

Curriculum Vitae

Maria Manuela Marques Raposo

Associate Professor with Habilitation

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Category on the Institution: Associate Professor with Habilitation

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Academic formation:

Dec. 1987 - Oct. 1990 – Stagiary Assistant, Department of Chemistry, Faculty of Sciences and Technology, New University of Lisbon, Portugal

Nov. 1990 - Jan. 1992 – Stagiary Assistant, Department of Chemistry, University of Minho, Portugal

Jan. 1992 - Apr. 1996 – Assistant, Department of Chemistry, University of Minho, Portugal

Apr. 1996 - Assistant Professor, Department of Chemistry, University of Minho, Portugal

Apr. 2001 - Assistant Professor with Definitive Nomination, Department of Chemistry, University of Minho, Portugal

Jul. 2007 - Associate Professor, Department of Chemistry, University of Minho, Portugal

Nov. 2020 - Associate Professor with Habilitation, Department of Chemistry, University of Minho, Portugal

Scientific formation:

Degree on Applied Chemistry (Organic Synthesis speciality), 1987 (14/20), New University of Lisbon, Faculty of Sciences and Technology, Portugal

“Provas de Aptidão Pedagógica e Capacidade Científica”, January of 1992 (Very Good), Department of Chemistry, University of Minho, Portugal

PhD. studies, April of 1996 (Distinction and Praise). Dissertation on “Synthesis studies on carbazoles and pyridocarbazoles”, Department of Chemistry, University of Minho, Portugal

Teaching expertise:

During the last 33 years M. M. M. Raposo has taught more than 25 subjects (experimental and theoretical) in several areas of chemistry (general, organic, spectroscopic techniques) for several

levels of students: degree in: Chemistry, Physics, Applied Biology, etc. and MSc students (e.g. Medicinal Chemistry). In particular she is an expert in teaching organic chemistry subjects such as organic and heterocyclic chemistry (e.g. "Organic chemistry", "Chemical reactions", "Methods in organic chemistry", "Heterocycles: chemistry and applications" and "Heterocycles in medicinal chemistry", "Laboratory techniques in chemistry", "Topics of Structural Chemistry").

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ISI authors search: Raposo MMM (*h*-index: 35; 3551 citations; October 2021)

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Present research interests:

- Synthesis and characterization of sulfur, nitrogen and oxygen heterocycles as well as the corresponding amino acid derivatives with several applications:

- i) nonlinear optics (SHG and TPA);
- ii) colorimetric and/or fluorimetric chemosensors of anions, cations and neutral molecules with potential analytical, environmental and medical relevance;
- iii) photochromic materials;
- iv) PDT and PDI photosensitizers;
- v) functional dyes as fluorescence probes and markers for bioimaging;
- vi) dye sensitized solar cells (DSSCs);
- vii) organic light-emitting diodes (OLED's);
- viii) ligands for heterogeneous catalysis.

M. M. M. Raposo is author of more than 130 publications, author/co-author of 14 books/chapter books, 55 proceedings published on the ambit of international congresses and over 250 oral and poster communications in national and international congresses (*h*-index 35, 3551 citations: 31/10/2021; in ISI Web of Science).

She supervised over than 35 students/investigators involved in doctoral and MSc theses and research projects and is referee of more than fifty international journals.

At the educational level, she participate in the creation of the PhD course in Applied Chemistry and since April 2017 till August 2021 she was the Director of this course, member of the scientific committee of the Doctoral Course in Sciences (since November 2012), and Director of Course of the Degree in Chemistry since September of 2017 till August 2019. Additionally she was invited Professor in foreign universities: University of Metz and University of Lorraine (France), and Paulista State University; UNESP (Brazil).

She is also the Director of the Chemistry Centre (CQ-UM) since October 2020 and member of the Scientific Commission of the School of Sciences (ECUM) of the University of Minho since December 2015.

Publications (past six years):

P1. Garcia-Amorós, J.; Castro, M. C. R.; Coelho, P.; **Raposo, M. M. M.**; Velasco, D. Fastest non-ionic azo dyes and transfer of their thermal isomerisation kinetics into liquid-crystalline materials. *Chem. Commun.* **2016**, 52(29), 5132-5135. <http://dx.doi.org/10.1039/C6CC00403B>. Q1; IF = 6.319

P2. Castro, M. C. R.; **Raposo, M. M. M.** Synthesis of π -conjugated systems bearing thiophene and pyrrole heterocycles through palladium catalyzed cross-coupling reactions. *Tetrahedron* **2016**, 72(15), 1881-1887. <http://dx.doi.org/10.1016/j.tet.2016.02.054>. Q2; IF = 2.651

