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Academic Degrees and Positions: Full Professor, Faculdade de Ciências, Universidade de Lisboa; Habilitation (Agregação), FCUL, 2002; Doktor der Technischen Wissenschaft, Technische Universität Graz – Austria, 1982, stated equivalent to “Ph.D. in Chemistry”, UTL, 1984; Graduation in Chemical Engineering, UTL, 1974; **Professional positions:** Full Professor, DQB-FCUL with Jubilation on the 1st July 2020, keeping research contract with FCUL starting 2020; President of the Department of Chemistry and Biochemistry of FCUL 2018 -2020; Coordinator of the Graduation in Chemistry and of the Euromaster in Chemistry and its specializations in Chemistry, Health and Nutrition, Green Chemistry, Analytical Chemistry, Applied Electrochemistry (2011-2009); Coordinator of DQB-FCUL Graduation in Chemistry (2004-2003); Senior Lecturer (2018-2003) and Lecturer (2002-1984) of DQB-FCUL; Founder member and Senior Researcher of Center of Chemistry and Biochemistry (CQB-FCUL) (2001-), its Coordinator (2018-2019) and Member of its Executive Committee (2013-2017); Founder and Leader of the CQB Carbohydrate Chemistry Group (2001-2019) and of the CQE Carbohydrate Chemistry Group (2020-); Member of the Centro de Química Estrutural since 2020; Founder (1992) and Coordinator of the Portuguese Chemical Society Carbohydrate Chemistry Group (1992-2001); Researcher of the Centre of Mass Spectrometry, IST-UTL (1994-2001). Invited professor: Nanjing Agricultural University, August 2016; Universidad de Valladolid, June 2016; Université Pierre et Marie Curie (UPMC – Paris VI), France, October 2013; Polish Academy of Sciences, August 2009, Warsaw, Poland; Université Paris Sud 11, Orsay, France, June 2009. Assistant Professor of Organic Chemistry, Institut für Organische Chemie, Technischen Universität Graz - Austria (1983-1975); Assistant-Professor (1974) and Student Teacher, Instituto de Física e Matemática, Instituto de Alta Cultura (1973-1972).

1. ACHIEVEMENTS, HONORARY APPOINTMENTS and AWARDS

At the International level

AWARDS

- Madinaveitia-Lourenzo Prize 2017, given by the Real Sociedad Española de Química;
- Chemistry Europe Fellow, since 2019
- Fellow of the Royal Society of Chemistry (FRSC) since 2017

- European Chemist, title given by the European Chemist Registration Board, established in 1992 by the European Communities Chemistry Council, 1998;
- 1st Prize, for the translation of the Book “*Organikum – Organisch-Chemisches Grundpraktikum, 19th Ed., Deutscher Verlag der Wissenschaften, Barth, 1993*”, titled “ORGANIKUM – Química Orgânica Experimental”, 2nd Ed., edited by Fundação Calouste Gulbenkian, Lisboa,. given by Fundação para a Ciência e a Tecnologia/União Latina, 1997.

Networking

- Delegate participating in Metrology of Carbohydrates for Enabling European BioIndustries - 'CarboMet', CSA – Coordination & Support Action, Horizon 2020 FET-Open program, starting 2016-2021;
- Coordinator of the Reference Site “Lisbon Ageing Well”, approved in January 2020 by the European Innovation Partnership on Active and Healthy Ageing.
- MC Substitute for Portugal of the COST Action 16227 entitled “Investigation and Mathematical Analysis of Avant-garde Disease Control via Mosquito Nano-Tech-Repellents”, 2018-2020;
- Member of the COST Action CM1102 entitled “Multivalent Glycosystems for Nanoscience MultiGlycoNano” 2013 -2016;
- Member of the European Innovation Partnership on Active and Healthy Ageing – Action Group A3 - Prevention of functional decline and frailty, established for the implementation of its strategic plan for 2012-2015 and leader of its Faculty of Sciences-University of Lisbon Consortium, extended to the triénio 2016-2018;
- Member of the steering committee of the ESF network Euroglycoforum, and Executive of the network interest group Glycochemistry (2009-2014);
- Member of PCBNNet - Stem Cells, Prion Proteins and Alzheimer's Disease: A Prion Chemical Biology Network, Sheffield, UK (2011-2013);
- Member of the research network entitled “Valuation of Portuguese Salvia species in terms of food quality and functional food production”, approved by The British Council Convenium/Fundação para a Ciência e Tecnologia with The University of Sheffield (2008-2009);
- Founder of the Iberian Carbohydrate Meetings, starting in 1999;

European and other International Organizations

- President of the Internacional Carbohydrate Organisation (2018-2022), Founder of its International Carbohydrate Organization Young Researcher Award, first given in 2014, and national representative;
- President of the European Carbohydrate Organisation (2001-2003), Secretary since 2013 and National representative since 1997;

IUPAC

- Secretary of IUPAC Organic and Biomolecular Division (III) (2017-2019 and Vice-President 2020-2021; President-elect 2022-2023);
- Secretary of the Subcommittee on Biomolecular Chemistry of IUPAC Organic and Biomolecular Division (III), 2012-2016;
- Titular member of IUPAC Division (VIII) of Chemical Nomenclature and Structure Representation (2011-2016 and 2019-2021), national representative (2017-2018);
- Associate member of IUPAC Interdivisional Committee on Terminology, Nomenclature and Symbols (ICTNS), also Division III representative in ICTNS (2014-2021).

Editorial board membership and editorial activities

As Editor:

1. Editor in Chief of Biopharmaceuticals section of the Journal Pharmaceuticals, since 2020;
2. Editor of two volumes entitled “Recent Trends in Carbohydrate Chemistry”, invited by Elsevier as Editor and as responsible for the invitation of the Editorial team, 2020;
3. Editor of the Royal Society of Chemistry Book Series Carbohydrate Chemistry – Chemical and Biological Approaches – invited by the RSC to relaunch the series, since 2008;
4. Associate Editor of the Mediterranean Journal of Chemistry since 2012;
5. Guest Editor of Pharmaceuticals for the issue “Carbohydrates 2018”;
6. Guest Editor of Marine Drugs for the issue entitled “Marine Polysaccharides in Pharmaceutical Applications”, 2018;
7. Guest Editor of Pure and Applied Chemistry for the ICS2018 issue;
8. Guest editor of Pure and Applied Chemistry for the publication of the contributions dedicated to the XXVIII International Carbohydrate Symposium, 2016;
9. Guest editor of Pure and Applied Chemistry for the publication of the contributions dedicated to the 19th European Symposium of Organic Chemistry, 2015;
10. Guest editor of the European Journal of Organic Chemistry for the publication of the contributions dedicated to the centenary of the Portuguese Society of Chemistry, 2013;
11. Guest editor of Topics in Current Chemistry for volumes 294 and 295 dedicated to Carbohydrates in Sustainable Development, 2010.

As member of Editorial/Advisory boards

1. Member of the international advisory board of the “Russian Journal of Bioorganic Chemistry” since 2020;
2. Member of the editorial board of “Marine Drugs” since 2020;
3. Member of the editorial board of “Pharmaceuticals” since August 2019;
4. Member of the editorial board of “Pure and Applied Chemistry” as Division III representative, 2016 - 2017;
5. Member of the editorial board of “Medicinal Chemistry” since 2017;
6. Member of the editorial board of the “International Journal of Bioorganic Chemistry & Molecular Biology” since 2016;
7. Member of the editorial board of “Contemporary Chemistry”, since 2017;
8. Member of the advisory board of “European Journal of Organic Chemistry”, starting 2013;
9. Member of the editorial board of the Journal Natural Products – an Indian Journal, since 2006;
10. Member of the editorial board of Carbohydrate Research until 2005;
11. Member of the editorial board of the Journal of Carbohydrate Chemistry since 1998.

At the national level

- Awarded with the Mention of Excellency (Menção Excelente) by Faculdade de Ciências, Universidade de Lisboa in all evaluations by curricular ponderation since 2007 up to 2018 (inclusive);
- Member of the LisbonLiving+ Consortium Executive Committee (2013-Sept.2014). This consortium was established for the (successful) application to the EIT KIC on Healthy Life and Active Ageing;
- Member of the University of Lisbon Network on Health 2014-2020;

- Member of the research core team of the FCT-Ph.D. Program entitled Catalysis and Sustainability (CATSUS), 2013;
- Member of the Steering Committee of the Technology Transfer Unit of the University of Lisbon UL-INOVAR (2009-2013);
- Member of the Executive Committee for Pedagogical Issues of the University of Lisbon Chemistry College since 2017 until July 2019.

