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Education, Qualifications, Research Experience and Awards

1992 B. S. in Chemistry (Inorganic Chemistry). Universidad de Oviedo (Spain).
1993 Erasmus Exchange Fellowship. Participation for six months in the research project "*Activation of terminal alkynes by ruthenium(II) complexes*" under the supervision of Prof. Pierre H. Dixneuf. Université de Rennes I (France).
1993-1996 Predoctoral Fellowship (FICYT-Asturias; Spain).
1994 Honors Degree Thesis under the supervision of Prof. José Gimeno and Dr. M. Pilar Gamasa. "*Allenylidene-ruthenium(II) complexes as precursors of functionalized alkynyl systems*". Universidad de Oviedo (Spain).
1996 Ph. D. in Organometallic Chemistry (*Cum Laude*) under the supervision of Prof. José Gimeno and Dr. M. Pilar Gamasa. Thesis entitled "*Ruthenium(II) allenylidene complexes as precursors of functionalized alkynyl and vinylidene derivatives*". Universidad de Oviedo (Spain).
1996-1997 Assistant Professor of Inorganic Chemistry. Universidad de Oviedo (Spain).
1997-1999 Postdoctoral Fellowship (F.P.I-Ministerio de Educación y Ciencia, Spain). Participation for 24 months in the research project "*Group IV complexes as tools in organic and organometallic chemistry*" under the supervision of Prof. Jean-Pierre Majoral. Laboratoire de Chimie de Coordination (CNRS-Toulouse. France).
1999-2003 Assistant Professor of Inorganic Chemistry. Universidad de Oviedo (Spain).
2002 Spanish Royal Society of Chemistry (RSEQ) Young Investigator Award.
2003-2008 "Ramón y Cajal" Research Contract (Ministerio de Ciencia y Tecnología, Spain). Universidad de Oviedo (Spain).
2008-2009 Assistant Professor of Inorganic Chemistry. Universidad de Oviedo (Spain).
2010-present Associate Professor of Inorganic Chemistry. Universidad de Oviedo (Spain).
2015 Award for Excellence in Organometallic Chemistry Research – Organometallic Chemistry Division (GEQO) of the Spanish Royal Society of Chemistry (RSEQ).

Papers in peer-reviewed journals

1.- "An unprecedented ruthenium allenylidene complex containing an unsaturated bicyclic system: Formal addition of 1-ethynyl-1-cyclohexanol to an alkenylvinylidene intermediate complex". V. Cadierno, M.P. Gamasa, J. Gimeno, E. Lastra, J. Borge, S. Garcia-Granda. *Organometallics*, **1994**, *13*, 745-747.

2.- "Novel allenylidene alkynyl and ammonia alkynyl metal complexes via selective synthesis of mono and bis alkynyl ruthenium(II) complexes: Crystal structure of *trans*-[Ru(NH₃)(C≡CPh)(Ph₂PCH₂CH₂PPh₂)₂PF₆]. D. Touchard, C. Morice, V. Cadierno, P. Haquette, L. Toupet, P.H. Dixneuf. *J. Chem. Soc., Chem. Commun.*, **1994**, 859-860.

3.- "Reactions of novel cationic diphenylallenylidene complexes [Ru(=C=C=CPh₂)L₂(η⁵-C₉H₇)]⁺ (L= PPh₃; L₂= bis(diphenylphosphino)methane, dppe or 1,2-bis(diphenylphosphino)ethane, dppe) with neutral and anionic nucleophiles". V. Cadierno, M.P. Gamasa, J. Gimeno, E. Lastra. *J. Organomet. Chem.*, **1994**, *474*, C27-C29.

4.- "Allenylidene indenyl ruthenium(II) complexes as sources of highly functionalized alkynyl complexes: Synthesis of the first bimetallic derivatives containing a vinylidene-carbene bridge". V. Cadierno, M.P. Gamasa, J. Gimeno, J. Borge, S. García-Granda. *J. Chem. Soc., Chem. Commun.*, **1994**, 2495-2496.

5.- "Photochemical reactions of alkynyl iron(II) complexes with carbon disulfide. Insertion of CS₂ into an iron-C(sp) bond". V. Cadierno, M.P. Gamasa, J. Gimeno, E. Lastra. *J. Organomet. Chem.*, **1996**, *510*, 207-211.

6.- "Activation of 2-propyn-1-ol derivatives by indenylruthenium(II) and -osmium(II) complexes: X-ray crystal structure of the allenylidene complexes [M(=C=C=CPh₂)(η⁵-C₉H₇)(PPh₃)₂][PF₆]₂·CH₂Cl₂ (M= Ru, Os) and EHMO calculations". V. Cadierno, M.P. Gamasa, J. Gimeno, M. González-Cueva, E. Lastra, J. Borge, S. García-Granda, E. Pérez-Carreño. *Organometallics*, **1996**, *15*, 2137-2147.

7.- "Large second-order nonlinear optical properties of novel organometallic (σ-aryl-enynyl)ruthenium complexes". S. Houbrechts, K. Clays, A. Persoons, V. Cadierno, M.P. Gamasa, J. Gimeno. *Organometallics*, **1996**, *15*, 5266-5268.

8.- "Selective synthesis of indenylruthenium(II) vinylvinylidene complexes via unstable allenylidene intermediates: Unexpected formation of alkenyl-phosphonio complexes (*E*)-[Ru{C(H)=C(PPh₃)R}(η⁵-C₉H₇)(PPh₃)₂][PF₆] (R = 1-cyclohexenyl, 1-cycloheptenyl) through nucleophilic addition of triphenylphosphine on vinylvinylidene derivatives". V. Cadierno, M.P. Gamasa, J. Gimeno, J. Borge, S. García-Granda. *Organometallics*, **1997**, *16*, 3178-3187.

9.- "Regioselective nucleophilic additions on indenyl-ruthenium(II)-allenylidene complexes. X-ray crystal structure of the alkynyl complex [Ru{C≡CC(C≡CH)Ph₂}(η⁵-C₉H₇)(PPh₃)₂]. V. Cadierno, M.P. Gamasa, J. Gimeno, M.C. López-González, J. Borge, S. García-Granda. *Organometallics*, **1997**, *16*, 4453-4463.

10.- "Selective reactions of functionalized ruthenium(II) σ-alkynyl complexes with dicobalt octacarbonyl and tetracobalt dodecacarbonyl: Synthesis of cyclopentenone derivatives via intermolecular Pauson-

Khand reactions". V. Cadierno, M.P. Gamasa, J. Gimeno, J.M. Moretó, S. Ricart, A. Roig, E. Molins. *Organometallics*, **1998**, *17*, 697-706.

11.- "Regio- and diastereoselective nucleophilic additions of lithium enolates on the allenylidene complexes $[\text{Ru}\{\text{C}=\text{C}=\text{C}(\text{R})\text{Ph}\}(\eta^5\text{-C}_9\text{H}_7)(\text{PPh}_3)_2][\text{PF}_6]$ (R = H, Ph): Synthesis of the first chiral keto-functionalized (σ -alkynyl)ruthenium(II) complexes". V. Cadierno, M.P. Gamasa, J. Gimeno, E. Pérez-Carreño, A. Ienco. *Organometallics*, **1998**, *17*, 5216-5218.

12.- "Synthesis and second-order nonlinear optical properties of donor-acceptor σ -alkynyl and σ -enynyl indenylruthenium(II) complexes. X-ray crystal structures of $[\text{Ru}\{\text{C}\equiv\text{CCH}=\text{C}(\text{C}_6\text{H}_4\text{NO}_2\text{-3})\}_2(\eta^5\text{-C}_9\text{H}_7)(\text{PPh}_3)_2]$ and (*EE*)- $[\text{Ru}\{\text{C}\equiv\text{C}(\text{CH}=\text{CH})_2\text{-C}_6\text{H}_4\text{NO}_2\text{-4}\}(\eta^5\text{-C}_9\text{H}_7)(\text{PPh}_3)_2]$ ". V. Cadierno, S. Conejero, M.P. Gamasa, J. Gimeno, I. Asselberghs, S. Houbrechts, K. Clays, A. Persoons, J. Borge, S. García-Granda. *Organometallics*, **1999**, *18*, 582-597.

13.- "Dendrimers containing zwitterionic [phosphonium anionic zirconocene(IV)] complexes". V. Cadierno, A. Igau, B. Donnadiou, A.M. Caminade, J.P. Majoral. *Organometallics*, **1999**, *18*, 1580-1582.

14.- "Zwitterionic 18-electron d^0 -anionic metallocene complexes". V. Cadierno, M. Zablocka, B. Donnadiou, A. Igau, J.P. Majoral. *Organometallics*, **1999**, *18*, 1882-1886.

15.- "Phosphonioalkynyl indenylruthenium(II) complexes $[\text{Ru}\{\text{C}\equiv\text{CC}(\text{R})\text{H}(\text{PR}_3)\}(\eta^5\text{-C}_9\text{H}_7)(\text{PPh}_3)_2][\text{PF}_6]$ (R = Ph, $\text{PR}_3 = \text{PMe}_3$; R = H, $\text{PR}_3 = \text{PPh}_3$): Suitable precursors of highly unsaturated σ -alkynyl and vinylidene derivatives". V. Cadierno, M.P. Gamasa, J. Gimeno. *J. Chem. Soc., Dalton Trans.*, **1999**, 1857-1866.

16.- "A practical and efficient synthetic route to stable zirconocene-ate zwitterionic complexes". V. Cadierno, M. Zablocka, A. Igau, J.P. Majoral, A. Skowronska. *C. R. Acad. Sci. Paris, t. 2, Série II c.*, **1999**, 229-233.

