

# **Curriculum vitae**

**Rubén Martín**

December 2018

**Name:** Rubén Martín

**Born:** 16th December 1976; Barcelona (Spain)

**Current Position** *Group Leader (since Sept. 2008)*  
*ICREA Professor (since October 2013)*

**Address:** Institute of Chemical Research of Catalonia (ICIQ)  
Av. Països Catalans, 16  
43007, Tarragona (Spain)  
Office: +34-977-920248; FAX: +34-977-920823  
[rmartinromo@iciq.es](mailto:rmartinromo@iciq.es)

**Research ID:** [www.researcherid.com/rid/M-2905-2014](http://www.researcherid.com/rid/M-2905-2014)

**Previous positions:**

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**Massachusetts Institute of Technology (MIT), Cambridge, MA (USA) 05/2005-08/2008**

*M.E.C-Fulbright Postdoctoral Fellow; Advisor: Prof. Stephen L. Buchwald*

Title: "Cu-catalyzed C-N and Pd-catalyzed C-C Bond-forming Reactions"

**Max-Planck-Institut für Kohlenforschung, Mülheim an der Ruhr (Germany) 01/2004-04/2005**

*Alexander von Humboldt Postdoctoral Fellow; Advisor: Prof. Alois Fürstner*

Title: "Low-valent Iron Complexes in Cycloadditions and Cross-coupling Reactions"

**Max-Planck-Institut für Kohlenforschung, Mülheim an der Ruhr (Germany) 01/2003-04/2003**

*Visiting Fellow; Advisor: Prof. Alois Fürstner*

Title: "Iron-catalyzed Reactions of Vinyl Epoxides and Grignard Reagents"

**University of Barcelona, Barcelona (Spain) 01/1999-11/2003**

*Ph.D Research Fellow; Advisor: Prof. Antoni Riera Escalé*

Title: "Enantioselective Total Synthesis of Glycosidases Inhibitors" (*Summa Cum Laude*)

**Awards:**

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-2019 Parazapharma Lectureship Award

-2019 MIT-Merck Lectureship Award

- 2019 Novartis Chemistry Lectureship Award
- 2018 II Premi Banc de Sabadell a les Ciències i l'Enginyeria
- 2018 IOCF Lectureship Award
- 2018 Hirata Award
- 2018 ChemSocRev Pioneering Investigator Lectureship Award
- 2018 Genentech Lectureship in Organic Chemistry
- 2018 Bristol-Myers-Squibb Lectureship
- 2018 Pharmaron Lectureship
- 2017 Liebig-Lectureship Award
- 2017 OMCOS Award
- 2017 Marcial Moreno Lectureship Award
- 2015 RSEQ Excellent Research Award
- 2011 ERC Starting Grant Award
- 2011 Eli Lilly Young Research Investigator Award
- 2011 Thieme Chemistry Journal Award
- 2010 Sigma Aldrich RSEQ Young Research Investigator Award
- 2008 Ramon y Cajal Award
- 2005 MEC/Fulbright Postdoctoral Fellow
- 2004 Alexander von Humboldt Postdoctoral Fellow

### **Teaching Experience:**

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| 2000-2002 | " <i>Organic Synthesis</i> "; 2nd year Chemistry Degree; University of Barcelona.<br>Credits given: 1.5 (15h)                              |
| 2009-2013 | " <i>Stereoselective and Asymmetric Synthesis</i> "; Master Synthesis and Catalysis; Universitat Rovira i Virgili. Credits given: 3 (30 h) |
| 2013-2018 | " <i>Methods in Synthesis</i> "; Master Synthesis and Catalysis; Universitat Rovira i Virgili.<br>Credits given: 3 (30 h)                  |

## **Organization of scientific meetings:**

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- 2018 ICIQ-INTECAT School  
Montbrío del Camp (Spain); Participants: 74  
**Main speakers**: Peter R. Schreiner (Germany), Timothy Noël (The Netherlands), Philippe Renaud (Switzerland), Keary M. Engle (USA)
- 2017 ICIQ School  
Tarragona (Spain); Participants: 113  
**Main speakers**: Shu-Li You (Shanghai), Matthew Sigman (Utah), Jeffrey Bode (ETH)
- 2015 Co-organization.  
*Organometallic chemistry directed towards organic synthesis – OMCOS18*  
Sitges (Barcelona); Participants: 820  
**Main speakers**: Bergman (Berkeley), Schwarz (Berlin), Sanford (Michigan). Hashmi (Heidelberg), Chatani (Osaka), Marer (Würzburg), Chang (KAIST), Zhu (EPFL), Szabó (Stockholm).
- 2014 *ICIQ 10th anniversary symposium*  
Tarragona (Spain); Participants: 237  
**Main speakers**: Buchwald (MIT), Baran (Scripps), Yu (Scripps), MacMillan (Princeton), Carell (Münich), Rebek (Scripps), Pfaltz (Basel), Stang (Utah), Smith (Upenn)
- 2013 *ICIQ-UNICAT Summer School (organized between ICIQ and TU-Berlin)*  
Tarragona (Spain); Participants: 174  
**Main speakers**: Snyder (Scripps), Dixon (Oxford), Oestereich (TU-Berlin), Nakamura (Tokyo), Driess (TU-Berlin)
- 2012 *7th Asian-European Symposium on metal-mediated efficient organic synthesis*  
Tarragona (Spain); Participants: 141  
**Main speakers**: Chatani (Osaka), Sigman (Utah), Sanford (Michigan), Beller (Rostock), Itami (Nagoya), Hayashi (Nanyang), Plietker (Stuttgart), Fensterbank (Paris)
- 2011 *ICIQ Summer School*  
Tarragona (Spain); Participants: 157  
**Main speakers**: Knochel (Münich), Toste (Berkeley), Bode (ETH), Hartwig (Berkeley)