2. RESEARCH INTERESTS

Design and synthesis of new leads based on carbohydrate structures with new mechanisms of action, and of biologically active natural products. Lead structures for metabolic (diabetes), degenerative diseases (Alzheimer's and Prion diseases, cancer) and infection have been discovered and investigated. Another important focus of her activities is based on nomenclature, terminology, and structure representation in the area of organic chemistry.

3. RESEARCH PROJECTS AND OTHER EUROPEAN FUNDED PROGRAMS

Has coordinated/participated as PI of FCUL in projects sponsored by EU, IUPAC, NATO, FCT, QREN, FLAD, CRUP, among other funding agencies and programs and with national and international companies (42 projects). The projects funded by EU and IUPAC are highlighted below:

Projects approved by the European Union

1. "Diagnostic and Drug Discovery Initiative for Alzheimer's Disease", Industry-Academia Partnerships and Pathways (IAPP), FP7-PEOPLE-2013-IAPP, Project Nr. 612347, 2014-2018, PI from FCUL.
2. "PERSONALISED ICT supported Service for Independent Living and Active Ageing", Small or medium-scale focused research project (STREP), FP7-ICT-2013-10, Project Nr. 610359, 2013-2016, PI from FCUL.
3. "Healthy ageing with innovative functional foods/leads for degenerative and metabolic diseases (INNOVAFUNAGEING)", approved in the "Invitation for Commitments to the Strategic Implementation Plan of the European Innovation Partnership on Active and Healthy Ageing (EIP AHA) - Action A3", 2012-2015, Coordinator and renewal approved in 2016.
4. "11th. European Carbohydrate Symposium", European Commission -Accompanying Measure, Quality of Life and Management of Living Resources, 2001, Coordinator.
5. "EuroConferences on Carbohydrates in Drug Research", Commission of the European Communities - Training and Mobility Research Programme, 1997, Coordinator from FCUL.
6. "EuroConferences on Carbohydrate Mimics", Commission of the European Communities – Human Capital and Mobility Programme, 1999, Coordinator from FCUL.
7. "Synthese de Molecules Biologiquement Importantes a partir des Glucides", EEC Science Program, 1991–1994, PI-FCUL.

IUPAC Projects

8. "Recommendations on Nomenclature of Flavonoids", IUPAC project No. 2009-018-2-800 (2010-), Chair.
9. "Rules for Abbreviation of Protecting Groups", IUPAC Project No. 2011-044-1 (2012-2013), team member.
10. "Revision and extension of IUPAC Recommendations on Carbohydrate Nomenclature", IUPAC Project No. 2012-039-1 (2013-), team member.
11. "Revision and extension of IUPAC Recommendations on Carbohydrate Nomenclature", Project

No 2015-035-2-800 (2015-), team member.

12. “Healthy life and active ageing – the contribution of functional food ingredients”, Project No. 2013-054-2-300 (2019 -), Chair.

4. ORGANISATION OF INTERNATIONAL CONFERENCES

Chairperson of the International Conferences:

29th International Carbohydrate Symposium, 2018; 19th European Symposium on Organic Chemistry, 2015; 6th Spanish-Portuguese-Japanese Organic Chemistry Symposium, 2012; Glycosciences in the International Year of Chemistry – Applications to Human Health and Disease, 2011; Carbohydrates as Organic Raw Materials V – Building a Sustainable Future, 2009; 11th. European Carbohydrate Symposium, 2001; 2nd Euroconference on Carbohydrates in Drug Research, 2000; Phytochemical Society of Europe Meeting entitled “Natural Products from the Plants and Marine Organisms of the Mediterranean and Atlantic Seaboard: Isolation, Synthesis and Industrial Applications”, 2000; 1st International Meeting of the Portuguese Carbohydrate Chemistry Group, 1995.

She has been also member of the scientific and organizing committees of a number of International and National Meetings.

5. TEACHING ACTIVITIES

- Initiative to create the EuroMaster in Chemistry with specialization in Chemistry, Health and Nutrition of DQB-FCUL, structured this specialization and was responsible for its implementation (2006-2020);
- Created the contents and was responsible for “Organic Drug Synthesis” and “Molecular Glycobiology”, optional courses of the EuroMaster in Chemistry with specialization in Chemistry, Health and Nutrition of DQB-FCUL (2006-2020);
- Created the contents and has been responsible for “Processes in Nutrition, Environment and Health”, optional course of the EuroMaster in Chemistry with specialization in Chemistry, Health and Nutrition of DQB-FCUL (2018-2020);
- Responsible for the course Organic Chemistry I (1st year, Graduation in Chemistry and Technological Chemistry) (2002-2020).
- Responsible for the course Organic Chemistry (1st year, Graduation in Biochemistry) since 2018.
- Responsible for Carbohydrate Chemistry (3rd year, Graduation in Chemistry, optional), lectured since its implementation (2002-2020).
- Responsible for the organization of the following post-graduation 3 day courses:
 1. “Structure and Conformation of Carbohydrates. NMR and Molecular Recognition”, lectured by Jesus Jiménez Barbero, Filipa Marcelo e Ana Arda (Centro de Investigaciones Biológicas, CSIC, Spain, 2011;
 2. “Industrial Drug Research” lectured by Dr. Hans Peter Wessel, Hoffmann-La Roche, Basel, Switzerland, 2010;
 3. “Molecular Mechanisms of Drugs” lectured by Prof. Beat Ernst, Universidade de Basel, Switzerland, 2009.

6. SUPERVISION OF PH.D. THESIS, MASTER THESIS AND POSTDOCTORAL FELLOWSHIPS

Supervisor of 23 Ph.D. theses, and of three additional Ph.D. students, who are currently carrying out their research. Also supervised 20 Master thesis and 10 Post-Doc fellowships granted by Fundação para a Ciência e a Tecnologia (FCT).

Supervisor of the following Ph.D. theses (co-supervisors, if any, will be mentioned case by case):

