

Publication List

October 19, 2018

[2018]

[112] Togo, T.; Sohma, Y.; Kuninobu, Y.; Kanai, M.*

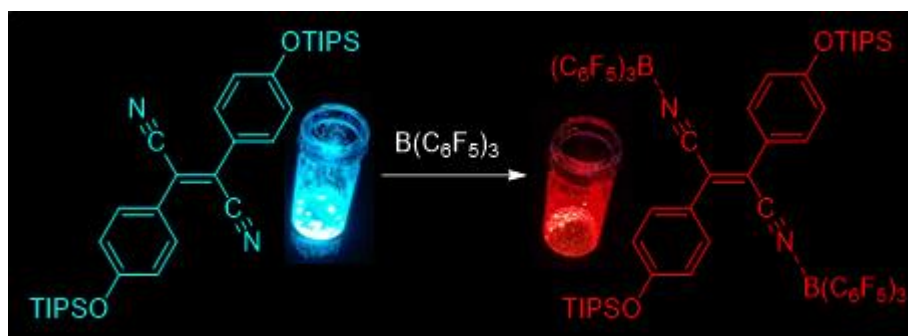
Palladium-Catalyzed C–H Heteroarylation of 2,5-Disubstituted Imidazoles

Chem. Pharm. Bull. **2018**, accepted.

[111] Yamakawa, T.; Yoshigoe, Y.; Wang, Z.; Kanai, M.; Kuninobu, Y.*

Preparation of Solid-state Luminescent Materials by Complexation between π -Conjugated Molecules and Activators

Chem. Lett. **2018**, 47, 1391-1394 (DOI: 10.1246/cl.180735).

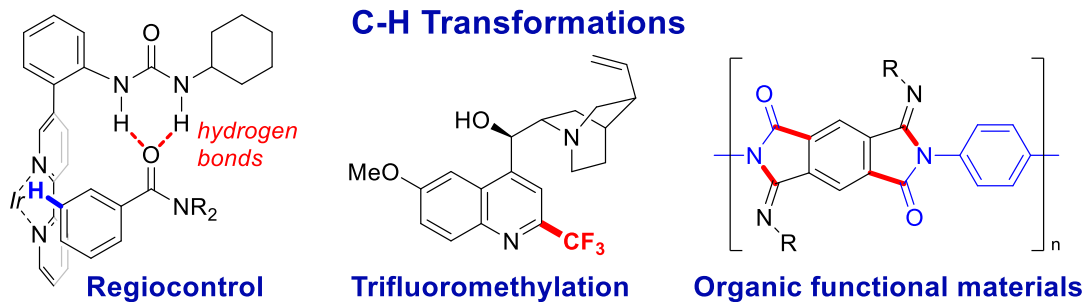


[110] Kuninobu, Y.*

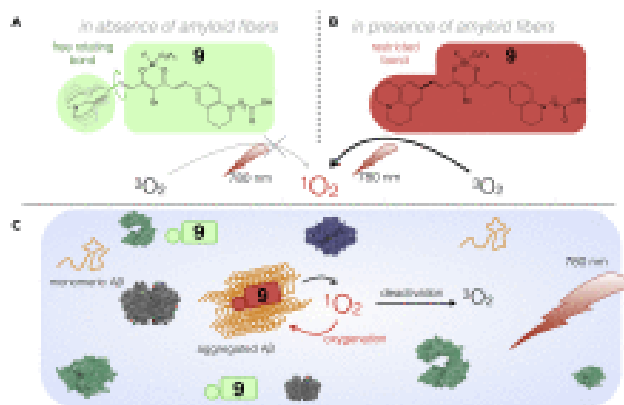
Development of Novel C-H Bond Transformations and Their Application to the Synthesis of Organic Functional Molecules

Synlett **2018**, 29, 2093-2107 (DOI: 10.1055/s-0037-1610531).

