



Post-Doctoral position in (Bio)-organic Chemistry - 12 months

Chemo-enzymatic derivatizations of levoglucosenone towards high-valued added fine chemicals

URD Industrial Agro-Biotechnologies (URD ABI) - AgroParisTech
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Located in the European Center of Bitoechnology & Bioeconomy (CEBB, Pomacle, France), the Industrial Agro-Biotechnologies Research and Development unit from AgroParisTech (aka URD ABI) has for primary vocation to develop new biotechnological processes (enzymatic, green chemistry) from bio-based building blocks and to demonstrate their feasibility at the laboratory scale. The research activities currently underway within the laboratory are both in the development of new materials/bio-based polymers from renewable building blocks, and in the production of higher added value molecules for the cosmetic or pharmaceutical industries from biorefinery co-products.

Among the various building blocks valorized at URD ABI, Levoglucosenone (LGO) – a chiral compound deriving from the flash pyrolysis of cellulosic biomass – has been the subject of many research projects dedicated to its use as synthon for the production of flavors, pheromones, monomers/polymers, green solvent etc... through the design and optimization of sustainable chemical, chemo-enzymatic and biotechnological processes (ca. 10 articles, 5 patents).

The candidate, will join the URD ABI "Green chemistry" team, and will be entrusted with the synthesis of high-value added fine chemicals from LGO. As part of this project, the recruited post-doc will have to:

- use both biotechnological processes (e.g., enzymatic catalysis, whole cell bioconversion) and conventional organic chemistry processes (e.g., metal catalysis) to access the target chemicals;
- purify the chemicals (e.g., recrystallization, flash chromatography, (short path) distillation, membrane-based techniques);
- characterize the chemicals (e.g., NMR, LS, GC, MS, MS²);
- write reports and publications;
- present results at conferences...

Profile:

The candidate should have a PhD in organic/synthetic chemistry, as well as strong skills in analytical chemistry, biocatalysis and/or metal-mediated catalysis. Expertise in Design of Experiments and/or chemical engineering (e.g., reaction scale-up) would be a plus. The candidate will have to demonstrate a scientific openness to collaborate with all the stakeholders of the project as well as an appetite for transdisciplinary projects.

Position required for September 2021 for a period of 12 months.

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