P3. Castro, M. C. R.; Belsley, M.; **Raposo, M. M. M.** Push-pull second harmonic generation (SHG) chromophores bearing pyrrole and thiazole heterocycles functionalized with strong acceptor moieties: synthesis and characterization. *Dyes Pigments* **2016**, 128, 89-95. <http://dx.doi.org/10.1016/j.dyepig.2016.01.015>. Q1; IF = 3.473

P4. I. Kuźniarska-Biernacka, **Raposo, M. M. M.**, Batista, R. M. F.; Parpot, P.; Biernacki, K.; Magalhães, A. L.; Fonseca, A. M.; Neves, I. C. Highly efficient heterogeneous catalysts for phenol oxidation: binuclear pyrrolyl-azine metal complexes encapsulated in NaY Zeolite. *Microporous*

Mesoporous Mater. **2016**, 227, 272-280. <http://dx.doi.org/10.1016/j.micromeso.2016.03.003>. Q1; IF = 3.615

P5. Castro, M. C. R.; Belsley, M.; **Raposo, M. M. M.** Synthesis and characterization of push-pull (bi)thienylpyrrole NLOphores with enhanced hyperpolarizabilities. *Dyes Pigments* **2016**, 131, 333-339. <http://dx.doi.org/10.1016/j.dyepig.2016.04.027>. Q1; IF = 3.473

P6. Esteves, C. I. C.; **Raposo, M. M. M.**; Costa, S. P. G. New 2,4,5-triarylimidazoles based on a phenylalanine core: synthesis, photophysical characterization and evaluation as fluorimetric chemosensors for ion recognition. *Dyes Pigments* **2016**, 134, 258-268. <http://dx.doi.org/10.1016/j.dyepig.2016.04.037>. Q1; IF = 3.473

P7. **Raposo, M. M. M.**; Herbivo, C.; Hugues, V.; Clermont, G.; Castro, M. C. R.; Comel, A. Blanchard-Desce, M. Synthesis, fluorescence and two-photon absorption properties of push-pull 5-aryl[3,2-*b*]thienothiophene derivatives. *Eur. J. Org. Chem.* **2016**, 31, 5263-5273. <http://dx.doi.org/10.1002/ejoc.201600806>. Q1; IF = 2.834

P8. Esteves, C. I. C.; Batista, R. M. F.; **Raposo, M. M. M.**; Costa, S. P. G. Novel functionalised imidazo-benzocrown ethers bearing a thiophene spacer as fluorimetric chemosensors for metal ion detection. *Dyes Pigments* **2016**, 135, 134-142. (“*Special Issue: 2nd International Caparica Congress on Chromogenic and Emissive Materials*”). <http://dx.doi.org/10.1016/j.dyepig.2016.04.037>. Q1; IF = 3.473

P9. Fernandes, S. S. M.; Castro, M. C. R.; Mesquita, I.; Andrade, L.; Mendes, A.; **Raposo, M. M. M.** Synthesis and characterization of novel thieno[3,2 *b*]thiophene based metal-free organic dyes with different heteroaromatic donor moieties as sensitizers for dye-sensitized solar cells. *Dyes Pigments* **2017**, 136, 46-53. <http://dx.doi.org/10.1016/j.dyepig.2016.08.020>. Q1; IF = 3.767

P10. Mohammed, N.; Wiles, A. A.; Belsley, M.; Fernandes, S. S. M.; Cariello, M.; Rotello, V. M.; **Raposo, M. M. M.**; Cooke, G. Synthesis and characterisation of push-pull flavin dyes with efficient second harmonic generation (SHG) properties. *RSC Advances* **2017**, 7, 24462-24469. <http://dx.doi.org/10.1039/c7ra03400h>. Q1; IF = 2.936

P11. Esteves, C. I. C.; **Raposo, M. M. M.**; Costa, S. P. G. Non-canonical amino acids bearing thiophene and bithiophene: synthesis by an Ugi multicomponent reaction and studies on ion recognition. *Amino Acids* **2017**, 49(5), 921-930. <http://dx.doi.org/10.1007/s00726-017-2392-7>. Q1; IF = 2.906

