



COST ACTION GREENERING – DATA COLLECTION

First name, Family Name: Filipa Siopa

Type (Academic or Industrial): Academic

Country: Portugal

Leadership position in the COST: Member

Working Group in which you are involved: WG1, WG2

E-mail: filipasiopa@ff.ulisboa.pt; fsiopa@gmail.com

Laboratory/Company: Bioorganic Chemistry Laboratory,

Laboratory/Company info (limited to 400 characters):

The research conducted by the group Bioorganic Chemistry spans over the interface of organic chemistry and biology, aiming at the discovery and process intensification of new generic synthetic methodologies that, in collaboration with biomedical scientists, may be further explored to tackle important biological problems related with infectious diseases, oncology and inflammation. Active research areas include:

Development of bio-inspired, efficient (non)catalyzed and sustainable synthetic methodologies, for the synthesis of complex/target molecules;

Total synthesis of biologically active and chemically useful small molecules, based on the isolation/synthesis and chemical/biotechnology valorisation of natural resources;

Process intensification via flow chemistry, including photocatalysis and electrosynthesis.

Link to the home page of the Laboratory/Company:

<https://sites.google.com/campus.ul.pt/carlosafonso>

Fields of expertise (limited to 400 characters):

- Flow Chemistry
- Development of new catalyzed C-H activation methodologies
- Total Synthesis
- Synthesis of bioactive molecules
- Photochemical transformation under continuous flow and batch
- Green chemistry (reactions in water, ionic liquids)

5 Main publications or patents:

- 1. Oliveira, J. A. C.; Kiala, G.; Siopa, F.;* Bernard, A.; Gontard, G.; Oble, J.;* Afonso, C. A. M.;* Poli, P. * *Palladium-catalyzed allylic substitution between C-based nucleophiles and 6-azabicyclo[3.1.0]hex-3-en-2-oxo derivatives: a new selectivity paradigm, Tetrahedron* **2020**, 131182-131190. DOI: <https://doi.org/10.1016/j.tet.2020.131182>. URL: <https://www.sciencedirect.com/science/article/abs/pii/S0040402020303173>
- 2. Fortunato, M. A. G., Ly, C.-P., Siopa, F.* Afonso, C. A. M.* *Process Intensification for the Synthesis of 6-Allyl-6-azabicyclo[3.1.0]hex-3-en-2-ol from 1-Allylpyridinium Salt Using a*



Continuous UV-Light Photoflow Approach, Methods Protoc. **2019**, 2, 67-76.
DOI:10.3390/mps2030067

URL: <https://www.mdpi.com/2409-9279/2/3/67>

- **3.** Ravasco, J. M. J. M., Monteiro, C. M., Siopa, F., Trindade, A.F., Oble, J.*, Poli, G., Simeonov, S. P*., Afonso, C. A. M.* *Creating Diversity from Biomass: A Tandem Bio/Metal-Catalysis towards Chemoselective Synthesis of Densely Substituted Furans*, *ChemSusChem* **2019**, 4629-4635 (VIP PAPER). DOI: 10.1002/cssc.201902051
URL: <https://onlinelibrary.wiley.com/doi/full/10.1002/cssc.201902051>
- **4.** Siopa, F*.; Antonio, J. P. M.; Afonso, C. M. A.* *Flow assisted synthesis of bicyclic aziridines via photochemical transformation of pyridinium salts*, *Org. Process Res. Dev.* **2018**, 22, 551–556. URL:<https://pubs.acs.org/doi/abs/10.1021/acs.oprd.8b00036>
- **5.** Siopa, F.; Cladera, V-A. R.; Afonso, C. A. M.; Oble, J.*; Poli, G.* *Ruthenium-Catalyzed C-H Arylation and Alkenylation of Furfural Imines with Boronates*, *Eur. J. Org. Chem.* **2018**, 6101–6106. (HOT PAPER). DOI: 10.1002/ejoc.201800767.
URL: <https://onlinelibrary.wiley.com/doi/abs/10.1002/ejoc.201800767>

Collaborations:

- Giovanni Poli, Sorbonne Université Paris
- Elsa Rodrigues, iMed.Ulisboa.
- Graça Soveral, iMed.Ulisboa.
- Maria Manuel Marques, FCT-Nova.

Facilities:

- NMR, LC-MS, MS, elemental analysis, FT-IR, GC-MS, GC, HPLC, UV
- Home-made equivalent Rayonet reactors (Model RPR-200)
- CO bottle properly prepared to performed reactions
- Flow equipment – H Cube mini plus
- Hydrogenato
- Ozone generator