



# FRANCISCO SÁNCHEZ- FÉREZ

Investigador predoctoral

## CONTACTO

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## IDIOMAS

**Inglés** B2 (certificado FCE)

**Español** Lengua nativa (C1)

**Catalán** Lengua nativa (C1)

## Academic Formation

March 2024: PhD Thesis at Universidad Autónoma de Barcelona under the supervisión of Dr. Josefina Pons.

March 2019: Internship at Universidad Autónoma de Barcelona (UAB), under the supervisión of Dr. Josefina Pons Picart.

September 2017: MS "Industrial chemistry and introduction to chemical research" at Universidad Autónoma de Barcelona and el Instituto de Ciencia de los Materiales de Barcelona (ICMAB), "Preparation and structural characterization of two paddle-wheel Cu(II) complexes. Reactivity study with supplementary pyridine derivative ligands" under the supervisión of Dr. Josefina Pons Picart and Dr. José Giner Planas.

September 2016: Bachelor degree in Chemistry at Universidad Autónoma de Barcelona. Undergraduate tesis project "Caracterització i optimització de sensors amperomètrics basats en materials compòsits de grafè i resina" under the supervisión of Dr. María del Mar Baeza Lavat.

## Research activity

### Publications

1. Title: Zn(II) and Cd(II) complexes with 3-furoic acid. Exploring the role of C-H...O interactions  
Authors: Francisco Sánchez-Férez, Daniel Ejarque, Teresa Calvet, Mercè Font-Bardía, Josefina Pons.  
Journal: Journal of Molecular Structure, 2024, 138206.

2. Title: Structure directing factors and photophysical properties of five Cu(I)-iodide materials with N-donor heteroaromatic ligands  
Authors: Francisco Sánchez-Férez, Xavier Solans-Monfort, Luís Rodríguez-Santiago, Teresa Calvet, Mercè Font-Bardia, Josefina Pons.  
Journal: Journal of Solid State Chemistry, 333, 2024, 124639.
3. Title: The Formation of a Unique 2D Isonicotinate Polymer Driven by Cu(II) Aerobic Oxidation  
Authors: Francisco Sánchez-Férez, Teresa Calvet, Mercè Font-Bardia, Josefina Pons.  
Journal: Materials, 16, 2023, 3724
4. Title: Pyridine-driven assembly of Zn(II) and Cd(II) complexes with 2-furoic acid. The role of water in a structural transformation  
Authors: Daniel Ejarque, Francisco Sánchez-Férez, Núria Félez-Guerrero, Teresa Calvet, Mercè Font-Bardia, Josefina Pons.  
Journal: CrystEngComm, 25, 2023, 2739-2754
5. Title: A Hg(i) corrugated sheet assembled by auxiliary dioxole groups and Hg... $\pi$  interactions  
Authors: Francisco Sánchez-Férez, Xavier Solans-Monfort, Teresa Calvet, Mercè Font-Bardia, Josefina Pons.  
Journal: CrystEngComm, 24, 2022, 4351-4355.
6. Title: Controlling the Formation of Two Concomitant Polymorphs in Hg(II) Coordination Polymers  
Authors: Francisco Sánchez-Férez, Xavier Solans-Monfort, Teresa Calvet, Mercè Font-Bardia, Josefina Pons.  
Journal: Inorganic Chemistry, 61, 2022, 4965-4979.
7. Title: Tuning Photophysical Properties by *p*-Functional Groups in Zn(II) and Cd(II) Complexes with Piperonylic Acid.  
Authors: Francisco Sánchez-Férez, Joaquim M<sup>a</sup> Rius-Bartra, José A. Ayllón, Teresa Calvet, Mercè Font-Bardia, Josefina Pons.  
Journal: Molecules, 27, 2022, 1365.
8. Book Chapter.  
Chapter: Polymorphism and Supramolecular Isomerism - the Impasse of Coordination Polymers  
In book: Crystallization and Applications  
ISBN: 978-1-83969-316-8  
Authors: Francisco Sánchez-Férez, Josefina Pons.  
Editorial: IntechOpen. DOI: 10.5772/intechopen.96930
9. Title: Cu(II) coordination polymers with 4,4'-bipyridine. Synthesis and crystal structures.  
Authors: Francisco Sánchez-Férez, Teresa Calvet, Mercè Font-Bardia, Josefina Pons.  
Journal: Journal of Molecular Structure, 1235, 2021, 130219.
10. Title: Steric and Electronic Effects on the Structure and Photophysical Properties of Hg(II) Complexes.  
Authors: Francisco Sánchez-Férez, Joaquim M<sup>a</sup> Rius-Bartra, Teresa Calvet, Mercè Font-Bardia, Josefina Pons.  
Journal: Inorganic Chemistry, 60, 2021, 3851-3870.
11. Title: Influence of Aromatic Cations on the Structural Arrangement of Hg(II) Halides.  
Authors: Francisco Sánchez-Férez, Xavier Solans-Monfort, Teresa Calvet, Mercè Font-Bardia, Josefina Pons.  
Journal: ACS Omega, 5, 2020, 29357-29372.
12. Title: Exploring the Reactivity of  $\alpha$ -Acetamidocinnamic Acid and 4-Phenylpyridine with Zn(II) and Cd(II)  
Authors: Daniel Ejarque, Francisco Sánchez-Férez, Teresa Calvet, Mercè Font-Bardia, Josefina Pons.  
Journal: Inorganica Chimica Acta, 509, 2020, 119695.