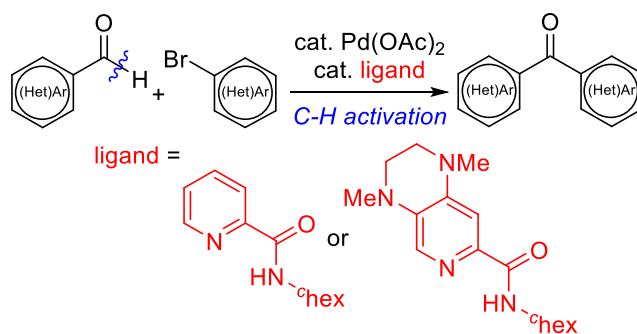
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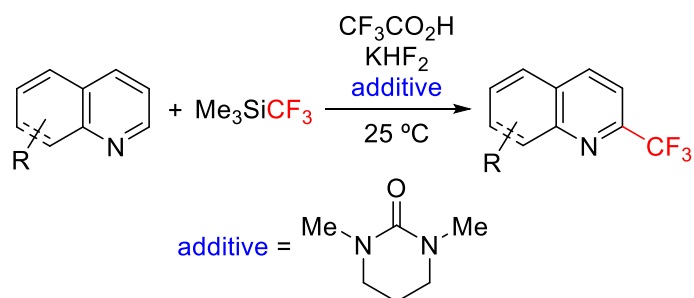
- [109] Ni, J.; Taniguchi, A.; Ozawa, S.; Hori, Y.; Kuninobu, Y.; Saito, T.; Saido, T. C.; Tomita, T.; Sohma, Y.*; Kanai, M.*
Near-Infrared Photoactivatable Oxygenation Catalysts of Amyloid. Peptide.
Chem **2018**, *4*, 807-820 (DOI: 10.1016/j.chempr.2018.02.008).



- [108] Wakaki, T.; Togo, T.; Yoshidome, D.; Kuninobu, Y.*; Kanai, M.*
Palladium-Catalyzed Synthesis of Diaryl Ketones from Aldehydes and (Hetero)Aryl Halides via C-H Bond Activation.
ACS Catal. **2018**, *8*, 3123-3128 (DOI: 10.1021/acscatal.8b00440).



- [107] Shirai, T.; Kanai, M.*; Kuninobu, Y.*
2-Position-Selective C-H Perfluoroalkylation of Quinoline Derivatives.
Org. Lett. **2018**, *20*, 1593-1596 (DOI: 10.1021/acs.orglett.8b00339).

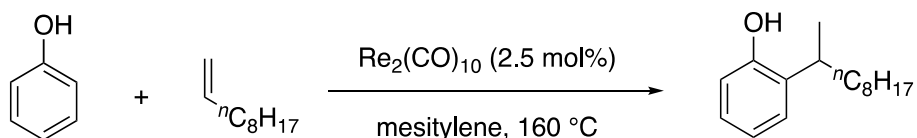


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[106] Kuninobu, Y.*; Yamamoto, M.; Nishi, M.; Yamamoto, T.; Matsuki, T.; Murai, M.*; Takai, K.*

Rhenium-Catalyzed *ortho*-Alkylation of Phenols.

Org. Synth. **2017**, *94*, 280-291 (10.15227/orgsyn.094.0280).

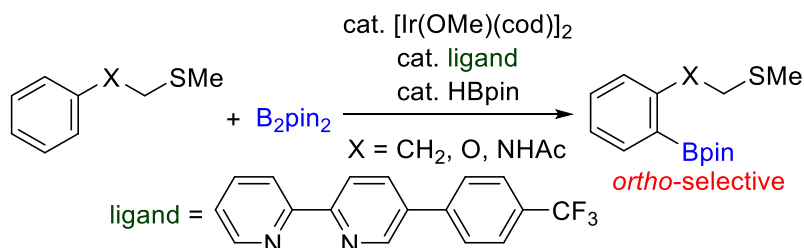


[105] Li, H.-L.; Kanai, M.*; Kuninobu, Y.*

Iridium/Bipyridine-Catalyzed *ortho*-Selective C-H Borylation of Phenol and Aniline Derivatives.

Org. Lett. **2017**, *19*, 5944-5947 (10.1021/acs.orglett.7b02936).

[*Synfacts* **2018**, *14*, 81]

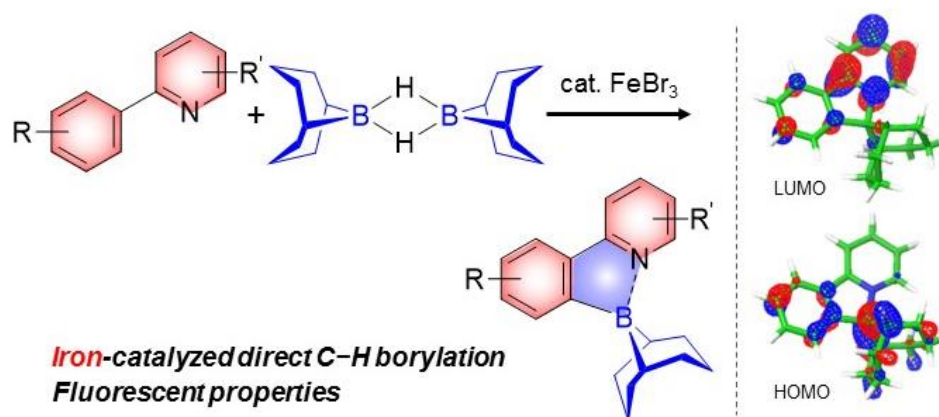


[104] Yoshigoe, Y.; Kuninobu, Y.*

Iron-Catalyzed *ortho*-Selective C-H Borylation of 2-Phenylpyridines and Their Analogs.

