjects	Study of the non-covalent interactions between cationic porphyrins and double-stranded oligonucleotides using Electrospray Ionization Mass Spectrometry and Matrix Assisted Laser Desorption Ionization.
Name and type of organization providing education and training	Chemistry Department, University of Aveiro
Date	<b>December 2001 - November 2002</b>
Designation	Research technician in Organic Chemistry area
Main activities and responsibilities	Organic synthesis. Characterization of neutral and cationic porphyrins Responsible for the internal and external sample services of the Mass Spectrometry Center, involving the techniques FAB, electron impact (Autospeq) and Electrospray (Q-ToF2).

Name and type of organization providing education and training	Chemistry Department, University of Aveiro
<b>Other Education</b>	
Date	<b>March 2011</b>
Designation	Seminar " New Horizons of Proteomics", University of Aveiro
Date	<b>September 2010</b>
Designation	"Proteomics Workshop", University of Aveiro
Date	<b>October 2004</b>
Designation	Seminar "Microwave Synthesis of compounds: New technologies" Seminar "Unambiguous identification of compounds: new trends in mass spectrometry", Unicam
Date	<b>September 2002</b>
Designation	"Post graduate course" - "Photodynamic therapy", University of Minho
Date	<b>March 2001 - May 2001</b>
Main Subjects	"Classic Quality Tools", "Statistical Process Control", "Implementation of Quality Systems" and "Quality Auditor"
organization providing education and training	Continuous Training Course, Institute of Employment and Professional Training, Aveiro
<b>Scientific Publications</b>	
2012	11 - Teresa A.F. Cardote, Joana F.B. Barata, Maria Amparo F. Faustino, Annegret Preuß, Maria G.P.M.S. Neves, José A.S. Cavaleiro, Catarina I.V. Ramos, M. Graça O. Santana-Marques, Beate Roeder, "Pentafluorophenylcorrole-D-galactose conjugates" <i>Tetrahedron Lett.</i> , 2012, 53, 6388
	10 - Catarina I.V. Ramos, M.G. Santana-Marques <i>et al.</i> "Differentiation of Aminomethyl Corrole Isomers by Mass Spectrometry", <i>J. Mass Spectrom.</i> , 2012, 47, 516
	9 - Catarina I.V. Ramos, M.G. Santana-Marques, João P. C. Tomé, "Effects of charge and substituent in the stability of porphyrin adducts with Gquadruplexes" <i>J. Mass Spectrom.</i> , 2012, 47, 173
	8 - Eduarda M.P. Silva, Catarina I.V. Ramos, <i>et al.</i> "Cationic $\beta$ -vinyl substituted meso-tetraphenylporphyrins: synthesis and non-covalent interactions with a short poly(dGdC) duplex", <i>J. Porph. And Pthloc.</i> 2012, 16(1), 101
2011	7 - Raul A. Izquierdo, J. Madureira, Catarina I.V. Ramos <i>et al.</i> "Investigation of the coordination modes of tris(pyrazolylmethane)/1,4,7-trithiacyclononane ruthenium(II) complex ions by electrospray ionization mass spectrometry" <i>Int. J. Mass Spectrom.</i> , 2011, 301, 143

- 2009 6 - Catarina I.V. Ramos, M.G. Santana-Marques "Electrospray mass spectrometry for the study of the non-covalent interactions of porphyrins and duplex desoxyribonucleotides" *J. Porph. And Pthloc.* 2009, 13(4), 518
- 5 - Catarina I.V. Ramos, M.G. Santana-Marques et al. "Gas-phase fragmentation of protonated C60-pyrimidine derivatives", *J. Mass Spectrom.*, 2009, 44(6), 911
- 2008 4 - C.I.C. Jordão, A.S.F. Farinha et al. "Synthesis of [60]fullerene-glycopyranosylaminopyrimidin-4-one conjugates", *Tetrahedron*, 2008, 64, 4427
- 3 - Catarina I.V. Ramos et al. "Reduction and adduct formation from electrospayed solutions of porphyrin salts", *J. Mass Spectrom.*, 2008, 43, 806
- 2007 2 - Catarina I.V. Ramos et al. "Reduction of Cationic Free Base meso-tris-N-methylpyridinium-4-yl Porphyrins in Positive Mode Electrospray Ionization Mass Spectrometry" *J. Am. Soc. Mass Spectrom.*, 2007, 18, 762
- 2005 1 - Catarina I.V. Ramos et al. "Interactions of cationic porphyrins with double-stranded oligodeoxynucleotides: a study by electrospray ionisation mass spectrometry" - *J. Mass Spectrom.*, 2005, 40 (11), 1439

## Congress participation

### Oral presentations

A.J. Ferrer-Correia, Graça Santana-Marques, Catarina I. V. Ramos, "Mass Spectrometry of Oligonucleotide Noncovalent Adducts" - 4th Portuguese Mass Spectrometry Meeting, Lisboa, Portugal, **2010**

Patrícia M.R. Pereira, Eduarda M.P. Silva, M. Graça P.M.S. Neves, Catarina I.V. Ramos, M.G. Santana-Marques, José A.S. Cavaleiro, "Study of non-covalent adducts of double-stranded oligonucleotides and cationic porphyrins with potential therapeutic application" - XVI Luso-Galego Meeting on Chemistry, Aveiro, Portugal, **2010**

Catarina I.V. Ramos, M.G. Santana-Marques, João P. C. Tomé, "G-quadruplexes: study of their interactions with cationic porphyrins by electrospray ionization mass spectrometry" - XVI Luso-Galego Meeting on Chemistry, Aveiro, Portugal, **2010**