17.- "Stereochemically controlled synthesis of novel ruthenium(II) complexes containing bis(oxazolin-2'-yl)pyridine ligands. X-ray crystal structures of *trans*- $[\text{RuCl}_2(\text{PPh}_3)\{\kappa^3\text{-}N,N,N\text{-}(S,S)\text{-}^i\text{Pr-pybox}\}]$ and $[\text{RuCl}(\text{C}=\text{C}=\text{CPh}_2)(\text{PPh}_3)\{\kappa^3\text{-}N,N,N\text{-}(S,S)\text{-}^i\text{Pr-pybox}\}][\text{PF}_6]$ ($(S,S)\text{-}^i\text{Pr-pybox} = 2,6\text{-bis}[4'\text{-}(S)\text{-isopropylloxazolin-2'-yl}]\text{pyridine}$ ". V. Cadierno, M.P. Gamasa, J. Gimeno, L. Iglesias, S. García-Granda. *Inorg. Chem.*, **1999**, *38*, 2874-2879.

18.- "A novel route to functionalized terminal alkynes through η^1 -vinylidene to η^2 -alkyne tautomerizations in indenyl-ruthenium(II) monosubstituted vinylidene complexes: Synthetic and theoretical studies". V. Cadierno, M.P. Gamasa, J. Gimeno, E. Pérez-Carreño, S. García-Granda. *Organometallics*, **1999**, *18*, 2821-2832.

19.- "Unusual activation of 1-ethynyl-1-cyclohexanol by $[\text{RuCl}(\eta^5\text{-C}_9\text{H}_7)(\text{PPh}_3)_2]$: Synthesis and reactivity of the allenylidene derivative $[\text{Ru}\{\text{C}=\text{C}=\text{C}(\text{C}_{13}\text{H}_{20})\}(\eta^5\text{-C}_9\text{H}_7)(\text{PPh}_3)_2][\text{PF}_6]$ ". V. Cadierno, M.P. Gamasa, J. Gimeno, E. Lastra. *J. Chem. Soc., Dalton Trans.*, **1999**, 3235-3243.

20.- "Reductive elimination of α -phosphinozirconocene iminoacyl complexes: First evidence of neutral η^1 -imine zirconocene. Synthesis of bi- or tricyclic β -phosphino imines". V. Cadierno, M. Zablocka, B. Donnadiou, A. Igau, J.P. Majoral, A. Skowronska. *J. Am. Chem. Soc.*, **1999**, *121*, 11086-11092.

- 21.- "Five-coordinate organo-zirconocene-ate complexes: Synthesis and reactivity". Y. Miquel, V. Cadierno, B. Donnadieu, A. Igau, J.P. Majoral. *Organometallics*, **2000**, 19, 54-61.
- 22.- "Unexpected formal [1+3] cycloadditions between azides and α -zirconated phosphanes: A route to unprecedented phosphazide and iminophosphorane complexes". V. Cadierno, M. Zablocka, B. Donnadieu, A. Igau, J.P. Majoral, A. Skowronska. *Chem. Eur. J.*, **2000**, 6, 345-352.
- 23.- "Dimerization of terminal alkynes catalyzed by indenyl ruthenium(II) complexes". M. Bassetti, S. Marini, F. Tortorella, V. Cadierno, J. Díez, M.P. Gamasa, J. Gimeno. *J. Organomet. Chem.*, **2000**, 593-594, 292-298. (Invited manuscript for the special issue dedicated to Prof. Fausto Calderazzo on the occasion of his 70th birthday)
- 24.- "Nucleophilic additions of anionic Group 6 carbene complexes on cationic indenyl-ruthenium(II) allenylidene derivatives: An easy entry to bimetallic complexes containing σ -alkynyl-carbene and vinylidene-carbene bridges". V. Cadierno, S. Conejero, M.P. Gamasa, J. Gimeno. *J. Chem. Soc., Dalton Trans.*, **2000**, 451-457.
- 25.- "2H-1,2-Azaphosphindoles-Synthesis and characterization". V. Cadierno, B. Donnadieu, A. Igau, J.P. Majoral. *Eur. J. Inorg. Chem.*, **2000**, 417-421.
- 26.- "Early transition metal α -diazoalkane complexes". V. Cadierno, M. Zablocka, B. Donnadieu, A. Igau, J.P. Majoral. *Angew. Chem. Int. Ed.*, **2000**, 39, 4524-4528 (*Angew. Chem.*, **2000**, 112, 4698-4702).
- 27.- "Intramolecular carbon-carbon coupling reactions of a $\kappa^2(P,P)$ -bis(diphenylphosphino)methanide ligand with unsaturated carbene moieties in indenyl-ruthenium(II) complexes". V. Cadierno, M.P. Gamasa, J. Gimeno, B.M. Martín-Vaca. *J. Organomet. Chem.*, **2001**, 617-618, 261-268. (Invited manuscript for the special issue: Transition metal complexes of carbenes and related species in 2000)
- 28.- "Stereoselective synthesis of chiral terminal (*E*)-1,3-enynes derived from the aldehydes (1*R*)-(-)-myrtenal and (S)-(-)-perillaldehyde using the alkynyl-phosphonio complex $[\text{Ru}\{\text{C}\equiv\text{CCH}_2(\text{PPh}_3)\}(\square\eta^5\text{-C}_9\text{H}_7)(\text{PPh}_3)_2][\text{PF}_6]$ as synthon". V. Cadierno, M.P. Gamasa, J. Gimeno. *J. Organomet. Chem.*, **2001**, 621, 39-45. (Invited manuscript for the special issue dedicated to Prof. Henri Brunner on the occasion of his 65th birthday)
- 29.- "X-H (X = C, N, O, P, S) bond activations induced by β -heterosubstituted zirconaindenes". V. Cadierno, M. Zablocka, B. Donnadieu, A. Igau, J.P. Majoral, A. Skowronska. *Chem. Eur. J.*, **2001**, 7, 221-229.
- 30.- "Reactivity of the bis(allyl)-ruthenium(IV) dimer $[\{\text{Ru}(\eta^3\text{-}\eta^3\text{-C}_{10}\text{H}_{16})(\mu\text{-Cl})\text{Cl}\}_2]$ ($\text{C}_{10}\text{H}_{16}$ = 2,7-dimethylocta-2,6-diene-1,8-diyl) towards dppf (dppf = $[\text{Fe}(\eta^5\text{-C}_5\text{H}_4\text{PPh}_2)_2]$) and dppfO (dppfO = $[\text{Fe}(\eta^5\text{-C}_5\text{H}_4\text{PPh}_2)(\square\eta^5\text{-C}_5\text{H}_4\text{P}(=\text{O})\text{Ph}_2)]$)". V. Cadierno, S.E. García-Garrido, J. Gimeno. *J. Organomet. Chem.*, **2001**, 637-639, 767-771. (Invited manuscript for the special issue: 50th Anniversary of the discovery of ferrocene)
- 31.- "Efficient synthetic routes to terminal γ -keto-alkynes and unsaturated cyclic carbene complexes based on regio- and diastereoselective nucleophilic additions of enolates on ruthenium(II) indenyl

allenylidenes". V. Cadierno, S. Conejero, M.P. Gamasa, J. Gimeno, E. Pérez-Carreño, S. García-Granda. *Organometallics*, **2001**, *20*, 3175-3189.

32.- "Reactivity of indenyl-ruthenium(II) vinylidene complexes: Selective synthesis of alkenyl-phosphonio derivatives *via* nucleophilic addition of triphenylphosphine on their η^2 -alkyne tautomers. Theoretical study of the η^1 -vinylidene- η^2 -alkyne tautomerization". V. Cadierno, M.P. Gamasa, J. Gimeno, C. González-Bernardo, E. Pérez-Carreño, S. García-Granda. *Organometallics*, **2001**, *20*, 5177-5188.

33.- "Activation of propargylic alcohols derived from hormonal steroids by the indenyl-ruthenium(II) complex $[\text{RuCl}(\eta^5\text{-C}_9\text{H}_7)(\text{PPh}_3)_2]$: Experimental and theoretical evidence of an allenylidene-vinylvinylidene equilibrium". V. Cadierno, S. Conejero, M.P. Gamasa, J. Gimeno, M.A. Rodríguez. *Organometallics*, **2002**, *21*, 203-209.

34.- "Ruthenium(II) and ruthenium(IV) complexes containing hemilabile heterodifunctional iminophosphorane-phosphine ligands $\text{Ph}_2\text{PCH}_2\text{P}(=\text{NR})\text{Ph}_2$ ". V. Cadierno, J. Díez, S.E. García-Garrido, S. García-Granda, J. Gimeno. *J. Chem. Soc., Dalton Trans.*, **2002**, 1465-1472.

35.- "Preparation of zwitterionic 18-electron- d^0 -anionic-metallocene complexes induced by β -heterosubstituted azazirconaindenes". V. Cadierno, M. Zablocka, B. Donnadieu, A. Igau, J.P. Majoral. *Organometallics*, **2002**, *21*, 3215-3220.

36.- "In search of optically active γ -keto acetylenes *via* regioselective coupling of allenylidene groups and cyclic enolates". V. Cadierno, S. Conejero, M.P. Gamasa, J. Gimeno, L.R. Falvello, R.M. Llusar. *Organometallics*, **2002**, *21*, 3716-3726.