## **Institutional Responsibilities:**

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- 2017 Associate Editor Synlett  
2013- Associate Professor (ICIQ)

- 2008-2013 Assistant Professor (ICIQ)  
 2010 Seminar Manager (ICIQ)  
 In charge of the 2010 seminar program at ICIQ: <http://www.iciq.org/agenda/?pyear=2010>  
 2008- Member of the jury of 15 PhD thesis at Spanish & International universities  
 2008- Board academic affairs (ICIQ)

### **Commissions of Trust:**

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- 2017 External Advisory Board (ACS Catalysis)  
 2015 International advisory board of Grant-in-aid for scientific research on innovative areas by JSPS (Japan society for the promotion of science)  
 2015 International advisory board of Chem (Cell Press)  
 2013 International advisory board of European Journal of Organic Chemistry (EurJOC)  
 2013 Consultant of Catalyst Group Resources TCGR S.A  
 2013 Consultant Galchimia S.A  
 2013 Committee Member of the Catalan Agency for Research (AGAUR)  
 2012 - present Board member of the Catalan Section of the National Society of Chemistry – RSEQ  
 2009 - 2011 Committee member of the Spanish National Agency for Projects Evaluation – ANEP

### **Memberships of Scientific Societies :**

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- 2008- Member of the National Society of Chemistry in Spain – RSEQ  
 2006- Member of the American Chemical Society – ACS  
 2005- Member of the Alexander von Humboldt Society – AvH

### **Publications :**

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#### **→ As graduate student & postdoc:**

- 1) “A concise enantioselective entry to the synthesis of deoxyazasugars”  
 Martín, R.; Moyano, A.; Pericàs, M. A.; Riera, A.  
*Org. Lett.* **2000**, 2, 93.
- 2) “A new method for the enantioselective synthesis of N-Boc- ~~α~~disubstituted ~~α~~amino acids”  
 Martín, R.; Islas, G.; Moyano, A.; Pericàs, M. A.; Riera, A.  
*Tetrahedron* **2001**, 57, 6367.

- 3) "Ring-closing metathesis of chiral allyl amines. Enantioselective synthesis of (2S,3R,4S)-3,4-dihydroxyproline"  
Martín, R.; Alcón, M.; Pericàs, M. A.; Riera, A.  
*J. Org. Chem.* **2002**, *67*, 6896.
- 4) "Cross-coupling of alkyl halides with aryl Grignard reagents catalyzed by a low-valent iron complex"  
Martín, R.; Fürstner, A.  
*Angew. Chem., Int. Ed.* **2004**, *43*, 3955 (**VIP paper**).
- 5) "General approach to glycosidase inhibitors. Enantioselective synthesis of deoxymannojirimycin and Swainsonine"  
Martín, R.; Murruzzu, C.; Pericàs, M. A.; Riera, A.  
*J. Org. Chem.* **2005**, *70*, 2325.
- 6) "Advances in iron-catalyzed cross-coupling reactions"  
Fürstner, A.; Martín, R.  
*Chem. Lett.* **2005**, *34*, 624.
- 7) "Cycloisomerization of enynes catalyzed by iron(0)-ate complexes"  
Fürstner, A.; Martín, R.; Majima, K.  
*J. Am. Chem. Soc.* **2005**, *127*, 12236.
- 8) "Domino Cu-catalyzed C-N coupling/hydroamidation: a highly efficient synthesis of nitrogen heterocycles"  
Martín, R.; Rivero, M. R.; Buchwald, S. L.  
*Angew. Chem., Int. Ed.* **2006**, *45*, 7079 (**Hot paper**).
  - **Highlighted in Synfacts 2007**, Issue 1
- 9) "Pd-catalyzed Kumada-Corriu cross-coupling reactions at low temperatures allow the use of Knochel-type Grignard reagents"  
Martín, R.; Buchwald, S. L.  
*J. Am. Chem. Soc.* **2007**, *129*, 3844.
  - **Highlighted at** <http://www.tcieurope.eu/en/catalog/B1374.html>
  - **Highlighted in SynFacts 2007**, Issue 6
- 10) "Cu-catalyzed tandem C-N bond formation for the synthesis of pirroles and heteroarylpyrroles"  
Martín, R.; Larsen, C. H.; Cuenca, A.; Buchwald, S. L.  
*Org. Lett.* **2007**, *9*, 3379.
- 11) "Sequential copper-catalyzed vinylation/cyclization: an efficient synthesis of functionalized oxazoles"  
Martín, R.; Cuenca, A.; Buchwald, S. L.

- Org. Lett.*, **2007**, 9, 5521.
- 12) "A general method for the direct arylation of aldehydes with aryl bromides and chlorides"  
 Martín, R.; Buchwald, S. L.  
*Angew. Chem., Int. Ed.* **2007**, 38, 7236 (**Hot paper**).
- 13) "A cheap metal for a "noble" task: preparative and mechanistic aspects of cycloisomerization and cycloaddition reactions catalyzed by low-valent iron complexes"  
 Fürstner, A.; Majima, K.; Martín, R.; Krause, H.; Kattinig, E.; Goddard, R.; Lehmann, C. W.  
*J. Am. Chem. Soc.* **2008**, 130, 1992.
- 14) "Preparation, structure, and reactivity of nonstabilized organoiron compounds. Implications for iron-catalyzed cross-coupling reactions"  
 Fürstner, A.; Martín, R.; Krause, H.; Seidel, G.; Goddard, R.; Lehmann, C. W.  
*J. Am. Chem. Soc.* **2008**, 130, 8773.
- 15) "Palladium-catalyzed Suzuki-Miyaura cross-coupling reactions employing dialkylbiaryl phosphine ligands"  
 Martín, R.; Buchwald, S. L.  
*Acc. Chem. Res.* **2008**, 41, 1461.
- 16) "An improved protocol for the Pd-catalyzed arylation of aldehydes with aryl halides"  
 Martín, R.; Buchwald, S. L.  
*Org. Lett.*, **2008**, 10, 4561.