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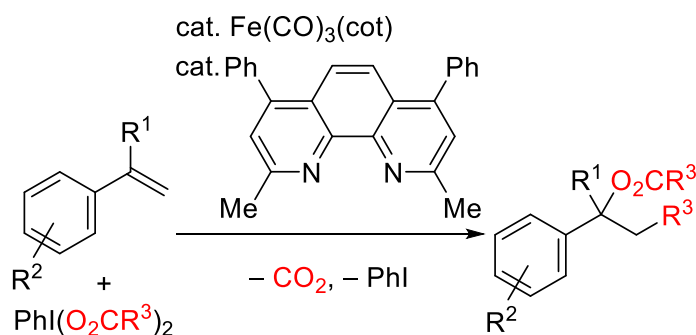
[*Synfacts* **2017**, *13*, 976]



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Iron-Catalyzed Acyloxyalkylation of Styrenes Using Hypervalent Iodine Reagents.

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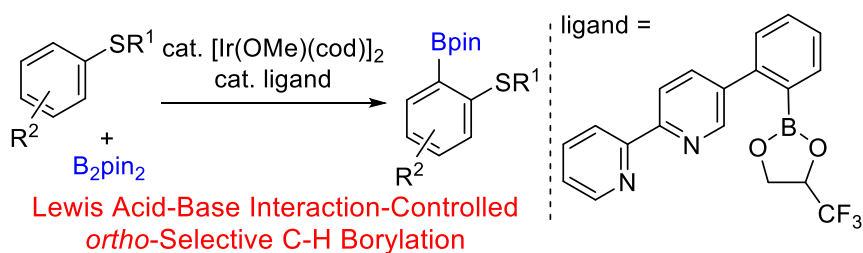


[102] Li, H.-L.; Kuninobu, Y.*; Kanai, M.*

Lewis Acid-Base Interaction-Controlled *ortho*-Selective C-H Borylation of Aryl Sulfides.

Angew. Chem. Int. Ed. **2017**, *56*, 1495-1499 (DOI: 10.1002/anie.201610041).

[*Synfacts* **2017**, *13*, 297] [Web of Science, Highly Cited Paper]



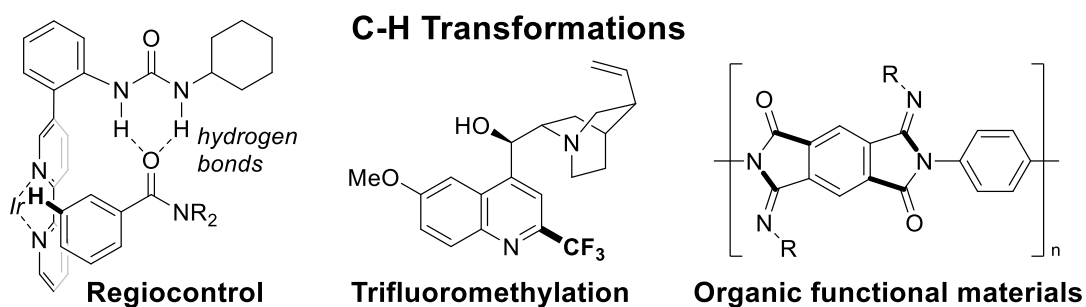
[2016]

[101] Kuninobu, Y.*

Development of Novel C-H Bond Transformations Directed Towards Organic Functional Molecules.

J. Synth. Org. Chem. Jpn. **2016**, *74*, 1058-1068.

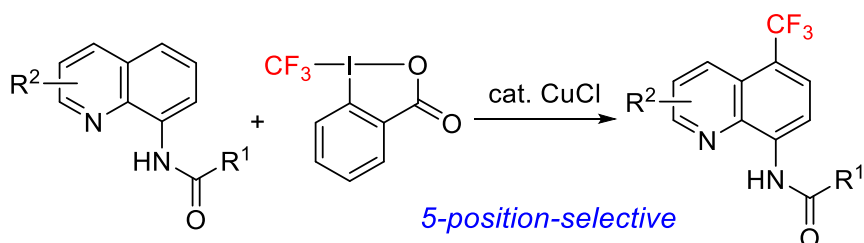
[Accounts]



[100] Kuninobu, Y.*; Nishi, M.; Kanai, M.*

5-Position-selective C-H Trifluoromethylation of 8-Aminoquinoline Derivatives.

