



UNIVERSITÀ
DEGLI STUDI
DI PADOVA

HORIZON EUROPE
PROJECTS FUNDED AT THE UNIVERSITY OF PADOVA

ChirAzaL - Unconventional Crafting of Chiral Aza-compounds using Visible Light Photocatalysis

The aim of ChirAzaL is to devise innovative and sustainable technologies in organic synthesis to access general, modular, and scalable crafting of two families of biologically relevant chiral nitrogen-containing molecules, namely: azetidines and multisubstituted linear amines. Such molecules are characterized by a complex three-dimensional arrangement and a high degree of saturation. Harnessing visible-light as sustainable and unexpensive source of energy, I will use a strain-release approach to access these synthetically complex scaffolds. Asymmetric phase transfer catalysis and chiral-metal templated catalysis will be the foundation of this proposal for securing stereocontrol. In order to accomplish the overarching goal of the research program, it will be divided into two main stages: an exploratory Stage I, followed by the consequently more applicative Stage II. The application of the developed photocatalyzed transformations in flow technology will unlock a new and operational-friendly pathway to azetidines and multisubstituted linear amines under mild and efficient conditions. Lastly, the implementation of the developed chemistry, as a functionalization tool, will give access to a straightforward methodology which has serious potential to be embraced on any synthetic route. The multidisciplinary skills acquired due to the interaction between the two phases, together with the transfer of knowledge between me and the hosting group will guarantee the successful realization of ChirAzaL.

UNIPD Supervisor: Luca Dell'Amico

MSCA Fellow: Rodríguez Pérez Ricardo Isaac

Department: Department of Chemical Sciences

Coordinator: Università degli Studi di Padova (Italy)

Total EU Contribution: Euro 172.750,08

Call ID: HORIZON-MSCA-2022-PF-01

Project Duration in months: 24

Find out more: <https://cordis.europa.eu/projects/en>