1. Ana Marta de Jesus Gomes de Matos, "From a Multitarget Antidiabetic Glycosyl Isoflavone towards New Molecular Entities against Diabetes and Alzheimer's disease: Generation of Lead Series and Target Assessment", SFRH/BD/93170/2013 co-supervised by Dr. Paula de Macedo (CEDOC-UNL), Faculdade de Ciências-Universidade de Lisboa, 2019;
2. Catarina Alexandra dos Santos Dias, "New molecular entities for multitarget therapy: infectious and neurodegenerative diseases", supervised by Prof. Amélia Pilar Rauter, co-supervised by Dra. Teresa Alves (CIPAN), SFRH/BDE/51998/2012, Faculdade de Ciências - Universidade de Lisboa, 2018.
3. João Pedro Almeida Pais, "Development of new antibiotics efficient against *Bacillus anthracis*", supervised by Prof. Amélia Pilar Rauter, co-supervised by Dra. Teresa Alves (CIPAN) and Dr. Ricardo Dias (BIOFIG/BIOISI-FCUL), SFRH/BDE/51957/2012, Faculdade de Ciências -Universidade de Lisboa, 2018.
4. Catarina Vizetto Duarte, "Antitumoural activity of *Cystoseira* species: insights into the mechanism of action", SFRH/BD/81425/2011, supervision of Prof. Joao Varela (Universidade do Algarve), co-supervision of Prof. Amélia Rauter (FCUL), Universidade do Algarve, 2016.
5. Ana Rita Xavier de Jesus, "Chemoenzymatic synthesis of sodium-glucose co-transporters sugar-based inhibitors for the treatment of diabetes", SFRH/BD/78236/2011, co-supervision of Prof. Jian Liu (University of North Caroline, USA) and Prof. Timothy Dore (New York University of Abu Dhabi), Faculdade de Ciências - Universidade de Lisboa, 2015.
6. Rui Miguel Galhano dos Santos Lopes, "The first synthesis of glycosylflavanones catalysed by praseodymium triflate: a straightforward approach to potential antidiabetic agents", SFRH/BD/30699/2006, co-supervision of Prof. Jorge Justino (Instituto Politecnico de Santarem/Escola Superior Agraria), Universidade de Lisboa, 2013.
7. Isabel Maria Martins Horta Branco, "Study of the bioactive extracts of *Salvia sclareoides* Brot. and *Asteriscus vogelii* (Webb.) Walp. and research on their bioactive principles", Universidade de Lisboa, 2011.
8. Nuno Manuel Ribeiro Martins Xavier, "Synthesis of new sugar derivatives containing an α,β -unsaturated carbonyl system in their structure and biological evaluation", SFRH/BD/39251/2007, co-supervision of Dr. Yves Queneau (Université de Lyon, France), Universidade de Lisboa, 2011.
9. Ana Catarina de Araújo Silva, "Polyfunctionalized carbohydrate-derived scaffolds for the production of libraries of bioactive compounds", SFRH/BD/17815/2004, co-supervision of Prof. Francesco Nicotra (Università degli Studi di Milano-Bicocca, Italy), Universidade de Lisboa, 2010, European Ph.D.
10. Ana Catarina Simão, "Selective Anchoring of Cyclic Thionocarbamates on Ketohehexoses", SFRH/BD/25891/2005, co-supervision of Prof. Patrick Rollin (Université d'Orléans, France) and Prof. Jorge Justino (Instituto Politecnico de Santarem/Escola Superior Agraria), Université d'Orléans, 2009.
11. Sandrina Isabel Ribeiro Martins da Silva, "Carbohydrate-based 1,3-oxazoline-2-thiones as original bioactive structures. Synthesis and reactivity", SFRH/BD/16937/2004, co-supervision of Prof. Jorge Justino (Instituto Politecnico de Santarem/Escola Superior Agraria) and Prof. Patrick Rollin (Université d'Orléans, France), Universidade de Lisboa, 2009.
12. Filipa Margarida Barradas de Moraes Marcelo, "Total Synthesis and Stereochemical Assignment of Miharamycins", SFRH/BD/17775/2004, co-supervision of Prof. Pierre Sinaÿ (Universite Pierre et Marie Curie, Paris, France), and of Prof. Jorge Justino (Instituto Politecnico de Santarem/Escola Superior Agraria), Universidade de Lisboa, 2009.
13. João Carlos Falcão Sardinha, "Synthesis of gem-difluorocarbasugars", SFRH/BD/17839/2004, co-supervision of Prof. Pierre Sinaÿ (Universite Pierre et Marie Curie,

- Paris, France), Universidade de Lisboa, 2009.
14. Susana Dias Lucas, "Oxetane delta-Amino Acids: Synthesis and Derivatization", SFRH/BD/16592/2004, co-supervision of Dr. Hans Peter Wessel (Hoffmann-La Roche, Switzerland), Universidade de Lisboa, 2009.
 15. Tânia Vanessa Santos de Almeida, "Synthetic approaches for the condensation of sugars with O-, N- and S-nucleophiles", SFRH/BD/3306/2000, Universidade de Lisboa, 2006.
 16. Alice Martins, "Contribution to the phytochemical study of plants endemic to Madeira Island: Flavonoids and Alkaloids from *Genista tenera*", co-supervision of Prof. Jorge Justino (Instituto Politécnico de Santarém) and of Prof. Carlos Borges (DQB-FCUL), Universidade de Lisboa, 2006.
 17. Orlando da Silva Pinto, "Nitrenium ion chemistry: Investigation of the intramolecular cyclization of ethyl omega-(azidophenyl)-2-phenylalcanoates", Universidade de Lisboa, 2003.
 18. Tana Lukeba Canda, "Synthesis of sugars containing butenolides in their structure", Universidade de Lisboa, 2002.
 19. Maria da Graça Ribeiro Campos, "Polen characterization by phenolics profile and bioactivity studies", supervision of Prof. Dout. Proença da Cunha (Faculdade de Farmácia, Universidade de Coimbra) and co-supervision of Prof. Amelia Pilar Rauter, 1997.
 20. Maria Isabel Ismael, "Synthesis of unsaturated bioactive moieties in carbohydrates", Universidade da Beira Interior, 1997.
 21. José Albertino Figueiredo, "Synthesis of Pseudo-C-Nucleosides", Universidade da Beira Interior, 1997.
 22. Maria João Dias Rua Ferreira, "Synthesis of the hexopyranosidic sugar moiety analogues of Miharamycin", Universidade de Lisboa, 1996.
 23. Ana Cristina da Silva Fernandes, "Synthesis of the branched hexopyranosidic moiety of Amipurimycin. Development of novel methods for deoxygenation and for acetonation", Universidade de Lisboa, 1996.

7. PH.D. STUDENTS CURRENTLY UNDER MY SUPERVISION

1. João Manuel Ventura Cardoso de Barros, "Macrophage ligands type lectine-galactose (MGL): chemical synthesis and molecular recognition studies by NMR", co-supervised by Dr Filipa Marcelo (UNL), started in 2015.
2. Vasco Miguel Candeias Cachatra, "New synthetic strategies and structural optimisation of the sugar moiety from a selective butyrylcholinesterase inhibitor", SFRH/BD/90359/2012.
3. Luciana Barbosa, "Valorization of Sugars from liquefaction of lignocellulosic materials", co-supervised by Dr. Rui Galhano (IST-UL), started in 2019.

8. PUBLICATIONS

Author of above 150 publications and 12 published/8 granted patents. Selected peer reviewed publications and book chapters from 2021 to 2009 are listed below.

Selected Papers (2021-2009)

2021

1. A. M. de Matos, M. T. Blázquez-Sánchez, C. Sousa, M. C. Oliveira, R. F. M. de Almeida, A. P. Rauter, C-Glucosylation as a tool for the prevention of PAINS-induced membrane dipole potential alterations. Sci. Rep. 2021, 11, article nr. 4443. <https://doi.org/10.1038/s41598-021-83032-3>.

2. J. D. Grayson, M. P. Baumgartner, C. S. Souza, S. J. Dawes, I. G. El Idrissi, J. C. Louth, S. Stimpson, E. Mead, C. Dunbar, J. Wolak, G. Sharman, D. Evans, A. Zhuravleva, M. S. Roldan, N. A. Colabufo, K. Ning, C. Garwood, J. A. Thomas, B. M. Partridge, A. V. Leon, V. J. Gillet, A. P. Rauter, B. Chen, Amyloid binding and beyond: a new approach for Alzheimer's disease drug discovery targeting A β -PrP^C binding and downstream pathways, *Chem. Sci.* 2021 (Edge Article). <https://doi.org/10.1039/d0sc04769d>.
3. E. C. de Sousa, A. P. Rauter, Nucleobase coupling by Mitsunobu reaction towards nucleoside analogs, in *ARKIVOC* 2021, part 4, 241-267. <https://doi.org/10.24820/ark.5550190.p011.377>.

2020

4. A. M. Matos, M. T. Blázquez-Sánchez, A. Bento-Oliveira, R. F. M. de Almeida, R. Nunes, P. E. M. Lopes, M. Machuqueiro, J. S. Cristóvão, C. M. Gomes, C. S. Souza, I. G. El Idrissi, N. A. Colabufo, A. Diniz, F. Marcelo, M. C. Oliveira, O. López, J. G. Fernandez-Bolaños, P. Dätwyler, B. Ernst, K. Ning, C. Garewood, B. Chen, A. P. Rauter. Glucosylpolyphenols as Inhibitors of A β -Induced Fyn Kinase Activation and Tau Phosphorylation: Synthesis, Membrane Permeability, and Exploratory Target Assessment within the Scope of Type 2 Diabetes and Alzheimer's Disease. *J. Med. Chem.* 2020, 63 (20) 11663–11690.
5. A. M. Matos, M. T. Blázquez-Sánchez, C. Sousa, M. C. Oliveira, R. F.M. de Almeida, A. P. Rauter, C-Glucosylation as a tool for the prevention of PAINS-induced membrane dipole potential alterations, *Sci. Reports*, 2020 (accepted in January 20, 2021).

