

New diphosphine ligand **dcppt**

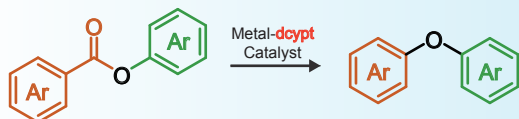
[3,4-Bis(dicyclohexylphosphino)thiophene]



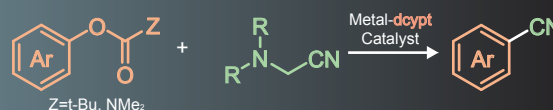
Kanto Reagents

Metal-dcppt catalyzed...

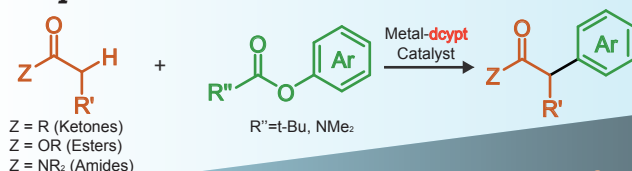
Decarbonylative diaryl ether synthesis



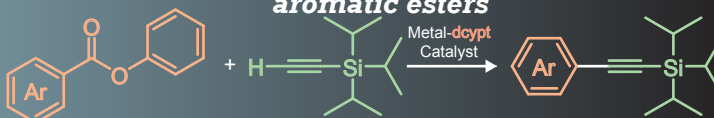
Cyanation of phenol derivatives with aminoacetonitriles



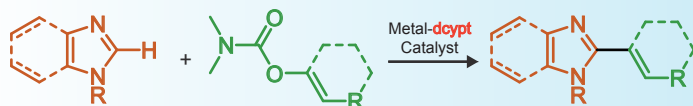
α -Arylation of esters and amides with phenol derivatives



Decarbonylative alkynylation of aromatic esters



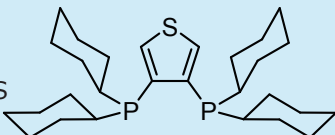
C-H Alkenylation of imidazole



And more!!

New diphosphine ligand catalyzing various new reaction

Kanto Chemical Co., INC. launched new diphosphine ligand "dcppt", which were developed by Prof. Itami, Nagoya University, Institute of Transformatibe Bio-Molecules and associate Prof. Yamaguchi, Waseda University, Department of Applied Chemistry. Dcppt ligand catalyze various new reactions as described above. This ligand is **stable in air** and easy to handle.

Cat. No.	Product name	Size
05806-95	3,4-Bis(dicyclohexylphosphino)thiophene	200 mg
05806-65	abbreviation : dcppt CAS : 1638677-61-8 molecular formula : C ₂₈ H ₄₆ P ₂ S 	1 g



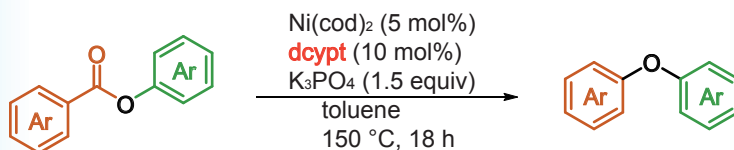
Kanto Kagaku

Some reaction examples catalyzed by **dcpvt ligand** + metal complex

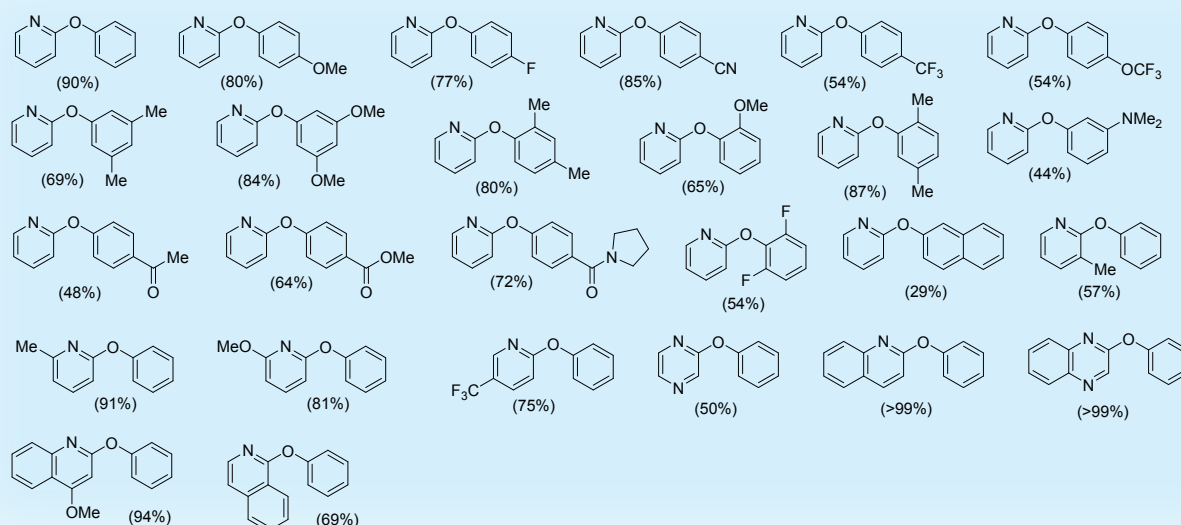
Decarbonylative diaryl ether synthesis reaction

