

2 PhD Positions in Synthetic Organic Chemistry/Homogeneous Catalysis

The Tortosa group at Universidad Autónoma de Madrid is seeking 2 candidates for 2 PhD positions (**PhD 1** and **PhD 2**) to work in the field of homogenous catalysis. Our general goal is to develop novel synthetic methodologies to build molecular complexity in a sustainable way:

PhD 1 will be focused on the development of novel asymmetric catalytic transformations using organoboron compounds. The project will be conducted under the supervision of Prof. Mariola Tortosa and Dr. Jaime Martín.

PhD 2 will be focused on the development of novel asymmetric methodologies to prepare sp^3 -rich building blocks with potential use as bioisosteres. The project will be conducted under the supervision of Prof. Mariola Tortosa and Dr. Thomas Rigotti.

Selected references:

- Pérez-Sánchez, C.; Garrido-García, P.; Fernández, D.; Ortega-Gutiérrez, S.; Martín-Fontecha, M.; González-Pinardo, D.; Fernández, I.; Rigotti, T.*; Tortosa, M.* “Enantioselective synthesis of 1,3-bicyclo[2.1.1]hexanes as *meta*-benzene bioisosteres” *Nat. Synth.* **2026**, DOI: <https://doi.org/10.1038/s44160-026-01048-x>.
- Lozano, B.; Teresa, J.; Fernández, I.; Tortosa, M.* “Cyclopropylmethyl Boronic Esters as General Reagents in Transition-Metal Catalyzed Homoallylation Reactions” *J. Am. Chem. Soc.* **2025**, *147*, 41221.
- Garrido-García, P.; Quiros, I.; Milan-Rois, P.; Ortega-Gutiérrez, S.; Martín-Fontecha, M.; Campos, L. A.; Somoza, Á.; Fernández, I.; Rigotti, T.*; Tortosa, M.* Enantioselective photocatalytic synthesis of bicyclo[2.1.1]hexanes as *ortho*-disubstituted benzene bioisosteres with improved biological activity” *Nat. Chem.* **2025**, *17*, 734.

Starting date: 01/10/2026

Requirements

- Completed or close to be completed MSc in Chemistry.
- Background in the field of Organic and/or Organometallic chemistry.
- Experience in the analysis of organic compounds (especially NMR methods).
- Experience in synthetic molecular chemistry under inert gas is advantageous.
- Good knowledge of English.
- Previous international experience is desirable.

Applications.

Your application should contain:

- letter of motivation
- curriculum vitae
- transcripts of records from University/University College and copy of your degree
- contact details of two referees

Submit your application electronically, **as a single pdf file**, to: tortosagroup@hotmail.com until June 30th 2026. The positions will be filled as soon as a perfect candidate has been found. Only shortlisted candidates will be contacted. For more information about our group, see: www.tortosagroup.com