

Curriculum Vitae

PERSONAL INFORMATION

Platero-Prats, Ana Eva *Departamento de Química Inorgánica*
Date of birth: June 5th 1984 *Universidad Autónoma de Madrid*
Telephone: 34-91-497-5772 **e-mail: ana.platero@uam.es**
Google Scholar Profile:
<https://scholar.google.com/citations?user=m-gaPS8AAAAJ&hl=en>
ORCID: 0000-0002-2248-2739



PRESENT POSITION

2018–Present **Doctor con Experiencia**
Atracción Talento Comunidad de Madrid, Modalidad 1

FUNDING

310k €

RESEARCH CAREER

		GRANTS/FELLOWSHIPS
2017–2018	Intertalentum Marie Curie Fellow <i>Universidad Autónoma de Madrid, Spain.</i>	MSCA-COFUND – 145.8k €
2014–2017	Beatriu de Pinós Fellow <i>Argonne National Laboratory, USA.</i>	Three-year Postdoctoral Grant
2012 – 2014	Postdoctoral Research Associate <i>Stockholm University, Sweden.</i>	
2010	Visiting Fellow <i>Università degli Studi di Milano, Italy.</i>	Mobility Grant
2009	Visiting Fellow <i>Centre National de la Recherche Scientifique, France.</i>	Mobility Grant
2008 – 2011	Ph.D. student <i>Instituto de Ciencia de Materiales de Madrid, Spain.</i>	Predocctoral Grant (JAE, FPU)
2007	M.Sc. student. <i>Universitat de Barcelona, Spain.</i>	

ACADEMIC EDUCATION

- **Ph.D. Degree in Chemistry** with Honors (*summa cum laude*) (Top mark), **2011**
Universidad Autónoma de Madrid, Spain.
Premio Extraordinario de Doctorado.
Award to the best Ph.D. work from the Royal Spanish Society of Chemistry.
- **Advanced Studies Diploma, 2009**
Universidad Autónoma de Madrid, Spain.
- **M.Sc. Degree in Crystallization and Crystallography, 2009**
Universidad Internacional Menéndez Pelayo, Spain.
- **M.Sc. Degree in Chemistry, 2007**
Universitat de Barcelona, Spain.
- **BSc. Degree in Chemistry** with Honors, **2006**
Universitat de Barcelona, Spain.

AWARDS AND HONORS

2017 **Honorable Mention for Outstanding Postdoctoral Performance (Applied Research).**
Argonne National Laboratory, USA.

2017 **Winner of the Department of Energy of the United States Team Science Competition at the EFRC-HUB-CMS PI meeting.**

2012 **Premio Extraordinario de Doctorado** in Chemistry,
Universidad Autónoma de Madrid.

2012 **Best Ph.D. thesis defended in Chemistry** (2011/2012)
Royal Spanish Society of Chemistry.

CAREER RECORD

42 scientific publications in high impact peer-review international journals and **2 patents**.

J. Am. Chem. Soc. (9)

ACS Cent. Sci. (1)

Chem. Commun.(1)

Adv. Mater. (1)

Angew. Chem. Int. Ed. (1)

Chem. Mater. (4)

ACS Catal. (3)

Inorg. Chem. (1)

Citations = 1928

h-index = 18

3 “highly cited” papers (>60)

Citations/article = 45.9

Front covers (2)

Top 3 Most Read papers (2)

Patents

- **2011** Platero-Prats A. E., et al. “Organic/inorganic microporous crystalline material based on alkaline-earth cations. Preparation method and uses”. Worldwide patent: WO/2011/000989.
- **2009** Platero-Prats A. E., et al. “Organic/inorganic microporous crystalline material based on alkaline-earth cations. Preparation method and uses”. Spanish patent: PCT/ES2010/0704393.