→ **As group leader at ICIQ (since October 2008):**

- 17) "Metal-catalyzed carboxylation of organometallic reagents with carbon dioxide"  
 Correa, A.; Martín, R.\*  
*Angew. Chem. Int. Ed.* **2009**, 48, 6201.
- 18) "Palladium-catalyzed direct carboxylation of aryl bromides with carbon dioxide"  
 Correa, A.; Martín, R.\*  
*J. Am. Chem. Soc.* **2009**, 131, 15974.
- **Highlighted in SynFacts 2010**
  - **Highlighted in Nature Chem.** **2010**, 2, 710
  - **Highlighted** <http://www.plataformasinc.es/index.php/esl/Noticias/Una-via-para-reciclar-el-CO2>
- 19) "Pd-catalyzed intramolecular acylation of aryl bromides via C-H functionalization: a highly efficient synthesis of benzocyclobutenones"

- Alvarez-Bercedo, P.; Flores-Gaspar, A.; Correa, A.; Martin, R.\*  
*J. Am. Chem. Soc.* **2010**, *132*, 466.
- 20) “Ni-catalyzed reduction of inert C-O bonds: a new strategy for using aryl ethers as easily removable directing groups”  
Alvarez-Bercedo, P.; Martin, R.\*  
*J. Am. Chem. Soc.* **2010**, *132*, 17352.
- **Selected to be the cover page of *J. Am. Chem. Soc.***
  - **Highlighted in *SynFacts* 2011, Issue 3**
  - **Highlighted in *SynForm* 2011, Issue 4**
  - **Most read article in November 2011**
- 21) “Mechanistic switch via subtle ligand modulation: palladium-catalyzed synthesis of ~~v~~substituted styrenes via C-H bond functionalization”  
Flores-Gaspar, A.; Martin, R.\*  
*Adv. Synth. Cat.* **2011**, *353*, 1223.
- 22) “Pd-catalyzed ~~v~~arylation and related compounds: recent developments and perspectives”  
Novák, P.; Martin, R.\*  
*Curr. Org. Chem.* **2011**, *15*, 3233.
- 23) “Myth of reality? Fixation of carbon dioxide into complex organic matter under mild conditions”  
Kleij, A.; Martin, R.\*  
*ChemSusChem.* **2011**, *4*, 1259.
- 24) “Synergistic palladium-catalyzed C(sp<sup>3</sup>)-H activation/C(sp<sup>3</sup>)-O bond formation: a direct, step-economical route to benzolactones  
Novák, P.; Correa, A.; Gallardo-Donaire, J.; Martin, R.\*  
*Angew. Chem. Int. Ed.* **2011**, *50*, 12236.
- 25) “Synthesis of 8,8-dipropylbicyclo[4.2.0]octa-1,3,5-trien-7-one via Pd-catalyzed intramolecular C-H bond-acylation”  
Flores-Gaspar, A.; Martin, R.\*  
*Org. Synth.* **2012**, *89*, 159.
- 26) “Ligand-free Ni-catalyzed reductive cleavage of inert carbon-sulfur bonds”  
Barbero, N.; Martin, R.\*  
*Org. Lett.* **2012**, *14*, 796.
- 27) “Ligand-accelerated Pd-catalyzed ketone ~~■~~ylation via C-C cleavage with aryl chlorides”

- Ziadi, A.; Martin, R.\*  
*Org. Lett.* **2012**, *14*, 1266.
- 28) “*N*-heterocyclic carbene dichotomy in Pd-catalyzed acylation of aryl chlorides via C-H bond functionalization”  
Flores-Gaspar, A.; Gutiérrez-Bonet, A.; Martin, R.\*  
*Org. Lett.* **2012**, *14*, 5234.
- 29) “Formal **■**kynylation of ketones via Pd-catalyzed C-C cleavage”  
Ziadi, A.; Correa, A.; Martin, R.\*  
*Chem. Commun.* **2013**, *49*, 4286
- 30) “Ni-catalyzed direct carboxylation of benzyl halides with CO<sub>2</sub>”  
Leon, T.; Correa, A.; Martin, R.\*  
*J. Am. Chem. Soc.* **2013**, *135*, 1221
- **Most read article in January 2013**
- 31) “Combined experimental and theoretical study on the reductive cleavage of inert C-O bonds with silanes: ruling out a classical Ni(0)/Ni(II) catalytic couple and evidence for Ni(I) intermediates”  
Cornellà, J.; Gómez-Bengoà, E.; Martín, R.\*  
*J. Am. Chem. Soc.* **2013**, *135*, 1997
- 32) “Nickel-catalyzed decarbonylative C-H coupling reaction: a strategy for preparing bis(heteroaryl)backbones”  
Correa, A.; Cornellà, J.; Martín, R.\*  
*Angew. Chem. Int. Ed.* **2013**, *52*, 1878
- **Most read article in January 2013**
- 33) “Recent advances in the synthesis and application of benzocyclobutenones and related compounds”  
Flores-Gaspar, A.; Martin, R.\*  
*Synthesis* **2013**, *45*, 563
- 34) “Cu-catalyzed mild C(sp<sup>2</sup>)-H functionalization assisted by carboxylic acids en route to hydroxylated arenes”  
Gallardo Donaire, J.; Martin, R.\*  
*J. Am. Chem. Soc.* **2013**, *135*, 9350
- **Most read article in June 2013**
- 35) “Fe-catalyzed regiodivergent [1,2]-shift of **▼**aryl aldehydes”  
Gutiérrez-Bonet, A.; Flores-Gaspar, A.; Martin, R.\*  
*J. Am. Chem. Soc.* **2013**, *135*, 12576