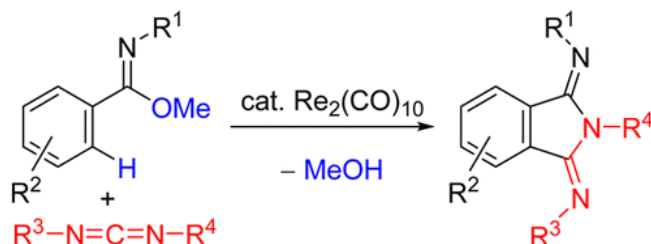
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[99] Wang, Z.; Sueki, S.; Kanai, M.; Kuninobu, Y.*

Rhenium-Catalyzed Synthesis of 1,3-Diiminoisoindolines via Insertion of Carbodiimides into a C-H Bond of Aromatic and Heteroaromatic Imidates.

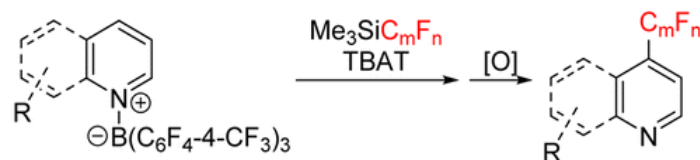
Org. Lett. **2016**, *18*, 2459-2462 (DOI: 10.1021/acs.orglett.6b01012).



[98] Nagase, M.; Kuninobu, Y.*; Kanai, M.*

4-Position-Selective C-H Perfluoroalkylation and Perfluoroarylation of Six-Membered Heteroaromatic Compounds.

J. Am. Chem. Soc. **2016**, *138*, 6103-6106 (DOI: 10.1021/jacs.6b01753).

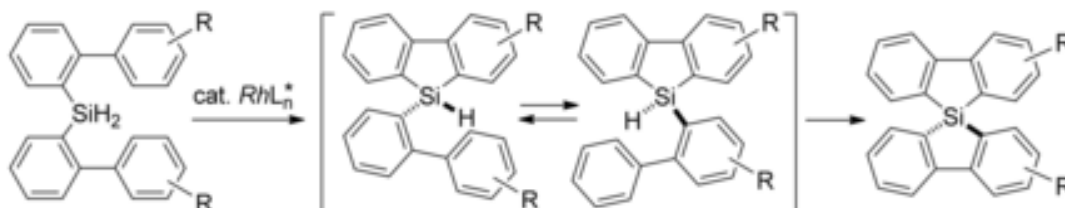


[97] Murai, M.*; Takeuchi, Y.; Yamauchi, K.; Kuninobu, Y.; Takai, K.*

Rhodium-Catalyzed Synthesis of Chiral Spiro-9-silabifluorenes by Dehydrogenative Silylation: Mechanistic Insights into the Construction of Tetraorganosilicon Stereocenters.

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[Hot Paper]

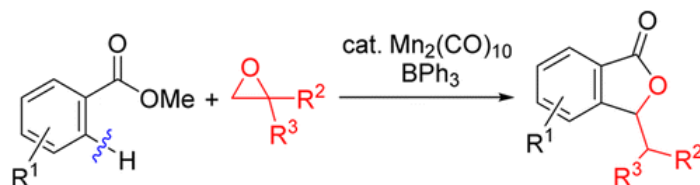


[96] Sueki, S.; Wang, Z.; Kuninobu, Y.*

Manganese- and Borane-Mediated Synthesis of Isobenzofuranones from Aromatic Esters and Oxiranes via C-H Bond Activation.

Org. Lett. **2016**, *18*, 304-307 (DOI: 10.1021/acs.orglett.5b03474).

[*Synfacts* **2016**, *12*, 407] [Web of Science, Highly Cited Paper]



Cooperative Manganese and Borane Catalysis
&
First Example of Oxygen-Directing Group-Assisted Manganese-Catalyzed C-H Transformation

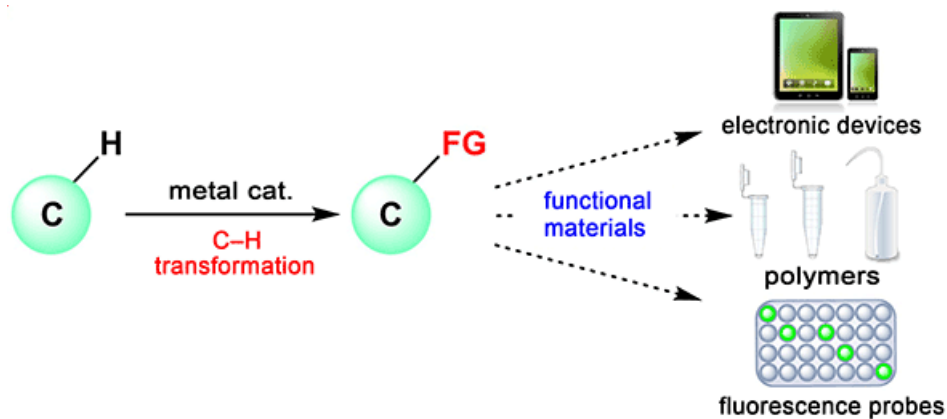
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[95] Kuninobu, Y.*; Sueki, S.