List of publications

42. Zhao, W., Wang, A., Malonzo, C. D., Webber, T. E., **Platero-Prats, A. E.**, Sotomayor, F., Vermeulen, N. A., Wang, T. C., Hupp, J. T., Farha, O. K., Penn, R. L., Chapman, K. W., Thommes, M., Stein, A.: “*Extending the Compositional Range of Nanocasting in the Oxozirconium Cluster-based Metal-Organic Framework NU-1000—A Comparative Structural Analysis*” *Chem. Mater.*, **2018**, Article ASAP

41. Kim, I. S., Li, Z., Zheng, J., **Platero-Prats, A. E.**, Mavrandonakis, A., Pellizzeri, S., Ferrandon, M., Vjunov, A., Gallington, L. C., Webber, T. E., Vermeulen, N. A., Penn, R. L., Getman, R. B., Cramer, C. J., Chapman, K. W., Camaioni, D. M., Fulton, J. L., Lercher, J. A., Farha, O. K., Hupp, J. T., Martinson, A. BF.: “*Sinter-Resistant Platinum Catalyst Supported by Metal–Organic Framework*” *Angew. Chem. Int. Ed.*, **2018**, 57, 909-913.

40. Li, Z., Peters, A. W., **Platero-Prats, A. E.**, Liu, J., Kung, C.-W., Noh, H., DeStefano, M. R., Schweitzer, N. M., Chapman, K. W., Hupp, J. T., Farha, O. K.: “*Fine-Tuning the Activity of Metal–Organic Framework-Supported Cobalt Catalysts for the Oxidative Dehydrogenation of Propane*” *J. Am. Chem. Soc.*, **2017**, 139 (42), 15251–15258.

39. **Platero-Prats, A. E.**, League, A. B., Bernales, V., Ye, J., Gallington, L. C., Vjunov, A., Schweitzer, Neil M., Li, Z., Zheng, J., Mehdi, B. L., Stevens, A. J., Dohnalkova, A., Balasubramanian, M., Farha, O. K.; Hupp, J. T., Browning, N. D., Fulton, J. L., Camaioni, D. M., Lercher, J. A., Truhlar, D. G., Gagliardi, L., Cramer, C. J., Chapman, K. W.: “*Bridging Zirconia Nodes within a Metal–Organic Framework via Catalytic Ni-hydroxo Clusters to Form Hetero-Bimetallic Nanowires*” *J. Am. Chem. Soc.*, **2017**, 139 (30), 10410–10418.

38. Buru, C. T., Li, P., Mehdi, B. L., Dohnalkova, A., **Platero-Prats, A. E.**, Browning, N. D., Chapman, K. W., Hupp, J. T., Farha, O. K.: “*Adsorption of a Catalytically Accessible Polyoxometalate in a Mesoporous Channel-type Metal–Organic Framework*” *Chem. Mater.*, **2017**, 29 (12), 5174–5181.

37. González Miera, G., Gómez Bermejo, A., Chupas, P. J., Martín-Mature, B., Chapman, K. W., **Platero-Prats, A. E.***: “*Topological Transformation of a Metal-Organic Framework Triggered by Ligand Exchange*” *Inorg. Chem.*, **2017**, 56 (8), 4576–4583. *Corresponding and last author. Highlighted by the journal within the Top 3 Most Read papers.*

36. **Platero-Prats, A. E.**, Li, Z., Peters, A. W., Hupp, J. T., Farha, O. K., Chapman, K. W.: “*Addressing the Characterisation Challenge to Understand Catalysis in MOFs: The Case of Nanoscale Cu Supported in NU-1000*” *Faraday Discuss.*, **2017**, 201, 349-361. *Invited article.*

35. Collado, L., Jansson, I., **Platero-Prats, A. E.**, Pérez-Dieste, V., Escudero, C., Molins, E., Casas i Duocastella, L., Sanchez, B., Coronado, J. M., Serrano, D. P., Suárez, S., de la Peña O’Shea, V.A.: “*Elucidating the Photoredox Nature of Isolated Iron Active Sites on MCM-41*” *ACS Catal.*, **2017**, 7, 1646–1654.