37.- "Easy entry to terminal 1,5- and 1,6-enynes from (indenyl)ruthenium(II) allenylidenes and Grignard reagents". V. Cadierno, S. Conejero, M.P. Gamasa, J. Gimeno. *Organometallics*, **2002**, *21*, 3837-3840.

38.- "Iminophosphine palladium complexes in catalytic Stille coupling reactions: From monomers to dendrimers". M. Koprowski, R.M. Sebastián, V. Maraval, M. Zablocka, V. Cadierno, B. Donnadieu, A. Igau, A.M. Caminade, J.P. Majoral. *Organometallics*, **2002**, *21*, 4680-4687.

39.- "Neutral and cationic (η^6 -arene)-ruthenium(II) complexes containing the iminophosphorane-phosphine ligand $\text{Ph}_2\text{PCH}_2\text{P}(=\text{N-}p\text{-C}_5\text{F}_4\text{N})\text{Ph}_2$: Influence of the arene ring in catalytic transfer hydrogenation of cyclohexanone". V. Cadierno, P. Crochet, J. García-Álvarez, S.E. García-Garrido, J. Gimeno. *J. Organomet. Chem.*, **2002**, *663*, 32-39. (Invited manuscript for the special issue dedicated to Prof. Pascual Royo)

40.- "Reactivity of the dimer $[\{\text{Ru}(\eta^3\text{-}\eta^3\text{-C}_{10}\text{H}_{16})(\mu\text{-Cl})\text{Cl}\}_2]$ towards diphosphines and diphosphine-monoxides: Synthesis and characterization of novel (2,7-dimethylocta-2,6-diene-1,8-diyl)-ruthenium(IV) complexes". V. Cadierno, S.E. García-Garrido, J. Gimeno. *Inorg. Chim. Acta*, **2003**, *347*, 41-48. (Invited manuscript for the special issue dedicated to Prof. Rafael Usón)

41.- "Synthesis of indenyl-ruthenium(II) σ -alkynyl complexes *via* nucleophilic addition of (1*R*)-(+)- and (1*S*)-(-)-camphor enolates on the allenylidene group of $[\text{Ru}(=\text{C}=\text{C}=\text{CPh}_2)(\eta^5\text{-C}_9\text{H}_7)(\text{PPh}_3)_2][\text{PF}_6]$: Efficient synthesis of novel optically pure vinylidene derivatives". V. Cadierno, M.P. Gamasa, J. Gimeno, E. Pérez-

Carreño, S. García-Granda. *J. Organomet. Chem.*, **2003**, 670, 75-83. (Invited manuscript for the special issue: Recent developments in metal alkynyl organometallic chemistry)

42.- "Unexpected coupling between an η^5 -indenyl ligand and alkenyl-vinylidene fragments: Synthesis of unprecedented (η^6 -indene)-ruthenium(II) metallacycles". V. Cadierno, S. Conejero, J. Díez, M.P. Gamasa, J. Gimeno, S. García-Granda. *Chem. Commun.*, **2003**, 840-841.

43.- "Ruthenium(II) and ruthenium(IV) complexes containing κ^1 -P-, κ^2 -P,O- and κ^3 -P,N,O- iminophosphorane-phosphine ligands $\text{Ph}_2\text{PCH}_2\text{P}(\text{=NP(=O)(OR)}_2)\text{Ph}_2$ (R = Et, Ph): Synthesis, reactivity, theoretical studies, and catalytic activity in transfer hydrogenation of cyclohexanone". V. Cadierno, P. Crochet, J. Díez, J. García-Álvarez, S.E. García-Garrido, J. Gimeno, S. García-Granda, M.A. Rodríguez. *Inorg. Chem.*, **2003**, 42, 3293-3307.

44.- "Zircona-phosphazine complexes: synthesis and X-ray determination". V. Cadierno, M. Zablocka, B. Donnadieu, A. Igau, J.P. Majoral. *New J. Chem.*, **2003**, 27, 675-679.

45.- "Indenyl-ruthenium(II) allenylidene complexes containing terpenic substituents as precursors of optically active terminal alkynes: Scope and limitations". V. Cadierno, S. Conejero, M.P. Gamasa, J. Gimeno. *Dalton Trans.*, **2003**, 3060-3066.

46.- "Synthesis, reactivity and catalytic activity in transfer hydrogenation of ketones of ruthenium(II) and ruthenium(IV) complexes containing the novel N-thiophosphorylated iminophosphorane-phosphine ligands $\text{Ph}_2\text{PCH}_2\text{P}(\text{=NP(=S)(OR)}_2)\text{Ph}_2$ (R = Et, Ph)". V. Cadierno, P. Crochet, J. Díez, J. García-Álvarez, S.E. García-Garrido, S. García-Granda, J. Gimeno, M.A. Rodríguez. *Dalton Trans.*, **2003**, 3240-3249.

47.- "An easy entry to dimers $[\{\text{RuX}(\mu\text{-X})(\text{CO})(\text{P}^{\wedge}\text{P})\}_2]$ (X = Cl, Br; $\text{P}^{\wedge}\text{P}$ = 1,1'-bis(diphenylphosphino)ferrocene, 1,1'-bis(diisopropylphosphino)ferrocene) from η^3 -allylruthenium(II) derivatives $[\text{RuX}(\eta^3\text{-2-C}_3\text{H}_4\text{R})(\text{CO})(\text{P}^{\wedge}\text{P})]$ (R = H, Me): Efficient catalyst precursors in transfer hydrogenation of ketones". V. Cadierno, P. Crochet, J. Díez, S.E. García-Garrido, J. Gimeno, S. García-Granda. *Organometallics*, **2003**, 22, 5226-5234.

48.- "Dichloro(dodeca-2,6,10-triene-1,12-diyl)ruthenium(IV): A highly efficient catalyst for the isomerization of allylic alcohols into carbonyl compounds in organic and aqueous media". V. Cadierno, S.E. García-Garrido, J. Gimeno. *Chem. Commun.*, **2004**, 232-233. Featured as a "Hot Article". This paper has been highlighted in *Chemistry World* (January 2004), *Process Engineering* (February 2004) and *Anales de Química* (July-September 2004).

49.- "Bis(iminophosphorano)methane derivatives as precursors of unusual ruthenium carbene complexes: A synthetic and DFT study". V. Cadierno, J. Díez, J. García-Álvarez, J. Gimeno, M.J. Calhorda, L.F. Veiros. *Organometallics*, **2004**, 23, 2421-2433.

50.- "Investigation in the coupling of zirconocene complexes and trimethylsilyl(diphenylphosphino)acetylene. P-C bond cleavage chemistry from protonolysis reactions". Y. El Harouch, V. Cadierno, A. Igau, B. Donnadieu, J.P. Majoral. *J. Organomet. Chem.*, **2004**, 689, 953-964.

51.- "Base-assisted cyclometalation and phosphorus-carbon bond cleavage in (arene)ruthenium(II) complexes containing functionalized iminophosphorane-phosphine ligands $\text{Ph}_2\text{PCH}_2\text{P}(\text{=NP(=X)(OR)}_2)\text{Ph}_2$

(X = O, S; R = Et, Ph)". V. Cadierno, J. Díez, J. García-Álvarez, J. Gimeno. *Organometallics*, **2004**, *23*, 3425-3436.

52.- "A new class of tethered-arene ruthenium(II) complexes with pendant P and C donor atoms: Synthesis of $\eta^6:\eta^1:\eta^1$ phosphonio-azabutadienyl ruthenabicycles via allenylidene intermediates". V. Cadierno, J. Díez, J. García-Álvarez, J. Gimeno. *Chem. Commun.*, **2004**, 1820-1821.

53.- "Efficient transfer hydrogenation of ketones catalyzed by the bis(isocyanide)-ruthenium(II) complexes *trans,cis,cis*-[RuX₂(CNR)₂(dppf)] (X = Cl, Br; dppf = 1,1'-bis(diphenylphosphino)ferrocene): Isolation of active mono- and dihydride intermediates". V. Cadierno, P. Crochet, J. Díez, S.E. García-Garrido, J. Gimeno. *Organometallics*, **2004**, *23*, 4836-4845.

54.- "[Ru(η^3 -2-C₃H₄Me)(CO)(dppf)][SbF₆]: A mononuclear 16e⁻ ruthenium(II) catalyst for propargylic substitution and isomerization of HC≡CPh₂(OH)". V. Cadierno, J. Díez, S.E. García-Garrido, J. Gimeno. *Chem. Commun.*, **2004**, 2716-2717.

55.- "Water-soluble ruthenium(II) catalysts [RuCl₂(η^6 -arene){P(CH₂OH)₃}] for isomerization of allylic alcohols and alkyne hydration". V. Cadierno, P. Crochet, S.E. García-Garrido, J. Gimeno. *Dalton Trans.*, **2004**, 3635-3641.

56.- "Novel (η^6 -arene)-ruthenium(II) complexes containing bis(iminophosphorano)methanide and methandiide ligands". V. Cadierno, J. Díez, J. García-Álvarez, J. Gimeno. *J. Organomet. Chem.*, **2005**, *690*, 2087-2096. (Invited manuscript for the special issue: Nitrogen ligands in organometallic chemistry and homogeneous catalysis)

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- 3.- "Benzynes-zirconocene reagents as tools in phosphorus chemistry". J.P. Majoral, A. Igau, V. Cadierno, M. Zablocka. *Top. Curr. Chem.*, **2002**, 220, 53-77.
- 4.- "Synthesis and reactivity of α,β -unsaturated alkylidene and cumulenyliene Group 8 half-sandwich complexes". V. Cadierno, M.P. Gamasa, J. Gimeno. *Coord. Chem. Rev.*, **2004**, 248, 1627-1657.
- 5.- "Bis(allyl)-ruthenium(IV) complexes: Promising precursors for catalytic organic synthesis". V. Cadierno, P. Crochet, S.E. García-Garrido, J. Gimeno. *Curr. Org. Chem.*, **2006**, 10, 165-183.
- 6.- "Ruthenium-catalyzed isomerization of allylic and propargylic alcohols in aqueous and organic media: Applications in synthesis". V. Cadierno, P. Crochet, J. Gimeno. *Synlett*, **2008**, 1105-1124.
- 7.- "Ruthenium-catalyzed furan- and pyrrole-ring formation". V. Cadierno, P. Crochet. *Curr. Org. Synth.*, **2008**, 5, 343-364.