C-H Bond Transformations Leading to the Synthesis of Organic Functional Materials.

Synthesis **2015**, 47, 3823-3845 (DOI: 10.1055/s-0035-1560346).

[Review] [Cover]



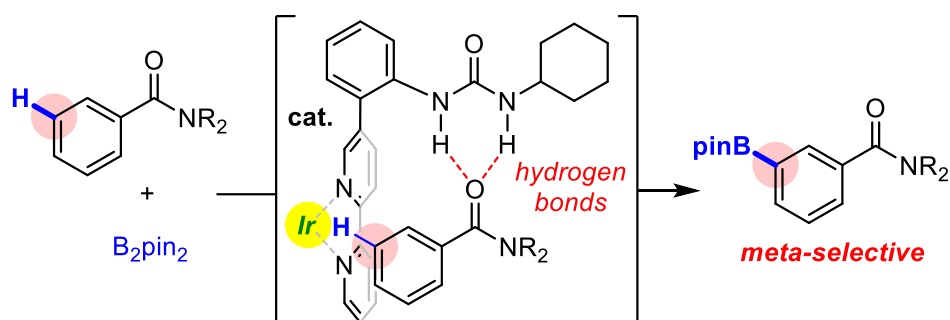
[94] Kuninobu, Y.*; Ida, H.; Nishi, M.; Kanai, M.*

A *meta*-selective C-H borylation directed by a secondary interaction between ligand and substrate.

Nature Chem. **2015**, 7, 712-717 (DOI: 10.1038/nchem.2322).

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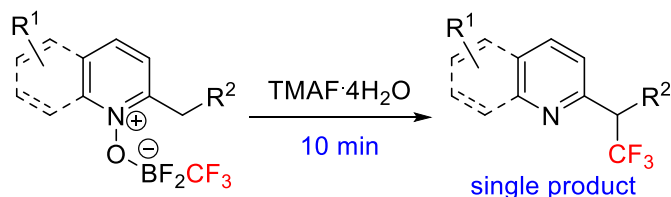
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[93] Kuninobu, Y.*; Nagase, M.; Kanai, M.*

Benzylic C(sp³)-H Perfluoroalkylation of Six-Membered Heteroaromatic Compounds.

Angew. Chem. Int. Ed. **2015**, *54*, 10263-10266 (DOI: 10.1002/anie.201505335).

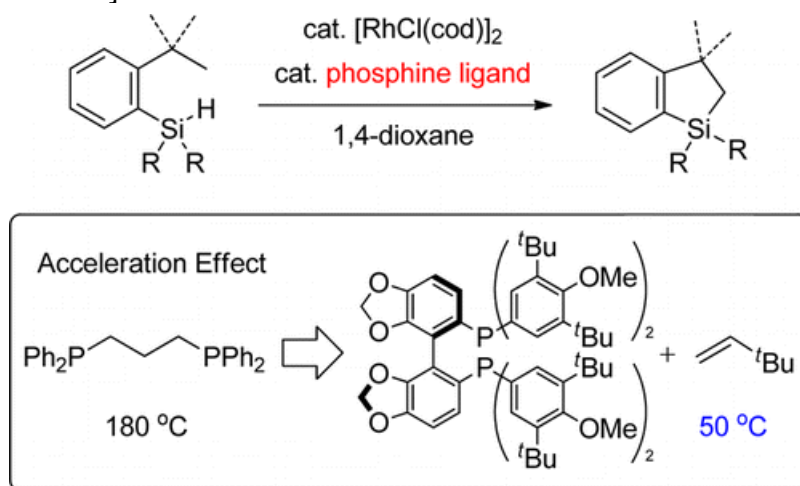


[92] Murai, M.*; Takeshima, H.; Morita, H.; Kuninobu, Y.; Takai, K.*

Acceleration Effects of Phosphine Ligands on the Rhodium-Catalyzed Dehydrogenative Silylation and Germylation of Unactivated C(sp³)-H Bonds.

