



PhD position in chiral induction during the mechanochemical synthesis of API

Location	Salary	Deadline for applications
Belgium	+/- 2200 net	15th April 2023

Position summary

PhD position in chemistry/pharmaceutical sciences at UCLouvain (Louvain-la-Neuve, Belgium).

Context

This PhD work takes place in the context of a European Project Impactive. The IMPACTIVE project brings together the expertise and knowledge from 17 European research groups/industries from 11 different countries and will develop novel green methods to produce active pharmaceutical ingredients (APIs) using mechanochemistry as a disruptive technology (as acknowledged by IUPAC). Mechanochemistry uses mechanical processes, such as ball milling, twin-screw extrusion, resonant acoustic mixing, and spray drying, to induce chemical reactions. By achieving the objectives of the IMPACTIVE project and showing that mechanochemistry is a green, efficient, and affordable alternative to current API manufacturing methods, we will reduce environmental pollution. The PhD project here focuses on those pharmaceutical API that contain a chiral center. Mechanochemical pathways will be developed leading to enantiopure materials. The main focus will be placed on combining crystal engineering aspects with mechanochemistry.

Main tasks

*Research activity related to chiral induction using mechanochemical tools focusing specifically on the selected pharmaceutical target compounds of IMPACTIVE.

*Actively participate to report-writing in the context of IMPACTIVE.





*Participate to international meetings, conferences of IMPACTIVE or related to the field.

*Analyze Life Cycle, risk assessment and safety of the developed process.

*Actively participate to dissemination and communication of the Project.

*Assist with day-to-day administration related to the Project.

Research activities

- Polymorph, salt and cocrystal screen of target compounds/intermediates.
- Study racemization of enantiopure intermediates/targets.
- Combine solid-state form characteristics with racemization potential to develop deracemization procedures.
- Analyze risk and life-cycle management of final process.
- Report writing/article writing.
- Conference participation.

Qualifications and candidate profile

- Ms in Chemistry, pharmaceutical Sciences or a related field.
- Excellent track record
- Work experience in a field related to pharmaceutical compounds is a plus.

Remuneration

- +/- 2200 Net income (depending on the situation of the candidate).

Starting date

1st of May 2023 or later.

How to apply

Send your CV and motivation letter to tom.leyssens@uclouvain.be.

