

**Personal Details**

**Name:** Sergio E. García Garrido  
**Date of birth:** 24<sup>th</sup> May 1976  
**Nationality:** Spanish  
**Address:** Departamento de Química Orgánica e Inorgánica  
Facultad de Química, Universidad de Oviedo  
E-33071 Oviedo, Spain  
**E-mail:** [garciagsergio@uniovi.es](mailto:garciagsergio@uniovi.es)  
**Phone:** (+34) 985 10 3463 (Office); (+34) 985 10 5004 (Lab)  
**Fax:** (+34) 985 10 3446

**Education, Qualifications, Research Experience and Awards**

**2000** Undergraduate Research Assistant. Universidad de Oviedo (Spain).  
**2000** B. S. in Chemistry (Inorganic Chemistry). Universidad de Oviedo (Spain).  
**2001-2005** Predoctoral Fellowship (F.P.I.-Ministerio de Ciencia y Tecnología, Spain).  
**2001** Honours Degree Thesis under the supervision of Prof. José Gimeno and Dr. Victorio Cadierno. "*Reactivity of the dimer  $[\{RuCl(\mu-Cl)(\eta^3:\eta^3-C_{10}H_{16})\}_2]$  ( $C_{10}H_{16}$  = 2,7-dimethylocta-2,6-dien-1,8-diyl) towards P/P-, P/O- and P/N- bidentate donor ligands: Synthesis and characterization of new bis(allyl) ruthenium(IV) complexes*". Universidad de Oviedo (Spain).  
**2004** Short stance for three months at the Instituto de Investigaciones Químicas (CSIC-Sevilla, Spain) under the supervision of Dr. Antonio Pizzano.  
**2005** Ph. D. in Organometallic Chemistry (*Cum Laude*) under the supervision of Prof. José Gimeno and Dr. Victorio Cadierno. Thesis entitled " *$\eta^3$ -allyl ruthenium(II) and ruthenium(IV) complexes as catalysts, precursors for transfer hydrogenation, propargylic substitution, and isomerization of allylic and propargylic alcohols reactions*". Universidad de Oviedo (Spain).  
**2006-2008** Postdoctoral Fellowship (M.E.C.-Ministerio de Educación y Ciencia, Spain). Participation for 24 months in the research project "*Synthesis of new polypeptides for transport of chloride anions through membranes*" under the supervision of Prof. Philip A. Gale. School of Chemistry, University of Southampton (Southampton, United Kingdom).  
**2006** San Alberto Magno Award to the best 2005 doctoral thesis.  
**2007** Extraordinary PhD. Award of 2005. Universidad de Oviedo (Spain).  
**2008** Contracted researcher. Universidad de Oviedo (Spain).  
**2009-present** "Ramón y Cajal" Research Contract (Ministerio de Ciencia e Innovación, Spain). Universidad de Oviedo (Spain).