Ni/dcpvt or Pd/dcpvt complex catalyze decarbonylative diaryl ether synthesis reaction of aromatic aryl ester.

Example



Some of reaction products



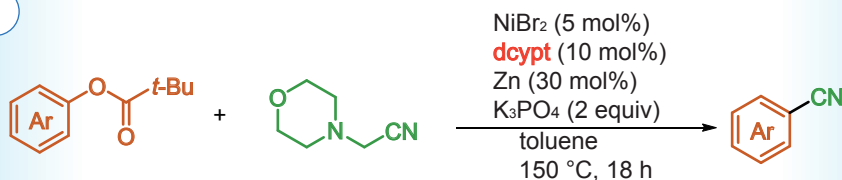
Reference : Decarbonylative Diaryl Ether Synthesis by Pd and Ni Catalysis

Takise, R.; Isshiki, R. Muto K.; Itami, K.; Yamaguchi, J. *J. Am. Chem. Soc.* **2017**, 139(9), 3340-3343.

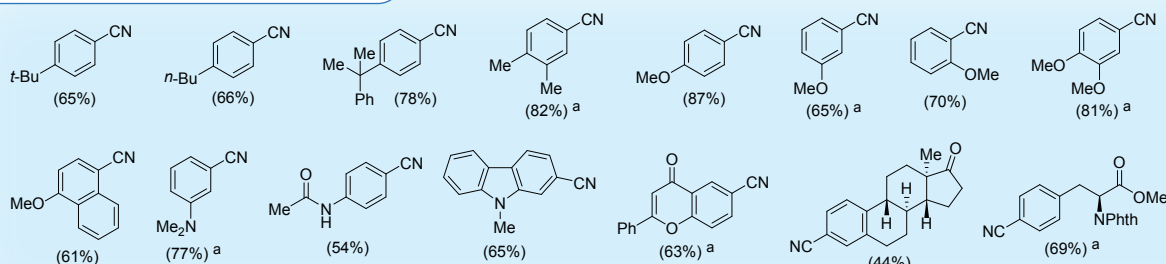
Cyanation of phenol derivatives by using aminoacetonitriles

Ni/dcpvt complex catalyze cyanation reaction of phenol derivatives with aminoacetonitriles as organic cyanating agents. This reaction does not use toxic metal.

Example



Some of reaction products



a : NiBr₂(10 mol%), Zn(60 mol%), dcpvt(20 mol%)

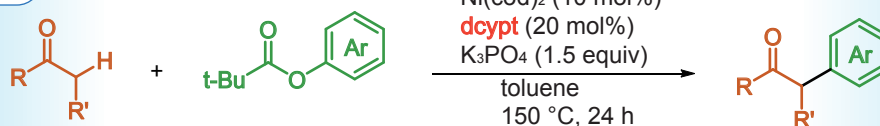
Reference : Cyanation of Phenol Derivatives with Aminoacetonitriles by Nickel Catalysis

Takise, R.; Itami, K.; Yamaguchi, J. *Org. Lett.* **2016**, 18(17), 4428-4431.