- **Most read article in August 2013**
- 36) “Ni-catalyzed stereoselective arylation of inert C-O bonds at low temperatures”  
Cornellà, J.; Martin, R.\*  
*Org. Lett.* **2013**, *15*, 6298
- **Highlighted in SynFacts 2014, Issue 3**
- 37) “Stereoselective synthesis of 2-acetamido-1,2-dideoxyallonojirimycin (DAJNAc), a new potent hexosaminidase inhibitor”  
de la Fuente, A.; Martin, R.; Mena-Barragán, T.; Verdaguer, X.; García-Fernández, J. M.; Mellet, C. O.; Riera, A.  
*Org. Lett.* **2013**, *15*, 3638
- 38) “Ni-catalyzed carboxylation of C(sp<sup>2</sup>)- and C(sp<sup>3</sup>)-O bonds with CO<sub>2</sub>”  
Correa, A.; León, T.; Martin, R.\*  
*J. Am. Chem. Soc.* **2014**, *136*, 1062
- **Most read article in January 2014**
- 39) “A mild Ni/Cu-catalyzed silylation via C-O cleavage”  
Zarate, C.; Martin, R.\*  
*J. Am. Chem. Soc.* **2014**, *136*, 223
- **Most read article in February 2014**
- 40) “Ni-catalyzed direct reductive amidation via C-O bond-cleavage”  
Correa, A.; Martin, R.\*  
*J. Am. Chem. Soc.* **2014**, *136*, 7253
- **Most read article in May 2014**
- 41) “Metal-catalyzed reductive coupling reactions of organic halides with carbonyl-type compounds”  
Moragas, T.; Correa, A.; Martin, R.\*  
*Chem. Eur. J.* **2014**, *20*, 8242
- **Most accessed paper in June 2014**
- 42) “Ni-catalyzed carboxylation of unactivated primary alkyl bromides and sulfonates with CO<sub>2</sub>”  
Liu, Y.; Cornellà, J.; Martin, R.\*  
*J. Am. Chem. Soc.* **2014**, *136*, 11212
- **Most accessed paper in August 2014**
- 43) “Ni-catalyzed reductive cleavage of methyl 3-methoxy-2-naphthoate”

- Cornellà, J.; Zarate, C.; Martin, R.\*  
*Org. Synth.* **2014**, 91,260
- 44) “Mild ArI-catalyzed C(sp<sup>2</sup>)-H or C(sp<sup>3</sup>)-H functionalization/C-O formation: a intriguing catalyst-controlled selectivity switch”  
Wang, X.; Gallardo-Donaire, J.; Martin, R.\*  
*Angew. Chem. Int. Ed.* **2014**, 53, 11084  
• **Highlighted in SynFacts 2014, Issue 2**
- 45) “Metal-catalyzed activation of ethers via C-O bond-cleavage: a new strategy for molecular diversity”  
Cornellà, J.; Zarate, C.; Martin, R.\*  
*Chem. Soc. Rev.* **2014**, 43,8081  
• **Most read article in August 2014**
- 46) “Ligand-controlled regiodivergent Ni-catalyzed reductive carboxylation of allyl esters with CO<sub>2</sub>”  
Moragas, T.; Cornellà, J.; Martin, R.\*  
*J. Am. Chem. Soc.* **2014**, 136, 17702  
• **Most read article in December 2014**
- 47) “Nickel-catalyzed enantioselective C-C bond-formation through C(sp<sup>2</sup>)-O cleavage in aryl esters”  
Cornella, J.; Jackson, E.; Martin, R.\*  
*Angew. Chem. Int. Ed.* **2015**, 54, 4075  
• **Highlighted in Synfacts 2015, issue 4, 389**
- 48) “Nickel-catalyzed chemo-, regio- and diastereoselective bond-formation through proximal C-C cleavage of benzocyclobutenones”  
Juliá-Hernández, F.; Ziadi, A.; Nishimura, A.; Martin, R.\*  
*Angew. Chem. Int. Ed.* **2015**, 54, 9537
- 49) “Ni-catalyzed divergent cyclization/carboxylation of unactivated primary and secondary alkyl halides with CO<sub>2</sub>”  
Wang, X.; Liu, Y.; Martin, R.\*  
*J. Am. Chem. Soc.* **2015**, 137, 6476  
• **Most read article in May 2015**
- 50) “Ipsoborylation of aryl ethers via Ni-catalyzed C-OMe cleavage”  
Zarate, C.; Manzano, R.; Martin, R.\*  
*J. Am. Chem. Soc.* **2015**, 137, 6754  
• **Most read article in May 2015**

- 51) “Ni-catalyzed regioselective hydrocarboxylation of alkynes with CO<sub>2</sub> by using simple alcohols as proton sources”  
Wang, X.; Nakajima, M.; Martin, R\*  
*J. Am. Chem. Soc.* **2015**, *137*, 8924  
• **Most read article in July 2015**
- 52) “Ni-catalyzed borylation of aryl fluorides via C-F cleavage”  
Liu, X.-W.; Echavarren, J.; Zarate, C.; Martin, R\*  
*J. Am. Chem. Soc.* **2015**, *137*, 12470  
• **Most accessed article in September 2015**
- 53) “Ni-catalyzed carboxylation of benzylic C-N bonds with CO<sub>2</sub>”  
Moragas, T.; Gaydou, M.; Martin, R\*  
*Angew. Chem. Int. Ed.* **2016**, *55*, 5053  
• **Most read article in March 2016**
- 54) “Pd-catalyzed C(sp<sup>3</sup>)-H functionalization/carbenoid insertion: all-carbon quaternary centers via multiple C-C bond formation”  
Gutiérrez-Bonet, A.; Juliá-Hernández, F.; de Luis, B.; Martin, R\*  
*J. Am. Chem. Soc.* **2016**, *138*, 6384-6387  
• **Most read article in May 2016**
- 55) “Nickel-catalyzed reductive amidation of unactivated alkyl bromides”  
Serrano, E.; Martin, R\*  
*Angew. Chem. Int. Ed.* **2016**, *55*, 11207-11211  
• **Selected as very Important Paper**  
• **Most accessed articles in July 2016**
- 56) “Ni-catalyzed carboxylation of unactivated alkyl chlorides with CO<sub>2</sub>”  
Börjesson, M.; Moragas, T.; Martin, R\*  
*J. Am. Chem. Soc.* **2016**, *138*, 7504-7507  
• **Most read article in June 2016**  
• **Highlighted in Science, vol.353, issue 6295, pp.134**
- 57) “Ni-catalyzed reductive carboxylation of cyclopropyl motifs with carbon dioxide”