**Papers in peer-reviewed journals**

- 1.- "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 dppf (dppf =  $[\text{Fe}(\eta^5\text{-C}_5\text{H}_4\text{PPh}_2)_2]$ ) and dppfO (dppfO =  $[\text{Fe}(\eta^5\text{-C}_5\text{H}_4\text{PPh}_2)(\eta^5\text{-C}_5\text{H}_4\text{P(=O)Ph}_2)]$ ". 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)
- 2.- "Ruthenium(II) and ruthenium(IV) complexes containing hemilabile heterodifunctional iminophosphorane-phosphine ligands  $\text{Ph}_2\text{PCH}_2\text{P(=NR)Ph}_2$ ". V. Cadierno, J. Díez, S.E. García-Garrido, S. García-Granda, J. Gimeno. *J. Chem. Soc., Dalton Trans.*, **2002**, 1465-1472.
- 3.- "Neutral and cationic ( $\eta^6$ -arene)-ruthenium(II) complexes containing the iminophosphorane-phosphine ligand  $\text{Ph}_2\text{PCH}_2\text{P(=N-}p\text{-C}_5\text{F}_4\text{N)Ph}_2$ : 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)
- 4.- "Reactivity of the dimer  $[\{\text{Ru}(\eta^3\text{-C}_{10}\text{H}_{16})(\mu\text{-Cl})\text{Cl}\}_2]$  towards diphosphines and diphosphinemonoxides: 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)
- 5.- "Ruthenium(II) and ruthenium(IV) complexes containing  $\kappa^1\text{-P}$ -,  $\kappa^2\text{-P,O}$ - and  $\kappa^3\text{-P,N,O}$  iminophosphorane-phosphine ligands  $\text{Ph}_2\text{PCH}_2\text{P(=NP(=O)(OR)}_2\text{)Ph}_2$  (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.
- 6.- "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  $\text{Ph}_2\text{PCH}_2\text{P(=NP(=S)(OR)}_2\text{)Ph}_2$  (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.
- 7.- "An easy entry to dimers  $[\{\text{RuX}(\mu\text{-X})(\text{CO})(\text{P}^i\text{P})\}_2]$  (X = Cl, Br;  $\text{P}^i\text{P}$  = 1,1'-bis(diphenylphosphino)ferrocene, 1,1'-bis(diisopropylphosphino)ferrocene) from  $\eta^3$ -allylruthenium(II) derivatives  $[\text{RuX}(\eta^3\text{-2-C}_3\text{H}_4\text{R})(\text{CO})(\text{P}^i\text{P})]$  (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.
- 8.- "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).
- 9.- "Efficient transfer hydrogenation of ketones catalyzed by the bis(isocyanide)-ruthenium(II) complexes *trans,cis,cis*- $[\text{RuX}_2(\text{CNR})_2(\text{dppf})]$  (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.