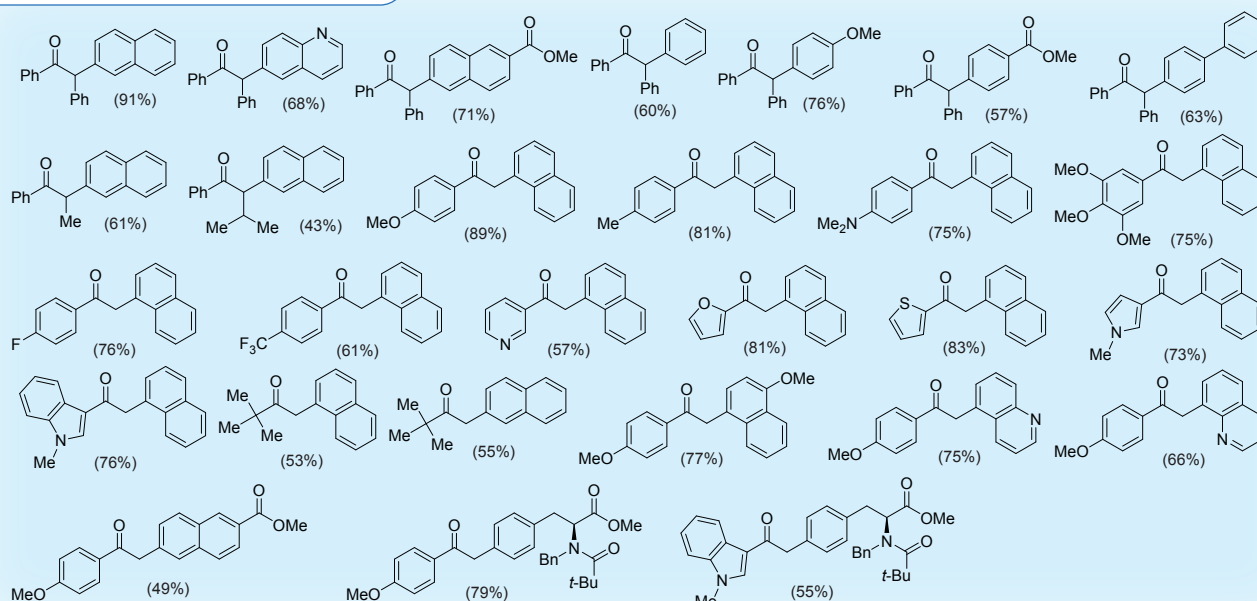
Coupling reaction of carbonyl compound with phenol derivatives

Ni/dcyp complex catalyze α -arylation of ketone, ester or amide with phenol derivatives as arylating agent.

Example



Some of reaction products



Reference : Nickel-catalyzed α -arylation of ketones with phenol derivatives

Takise, R.; Muto, K.; Yamaguchi, J.; Itami, K. *Angew. Chem. Int. Ed.* **2014**, 53(26), 6791-6794.

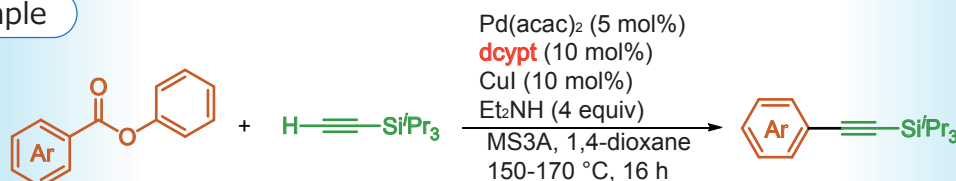
Ni-Catalyzed α -arylation of esters and amides with phenol derivatives

Koch, E.; Takise, R.; Studer, A.; Yamaguchi, J.; Itami, K. *Chem. Commun.* **2015**, 51(5), 855-857.

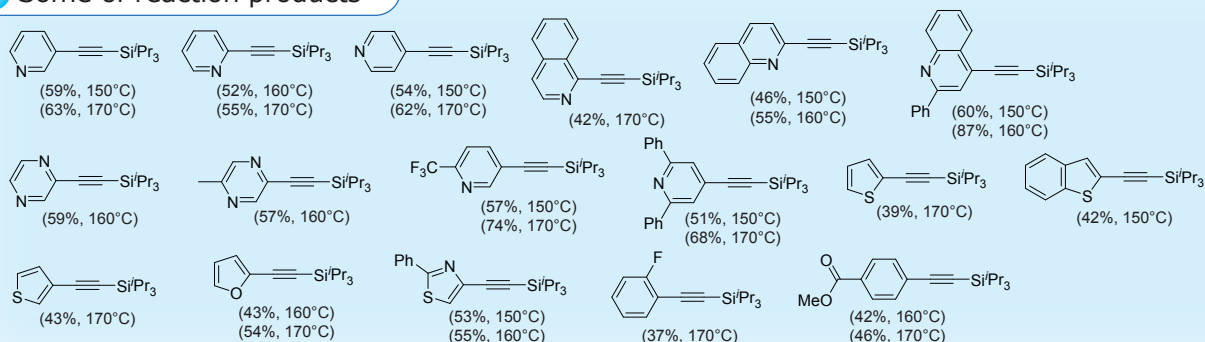
Decarbonylative alkynylation of aromatic esters

Pd/dcyp complex catalyze halogen-free Sonogashira coupling of aromatic esters with terminal alkynes.

