



MOHAMMAD AMESKAL

PROFESSIONAL OVERVIEW

Postdoctoral researcher seeking a research engineer position in applied. Brings a strong foundation in catalyst synthesis, reaction mechanisms, and polymer characterization, with a proven ability to learn new methods and technologies for industrial applications.



PROFESSIONAL EXPERIENCE

PhD in homogeneous catalysis-IFP Energies Nouvelles (IFPEN)-NOV 2022– Present
Solaize, France



Pd-catalyzed butadiene alkoxy carbonylation: mechanistic insights and reaction improvement.

- Mechanism elucidation through a combined experimental and theoretical studies.
- Study of the implementation of the reaction in non-conventional solvents.
- Supervision of a Master-level engineering student on catalysis and organic synthesis.

Publications: Unravelling the mechanism for the mono-alkoxy carbonylation of butadiene: what is the role of the base? - (<https://doi.org/10.1016/j.jcat.2025.116235>). One manuscript in preparation.

Patent: (submitted)-Related to Pd-catalyzed butadiene alkoxy carbonylation. Two additional patents in preparation.

Awards : Best Presentation Award, PhD workshops in Catalysis, Biocatalysis & Separation, IFPEN | 2024

Conferences :

- Groupe d'étude de chimie organométallique et de la concertation en chimie de coordination **GECOM-CONCOORD**, Ax-les-Thermes, France (May 19-24, 2024) -Oral presentation.
- International Congress on Catalysis (**ICC**)-Lyon, France (July 14-19, 2024)-Poster presentation and volunteer staff.
- European Conference on Organometallic Chemistry (**EuCOMC**), Bern, Switzerland (July 6-10, 2025)-Poster presentation.

M2 internship-Laboratoire de Chimie de Coordination (LCC)- MARCH 2022-JULY 2022
Toulouse, France

- Multi-step organic synthesis of hybrid NHC-phosphine-phosphonium ylide pincer ligands.
- Study of their complexation to a Palladium (II) center.
- Study of the unusual coordination mode of phosphonium ylide ligands.



Publications:

- A Pd(II) Complex Exhibiting Tetradentate NHC-Phosphine Ligand: on Route to Unconventional Phosphonium Ylide Derivatives- (<https://doi.org/10.1002/ejic.202400489>).
- Phosphine-NHC-Phosphonium Ylide Pincer Ligand: Complexation with Pd(II) and Unconventional P-Coordination of the Ylide Moiety- (<https://doi.org/10.1021/acs.inorgchem.3c03025>).



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TECHNICAL SKILLS

- Manipulations under inert atmosphere (Glovebox/Schlenk line techniques)
- Catalytic tests in high pressure batch reactors
- DFT modelling (Gaussian 9 and 16)
- Analytical techniques: NMR, GC, MS, Karl Fisher.

SOFT SKILLS

- Teamwork (master students' supervision and collaboration with technicians)
- Scientific writing (article and patents)



LANGUAGES

- Arabic/Tamazight (native)
- French (fluent)
- English (fluent)
- Spanish (advanced)



HOBBIES AND INTERESTS

Reading · Traveling · Drawing · Video Editing · Volunteering.



REFERENCES

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