- 10.- "Water-soluble ruthenium(II) catalysts  $[\text{RuCl}_2(\eta^6\text{-arene})\{\text{P}(\text{CH}_2\text{OH})_3\}]$  for isomerization of allylic alcohols and alkyne hydration". V. Cadierno, P. Crochet, S.E. García-Garrido, J. Gimeno. *Dalton Trans.*, **2004**, 3635-3641.
- 11.- " $[\text{Ru}(\eta^3\text{-2-C}_3\text{H}_4\text{Me})(\text{CO})(\text{dppf})][\text{SbF}_6]$ : A mononuclear  $16e^-$  ruthenium(II) catalyst for propargylic substitution and isomerization of  $\text{HC}\equiv\text{CCPh}_2(\text{OH})$ ". V. Cadierno, J. Díez, S.E. García-Garrido, J. Gimeno. *Chem. Commun.*, **2004**, 2716-2717.
- 12.- "Efficient one-pot synthesis of  $\alpha,\beta$ -unsaturated carbyne complexes  $\text{fac-}[\text{RuX}_3\{\equiv\text{CC}(\text{H})=\text{CR}_2\}(\text{dppf})]$  (X = Cl, Br; R = aryl, alkyl; dppf = 1,1'-bis(diphenylphosphino)ferrocene)". V. Cadierno, J. Díez, S.E. García-Garrido, J. Gimeno. *Organometallics*, **2005**, 24, 3111-3117.
- 13.- "Ru(IV)-catalyzed isomerization of allylamines in water: A highly efficient procedure for the deprotection of *N*-allylic amines". V. Cadierno, S.E. García-Garrido, J. Gimeno, N. Nebra. *Chem. Commun.*, **2005**, 4086-4088.
- 14.- "Bis(allyl)-ruthenium(IV) complexes as highly efficient catalysts for the redox isomerization of allylic alcohols into carbonyl compounds in organic and aqueous media: Scope, limitations and theoretical analysis of the mechanism". V. Cadierno, S.E. García-Garrido, J. Gimeno, A. Varela-Álvarez, J.A. Sordo. *J. Am. Chem. Soc.*, **2006**, 128, 1360-1370.
- 15.- "Isomerization of propargylic alcohols into  $\alpha,\beta$ -unsaturated carbonyl compounds catalyzed by the sixteen-electron allyl-ruthenium(II) complex  $[\text{Ru}(\eta^3\text{-2-C}_3\text{H}_4\text{Me})(\text{CO})(\text{dppf})][\text{SbF}_6]$ ". V. Cadierno, S.E. García-Garrido, J. Gimeno. *Adv. Synth. Catal.*, **2006**, 348, 101-110.
- 16.- "Efficient access to conjugated dienones and diene-diones from propargylic alcohols and enolizable ketones: A tandem isomerization/condensation process catalyzed by the sixteen-electron allylruthenium(II) complex  $[\text{Ru}(\eta^3\text{-2-C}_3\text{H}_4\text{Me})(\text{CO})(\text{dppf})][\text{SbF}_6]$ ". V. Cadierno, J. Díez, S.E. García-Garrido, J. Gimeno, N. Nebra. *Adv. Synth. Catal.*, **2006**, 348, 2125-2132.
- 17.- "Efficient intermolecular  $[2 + 2 + 2]$  alkyne cyclotrimerization in aqueous medium using a ruthenium(IV) precatalyst". V. Cadierno, S.E. García-Garrido, J. Gimeno. *J. Am. Chem. Soc.*, **2006**, 128, 15094-15095.
- 18.- "Anion recognition by *N*-confused calix[4]pyrrole- $\alpha$ -carbaldehyde and its Knoevenagel reaction derivatives". W. Dehaen, P.A. Gale, S.E. García-Garrido, M. Kostermans, M.E. Light. *New J. Chem.*, **2007**, 691-696.
- 19.- "Acridinone-based anion receptors and sensors". S.E. García-Garrido, C. Caltagirone, M.E. Light, P.A. Gale. *Chem. Commun.*, **2007**, 1450-1452.
- 20.- "Conformational Control of Selectivity and Stability in Hybrid Amide/Urea Macrocycles". S.J. Brooks, S.E. García-Garrido, M.E. Light, P.A. Cole, P.A. Gale. *Chem. Eur. J.*, **2007**, 3320-3329.
- 21.- "Octahedral ruthenium(II) complexes  $\text{cis,cis-}[\text{RuX}_2(\text{CNR})(\text{CO})(\text{P}^{\wedge}\text{P})]$  and  $\text{cis,cis,cis-}[\text{RuX}_2(\text{CO})_2(\text{P}^{\wedge}\text{P})]$  (X = Cl, Br;  $\text{P}^{\wedge}\text{P}$  = 1,1'-bis(diphenylphosphino)ferrocene, 1,1'-bis(diisopropylphosphino)ferrocene): Synthesis and catalytic applications in transfer hydrogenation of acetophenone and cycloisomerization of (*Z*)-3-methylpent-2-en-4-yn-1-ol". J. Albers, V. Cadierno, P. Crochet, S.E. García-Garrido, J. Gimeno. *J. Organomet. Chem.*, **2007**, 692, 5234-5244.
- 22.- "Anion triggered electropolymerisation in ferrocene functionalised *ortho*-phenylenediamine based receptors". M. Arroyo, P.R. Birkin, P.A. Gale, S.E. García-Garrido, M.E. Light. *New J. Chem.*, **2008**, 1221-1227.

- 23.-** "Ruthenium-catalyzed redox isomerization/transfer hydrogenation in organic and aqueous media: A one-pot tandem process for the reduction of allylic alcohols". V. Cadierno, P. Crochet, J. Francos, S.E. García-Garrido, J. Gimeno, N. Nebra. *Green Chem.*, **2009**, *11*, 1992-2000.
- 24.-** "Novel push-pull butadienes derived from 1,1-diaryl-2-propyn-1-ols and 1,1,1,5,5,5-hexafluoro-2,4-pentanedione: Synthesis, absorption spectra and solvatochromic behaviour". J. Borge, V. Cadierno, J. Díez. S.E. García-Garrido, J. Gimeno. *Dyes Pigm.*, **2010**, *87*, 209-217.
- 25.-** "Cationic rhodium(I)-diolefin complexes containing an optically active C<sub>2</sub>-symmetric bis(sulfoximine) ligand: Synthesis and catalytic activity". V. Cadierno, J. Díez, S.E. García-Garrido, J. Gimeno, A. Pizzano. *Polyhedron*, **2010**, *29*, 3380-3386.
- 26.-** "Chemistry by nano-catalysis: First example of a solid-supported RAPTA complex for organic reactions in aqueous medium". S.E. García-Garrido, J. Francos, V. Cadierno, J.M. Basset, V. Polshettiwar. *ChemSusChem*, **2011**, *4*, 104-111.
- 27.-** "Ruthenium-catalyzed intermolecular [2 + 2 + 2] alkyne cyclotrimerization in aqueous media under microwave-irradiation". V. Cadierno, J. Francos, S.E. García-Garrido, J. Gimeno. *Green Chem. Lett. Rev.*, **2011**, *4*, 55-61.