- P12.** Fernandes, S. S. M.; Mesquita, I.; Andrade, L.; Mendes, A.; Justino, L. L. G. Burrows, H. D.; **Raposo, M. M. M.** Synthesis and characterization of push-pull bithiophene and thieno[3,2-*b*]thiophene derivatives bearing an ethyne linker as sensitizers for dye-sensitized solar cells. *Org. Electronics* **2017**, *49*, 194-205. <http://dx.doi.org/10.1016/j.orgel.2017.06.048>. Q1; IF = 3.680
- P13.** Ferreira, R. C. M.; Costa, S. P. G.; Gonçalves, H.; Belsley, M.; **Raposo, M. M. M.** Fluorescent phenanthroimidazoles functionalized with heterocyclic spacers: synthesis, optical chemosensory ability and Two-Photon Absorption (TPA) properties. *New J. Chem.* **2017**, *41*(21), 12866-12878. <http://dx.doi.org/10.1039/C7NJ02113E>. Q1; IF = 3.201
- P14.** Fernandes, S. S. M.; Castro, M. C. R.; Pereira, A. I.; Mendes, A.; Serpa, C.; Pina, J.; Justino, L. L. G.; Burrows, H. D.; **Raposo, M. M. M.** Optical and photovoltaic properties of thieno[3,2-*b*]thiophene based push-pull organic dyes with different anchoring groups for dye-sensitized solar cells. *ACS Omega* **2017**, *2*(12), 9268–9279. <http://dx.doi.org/10.1021/acsomega.7b01195>; Q1; IF = 2.584
- P15.** Fernandes, S. S. M.; Herbivo, C.; Aires-de-Sousa, J.; Comel, A.; Belsley, **Raposo, M. M. M.** Theoretical and experimental studies of aryl-bithiophene based push-pull π -conjugated heterocyclic systems bearing cyanoacetic or rhodanine-3-acetic acid acceptors for SHG nonlinear optical applications. *Dyes Pigments* **2018**, *149*, 566-573. <http://dx.doi.org/10.1016/j.dyepig.2017.10.001>; Q1; IF = 4.018
- P16.** Fernandes, S. S. M.; Belsley, M.; Ciarrocchi, C.; Licchelli, M.; **Raposo, M. M. M.** Terpyridine derivatives functionalized with (hetero)aromatic groups and the corresponding Ru complexes: synthesis and characterization as SHG chromophores. *Dyes Pigments* **2018**, *150*, 49-58. <https://doi.org/10.1016/j.dyepig.2017.10.046>; Q1; IF = 4.018
- P17.** Ferreira, R. C. M.; **Raposo, M. M. M.**; Costa, S. P. G.; Heterocyclic amino acids as fluorescent reporters for transition metals: synthesis and evaluation of novel furylbenzoxazol-5-yl-L-alanines. *New J. Chem.* **2018**, *42*(5), 3483-3492. <http://dx.doi.org/10.1039/c7nj04459c>. Q1; IF = 3.069
- P18.** Esteves, C. I. C.; **Raposo, M. M. M.**; Costa, S. P. G. New fluoroionophores for metal cations based on benzo[*d*]oxazol-5-yl-alanine bearing pyrrole and imidazole. *Dyes Pigments* **2018**, *151*, 211-218. <https://doi.org/10.1016/j.dyepig.2017.12.040>. Q1; IF = 4.018
- P19.** Fernandes, S. S. M.; Pereira, A.; Ivanou, D.; Mendes, A.; **Raposo, M. M. M.** Benzothiadiazole derivatives functionalized with two different (hetero)aromatic donor groups: synthesis and

evaluation as TiO₂ sensitizers for DSSCs. *Dyes Pigments* **2018**, *151*, 89-94. <https://doi.org/10.1016/j.dyepig.2017.10.038>. Q1; IF = 4.018

P20. Ferreira, R. C. M.; Raposo, M. M. M.; Costa, S. P. G.; Novel alanines bearing an heteroaromatic side chain: synthesis and studies on fluorescent chemosensing of metals cations with biological relevance. *Amino Acids* **2018**, *50*, 671-684. <https://doi.org/10.1007/s00726-018-2549-z>. Q1; IF = 2.52

P21. Presti, M. L.; Martínez-Máñez, R.; Ros-Lis, J. V.; Batista, R. M. F.; Costa, S. P. G.; Raposo, M. M. M., Sancenón, F. A dual channel sulphur-containing macrocycle functionalised BODIPY probe for the detection of Hg(II) in mixed aqueous solution. *New J. Chem.* **2018**, *42*(10), 7863-7868. ("Special Issue: International Symposium on Metal Complexes"). <http://dx.doi.org/10.1039/c7nj04699e>. Q1; IF = 3.069

P22. Okda, H. E.; Sayed, S. E.; Ferreira, R. C. M.; Costa, S. P. G.; Raposo, M. M. M., Martínez-Máñez, R. Sancenón, F. 4-(4,5-Diphenyl-1H-imidazole-2-yl)-N,N-dimethylaniline-Cu(II) complex, a highly selective probe for glutathione sensing in water-acetonitrile mixtures. *Dyes Pigments* **2018**, *159*, 45-48. ("Special Issue: 3rd International Caparica Conference on Chromogenic and Emissive Materials"). <https://doi.org/10.1016/j.dyepig.2018.05.069>. Q1; IF = 4.018