- 8.- "Allenylidene and higher cumulenyldiene complexes". V. Cadierno, J. Gimeno. *Chem. Rev.*, **2009**, *109*, 3512-3560.
- 9.- "Atom-economic transformations of propargylic alcohols catalyzed by the 16-electron allyl-ruthenium(II) complex $[\text{Ru}(\eta^3\text{-2-C}_3\text{H}_4\text{Me})(\text{CO})(\text{dppf})][\text{SbF}_6]$ (dppf = 1,1'-bis(diphenylphosphino)ferrocene)". V. Cadierno, S.E. García-Garrido, J. Gimeno, N. Nebra. *Inorg. Chim. Acta*, **2010**, *363*, 1912-1934.
- 10.- "Metal-catalyzed transformations of propargylic alcohols into α,β -unsaturated carbonyl compounds: From the Meyer-Schuster and Rupe rearrangements to redox isomerization". V. Cadierno, P. Crochet, S.E. García-Garrido, J. Gimeno. *Dalton Trans.*, **2010**, *39*, 4015-4031.
- 11.- "All-carbon-substituted allenylidene and related cumulenyldiene ligands". V. Cadierno, S.E. García-Garrido. *Top. Organomet. Chem.*, **2010**, *30*, 151-218.
- 12.- "Heteroatom-conjugated allenylidene and related cumulenyldiene ligands". V. Cadierno, S.E. García-Garrido. *Top. Organomet. Chem.*, **2010**, *30*, 219-252.
- 13.- "Glycerol and derived solvents: New sustainable reaction media for organic synthesis". A.E. Díaz-Álvarez, J. Francos, B. Lastra-Barreira, P. Crochet, V. Cadierno. *Chem. Commun.*, **2011**, *47*, 6208-6227.
- 14.- "Patented routes for the preparation of the morphinan derivatives hydromorphone and hydrocodone via catalytic isomerization". A.E. Díaz-Álvarez, V. Cadierno. *Recent Patents Catal.*, **2012**, *1*, 43-50.
- 15.- "Metal-catalyzed isomerization of allylic and propargylic alcohols in aqueous media". J. García-Álvarez, S.E. García-Garrido, P. Crochet, V. Cadierno. *Curr. Top. Catal.*, **2012**, *10*, 35-56.
- 16.- "Metal-catalyzed amide bond forming reactions in environmentally friendly aqueous medium: Nitrile hydrations and beyond". R. García-Álvarez, P. Crochet, V. Cadierno. *Green Chem.*, **2013**, *15*, 46-66.
- 17.- "Glycerol: A promising green solvent and reducing agent for metal-catalyzed transfer hydrogenation reactions and nanoparticles formation". A.E. Díaz-Álvarez, V. Cadierno. *Appl. Sci.*, **2013**, *3*, 55-59.
- 18.- "Recent advances in the use of glycerol as green solvent for synthetic organic chemistry". A.E. Díaz-Álvarez, J. Francos, P. Crochet, V. Cadierno. *Curr. Green Chem.*, **2014**, *1*, 51-65.
- 19.- "Iminophosphorane-phosphines: Versatile ligands for homogeneous catalysis". J. García-Álvarez, S.E. García-Garrido, V. Cadierno. *J. Organomet. Chem.*, **2014**, *751*, 792-808.
- 20.- "Book review: Sustainable Catalysis. Challenges and Practices for the Pharmaceutical and Fine Chemical Industries. Edited by Peter J. Dunn, K.K. (Mimi) Hii, Michael J. Krische and Michael T. Williams (John Wiley & Sons, Hoboken, 2013. ISBN 978-1118155424)". V. Cadierno. *Angew. Chem. Int. Ed.*, **2014**, *53*, 7398-7399.
- 21.- "Metal-catalyzed nitrile hydration reactions: The specific contribution of ruthenium". R. García-Álvarez, J. Francos, E. Tomás-Mendivil, P. Crochet, V. Cadierno. *J. Organomet. Chem.*, **2014**, *771*, 93-104.

- 22.- "Ruthenium-catalyzed amide-bond formation". P. Crochet, V. Cadierno. *Top. Organomet. Chem.*, **2014**, *48*, 81-118.
- 23.- "Arene-ruthenium(II) complexes with hydrophilic *P*-donor ligands: Versatile catalysts in aqueous media". P. Crochet, V. Cadierno, *Dalton Trans.*, **2014**, *43*, 12447-12462.
- 24.- "Catalytic synthesis of amides via aldoximes rearrangement". P. Crochet, V. Cadierno, *Chem. Commun.*, **2015**, *51*, 2495-2505.
- 25.- "Synthetic applications of the Parkins nitrile hydration catalyst [PtH{(PMe₂O)₂H}(PMe₂OH)]: A review". V. Cadierno. *Appl. Sci.*, **2015**, *5*, 380-401.
- 26.- "Aplicaciones en catálisis homogénea de derivados bis(alilo) de rutenio(IV)". J. Francos, V. Cadierno. *An. Quím.*, **2016**, *112*, 24-34.
- 27.- "Water-tolerant bis(allyl)-ruthenium(IV) catalysts: An account of their applications". J. Francos, S.E. García-Garrido, J. García-Álvarez, P. Crochet, J. Gimeno, V. Cadierno. *Inorg. Chim. Acta*, **2016**, in press.

Book Chapters

- 1.- "Mononuclear Ru/Os compounds with cyclic C₅-C₆ ligands (except compounds containing monohapto ligands)". V. Cadierno, P. Crochet, J. Gimeno. In *Comprehensive Organometallic Chemistry III*; R.H. Crabtree & D.M.P. Mingos Eds.; Elsevier, Oxford: U. K.; **2006**, Vol. 6, Chapter 6.14, 465-550.
- 2.- "Mononuclear Ru/Os compounds with η^1 and cyclic C₅-C₆ ligands". V. Cadierno, J. Gimeno. In *Comprehensive Organometallic Chemistry III*; R.H. Crabtree & D.M.P. Mingos Eds.; Elsevier, Oxford: U. K.; **2006**, Vol. 6, Chapter 6.15, 551-628.
- 3.- "Half-sandwich ruthenium complexes containing water-soluble phosphine ligands: Catalytic applications". V. Cadierno, P. Crochet. In *Advances in Organometallic Chemistry Research*; K. Yamamoto Ed.; Nova Science Publishers, New York: USA; **2007**, 37-65.
- 4.- "Preparation and stoichiometric reactivity of metal allenylidene complexes". V. Cadierno, P. Crochet, J. Gimeno. In *Metal Vinylidenes and Allenylidenes in Catalysis: From Reactivity to Applications in Synthesis*; C. Bruneau & P.H. Dixneuf Eds.; Wiley-VCH, Weinheim: Germany; **2008**, 61-98.
- 5.- "Alkyne cyclotrimerizations in environmentally benign media: Current state of the art". V. Cadierno, P. Crochet, S.E. García-Garrido. In *Green Chemistry Research Trends*; J.T. Pearlman Ed.; Nova Science Publishers, New York: USA; **2009**, 97-130.
- 6.- "Metal-catalyzed reactions in water under MW irradiation". V. Cadierno, P. Crochet, S.E. García-Garrido. In *Aqueous Microwave Assisted Chemistry: Synthesis and Catalysis*; V. Polshettiwar & R.S. Varma Eds.; RSC Publishing, Cambridge: UK; **2010**, 10-54.

- 7.- "Ruthenium complexes containing iminophosphorane ligands: Synthesis, structure, reactivity and applications". V. Cadierno, J. García-Álvarez. In *Ruthenium: Properties, Production and Applications*; D.B. Watson Ed.; Nova Science Publishers, New York: USA; **2011**, 189-220.
- 8.- "Alkyne cyclotrimerizations in environmentally benign media: Current state of the art". V. Cadierno, P. Crochet, S.E. García-Garrido. In *Encyclopedia of Chemistry Research*; G.R. Newmann & A.P. Albertis Eds.; Nova Science Publishers, New York: USA; **2012**, 405-438.
- 9.- "Ruthenium-catalyzed nitrile hydration reactions using glycerol as solvent". A.E. Díaz-Álvarez, R. García-Álvarez, P. Crochet, V. Cadierno. In *Glycerol: Production, Structure and Applications*; M. de Santos Silva & P. Costa Ferreira Eds.; Nova Science Publishers, New York: USA; **2012**, 249-261.
- 10.- "Ruthenium-catalyzed furan- and pyrrole-ring formation". V. Cadierno, P. Crochet. In *Advances in Organic Synthesis*; Atta-ur-Rahman Ed.; Bentham Science Publishers, Sharjah: UAE; **2013**, Vol. 3, 36-80.
- 11.- "Catalytic rearrangements and allylation reactions in water". V. Cadierno, J. García-Álvarez, S.E. García-Garrido. In *Metal-Catalyzed Reactions in Water*; P.H. Dixneuf & V. Cadierno Eds.; Wiley-VCH, Weinheim: Germany; **2013**, 243-289.
- 12.- "Nanocatalysts for rearrangement reactions". J. García-Álvarez, S.E. García-Garrido, V. Cadierno. In *Nanocatalysis: Synthesis and Applications*; V. Polshettiwar & T. Asefa Eds.; John Wiley & Sons, Hoboken: USA; **2013**, 251-285.
- 13.- "Metal-catalyzed routes for the synthesis of furocoumarins and coumestans". V. Cadierno. In *Green Synthetic Approaches for Biologically Relevant Heterocycles*; G. Brahmachari Ed.; Elsevier, Oxford: U.K.; **2015**, 77-100.

