Tracey Pirali

Curriculum vitae

PERSONAL DATA

Born in Borgomanero (NO), Italy on November 28, 1978

BIO AND EDUCATION

Tracey Pirali received her Master Degree in Pharmaceutical Chemistry and Technology (110/110 *cum laude*) and her PhD in Science of Bioactive Compounds from the Università del Piemonte Orientale (Novara, Italy) in 2007. After a stay at the CNRS in Gif-sur-Yvette (Paris) under the guidance of Professor Jieping Zhu, in 2008 she was appointed Assistant Professor at the Università del Piemonte Orientale. In 2011 she spent her sabbatical as a Visiting Professor at the School of Chemistry in Edinburgh with Prof. Michael Greaney. Currently, she is Associate Professor of Medicinal Chemistry at the Università del Piemonte Orientale, where her main research interest is the design and synthesis of bioactive compounds via multicomponent reactions and click chemistry, with a focus on indoleamine 2,3-dioxygenase, TRP channels and store operated calcium entry.

UNIVERSITY CAREER

Since 2016	Associate Professor, Università del Piemonte Orientale
2008-2016	Assistant Professor, Università del Piemonte Orientale
2007-2008	Post-Doctoral Researcher, Università del Piemonte Orientale
Since 2017	Member of the Scientific Committee of the European School of Medicinal Chemistry

MAIN FIELDS OF INTEREST

1. Drug design
2. Click chemistry
3. Multicomponent reactions
4. Aryne chemistry

CURRENT ISSUES OF RESEARCH

1. Development of aryne-mediated reactions

The aryne field has been re-born in recent years owing to the discovery that arynes can be generated and captured under very mild conditions from easy-to-use precursors, leading to the discovery of new synthetic methodologies. Prof. Pirali aims to investigate the reactivity of benzyne

towards isocyanides and α-isocyanoacetamides, with the aim of developing new metal-free transformations.

2. **Design and synthesis of indoleamine 2,3-dioxygenase (IDO) inhibitors**

Targeting IDO represents an innovative therapeutic strategy in cancer immunotherapy. Prof. Pirali is currently interested in the design and synthesis of IDO inhibitors, *via* multicomponent reactions and click chemistry approach.

3. **Development of TRPV1 channel modulators**

Prof. Pirali currently works on the design of TRPV1 channel modulators with the aim of developing topical agents useful in refractory dermatological diseases.

4. **Discovery of modulators of Store Operated Calcium Entry**

SOCE is a calcium influx pathway that plays a central role in many physiological systems. It follows that perturbations in this process are responsible for several disease states, such as Severe Combined Immunodeficiency, acute pancreatitis and Alzheimer's disease. Prof. Pirali aims to develop new modulators of SOCE that would be clinically useful in certain diseases.

CURRENT FUNDED PROJECTS

PROGRAMME	FUNDED PROJECT
TRIDEO AIRC e FONDAZIONE CARIPLO 2014	Turn-off the IDO in cancer immunotherapy: *in silico*-driven multicomponent synthesis of small molecule inhibitors
COMPAGNIA DI SAN PAOLO 2014	Synthesis and characterization of TRPV1 channel modulators as skin-cleavable soft-drugs. An innovative strategy for the management of refractory dermatological diseases
RICERCA LOCALE 2016	Fast synthesis, virtual and real screening in the search for a new inhibitor of IDO-1

TOP FIVE PAPERS

1. "Transition-Metal-Free Synthesis of 2-Arylimidazolones via Cascade Reaction between Arynes and α,α'-Disubstituted α-Isocyanoacetamides" Gesù A., Pozzoli C. Torre E., Aprile, S., Pirali, T. Organic Letters 2016 18, 1992-1995
2. "In silico-driven multicomponent synthesis of 4,5- and 1,5-disubstituted imidazoles as indoleamine 2,3-dioxygenase inhibitors" Fallarini S., Massarotti A., Gesù A., Giovarruscio S., Coda Zabetta G., Bergo R., Giannelli B., Brunco A., Lombardi G., Sorba G., Pirali T. Med. Chem. Commun. 2016, 7, 409-419
3. "Transition-Metal-Free Direct Arylation of Anilines" Pirali T., Zhang F., Miller A. H., Head J. L., McAusland D., Greaney M. F. Angewandte Chemie International Edition 2012 51, 1006-1009
4. "Synthesis, Biological Evaluation, and Molecular Docking of Ugi Products Containing a Zinc-Chelating Moiety as Novel Histone Deacetylase Inhibitors" Grolla A. A., Podestà V., Chini M.

G., Di Micco S., Vallario A., Genazzani A. A., Canonico P. L., Bifulco G., Tron G. C., Sorba G., Pirali T. Journal of Medicinal Chemistry 2009 52, 2776-2785

5. “One-pot synthesis of macrocycles by a tandem three-component reaction and intramolecular [3+2] cycloaddition” Pirali T., Tron G. C., Zhu J. Organic Letters 2006 8, 4145-4148

AWARDS

1. Farmindustria Prize 2012 - Divisione di Chimica Farmaceutica - Società Chimica Italiana
2. Prize dedicated to the Researcher with the highest Impact Factor in Scientific Research 2012 - Università del Piemonte Orientale