

## List of Publications

### 2015

56. E. Haldón, Á. Kozma, H. Tinnermann, L. Gu, R. Goddard, M. Alcarazo  
Synthesis and Reactivity of  $\alpha$ -Cationic Phosphines: The Effect of Imidazolium and Amidinium Substituents.  
*Dalton Trans.* **2015**, Advance Article DOI: 10.1039/C5DT02341F.
55. Á. Kozma, J. Rust, M. Alcarazo  
Bis[(dialkylamino)cyclopropenimine]-Stabilized P<sup>III</sup>- and P<sup>V</sup>-Centered Dications.  
*Chem.–Eur. J.* **2015**, *21*, 10829-10834.
54. G. Talavera, J. Peña, M. Alcarazo  
Dihalo(imidazolium)sulfuranes: A Versatile Platform for the Synthesis of New Electrophilic Group-Transfer Reagents.  
*J. Am. Chem. Soc.* **2015**, *137*, 8704-8707.
53. S. Holle, D. Escudero, B. Inés, J. Rust, W. Thiel, M. Alcarazo  
On the Reactivity of Tetrakis(trifluoromethyl)cyclopentadieneone towards Carbon-Based Lewis Bases.  
*Chem.–Eur. J.* **2015**, *21*, DOI: 10.1002/chem.201405418.

### 2014

52. B. Inés, S. Holle, D. A. Bock, M. Alcarazo  
Polyfluorinated Cyclopentadienones as Lewis Acids.  
*Synlett* **2014**, *25*, 1539-1541.
51. L. Gu, G. Gopakumar, P. Gualco, W. Thiel, M. Alcarazo  
Bis- and Tris(pyrazolyl)borate/Methane-Stabilized P<sup>III</sup>-Centered Cations.  
*Chem.–Eur. J.* **2014**, *20*, 8575-8578.
50. H. Tinnermann, C. Wille, M. Alcarazo  
Synthesis, Structure, and Applications of Pyridiniophosphines.  
*Angew. Chem. Int. Ed.* **2014**, *53*, 8732-8736.

49. M. Alcarazo  
 $\alpha$ -Cationic Phosphines: Synthesis and Applications.  
*Chem.–Eur. J.* **2014**, *20*, 7868-7877.
48. Á. Kozma, T. Deden, J. Carreras, C. Wille, J. Petušková, J. Rust, M. Alcarazo  
Coordination Chemistry of Cyclopropenylidene-Stabilized Phosphenium Cations:  
Synthesis and Reactivity of Pd and Pt Complexes.  
*Chem.–Eur. J.* **2014**, *20*, 2208-2214.

## 2013

47. J. Carreras, G. Gopakumar, L. Gu, A. Gimeno, P. Linowski, J. Petušková, W. Thiel, M. Alcarazo  
Polycationic Ligands in Gold Catalysis: Synthesis and Applications of Extremely  $\pi$ -Acidic Catalysts.  
*J. Am. Chem. Soc.* **2013**, *135*, 18815-18823.
46. E. González-Fernández, J. Rust, M. Alcarazo  
Synthesis and reactivity of metal complexes with acyclic (amino)(ylide)carbene ligands.  
*Angew. Chem. Int. Ed.* **2013**, *52*, 11392-11395.
45. J. A. Nicasio, S. Steinberg, B. Inés, M. Alcarazo  
Tuning the Lewis acidity of boranes in frustrated Lewis pair chemistry: implications for the hydrogenation of electron-poor alkenes.  
*Chem.–Eur. J.* **2013**, *19*, 11016-11020.
44. S. Khan, M. Alcarazo  
Carbon-based frustrated Lewis pairs.  
*Top. Curr. Chem.* **2013**, *334*, 157-170.
43. Á. Kozma, J. Petušková, C. W. Lehmann, M. Alcarazo  
Synthesis, structure and reactivity of cyclopropenyl-1-ylidene stabilized S(II), Se(II) and Te(II) mono- and dications.  
*Chem. Commun. (Cambridge, U. K.)* **2013**, *49*, 4145-4147.
42. S. Khan, G. Gopakumar, W. Thiel, M. Alcarazo  
Stabilization of a two-coordinate [GeCl]<sup>+</sup> cation by simultaneous  $\sigma$  and  $\pi$  donation from a monodentate carbodiphosphorane.  
*Angew. Chem. Int. Ed.* **2013**, *52*, 5644-5647.
41. M. Alcarazo, K. Radkowski, G. Mehler, R. Goddard, A. Fürstner  
Chiral heterobimetallic complexes of carbodiphosphoranes and phosphinidene–carbene adducts.  
*Chem. Commun. (Cambridge, U. K.)* **2013**, *49*, 3140-3142.