J. Org. Chem. **2015**, *80*, 5407-5414 (DOI: 10.1021/acs.joc.5b00920).

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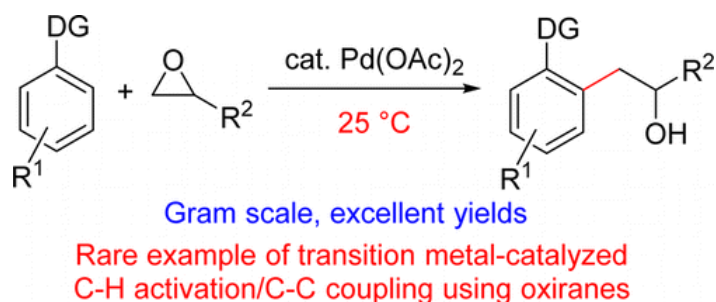


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Palladium-Catalyzed Oxirane-Opening Reaction with Arenes via C-H Bond Activation.

J. Am. Chem. Soc. **2015**, *137*, 6140-6143 (DOI: 10.1021/jacs.5b02435).

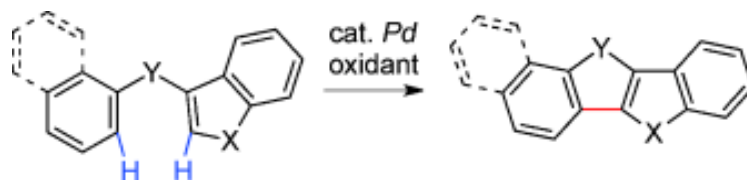
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[90] Saito, K.; Chikkade, P. K.; Kanai, M.*; Kuninobu, Y.*

Palladium-Catalyzed Construction of Heteroatom-Containing π -Conjugated Systems by Intramolecular Oxidative C-H/C-H Coupling Reaction.

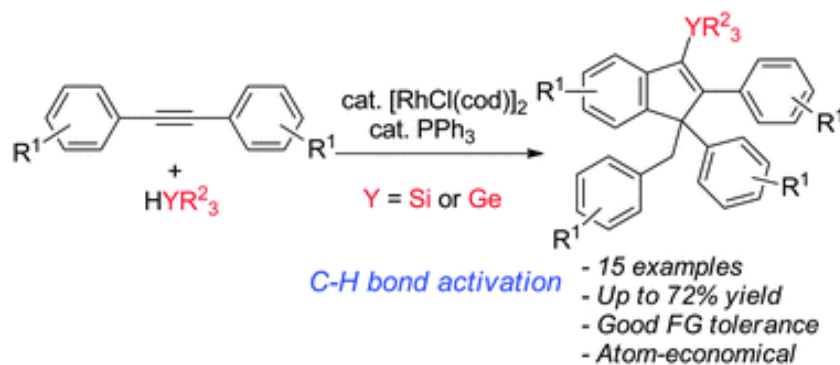
Chem. Eur. J. **2015**, *21*, 8365-8368 (DOI: 10.1002/chem.201501116).



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Rhodium-Catalyzed Synthesis of Multi-Substituted Silylindenes from Aryl Alkynes and Hydrosilanes via C-H Bond Activation.

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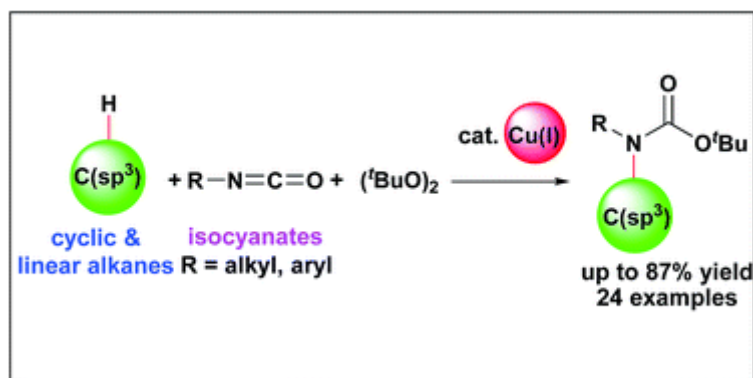


[88] Chikkade, P. K.; Kuninobu, Y.*; Kanai, M.*

Copper-Catalyzed Intermolecular C(sp³)-H Bond Functionalization Towards the Synthesis of Tertiary Carbamates.