Example



Some of reaction products



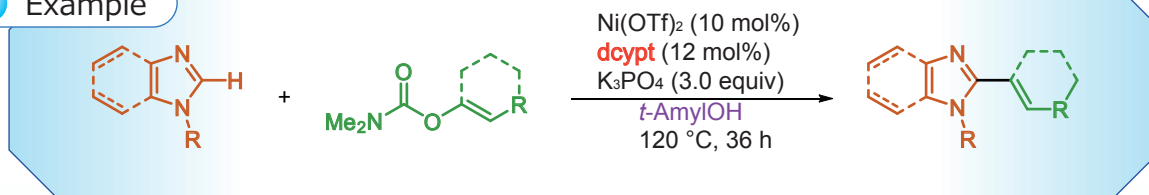
Reference : Palladium-catalyzed Decarbonylative Alkynylation of Aromatic Esters

T. Okita, K. Kumazawa, R. Takise, K. Muto, K. Itami, J. Yamaguchi, *Chem Lett.* **2017**, 46, 218.

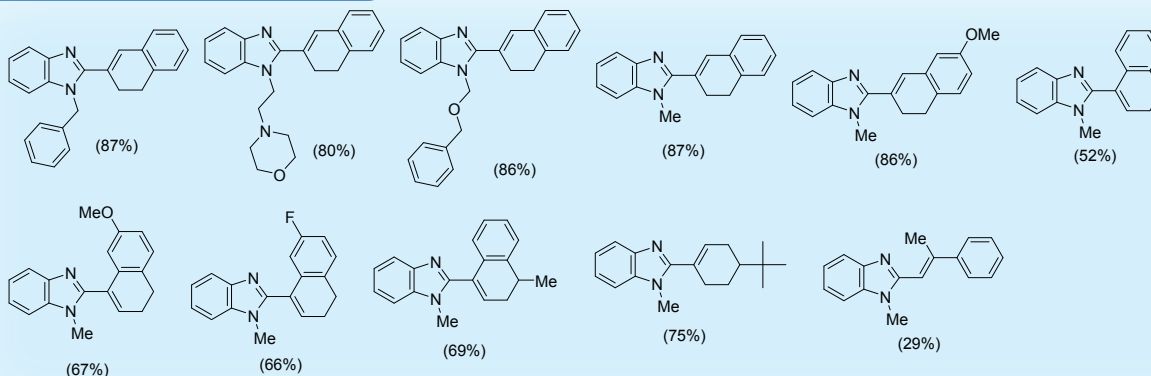
C-H alkenylation of imidazoles with enol derivatives

Ni/dcyp complex catalyze C-H alkenylation of imidazoles with enole derivatives in *t*-amyl alcohol.

Example

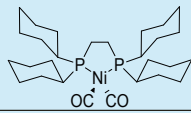
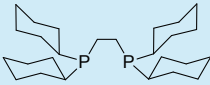
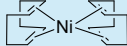


Some of reaction products



Reference : C-H arylation and alkenylation of imidazoles by nickel catalysis: solvent-accelerated imidazole C-H activation
Muto, K.; Hatakeyama, T.; Yamaguchi, J.; Itami, K. *Chem. Sci.* **2015**, 6(12), 6792-6798.

Related products

Cat. No.	Product name	Size
04870-65	[1,2-Bis(dicyclohexylphosphino)ethane]dicarbonylnickel(0) abbreviation : Ni-dcype CAS : 141974-66-5	500 mg
04870-55		5 g
04874-65	1,2-Bis(dicyclohexylphosphino)ethane abbreviation : dcype CAS : 23743-26-2	1 g
04874-45		10 g
04875-65	Bis(1,5-cyclooctadiene)nickel(0) abbreviation : Ni(cod) ₂ CAS : 1295-35-8	1 g
04875-55		5 g



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