



Post Doc position in Grenoble

Département de Chimie Moléculaire (UMR CNRS 5250)

Title: Design, synthesis and mechanisms of melanogenesis inhibitors

Description of the position: The position is a 18 months fellowship in the field of Bio-inspired chemistry. A grant funded by IDEX University Grenoble Alpes is secured.

Context: Tyrosinase is the key enzyme involved in the biosynthesis of melanin, pigment found in the skin and eyes that are the cause of various diseases. For discovering efficient tyrosinase inhibitors, our strategy is to target the tyrosinase dicopper active site which plays a central role in tyrosinase activity.

Methodology: (i) The design of these new inhibitors will be inspired by the integration of knowledge of the tyrosinase enzyme or biomimetic model structures and by the use of the fundamental recognition properties of inorganic chemistry. Substrate mimics or known inhibitors combined with groups able to bind selectively to the active site of the dicopper should yield safe and potent compounds according to a strategy validated by our recent results.

(ii) Although the project requires an organic synthesis background, the question of how selected inhibitors (or potential inhibitors) bind/interact with the active site of the enzyme using computational approaches is also part of the project aimed at understanding inhibition mechanisms and streamlining the design of improved inhibitors.

(iii) In addition, the candidate will interact with a well-established network of external partners to evaluate the activity of the synthesized molecules.

Candidate profile: The candidate should be highly motivated, to work in a multidisciplinary project and to interact with external partners. The project requires a solid experience in organic syntheses, as well as an interest for bioinorganic chemistry. A background in molecular modeling is an advantage. Starting beginning as soon as possible (February 2024).

Application: To apply, please send a CV (max. one page), PhD degree less than 3 years ago, covering letter and details for potential referees to the contacts. The deadline is December 10th 2024.

Contacts/Location

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Selected references from the group in the field

- [1] *Eur. J. Med Chem*, **2023**, 248, 115090; [2] "[Transition State Analogue Molecules as Mechanistic Tools and Inhibitors for Tyrosinase](#)" in *Copper Bioinorganic Chemistry*. **2023**, pp 45-80, World Scientific; [3] *Chem. Eur. J.*, **2021**, 27, 4384; [4] *ChemSelect* **2020**, 5, 14735.