

Publikationsliste Prof. Dr. Gerhard Hilt

Fachbereich Chemie – Philipps-Universität Marburg (Stand November 2013)

2014

116. A. Nödling, K. Müther, V. Rohde, G. Hilt, M. Oestreich *Organometallics* **2014**, *accepted*.
"Ferrocene-Stabilized Silicon Cations as Catalysts for Diels-Alder Reactions: Attempted Experimental Quantification of Lewis Acidity and ReactIR Kinetic Analysis".
115. G. Hilt, J. Janikowski, M. Schwarzer, O. Burghaus, D. Sakow, M. Bröring, M. Drüschler, B. Huber, B. Roling, G. Frenking *J. Organomet. Chem.* **2014**, 749, 219-223.
"Studies of Electronic Effects of Modified Pyridine-Imine Ligand Utilised in Cobalt-catalysed meta-selective Diels-Alder Reactions".
114. Q. Fan, C. Wang, Y. Han, J. Zhu, J. Kuttner, G. Hilt, J. M. Gottfried *ACS Nano* **2014**, *accepted*.
"Surface-assisted Formation, Assembly and Dynamics of Planar Organometallic Macrocycles and Zigzag Shaped Polymer Chains with C-Cu-C Bonds".
113. P. Raster, A. Schmidt, M. Rambow, N. Kuzmanovic, B. König, G. Hilt **2014** *submitted*.
"Immobilisation of Photoswitchable Diarylhexenes Synthesised via Cobalt-Mediated Diels-Alder Reaction".
112. A. Miersch, K. Harms, G. Hilt *Chem. Commun.* **2014**, *accepted*.
"Zinc-Mediated Addition of Diethyl Bromomalonate to Alkynes for the Initiation of Multi-Component Reactions toward Polysubstituted Pyranones and Tetracarbonyl Derivatives".

2013

111. F. Pünner, J. Schieven, G. Hilt *Org. Lett.* **2013**, 15, 4888-4891.
"Synthesis of Fluorenone and Anthraquinone Derivatives from Aryl- and Aroyl-substituted Propiolates".
110. A. Miersch, C. Kohlmeyer, G. Hilt *Synthesis* **2013**, 3228-3232.
"Zinc-Mediated Regiodiverse Synthesis of Vinyl Bromide Derivatives and their in situ Palladium-catalysed Cross-Coupling Reactions".
109. F. Pünner, G. Hilt *Eur. J. Org. Chem.* **2013**, 5580-5584.
"Zinc/Iron-mediated Ring-Opening of Dibromocyclopropanes for in situ Diels-Alder Reactions with Electron-deficient Aldehydes and Imines."
108. L. Fiebig, J. Kuttner, G. Hilt, M. Schwarzer, G. Frenking, H.-G. Schmalz, M. Schäfer *J. Org. Chem.* **2013**, 78, 10485-10493.
"Cobalt Catalysis in the Gas Phase: Experimental Characterisation of Cobalt(I) Complexes as Intermediates in Regioselective Diels-Alder Reactions".
107. A. Schmidt, G. Hilt *Org. Lett.* **2013**, 15, 2708-2711.
"Scope and Limitations of 1,3,5-Hexatriene Derivatives in Regioselective Cobalt-Catalyzed Reactions".
106. P. Röse, F. Pünner, G. Hilt, K. Harms *Synlett* **2013**, 1101-1104.
"Efficient Synthesis of 2-Pyridylenynes and Application in Cobalt-Catalysed Benzannulation Reactions".

105. Q. Fan, J. Zhu, J. Kuttner, G. Hilt, J. M. Gottfried *Angew. Chem.* **2013**, *125*, 4766-4770.
"Surface-Assisted Organic Synthesis of Hyperbenzene Nanotroughs".
104. G. Hilt, EROS-Reagent 4,4,5,5-Tetramethyl-2-(2-methylene-3-buten-1-yl)-1,3,2-dioxaborolane
- 96a. Addition to 96.: M. Arndt, G Hilt, A. F. Khlebnikov, S. I. Kozhushkov, A. de Meijere *Eur. J. Org. Chem.* **2013**, 1171-1172.
"Diels-Alder Reactions for the Construction of Cyclopropylarenes".