2019

6. A. M. Matos, A. Martins, T. Man, D. Evans, M. Walter, M. C. Oliveira, O. Lopez, J. G. fernandez-Bolaños, P. Datwyler, B. Ernst, M. P. Macedo, M. Contino, N. A. Colabufo, A. P. Rauter, Design and Synthesis of CNS-targeted Flavones and Analogues with Neuroprotective Potential Against H₂O₂- and A β (1-42)-Induced Toxicity in SH-SY5Y Human Neuroblastoma Cells, *Pharmaceuticals*, 2019, 12(2), 98
7. C. Dias, A. Martins, A. Pelerito, M. C. Oliveira, M. Contino, N. A. Colabufo, A. P. Rauter, Assessing the Optimal Deoxygenation Pattern of Dodecyl Glycosides for Antimicrobial Activity Against *Bacillus anthracis*, *Eur. J. Org. Chem.*, 2019, 12, 2224 – 2233.
8. C. Dias, A. P. Rauter, Membrane targeting antibiotics: Recent developments outside the peptide space, *Future Med. Chem.*, 2019, 11(3), 211-228.
9. A. M. Matos, T. Man, I. Idrissi, C. C. Souza, E. Mead, C. Dunbar, J. Wolak, M. C. Oliveira, D. Evans, J. Grayson, B. Partridge, C. Garwood, K. Ning, G. Sharman, B. Chen, A. P. Rauter, Discovery of N-methylpiperazinyl flavones as a novel class of compounds with therapeutic potential against Alzheimer's disease: synthesis, binding affinity towards amyloid β oligomers (A β) and ability to disrupt A β -PrPC interactions, *Pure Appl. Chem.*, 2019, 91(7), 1107-1136.
10. C. Dias, A. M. Matos, M. T. Blázquez-Sánchez, P. Calado, A. Martins, P. Dätwyler, B. Ernst, M. Paula Macedo, N. Colabufo, A. P. Rauter, 2-Deoxyglycosylation towards more effective and bioavailable neuroprotective molecules inspired by nature, *Pure Appl. Chem.*, 2019, 91(7), 1209-1221.
11. F. Meiri, H. Ben Khoud, L. Njim, T. Baati, S. Selmi, A. Martins, M. L. M. Serralheiro, A. P. Rauter, K. Hosni, In vitro and in vivo biological properties of pea pods (*Pisum sativum* L.), *Food Biosci.*, 2019, 32, article nr. 100482, <https://doi.org/10.1016/j.fbio.2019.100482>.

12. C. Dias, J. Pais, R. Nunes, M.T. Blázquez-Sánchez, J. T. Marquês, A. F. Almeida, P. Serra, N. M. Xavier, D. Vila-Viçosa, M. Machuqueiro, A. S. Viana, A. Martins, M. S. Santos, A. Pelerito, R. Dias, R. Tenreiro, M. C. Oliveira, M. Contino, N. A. Colabufo, R. F. M. de Almeida, A. P. Rauter, Sugar-based bactericides targeting phosphatidylethanolamine-enriched membranes, *Nature Communications*, 2018, 9, article nr. 4857, <http://dx.doi.org/10.1038/s41467-018-06488-4>.
13. A. M. Matos, M. P. Macedo, A. P. Rauter, Bridging type 2 diabetes and Alzheimer's disease: assembling the puzzle pieces in the quest for the molecules with therapeutic and preventive potential, *Med. Res. Rev.* 2018, 38, 261-234.
14. A. P. Rauter, M. Ennis, K.-H. Hellwich, B. J. Herold, D. Horton, G. P. Moss, I. Schomburg, Nomenclature of Flavonoids (IUPAC Recommendations 2017), *Pure Appl. Chem.* 2018, 90(9), 1429-1486.
15. F. Mejri, S. Selmi, A. Martins, H. Benkhoud, T. Baati, H. Chaabane, L. Nim, M.L.M. Serralheiro, A. P. Rauter, K. Hosni, Broad bean (*Vicia faba* L.) pods: a rich source of bioactive ingredients with antimicrobial, antioxidant, enzyme inhibitory, anti-diabetic and health-promoting properties, *Food & Function*, 2018, 9(4), 2051-269.
16. R.O'Caoimh, D. W. Molloy, C. Fitzgerald, L. V. Velsen, M.Cabrita, M. H. Nassabi, F. de Vette, M. D. van Weering, S. Jansen-Kosterink, W. Kenter, S. Frazer, A. P. Rauter, A. Turkman, M. Antunes, F. Turkman, M. S. Silva, A. Martins, H. S. Costa, T. G. Albuquerque, A. Ferreira, M. Scherillo, V. De Luca, P. Abete, A. Colao, A. García-Rudolph, R. Sanchez-Carrion, J. S. Sánchez, E. J. G. Aguilera, M. Illario, H. Hermens, M. Vollenbroek-Hutten, ICT-Supported Interventions Targeting Pre-frailty: Healthcare Recommendations from the Personalised ICT Supported Service for Independent Living and Active Ageing (PERSSILAA) Study. In: *Information and Communication Technologies for Ageing Well and e-Health. ICT4AWE 2017. Communications in Computer and Information Science*, 2018, vol 869, pp 69-92, C. Röcker, J. O'Donoghue, M. Ziefle, L. Maciaszek, W. Molloy, Editors, Springer, Cham, Switzerland, ISBN: 978-3-319-93644-4, https://doi.org/10.1007/978-3-319-93644-4_4.

2017

17. A. R. Jesus, D. Vila-Viçosa, M. Machuqueiro, A. P. Marques, T. M. Dore, A. P. Rauter, Targeting Type 2 Diabetes with C-Glucosyl Dihydrochalcones as Selective Sodium Glucose Co-Transporter 2 (SGLT2) Inhibitors: Synthesis and Biological Evaluation *J. Med. Chem.* 2017, 60, 568–579
18. M. T. Blazquez-Sanchez, A. M. de Matos, A. P. Rauter, Exploring Anti-Prion Glyco-Based and Aromatic Scaffolds: A Chemical Strategy for the Quality of Life, *Molecules* 2017, 22(6), 864, DOI: 10.3390/molecules22060864
19. D. Batista, P. L. Falé, M. L. Serralheiro, M.-E. Araújo, C. Dias, I. Branco, C. Grosso, J. Coelho, A. Palavra, P. J. A. Madeira, A. Martins, A. P. Rauter, Phytochemical Characterization and Biological Evaluation of the Aqueous and Supercritical Fluid Extracts from *Salvia sclareoides* Brot., *Open Chem.* 2017, 15, 82–91
20. M. J. Rodrigues, L. Custodio, A. Lopes, M. Oliveira, N. R. Neng, J. M. F. Nogueira, A. Martins, A. P. Rauter, J. Varela, L. Barreira, Unlocking the in vitro anti-inflammatory and antidiabetic potential of *Polygonum maritimum*, *Pharm. Biol.* 2017, 55(1), 1348-1357.
21. A. M. Matos, J. S. Cristóvão, D. V. Yashunsky, N. E. Nifantiev, A. S. Viana, C. M. Gomes, A. P. Rauter, Synthesis and effects of flavonoid structure variation on amyloid-beta aggregation, *Pure Appl. Chem.* 2017, 89(9), 1305-1320.

2016

22. M. J. Rodrigues, V. Neves, A. Martins, A. P. Rauter, N. R. Neng, J. M. F. Nogueira, J. Varela, L. Barreira, L. Custodio, In vitro antioxidant and anti-inflammatory properties of Limonium algarvense flowers' infusions and decoctions: A comparison with green tea (*Camellia sinensis*), *Food Chemistry*, 2016, 200, 322-329.
23. P. Dias, A. C. Figueiredo, A. Martins, A. P. Rauter. Flower colour and essential oil composition in *Erica australis* L. grown in Portugal. *Journal of Essential Oil Bearing Plants*, 2016, 19(4), 1013-1018.
24. A. R. Jesus, A. P. Marques, A. P. Rauter, An easy approach to dihydrochalcones via chalcone in situ hydrogenation, *Pure and Applied Chemistry*, 2016, 88(4), 349-361.
25. C. Vizetto-Duarte, L. Custodio, K. Gangadhar, J. H. G. Lago, C. Dias, A. M. Matos, N. Neng, J. M. F. Nogueira, L. Barreira, F. Albericio, A. P. Rauter, J. Varela, Isololiolide, a carotenoid metabolite isolated from the brown alga *Cystoseira tamariscifolia*, is cytotoxic and able to induce apoptosis in hepatocarcinoma cells through caspase-3 activation, decreased Bcl-2 levels, increased p53 expression and PARP cleavage, *Phytomedicine*, 2016, 23(5), 550-557.
26. C. Vizetto-Duarte, L. Custodio, G. Acosta, J. H. G. Lago, T. R. Morais, C. B. de Sousa, K. Gangadhar, M. J. Rodrigues, H. Pereira, R. T. Lima, M. H. Vaconcelos, L. Barreiro, A. P. Rauter, F. Albericio, J. Varela, Can macroalgae provide promising anti-tumoral compounds? A closer look at *Cystoseira tamariscifolia* as a source for antioxidant and anti-hepatocarcinoma compounds. *PeerJ*, 2016, 4, article e1704, DOI:10.7717/peerd.1704.
27. C. Vizetto-Duarte, L. Custodio, L. Barreira, M. M. da Silva, A. P. Rauter, F. Albericio, J. Varela, Proximate biochemical composition and mineral content of edible species from the genus *Cystoseira* in Portugal, *Bot. Mar.*, 2016, 59(4), 251-257.
28. M. Illario, A. S. Maione, M. R. Rusciano, E. Goessens, A. Rauter, N. Braz, H. Jager-Wittenaar, C. Di Somma, M. Soprano, L. Vuolo, P. Campiglia, M. A. Succi, H. Griffiths, T. Hartman, A. Colao, R. Roller-Wirnsberger, An integrated nutritional approach as a sustainable tool to prevent malnutrition in older people and promote active and healthy ageing. The EIP on AHA Nutrition Action Group, *Advances in Public Health*, 2016, ID 5678782, 9 pages.