- Moragas, T.; Martin, R\*  
*Synthesis*. **2016**, *48*, 2816
- 58) “Ni- and Fe-catalyzed carboxylation of unsaturated hydrocarbons with CO<sub>2</sub>”  
Juliá-Hernández, F; Gaydou, M; Serrano, E; Van Gemmeren, M.; Martin, R\*  
*Top Curr Chem*. **2016**, 374:45
- 59) “Metal-catalyzed carboxylation of organic (pseudo)halides with CO<sub>2</sub>”  
Börjesson, M.; Moragas, T.; Gallego, D.; Martin, R\*  
*ACS Catal*. **2016**, 6739-6749
- **ACS Editor’s Choice**
  - **Most read article in October 2016**
- 60) “Phenol derivatives: modern electrophiles in cross-coupling reactions”  
Zárate, C.; van Gemmeren, M.; Somerville, R.J. ; Martin,R\*  
*Advances in Organometallic Chemistry*, Elsevier, **2016**, *66*, 143
- 61) “Alkyl bromides as mild hydride sources in Ni-catalyzed hydroamidation of alkynes with isocyanates”  
Wang, X.; Nakajima, M.; Serrano, E.; Martin, R\*  
*J. Am. Chem. Soc* . **2016**, *138*, 15531
- **Most read article in December 2016**
- 62) “Visible light-promoted atom transfer radical cyclization of unactivated alkyl iodides”  
Shen, Y.; Cornella, J.; Juliá-Hernández, F.; Martin, R\*  
*ACS Catal*. **2017**, *7*, 409-412
- **Most read article in January 2017**
- 63) “Versatile synthesis and enlargement of functionalized distorted heptagon-containing nanographenes”  
Marquez,I; Fuentes,N; Cruz,C; Puente-Muñoz,V; Sotorrios,L; Marcos,M.L; Choquesillo-Lazarte,D;  
Biel,B; Crovetto,L; Gomez-Bengoá,E; Gonzalez,M.T; Martín,R\*; Cuerva,J.M; G.Campaña,A  
*Chem. Sci*. **2017**, *8*, 1068-1074
- **Highlighted in SynFacts, Issue 13, 34**

- 64) "A mild and ligand-free Ni-catalyzed silylation via C-OMe cleavage"  
Zarate, C.; Nakajima, M.; Martin, R.\*  
*J. Am. Chem. Soc.* **2017**, *139*, 1191-1197
- **Most read article in January 2017**
- 65) "Ni-catalyzed stannylation of aryl esters via C-O bond cleavage"  
Gu, Y.; Martin, R.\*  
*Angew. Chem. Int. Ed.* **2017**, *56*, 3187-3190
- **Most accessed articles in February 2017**
- 66) "Switchable Site-Selective Catalytic Carboxylation of Allylic Alcohols with CO<sub>2</sub>"  
van Gemmeren, M.; Börjesson, M.; Tortajada, A.; Sun, S-Z.; Okura, K.; Martin, R.\*  
*Angew. Chem. Int. Ed.* **2017**, *56*, 6558-6562
- **Most accessed articles in May 2017**
- 67) "Forging C-C bonds through decarbonylation of aryl ketones"  
Somerville, R.J.; Martin, R.\*  
*Angew. Chem. Int. Ed.* **2017**, *56*, 6708-6710
- **Most accessed articles in May 2017**
- 68) "Remote Carboxylation of Halogenated Aliphatic Hydrocarbons with Carbon Dioxide"  
Juliá-Hernández, F.; Moragas, T.; Martin, R.\*  
*Nature* **2017**, *545*, 84-88
- \*Highlighted in C&EN, Chemistry World, Chemistry Views and Nature News and Views.**
- 69) "Visible-Light-Driven Carboxylation of Aryl Halides by the Combined Use of Palladium and Photoredox Catalysts"  
Shimomaki, K.; Murata, K.; Martin, R.; Iwasawa, N.  
*J. Am. Chem. Soc.* **2017**, *139*, 9467-9470.
- **Most accessed articles in July 2017**
- 70) "Catalytic Intermolecular Dicarbofunctionalization of Styrenes with CO<sub>2</sub> and Radical Precursors"  
Yatham, V.R.; Shen, Y.; Martin, R.\*  
*Angew. Chem. Int. Ed.* **2017**, *56*, 10915-10919.

