Curriculum Vitae

INFORMAZIONI PERSONALI

Nome	IVANA
Cognome	PIBIRI
Recapiti	Dipartimento di Scienze e Tecnologie Biologiche, Chimiche e Farmaceutiche Università degli Studi di Palermo Viale delle Scienze, Parco d'Orleans II, Ed. 17, 90128 – PALERMO -ITALY
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FORMAZIONE TITOLI

2005-present: Assistant Professor of Organic Chemistry – Department of Biological, Chemical and Pharmaceutical Science (STEBICEF) - University of Palermo - Italy; tenured in 2008.

2001-2004 Post-Doc at the Department of Organic Chemistry "E. Paternò" with the project "Photochemical processes in the synthesis and reactivity of organic compounds"

2002: PhD in Chemistry - University of Palermo - Italy. Project developed at the Department of Organic Chemistry "E. Paternò" with the title: "A study of bioactive terpene derivatives".

1996- MD Project developed at the Department of Organic Chemistry "E. Paternò" with the title: "Stereoselective synthesis of omoallilic alcohols by organotin and organosilicon compounds, towards (-) nonactic acid".

ATTIVITA' DIDATTICA

Lecturer of:

- Organic Chemistry 2003-2008 for Biological Sciences BD.

- Organic Spectroscopy in 2010-2011 for Biological Sciences BD.

- Organic Chemistry Laboratory in 2010-2011 for Chemistry BD.

- Supramolecular Chemistry Laboratory in 2012 for Chemistry MD.

- Organic Chemistry in 2015-2016 for Agro-enginery BD.

- Chemistry of Organic Materials in 2013-present for Chemistry MD.

Since 2005 she has been Tutor of more than 12 students for their BD and MD in Chemistry, Pharmacy and Chemistry and Pharmaceutical Technologies and tutor of 1 PhD student in Molecular and Biomolecular Science.

RICERCHE FINANZIATE

(2011-2013) two-year project funded by the Cystic Fibrosis Research Foundation, Italy, entitled "Derivatives of PTC124 as a new approach to improve the readtrough of premature stop codons in the CFTR gene" (€ 40,000).

(2013-2015) three years project funded by Palermo University (2012-ATE-0291) entitled " Synthesis and characterization of organic salts for ionic functional phases" (€11,000).

(2014-2015) CORI project funded by Palermo University for the outgoing mobility to the Department of Chemistry, University of York (€2,000).

(2014-2016) two-year project funded by the Cystic Fibrosis Research Foundation, Italy, entitled " Identification and validation of novel molecules obtained by integrated computational and experimental approaches for the read-through of PTCs in CF cells " (€ 38,000).

ASSOCIAZIONI SCIENTIFICHE

From 1999 - present: Member of the Italian Chemical Society (SCI), Section of Organic Chemistry.

From 2015 - present: Member of Royal Society of Chemistry ((RSC)

PUBBLICAZIONE

[1] I. Pibiri, L. Lentini, M. Tutone, R. Melfi, A. Pace, A. Di Leonardo, "Exploring the readthrough of nonsense mutations by non-acidic Ataluren analogues selected by ligand-based virtual screening" *Eur. J. Med. Chem.*, **2016**, 122, 429-435.

[2] A. Martorana, V. Giacalone, R. Bonsignore, A. Pace, C. Gentile, I. Pibiri, S. Buscemi, A. Lauria, A. Palumbo Piccionello, "Heterocyclic scaffolds for the treatment of Alzheimer's disease", *Curr. Pharm. Des.*, **2016**, 22, 3971-3995.

[3] A. Maio, D. Giallombardo, R. Scaffaro, A. Palumbo Piccionello, I. Pibiri, "Synthesis of a fluorinated graphene oxide-silica nanohybrid: Improving oxygen affinity" *RSC Adv.*, **2016**, 6, 46037-46047.

[4] F. Parrino, A. Di Paola, V. Loddo, I. Pibiri, M. Bellardita, L. Palmisano, "Photochemical and photocatalytic isomerization of trans-caffeic acid and cyclization of cis-caffeic acid to esculetin". *Appl. Cat. B: Env.,* **2016**, 182, 347-355.