2012

103. M. Arndt, M. Dindaroğlu, H.-G. Schmalz, G. Hilt *Synthesis* **2012**, *44*, 3534-3542.
"Ligand Control of the Cobalt-Catalysed 1,4-Hydrovinylation Reaction".
102. F. Erver, J. R. Kuttner, G. Hilt *J. Org. Chem.* **2012**, *77*, 8375-8385.
"Multidirectional Cobalt-Catalyzed Diels-Alder / Hydrovinylation Sequences".
101. A. Miersch, G. Hilt *Chem. Eur. J.* **2012**, *18*, 9798-9801.
"Stereodivergent Zinc-Mediated Three-Component Synthesis of Tri- and Tetrasubstituted Alkenes."
100. F. Erver, G. Hilt *J. Org. Chem.* **2012**, *77*, 5216-5219.
"Cobalt- versus Ruthenium-catalyzed Alder-ene Reaction for the Synthesis of Credneramides A and B".
99. F. Erver, G. Hilt *Org. Lett.* **2012**, *14*, 1884-1887.
"Double- and Triple-Cobalt-Catalysis in Multi-Component Reactions".
98. G. Hilt *Eur. J. Org. Chem.* **2012**, 4441-4451.
"The Hydrovinylation Reactions - Atom-Economic Transformations with Steadily Increasing Synthetic Potential".
97. G. Hilt, F. Pünner, *Diels-Alder Reactions*, in *Transition-Metal-Mediated Aromatic Ring Construction*, K. Tanaka, (Ed.), Wiley, **2012**, in press.
96. M. Arndt, G. Hilt, A. F. Khlebnikov, S. I. Kozhushkov, A. de Meijere *Eur. J. Org. Chem.* **2012**, 3112-3121.
"Diels-Alder Reactions for the Construction of Cyclopropylarenes".
95. F. Pünner, G Hilt *Chem. Commun.* **2012**, 3617-3619.
"Regioselective Solvent-dependent Benzannulation of Conjugated Enynes".
94. J. R. Kuttner, S. Warratz, G Hilt *Synthesis* **2012**, *44*, 1293-1303.
"Straightforward Synthesis of Non-Conjugated Cyclohex-3-enones and Conjugated 4-Methylene-cyclohex-2-enone Derivatives".
93. L. Kersten, G. Hilt *Adv. Synth. Catal.* **2012**, *354*, 863-869.
"Regioselective Cobalt-Catalysed Hydrovinylation for the Synthesis of non-conjugated Enones and 1,4-Diketones".
92. F. Pünner, A. Schmidt, G. Hilt *Angew. Chem.* **2012**, *124*, 1296-1299; *Angew. Chem. Int. Ed.* **2012**, *51*, 1270-1273.
"Up the Hill: Selective Double Bond Isomerisation of Terminal 1,3-Dienes towards Z-1,3-Dienes or 2Z,4E-2,4-Dienes".

91. M. Danz, R. Tonner, G. Hilt *Chem. Commun.* **2012**, 377-379.
"Understanding the Regioselectivity in Scholl Reactions for the Synthesis of Oligoarenes".

90. G. Kiefer, J. Ruiz, E. Solari, G. Hilt, K. Severin *Eur. J. Org. Chem.* **2012**, 93-98.
"Ruthenium-catalyzed Sequential Enyne Cross-Metathesis/ATRA Reactions".

2011

89. M. Arndt, M. Dindaroğlu, H.-G. Schmalz, G. Hilt *Org. Lett.* **2011**, 13, 6236-6239.
"Gaining Absolute Control of the Regiochemistry in the Cobalt-catalyzed Hydrovinylation Reaction".

88. G. Hilt, A. Nödling *Eur. J. Org. Chem.* **2011**, 7071-7075.
"The Correlation of Lewis Acidities of Silyl Triflates with Reaction Rates of Catalyzed Diels-Alder Reactions".

87. F. Erver, G. Hilt *Org. Lett.* **2011**, 13, 5700-5703.
"Multi-Component Regio- and Diastereoselective Cobalt-catalyzed Hydrovinylation-Allylation Reaction Sequence".