13. Title: Zn(II) and Cd(II) monomer, dimer and polymer compounds coordinated by benzoic acid and 4-acetylpyridine: Synthesis and crystal structures  
 Authors: Laura Moreno-Gómez, Francisco Sánchez-Férez, Teresa Calvet, Mercè Font-Bardia, and Josefina Pons.  
 Journal: *Inorganica Chimica Acta*, 506, 2020, 119561.
14. Title: Benzoate substituents effects on the structure of Zn(II) complexes and 1D 4,4'-bipyridine derived coordination polymers.  
 Authors: Francisco Sánchez-Férez, Roger Pou, Laura Bayés-García, Mercè Font-Bardia, Josefina Pons, José A. Ayllón.  
 Journal: *Inorganica Chimica Acta*, 500, 2020, 119218.
15. Title: Diverse Structures and Dimensionalities in Zn(II), Cd(II), and Hg(II) Metal Complexes with Piperonylic Acid  
 Authors: Daniel Ejarque, Francisco Sánchez-Férez, José A. Ayllón, Teresa Calvet, Mercè Font-Bardia, Josefina Pons.  
 Journal: *Crystal Growth & Design*, 20, 2020, 383-400.
16. Title: Isonicotinamide-Based Compounds: From cocrystals to Polymer  
 Authors: Francisco Sánchez-Férez, Daniel Ejarque, Teresa Calvet, Mercè Font-Bardia, Josefina Pons.  
 Journal: *Molecules*, 24, 2019, 4169.
17. Title: Solvent dependent formation of Cu(II) complexes based on isonicotinamide ligand  
 Authors: Francisco Sánchez-Férez, Laura Bayés, Mercè Font-Bardia, Josefina Pons.  
 Journal: *Inorganica Chimica Acta*, 494, 2019, 112-122.
18. Title: Synthesis and characterization of three new Cu(II) paddle-wheel compounds with 1,3-benzodioxole-5-carboxylic acid  
 Authors: Francisco Sánchez-Férez, Joan Soldevila-Sanmartín, José A. Ayllón, Teresa Calvet, Mercè Font-Bardia and Josefina Pons.  
 Journal: *Polyhedron*, 164, 2019, 64-73.
19. Title: Reactivity of homoleptic and heteroleptic core paddle wheel Cu(II) compounds  
 Authors: Francisco Sánchez-Férez, Miguel Guerrero, José A. Ayllón, Teresa Calvet, Mercè Font-Bardia, José Giner Planas, Josefina Pons.  
 Journal: *Inorganica Chimica Acta*, 487, 2019, 295-306.

## Divulgation

1. Title: Síntesis de polímeros de coordinación y compuestos de zinc  
 Authors: Francisco Sánchez-Férez, Roger Pou, Laura Bayés-García, Mercè Font-Bardia, Josefina Pons, José A. Ayllón.  
 Communication: UAB Divulg@ (<http://www.uab.es/uabdivulga>). January 2021.
2. Title: Obtención de cuatro compuestos de zinc(II) y cadmio(II) obtenidos utilizando ácido benzoico como ligando  
 Authors: Laura Moreno-Gómez, Francisco Sánchez-Férez, Teresa Calvet, Mercè Font-Bardia, and Josefina Pons.  
 Communication: UAB Divulg@ (<http://www.uab.es/uabdivulga>). January 2021.
3. Title: Cuatro compuestos de coordinación fruto de una reacción entre un ligando y tres metales del grupo 12  
 Authors: Daniel Ejarque, Francisco Sánchez-Férez, José A. Ayllón, Teresa Calvet, Mercè Font-Bardia, Josefina Pons.  
 Communication: UAB Divulg@ (<http://www.uab.es/uabdivulga>). November 2020.
4. Title: Diseño de nuevos compuestos de Cu (II) con ligandos carboxilatos y piridinas

Authors: Francisco Sánchez-Férez, Miguel Guerrero, José A. Ayllón, Teresa Calvet, Mercè Font-Bardia, José Giner Planas, Josefina Pons.

Comunication: UAB Divulg@ (<http://www.uab.es/uabdivulga>). April 2019.

5. Title: Sintetizan y caracterizan nuevos compuestos de cobre  
Authors: Francisco Sánchez-Férez, Laura Bayés, Mercè Font-Bardia, Josefina Pons.  
Comunication: UAB Divulg@ (<http://www.uab.es/uabdivulga>). October 2019.
6. Title: Caracterizados tres compuestos con ligandos carboxilatos de Cu (II)  
Authors: Francisco Sánchez-Férez, Joan Soldevila-Sanmartín, José A. Ayllón, Teresa Calvet, Mercè Font-Bardia and Josefina Pons.  
Comunication: UAB Divulg@ (<http://www.uab.es/uabdivulga>). January 2020.
7. Title: Síntesis a la carta de complejos de cobre con diferentes estructuras cristalinas  
Authors: Francisco Sánchez-Férez, Teresa Calvet, Mercè Font-Bardia, Josefina Pons.  
Comunication: UAB Divulg@ (<http://www.uab.es/uabdivulga>). March 2022.

### **Workshops and courses**

- Science Management Summer School, Alba Synchrotron.
- **Cosmetics chemistry** course. Garrigó Laboratories.