M. Graça O. Santana-Marques, Catarina I.V. Ramos, "Gas-Phase Chemistry of Cationic Porphyrins" - 217th ECS Meeting, Vancouver, Canada, **2010**

### Panel communications

"Mass Spectrometry for the Study of G-quadruplex - porphyrin adducts" Research Day, Aveiro, Portugal, **2011**

"Studying G-quadruplex - porphyrin adducts by Electrospray Mass Spectrometry (ESI-MS)" - 4th Portuguese Mass Spectrometry Meeting, Lisbon, Portugal, **2010**

"Copper and Zinc Dipyridophenazine Complexes with Leishmanicidal Activity" - XV Brazilian Meeting on Organic Chemistry - Angra dos Reis, Brasil, **2010**

"Unexpected gas-phase behaviour of H<sub>2</sub>-TDMImP in ESI negative and positive ion mode" - 2nd Portuguese Young Chemists Meeting (2PYChem), Aveiro, Portugal, **2010**

"Unexpected gas-phase behaviour of H<sub>2</sub>TDMImP" - 8th National Meeting of Organic Chemistry, Aveiro, Portugal, **2009**

"Reduction of H<sub>2</sub>TDMImP in positive ion mode Electrospray" - 8th National Meeting of Organic Chemistry, Aveiro, Portugal, **2009**

"Cationic Porphyrins/G-Quadruplexes adducts: a study by Electrospray Mass Spectrometry (ESI-MS)" - 16th European Symposium on Organic Chemistry, Prague, Czech Republic, **2009**

"Synthesis and characterization by ESI-MS and ESI-MS/MS of {Ru[9]aneS3} coordination compounds with potentially tridentate beta-aminoacids" - ICCS 38, 38th International Conference on Coordination Chemistry, Jerusalem, Israel, **2008**

"Synthesis of novel corrole derivatives through azomethine ylides", ICPP-5, 5th International Conference on Porphyrins and Phthalocyanines Moscow, Russia, **2008**

"Differentiation of New Amino-Corrole Isomers through adduct formation using Electrospray Mass Spectrometry", ICPP-5, 5th International Conference on Porphyrins and Phthalocyanines Moscow, Russia, **2008**

"New Amino-Corrole Derivatives: Synthesis and Characterization", 15th European Symposium on Organic Chemistry (15th ESOC), Dublin, Ireland, **2007**

"Unusual fragmentations of C60 derivatives: a study by electrospray mass spectrometry", 5th Transmediterranean Colloquium on Heterocyclic Chemistry (TRAMECH 5), Tafila, Jordan, **2007**

"Differentiation of new amino-corrole isomers by electrospray mass spectrometry"- 1st meeting of the National Portuguese Mass Spectrometry Net/ 4th annual meeting of the Portuguese Proteomics Network, Aveiro, Portugal, **2007**

"Unusual gas-phase behaviour of a pyrimidine-aminoacid C60 adduct: a study by electrospray mass spectrometry", 7th National Meeting of Organic Chemistry, Lisbon, Portugal, **2007**

"Study of Triplexes and Quadruplexes of four small Oligonucleotides and of their Adducts with Cationic Porphyrins by Electrospray Mass Spectrometry" – 17th International Mass Spectrometry Conference, Prague, Czech Republic, **2006**

"Reduction reactions of electro sprayed cationic porphyrins" - ICPP 4 - 4th International Conference on Porphyrins and Phthalocyanines, Rome, Italy, **2006**

"Study of the adducts of cationic porphyrins with small DNA duplexes by electrospray ionization mass spectrometry" - ICPP 4 - 4th International Conference on Porphyrins and Phthalocyanines, Rome, Italy, **2006**

"Study of the interactions of neutral and cationic porphyrins with a GCGCGC duplex by ESI-MS", 4th Transmediterranean Colloquium on Heterocyclic Chemistry, Aveiro, Portugal, **2006**

"Study of interactions of a tetramer duplex with several Ruthenium(II) complexes and cationic porphyrins by ESIMS" – 1st European Conference on Chemistry for Life Sciences - Understanding the Chemical Mechanisms of Life. Rimini, Italy, **2005**

"Study of the reduction of cationic porphyrins by Secondary Ion and Electrospray Mass Spectrometry" – 6th National Meeting of Organic Chemistry, Braga, Portugal, **2005**

"Adducts demetallation of the non-covalent zinc complex of 5,10,15,20-tetrakis (N-methylpyridyl)porphyrin and double-stranded oligonucleotide formed by electrospray" – 6th National Meeting of Organic Chemistry, Braga, Portugal, **2005**

"Study of the interactions between cationic porphyrins and double stranded oligonucleotide by electrospray ionization mass spectrometry" - XIX National Meeting of Chemistry, Coimbra, **2004**

"Asymmetric cationic porphyrin macrocycles: Synthesis and Characterization" - XVIII National Meeting of Chemistry, Aveiro, **2002**

<b>Language skills</b>	
Mother tongue	Portuguese
Other languages	
	<b>English</b>
Understanding	Excelent
Writing	Good
Speaking	Good
	<b>Spanish</b>
Understanding	Medium
Writing	Medium
<b>Technical Skills</b>	<ul style="list-style-type: none"> <li>- Practical experience in several mass spectrometers: Q-Tof2, Linear Ion Trap, Maldi, triple quadrupole, Autospeq.</li> <li>- Characterization by mass spectrometry of several families of compounds: porphyrins, corroles, fullerenes among others.</li> <li>- Identification of the mode of interaction of various compounds with different structures of DNA, single and double chains and G-quadruplexes.</li> <li>- Organic synthesis.</li> </ul>
<b>Computer skills and competences</b>	Good domain of Microsoft Office, Internet Explorer, MassLynx e Xcalibur
<b>Driving license</b>	Category B (June 1994)