2015

29. V. Cachatra, A. Almeida, J. Sardinha, S. D. Lucas, A. Gomes, P. D. Vaz, M. H. Florencio, R. Nunes, D. Vila-Viçosa, M. J. Calhorda, A. P. Rauter, Wittig Reaction: Domino Olefination and Stereoselectivity DFT Study. Synthesis of the Miharamycins' Bicyclic Sugar Moiety, *Org. Lett.*, 2015, 17(22), 5622-5625.
30. S. Schwarz, B. Siewert, R. Csuk, A. P. Rauter, New antitumor 6-chloropurine nucleosides inducing apoptosis and G2/M cell cycle arrest, *Eur. J. Med. Chem.* 2015, 90, 592-602.
31. L. Unione, B. X. Xu, D. Diaz, S. Martin Santamaria, A. Poveda, J. Sardinha, A. P. Rauter, Y. Blériot, Y. M. Zhang, F. J. Cañada, M. Sollogoub, J. Jiménez-Barbero, Conformational Plasticity in Glycomimetics: Fluorocarbamethyl-1-idopyranosides Mimic the Intrinsic Dynamic Behaviour of Natural Idose Rings, 2015, *Chem. Eur. J.* 21(29), 10513-10521.
32. C. Vizetto-Duarte, H. Pereira, C. Bruno de Sousa, A. P. Rauter, F. Albericio, L. Custodio, L. Barreira, J. Varela, Fatty acid profile of different species of algae of the *Cystoseira* genus: a nutraceutical perspective. *Natural Product Research*, 2015, 29(13), 1264-1270.
33. L. Custodio, F. H. Pereira, M. J. Rodrigues, L. Barreira, A. P. Rauter, F. Albericio, J. Varela, *Botryococcus braunii* and *Nannochloropsis oculata* extracts inhibit cholinesterases and protect human dopaminergic SH-SY5Y cells from H₂O₂-induced cytotoxicity, *J. Appl. Phycology*, 2015, 27 (2), 839-848.
34. P. Dias, P. L. Falé, A. Martins, A. P. Rauter, Digestibility and Bioavailability of the Active Components of *Erica australis* L. Aqueous Extracts and Their Therapeutic Potential as

Acetylcholinesterase Inhibitors, Evidence-Based Complementary and Alternative Medicine 2015, Article ID 854373, 7 pages, DOI: 10.1155/2015/854373.

35. D. Batista, P. L. Fale', M. L. Serralheiro, M. E. Araujo, P. J. A. Madeira, C. Borges, I. Torgal, M. Goulart, J. Justino, A. Martins, A. P. Rauter, New In Vitro Studies on the Bioprofile of *Genista tenera* Antihyperglycemic Extract, *Nat. Prod. Bioprospect.*, 2015, 5(6), 277-285.
36. M. J. Rodrigues, A. Soszynski, A. Martins, A. P. Rauter, N. R. Neng, J. M. F. Nogueira, J. Varela, L. Barreira, L. Custódio, Unravelling the antioxidant potential and the phenolic composition of different anatomical organs of the marine halophyte *Limonium algarvense*, *Ind. Crops Prod.* 2015, 77, 315-322.
37. S. Flitsch, S. Perez, M. Aebi, T. Alamäe, K. Baldenius, O. Blixt, B. Christensen, H. Clausen, J. Codee, J. Čopíková, P. Delannoy, A. Dell, S. Eichhorn, T. Feizi, R. Field, J. Finne, C. Galan, C. Hokke, O. Hindsgaul, L. Joshi, H. Kamerling, N. Karlsson, L. Kjellén, J. Kuballa, M. Lahmann, S. László, G. Lauc, U. Lindahl, A. Merry, C. Merry, J.-C. Michalski, A. Molinaro, J. Mucha, F. Nicotra, G. Opdenakker, H. Overkleeft, G. Palamarczyk, M. Palcic, S. Penadés, S. Petrescu, A. P. Rauter, N.-C. Reichardt, P. Rudd, P. Seeberger, B. Turnbull, J. Turnbull, C. Unverzagt, W. Willats, I. Wilson, R. Woods, A Roadmap for Glycoscience in Europe – white paper, ed. Euroglycoforum, Manchester 2015.

2014

38. B. Xu, L. Unione, J. Sardinha, S. Wu, M. Ethève-Quelquejeu, A. P. Rauter, Y. Blériot, Y. Zhang, S. Martín-Santamaría, D. Diaz, J. Jiménez-Barbero, M. Sollogoub, Gem-difluorocarbadiisaccharides: restoring the exo-anomeric effect, *Angew. Chem. Int. Ed.* 2014, 53, 9597 – 9602.
39. R. Jesus, C. Dias, A. M. Matos, R. F. M. Almeida, A. S. Viana, F. Marcelo, R. T. Ribeiro, M. P. Macedo, C. Airoidi, F. Nicotra, A. Martins, E. J. Cabrita, J. Jimenéz-Barbero, A. P. Rauter, Exploiting the Therapeutic Potential of 8-β-D-Glucopyranosylgenistein: Synthesis, Antidiabetic Activity and Molecular Interaction with IAPP and Aβ1-42, *J. Med. Chem.* 2014, 57 (22), 9463-9472.
40. S. Schwarz, R. Csuk, A. P. Rauter, Microwave-assisted synthesis of novel purine nucleosides as selective cholinesterase inhibitors, *Org. Biomol. Chem.* 2014, 12 (15), 2446 – 2456.
41. N. M. Xavier, A. P. Rauter, Enantioselective synthesis in carbohydrate-based drug discovery, *Curr. Topics Med. Chem.* 2014, 14(10), 1235 – 1243.
42. S. Schwarz, B. Siewert, N. M. Xavier, A. R. Jesus, A. P. Rauter, R. Csuk, A “natural” approach: Synthesis and cytotoxicity of monodesmosidic glycyrrhetic acid glycosides, *Eur. J. Med. Chem.* 2014, 72, 78 – 83.
43. N. M. Xavier, S. Schwarz, P. D. Vaz, R. Csuk, A. P. Rauter, Synthesis of Purine Nucleosides From D-Glucuronic Acid Derivatives and Evaluation of Their Cholinesterase Inhibitory Activities, *Eur. J. Org. Chem.* 2014, 13, 2770 – 2779.
44. V. Cachatra, A. P. Rauter, Revisiting Wittig olefination and aza-Wittig reaction for carbohydrate transformations and stereocontrol in sugar chemistry, *Curr. Org. Chem.* 2014, 18(13), 1731-1748.
45. L. Custódio, F. Soares, H. Pereira, L. Barreira, C. Vizetto-Duarte, M. J. Rodrigues, A. P. Rauter, F. Alberício, J. Varela, Fatty acids composition and biological activities of *Isochrysis galbana* T-ISO, *Tetraselmis* sp. and *Scenedesmus* sp.: possible application in the pharmaceutical and functional food industries, *J. Appl. Phycol.* 2014, 26(1), 151-161.
46. A. Martins, R. Mignon, M. Bastos, D. Batista, N. R. Neng, J. M. F. Nogueira, C. Vizetto-Duarte, L. Custódio, J. Varela, A. P. Rauter, In vitro Antitumoral Activity of Compounds Isolated from *Artemisia gorgonum* Webb, *Phytother. Res.* 2014, 28(9), 1329-1334.
47. S. Silva, F. V. M. Silva, J. Justino, A. P. Rauter, P. Rollin, A. Tatibouet, Synthesis and antimicrobial evaluation of oxazole-2(3H)-thione and 2-alkylsulfanyl-1,3-oxazole

derivatives, *Heterocycles* 2014, 88(2), 1013-1028.

