

Autor: Eva Tudela Palomar
Título Reacciones de carbociclación [3+2] y [2+1] de complejos alquinilcarbeno y de cicloisomerización de alquinilciclopropanos
Fecha lectura: 21/01/2011

Publicaciones:

- 1.- “Asymmetric C2-C3 Cyclopentannulation of the Indole Ring”. J. Barluenga, E. Tudela, A. Ballesteros, M. Tomás. *J. Am. Chem. Soc.* **2009**, *131*, 2096.
- 2.- “Alkynylcyclopropanes from Terminal Alkynes through Consecutive Coupling to Fischer Carbene Complexes and Selective Propargylene Transfer”. J. Barluenga, E. Tudela, R. Vicente, A. Ballesteros, M. Tomás. *Chem. Eur. J.* **2011**, *17*, 2349.
- 3.- “Gold-Catalyzed Rearrangements: Reaction Pathways Using 1-Alkenyl-2-alkynylcyclopropane Substrates”. J. Barluenga, E. Tudela, R. Vicente, A. Ballesteros, M. Tomás *Angew. Chem. Int. Ed.* **2011**, *50*, 2107.

Autor: Ignacio Cameán Martínez
Título : Preparación de materiales gráfiticos: aplicación como ánodos en baterías de ión-litio
Fecha lectura: 03/03/2011

Publicaciones:

1. A. B. Garcia, I. Cameán, I. Suelves, J. L. Pinilla, M. J. Lázaro, J. M. Palacios, R. Moliner. The graphitization of carbon nanofibers produced by the catalytic decomposition of natural gas. *Carbon* **47**, 2563-2570, 2009.
2. I. Cameán, P. Lavela, J. L. Tirado, A. B. Garcia. On the electrochemical performance of anthracite- based graphite materials as anodes in lithium ion batteries. *Fuel* **89**, 986-991, 2010.
3. A. B. Garcia, I. Cameán, J. L. Pinilla, I. Suelves, M. J. Lázaro, R. Moliner. The graphitization of carbon nanofibers produced by catalytic decomposition of methane: synergetic effect of the inherent Ni and Si. *Fuel* **89**, 2160-2162, 2010.
4. S. M. Rodrigues, I. Suárez-Ruiz, M. Marques, D. Flores, I. Cameán, A. B. Garcia. Development of graphite-like particles from high temperatura treatment of carbonized anthracites. *International Journal of Coal Geology* **85**, 219-226, 2011.
5. I. Cameán, A. B. Garcia. Graphite materials prepared by HTT of unburned carbon from coal combustion fly ashes: performance as anode in lithium-ion batteries. *Journal of Power Sources* **196**, 4816-4820, 2011.
6. I. Cameán, A. B. Garcia, I. Suelves, J. L. Pinilla, M. J. Lázaro, R. Moliner. Graphitized carbon nanofibers for use as anodes in lithium-ion bateries: importante of textural and structural properties. *Journal of Power Sources* **198**, 303-307, 2012.
7. E. Rodríguez, I. Cameán, R. Garcia, A. B. Garcia. Graphitized boron-doped carbon foams: performance as anodes in lithium-ion batteries. *Electrochimica Acta* **56**, 5090-5094, 2011.
8. I. Cameán, A. B. Garcia, I. Suelves, J. L. Pinilla, M. J. Lázaro, R. Moliner, J.-N-Rouzaud. Influence of the inherent metal species on the graphitization of methane-based carbon nanofibers. *Carbon* **50**, 5387-5394, 2012.

Autor: Elena Gutiérrez Blanco
Título : Procesos altamente selectivos de ciclopropanación y olefinación empleando cantidades estequiométricas o catalíticas de dicloruro de cromo.
Fecha lectura: 4/03/2011

Publicaciones:

1.- Stereospecific Cyclopropanation of Highly Substituted C-C Double Bonds Promoted by CrCl₂. Stereoselective Synthesis of Cyclopropanecarboxamides and Cyclopropyl Ketones

José M. Concellón, Humberto Rodríguez-Solla, Carmen Méjica, Elena G. Blanco
Org. Lett. **2007**, 9, 2981-2984

2.- Stereospecific and Stereoselective Alkyl and Silylcyclopropanation of α,β -Unsaturated Amides

José M. Concellón, Humberto Rodríguez-Solla, Carmen Méjica, Elena G. Blanco, Santiago García-Granda, M. Rosario Díaz
Org. Lett. **2008**, 10, 349-352

3.- CrCl₂-Promoted Stereospecific and Stereoselective Alkyl- and Silylcyclopropanation of α,β -Unsaturated Amides