P23. Castro, M. C. R.; de Sá, A.; Fonseca, A. M.; Raposo, M. M. M.; Machado, A. V. Development of iridium porphyrin arrays by axial coordination trough N-bidentate ligand: Synthesis and evaluation of the optical, electrochemical and thermal properties. *Polyhedron* **2018**, *154*, 302-308. <https://doi.org/10.1016/j.poly.2018.07.035>. Q2; IF = 2.284

P24. Fernandes, S. S. M.; Belsley, M.; Pereira, A.; Ivanou, D.; Mendes, A.; Justino, L. L. G.; Belsley, M.; Burrows, H. D.; Raposo, M. M. M. Push-pull N,N-diphenylhydrazones bearing bithiophene and thienothiophene spacers: nonlinear optical properties and photovoltaic performance *ACS Omega* **2018**, *3*(10), 12893-12904. <http://dx.doi.org/10.1021/acsomega.8b01045>. Q1; IF = 2.584

P25. Fernandes, S. S. M.; Aires-de-Sousa, J.; Belsley, M.; Raposo, M. M. M. Synthesis of pyridazine derivatives by Suzuki-Miyaura cross-coupling reaction and evaluation of their optical and electronic properties through experimental and theoretical studies. *Molecules* **2018**, *23*(11), 3014. (Special Issue: Frontiers in Metal-Catalysed Cross-Coupling Reactions for the Synthesis and Functionalisation of Heterocycles; by editor invitation). <https://doi.org/10.3390/molecules23113014>. Q1; IF = 3.06

- P26.** Okda, H. E.; Sayed, S. E.; Ferreira, R. C. M.; Otri, I.; Costa, S. P. G.; **Raposo, M. M. M.**, Martínez-Máñez, R. Sancenón, F. A simple and easy-to-prepare imidazole-based probe for the selective chromofluorogenic recognition of biothiols and Cu(II) in aqueous environments. *Dyes Pigments* **2019**, *162*, 303-308. <https://doi.org/10.1016/j.dyepig.2018.10.017>. Q1; IF = 4.613
- P27.** Okda, H. E.; Sayed, S. E.; Ferreira, R. C. M.; Gonçalves, R. C. R. Costa, S. P. G.; **Raposo, M. M. M.**, Martínez-Máñez, R. Sancenón, F. *N,N*-diphenylanilino-heterocyclic aldehydes based chemosensors for UV-vis/NIR and fluorescence Cu(II) detection. *New J. Chem.* **2019**, *43*(19), 7393-7402. <https://doi.org/10.1039/C9NJ00880B>. Q1; IF = 3.288
- P28.** Okda, H. E.; Sayed, S. E.; Otri, I.; Ferreira, R. C. M.; Costa, S. P. G.; **Raposo, M. M. M.**, Martínez-Máñez, R. Sancenón, F. 2,4,5-Triaryl imidazole probes for the selective chromofluorogenic detection of Cu(II). Prospective use of the Cu(II) complexes for the optical recognition of biothiols. *Polyhedron* **2019**, *170*, 388-394. (*Special Issue: in honor of Professor Miguel Julve*, by editor invitation) <https://doi.org/10.1016/j.poly.2019.05.055>. Q2; IF = 2.343
- P29.** Garcia-Amorós, J.; Reig, M.; Castro, M. C. R.; Nonell, S.; Vilchez, S.; Esquena, J.; Raposo, M. M. M.; Velasco, D. Adaptable photochromic switches with self-aggregating heterocyclic azo dyes. *J. Phys. Chem. C* **2019**, *123*(37), 23140–23144. <https://doi.org/10.1021/acs.jpcc.9b07527>. Q1; IF = 4.189
- P30.** Batista, R. M. F.; de Matos Gomes, E.; **Raposo, M. M. M.**; Costa, S. P. G.; Lopes, P. E.; Almeida, B.; Belsley, M. S. Self-assembling of dipeptide Boc-diphenylalanine nanotubes inside electrospun polymeric fibers with strong piezoelectric response. *Nanoscale Adv.* **2019**, *1*, 4339-4346. <https://doi.org/10.1039/C9NA00464E>. Q1; IF = 4.553 (2020)
- P31.** Kuźniarska-Biernacka, I.; **Raposo, M. M. M.**, Batista, R. M. F.; Fonseca, A. M.; Oliveira, C.; Skiba, E.; Jartych, E.; Soares, O. S. G. P.; Pereira, M. F. R.; Neves, I. C. Binuclear furanyl-azine metal complexes encapsulated in NaY zeolite as efficiently heterogeneous catalysts for phenol hydroxylation. *J. Mol. Structure*, **2020**, *1026*, 127687. <https://doi.org/10.1016/j.molstruc.2020.127687>. Q2; IF = 3.196
- P32.** Bernardo, C. R.; Batista, R. M. F.; de Matos Gomes, E.; Lopes, P. E.; **Raposo, M. M. M.**; Costa, S. P. G.; Belsley, M. S. 3-Nitroaniline electrospun nanofibers as strong emitters of second harmonic light and piezoelectric currents. *Nanoscale Adv.* **2020**, *2*, 1206-1213. <https://doi.org/10.1039/C9NA00687G>. Q1; IF = 4.553