86. G. Hilt, F. Pünner, J. Möbus, V. Naseri, M. A. Bohn *Eur. J. Org. Chem.* **2011**, 5962-5966.
"A Lewis Acidity Scale in Relation to Rate Constants of Lewis Acid Catalysed Organic Reactions".

85. M. A. Bohn, A. Schmidt, G. Hilt, M. Dindaroğlu, H.-G. Schmalz *Angew. Chem.* **2011**, 123, 9863-9666; *Angew. Chem. Int. Ed.* **2011**, 50, 9689-9693.
"Cobalt-catalysed 1,4-Hydrobutadienylation of 1-Aryl-1,3-butadienes with 2,3-Dimethyl-1,3-butadiene".

84. M. A. Bohn, A. Paul, G. Hilt "Electrochemical Initiated Radical Reactions" Wiley-VCH, **2012**.

83. G. Hilt *Synlett* **2011**, 1654-1659 (Account).
"Cobalt(I)-catalysed Reactions for the Synthesis of 1,4-Dienes - Genesis of Two Synthetic Methods".

82. F. Erver, G. Hilt, K. Harms *Synthesis* **2011**, 972-978.
"Cobalt(I)-Catalysis in the Diastereoselective Two-Step Synthesis of Tricyclic Systems".

81. P. Raster, S. Weiss, G. Hilt, B. König *Synthesis* **2011**, 905-908.
"Synthesis and Photoisomerisation of Diarylcyclobutenes".

80. G. Hilt, F. Erver, K. Harms *Org. Lett.* **2011**, 13, 304-307.
"Regioselective Cobalt-Catalyzed Alder-ene Reaction towards Silicon- and Boron-Functionalized Building Blocks".

79. M. Danz, G. Hilt *Adv. Synth. Catal.* **2011**, 353, 303-308.
"Regiodiverse Three-Component Synthesis of Arenes".

78. G. Hilt, S. Roesner *Synthesis* **2011**, 662-668.
"Substrate-controlled Regioselective Cobalt(I)-catalysed 1,4-Hydrovinylation Reactions".

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77. L. Kersten, S. Roesner, G. Hilt *Org. Lett.* **2010**, 12, 4920-4923.
"Synthesis and Characterisation of Polycarbonyl Compounds via their BF₂-Adducts".

76. M. Arndt, A. Reinhold, G. Hilt *J. Org. Chem.* **2010**, *75*, 5203-5210.
"Cobalt-catalyzed 1,4-Hydrovinylation of Allylsilanes and Allylboronic Esters for the Synthesis of Hydroxy-functionalized 1,4-Dienes".
75. A.-L. Auvinet, J. P. A. Harrity, G. Hilt *J. Org. Chem.* **2010**, *75*, 3893-3896
"Ambient Temperature Cobalt-Catalyzed Cycloaddition Strategies to Aromatic Boronic Esters".
74. M. A. Bohn, G. Hilt, P. Bolze *ChemSusChem* **2010**, *3*, 823-828.
"Electrochemical Functionalisation of 1,3-Diisopropylbenzene".
73. G. Hilt, A. Paul, J. Treutwein *Org. Lett.* **2010**, *12*, 1536-1539.
"Cobalt-Catalysis at the Crossroads – Cobalt-catalyzed Alder-ene Reaction versus [2+2] Cycloaddition".
72. G. Hilt, M. Arndt, D. F. Weske *Synthesis* **2010**, 1321-1324.
"Cobalt-Generated 1,4-Dienes as Synthons for 1,3-Dicarbonyl Compounds and their Application towards Natural Product Syntheses".