48. C. Vizetto-Duarte, M. J. Rodrigues, H. Pereira, N. Neng, J. M. F. Nogueira, H. Vasconcelos, G. Acosta, L. Custodio, L. Barreira, A. P. Rauter, F. Albericio, J. Varela, Antitumoural activity of *Cystoseira* species: Insights into the mechanism of action, *Planta Med.* 2014, 80(16), 1358-1358.
49. V. Ferreira, C. A. Reis, S. Perez, A. P. Rauter, P. A. Videira, Meeting report on EMBO Workshop: Glycobiology and glycochemistry, applications to human health and disease, *Glycobiology* 2014, 24(9), 782-783.

2013

50. F. Marcelo, C. Dias, A. Martins, P. J. Madeira, J. Jorge, M. H. Florêncio, F. J. Cañada, Eurico J. Cabrita, J. Jiménez-Barbero, A. P. Rauter, Molecular Recognition of Rosmarinic Acid from *Salvia sclareoides* Extracts by Acetylcholinesterase. A New Binding Site Detected by NMR, *Chem. Eur. J.* 2013, 19(21), 6641-6649.
51. C. Airoidi, E. Sironi, C. Dias, F. Marcelo, A. Martins, A. P. Rauter, F. Nicotra, J. Jimenez-Barbero, Natural compounds against Alzheimer's Disease: Molecular recognition of *Salvia sclareoides* extract and its major component, rosmarinic acid, with A β 1-42 peptide, as investigated by NMR, *Chem.-Asian J.* 2013, 8(3), 596-602.
52. L. B. Roseiro, C. S. Tavares, J. C. Roseiro, A. P. Rauter, Antioxidants from aqueous decoction of carob pods biomass (*Ceretonia siliqua* L.): Optimisation using response surface methodology and phenolic profile by capillary electrophoresis, *Ind. Crops Prod.* 2013, 44, 119-126.
53. L. B. Roseiro, L. C. Duarte, D. L. Oliveira, R. Roque, M. G. Bernardo-Gil, A. I. Martins, C. Sepúlveda, J. Almeida, M. Meireles, F. M. Gírio, A. P. Rauter, Supercritical, ultrasound and conventional extracts from Carob (*Ceretonia siliqua* L.) Biomass: Effect on the phenolic profile and antiproliferative activity, *Ind. Crops Prod.* 2013, 47, 132-138.
54. R. Santos, N. M. Xavier, J. Bordado, A. P. Rauter, Efficient and first regio- and stereoselective direct C-glycosylation of a flavanone catalysed by Pr(OTf)₃ under conventional heating, or ultrasound irradiation, *Eur. J. Org. Chem.* 2013, 8, 1441-1447.
55. A. Martins, M. S. Santos, C. Dias, P. Serra, V. Cachatra, J. Pais, J. Caio, V. H. Teixeira, M. Machuqueiro, M. S. Silva, A. Pelerito, J. Justino, M. Goulart, F. V. Silva, A. P. Rauter, Tuning bioactivity of new tensioactive deoxy glycosides with structure: antibacterial activity vs. selective cholinesterase inhibition rationalized by molecular docking, *Eur. J. Org. Chem.* 2013, 8, 1448-1459.
56. S. Silva, E. M. Sanchez-Fernandez, C. O. Mellet, A. Tatibouet, A. P. Rauter, P. Rollin, N-Thiocarbonyl imino sugars: synthesis and evaluation of castanospermine analogues bearing oxazole-2(3H)-thione moieties, *Eur. J. Org. Chem.* 2013, 7941-7951.
57. M. A. Brimble, D. S. Black, R. Hartshorn, A. P. Rauter, C.-K. Sha, L. K. Sydnes, Rules for abbreviation of protecting groups, *Pure Appl. Chem.* 2013, 85(1), 307-313.

2012

58. A. P. Rauter, C. Dias, A. Martins, I. Branco, N. R. Neng, J. M. Nogueira, M. Goulart, F. V.M. Silva, J. Justino, C. Trevitt, J. P. Waltho, Non-toxic *Salviasclareoides* Brot. extracts as a source of functional food ingredients: phenolic profile, antioxidant activity and prion binding properties, *Food Chem.* 2012, 132(4), 1930-1935.
59. L. Custodio, T. Justo, L. Silvestre, A. Barradas, C. V. Duarte, H. Pereira, L. Barreira, A. P. Rauter, F. Albericio, J. Varela, Microalgae of different phyla display antioxidant, metal chelating and acetylcholinesterase inhibitory activities, *Food Chem.* 2012, 131(1), 134-140.
60. N. M. Xavier, A. P. Rauter, Environmentally friendly approaches to the synthesis of new antibiotics from sugars, *Pure Appl. Chem.* 2012, 84(3), 803-816.

61. J. P. Coelho, A. F. Cristino, P. G. Matos, A. P. Rauter, B. P. Nobre, R. L. Mendes, J. G. Barroso, A. Mainar, J. S. Urieta, J. M. N. A. Fareleira, H. Sovova, A. F. Palavra, Extraction of Volatile Oil from Aromatic Plants with Supercritical Carbon Dioxide: Experiments and Modeling, *Molecules* 2012, 17(9), 10550-10573.
62. J. A. Figueiredo, M. I. Ismael, J. M. Pinheiro, A. M. S. Silva, J. Justino, F. M. S. Silva, M. Goulart, D. Mira, M. E. M. Araujo, R. Campoy, A. P. Rauter, Facile synthesis of oxo-/thioxopyrimidines and tetrazoles C-C linked to sugars as novel non-toxic antioxidant acetylcholinesterase inhibitors, *Carbohydr. Res.* 2012, 347(1), 47-54.
63. L. Custodio, A. C. Ferreira, H. Pereira, L. Silvestre, C. Vizetto-Duarte, L. Barreira, A. P. Rauter, F. Albericio, J. Varela, The marine halophytes *Carpobrotus edulis* L. and *Arthrocnemum macrostachyum* L. are potential sources of nutritionally important PUFAs and metabolites with antioxidant, metal chelating and anticholinesterase inhibitory activities, *Botanica Marina* 2012, 55(3), 281-288.
64. L. B. Roseiro, A. P. Rauter, M. L. M. Serralheiro, Polyphenols as acetylcholinesterase inhibitors, *Nutrition & Aging*, 2012, 1(2), 99-111.