- **Most accessed articles in August 2017**

- 71) “Site-Selective Catalytic Carboxylation of Unsaturated Hydrocarbons with CO<sub>2</sub> and Water”  
Gaydou, M.; Moragas, T.; Juliá-Hernandez, F.; Martin, R\*  
*J. Am. Chem. Soc.* **2017**, *139*, 12161-12164

- **Most accessed articles in August 2017**

- 72) “Stereospecific Nickel-Catalyzed Borylation of Secondary Benzyl Pivalates”  
Martin-Montero, R.; Krolikowski, T.; Zárate, C.; Martin, R\*  
*Synlett* **2017**, *28*, 2604-2608

- **Invited article for the “Cluster C-O Activation”**

- 73) “Author Profile-Rubén Martin”  
*Angew. Chem. Int. Ed.* **2018**, *57*, 1444
- 74) “Walking Metals for Remote Functionalization”  
Sommer, H.; Juliá-Hernandez, F.; Martin, R.; Marek, I.  
*ACS Cent. Sci.* **2018**, *4*, 2, 153-165

- **Most read article in February 2018**

- 75) “Ni-Catalyzed Site-Selective Dicarboxylation of 1,3-Dienes with CO<sub>2</sub>”  
Tortajada, A.; Ninokata, R.; Martin, R\*  
*J. Am. Chem. Soc.* **2018**, *140*, 2050-2053

- **Most read article in February 2018**

- **Highlighted in Chemistry Views**

- 76) “Nickel-Catalyzed Umpolung Arylation of Ambiphilic  $\alpha$ -Bromoalkyl Boronic Esters”  
Sun, S.Z.; Martin, R\*  
*Angew. Chem. Int. Ed.* **2018**, *57*, 3622-3625
- 77) “Forging Amide Bonds via Metal-Catalyzed Cross-Coupling”  
Serrano, E.; Martin, R\*  
*Eur. J. Org. Chem.* **2018**, DOI: 10.1002/ejoc.201800175.
- 78) “Transition metal-catalyzed carboxylation reactions with carbon dioxide”  
Tortajada, A.; Juliá-Hernández, F.; Börjesson, M.; Moragas, T.; Martin, R.\*  
*Angew. Chem. Int. Ed.* **2018**, DOI: 10.1002/anie.201803186
- 79) “Intermediacy of Ni–Ni species in sp<sup>2</sup> C–O bond cleavage of aryl esters: relevance in catalytic C–Si Bond Formation”

Somerville,R; Hale,L;Gomez-Bengoa,E; Burés,J; Martin,R.\*

*J. Am. Chem. Soc.* **2018**, DOI: 10.1021/jacs.8b04479

- **Most read article in August 2018**
- **Highlighted in Organic Process & Development**

80) “*sp<sup>3</sup> CH Arylation and Alkylation Enabled by the Synergy of Triplet Excited Ketones and Nickel Catalysts*”

Shen, Y.; Gu, Y.; Martin, R.\*

*J. Am. Chem. Soc.* **2018**, DOI: 10.1021/jacs.8b07405

- **Most read article in September 2018**

81) *Site-Selective Ni-Catalyzed Reductive Coupling of  $\alpha$ -Haloboranes with Unactivated Olefins*

Sun,S.Z.;Börjesson,M;Martin-Montero,R;Martin,R\*

*J. Am. Chem. Soc.* **2018**, DOI: 10.1021/jacs.8b09425.

## **Patents:**

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### **Palladium-catalyzed direct carboxylation of aryl bromides with carbon dioxide**

Correa, A.; Martin, R

Institut Català d'Investigació Química (2009)

EP0938227

### **Catalytic carboxylation of activated alkanes and/or olefins**

Juliá-Hernández, F.; Cornella,J; Martin, R.

Institut Català d'Investigació Química (2016)

163823362-1451

### **Photocatalyst system and use thereof in a photocatalytic process**

Shen, Y.; Gu, Y.; Martin, R

Institut Català d'Investigació Química (2017)

EP17382772

### **Production of adipic acid and derivatives thereof**

Tortajada, A.; Martin, R

Institut Català d'Investigació Química (2017)

EP17382245

## **Invited Presentations as Group Leader at ICIQ:**

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1. Universidad de Barcelona; Barcelona (Spain) May 2009
2. Instituto Universitario Química Organometálica "Enrique Moles"; Oviedo (Spain) July 2009
3. 2nd Annual New Year's Symposium; Aachen (Germany) January 2010
4. Max-planck Institut für Kohlenforschung; Mülheim an der Ruhr (Germany) January 2010
5. Universidad Rovira y Virgili; Tarragona (Spain) March 2010
6. Universidad Jaume I; Castellón (Spain) May 2010
7. 2nd Young EUCHEM Workshop; Regensburg (Germany) August 2010
8. GEQO-XXVIII Organometallic Meeting; Huelva (Spain) September 2010
9. 1st USA-Spanish Workshop; Benicassim (Spain) September 2010
10. 2nd China-Spain Bilateral Symposium (ICIQ); Tarragona (Spain) October 2010
11. 7th Young Researcher RSEQ-Sigma Aldrich Symposium; Valencia (Spain) November 2010
12. Bayer Cropscience; Frankfurt (Germany) December 2010
13. Universidad de Barcelona; Barcelona (Spain) February 2011
14. Queen Mary, University of London; London (England) March 2011
15. Instituto de Química Orgánica General (IQOG); Madrid (Spain) March 2011
16. Universidad de Santiago de Compostela; Santiago de Compostela (Spain) April 2011
17. Universidad de Huelva; Huelva (Spain) May 2011
18. ICIQ Summer School; Tarragona (Spain) July 2011 – 1st talk
19. ICIQ Summer School; Tarragona (Spain) July 2011 – 2nd talk
20. XXXIII Bienal de la Real Sociedad Española de Química; Valencia (Spain) July 2011
21. "New Frontiers in Organic Chemistry"; Beijing (China) September 2011
22. "ISIS-7 International Symposium on Integrated Synthesis"; Kobe (Japan) October 2011
23. Osaka University; Osaka (Japan) October 2011
24. Aarhus University; Aarhus (Denmark) November 2011
25. Eli Lilly; Alcobendas (Madrid) November 2011
26. Oxford University; London (UK) February 2012
27. Universidad Autónoma de Madrid (UAM); Madrid (Spain) February 2012
28. Universidad A Coruña; A Coruña (Spain) February 2012
29. Burgenstock Conferences; Brunnen (Switzerland) May 2012
30. Janssen Pharmaceutica-Toledo June 2012
31. 7th Asian European Symposium; Tarragona (Spain) July 2012
32. GRC Conference in Organometallic Chemistry; Newport (Rhode Island)(USA) July 2012