[5] S. Rubino, I. Pibiri, C. Costantino, S. Buscemi, M.A. Girasolo, A. Attanzio, L. Tesoriere, "Synthesis of platinum complexes with 2-(5-perfluoroalkyl-1,2,4-oxadiazol-3yl)-pyridine and 2-(3-perfluoroalkyl-1-methyl-1,2,4-triazole-5yl)-pyridine ligands and their in vitro antitumor activity". *J. Inorg. Biochem.,* **2016**, DOI:10.1016/j.jinorgbio.2015.11.020

[6] L. Lentini, R. Melfi, I. Pibiri, A. Pace, A. "Premature termination codon 124 derivatives as a novel approach to improve the read-through of premature amber and ochre stop codons". *J. Biol. Res.,* **2015**, 88, 90-91.

[7] A. Pace, S. Buscemi, A. Palumbo Piccionello, I.Pibiri, "Recent Advances in the Chemistry of 1,2,4-Oxadiazoles" in "Advances in Heterocyclic Chemistry" **2015**, DOI:10.1016/bs.aihch.2015.05.001

[8] I. Pibiri, L. Lentini, R. Melfi, G. Gallucci, A. Pace, A. Spinello, G. Barone, A. Di Leonardo, "Enhancement of premature stop codon readthrough in the CFTR gene by Ataluren (PTC124) derivatives". *Eur. J. Med. Chem.*, **2015**, 101, 236-244.

[9] A. Palumbo Piccionello, A. Calabrese, I. Pibiri, V Giacalone, A. Pace, S. Buscemi, "Synthesis of Fluorinated Bent-Core Mesogens (BCMs) Containing the 1,2,4-Oxadiazole Ring". *J. Het. Chem.,* **2015**, DOI:10.1002/jhet.2509.

[10] I. Pibiri, S. Buscemi, A. Palumbo Piccionello, M. L. Saladino, D. Chillura Martino, E. Caponetti "Photochemical synthesis of pyrene perfluoroalkylderivatives and their embedding in a polymethylmethacrylate matrix: a spectroscopic and structural study" *J. Mater. Chem. C*, **2014**, 2, 7722-7730.

[11] F. S. Palumbo, M. Di Stefano, A. Palumbo Piccionello, C. Fiorica, G. Pitarresi, I. Pibiri, S. Buscemi, G. Giammona. "Perfluorocarbon functionalized hyaluronic acid derivatives as oxygenating systems for cell culture". *RSC Adv.*, **2014**, 4, 22894-22901.

[12] A. Pace, A. Palumbo Piccionello, I. Pibiri, S. Buscemi , N. Vivona. "Chemistry of Fluorinated Oxadiazoles and Thiadiazoles" in "Fluorine in Heterocyclic Chemistry Volume 1: 5-Membered Heterocycles and Macrocycles", V. Nenajdenko (ed.), **2014**, 369-417.

[13] M. Bellardita, V. Loddo, A. Mele, W. Panzeri, F. Parrino, I. Pibiri, L. Palmisano, "Photocatalysis in dimethylcarbonate green solvent:degradation and partial oxidation of phenanthrene on supported TiO2" *RSCAdv.*, **2014**, 4, 40859-40864.

[14] L. Lentini, R. Melfi, A. Di Leonardo, A. Spinello, G. Barone, A. Pace, A. Palumbo Piccionello, I. Pibiri, "Toward a Rationale for the PTC124 (Ataluren) Promoted Readthrough of Premature Stop Codons: A Computational Approach and GFP-Reporter

Cell-Based Assay". *Mol. Pharmaceutics*, **2014**, 11, 653 664.

[15] M. Bellardita, V. Loddo, G. Palmisano, I. Pibiri, L. Palmisano, V. Augugliaro, "Photocatalytic green synthesis of piperonal in aqueous TiO2 Suspension". *Appl. Catalysis B:Envir.*, **2014**, 144, 607-613.

[16] A. Pace, A. Palumbo Piccionello, I. Pibiri, A. Accardo, N. Vivona, S. Buscemi, "Applications of ring rearrangements involving a participating side chain for the synthesis of five-membered heterocycles" *Targets in Heterocyclic Systems*, **2014**, 18, 48-86.

[17] I. Pibiri, A. Palumbo Piccionello, A. Pace, G. Barone, S. Buscemi, "Photochemical Functionalization of Allyl Benzoates by C-H Insertion". *Tetrahedron*, **2013**, 69, 6065-6069

[18] M. Saccone, G. Cavallo, P. Metrangolo, A. Pace, I. Pibiri, T. Pilati, G. Resnati , G. Terraneo, "Halogen bond directionality translates tecton geometry into self-assembled architecture geometry". *CrystEngComm*, **2013**, 15 (16), 3102-3105