40. Á. Kozma, G. Gopakumar, C. Farès, W. Thiel, M. Alcarazo  
Synthesis and structure of carbene-stabilized N-centered cations  $[L_2N]^+$ ,  $[L_2NR]^{2+}$ ,  $[LNR_3]^{2+}$  and  $[L_3N]^{3+}$ .  
*Chem.–Eur. J.* **2013**, *19*, 3542-3546.

## 2012

39. B. Inés, D. Palomas, S. Holle, S. Steinberg, J. A. Nicasio, M. Alcarazo  
Metal-free hydrogenation of electron-poor allenes and alkenes.  
*Angew. Chem. Int. Ed.* **2012**, *51*, 12367-12369.
38. J. Carreras, M. Patil, W. Thiel, M. Alcarazo  
Exploiting the  $\pi$ -acceptor properties of carbene-stabilized phosphorus centered trications  $[L_3P]^{3+}$ : applications in Pt(II) catalysis.  
*J. Am. Chem. Soc.* **2012**, *134*, 16753-16758.
37. O. García-Mancheño, M. Alcarazo  
At the frontiers of knowledge in chemistry: the 47th Bürgenstock conference.  
*Angew. Chem. Int. Ed.* **2012**, *51*, 8151-8154.
36. D. Palomas, S. Holle, B. Inés, H. Bruns, R. Goddard, M. Alcarazo  
Synthesis and reactivity of electron poor allenes: formation of completely organic frustrated Lewis pairs.  
*Dalton Trans.* **2012**, *41*, 9073-9082.
35. A. Prades, E. Peris, M. Alcarazo  
Pyracenebis(imidazolylidene): a new Janus-type biscarbene and its coordination to rhodium and iridium.  
*Organometallics* **2012**, *31*, 4623-4626.
34. J. Iglesias-Sigüenza, M. Alcarazo  
Fullerenes as neutral carbon-based Lewis acids.  
*Angew. Chem. Int. Ed.* **2012**, *51*, 1523-1524.

## 2011

33. J. Petušková, M. Patil, S. Holle, C. W. Lehmann, W. Thiel, M. Alcarazo  
Synthesis, structure, and reactivity of carbene-stabilized phosphorus(III)-centered trications  $[L_3P]^{3+}$ .  
*J. Am. Chem. Soc.* **2011**, *133*, 20758-20760.
32. V. Hickmann, A. Kondoh, B. Gabor, M. Alcarazo, A. Fürstner  
Catalysis-based and protecting-group-free total syntheses of the marine oxylipins