- 34.** Rimoldi, M., Bernales, V., Borycz, J., Vjunov, A., Gallington, L. C., **Platero-Prats, A. E.**, Kim, I. S., Fulton, J. L., Martinson, A. B. F., Lercher, J. A., Chapman, K. W., Cramer, C. J., Gagliardi, L., Hupp, J. T., Farha, O. K.: “*Atomic Layer Deposition in a Metal-Organic Framework: Synthesis, Characterization, and Performance of a Solid Acid*”
Chem. Mater., **2017**, 29 (3), 1058–1068. *Highlighted by the journal within the Top 3 Most Read papers.*
- 33.** Camacho-Bunquin, J., Ferrandon, M. S., Das, U., Dogan, F., Liu, C., Larsen, C. R., **Platero-Prats, A. E.**, Curtiss, L. A., Hock, A. S., Miller, J. T., Nguyen, S.B. T., Marshall, C. S., Delferro, M., Stair, P. C.: “*Supported Aluminum Catalysts for Olefin Hydrogenation*”
ACS Catal., **2017**, 7 (1), 689–694.
- 32.** Li, Z., Peters, A.W., Bernales, V., Ortuño, M. A., Schweitzer, N. M., DeStefano, M. R., Gallington, L. C., **Platero-Prats, A. E.**, Chapman, K. W., Cramer, C. J., Gagliardi, L., Hupp, J. T., Farha, O. K.: “*Metal–Organic Framework Supported Cobalt Catalysts for the Oxidative Dehydrogenation of Propane at Low Temperature*”
ACS Cent. Sci., **2017**, 3 (1), 31–38. *Highlighted by the journal by through a First Reactions comment. Front cover.*
- 31.** Gallington, L. C., Kim, I. S., Liu, W.-G., Yakovenko, A. A., **Platero-Prats, A. E.**, Li, Z., Wang, T. A., Hupp, J. T., Farha, O. K., Truhlar, D. G., Martinson, A. B. F., Chapman, K.W.: “*Regioselective Atomic Layer Deposition in Metal-Organic Frameworks Directed by Dispersion Interactions*”
J. Am. Chem. Soc., **2016**, 138 (41), 13513–13516.
- 30.** Núñez, J., Fresno, F., **Platero-Prats, A. E.**, Jana, P., Fierro, J.L.G., Coronado, J. M., Serrano, D. P., Peña-O’Shea, V. A.: “*Ga-Promoted Photocatalytic H₂ Production over Pt/ZnO Nanostructures*”
ACS Appl. Mat. Interfaces, **2016**, 8 (36), 23729–23738.
- 29.** Erbing, E., Vázquez-Romero, A., Bermejo Gómez, A., **Platero-Prats, A.E.**, Carson, F., Zou, X., Tolstoy, P., Martín-Matute, B.: “*General, Simple and Chemoselective Catalysts for the Isomerization of Allylic Alcohols - The Importance of the Halide Ligand*”
Chem. Eur. J., **2016**, 22, 15659–15663.
- 28.** **Platero-Prats, A. E.**, Mavrandonakis, A., Gallington, L. C., Liu, Y., Hupp, J. T., Farha, O. K., Cramer, C. J., Chapman, K. W.: “*Structural transitions of the metal-oxide nodes within metal-organic frameworks: On the local structures of NU-1000 and UiO-66*”
J. Am. Chem. Soc., **2016**, 138 (12), 4178–4185.
- 27.** Malonzo, C. D., Shaker, S. M., Ren, L., Prinslow, S. D., **Platero-Prats, A. E.**, Gallington, L. C., Borycz, J., Thompson, A. B., Wang, T. W., Farha, Hupp, J. T., Lu, C. C., Chapman, K. W., Myers, J. C., Penn, R. L., Gagliardi, L., Tsapatsis, M., Stein, A.: “*Thermal Stabilization of Metal–Organic Framework-Derived Single-Site Catalytic Clusters through Nanocasting*”
J. Am. Chem. Soc., **2016**, 138 (8), 2739–2748.
- 26.** Beyzavi, M. H., Vermeulen, N. A., Howarth, A. J., Tussupbayev, S., League, A. B., Schweitzer, N. M., **Platero-Prats, A. E.**, Hafezi, N., Sarjeant, A. A., Miller, J. T., Chapman, K. W., Stoddart, J. F., Cramer, C. J., Hupp, J. T., Farha, O. K.: “*A Hafnium-Based Metal–Organic Framework as a Nature Inspired Tandem Reaction Catalyst*”
J. Am. Chem. Soc., **2015**, 137 (42), 13624–13631.
- 25.** **Platero-Prats, A.E.**, Bermejo Gómez, A., Chapman, K. W., Martín-Matute, B., Zou, X.: “*Functionalising metal–organic frameworks with metal complexes: the role of structural dynamics*”
CrysEngComm, **2015**, 17, 7632–7635.
- 24.** Kim, I. S., Borycz, L., **Platero-Prats, A. E.**, Tussupbayev, S., Wang, T.C., Farha, O. K., Hupp, J. T., Gagliardi, L., Chapman, K. W., Cramer, C. J., Martinson, A. B.F.: “*Targeted Single-Site MOF Node Modification: Trivalent Metal Loading via Atomic Layer Deposition*”
Chem. Mater., **2015**, 27(13), 4772–4778. *Highlighted in Recent Advances in Atomic Layer Deposition issue, ACS.*
- 23.** Howarth, A. J., Katz, M. J., Wang, T. C., **Platero-Prats, A. E.**, Chapman, K. W., Hupp, J. T., Farha O. K.: “*High Efficiency Adsorption and Removal of Selenate and Selenite from Water using Metal-Organic Frameworks*”
J. Am. Chem. Soc., **2015**, 137(23), 7488–7494.
- 22.** Carson, F., Pascanu, V., Bermejo Gómez, A., Zhang, Y., **Platero-Prats, A. E.**, Zou, X., Martín-Matute, B.: “*Influence of the Base on Pd@MIL-101–NH₂(Cr) as a Catalyst for the Suzuki–Miyaura Cross-Coupling Reaction*”
Chem. Eur. J., **2015**, 21, 10896–10902. *Highlighted in Synfacts issue 10/2015.*