## Refereed review articles and accounts

- 1.-** "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.
- 2.-** "Anion receptors based on organic frameworks: highlights from 2005 and 2006". P.A. Gale, S.E. García-Garrido, J. Garric, *Chem. Soc. Rev.*, **2008**, *37*, 151-190.
- 3.-** "Atom-economic transformations of propargylic alcohols catalyzed by the 16-electron allylruthenium(II) complex [Ru( $\eta^3$ -2-C<sub>3</sub>H<sub>4</sub>Me)(CO)(dppf)][SbF<sub>6</sub>] (dppf = 1,1'-bis(diphenylphosphino)ferrocene)". V. Cadierno, S.E. García-Garrido, J. Gimeno, N. Nebra. *Inorg. Chim. Acta*, **2010**, *363*, 1912-1934.
- 4.-** "Metal-catalyzed transformations of propargylic alcohols into  $\alpha,\beta$ -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.

## Book Chapters

- 1.-** "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**, Chapter 3, 97-130.
- 2.-** "All-carbon-substituted allenylidene and related cumulenylidene ligands". V. Cadierno, S.E. García-Garrido. In *Transition Metal Complexes of Neutral  $\eta^1$ -Carbon Ligands*; R. Chauvin & Y. Canac Eds.; Springer-Verlag, Berlin/Heidelberg: Germany; **2010**, 151-218 (*Top. Organomet. Chem.* vol. 30).

3.- "Heteroatom-conjugated allenylidene and related cumulenylidene ligands". V. Cadierno, S.E. García-Garrido. In *Transition Metal Complexes of Neutral  $\eta^1$ -Carbon Ligands*; R. Chauvin & Y. Canac Eds.; Springer-Verlag, Berlin/Heidelberg: Germany; **2010**, 219-252 (*Top. Organomet. Chem.* vol. 30).

4.- "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**, Chapter 2, 10-54.

## Research Presentations

1.- 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.

2.- 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.

3.- 13th International Symposium on Homogeneous Catalysis (Tarragona, Spain, September 2002). " $(\eta^6\text{-arene})$ -ruthenium(II) complexes containing iminophosphorane-phosphine and iminophosphine ligands: Synthesis, reactivity and catalytic activity in transfer hydrogenation of ketones". Poster presentation.

4.- 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.

5.- 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.

6.- XXIX Reunión Bienal de la Real Sociedad Española de Química (Madrid, Spain, July 2003). " $[\{\text{Ru}(\eta^3\text{-C}_{10}\text{H}_{16})(\mu\text{-Cl})\text{Cl}\}_2]$  ( $\text{C}_{10}\text{H}_{16}$  = 2,7-dimetilocta-2,6-dien-1,8-diilo): Un catalizador eficiente para la isomerización de alcoholes alílicos en medio acuoso". Poster presentation.

7.- GECOM-CONCOORD 2004 (Bayonne, France, June 2004). "Transfert d'hydrogène à cétones catalysée par des complexes bis(isocyanure) de ruthénium(II)". Poster presentation.

8.- 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.

9.- 14th International Symposium on Homogeneous Catalysis (Munich, Germany, July 2004). "Synthesis, reactivity and catalytic activity in propargylic substitution reactions of the  $16e^-$  derivative  $[\text{Ru}(\eta^3\text{-2-C}_3\text{H}_4\text{Me})(\text{CO})(\text{dppf})][\text{SbF}_6]$ ". Poster presentation.

10.- 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*- $[\text{RuX}_2(\text{CNR})_2(\text{dppf})]$ ". Poster presentation.