- hybridalactone and the ecklonialactones A, B, and C.  
*J. Am. Chem. Soc.* **2011**, *133*, 13471-13480.
31. B. Inés, M. Patil, J. Carreras, R. Goddard, W. Thiel, M. Alcarazo  
Synthesis, structure, and reactivity of a dihydrido borenium cation.  
*Angew. Chem. Int. Ed.* **2011**, *50*, 8400-8403.
30. J. Petušková, H. Bruns, M. Alcarazo  
Cyclopropenylylidene-stabilized diaryl and dialkyl phosphonium cations: applications  
in homogeneous gold catalysis.  
*Angew. Chem. Int. Ed.* **2011**, *50*, 3799-3802.
29. M. Alcarazo  
On the metallic nature of carbon in allenes and heterocumulenes.  
*Dalton Trans.* **2011**, *40*, 1839-1845.
28. M. Alcarazo, K. Radkowski, R. Goddard, A. Fürstner  
Metal complexes with carbene ligands stabilized by lateral enamines.  
*Chem. Commun. (Cambridge, U. K.)* **2011**, *47*, 776-778.
- 2010**
27. B. Inés, S. Holle, R. Goddard, M. Alcarazo  
Heterocyclic S–S bond cleavage by a purely carbogenic frustrated Lewis pair.  
*Angew. Chem. Int. Ed.* **2010**, *49*, 8389-8391.
26. M. Alcarazo, R. M. Suárez, R. Goddard, A. Fürstner  
A new class of singlet carbene ligands.  
*Chem.–Eur. J.* **2010**, *16*, 9746-9749.
25. V. Hickmann, M. Alcarazo, A. Fürstner  
Protecting-group-free and catalysis-based total synthesis of the ecklonialactones.  
*J. Am. Chem. Soc.* **2010**, *132*, 11042-11044.
24. M. Alcarazo, C. Gomez, S. Holle, R. Goddard  
Exploring the reactivity of carbon (0)/borane-based frustrated Lewis pairs.  
*Angew. Chem. Int. Ed.* **2010**, *49*, 5788-5791 [Erratum: *Angew. Chem. Int. Ed.* **2010**, *49*,  
5597].
23. A. Ros, M. Alcarazo, D. Monge, E. Álvarez, R. Fernández, J. M. Lassaletta  
Stereoselective synthesis of cationic heterobidentate C(NHC)/SR rhodium(I) complexes  
using stereodirecting *N,N*-dialkylmaino groups.  
*Tetrahedron: Asymmetry* **2010**, *21*, 1557-1562.

22. H. Bruns, M. Patil, J. Carreras, A. Vázquez, W. Thiel, R. Goddard, M. Alcarazo  
Synthesis and coordination properties of nitrogen(I)-based ligands.  
*Angew. Chem. Int. Ed.* **2010**, *49*, 3680-3683.
21. M. Alcarazo, T. Stork, A. Anoop, W. Thiel, A. Fürstner  
Steering the surprisingly modular  $\pi$ -acceptor properties of N-heterocyclic carbenes:  
implications for gold catalysis.  
*Angew. Chem. Int. Ed.* **2010**, *49*, 2542-2546.

## 2009

20. J. Iglesias-Sigüenza, A. Ros, E. Díez, M. Alcarazo, E. Álvarez, R. Fernández,  
J. M. Lassaletta  
Synthesis, structure and properties of [1,2,4]triazolo[4,3-*a*]pyridin-3-ylidene rhodium  
and palladium complexes.  
*Dalton Trans.* **2009**, 7113-7120.
19. A. Fürstner, M. Alcarazo, H. Krause  
Tetrakis(dimethylamino)allene.  
*Org. Synth.* **2009**, *86*, 298-307.
18. M. Alcarazo, C. W. Lehmann, A. Anoop, W. Thiel, A. Fürstner  
Coordination Chemistry at Carbon.  
*Nat. Chem.* **2009**, *1*, 295-301.

## 2008

17. A. Ros, M. Alcarazo, J. Iglesias-Sigüenza, E. Díez, E. Álvarez, R. Fernández,  
J. M. Lassaletta  
Stereoselective synthesis of Rh(I) 4-(dialkylamino)triazol-5-ylidene complexes.  
*Organometallics* **2008**, *27*, 4555-4564.
16. A. Fürstner, M. Alcarazo, K. Radkowski, W. Lehmann  
Carbenes stabilized by ylides: pushing the limits.  
*Angew. Chem. Int. Ed.* **2008**, *47*, 8302-8306.
15. A. Fürstner, M. Alcarazo, R. Goddard, C. W. Lehmann  
Coordination chemistry of ene-1,1-diamines and a prototype "carbodicarbene".  
*Angew. Chem. Int. Ed.* **2008**, *47*, 3210-3214.
14. A. Fürstner, M. Alcarazo, V. César, H. Krause  
Preparation of non-symmetrical imidazolium salts: 1-adamantyl-3-mesityl-4,5-

dimethylimidazolioium tetrafluoroborate.

*Org. Synth.* **2008**, 85, 34-44.