21. Pascanu, V., Hansen, P. R., Bermejo Gómez, A., Ayats, C., **Platero-Prats, A. E.**, Johansson, M. J., Pericàs, M. A., Martín-Matute, B.: "Highly Functionalized Biaryls via Suzuki–Miyaura Cross-Coupling Catalyzed by Pd@MOF under Batch and Continuous Flow Regimes" *ChemSusChem*, **2015**, 8, 1, 123–130.
20. Pan, L., Liu, G., Li, H., Meng, S., Han, L., Shang, J., Chen, B., **Platero-Prats, A.E.**, Lu, W.D., Zou, X., Li, R.-W.: "A Resistance-Switchable and Ferroelectric Metal-Organic Framework" *J. Am. Chem. Soc.*, **2014**, 136(50), 17477–17483.
19. Pascanu, V., Bermejo Gómez, A., Ayats, C., **Platero-Prats, A.E.**, Carson, F., Su, J., Yao, Q., Pericàs, M. A., Zou, X., Martín-Matute, B.: "A Double-Supported Silica – Metal-Organic Framework Palladium Nanocatalyst for Aerobic Oxidation of Alcohols under Batch and Continuous Flow Regimes" *ACS Catal.*, **2014**, 5(2), 472–479.
18. **Platero-Prats, A.E.**, Bermejo Gómez, A., Samain, L., Zou, X., Martín-Matute, B.: "The First One-Pot Synthesis of Metal–Organic Frameworks Functionalised with Two Transition-Metal Complexes" *Chem. Eur. J.*, **2014**, 21(2), 861–8661.
17. Karmakar, A., Oliver, C. L., **Platero-Prats, A. E.**, Laurila, E., Öhrström, L.: "Crystal structures and hydrogen bond analysis of five amino acid conjugates of terephthalic and benzene-1,2,3-tricarboxylic acids" *CrystEngComm*, **2014**, 16, 8243–8251.
16. Bermejo Gómez A, Ahlsten, N., **Platero-Prats A. E**, Martín-Matute B.: "Synthesis of 4,5-disubstituted 2-amino-1,3-thiazoles from α,β -unsaturated ketones: Preparation of 5-Benzyl-4-methyl-1,3-thiazol-2-amine hydrochloride" *Org. Synth.*, **2014**, 91, 185–200.
15. Carson, F., Su, J., **Platero-Prats, A. E.**, Wan, W., Yun, Y., Samain, L., Zou X.: "Framework Isomerism in Vanadium Metal-Organic Frameworks: MIL-88B(V) and MIL-101(V)" *Cryst. Growth Des.*, **2013**, 13(11), 5036–5044.
14. **Platero-Prats A.E**, Iglesias, M., Snejko, N., Monge, A., Gutiérrez-Puebla E.: "Insight into Lewis Acid Catalysis with Alkaline-Earth MOFs: The Role of Polyhedral Symmetry Distortions" *Chem. Eur. J.*, **2013**, 19(46), 15572–15582.
13. Karmakar, A., **Platero-Prats, A. E.**, Öhrström, L.: "A new methanol solvate and Hirshfeld analysis of [pi]-stacking in 2,3,6,7,10,11-hexahydroxytriphenylene solvates" *Acta Cryst.*, **2013**, C69, 251–254.
12. García Márquez A, Demessence A, **Platero-Prats A.E**, Heurtaux D, Horcajada P, Serre C, Chang J. S, Férey G, de la Peña-O'Shea V. A, Boissière C, Grosso D, Sanchez C.: "Green microwave synthesis of MIL-100(Al, Cr, Fe) nanoparticles for thin film elaboration" *Eur. J. Inorg. Chem.*, **2012**, 5165–5174. [Front cover](#).
11. Bernini M.C, **Platero-Prats A.E**, Snejko N, Gutiérrez-Puebla E, Labrador A, Sáez-Puche, R., Romero de Paz, J. and Monge M.A.: "Tuning the magnetic properties of transition metal MOFs by the metal-oxygen condensation control: the relation between synthesis temperature, SBU nuclearity and carboxylate geometry" *CrystEngComm*, **2012**, 14(17), 5493–5504.
10. **Platero-Prats A.E**, de la Peña-O'Shea, V.A., Proserpio D.M, Snejko, N., Gutiérrez-Puebla E, Monge A.: "Insight into the SBU condensation in Mg coordination and supramolecular frameworks: A combined experimental and theoretical study" *J. Am. Chem. Soc.*, **2012**, 134, 4762–4771.
9. de la Peña-O'Shea V.A., Álvarez-Galván, C. M., **Platero-Prats A.E**, Campos-Martín, J.M., Fierro, J.L.G.: "Direct evidence of the SMSI decoration effect: The case of Co/TiO₂ catalyst" *Chem. Commun.*, **2011**, 47(25), 7131–7133.
8. Medina, M. E., **Platero-Prats, A. E.**, Snejko, N., Rojas, A., Monge, A., Gándara, F., Gutiérrez-Puebla, E., Cambor, M. A.: "Towards inorganic porous materials by design: Looking for new architectures" *Adv. Mater.*, **2011**, 23, 44, 5283–5292. [Invited article](#).