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71. H. P. Nayek, G. Hilt, S. Dehnen *Eur. J. Inorg. Chem.* **2009**, 4205-4208.
"Synthesis, Structure and Electrochemical Properties of a Ferrocene-Bridged Bis[tris(arylselenato)stannyl] Compound".
70. G. Hilt, M. Danz, J. Treutwein *Org. Lett.* **2009**, *11*, 3322-3325.
"Cobalt-Catalyzed 1,4-Hydrovinylation of Styrenes and 1-Aryl-1,3-butadienes".
69. G. Hilt, A. Paul, C. Hengst, *Synthesis* **2009**, 3305-3310.
"Cobalt-catalysed [6+2]-Cycloaddition of Internal Alkynes and Terminal Alkenes with Cycloheptatriene".
68. G. Hilt *Angew. Chem.* **2009**, *121*, 6508-6511; *Angew. Chem. Int. Ed.* **2009**, *48*, 6390-6393.
"Transition Metal-Catalysed Ring Opening of Hetero-Diels-Alder Adducts".
67. G. Hilt, D. Weske *Chem. Soc. Rev.* **2009**, *38*, 3082-3091.
"Aromatic Compounds as Synthons for 1,3-Dicarbonyl Derivatives".
66. G. Hilt, P. Rinze "Chemisches Praktikum für Mediziner" 7. Auflage, Vieweg-Teubner.
65. G. Hilt, J. Treutwein *Chem. Commun.* **2009**, 1395-1397.
"Cobalt-catalyzed Hydrovinylation as the Key Step in a Short Synthesis of Moenocinol".
64. G. Hilt, C. Hengst, M. Arndt *Synthesis* **2009**, 395-398.
"The Unprecedented Cobalt-catalysed oxidative Glaser Coupling under Reductive Conditions".
63. G. Hilt, J. Janikowski *Org. Lett.* **2009**, *11*, 773-776.
"Regioselective Cobalt-catalysed Diels-Alder Reactions of Silicon-functionalized Terminal and Internal Alkynes".

2008

62. W. Hess, J. Treutwein, G. Hilt *Synthesis* **2008**, 3537-3562. (Review)
"Cobalt-Catalysed Carbon-Carbon Bond Formation Reactions".
61. J. Treutwein, G. Hilt *Angew. Chem.* **2008**, *120*, 6916-6919; *Angew. Chem. Int. Ed.* **2008**, *47*, 6811-6813.
"Cobalt-catalysed [2+2]-Cycloaddition".
60. G. Hilt, M. Danz *Synthesis* **2008**, 2257-2263. (invited paper, R.W. Hoffmann)
"Regioselective Cobalt-catalysed Diels-Alder Reaction towards 1,3-di- and 1,2,3-trisubstituted Benzene Derivatives".
59. G. Hilt, A. Paul, K. Harms *J. Org. Chem.* **2008**, *73*, 5187-5190.
"Cobalt-catalysed intermolecular [2+2+2]-Cycloaddition for the Synthesis of 1,3-Cyclohexadienes".
58. G. Hilt, J. Janikowski *Angew. Chem.* **2008**, *120*, 5321-5323; *Angew. Chem. Int. Ed.* **2008**, *47*, 5243-5245.
"Kobalt-katalysierte [4+2+2]-Cycloaddition zur Synthese von 1,3,6-Cyclooctatrienen".
57. G. Hilt, C. Hengst, W. Hess *Eur. J. Org. Chem.* **2008**, 2293-2297.
"Solvent Dependent Regiochemical Cyclotrimerization of Phenylacetylene with Cobalt Disulfide Ligands. A Case Study".
56. G. Hilt, W. Hess, K. Harms *Synthesis* **2008**, 75-78.
"Cobalt-catalyzed [2+2+2]-Cycloaddition of Phenylacetylene with 1,3-Dienes for the Synthesis of Vinyl-substituted 1,4-Diphenyl-1,3-Cyclohexadienes".
55. G. Hilt, J. Janikowski "Cycloadditions and Ring Expansion Reactions" in "Iron-Catalysis in Organic Chemistry", B. Plietker, (Ed.), Wiley-VCH, **2008**.
54. P. Mörschel, J. Janikowski, G. Hilt, G. Frenking *J. Am. Chem. Soc.* **2008**, *130*, 8952-8966.
"Ligand-tuned Regioselectivity of a Cobalt Catalyzed Diels-Alder Reaction. A Theoretical Study".