- 11.-** XVI FEChem 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.
- 12.-** 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.
- 13.-** XXX Reunión Bienal de la Real Sociedad Española de Química (Lugo, Spain, September 2005). "[Ru( $\eta^3$ -2-C<sub>3</sub>H<sub>4</sub>Me)(CO)(dppf)][SbF<sub>6</sub>]: Un catalizador eficiente para la isomerización de alcoholes propargílicos en compuestos carbonílicos  $\alpha,\beta$ -insaturados". Poster presentation.
- 14.-** 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.
- 15.-** 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.
- 16.-** UK Macrocycles & Supramolecular Chemistry Group and Coordination Chemistry Group (Belfast, North Ireland, December 2006). "A comparison of anion-binding modes in macrocyclic and acyclic hybrid amide/urea anion receptors". Poster presentation.
- 17.-** XXIII International Conference on Organometallic Chemistry-ICOMC 2008 (Rennes, France, July 2008). "The ruthenium(IV) dimer  $[\{Ru(\eta^3\text{-}\eta^3\text{-}C_{10}H_{16})(\mu\text{-}Cl)Cl\}_2]$  ( $C_{10}H_{16}$  = 2,7-dimethylocta-2,6-diene-1,8-diyl): A promising precursor for catalytic organic synthesis in aqueous media". Poster presentation.
- 18.-** XXVI Reunión del Grupo Especializado de Química Organometálica (Santiago de Compostela, Spain, September 2008). " $[\{Ru(\eta^3\text{-}\eta^3\text{-}C_{10}H_{16})(\mu\text{-}Cl)Cl\}_2]$  ( $C_{10}H_{16}$  = 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.
- 19.-** III Scuola Nazionale sui Materiali Molecolari per Fotonica ed Electronica (Tortoli, Italia, June 2009). "Dimerization of terminal alkynes in aqueous media catalyzed by  $[\{RuCl(\mu\text{-}Cl)(\eta^6\text{-}Arene)\}_2]/AcOH$  (Arene = *p*-Cymene, Hexamethylbenzene) complexes. An efficient entry to water-soluble  $\pi$ -conjugated systems". Poster presentation.
- 20.-** 9th International Conference on Heteroatom Chemistry ICHAC-9 (Oviedo, Spain, July 2009). "Efficient access to  $\alpha,\beta$ -unsaturated bis(trifluoroacetyl) compounds: A tandem isomerization/aldol condensation process catalyzed by ruthenium(II) complexes". Poster presentation.
- 21.-** 2<sup>nd</sup> School on Organometallic Chemistry Marcial Moreno Mañas (Valencia, Spain, July 2009). "Efficient access to  $\alpha,\beta$ -unsaturated bis(trifluoroacetyl) compounds: A tandem isomerization/aldol condensation process catalyzed by ruthenium(II) complexes". Poster presentation.
- 22.-** 7<sup>th</sup> International School of Organometallic Chemistry (Camerino, Italy, September 2009). "Dimerization of terminal alkynes in aqueous media by ruthenium-acid-promoted catalysis (RAP)". Poster presentation.

**23.-** XXXII Reunión Bienal de la Real Sociedad Española de Química (Oviedo, Spain, September 2009). "Síntesis de derivados bis(trifluoroacetilo)  $\alpha,\beta$ -insaturados a través de un proceso tandem isomerización/condensación aldohólica catalizado por complejos de rutenio(II)". Oral presentation (Sergio E. García-Garrido).

**24.-** III 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.

**25.-** III School on Organometallic Chemistry "Marcial Moreno Mañas" (Oviedo, Spain, July 2010). "Dimerization of terminal alkyne catalyzed by ruthenium complexes in aqueous media". Poster presentation.

**26.-** III School on Organometallic Chemistry "Marcial Moreno Mañas" (Oviedo, Spain, July 2010). "Bis-allyl ruthenium complexes containing phosphine-phosphite ligands: Synthesis, structure and applications in ROMP". Poster presentation.

**27.-** 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).

**28.-** XXVIII Reunión del Grupo Especializado de Química Organometálica (Punta Umbría, Spain, September 2010). "Complejos alílicos de rutenio con ligandos fosfina-fosfito quirales: Síntesis, estructura y aplicación en hidrogenación enantioselectiva". Poster presentation.

**29.-** IV School on Organometallic Chemistry "Marcial Moreno Mañas" (Santiago de Compostela, Spain, June 2011). "Microwave-assisted  $\text{InCl}_3$ -catalyzed synthesis in aqueous media and spectroscopic properties of novel push-pull butadiene dyes". Poster presentation.