P33. Moreira, X.; Santos, P.; Faustino, M. A. F.; **Raposo, M. M. M.**; Costa, S. P. G.; Moura, N. M. M.; Gomes, A. T. P. C.; Almeida, A.; Neves, M. G. P. M. S. An insight into the synthesis of cationic porphyrin-imidazole derivatives and their photodynamic inactivation efficiency against *Escherichia coli*. *Dyes Pigments* **2020**, *178*, 108330. (“Special Issue: 3rd International Caparica Conference on Chromogenic and Emissive Materials”; by editor invitation). <https://doi.org/10.1016/j.dyepig.2020.108330>. Q1; IF = 4.889

P34. Gomes, B. R.; Figueira, R. B.; Costa, S. P. G.; **Raposo, M. M. M.**; Silva, C. J. R. Synthesis and optical characterization of amino-alcohol sol-gel hybrid materials for applications in alkaline environments. *Polymers* **2020**, *12*(11), 2671. <https://doi.org/10.3390/polym12112671>. Q1; IF = 4.329

P35. Sousa, R. P. C. L.; Figueira, R. B.; Costa, S. P. G.; **Raposo, M. M. M.** Optical fibre sensors for biocide monitoring: the actual state-of-the-art. *ACS Sensors* **2020**. <https://doi.org/10.1021/acssensors.0c01615>. Q1; IF = 7.711

P36. Rashidnejad H.; Taghartapeh, M. R.; Pesyan, N. N.; Mahon, P. J.; **Raposo, M. M. M.**; Coelho, P. J.; Lup, A. N. K.; Soltani, A. A comprehensive spectroscopic, solvatochromic and photochemical analysis of 5-hydroxyquinoline and 8-hydroxyquinoline mono-azo dyes. *J. Mol. Structure*, **2021**, *1223*, 129323. <https://doi.org/10.1016/j.molstruc.2020.129323>. Q2; IF = 3.196 (2020)

P37. Sousa, R. P. C. L.; Figueira, R. B.; Gomes, B.; Costa, S. P. G.; Azenha, M.; Pereira, R. P. C. L.; **Raposo, M. M. M.** Organic-inorganic hybrid sol-gel materials doped with a fluorescent triarylimidazole derivative. *RSC Advances* **2021**, *11*, 24613-24623. <https://doi.org/10.1039/d1ra03997k>. Q1; IF= 3.361 (2020)

P38. Gonçalves, R.; Pina, J.; Costa, S. P. G.; **Raposo, M. M. M.**; Synthesis and characterization of aryl-substituted BODIPY dyes displaying distinct solvatochromic singlet oxygen photosensitization efficiencies. *Dyes Pigments* **2021**, *196*, 109784. <https://doi.org/10.1016/j.dyepig.2021.109784>. Q1; IF = 4.889 (2020)

Book Chapters

BC1. **Raposo, M. M. M.** in *Comprehensive Organic Chemistry Experiments for the Laboratory Classroom* (COCELC), “Synthesis of methyl 4-oxo-4-(thiophen-2-yl)butanoate”, Afonso, C. A. M.; Franzén, R.; Tan, B.; Candeias, N. R.; Simão, D.; Trindade, A.; Coelho, J. (Eds); Royal Society of Chemistry 2016, Chapter 129, Experiment 5.2.8., pp 566-569, (ISBN 978-18-49739-63-

4).<http://pubs.rsc.org/en/content/ebook/978-1-84973-963-4#!divbookcontent>;