- 7. Platero-Prats A.E**, Bernini, M.C., Medina, M.E., López-Torres, E., Gutiérrez-Puebla E, Monge M.A, Snejko, N.: "Three novel indium MOFs derived from diphenic acid: synthesis, crystal structures and supramolecular chemistry" *CrystEngComm*, **2011**, *13*, 4965-4972.
- 6. Platero-Prats A.E**, Iglesias, M., Snejko N, Monge M.A, Gutiérrez-Puebla E.: "From coordinatively weak ability of constituents to very stable alkaline-earth sulfonate metal-organic frameworks" *Cryst. Growth Des.*, **2011**, *11*(5), 1750-1758.
- 5. Platero-Prats A.E**, de la Peña O'Shea V.A, Snejko N., Monge M.A, Gutiérrez-Puebla E.: "Dynamic calcium metal-organic framework acts as a selective organic solvent sponge" *Chem. Eur. J.*, **2010**, *16*(38), 11632-11640.
- 4. Platero-Prats A.E**, de la Peña O'Shea V.A, Snejko N., Monge M.A, Gutiérrez-Puebla E.: "Heterogeneous Catalysis with Alkaline-Earth Metal-Based MOFs: A Green Calcium catalyst" *ChemCatChem*, **2010**, *2*(2), 147-149. *Front cover. The most-accessed inorganic chemistry articles from ChemPubSoc Europe and GDCh journals (May 2010).*
- 3.** Cordero B, Gómez V, **Platero-Prats A.E**, Revés M, Echeverría J, Cremades E, Barragán F, Álvarez S.: "Covalent radii revisited" *Dalton Trans.*, **2008**, *21*, 2832-2838. *20th most cited paper in Dalton Transactions (ISI from 1993 to 2012).*
- 2. Platero-Prats A.E**, Pérez S, López C, Solans X, Font-Bardía M, van Leeuwen P.W.N.M, van Strijdonck G.P.F, Freixa Z.: "Palladium(II)-allyl complexes containing a chiral N-donor ferrocenyl ligand" *J. Organomet. Chem.*, **2007**, *692*, 4215-4226.
- 1.** Pou D, **Platero-Prats A.E**, Pérez S, López C, Solans X, Font-Bardía M, van Leeuwen P.W.N.M, van Strijdonck G.P.F, Freixa Z. "Schiff bases containing ferrocenyl and thienyl units and their utility in the allylic alkylation of cinnamyl acetate" *J. Organomet. Chem.*, **2007**, *692*, 5017-5025, **2007**.