33. Novartis Pharmaceuticals; Boston (USA) July 2012
34. 244 ACS Meeting; Philadelphia (USA) August 2012
35. 5th International Forum on Homogeneous Catalysis SIOC; Shanghai (China) October 2012
36. East China Normal University (ECNU); Shanghai (China) October 2012
37. Wuhan University; Whuan (China) October 2012
38. École Polytechnique Fédérale de Lausanne (EPFL); Lausanne (Switzerland) October 2012
39. X SEQT MINI-SYMPOSIUM Segovia; Segovia (Spain) October 2012
40. 4<sup>a</sup> Jornadas Red CASI; Palma de Mallorca (Spain) October 2012
41. BASF Symposium; Frankfurt (Germany) November 2012
42. Sanofi-Aventis; Frankfurt (Germany) Desember 2012
43. IGER-RCMS International Nagoya Symposium; Nagoya (Japan) January 2013
44. Kyoto University; Kyoto (Japan) January 2013
45. Munster University; Munster (Germany) January 2013
46. Syngenta; Stein (Switzerland) February 2013
47. Institute of Organic Chemistry (OCI); Zurich (Switzerland) February 2013
48. University of Liverpool; Liverpool (United Kingdom) March 2013
49. Université de Genève; Geneve (Switzerland) April 2013
50. University of Girona; Girona (Spain) April 2013
51. GRC Conference in Organic Reactions & Processes; Rhode Island (USA) July 2013
52. Silqcom-Polyamat 2013 Conference; Huatulco (Mexico) October 2013
53. New Perspectives in Asymmetric and Organometallic Chemistry;Valencia (Spain) November 2013
54. Consejo Superior investigaciones Cientificas (CSIC); Sevilla (Spain) April 2014
55. University Of Toulouse ;Toulouse (France) May 2014
56. Aachen University; Aachen (Germany) June 2014
57. Michigan University; Michigan (United States) July 2014
58. Challenges in Organic Chemistry (ISACS-14); Shangai (China) August 2014
59. University of Shanghai; Shanghai (CHINA) August 2015
60. International Symposium on C-C Bond Cleavage; Kyoto (Japan) November 2014
61. 2nd International Conference on Organometallics and Catalysis; Nara (Japan) November 2014
62. University of Cambridge; Cambridge (United Kingdom) February 2015
63. ICIQ-Technion Symposium; Tarragona (Spain) February 2015
64. Bayer Healthcare workshop; Berlin (Germany) February 2015
65. Utah University; Utha (USA) April 2015
66. Indiana University; Indiana (USA) April 2015

67. UNICAT-ICIQ Summer School; Berlín (Germany) July 2015
68. ESOC; Lisboa (Portugal) July 2015
69. XXXV Reunión Bienal RSEQ; A Coruña (Spain) July 2015
70. Cambridge MIT Institute of Technology (MIT); Cambridge (USA) August 2015
71. University of Zaragoza; Zaragoza (Spain) September 2015
72. ETH-Zürich; Zürich (Switzerland) October 2015
73. University of Toulouse; Toulouse (France) October 2015
74. University of Köln; Köln (Germany) November 2015
75. Max-Planck Institut für Kohlenforschung; Mülheim an der Ruhr (Germany) November 2015
76. Aarhus University; Aarhus (Denmark) December 2015
77. Stratingh Institute for Chemistry; Groningen (Netherlands) February 2016
78. The Scripps Research Institute; San Diego (EEUU) March 2016
79. University of California; Irvine (EEUU) March 2016
80. 251<sup>st</sup> ACS National Meeting & Exposition; San Diego (EEUU) March 2016
81. University of Basel; Basel (Switzerland) April 2016
82. Janssen; Beerse (Belgium) April 2016
83. Actelion; Basel (Switzerland) May 2016
84. EPFL; Lausanne (Switzerland) May 2016
85. 9<sup>ème</sup> Recontres de Chimie Organique de Marseille; Marseille (France) June 2016
86. SISOC XI; San Sebastian (Spain) July 2016
87. Princeton University; Princeton (EEUU) September 2016
88. Merck; Rahway (EEUU) September 2016
89. Pfizer Worldwide Research & Development; Groton (EEUU) September 2016
90. Upenn; Philadelphia (EEUU) September 2016
91. Symposium on C-O activation; Himeji (Japan) October 2016
92. Osaka University; Osaka (Japan) October 2016
94. Technion University; Haifa (Israel) January 2017
95. Weizman Institute ; Rehobot (Israel) January 2017
96. Manchester University; Manchester (United Kingdom) March 2017
97. Münster University; Münster (Germany) April 2017
98. Green Chemistry Symposium Stockholm; Stockholm (Sweden) April 2017
99. University of Copenhagen; Copenhagen (Denmark) May 2017
100. Firmenich; Geneva (Switzerland) May 2017
101. OMCOS-19 Jeju; Jeju (South Korea) June 2017