Proceedings

- 1.- "Novel organometallic materials for nonlinear optics: metal σ -arylacetylides". S. Houbrechts, K. Clays, A. Persoons, V. Cadierno, M.P. Gamasa, J. Gimeno, I.R. Whittall, M. G. Humphrey. *Proc. SPIE-Int. Soc. Opt. Eng.*, **1996**, 2852, 98-108. (The International Society for Optical Engineering (SPIE) Annual Meeting. August 1996, Denver, USA)
- 2.- "Phosphorus compounds for the formation of unprecedented anionic zirconium complexes". A. Igau, Y. Miquel, V. Cadierno, J.P. Majoral. *Phosphorus, Sulfur and Silicon*, **1999**, 144-146, 585-588. (XIVth International Conference on Phosphorus Chemistry. July 1998, Cincinnati, USA)
- 3.- " α -Phosphino-imine ligand design". M. Zablocka, A. Igau, V. Cadierno, M. Koprowski, J.P. Majoral. *Phosphorus, Sulfur and Silicon*, **2002**, 177, 1965. (XVth International Conference on Phosphorus Chemistry. August 2001, Sendai, Japan)
- 4.- "In search of asymmetric propargylic substitution reactions mediated by optically active indenyl-ruthenium(II) allenylidene complexes". V. Cadierno, S. Conejero, M.P. Gamasa, J. Gimeno. *Perspectives*

in *Organometallic Chemistry* (Eds. C. G. Screttas & B. R. Steele; RSC Editions), **2003**, 285-296. (20th International Conference on Organometallic Chemistry, July 2002, Corfu, Greece)

Patents

1.- "Method for the enantioselective synthesis of chiral esters, product obtained and use". A. Pizzano, P. Kleman, V. Cadierno, S.E. García-Garrido, P.J. González-Liste. *PCT Int. Appl.* WO/2014/202816 A1.

Research Presentations

Invited talks at Meetings and Chemistry Departments

1.- Invited Speaker, Laboratoire de Chimie de Coordination (CNRS), Toulouse (France), June 14 (2004), "Complexes iminophosphorane de ruthenium: processus de rupture de liaisons P-C et de couplage C-C".

2.- Invited Lecture, 8th FIGIPAS Meeting in Inorganic Chemistry, Athens (Greece), July 6-9 (2005), "Stoichiometric and catalytic activation of propargylic alcohols by mononuclear allyl-ruthenium(II) complexes".

3.- Invited Speaker, Laboratoire Hétérochimie Fondamentale et Appliquée (Université Paul Sabatier), Toulouse (France), January 22 (2007), "Réactions organiques catalysées par le ruthénium: Processus "tandem" et chimie dans l'eau".

4.- Plenary Lecture, 10th FIGIPAS Meeting in Inorganic Chemistry, Palermo (Italy), July 1-4 (2009), "Ruthenium-catalyzed formation and functionalization of five-membered heterocycles".

5.- Invited Lecture, XXXII Reunión Bienal de la Real Sociedad Española de Química, Oviedo (Spain), September 13-18 (2009), "Procesos catalíticos en medio acuoso promovidos por complejos organometálicos de rutenio: Algunos ejemplos de interés en síntesis orgánica".

6.- Invited Speaker, Centro de Innovación en Química y Materiales Avanzados (CINQUIMA), Valladolid (Spain), December 10 (2010), "Isomerizaciones de alquenos y alquinos funcionalizados: Reacciones en disolventes alternativos y procesos tandem".

7.- Invited Speaker, Facultad de Ciencias de la Universidad de Zaragoza, Zaragoza (Spain), May 18 (2011), "Nuevos procesos tandem basados en reacciones de isomerización de alquenos y alquinos funcionalizados".

8.- Invited Speaker, Laboratoire de Catalyse et Organométalliques (Université de Rennes 1), Rennes (France), September 22 (2011), "Catalytic hydration of nitriles in aqueous media using ruthenium complexes".

9.- Invited Lecture, QUIMIUNAM 2012, México DF (México), November 14-15 (2012), "Complejos bis(alilo) de rutenio(IV): Aplicaciones en catálisis".

10.- Invited Lecture, QUIMIUNAM 2012, México DF (México), November 14-15 (2012), "Procesos catalíticos para la formación de amidas".

11.- Plenary Lecture, 9th International School of Organometallic Chemistry, Camerino (Italy), August 30-September 3 (2013), "Metal-catalyzed amide bond forming reaction in water: Nitrile hydrations and beyond".

12.-Invited Speaker, Facultad de Ciencias Químicas y Farmacéuticas de la Universidad de Chile, Santiago de Chile (Chile), November 11 (2013), "Catalizadores de rutenio para la hidratación selectiva de nitrilos en amidas en agua".

13.- Invited Lecture, 2nd International Green Catalysis Symposium, Rennes (France), April 2-4 (2014), "Organometallic ruthenium and gold complexes for catalytic transformations in water".

14.- Invited Speaker, Instituto de Síntesis Química y Catálisis Homogénea (ISQCH), Zaragoza (Spain), April 11 (2014), "Catalysis in eco-friendly solvents: Some examples of efficient transformations in water and glycerol".

15.- Plenary Lecture, XV Encuentro de Química Inorgánica – Sociedad Chilena de Química, Catillo (Chile), December 10-12 (2014), "Catalysis in water with organometallic complexes: Examples of competitive processes in organic synthesis".

16.- Invited Lecture, Workshop "Metals, water and sun", Almería (Spain), May 21-22 (2015), "Catalytic transformations in aqueous media: Some examples employing organometallic ruthenium and gold complexes".

17.-Invited Speaker, Center for Research and Advanced Studies (CINVESTAV), Saltillo (México), September 19 (2015), "Selective transformations of alkenes and alkynes employing allyl-ruthenium(IV) complexes as catalysts".

18.- Invited Lecture, VII Encuentro de Química Inorgánica (EQI-2015), Saltillo (México), September 22-25 (2015), "Aqueous organometallic catalysis: Examples of selective transformations of alkynes, nitriles and oximes".

Other presentations

1.- Xth FEChem Conference on Organometallic Chemistry (Crete, Greece, September 1993). "Reactions of $[\text{Ru}(\eta^5\text{-C}_9\text{H}_7)\text{ClL}_2]$ with 2-propyn-1-ol derivatives: Synthesis of alkenyl-vinylidene and allenylidene complexes". Poster presentation.

2.- Latin-American Inorganic Chemistry Meeting (Santiago de Compostela, Spain, September 1993). "Reactions of $[\text{Ru}(\eta^5\text{-C}_9\text{H}_7)\text{ClL}_2]$ with 2-propyn-1-ol derivatives: Synthesis of alkenyl-vinylidene and allenylidene complexes". Poster presentation.

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- 3.- XVIth International Conference on Organometallic Chemistry (Brighton, U.K., July 1994). "Activation of propargylic alcohols by indenyl-ruthenium complexes. Access to novel allenylidene and vinyl-vinylidene ruthenium complexes". Poster presentation.
 - 4.- Selective Processes and Catalysis Involving Small Molecules (Rennes, France, September 1994). "Synthesis of novel mixed ruthenium alkynyl-group 6 metal Fischer carbene dinuclear complexes". Poster presentation.
 - 5.- XV Reunión del Grupo Especializado de Química Organometálica (Sevilla, Spain, September 1995). "Complejos alenilideno de rutenio(II) como precursores de sistemas alquinilo funcionalizados". Poster presentation.
 - 6.- VIth International Conference on "The Chemistry of the Platinum Group Metals" (York, U.K., July 1996). "Novel alkynyl ruthenium(II) complexes with large second-order nonlinear optics (NLO) properties". Poster presentation.
 - 7.- 1996 European Quantum Electronics Conference (EQEC'96; Hamburg, Germany, September 1996). "Large second-order nonlinear optical properties of organometallic ruthenium σ -arylacetylide complexes". Poster presentation.
 - 8.- XIIth FECHEM Conference on Organometallic Chemistry (Prague, Czech Republic, September 1997). "Pauson-Khand reactions between functionalized σ -alkynyl ruthenium(II) complexes and alkenes". Poster presentation.
 - 9.- XIth International Symposium on Homogeneous Catalysis (St. Andrews, Scotland, July 1998). "Dimerization of terminal alkynes catalyzed by indenyl ruthenium(II) complexes". Poster presentation.
 - 10.- XVII Reunión del Grupo Especializado de Química Organometálica (Barcelona, Spain, July 1998). "Dimerización de alquinos terminales catalizada por complejos de rutenio(II)". Poster presentation.
 - 11.- 8^{ème} Journée Chimie Grand Sud-Ouest; Société Française de Chimie (Pau, France, November 1998). "Synthèse de complexes anioniques pentavalents stables du zirconium(IV)". Poster presentation.
 - 12.- 10th IUPAC Symposium on Organo-Metallic Chemistry directed towards Organic Synthesis (Versailles, France, July 1999). "New complexes in group 4 chemistry: Stable five-coordinate anionic metallocene complexes". Poster presentation.
 - 13.- 7th European Symposium on Organic Reactivity (Ulm, Germany, August 1999). "Cycloaddition reactions involving zirconocene(IV) complexes; species isolobal to organic carbenium ions". Poster presentation.
 - 14.- 7th European Symposium on Organic Reactivity (Ulm, Germany, August 1999). "Zirconium reagents as tools in phosphoorganic chemistry". Poster presentation.
 - 15.- 2nd International School of Organometallic Chemistry (Camerino, Italy, September 1999). "Regioselective nucleophilic additions of anionic Fischer type carbene species to allenylidene complexes". Poster presentation.