<http://hdl.handle.net/1822/44403>

BC2. Raposo, M. M. M. in *Comprehensive Organic Chemistry Experiments for the Laboratory Classroom* (COCELC), "Synthesis of a γ -keto amide derived from thiophene using a carboxyl ester as precursor", Afonso, C. A. M.; Franzén, R.; Tan, B.; Candeias, N. R.; Simão, D.; Trindade, A.; Coelho, J. (Eds); Royal Society of Chemistry 2016, Chapter 47, Experiment 3.1.16, pp 206-211, (ISBN 978-18-49739-63-4). <http://pubs.rsc.org/en/content/ebook/978-1-84973-963-4#!divbookcontent>; <http://hdl.handle.net/1822/49424>

BC3. Raposo, M. M. M. in *Comprehensive Organic Chemistry Experiments for the Laboratory Classroom* (COCELC), "Synthesis of 1-propyl-2-(thiophen-2-yl)-1H-pyrrole", Afonso, C. A. M.; Franzén, R.; Tan, B.; Candeias, N. R.; Simão, D.; Trindade, A.; Coelho, J. (Eds); Royal Society of Chemistry 2016, Chapter 225, Experiment 17.8, pp 1025-1030, (ISBN 978-18-49739-63-4). <http://pubs.rsc.org/en/content/ebook/978-1-84973-963-4#!divbookcontent>;

<http://hdl.handle.net/1822/44404>

BC4. Raposo, M. M. M. in *Comprehensive Organic Chemistry Experiments for the Laboratory Classroom* (COCELC), "Synthesis and formylation of 5-piperidino-2,2'-bithiophene", Afonso, C. A. M.; Franzén, R.; Tan, B.; Candeias, N. R.; Simão, D.; Trindade, A.; Coelho, J. (Eds); Royal Society of Chemistry 2016, Chapter 131, Experiment 5.2.10., pp 575-580, (ISBN 978-18-49739-63-4). <http://pubs.rsc.org/en/content/ebook/978-1-84973-963-4#!divbookcontent>;

<http://hdl.handle.net/1822/44405>

BC5. Raposo, M. M. M.; Costa, S. P. G.; Batista, R. M. F.; Ferreira, R. C. M. in *Comprehensive Organic Chemistry Experiments for the Laboratory Classroom* (COCELC), "Reactivity studies for the synthesis of 5-phenylthiophene-2-carbaldehyde by Suzuki-Miyaura coupling", Afonso, C. A. M.; Franzén, R.; Tan, B.; Candeias, N. R.; Simão, D.; Trindade, A.; Coelho, J. (Eds); Royal Society of Chemistry 2016, Chapter 142, Experiment 7.2., pp 628-632, (ISBN 978-18-49739-63-4).

<http://pubs.rsc.org/en/content/ebook/978-1-84973-963-4#!divbookcontent>;

<http://hdl.handle.net/1822/49427>

BC6. Raposo, M. M. M.; Costa, S. P. G.; Batista, R. M. F. in *Comprehensive Organic Chemistry Experiments for the Laboratory Classroom* (COCELC), "Synthesis of 2-(5'-phenylthien-2'-yl)benzothiazole", Afonso, C. A. M.; Franzén, R.; Tan, B.; Candeias, N. R.; Simão, D.; Trindade, A.; Coelho, J. (Eds); Royal Society of Chemistry 2016, Chapter 184, Experiment 12.2.1., pp 832-835,

(ISBN 978-18-49739-63-4). <http://pubs.rsc.org/en/content/ebook/978-1-84973-963-4#!divbookcontent>; <http://hdl.handle.net/1822/49425>

BC7. Raposo, M. M. M.; Castro, M. C. R.; Fernandes, S. S. M. in Comprehensive Organic Chemistry Experiments for the Laboratory Classroom (COCELC), "Synthesis of 1-(4-bromophenyl)-1H-pyrrole by Clauson-Kass reaction", Afonso, C. A. M.; Franzén, R.; Tan, B.; Candeias, N. R.; Simão, D.; Trindade, A.; Coelho, J. (Eds); Royal Society of Chemistry 2016, Chapter 222, Experiment 17.5., pp 1011-1014, (ISBN 978-18-49739-63-4). <http://pubs.rsc.org/en/content/ebook/978-1-84973-963-4#!divbookcontent>. <http://hdl.handle.net/1822/44406>

BC8. Raposo, M. M. M. Fernandes, S. S. M.; Castro, M. C. R. in Comprehensive Organic Chemistry Experiments for the Laboratory Classroom (COCELC), "Reactivity studies of 1-propyl-2-(thiophen-2-yl)-1H-pyrrole", Afonso, C. A. M.; Franzén, R.; Tan, B.; Candeias, N. R.; Simão, D.; Trindade, A.; Coelho, J. (Eds); Royal Society of Chemistry 2016, Chapter 135, Experiment 5.2.14., pp 594-600, (ISBN 978-18-49739-63-4). <http://pubs.rsc.org/en/content/ebook/978-1-84973-963-4#!divbookcontent>; <http://hdl.handle.net/1822/49422>