[19] I. Pibiri, A. Pace, S. Buscemi, V. Causin, F. Rastrelli, G. Saielli, "Oxadiazolyl-pyridines and perfluoroalkyl-carboxylic acids as building blocks for protic ionic liquids: crossing the thin line between ionic and hydrogen bonded materials". *Phys. Chem. Chem. Phys.*, **2012**, 14, 14306–14314

[20] A. Palumbo Piccionello, A. Guarcello, A. Calabrese, I. Pibiri, A. Pace, S. Buscemi, "Synthesis of fluorinated oxadiazoles with gelation and oxygen storage ability". *Org. Biomol. Chem*., **2012**, 10, 3044-3052

[21] I. Pibiri, S. Buscemi, "A Recent Portrait of Bioactive Triazoles". *Current Bioactive Compounds*, **2010**, 6, 208-242

[22] N. Vivona, S. Buscemi, I. Pibiri, A. Palumbo Piccionello, A. Pace, "Synthesis of Heteroaromatics via Rearrangement Reactions" in Handbook of Synthetic Photochemistry Ed. by Angelo Albini and Maurizio Fagnoni, Wiley-VCH,**2010**, pp. 387-416

[23] I. Pibiri, A. Palumbo Piccionello, A. Calabrese, S. Buscemi, N. Vivona, A. Pace, "Fluorescent Hg2+ Sensors: Synthesis and Evaluation of a Tren-Based Starburst Molecule Containing Fluorinated 1,2,4-Oxadiazoles". *Eur. J. Org. Chem.*, **2010**, 4549–4553

[24] A. Palumbo Piccionello, A. Pace, I. Pibiri, S. Buscemi, "Solvent dependent photochemical reactivity of 3-allyloxy-1,2,4-oxadiazoles". *ARKIVOC,* **2009** (viii) 156-167

[25] A. Palumbo Piccionello, A. Pace, P. Pierro, I. Pibiri, S. Buscemi, N. Vivona, "On the reaction of some 5-polyfluoroaryl-1,2,4-oxadiazoles with methylhydrazine: synthesis of fluorinated indazoles". *Tetrahedron*, **2009**, 65, 119–127

[26] F. Lo Celso, I. Pibiri, A. Triolo, R. Triolo, A. Pace, S. Buscemi, N. Vivona, "Study on the thermotropic properties of highly fluorinated 1,2,4-oxadiazolyl-pyridinium salts and their perspective applications as ionic liquid crystals". *J. Mat. Chem.,* **2007***,* 17, 1201-1208

[27] A. Pace, I. Pibiri, A. Palumbo Piccionello, S. Buscemi, N. Vivona, G. Barone, "Experimental and DFT studies on competitive heterocyclic rearrangements. Part 2: a one-atom side-chain versus the classic three-atom side-chain (Boulton-Katritzky) ring rearrangement of 3-acylamino-1,2,4-oxadiazoles". *J. Org. Chem.,* **2007***,* 72, 7656-7666

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[32] S. Buscemi, A. Pace, A. Palumbo Piccionello, I. Pibiri, N. Vivona, G. Giorgi, A. Mazzanti, D. Spinelli, "Five-to-six membered ring-rearrangements in the reaction of 5-perfluoroalkyl-1,2,4-oxadiazoles with hydrazine and methylhydrazine". *J. Org.Chem.,* **2006**, 71, 8106-8113

[33] A. Palumbo Piccionello, A. Pace, I. Pibiri, S. Buscemi, N. Vivona, "Synthesis of fluorinated indazoles through ANRORC-like rearrangement of 1,2,4-oxadiazoles with hydrazine". *Tetrahedron,* **2006***,* 62, 8792-8797

[34] S. Buscemi, A. Pace, A. Palumbo Piccionello, I. Pibiri, N. Vivona, "Fluorinated heterocyclic compounds. A photochemical approach to a synthesis of polyfluoroaryl-1,2,4-triazoles". *Heterocycles,* **2005**, 65, 387-394

[35] A. Pace, I. Pibiri, S. Buscemi, N. Vivona, L. Malpezzi, "Photochemistry of fluorinated heterocyclic compounds. An expedient route for the synthesis of fluorinated 1,3,4-oxadiazoles and 1,2,4-triazoles". *J. Org. Chem.*, **2004**, 69, 4108-4115

[36] S. Buscemi, M. D'Auria, A. Pace, I. Pibiri, N. Vivona, "Theoretical study of photoinduced ring-isomerization in the 1,2,4-oxadiazole series". *Tetrahedron,* **2004***, 60, 3243-3249*