## 2007

13. A. Fürstner, M. Alcarazo, H. Krause, C. W. Lehmann  
Effective modulation of the donor properties of N-heterocyclic carbene ligands by "through-space" communication within a planar chiral scaffold.  
*J. Am. Chem. Soc.* **2007**, 129, 12676-12677.
12. D. Monge, E. Martín-Zamora, J. Vázquez, M. Alcarazo, E. Álvarez, R. Fernández, J. M. Lassaletta  
Enantioselective conjugate addition of *N,N*-dialkylhydrazones to  $\alpha$ -hydroxy enones.  
*Org. Lett.* **2007**, 9, 2867-2870.
11. S. J. Roseblade, A. Ros, D. Monge, M. Alcarazo, E. Álvarez, J. M. Lassaletta, R. Fernández  
Imidazo[1,5-*a*]pyridin-3-ylidene/thioether mixed C/S ligands and complexes thereof.  
*Organometallics* **2007**, 26, 2570-2578.
10. S. Gómez-Bujedo, M. Alcarazo, C. Pichon, E. Álvarez, R. Fernández, J. M. Lassaletta  
Isoquinolin-1-ylidenes as electronically tuneable ligands.  
*Chem. Commun. (Cambridge, U. K.)* **2007**, 1180-1182.

## 2006

9. A. Ros, D. Monge, M. Alcarazo, E. Álvarez, J. M. Lassaletta, R. Fernández  
Synthesis, structure and applications of *N*-dialkylamino-*N'*-alkylimidazol-2-ylidenes as a new type of NHC ligands.  
*Organometallics* **2006**, 25, 6039-6046.
8. A. Fürstner, M. Alcarazo, V. César, C. W. Lehmann  
Convenient, scalable and flexible method for the preparation of imidazolium salts with previously inaccessible substitution patterns.  
*Chem. Commun. (Cambridge, U. K.)* **2006**, 2176-2178.

## 2005

7. M. Alcarazo, R. Fernández, E. Álvarez, J. M. Lassaletta  
Synthesis, structure and electronic properties of *N*-dialkylamino and *N*-alkoxy-1,2,4-

triazol-3-ylidene ligands.  
*J. Organomet. Chem.* **2005**, *690*, 5979-5988.

6. M. Alcarazo Velasco  
Magnesium bis(monoperoxyphthalate) hexahydrate (MMPP).  
*Synlett* **2005**, 1807-1808.
5. M. Alcarazo, S. J. Roseblade, A. R. Cowley, R. Fernández, J. M. Brown,  
J. M. Lassaletta  
Imidazo[1,5-a]pyridine: A versatile architecture for N-Heterocyclic carbenes.  
*J. Am. Chem. Soc.* **2005**, *127*, 3290-3291.

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4. M. Alcarazo, S. J. Roseblade, E. Alonso, R. Fernández, E. Alvarez, F. J. Lahoz,  
J. M. Lassaletta  
1,3-Bis(*N,N*-dialkylamino)imidazolin-2-ylidenes: synthesis and reactivity of a new  
family of stable N-heterocyclic carbenes.  
*J. Am. Chem. Soc.* **2004**, *126*, 13242-13243.
3. J. M. Lassaletta, M. Alcarazo, R. Fernández  
Glyoxal bis-hydrazones: a new family of nitrogen ligands for asymmetric catalysis.  
*Chem. Commun. (Cambridge, U. K)* **2004**, 298-299.

## 2003

2. L. A. Ortiz-Frade, L. Ruiz-Ramírez, I. González, A. Marín-Becerra, M. Alcarazo,  
J. G. Alvarado-Rodríguez, R. Moreno-Esparza  
Synthesis and spectroelectrochemical studies of mixed heteroleptic chelate complexes  
of ruthenium (II) with 1,8-bis(2-pyridyl)-3,6-dithiaoctane (pdto) and substituted 1,10-  
phenanthrolines.  
*Inorg. Chem.* **2003**, *42*, 1825-1834.

## 2001

1. R. Fernández, E. Martín-Zamora, C. Pareja, M. Alcarazo, J. Martín, J. M. Lassaletta  
Synthesis of  $\alpha$ -hydroxyhydrazones from aldehydes.  
*Synlett* **2001**, 1158-1160.