- 16.- XIX Reunión del Grupo Especializado de Química Organometálica (Valladolid, Spain, July 2000). "Adiciones regio- y diastereoselectivas de enolatos de litio en complejos alenilideno de rutenio(II): Síntesis de alquinos terminales funcionalizados". Poster presentation.
- 17.- XIX Reunión del Grupo Especializado de Química Organometálica (Valladolid, Spain, July 2000). "Iminofosfinas, aminofosfinas e iminofosforanos: Coordinación a un centro rutenio". Poster presentation.
- 18.- 3rd International School of Organometallic Chemistry (Camerino, Italy, September 2001). "Reactivity of the bis(allyl)-ruthenium(IV) dimer $[\{\text{Ru}(\eta^3\text{-C}_{10}\text{H}_{16})(\mu\text{-Cl})\text{Cl}\}_2]$ ($\text{C}_{10}\text{H}_{16}$ = 2,7-dimethylocta-2,6-diene-1,8-diyl) towards diphosphines and heterodifunctional phosphorus-oxygen and phosphorus-nitrogen ligands". Poster presentation.
- 19.- XX Reunión del Grupo Especializado de Química Organometálica (San Sebastián, Spain, July 2002). "Síntesis, reactividad y actividad catalítica de complejos de rutenio conteniendo ligandos de tipo fosfina-fosfinimina". Poster presentation.
- 20.- XX Reunión del Grupo Especializado de Química Organometálica (San Sebastián, Spain, July 2002). "Diseño de nuevos ligandos hemilábiles [P,N,O]- y [P,N,S]-dadores: Estudio de su coordinación en fragmentos de rutenio(II) y rutenio(IV)". Poster presentation.
- 21.- 13th International Symposium on Homogeneous Catalysis (Tarragona, Spain, September 2002). "Rhodium and iridium complexes containing optically active C_2 -symmetric bis(sulfoximine) ligands". Poster presentation.
- 22.- 13th International Symposium on Homogeneous Catalysis (Tarragona, Spain, September 2002). " $(\eta^6\text{-arene})$ -ruthenium(II) complexes containing iminophosphorane-phosphine and imino-phosphine ligands: Synthesis, reactivity and catalytic activity in transfer hydrogenation of ketones". Poster presentation.
- 23.- XXIX Reunión Bienal de la Real Sociedad Española de Química (Madrid, Spain, July 2003). "Estudio de la coordinación de ligandos bis(iminofosforano)metanuro en un fragmento $(\eta^6\text{-areno})$ -rutenio(II)". Oral presentation (Victorio Cadierno).
- 24.- XXIX Reunión Bienal de la Real Sociedad Española de Química (Madrid, Spain, July 2003). " $[\{\text{Ru}(\eta^3\text{-}\eta^3\text{-C}_{10}\text{H}_{16})(\mu\text{-Cl})\text{Cl}\}_2]$ ($\text{C}_{10}\text{H}_{16}$ = 2,7-dimetilocta-2,6-dien-1,8-diilo): Un catalizador eficiente para la isomerización de alcoholes alílicos en medio acuoso". Poster presentation.
- 25.- 4th International School of Organometallic Chemistry (Camerino, Italy, September 2003). "Unprecedented ruthenium(II)-carbene complexes from bis(iminofosforano)methanediides". Poster presentation.
- 26.- Dalton Discussion 6: Organometallic Chemistry and Catalysis (York, U.K., September 2003). "Unprecedented ruthenium(II)-carbene complexes from bis(iminofosforano)methanediides". Poster presentation.
- 27.- GECOM-CONCOORD 2004 (Bayonne, France, June 2004). "Transfert d'hydrogène à cétones catalysée par des complexes bis(isocyanure) de ruthénium(II)". Poster presentation.

- 28.- GECOM-CONCOORD 2004 (Bayonne, France, June 2004). "Isomérisation dans l'eau d'alcools allyliques en produits carbonylés catalysée par des complexes bis(allyl)-ruthénium(IV)". Poster presentation.
- 29.- GECOM-CONCOORD 2004 (Bayonne, France, June 2004). "Couplages carbone-carbone en chimie de zirconium: effets des groupements silyles et phosphinos". Poster presentation.
- 30.- XXII Reunión del Grupo Especializado de Química Organometálica (Ciudad Real, Spain, July 2004). "Transferencia de hidrógeno a cetonas catalizada por los complejos bis(isocianuro) de rutenio(II) *trans,cis,cis*-[RuX₂(CNR)₂(dppf)]". Poster presentation.
- 31.- XXII Reunión del Grupo Especializado de Química Organometálica (Ciudad Real, Spain, July 2004). "Reacciones de acoplamiento carbono-carbono promovidas por complejos carbeno de rutenio(II) derivados de bis(iminofosforanos)". Poster presentation.
- 32.- 14th International Symposium on Homogeneous Catalysis (Munich, Germany, July 2004). "Synthesis, reactivity and catalytic activity in propargylic substitution reactions of the 16e⁻ derivative [Ru(η³-2-C₃H₄Me)(CO)(dppf)][SbF₆]⁻". Poster presentation.
- 33.- 14th International Symposium on Homogeneous Catalysis (Munich, Germany, July 2004). "New chiral imino-phosphine ruthenium(II) complexes for catalytic Diels-Alder reactions". Poster presentation.
- 34.- XVI FECEM Conference on Organometallic Chemistry (Budapest, Hungary, September 2005). "Efficient procedure for the deprotection of *N*-allylic substrates catalyzed by Ru(IV) complexes in water". Poster presentation.
- 35.- XXX Reunión Bienal de la Real Sociedad Española de Química (Lugo, Spain, September 2005). "Una metodología sintética eficiente para la desprotección de *N*-alil aminas utilizando catalizadores de Ru(IV) en agua". Poster presentation.
- 36.- XXX Reunión Bienal de la Real Sociedad Española de Química (Lugo, Spain, September 2005). "[Ru(η³-2-C₃H₄Me)(CO)(dppf)][SbF₆]: Un catalizador eficiente para la isomerización de alcoholes propargílicos en compuestos carbonílicos α,β-insaturados". Poster presentation.
- 37.- XXII International Conference on Organometallic Chemistry-ICOMC 2006 (Zaragoza, Spain, July 2006). "Efficient reduction of allylic alcohols in organic and aqueous media: A tandem isomerization/transfer hydrogenation process catalyzed by ruthenium(IV) complexes". Poster presentation.
- 38.- XXII International Conference on Organometallic Chemistry-ICOMC 2006 (Zaragoza, Spain, July 2006). "Efficient access to conjugated dienones from propargylic alcohols and enolizable ketones: A tandem isomerization/aldol condensation process catalyzed by ruthenium(II) complexes". Poster presentation.
- 39.- XXII International Conference on Organometallic Chemistry-ICOMC 2006 (Zaragoza, Spain, July 2006). "Imination reactions of free and coordinated 2-diphenylphosphino-1-phenyl-phospholane: Access

to regioisomeric ruthenium(II) complexes containing novel iminophosphorane-phosphine ligands". Poster presentation.

40.- XXII International Conference on Organometallic Chemistry-ICOMC 2006 (Zaragoza, Spain, July 2006). "Water-soluble groups 8-9 metal complexes containing a trihydrazinophosphaadamantane: Efficient catalysts for cycloisomerizations of (*Z*)-enynols in aqueous medium". Poster presentation.

41.- XV Jornadas Hispano-Francesas de Química Orgánica JFECO XV (Boussens, France, June 2008). "Nuevas vías de acceso a furanos y pirroles a partir de alcoholes propargílicos". Oral presentation (Victorio Cadierno).

42.- XXIII International Conference on Organometallic Chemistry-ICOMC 2008 (Rennes, France, July 2008). "One-pot three-component catalytic synthesis of fully substituted pyrroles from readily available propargylic alcohols, 1,3-dicarbonyl compounds and primary amines". Poster presentation.

43.- XXIII International Conference on Organometallic Chemistry-ICOMC 2008 (Rennes, France, July 2008). "The ruthenium(IV) dimer $[\{Ru(\eta^3\text{-}C_{10}H_{16})(\mu\text{-Cl})Cl\}_2]$ ($C_{10}H_{16}$ = 2,7-dimethylocta-2,6-diene-1,8-diyl): A promising precursor for catalytic organic synthesis in aqueous media". Poster presentation.

44.- XXIII International Conference on Organometallic Chemistry-ICOMC 2008 (Rennes, France, July 2008). "Kharasch reactions promoted by ruthenium, rhodium and iridium complexes in water". Poster presentation.

45.- XXIII International Conference on Organometallic Chemistry-ICOMC 2008 (Rennes, France, July 2008). "Ruthenium-catalyzed selective hydration of nitriles to amides in pure aqueous medium". Poster presentation.