[37] S. Buscemi, A. Pace, I. Pibiri, N. Vivona, C.Z. Lanza, D. Spinelli, "Fluorinated heterocyclic compounds. The first example of an irreversible ring-degenerate rearrangement on five-membered heterocycles by attack of an external bidentate nucleophile". *Eur. J. Org. Chem.,* **2004**, *974-980*

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[41] S. Buscemi, A. Pace, I. Pibiri, N. Vivona, D. Spinelli, "Fluorinated heterocyclic compounds. An expedient route to 5-perfluoroalkyl-1,2,4-triazoles via an unusual hydrazinolysis of 5-perfluoroalkyl-1,2,4-oxadiazoles: first examples of an ANRORC-like reaction in 1,2,4-oxadiazole derivatives". *J. Org. Chem.,* **2003**, 68, 605-608

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[43] S. Buscemi, A. Pace, I. Pibiri, N. Vivona, "Competing ring-photoisomerization pathways in the 1,2,4-oxadiazole series. An unprecedent ring-degenerate photoisomerization". *J. Org. Chem.,* **2002**, 67, 6253-6255

[44] S. Buscemi, A. Pace, I. Pibiri, N. Vivona, "Fluorinated heterocyclic compounds. Synthesis of 5-amino-, 5-N-alkylamino-, and 5-N,N-dialkylamino-3-perfluoroheptyl-1,2,4-oxadiazoles". *Heterocycles*, **2002,** 57, 1891-1896

[45] M. Bruno, S. Rosselli, I. Pibiri, N. Kilgore, K.H. Lee, "Anti-HIV agents derived from the ent-kaurane diterpenoid linearol". *J. Nat. Prod.,* **2002**, 65, 1594-1597

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[47] S. Rosselli, M. Bruno, I. Pibiri, F. Piozzi, "Synthesis of beta-methyl-furolabdanes from (+) sclareolide". *Eur. J. Org. Chem.,* **2002**, 4169-4173

[48] M. Bruno, S. Rosselli, I. Pibiri, F. Piozzi, M.L. Bondì, M.S.J. Simmonds*,* "Semisynthetic derivatives of ent-kauranes and their antifeedant activity". *Phytochemistry,* **2001**, 58, 463-474

[49] M. Bruno, S. Rosselli, I. Pibiri, F. Piozzi, M.S.J. Simmonds*,* "Hydrogenation of some furoclerodane derivatives and their antifeedant activity". *Heterocycles,* **2000**, 53, 599-612

[50] I. Pibiri, "Taxol, a natural antitumoral drug". *Atti Della Accademia Di Scienze, Lettere E Arti Di Palermo, Parte Prima: Scienze,* **2000**, vol. XXI-V-I; p. 83-98

ATTIVITA' SCIENTIFICHE

Author and co-author of more than 50 papers published in ISI international journals.

With $\mathbf{H_{index} = 18}$ and $\mathbf{N_{citations} = 684}$

She has presented more than 55 contributions at national and international conferences.

She has been invited speaker at:
the meeting on altetrnative energy at Confindustria in Messina (Italy) (2010)
the European Symposium on ILCs in Stuttgart (Germany) (2011)
Invited Academic for Seminar at the Department of Chemistry of the University of York (UK) (2014).

Career breaks: 2 breaks due to parental leave in 2007 and 2009.

Referee for international peer-reviewed journal (ACS and RSC) in the field of Organic Chemistry and Materials Chemistry.

RESEARCH ACTIVITY ABROAD:

2014-2015: Visiting Academic at the Department of Chemistry of the University of York - UK

2000-2001: One year as a visiting scientist at CPES, School of Chemistry, Physics and Environmental Sciences, University of Sussex in Brighton, UK, performing an experimental worK on “biotransformation of natural and emi-synthetic compounds”, working in the Laboratory of Prof. James R. Hanson and Sir Prof. J.W. Cornforth (Nobel Prize in Chemistry in 1975).

AMBITI DI RICERCA

She has experience in the synthesis of fluorinated heterocycles and materials, ILs and ILCs, Organic Photochemistry, heterocyclic rearrangements, bioactive molecules.

Research has covered various topics such as:

- Biologically active heterocycles

- Synthesis of heterocyclic compounds (mainly five-members rings) with a particular interest in fluorinated systems

- Study of thermal and photochemical reactivity of heterocycles with a particular interest in ring rearrangements

- Synthesis of organic salts, ionic liquids, ionic liquid crystals

- Synthesis of nanocomposite materials

- Stereoselective Organic Synthesis, emi-synthesis of natural compounds

- Isolation and structural characterization of terpenoids, SAR studies

- Biotransformation of natural and emi- synthetic compounds

- Organic Photocatalysis