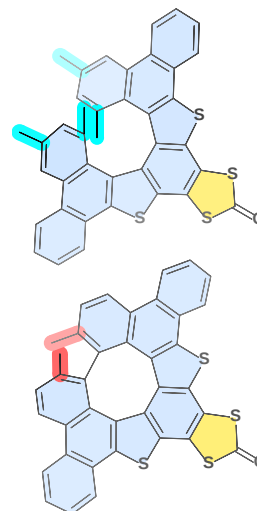


Postdoctoral Research Position

Chirality related properties of helical radicals

CIMI Group: MOLTECH-Anjou laboratory - CNRS - University of Angers

The project aims to investigate properties of electroactive chiral materials based on helicenic scaffolds such as [7]helicene, quasi[8]circulenes and unprecedented open shell neutral helical radicals based on tetrathiafulvalene (TTF). The designed molecules are embedded with helical chirality and electron donor units (TTF and metal-dithiolene) in order to induce charge delocalization in the helical backbone, chiral packing, extensive intermolecular interactions, conductivity and spin-filtering properties. The proven stereostability and resolution of the enantiomers (preliminary results, right picture) together with the proof-of-concept synthesis of TTFs bearing these units (unpublished results) represent valuable assets and a strong starting point for the project. The project will focus on chirality related physical properties such as chiroptical modulation, spin-dependent electrochemistry (SDE) and chirality induced spin selectivity (CISS) effect and will benefit from collaboration in theoretical chemistry and in electrochemistry (possible short stay at University of Modena).



The Laboratory MOLTECH-Anjou is a Research unit (UMR 6200) associating the University of Angers and the CNRS. The research groups at MOLTECH-Anjou are composed of chemists and physicists covering various research topics such as smart molecular materials, theoretical chemistry and molecular modelling, organic and inorganic syntheses, chirality, coordination chemistry, physical and analytical chemistry, photonics and material sciences.

The candidates should have a PhD in chemistry (no more than two years before the start of the contract), excellent experience in organic synthesis and characterization methods. Any skills in the fields of molecular materials, coordination chemistry and chirality, together with knowledge in theoretical chemistry, chiroptical methods and crystallography will be highly appreciated.

Application Deadline: 31/10/2026 (via email: Flavia POP, flavia.pop@univ-angers.fr)

Starting Date: January 2027, duration 12 months

All applications should include a cover letter, a CV and the contact of one referent person.

References in relation with the project:

- 1) M. Baudillon, T. Cauchy, N. Vanthuyne, N. Avarvari and F. Pop, *Org. Chem. Front.* **2022**, 9, 4260.
- 2) F. Pop, N. Mroweh, P. Auban-Senzier, G. L. J. A. Rikken, D. Hirobe, H. M. Yamamoto, A. Frąckowiak, I. Olejniczak, S. Pillet, E.-E. Bendeif, P. Alemany, E. Canadell, and N. Avarvari, *J. Am. Chem. Soc.* **2025**, 147, 27749.
- 3) A. Carella, S. Mishra, C. Ferrari, D. Vanossi, F. Rossella, F. Pop, N. Avarvari, H. Htoon, J. A. Hollingsworth, E. G. Bowes, S. Majumder, A. Crandall Jones, and C. Fontanesi, *Nanoscale* **2025**, 17, 2599.
- 4) C. Ferrari, A. Bogdan, F. Pop, C. Curto, A. Carella, F. Rossella, N. Avarvari, C. Fontanesi, *Chirality* **2024**, 36:e70009.