46.- 7th Spanish-Italian Symposium on Organic Chemistry SISOC7 (Oviedo, Spain, September 2008). "Ruthenium-catalyzed selective hydration of nitriles to amides in pure aqueous medium". Poster presentation.

47.- 7th Spanish-Italian Symposium on Organic Chemistry SISOC7 (Oviedo, Spain, September 2008). "One-pot three-component catalytic synthesis of fully substituted pyrroles from readily available propargylic alcohols, 1,3-dicarbonyl compounds and primary amines". Poster presentation.

48.- XXVI Reunión del Grupo Especializado de Química Organometálica (Santiago de Compostela, Spain, September 2008). "Complejos rutenio(II)-areno conteniendo aniones metanuro y metanodiuro de $Ph_2P(=S)CH_2P(=NR)Ph_2$: Inserción de isocianuro en el enlace $Ru=C$ ". Poster presentation.

49.- XXVI Reunión del Grupo Especializado de Química Organometálica (Santiago de Compostela, Spain, September 2008). " $[\{Ru(\eta^3\text{-}C_{10}H_{16})(\mu\text{-Cl})Cl\}_2]$ ($C_{10}H_{16}$ = 2,7-dimetilocta-2,6-dien-1,8-diilo: Un catalizador eficiente para la ciclotrimerización [2+2+2] de alquinos asistida por irradiación con microondas en medio acuoso". Poster presentation.

50.- 9th International Conference on Heteroatom Chemistry ICHAC-9 (Oviedo, Spain, July 2009). "Synthesis of novel water-soluble ruthenium(II) complexes". Poster presentation.

- 51.- 9th International Conference on Heteroatom Chemistry ICHAC-9 (Oviedo, Spain, July 2009). "Ruthenium/TFA catalyzed coupling of activated secondary propargylic alcohols with cyclic 1,3-diones: Furan vs pyran ring formation". Poster presentation.
- 52.- 9th International Conference on Heteroatom Chemistry ICHAC-9 (Oviedo, Spain, July 2009). "Ru(IV)-catalyzed isomerization of allyl-ethers in aqueous media: A new method for the deprotection of allyl-ethers". Poster presentation.
- 53.- 9th International Conference on Heteroatom Chemistry ICHAC-9 (Oviedo, Spain, July 2009). "Efficient access to α,β -unsaturated bis(trifluoroacetyl) compounds: A tandem isomerization/aldol condensation process catalyzed by ruthenium(II) complexes". Poster presentation.
- 54.- XXXII Reunión Bienal de la Real Sociedad Española de Química, (Oviedo, Spain, September 2009). "Isomerización Meyer-Schuster de alcoholes propargílicos en compuestos carbonílicos α,β -insaturados catalizada por InCl_3 en medio acuoso y asistida por irradiación microondas". Poster presentation.
- 55.- XXXII Reunión Bienal de la Real Sociedad Española de Química, (Oviedo, Spain, September 2009). "Síntesis de derivados bis(trifluoroacetilo) α,β -insaturados a través de un proceso tandem isomerización/condensación aldólica catalizado por complejos de rutenio(II)". Oral presentation (Sergio E. García-Garrido).
- 56.- XXVIII Reunión del Grupo Especializado de Química Organometálica (Punta Umbría, Spain, September 2010). "Complejos de rutenio soportados en nanopartículas magnéticas como catalizadores altamente eficientes en medio acuoso". Oral presentation (Sergio E. García-Garrido).
- 57.- XXVIII Reunión del Grupo Especializado de Química Organometálica (Punta Umbría, Spain, September 2010). "Hidratación de nitrilos promovida por complejos piridil-fosfina rutenio(II)". Poster presentation.
- 58.- XXVIII Reunión del Grupo Especializado de Química Organometálica (Punta Umbría, Spain, September 2010). "Bis(allyl)-ruthenium(IV) complexes containing water-soluble phosphanes: Catalytic activity in nitrile hydration reactions". Poster presentation.
- 59.- XXVIII Reunión del Grupo Especializado de Química Organometálica (Punta Umbría, Spain, September 2010). "Cicloisomerización de (*Z*)-eninos catalizada por iridio: Acceso a furanos y 7-oxanorbornadienos". Poster presentation.
- 60.- XXVIII Reunión del Grupo Especializado de Química Organometálica (Punta Umbría, Spain, September 2010). "Síntesis y caracterización de complejos hidrosolubles de tipo $[\text{PdCl}_2(4,4'\text{-R}_2\text{-2,2'-bipy})]$: Actividad catalítica en la adición conjugada de ácidos arilborónicos a compuestos carbonílicos α,β -insaturados". Poster presentation.
- 61.- XXVIII Reunión del Grupo Especializado de Química Organometálica (Punta Umbría, Spain, September 2010). "Cicloisomerización de (*Z*)-eninos catalizada por paladio en disolventes alternativos: Glicerol vs agua". Poster presentation.

- 62.- III International School on Organometallic Chemistry Marcial Moreno Mañas (Oviedo, Spain, July 2010). "Ruthenium complexes supported on magnetic nanoparticles as highly efficient catalysts in aqueous media". Poster presentation.
- 63.- III International School on Organometallic Chemistry Marcial Moreno Mañas (Oviedo, Spain, July 2010). "Synthesis of novel water-soluble ruthenium(II) complexes and their application in nitrile hydration reactions". Poster presentation.
- 64.- III International School on Organometallic Chemistry Marcial Moreno Mañas (Oviedo, Spain, July 2010). "Ruthenium/TFA catalyzed C-3-alkylation of indoles with terminal alkynes in water: Unprecedented access to 3-(1-methyl-alkyl)-1*H*-indoles". Poster presentation.
- 65.- III International School on Organometallic Chemistry Marcial Moreno Mañas (Oviedo, Spain, July 2010). "Synthesis and characterization of water-soluble [PdCl₂(4,4'-R₂-2,2'-bipy)] complexes: Catalytic activity in the conjugate addition of arylboronic acids to α,β-unsaturated carbonyl compounds". Poster presentation.
- 66.- 9th Green Chemistry Conference (Alcalá, Spain, September 2011). "Selective estragole to *trans*-nethole isomerization in environmentally friendly media". Oral presentation.
- 67.- 9th Green Chemistry Conference (Alcalá, Spain, September 2011). "Glycerol: A convenient green solvent and hydrogen donor for the ruthenium-catalyzed reduction of allylic alcohols". Poster presentation.
- 68.- 9th Green Chemistry Conference (Alcalá, Spain, September 2011). "Microwave-assisted InCl₃-catalyzed synthesis in aqueous media and spectroscopic properties of novel push-pull butadiene dyes". Poster presentation.
- 69.- International Green Catalysis Symposium (Rennes, France, March 2012). "Redox isomerization of allylic alcohols using complexes [RuCl₂(η⁶-arene)(PTA-Me)][Cl] as catalysts". Poster presentation.
- 70.- International Green Catalysis Symposium (Rennes, France, March 2012). "Catalytic synthesis of primary amides in water using the arene-ruthenium(II) complex [RuCl₂(η⁶-C₆Me₆){P(NMe₂)₃}]". Oral presentation (Rocío García-Álvarez).
- 71.- 3rd International School of Crystallization (Granada, Spain, May 2012). "Studying the intermolecular interactions of *cis*-[PdCl₂{x,x'-(OH)₂-2,2'-bpy}] complexes in solid state". Poster presentation.
- 72.- IV International School on Organometallic Chemistry Marcial Moreno Mañas (Santiago de Compostela, Spain, June 2011). "Ruthenium-catalyzed isomerization of allylbenzoates". Oral presentation.
- 73.- IV International School on Organometallic Chemistry Marcial Moreno Mañas (Santiago de Compostela, Spain, June 2011). "Arene-ruthenium(II) complexes with tris(dimethylamino)phosphine: Highly efficient catalysts for nitrile hydration reactions". Poster presentation.

- 74.- IV International School on Organometallic Chemistry Marcial Moreno Mañas (Santiago de Compostela, Spain, June 2011). "Synthesis and characterization of a new water-soluble gold(III) complex with a hybrid NHC ligand: Hemilability studies". Poster presentation.
- 75.- IV International School on Organometallic Chemistry Marcial Moreno Mañas (Santiago de Compostela, Spain, June 2011). "Access to unusual polycyclic spiro enones from 2,2'-bis(allyloxy)-1,1'-binaphthyls using Grubbs' catalysts". Poster presentation.
- 76.- IV International School on Organometallic Chemistry Marcial Moreno Mañas (Santiago de Compostela, Spain, June 2011). "Ruthenium-catalyzed reduction of allylic alcohols using glycerol as solvent and hydrogen donor". Poster presentation.
- 77.- IV International School on Organometallic Chemistry Marcial Moreno Mañas (Santiago de Compostela, Spain, June 2011). "Ruthenium(IV) catalysts for the selective estragole to *trans*-anethole isomerization in environmentally friendly media". Poster presentation.
- 78.- IV International School on Organometallic Chemistry Marcial Moreno Mañas (Santiago de Compostela, Spain, June 2011). "Microwave-assisted Meyer-Schuster isomerization of propargylic compounds into α,β -unsaturated carbonyl compounds catalyzed by $V(O)Cl(OEt)_2$ ". Poster presentation.
- 79.- XXX Reunión del Grupo Especializado de Química Organometálica (Castellón, Spain, June 2012). "Un método general para la síntesis estereoselectiva de (*E*)-(1-propenil)fenil ésteres". Poster presentation.
- 80.- XXX Reunión del Grupo Especializado de Química Organometálica (Castellón, Spain, June 2012). "Complejos areno-rutenio(II) con ligandos guanidinato no simétricos: Síntesis, estructura y actividad catalítica". Poster presentation.
- 81.- XXX Reunión del Grupo Especializado de Química Organometálica (Castellón, Spain, June 2012). "Complejos de rutenio como catalizadores eficientes en la isomerización de aldoximas en amidas en una mezcla glicerol/agua". Poster presentation.
- 82.- XXX Reunión del Grupo Especializado de Química Organometálica (Castellón, Spain, June 2012). "Cicloisomerización vs hidratación de ácidos γ -alquinoicos: Un nuevo complejo de oro(III) capaz de hacer la diferencia". Poster presentation.
- 83.- XXV International Conference on Organometallic Chemistry (Lisbon, Portugal, September 2012). "Pd(II) complexes with dihydroxy-2,2'-bipyridine ligands: Synthesis, structural characterization and catalysis". Poster presentation.
- 84.- XXV International Conference on Organometallic Chemistry (Lisbon, Portugal, September 2012). "Ruthenium-catalyzed synthesis of primary amides in water". Oral presentation.
- 85.- V International School on Organometallic Chemistry Marcial Moreno Mañas (Jaca, Spain, July 2012). "Ruthenium-catalyzed rearrangement of aldoximes to primary amides in water". Poster presentation.