2011

65. L. Amorim, F. Marcelo, C. Rousseau, L. Nieto, J. Jiménez-Barbero, J. Marrot, A. P. Rauter, M. Sollogoub, M. Bols, Y. Blériot, Direct experimental evidence for the high chemical reactivity of alpha- and beta-xylopyranosides adopting a 2,5B conformation in glycosyl transfer, *Chem. Eur. J.* 2011, 17, 7345 – 7356.
66. O. Pinto, J. Sardinha, P. D. Vaz, F. Piedade, M. J. Calhorda, R. Abramovitch, N. Nazareth, M. Pinto, M. S. J. Nascimento, A. P. Rauter, Synthesis of tetrahydronaphthalene lignan esters by intramolecular cyclization of ethyl p-azidophenyl 2-phenylalkanoates and evaluation of the growth inhibition of human tumor cell lines, *J. Med. Chem.* 2011, 54, 3175–3187.
67. A. C. Araújo, A. P. Rauter, F. Nicotra, C. Airoidi, B. Costa, L. Cipolla, Sugar-based enantiomeric and conformationally constrained pyrrolo[2,1-c][1,4]-benzodiazepines as potential GABAA ligands, *J. Med. Chem.*, 2011, 54, 1266–1275.
68. N. M. Xavier, M. Goulart, A. Neves, J. Justino, S. Chambert, A. P. Rauter, Yves Queneau, Synthesis of Sugars Embodying Conjugated Carbonyl Systems and Related Triazole Derivatives from Carboxymethyl Glycoside Lactones. Evaluation of their Antimicrobial Activity and Toxicity, *Bioorg. Med. Chem.*, 2011, 19(2), 926-938.
69. A. Tatibouet, Ana-Catarina Simao, Sandrina Silva, Amelia P. Rauter, Patrick Rollin, Controlled Garegg Conditions for Selective Iodination on Pyranose Templates, *Eur. J. Org. Chem.*, 2011, 2011(12), 2286-2292.
70. N. M. Xavier, Y. Queneau, A. P. Rauter, Exploitation of Furanoid 5-Azido-3-C-Branched-Chain Sugars as Precursors Towards Highly Functionalized Nitrogen-Containing Sugars, *Eur. J. Org. Chem.*, 2011, 2011(4), 713-720.
71. A. M. F. Palavra, J. P. Coelho, J.G. Barroso, A. P. Rauter, J. M. N. A. Fareleira, A. Mainar, J. S. Urieta, B. P. Nobre, L. Gouveia, R.L. Mendes, J. M. S. Cabral, J. M. Novais, Supercritical Carbon Dioxide Extraction of Bioactive Compounds from Fluids, *J. Supercrit. Fluids*, 2011, 60, 21-27.
72. R. G. Santos, A. R. Jesus, J. M. Caio, A. P. Rauter, Fries-type Reactions for the C-Glycosylation of Phenols, *Curr. Org. Chem.*, 2011, 15(1), 128-148.
73. S. D. Lucas, H. Fischer, A. Alker, A. P. Rauter, H. P. Wessel; Libraries on Oxetane delta-Amino Acid Scaffolds: Syntheses and Evaluation of Physicochemical and Metabolic Properties, *J. Carbohydr. Chem.*, 2011, 30, 498-548.

2010

74. N. M. Xavier, A. P. Rauter, Y. Queneau, Carbohydrate-based lactones: synthesis and

- applications. *Top. Curr. Chem.*, 2010, 295, 19-62.
75. J. Salta, A. Martins, R. G. Santos, N. R. Neng, J. M.F. Nogueira, J. Justino, A. P. Rauter, Phenolic composition and antioxidant activity of Rocha pear and other pear cultivars – A comparative study, *J. Functional Foods*, 2010, 2, 153-157.
 76. A. P. Rauter, N. M. Xavier, S. D. Lucas, M. Santos, Zeolites and other silicon-based promoters in Carbohydrate Chemistry, *Adv. Carbohydr. Chem. Biochem.* 2010, 63, 29-99.
 77. M. T. Cabrita, C. Vale, A. P. Rauter, Halogenated compounds from marine algae, *Marine Drugs* 2010, 8(8), 2301-2317.
 78. P. J. A. Madeira, N. M. Xavier, A. P. Rauter, M. H. Florêncio, Furanose C-C-linked γ -lactones: a combined ESI FTICR MS and semi-empirical calculations study, *J. Mass Spectrom.* 2010, 45(10), 1167-1178.
 79. P. J. A. Madeira, A. M. Rosa, N. M. Xavier, A. P. Rauter, M. H. Florêncio, Electrospray ionization mass spectrometric analysis of newly synthesized α,β -unsaturated γ -lactones fused to sugars, *Rapid Commun. Mass Spectrom.* 2010, 24(7), 1049-1058.
 80. A. P. Rauter, A. Martins, C. Borges, H. Mota-Filipe, R. Pinto, B. Sepodes, J. Justino, Antihyperglycaemic and protective effects of flavonoids on streptozotocin-induced diabetic rats, *Phytother. Res.* 2010, 24, S133-S138 (Top 5, 34 citations, in March 1, 2017)
 81. A. C. Simão, A. Tatibouet, A. P. Rauter, P. Rollin, Selective iodination of vicinal cis-diols on ketopyranose templates, *Tetrahedron Lett.* 2010, 51(35), 4602-4604.

2009

82. N. M. Xavier, S. D. Lucas, A. P. Rauter. Zeolites as efficient catalysts for key transformations in carbohydrate chemistry, *J. Mol. Catal. A: Chem.* 2009, 305(1-2), 84–89.
83. F. Marcelo, F. V. M. Silva, M. Goulart, J. Justino, P. Sinay, Y. Bleriot, A. P. Rauter, Synthesis of novel purine nucleosides towards a selective inhibition of human butyrylcholinesterase, *Bioorg. Med. Chem.* 2009, 17(14), 5106-5116.
84. H. Q. Li, F. Marcelo, C. Bello, P. Vogel, T. D. Butters, A. P. Rauter, Y. M. Zhang, M. Sollogoub, Y. Bleriot, Design and synthesis of acetamido tri- and tetra-hydroxyazepanes: Potent and selective β -N-acetylhexosaminidase inhibitors, *Bioorg. Med. Chem.* 2009, 17(15), 5598-5604.
85. N. M. Xavier, P. J. A. Madeira, M. H. Florêncio, A. P. Rauter, Synthetic approaches to novel thiosugar scaffolds containing α,β -unsaturated carbonyl groups, *Eur. J. Org. Chem.* 2009, 2009(29), 4983-4991.
86. F. V. M. Silva, A. Martins, J. Salta, N. R. Neng, J. M. F. Nogueira, D. Mira, N. Gaspar, J. Justino, C. Grosso, J. S. Urieta, A. M. S. Palavra, A. P. Rauter, Phytochemical profile and anticholinesterase and antimicrobial activities of supercritical versus conventional extracts of *Satureja montana*, *J. Agric. Food Chem.* 2009, 57(24), 11557-11563.
87. A.P. Rauter, A. Martins, R. Lopes, J. Ferreira, L. M. Serralheiro, M.-E. Araújo, C. Borges, J. Justino, F. V. Silva, M. Goulart, J. Thomas-Oates, J. A. Rodrigues, E. Edwards, J. P. Noronha, R. Pinto, H. Mota-Filipe, Bioactivity studies and chemical profile of the antidiabetic plant *Genista tenera*, *J. Ethnopharmacol.* 2009, 122(2), 384–393.
88. F. Marcelo, R. Abou-Jneid, M. Sollogoub, J. Marrot, A. P. Rauter, Y. Blériot, Total synthesis of the epimer at C-6' of the Miharamycin B framework, *SYNLETT*, 2009, 8, 1269-1272.
89. S. D. Lucas, A. P. Rauter, J. Schneider, H.-P. Wessel, Synthesis of 3-fluoro-oxetane δ -amino acids, *J. Carbohydr. Chem.* 2009, 28(7-8), 431–446.

International R&D Book Chapters (2021-2009)

90. A. M. de Matos, P. Calado, W. Washburn, A. P. Rauter, Recent advances on SGLT2 inhibitors: Synthetic approaches, therapeutic benefits and adverse events, Chapter 4. In: *Successful Drug*