José M. Concellón, Humberto Rodríguez-Solla, Carmen Méjica, Elena G. Blanco, Santiago García-Granda, M. Rosario Díaz
J. Org. Chem. **2008**, 73, 3828-3836

4.- Highly Stereoselective Halocyclopropanation of α,β -Unsaturated Amides

José M. Concellón, Humberto Rodríguez-Solla, Elena G. Blanco, María A. Villa-García, Noemí Alvaredo, Santiago García-Granda, M. Rosario Díaz
Adv. Synth. Catal. **2009**, 351, 2185-2198

5.- An Efficient Catalytic-Chromium Mediated Iodocyclopropanation Reaction: Stereoselective Synthesis of Iodocyclopropanecarboxamides

José M. Concellón, Humberto Rodríguez-Solla, Elena G. Blanco, Santiago García-Granda, M. Rosario Díaz
Adv. Synth. Catal. **2011**, 352, 49-52

6.- Chromium-Mediated Stereoselective Synthesis of Carbohydrate-Derived (E)- α,β -Unsaturated Esters or Amides

Humberto Rodríguez-Solla, Carmen Concellón, Elena G. Blanco, Juan I. Sarmiento, Pamela Díaz, Raquel G. Soengas
J. Org. Chem. **2011**, 76, 5461-5465

Autor: María Tomás Gamasa
Título : Nuevos métodos de acoplamiento carbono-carbono y carbono-heteroátomo mediante el empleo de sulfonilhidrazonas
Fecha lectura: 10/03/2011

Publicaciones:

- 1.- “Pd-catalyzed cross-coupling reactions with carbonyls: application in a very efficient synthesis of 4-aryltetrahydropyridines” José Barluenga, María Tomás-Gamasa, Patricia Moriel, Fernando Aznar, Carlos Valdés, *Chem. Eur. J.* **2008**, *14*, 4792-4795.
- 2.- “Metal-free carbon-carbon bond-forming reductive coupling between boronic acids and tosylhydrazones” José Barluenga, María Tomás-Gamasa, Fernando Aznar, Carlos Valdés, *Nature Chem.* **2009**, *1*, 494-499.
- 3.- “Straightforward Synthesis of Ethers: Metal-Free Reductive Coupling of Tosylhydrazones with Alcohols or Phenols” José Barluenga, María Tomás-Gamasa, Fernando Aznar, Carlos Valdés, *Angew. Chem. Int. Ed.* **2010**, *49*, 4993-4996.
- 4.- “Synthesis of 2-arylacrylates from pyruvate by tosylhydrazide promoted Pd-catalyzed coupling with aryl halides” José Barluenga, María Tomás-Gamasa, Fernando Aznar, Carlos Valdés, *Chem. Eur. J.* **2010**, *16*, 12801-12803.
- 5.- “Synthesis of Dienes by Pd-Catalyzed Couplings of Tosylhydrazones with Aryl and Alkenyl Halides” José Barluenga, María Tomás-Gamasa, Fernando Aznar, Carlos Valdés, *Adv. Synth. Catal.* **2010**, *352*, 3235-3240.
- 6.- “Synthesis of Sulfones by Iron-Catalyzed Decomposition of Sulfonylhydrazones” José Barluenga, María Tomás-Gamasa, Fernando Aznar, Carlos Valdés, *Eur. J. Org. Chem.* **2011**, *13*, 510-513.
- 7.- “Reductive Azidation of Carbonyl Compounds via Tosylhydrazone Intermediates Using Sodium Azide” José Barluenga, María Tomás-Gamasa, Carlos Valdés, *Angew. Chem. Int. Ed.* **2012**, *51*, 5950-5952.

Autor: Javier Francos Arias
Título : Nuevos procesos catalíticos en medio acuoso promovidos por complejos organometálicos de rutenio
Fecha lectura: 29/4/2011

Publicaciones:

- 1.- "Ruthenium catalyzed reduction of allylic alcohols: An efficient isomerization/transfer hydrogenation tandem process". V. Cadierno, J. Francos, J. Gimeno, N. Nebra. *Chem. Commun.* **2007**, 2536.
- 2.- "Selective ruthenium-catalyzed hydration of nitriles to amides in pure aqueous medium under neutral conditions". V. Cadierno, J. Francos, J. Gimeno, *Chem. Eur. J.* **2008**, *14*, 6601.
- 3.- "Microwave-assisted InCl₃-catalyzed Meyer-Schuster rearrangement of propargylic aryl carbinols in aqueous media: A green approach to α,β -unsaturated carbonyl compounds". V. Cadierno, J. Francos, J. Gimeno, *Tetrahedron Lett.* **2009**, *50*, 4773.
- 4.- "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.
- 5.- "Ruthenium-catalyzed synthesis of β -oxo esters in aqueous medium: Scope and limitations". V. Cadierno, J. Francos, J. Gimeno, *Green Chem.* **2010**, *12*, 135.
- 6.- "Ruthenium/TFA-catalyzed regioselective C-3-alkylation of indoles with terminal alkynes in water: Efficient and unprecedented access to 3-(1-methylalkyl)-1*H*-indoles". V. Cadierno, J. Francos, J. Gimeno, *Chem. Commun.* **2010**, 46, 4175.
- 7.- "Bis(allyl)-ruthenium(IV) complexes containing water-soluble phosphane ligands: Synthesis, structure and application as catalysts in the selective hydration of organonitriles into amides". V. Cadierno, J. Díez, J. Francos, J. Gimeno. *Chem. Eur. J.* **2010**, *16*, 9808.
- 8.- "Palladium-catalyzed cycloisomerization of (Z)-enynols into furans using green solvents: Glycerol vs. water". J. Francos, V. Cadierno. *Green Chem.* **2010**, *12*, 1552.
- 9.- "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.
- 10.- "Chemistry by nanocatalysis: 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.

- 11.- "Ruthenium(IV) catalysts for the selective estragole to *trans*-anethole isomerization in environmentally friendly media". B. Lastra-Barreira, J. Francos, P. Crochet, V. Cadierno, *Green Chem.* **2011**, 13, 307.
- 12.- "Ruthenium(IV)-catalyzed Markovnikov addition of carboxylic acids to terminal alkynes in aqueous medium". V. Cadierno, J. Francos, J. Gimeno, *Organometallics* **2011**, 30, 852.
- 13.- "Access to unusual polycyclic spiro enones from 2,2'-bis(allyloxy)-1,1'-binaphthyls using Grubbs' catalysts: An unprecedented one-pot RCM/Claisen sequence". E. Piedra, J. Francos, N. Nebra, F. J. Suárez, J. Díez, V. Cadierno, *Chem. Commun.* **2011**, 47, 7866.
- 14.- "Ibuprofenamide: a convenient method of synthesis by catalytic hydration of 2-(4-isobutylphenyl)propionitrile in pure aqueous medium". R. García-Álvarez, J. Francos, P. Crochet, V. Cadierno, *Tetrahedron Lett.* **2011**, 52, 4218.
- 15.- "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.

Autor: Beatriz Lastra Barreira
Título : Síntesis de complejos de rutenio hidrosolubles y desarrollo de nuevos procesos catalíticos en agua
Fecha lectura: 15/07/2011

Publicaciones:

- 1.- “Highly water-soluble arene-ruthenium(II) complexes: application to catalytic isomerization of allylic alcohols in aqueous medium”. B. Lastra-Barreira, J. Díez, P. Crochet, *Green Chem.*, **2009**, *11*, 1681.
- 2.- “Ruthenium-catalyzed estragole isomerization: high *trans*-selective formation of anethole”. B. Lastra-Barreira, P. Crochet, *Green Chem.* **2010**, *12*, 1311.
- 3.- “Chiral phosphonite, phosphite and phosphoramidite η^6 -arene-ruthenium(II) complexes: applications to the kinetic resolution of allylic alcohols”. M. A. Fernández-Zúmel, B. Lastra-Barreira, M. Scheele, J. Díez, P. Crochet, J. Gimeno, *Dalton Trans.*, **2010**, *39*, 7780.
- 4.- “Ruthenium(IV) catalysts for selective estragole to *trans*-anethole isomerization in environmentally friendly media”. B. Lastra-Barreira, J. Francos, P. Crochet, V. Cadierno, *Green Chem.*, **2011**, *13*, 307.
- 5.- “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.
- 6.- “Functionalized arene-ruthenium(II) complexes: dangling vs. tethering side chain”. B. Lastra-Barreira, J. Díez, P. Crochet, I. Fernández, *Dalton Trans.* **2013**, *42*, 5412.

Autor: Francisco José Suárez Álvarez
Título : Reacciones de isomerización de alcoholes alílicos y formación de enlaces carbono-carbono en agua promovidas por catalizadores bifuncionales de rutenio(IV)
Fecha lectura: 30/09/2011

Publicaciones:

- 1.- "Synthesis and structure of ruthenium(IV) complexes featuring N-heterocyclic ligands with an N-H group as the hydrogen-bond donor: hydrogen interactions in solution and in the solid state". J. Díez, J. Gimeno, I. Merino, E. Rubio, F. J. Suárez, *Inorg. Chem.* **2011**, 50, 4868.
- 2.- "Redox isomerization of allylic alcohols into carbonyl compounds catalyzed by the ruthenium(IV) complex $[\text{Ru}(\eta^3\text{:}\eta^3\text{-C}_{10}\text{H}_{16})\text{Cl}(\kappa^2\text{-O,O-CH}_3\text{CO}_2)]$ in water and ionic liquids: Highly efficient transformations and catalyst recycling." J. García-Álvarez, J. Gimeno, F. J. Suárez, *Organometallics* **2011**, 30, 2893.
- 3.- "Iminophosphorane Cu(I) complexes as highly efficient catalysts for 1,3-dipolar cycloaddition of azides with terminal and 1-iodoalkynes in water". J. García Álvarez, J. Díez, J. Gimeno, F. J. Suárez, C. Vicent, *Eur. J. Inorg. Chem.* **2012**, 5854.
- 4.- "Highly Efficient Redox Isomerization of Allylic Alcohols Catalyzed by Pyrazole Based Ruthenium(IV) Complexes in Water: Mechanisms of Bifunctional Catalysis in Water". L. Bellarosa, J. Díez, J. Gimeno, A. Lledós, F. J. Suárez, G. Ujaque, C. Vicent, *Chem. Eur. J.* **2012**, 18, 7749.
- 5.- "Access to unusual polycyclic spiro-enones from 2,20-bis(allyloxy)-1,10-binaphthyls using Grubbs' catalysts: an unprecedented one-pot RCM/Claisen sequence". E. Piedra, J. Francos, N. Nebra, F. J. Suárez, J. Díez, V. Cadierno, *Chem. Commun.* **2011**, 47, 7866.
- 6.- "Imidazole based ruthenium(IV) complexes as highly efficient bifunctional catalysts for the redox isomerization of allylic alcohols in aqueous medium: water as cooperating ligand." J. Díez, J. Gimeno, A. Lledós, F. J. Suárez, C. Vicent, *ACS Catal.*, **2012**, 2, 2087.
- 7.- "Arene-ruthenium(II) complexes with asymmetrical guanidinate ligands: synthesis, characterization and application in the base-free catalytic isomerization of allylic alcohols". R. García-Álvarez, F. J. Suárez, J. Díez, P. Crochet, V. Cadierno, A. Antiñolo, R. Fernández-Galán, F. Carrillo-Hermosilla, *Organometallics*, **2012**, 31, 8301.
- 8.- "Deep Eutectic Solvents (DES) as green reaction media for the redox isomerization of allylic alcohols into carbonyl compounds catalyzed by the ruthenium complex $[\text{Ru}(\eta^3\text{:}\eta^3\text{-C}_{10}\text{H}_{16})\text{Cl}_2(\text{benzimidazole})]$ ". C. Vidal, F. J. Suárez, J. García-Álvarez, *Catal. Commun.*, **2013**, in press, DOI: 10.1016/j.catcom.2013.04.002.

Autor: Francisco Javier Quijada Saldaña
Título: Síntesis quimioenzimática de diaminas vecinales ópticamente activas.
Aplicación como agentes de solvatación quiral
Fecha lectura: 07/11/2011

Publicaciones:

- 1.- "Chemoenzymatic preparation of optically active anthracene derivatives." F. J. Quijada, J. González-Sabín, F. Rebolledo, V. Gotor. *Tetrahedron: Asymmetry* / 19 / **2008** / 2589-2593.
- 2.- "An efficient chemoenzymatic method to prepare optically active primary-tertiary *trans*-cycloalkane-1,2-diamines." F. J. Quijada, J. González-Sabín, F. Rebolledo, V. Gotor. *Tetrahedron* / 65 / **2009** / 8028-8034.
- 3.- "Enzymatic dynamic kinetic resolution of *rac-cis-N*-(alkoxycarbonyl)cyclopentane-1,2-diamines based on spontaneous racemization." F. J. Quijada, V. Gotor, F. Rebolledo. *Organic Letters* / 12 / **2010** / 3602-3605.
- 4.- "Chemoenzymatic preparation of optically active *trans*- and *cis*-cyclohex-4-ene-1,2-diamine and *trans*-6-aminocyclohex-3-enol derivatives." F. J. Quijada, F. Rebolledo, V. Gotor. *Tetrahedron* / 68 / **2012** / 7670-7674.

Patente:

- 1.- "Síntesis enzimática de derivados enantioméricamente enriquecidos de *cis*- y *trans*-ciclopentano-1,2-diaminas." J. González Sabín, F. Morís Varas, C. Peña González, F. J. Quijada Saldaña, F. Rebolledo Vicente, V. Gotor Santamaría. N° Publicación Internacional: WO 2010/007202 A1. Fecha publicación: 21-01-2010.