- 86.- V International School on Organometallic Chemistry Marcial Moreno Mañas (Jaca, Spain, July 2012). "Tandem isomerization/Claissen processes promoted by ruthenium: First examples in water". Poster presentation.
- 87.- V International School on Organometallic Chemistry Marcial Moreno Mañas (Jaca, Spain, July 2012). "Arene-ruthenium(II) complexes with guanidinate ligands: Synthesis, structure and catalytic activity". Poster presentation.
- 88.- V International School on Organometallic Chemistry Marcial Moreno Mañas (Jaca, Spain, July 2012). "Efficient isomerization of aldoximes to amides catalyzed by ruthenium(IV) complexes in a glycerol/water mixture". Poster presentation.
- 89.- V International School on Organometallic Chemistry Marcial Moreno Mañas (Jaca, Spain, July 2012). "Cycloisomerization vs hydration reactions in aqueous media: A Au(III)-NHC catalyst that makes the difference". Poster presentation.
- 90.- VI International School on Organometallic Chemistry Marcial Moreno Mañas (Alicante, Spain, June 2013). "Ruthenium-catalyzed synthesis of primary amides from aldehydes in water". Poster presentation.
- 91.- VI International School on Organometallic Chemistry Marcial Moreno Mañas (Alicante, Spain, June 2013). "New water-soluble arene-ruthenium(II) complexes with thiazolyl-phosphines for the catalytic hydration of nitriles". Poster presentation.
- 92.- VI International School on Organometallic Chemistry Marcial Moreno Mañas (Alicante, Spain, June 2013). "Arene-ruthenium(II) complexes with bipyridine ligands as potential catalysts for the transfer hydrogenation of levulinic acid to γ -valerolactone in water". Poster presentation.
- 93.- VI International School on Organometallic Chemistry Marcial Moreno Mañas (Alicante, Spain, June 2013). "Tethered η^5 -oxocyclohexadienyl ruthenium(II) complexes: An unprecedented class of ruthenium catalysts for the redox isomerization of allylic alcohols". Poster presentation.
- 94.- XXXIV Reunión Bienal de la Real Sociedad Española de Química (Santander, Spain, September 2013). "A convenient synthesis of ferrocenecarboxamide". Poster presentation.
- 95.- XXXIV Reunión Bienal de la Real Sociedad Española de Química (Santander, Spain, September 2013). "Síntesis de nuevos complejos hidrosolubles Au-NHC y su aplicación en la cicloisomerización de ácidos γ -alquinóicos". Poster presentation.
- 96.- XXXIV Reunión Bienal de la Real Sociedad Española de Química (Santander, Spain, September 2013). "Estudio de la actividad catalítica de complejos $[\text{RhCl}(\text{COD})(\text{PR}_3)]$ en la hidratación de nitrilos". Poster presentation.
- 97.- XXXIV Reunión Bienal de la Real Sociedad Española de Química (Santander, Spain, September 2013). "Thiazolyl-phosphine hydrochloride salts: Effective auxiliary ligands for ruthenium-catalyzed nitrile hydration reactions". Poster presentation.

- 98.- VII International School on Organometallic Chemistry Marcial Moreno Mañas (Bellaterra, Spain, June 2014). "New rhodium-based catalysts for the selective hydration of nitriles to amides in water". Poster presentation.
- 99.- VII International School on Organometallic Chemistry Marcial Moreno Mañas (Bellaterra, Spain, June 2014). "Palladium(II) complexes containing 2-(diphenylphosphino)benzaldoxime: Synthesis and applications in catalysis". Poster presentation.
- 100.- VII International School on Organometallic Chemistry Marcial Moreno Mañas (Bellaterra, Spain, June 2014). "An efficient ruthenium(IV) catalyst for the selective hydration of nitriles to amides in water under mild conditions". Poster presentation.
- 101.- VII International School on Organometallic Chemistry Marcial Moreno Mañas (Bellaterra, Spain, June 2014). "Highly enantioselective hydrogenation of 1-alkylvinyl benzoates: A simple, nonenzymatic access to chiral 2-alkanols". Oral presentation (Patryk Kleman).
- 102.- XXVI International Conference on Organometallic Chemistry (ICOMC-2014) (Sapporo, Japan, July 2014). "Rhodium-phosphine complexes as catalysts for nitrile hydration reactions in water: The aminophosphines make the difference". Oral presentation.
- 103.- XXVI International Conference on Organometallic Chemistry (ICOMC-2014) (Sapporo, Japan, July 2014). "Simple, efficient and selective catalyst for the isomerization of estragole into trans-anethole". Poster presentation.
- 104.- XXXII Reunión del Grupo Especializado de Química Organometálica (Tarragona, Spain, September 2014). "New palladium(II) catalysts for the dehydration and rearrangement of aldoximes". Poster presentation.
- 105.- XXXII Reunión del Grupo Especializado de Química Organometálica (Tarragona, Spain, September 2014). "One-pot synthesis of γ -ketoamides from γ -alkynoic acids and primary amines under solvent-free conditions: A cycloisomerization/amidation process catalyzed by PdCl₂". Poster presentation.
- 106.- XXXII Reunión del Grupo Especializado de Química Organometálica (Tarragona, Spain, September 2014). "Rhodium-catalyzed hydration of nitriles: Key role of the ligands". Poster presentation.
- 107.- XXXII Reunión del Grupo Especializado de Química Organometálica (Tarragona, Spain, September 2014). "Designing Ru(IV) catalysts for the selective hydration of nitriles to amides under mild aqueous conditions". Poster presentation.
- 108.- Workshop "Metals, water and sun" (Almería, Spain, May 2015). "Catalytic rearrangement and dehydration of aldoximes promoted by palladium(II) complexes containing phosphino-oxime ligand". Poster presentation.
- 109.- VIII International School on Organometallic Chemistry Marcial Moreno Mañas (Sevilla, Spain, June 2015). "Ruthenium(II) complexes with chlorophosphines: Efficient catalysts for the selective conversion of nitriles to amides in water under mild conditions". Poster presentation.

110.- VIII International School on Organometallic Chemistry Marcial Moreno Mañas (Sevilla, Spain, June 2015). "Addition of carboxylic acids to 1-iodoalkynes catalyzed by gold(I) complexes: Regio- and stereoselective synthesis of non-symmetrical internal enol-esters". Poster presentation.

111.- VIII International School on Organometallic Chemistry Marcial Moreno Mañas (Sevilla, Spain, June 2015). "First examples of ruthenium(IV)-guanidinate complexes: Synthesis, reactivity and catalytic activity". Poster presentation.

112.- VIII International School on Organometallic Chemistry Marcial Moreno Mañas (Sevilla, Spain, June 2015). "Enantioselective hydrogenation of α,β -disubstituted enol esters". Poster presentation.

113.- VIII International School on Organometallic Chemistry Marcial Moreno Mañas (Sevilla, Spain, June 2015). "Synthesis of ruthenium and osmium complexes containing tridentate phosphino-alcohol ligands through carbon-carbon and carbon-heteroatom coupling processes". Poster presentation.

114.- 3rd EuCheMS Inorganic Chemistry Conference (Wrocław, Poland, June-July 2015). "Ruthenium(IV) complexes with phosphinous acid ligands for the selective hydration of nitriles to amides in water under mild conditions". Oral presentation.

115.- 3rd EuCheMS Inorganic Chemistry Conference (Wrocław, Poland, June-July 2015). "Palladium complexes with phosphino-oxime ligand: Application to catalytic rearrangement and dehydration of aldoximes". Poster presentation.

Membership of Professional bodies

- Member of the Spanish Royal Society of Chemistry (RSEQ) (since 1994).
- Member of the American Chemical Society (ACS) (since 2010).
- Member of the Royal Society of Chemistry (RSC) (since 2015).
- Member of the Editorial Advisory Board of *Letters in Organic Chemistry* (2007-2010).
- Member of the Editorial Advisory Board of *The Open Catalysis Journal* (since 2009).
- Member of the Editorial Advisory Board of *Recent Patents on Catalysis* (2011-2014).
- Member of the Editorial Advisory Board of *Current Green Chemistry* (since 2012).