BC9. Costa, S. P. G.; **Raposo, M. M. M.;** Esteves, C. I. C.; Ferreira, R. C. M. in Comprehensive Organic Chemistry Experiments for the Laboratory Classroom (COCELC), "Synthesis of N-tert-butylloxycarbonyl-3-nitro-L-tyrosine methyl ester", Afonso, C. A. M.; Franzén, R.; Tan, B.; Candeias, N. R.; Simão, D.; Trindade, A.; Coelho, J. (Eds); Royal Society of Chemistry 2016, Chapter 45, Experiment 3.1.14, pp 198-201, (ISBN 978-18-49739-63-4). <http://pubs.rsc.org/en/content/ebook/978-1-84973-963-4#!divbookcontent>; <http://hdl.handle.net/1822/49289>

BC10. Costa, S. P. G.; **Raposo, M. M. M.;** Esteves, C. I. C.; Ferreira, R. C. M. in Comprehensive Organic Chemistry Experiments for the Laboratory Classroom (COCELC), "Synthesis of N-tert-butylloxycarbonyl-[2-(thien-2'-yl)benzoxazol-5-yl]-L-alanine methyl ester", Afonso, C. A. M.; Franzén, R.; Tan, B.; Candeias, N. R.; Simão, D.; Trindade, A.; Coelho, J. (Eds); Royal Society of Chemistry 2016, Chapter 185, Experiment 12.2.2, pp 836-839, (ISBN 978-18-49739-63-4). <http://pubs.rsc.org/en/content/ebook/978-1-84973-963-4#!divbookcontent>; <http://hdl.handle.net/1822/49290>

BC11. Costa, S. P. G.; **Raposo, M. M. M.;** Esteves, C. I. C. in Comprehensive Organic Chemistry Experiments for the Laboratory Classroom (COCELC), "A Ugi multicomponent reaction in the synthesis of N-cyclohexyl-2-(N-(4-methoxybenzyl)acetamido)-2-(thien-2'-yl)acetamide", Afonso, C.

A. M.; Franzén, R.; Tan, B.; Candeias, N. R.; Simão, D.; Trindade, A.; Coelho, J. (Eds); Royal Society of Chemistry 2016, Chapter 111, Experiment, 4.2.5.3. pp 493-496, (ISBN 978-18-49739-63-4).

<http://pubs.rsc.org/en/content/ebook/978-1-84973-963-4#!divbookcontent>;

<http://hdl.handle.net/1822/49291>

Comunications

Co-author of over 250 oral, poster and electronic communications in national and international congresses.

Funded projects

1- (PTDC/QUI-OUT/3143/2021) (member of the team): “Unleashing the tumor associated macrophage (TAM) workforce to fight against cancer from the inside”; UnTAM. From 2022 to 2024. Total budget: 249 854,54 €; CQUM budget: 104 225 € In collaboration with International Iberian Nanotechnology Laboratory (INL).

2- (PTDC/QUI-COL/28052/2017; NORTE-01-0145-FEDER-028052) (member of the team): “Self-reporting immunostimulating formulation for on-demand cancer therapy with real time treatment response monitoring”; (Self-i). From 2018 to 2021. Total budget: 239 718 €; CQUM budget 75 975 €. In collaboration with International Iberian Nanotechnology Laboratory (INL).

3- (2017/24839-0), “Nanoelectronics and nanoelectrochemistry: fundamentals and applications”; (member of the team), Fundação de Amparo à Pesquisa do Estado de São Paulo. From 2018 to 2023. In collaboration with Universidade Estadual Paulista “Júlio Mesquita Filho” (UNESP) and University of Oxford. Budget: 750 000 USD.

4- (PTDC-ECI-EGC-31220_2017); (Co-IR): "Development of Advanced Fibre Optic Sensors to Monitor the Durability of Concrete and Reinforced Concrete Structures"; SolSensors. From 2018 to 2021. In collaboration with Instituto de Engenharia de Sistemas e Computadores, Tecnologia e Ciência (INESC-TEC). Total budget: 239 979 €; CQUM budget 174 728 €.

5- “Greffage covalent de chromophores sur des nanotubes de carbone pour la spectroscopie à deux photons”; on the ambit of Institut Barriol - Université de Lorraine, (member of the team). In collaboration with Université de Lorraine and Université de Strasbourg. From 2013 to 2014. Total budget: 3 000 €.