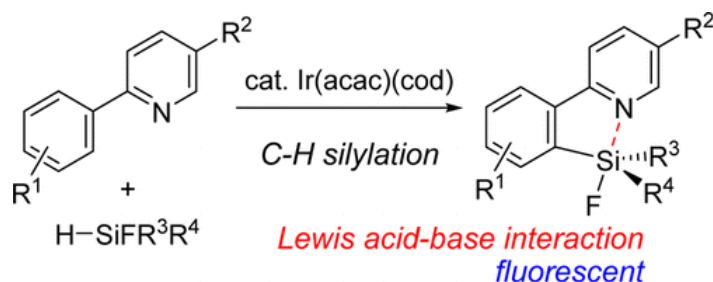
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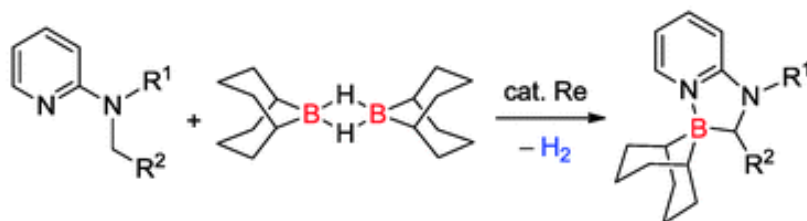
Iridium-Catalyzed *ortho*-Selective C-H Silylation of Aromatic Compounds Directed toward the Synthesis of π -Conjugated Molecules with Lewis Acid-Base Interaction. *Org. Lett.* **2015**, *17*, 1758-1761 (DOI: 10.1021/acs.orglett.5b00529).



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Rhenium-Catalysed Dehydrogenative Borylation of Primary and Secondary $\text{C}(\text{sp}^3)\text{-H}$ Bonds Adjacent to a Nitrogen Atom. *Chem. Commun.* **2015**, *51*, 4583-4586 (DOI: 10.1039/C4CC09508A).

Dehydrogenative borylation of primary and secondary $\text{C}(\text{sp}^3)\text{-H}$ bonds



Re-catalysed functionalization of $\text{C}(\text{sp}^3)\text{-H}$ bond.

High atom economy. No oxidants, external ligands or additives.

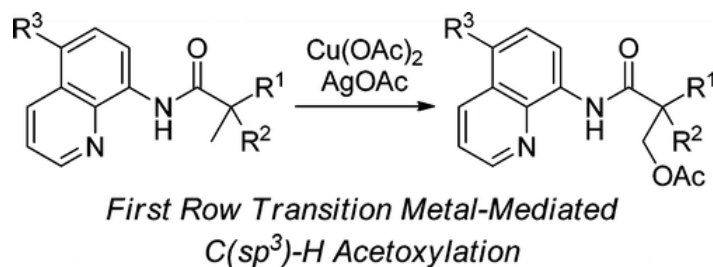
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Copper-Mediated Direct C(sp³)-H and C(sp²)-H Acetoxylation.

Org. Lett. **2014**, *16*, 4790-4793 (DOI: 10.1021/ol5022542).

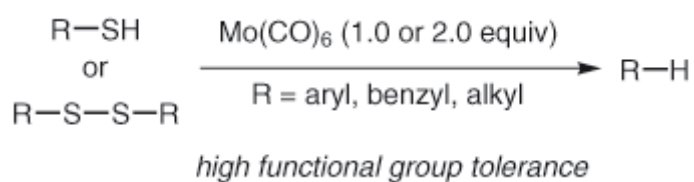
[*Synfacts* **2014**, *10*, 1310]



[84] Wang, Z.; Kuninobu, Y.*; Kanai, M.*

Molybdenum-Mediated Desulfurization of Thiols and Disulfides.

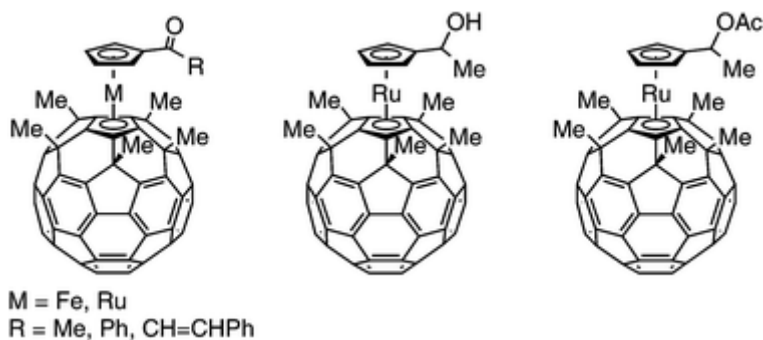
Synlett **2014**, *25*, 1869-1872 (DOI: 10.1055/s-0034-1378315).



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Fiedel-Crafts Functionalization of the Cyclopentadienyl Ligand of Buckymetalloenes.

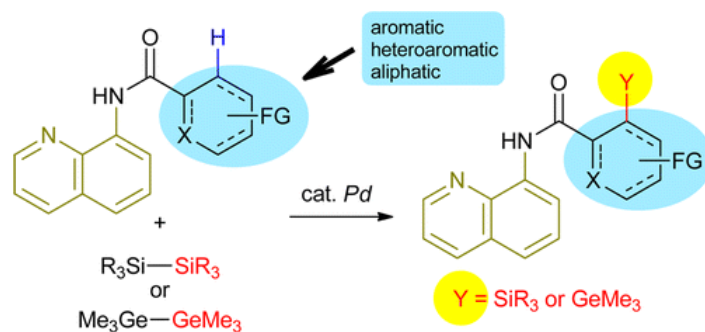
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Palladium-Catalyzed Direct C–H Silylation and Germanylation of Benzamides and Carboxyamides.