- Discovery, Volume 5, Eds J. Fischer, C. Klein, W.E. Childers, WILEY-VCH, 2021. ISBN-13: 978-3527347544. doi:10.1002/9783527826872.ch4.
91. C. Dias, A. M. Matos, A. P. Rauter, Chemical approaches toward neurodegenerative disease prevention: the role of coupling sugars to phenolic biomolecular entities. In: *Coupling and Decoupling of Diverse Molecular Units in Glycosciences*, pp 167-194, Z. J. Witzczak and R. Bielski, Editors, Springer, Cham, Switzerland, 2018. ISBN: 978-3-319-65587-1. https://doi.org/10.1007/978-3-319-65587-1_8.
 92. A. M. Matos, R. Nunes, C. Dias, and A. P. Rauter. Cyclic Acetals for Regioselective Protection in Carbohydrate Synthesis: A Comparative Experiment In: *Comprehensive Organic Chemistry Experiments for the Laboratory Classroom*, Eds C. A. M. Afonso, N. R. Candeias, D. P. Simão, A. F. Trindade, J. A. S. Coelho, B. Tan, R. Franzén, The Royal Society of Chemistry, Cambridge, 2017, Chapter 3.1.17, pp 188-193.
 93. C. Dias, and A. P. Rauter. Glycal Transformation into Surfactant 2-Deoxy Glycosides In: *Comprehensive Organic Chemistry Experiments for the Laboratory Classroom*, Eds C. A. M. Afonso, N. R. Candeias, D. P. Simão, A. F. Trindade, J. A. S. Coelho, B. Tan, R. Franzén, The Royal Society of Chemistry, Cambridge, 2017, Chapter 4.1.1.9, pp 247-251.
 94. V. Cachatra, A. P. Rauter, Domino reactions Toward Carbohydrate Frameworks for Applications Across Biology and Medicine, Chapter 4, In: *Domino and Intramolecular Rearrangement Reactions as Advanced Synthetic Methods in Glycoscience*, Ed. Z. Witzczak, R. Bielski, Wiley, 2016, pp76-96.
 95. A. P. Rauter, The Molecules of Life. In: *Horizon 2020 Projects: Portal*, 2016, vol 10, 194-195.
 96. C. Dias, A. Martins, M. S. Santos, A. P. Rauter, M. Malik; Glycal transformation into 2-deoxy glycosides; In: *Carbohydrate Chemistry - Proven Synthetic Methods* (Ed. S. Vidal), Vol. 3, CRC Press - Taylor & Francis: Boca Raton, Florida, 2015, pp 57-72.
 97. C. Dias, A. P. Rauter. Chapter 8: Carbohydrates and Glycomimetics in Alzheimer's Disease Therapeutics and Diagnosis, In: *Carbohydrates in Drug Design*, Edited by J. Jiménez Barbero, The Royal Society of Chemistry, 2015, pp. 180-208.
 98. A. R. Jesus, A. P. Rauter, J. Liu; Recent Advances in Enzymatic Synthesis of Heparin; In: *Carbohydrate Chemistry – Chemical and Biological Approaches*, Vol 39, Eds. A. P. Rauter, T.K. Lindhorst, RSCPublishing: Cambridge, 2013, pp. 38-57.
 99. R. G. Soengas, J. M. Otero, A. M. Estévez, A. P. Rauter, V. Cachatra, J. C. Estévez, R. J. Estévez; Na overview of key routes for the transformation of sugars into carbasugars and related compounds; In: *Carbohydrate Chemistry – Chemical and Biological Approaches*, Vol 38, Eds. A. P. Rauter, T.K. Lindhorst, RSCPublishing: Cambridge, 2012, pp. 263-302.
 100. M. M. Andrade, A. P. Rauter; Synthesis of carbohydrate-based artificial siderophores and their biological applications; In: *Carbohydrate Chemistry – Chemical and Biological Approaches*, Vol 38, Eds. A. P. Rauter, T.K. Lindhorst, RSCPublishing: Cambridge, pp. 398-415, 2012.
 101. S. Schwarz, N. M. Xavier, R. Csuk, A. P. Rauter; Triterpene/Steroid Glycoconjugates: Natural Occurrence, Synthesis and Biological Activities; in *Carbohydrate Chemistry – Chemical and Biological Approaches*, Vol 37, Eds. A. P. Rauter, T. K. Lindhorst, RSCPublishing: Cambridge, pp. 326-366, 2012.
 102. J. Sardinha, A. P. Rauter, M. Sollogoub, Y. Bleriot; TIBAL Induced Rearrangement: Synthesis of gem-Difluorocarbagalactose; in *Carbohydrate Chemistry: Proven Methods*, Vol. 1, Ed. P. Kovac, CRC Press - Taylor & Francis: Boca Raton, Florida, Chapter 14, pp. 129-136, 2011.
 103. N. M. Xavier, S. Kopitzki, A. P. Rauter; Pyranose-Fused Butenolides: An Expedient Preparation from Furanose Synthons; in *Carbohydrate Chemistry: Proven Methods*, Vol. 1, Ed. P. Kovac, CRC Press - Taylor & Francis: Boca Raton, Florida, Chapter 15, pp. 137-158, 2011.
 104. L. Cipolla, B. La Ferla, A. P. Rauter, F. Nicotra; Regioselective debenzylation of C-

glycosylpropene; in Carbohydrate Chemistry: Proven Methods, Vol. 1, Ed. P. Kovac, CRC Press - Taylor & Francis: Boca Raton, Florida, Chapter 17, pp. 167-174, 2011.

105. A. C. Simão, J. Rousseau, S. Silva, A. P. Rauter, A. Tatibouët, P. Rollin, Thionocarbamates on carbohydrate scaffolds – from synthesis to bioactivity. Em: Specialist Periodical Reports: Carbohydrate Chemistry – Chemical and Biological Approaches, A. P. Rauter, T. Lindhorst, Eds., The Royal Society of Chemistry, Cambridge, Vol. 35, pp. 127-172, 2009.

Books Edition

106. Carbohydrates 2018, Eds A. P. Rauter, N. M. Xavier, Pharmaceuticals volume 13, issue 1, 2020. ISBN 978-3-03928-316-3 (Pbk); ISBN 978-3-03928-317-0 (PDF) <https://doi.org/10.3390/books978-3-03928-317-0>.
107. Recent Trends in Carbohydrate Chemistry – Synthesis, Structure and Function of Carbohydrates, Volume 1, Eds. A. P. Rauter, B. E. Christensen, L. Somsák, P. Kosma, R. Adamo, Elsevier, United Kingdom, 2020. ISBN: 978-0-12-817467-8.
108. Recent Trends in Carbohydrate Chemistry – Synthesis and Biomedical Applications of Glycans and Glycoconjugates, Volume 2, Eds. A. P. Rauter, B. E. Christensen, L. Somsák, P. Kosma, R. Adamo, Elsevier, United Kingdom, 2020. ISBN: 978-0-12-820954-7.
109. Specialist Periodical Reports: Carbohydrate Chemistry – Chemical and Biological Approaches, Volume 44, Eds. A. P. Rauter, T. K. Lindhorst, Y. Queneau, 2020. <https://doi.org/10.1039/9781788013864>.
110. Specialist Periodical Reports: Carbohydrate Chemistry – Chemical and Biological Approaches, Volume 43, Eds. A. P. Rauter, T. K. Lindhorst, Y. Queneau, 2020. <https://doi.org/10.1039/9781788010641>
111. Specialist Periodical Reports: Carbohydrate Chemistry - Chemical and Biological Approaches, Vol. 42, A. Pilar Rauter, T. K. Lindhorst, Y. Queneau, Eds., The Royal Society of Chemistry, Cambridge, 2016 <http://dx.doi.org/10.1039/9781782626657>)
112. Specialist Periodical Reports: Carbohydrate Chemistry - Chemical and Biological Approaches, Vol. 41, A. Pilar Rauter, T. K. Lindhorst, Y. Queneau, Eds., The Royal Society of Chemistry, Cambridge, 2015 <http://dx.doi.org/10.1039/9781782620600>
113. Specialist Periodical Reports: Carbohydrate Chemistry - Chemical and Biological Approaches, Vol. 40, A. Pilar Rauter, T. K. Lindhorst, Y. Queneau, Eds., The Royal Society of Chemistry, Cambridge, 2014 <http://dx.doi.org/10.1039/9781849739986>
114. Specialist Periodical Reports: Carbohydrate Chemistry - Chemical and Biological Approaches, Vol. 39, A. Pilar Rauter, T. K. Lindhorst, Eds., The Royal Society of Chemistry, Cambridge, 2013 <http://dx.doi.org/10.1039/9781849737173>
115. Specialist Periodical Reports: Carbohydrate Chemistry - Chemical and Biological Approaches, Vol. 38, A. Pilar Rauter, T. K. Lindhorst, Eds., The Royal Society of Chemistry, Cambridge, 2012 <http://dx.doi.org/10.1039/9781849734769>
116. Specialist Periodical Reports: Carbohydrate Chemistry - Chemical and Biological Approaches, Vol. 37, A. Pilar Rauter, T. K. Lindhorst, Eds., The Royal Society of Chemistry, Cambridge, 2012 <http://dx.doi.org/10.1039/9781849732765>

117. Specialist Periodical Reports: Carbohydrate Chemistry - Chemical and Biological Approaches, Vol. 36, A. Pilar Rauter, T. K. Lindhorst, Eds., The Royal Society of Chemistry, Cambridge, 2010
<http://dx.doi.org/10.1039/9781849730891>
118. Specialist Periodical Reports: Carbohydrate Chemistry - Chemical and Biological Approaches, Vol. 35, A. Pilar Rauter, T. K. Lindhorst, Eds., The Royal Society of Chemistry, Cambridge, 2009
<http://dx.doi.org/10.1039/9781847559708>