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53. G. Hilt, J. Treutwein *Angew. Chem.* **2007**, *119*, 8653-8655; *Angew. Chem. Int. Ed.* **2007**, *46*, 8500-8502.
"Kobalt-katalysierte Alder-En-Reaktion".
52. G. Hilt, C. Hengst *J. Org. Chem.* **2007**, *72*, 7337-7342.
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51. G. Hilt, W. Hess, C. Hengst *Comp. Heterocycl. Chem. III* (Review) **2007**, Vol 11, 351-366.
"Bicyclic 5-5 Systems with One Bridgehead N - Four Extra Heteroatoms 3 : 1".
50. G. Hilt, P. Rinze "Chemisches Praktikum für Mediziner", 6. Auflage, **2007**, Teubner Verlag.
49. G. Hilt, P. Bolze, K. Harms *Chem. Eur. J.* **2007**, *13*, 4312-4325.
"An Improved Catalyst System for the Iron-catalyzed Intermolecular Ring Expansion Reaction of Epoxides".

48. G. Hilt, P. Bolze, M. Heitbaum, K. Hasse, K. Harms, W. Massa *Adv. Synth. Catal.* **2007**, 349, 2018-2026.

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47. T. Linker, T. Krüger, W. Hess, G. Hilt *Arkivoc* **2007**, 8, 85-96 (invited paper, W. Adam).

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46. G. Hilt, C. Hengst *Synlett* **2006**, 3247-3250.

"Propargylic Phosphonium Salts in Cobalt-catalysed Diels-Alder Reactions".

45. G. Hilt, J. Janikowski, W. Hess *Angew. Chem.* **2006**, 118, 5328-5331; *Angew. Chem. Int. Ed.* **2006**, 45, 5204-5206.

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44. G. Hilt, W. Hess, K. Harms *Org. Lett.* **2006**, 8, 3287-3290.

"Asymmetric Cobalt-catalyzed Diels-Alder Reaction of a Boron-functionalized 1,3-Diene with Alkynes".

43. G. Hilt, C. Walter, P. Bolze *Adv. Synth. Catal.* **2006**, 348, 1241-1247.

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42. G. Hilt, F. Galbiati *Synthesis* **2006**, 3589-3596 (invited paper, MFS).

"Rhodium- or Copper-catalysed CH-Insertion of Carbenoids into Dihydroaromatic Compounds and Acyclic 1,4-Dienes".

41. G. Hilt, F. Galbiati *Org. Lett.* **2006**, 8, 2195-2198.

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"A Modular Approach for the Synthesis of Dibenzo-Azepine Derivatives".

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39. G. Hilt, P. Bolze *Synthesis* **2005**, 2091-2114 (Review).

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38. G. Hilt, W. Hess, F. Schmidt *Eur. J. Org. Chem.* **2005**, 2526-2533.

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37. G. Hilt, W. Hess, T. Vogler, C. Hengst *J. Organomet. Chem.* **2005**, 690, 5170-5181.

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36. G. Hilt, P. Bolze, I. Kieltsch *Chem. Commun.* **2005**, 1996-1998.

"An Iron-catalysed Chemo- and Regioselective Tetrahydrofurane Synthesis". Addition/Correction: *Chem. Commun.* **2006**, 1673.

35. G. Hilt, F. Galbiati *Synlett* **2005**, 829-833.

"Cobalt(I)-catalysed Neutral Diels-Alder Reactions of Nitrogen-functionalised Alkynes".

34. G. Hilt, T. Vogler, W. Hess, F. Galbiati *Chem. Commun.* **2005**, 1474-1475.
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33. G. Hilt, S. Lüers, K. I. Smolko *Org. Lett.* **2005**, 7, 251-253.
"A Two-Step Reaction Sequence for the Synthesis of Tetrahydronaphthalene Derivatives".

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32. G. Hilt, S. Lüers, F. Schmidt *Synthesis* **2004**, 634-638.
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31. G. Hilt, S. Lüers, K. Harms *J. Org. Chem.* **2004**, 69, 624-630.
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29. G. Hilt, K. I. Smolko *Angew. Chem.* **2003**, 115, 2901-2903; *Angew. Chem. Int. Ed.* **2003**, 42, 2795-2797.
"Alkynyl Boronic Esters as Efficient Dienophiles in Cobalt-catalysed Cycloadditions".

28. G. Hilt *Angew. Chem.* **2003**, 115, 1760-1762; *Angew. Chem. Int. Ed.* **2003**, 42, 1720-1721.
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25. G. Hilt *Angew. Chem.* **2002**, 114, 3737-3739; *Angew. Chem. Int. Ed.* **2002**, 41, 3586-3588.
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