Selected Oral Presentations (5 out of 18)

- Platero-Prats, A. E, et al. "Following Chemistry and Catalysis in Metal-Organic Frameworks using Advanced Synchrotron X-ray Scattering Tools". 253rd American Chemical Society National Meeting & Exposition, San Francisco, USA, 2017. **Invited lecture.**
- Platero-Prats, A. E, et al. "Structure transitions of the Zr₆(O)₈ clusters in NU-1000 and related MOFs". 251st American Chemical Society National Meeting & Exposition, San Diego, USA, 2016. **Selected lecture for ACS Presentations on Demand.**
- Platero-Prats, A. E, et al. "Comprehensive in-situ studies of the zirconium node distortion in NU-1000". Gordon Research Seminar: Nanoporous Materials & Their Applications, USA, 2015. **Invited lecture.**
- Platero-Prats, A. E, et al. "Insight into the SBU condensation in Mg coordination and supramolecular frameworks: A combined experimental and theoretical study". XXII Congress and General Assembly of the International Union of Crystallography, Spain, 2011.
- Platero-Prats, A. E, et al. "Determination of crystal topologies using TOPOS software". 3rd Meeting of Spanish Young Crystallographers, Spain, 2011. **Invited lecture.**

Leadership Roles

- Principal investigator for 15 beamtime proposals granted at American and European synchrotron facilities, being the responsible person not only for writing the project, but also for performing the experiments and designing specific in-situ cells. Co-proposer in more than 25 allocated beamtimes to carry out: pair distribution function (PDF) analyses, powder and single crystal X-ray diffraction, small angle X-ray scattering and X-ray absorption spectroscopy.
- Organizer of the "Summer School on Topologic Crystal Chemistry", Stockholm, June, 2012.
- Member of the organization committee of the "XXII Congress and General Assembly of the international Union of Crystallography", Madrid, 2011.
- Journal reviewer (Inorganic Chemistry, ACS Catalysis, ACS Applied Materials & Interfaces, Chem. Eur. J.).
- Member of the review panel of the Stanford Synchrotron Radiation Light source.