102. Université Pierre and Marie Curie; Paris (France) June 2017
103. EUCOMC Amsterdam; Amsterdam (Netherlands) July 2017
104. ISOC 2017; San Benedetto del Tronto (Italy) September 2017
105. Geneva University; Geneva (Switzerland) September 2017
106. Symposium on nickel chemistry; Shanghai (China) October 2017
107. Chengdu University; Chengdu (China) October 2017
108. Liebig Lectureship.Bochum University; Bochum (Germany) November 2017
109. Liebig Lectureship.Heidelberg University; Heidelberg (Germany) November 2017
110. Liebig Lectureship.TU München; München (Germany) November 2017
111. Liebig Lectureship.Köln University; Köln (Germany) November 2017
112. Liebig Lectureship.TU Berlin; Berlin (Germany) November 2017
113. Liebig Lectureship.MPI Mülheim; Mülheim (Germany) November 2017
114. Einstein Workshop; Berlin (Germany) November 2017
115. Universität Regensburg; Regensburg (Germany) January 2018
116. Ludwig-Maximilians-Universität; Munich (Germany) January 2018
117. Trinity College; Dublin (Ireland) February 2018
118. University of Wisconsin; Madison (EEUU) February 2018
119. University of Illinois; Chicago (EEUU) February 2018
120. University of Urbana-Champaign; Champaign (EEUU) February 2018
121. 255<sup>th</sup> ACS National Meeting; New Orleans (EEUU) March 2018
122. Industrial Reserche Center Oril Industrie; Bolbec (France) April 2018
123. UCB Celltech; Slough (United kingdom) April 2018
124. 53<sup>rd</sup> Burgenstock Conferences; Brunnen (Switzerland) May 2018
125. Universidad Autónoma de Madrid; Madrid (Spain) May 2018
126. XI International School On Organometallic Chemistry Marcial Moreno; Oviedo (Spain) June 2018
128. Balticum Organic Syntheticum; Tallin (Estonia) July 2018
129. Bristol-Myers Squibb Lecture; Boston (EEUU) July 2018
130. Osaka University; Osaka (Japan) October 2018
131. Kyoto University-Katsura campus; Kyoto (Japan) October 2018
132. Nagoya University; Nagoya (Japan) October 2018
133. University of Toronto; Toronto (Canada) October 2018
134. 2018 Barluenga Lectureship Symposium; Oviedo (Spain) November 2018
135. 2018 Autumn meeting French Chemical Society; Paris (France) November 2018

## **Supervised PhD thesis:**

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- 1) **Selectivity Control in Pd-Catalyzed C-H functionalization reactions** (16/04/2013)  
Areli Flores; Universitat Rovira i Virgili
- 2) **Synthesis of phthalides and benzolactones via catalytic C-H functionalization/C-O bond-formation** (12/06/2014)  
Juan Gallardo; Universitat Rovira i Virgili
- 3) **Metal-catalyzed carbon-carbon bond-activation of strained molecules** (10/11/2014)  
Asraa Ziadi; Universitat Rovira i Virgili
- 4) **Pd-catalyzed C-H Functionalization Reactions via the Intermediacy of Strained Metallacycles** (15/01/2016)  
Álvaro Gutiérrez; Universitat Rovira i Virgili
- 5) **Ni-catalyzed Fixation of Heterocumulenes into Organic Matter and C-H Functionalization Reactions** (15/11/15)  
Xueqiang Wang; Universitat Rovira i Virgili
- 6) **From Click Chemistry to Catalytic Cleavage of Unstrained C-C Bonds** (22/07/2016)  
Míriam Sau; Universitat Rovira i Virgili
- 7) **C-heteroatom bond-formation via Ni-catalyzed C-O bond-cleavage** (27/01/2017)  
Cayetana Zárata; Universitat Rovira i Virgili
- 8) **Amide Formation via Ni-Catalyzed Reductive Coupling Reactions with Isocyanates** (30/05/2018)  
Eloísa Serrano; Universitat Rovira i Virgili
- 9) **Visible Light Photoredox Promoted Transformations of Inert Chemical Bonds** (12/11/2018)  
Yangyang Shen; Universitat Rovira i Virgili

## **PhD thesis committees:**

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2008	Eloísa Jimenéz Núñez (Universidad Autónoma de Madrid)
2009	Sílvia Subirats Benet (ICIQ-Universitat Rovira i Virgili)
2010	Verónica López Carrillo (ICIQ-Universitat Rovira i Virgili)
2011	Esther Alza Barrios (ICIQ-Universitat Rovira i Virgili)
2011	Alejandro Varela Fernandez (ICIQ-Universitat Rovira i Virgili)
2011	Antonio Bermejo Gómez (Universidad de Sevilla)
2011	Claudio Martínez Fernández (Universidad de Vigo)

2011	César Rogelio Solorio (ICIQ-Universitat Rovira i Virgili)
2011	Thomas M. Gogsing (Aarhus University)
2012	Rubén Tato (Universidad A Coruña)
2012	Peng Ren (EPFL, Lausanne)
2013	Tania Jimenez Trujillo (Universidad de Granada)
2013	Abraham López (Universidad Autónoma de Madrid)
2014	Carla Obradors (ICIQ-Universitat Rovira i Virgili)
2015	David Bastida (ICIQ-Universitat Rovira i Virgili)
2015	Zhong Lian (Aarhus University)
2015	Irina Sagamanova (ICIQ-Universitat Rovira i Virgili)
2016	Joachim Ahlin (EPFL, Lausanne)
2017	Lorena Mendive (Universitat de Barcelona)
2017	Bart Herlé (ICIQ-Universitat Rovira i Virgili)
2017	Gustavo Borrajo (Université de Genève)
2018	Shaolein Wang (ICIQ-Universitat Rovira i Virgili)
2018	Michaela Milan (Universitat de Girona)
2018	Santiago Cañellas (ICIQ-Universitat Rovira i Virgili)
2018	Sergio Mata (Universidad de Oviedo)

### **Awards Received by Group Members :**

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Arkaitz Correa (2011-2014) –Ramon y Cajal 2014

Cayetana Zárate (2015)- Suschem PhD award

Xueqiang Wang (2015) -Eli Lilly PhD award

Cayetana Zárate (2016) -Eli Lilly PhD award

Eloísa Serrano (2017)-Eli Lilly PhD award

Cayetana Zárate (2018) – Extraordinary PhD prize, Universitat Rovira i Virgili