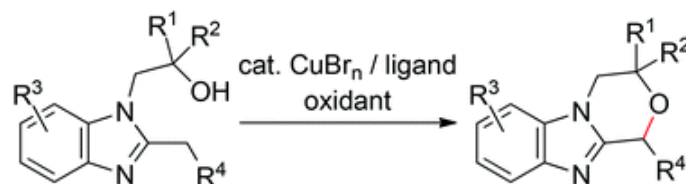
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Copper-Catalyzed Benzylic C(sp³)-H Alkoxylation of Heterocyclic Compounds.

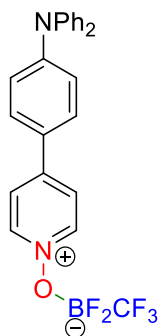
Org. Biomol. Chem. **2014**, *12*, 2528-2532 (DOI:10.1039/C4OB00215F).



[80] Nishida, T.; Fukazawa, A.; Yamaguchi, E.; Oshima, H.; Yamaguchi, S.; Kanai, M.*; Kuninobu, Y.*

Synthesis of Pyridine *N*-Oxide-BF₂CF₃ Complexes and Their Fluorescence Properties.

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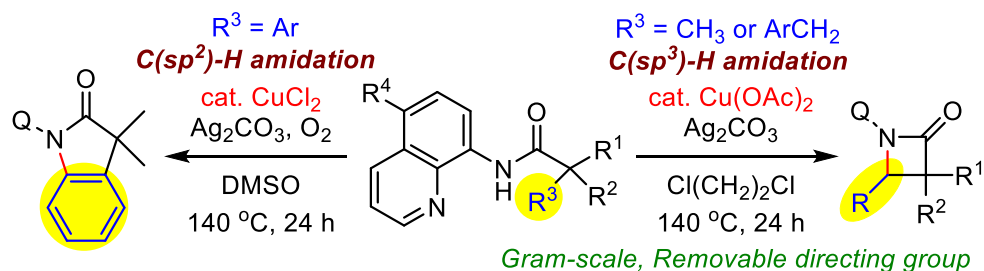


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Copper-Catalyzed Intramolecular C(sp³)-H and C(sp²)-H Amidation by Oxidative Cyclization.

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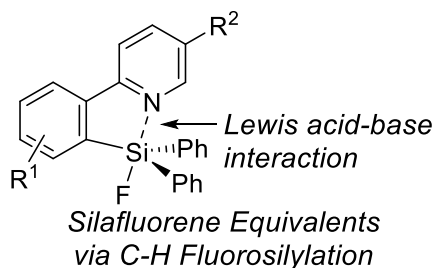
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[78] Xiao, Q.; Meng, X.; Kanai, M.*; Kuninobu, Y.*

Palladium-Catalyzed C-H Fluorosilylation of 2-Phenylpyridines: Synthesis of Silafluorene Equivalents.

Angew. Chem. Int. Ed. **2014**, *53*, 3168-3172 (DOI: 10.1002/anie.201310293).

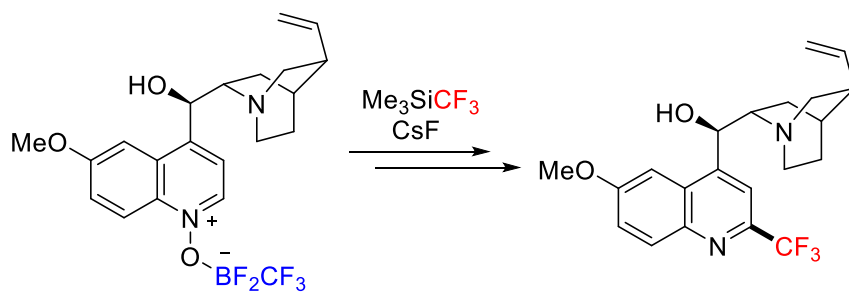


[77] Nishida, T.; Ida, H.; Kuninobu, Y.*; Kanai, M.*

Regioselective Trifluoromethylation of *N*-Heteroaromatic Compounds using Trifluoromethyldifluoroborane Activator.

Nat. Commun. **2014**, *5*, 3387 (DOI: 10.1038/ncomms4387).

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First example of 2-position-selective C-H trifluoromethylation

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