6- (NORTE-07-0124-FEDER-000039); “Nanostructured systems for tailored performance”, n-Step, (member of the team); on the ambit of ON2: O Novo Norte – Programa Operacional Regional do Norte, “Programas Integrados de IC&DT - SAECTN-PIIC&DT/1/2011, QREN, FEDER. From 2013 to 2016. In collaboration with Instituto de Polímeros e Compósitos (IPC-UM). Total budget: 735 815 Euros; CQUM Budget: 45 000 euros.

7- (PTDC/CTM/105597/2008) (member of the team): “Nonlinear spectroscopy of push-pull organic molecules”. In collaboration with CF-UMinho From 2010 to 2014 Budget: 165 000 €.

8- (Acção nº E-144/10); (coordinator), “Synthesis and characterization of heterocyclic urea and thiourea derivatives with application as fluorimetric and/or colorimetric chemosensors”; Acções Integradas Luso-Espanholas/CRUP. From 2010 to 2012. Budget: 3500 €;

9- (PTDC/QUI/66251/2006) (coordinator): “Thienylpyrroles as building blocks on the synthesis of organic and coordination compounds with nonlinear optical (NLO) applications”. In collaboration with CF-UMinho and CQ-UTAD. From 2009 to 2012. Total Budget: 159 486 €; CQUM Budget 151 086 €.

10- (PTDC/QUI/66250/2006) (coordinator): “Development of new heterocyclic compounds as luminescent and colorimetric chemosensors: metallic anion and cation detection”. In collaboration with Faculty of Sciences and Technology/New University of Lisbon (FCT/UNL). From 2008 to 2011. Total Budget: 110 100 €; CQUM Budget 68 808 €.

11- (Acção nº F-37/08) (coordinator): Acções Integradas Luso-Francesas/CRUP, “Synthesis and characterization of organic and organometallic compounds with application in nonlinear optics (NLO)”, From January 2008- January of 2009. Budget: 1500 euros.

12- (Acção nº F-36/06) (Coordinator). “Synthesis and characterization of organic and organometallic compounds with application in nonlinear optics (NLO)”, Acções Integradas Luso-Francesas/CRUP, In collaboration with Université de Metz. 2006 - 2007. CQUM Budget: 2s000 euros.

13- (Acção nº F-29/03) (Coordinator): “Synthesis and characterization of organometallic complexes with heterocyclic ligands with potential applications in nonlinear optics (NLO)”. Acções Integradas Luso-Francesas/CRUP. In collaboration with Université de Metz. From 2003 to 2004. Budget: 1500 €.

14- (POCTI/2001/QUI/37816), (member of the team): "Synthesis and characterization of transition metal complexes with heterocyclic ligands with potential nonlinear optical (NLO) applications". In collaboration with CF-UMinho-UP. From 2002 to 2005. Total Budget 54 200 €.

15- (Proj. 320-B3) (Coordinator): "New synthetic routes to polithiophenic derivatives with potential applications in nonlinear optics (NLO)", ICCTI/Embaixada de França. In collaboration with Université de Metz. From 2000 to 2001. Budget: 775 €.

Editor

1. Member of the editorial board of *Scientific Reports* (Sci. Rep.); ISSN 2045-2322; Nature Research, England, United Kingdom. <https://www.nature.com/srep/about/editors#organic-chemistry>; (FI = 4.379; 2020)/Q1

2. Member of the editorial board of *Dyes and Pigments*; ISSN 0143-7208; eISSN 1873-3743 Elsevier, Oxford, England. <https://www.journals.elsevier.com/dyes-and-pigments/editorial-board>; (IF = 4.889; 2020)/ Q1

3. Member of the editorial board of *Current Organic Chemistry*; ISSN 1375-2728 (Print); ISSN 1875-5348 (Online); Bentham Science Publishers B.V., United Arab Emirates. <https://benthamscience.com/journals/current-organic-chemistry/editorial-board/>; (IF = 2.18; 2020)/Q3

4. Member of the editorial board of *Mediterranean Journal of Chemistry*; EISSN 2028-3997. <http://www.medjchem.com/index.php/medjchem/pages/view/editorial-board>; (IF = 0.87; 2020)

5. Member of the editorial board of *Colorants*; ISSN 2079-6447; MDPI, Basel, Switzerland. <https://www.mdpi.com/journal/colorants/editors>

6. Member of the editorial board of *Optics*; ISSN 2673-3269; MDPI AG, Basel, Switzerland <https://www.mdpi.com/journal/optics/editors>

7. Member of the editorial board of *American Journal of Optics and Photonics* from 2012-2016. ISSN 2330-8486 (Print); ISSN 2330-8494 (Online). <http://www.sciencepublishinggroup.com/journal/editorialboard.aspx?journalid=127>

University of Minho, 31/10/2021

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