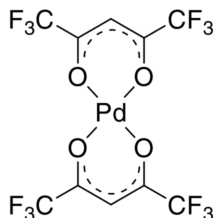
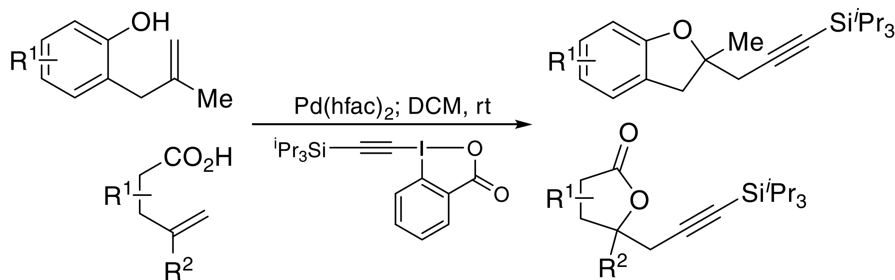
Catalog # 46-1870 Palladium(II) hexafluoroacetylacetonate, min. 95%



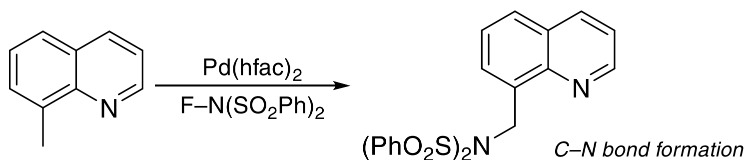
Catalysis Applications

Technical Notes:

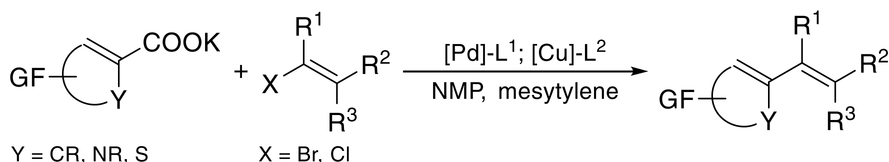
1. Catalyst used for intramolecular oxyalkynylation of nonactivated alkenes with hypervalent iodine
2. Catalyst for intermolecular $C(sp^3)$–H amidation
3. Catalyst used in arylalkene synthesis via Cu-co-catalyzed decarboxylative cross-coupling of alkenyl halides
4. Catalyst for allylic C–H oxidation using oxone
5. Catalyst for enantioselective amination of aryl C−H bonds
6. Catalyst for tandem enantioselective methylene $C(sp^3)$–H alkenylation-aza-Wacker cyclization to access β-stereogenic γ-lactams
7. Catalyst for enantioselective arylation of unbiased methylene $C(sp^3)$–H bonds



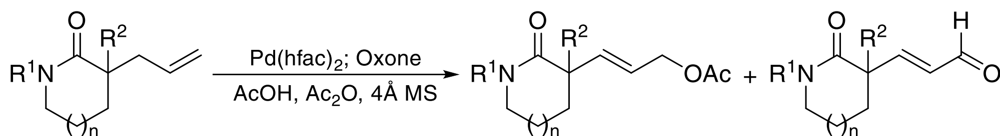
Tech Note (1)
Ref. (1)



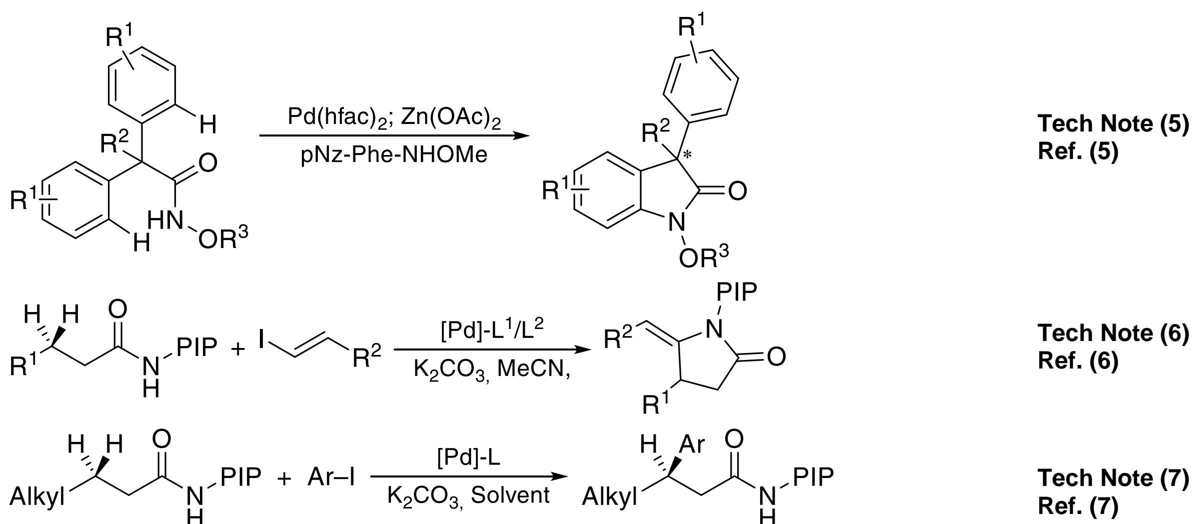
Tech Note (2)
Ref. (2)



Tech Note (3)
Ref. (3)



Tech Note (4)
Ref. (4)



References:

1. *Org. Lett.* **2010**, *12*, 384
2. *Angew. Chem. Int. Ed.* **2012**, *51*, 2225
3. *Org. Lett.* **2014**, *16*, 2664
4. *Angew. Chem. Int. Ed.* **2015**, *54*, 11186
5. *Org. Lett.* **2020**, *22*, 6394
6. *Angew. Chem. Int. Ed.* **2020**, *59*, 14060
7. *Chem. Commun.* **2021**, *57*, 5562

CVD/ALD Applications

Thermal Behavior:

- Melting Point: 95°C [1]
- TGA diagram and data is available in [1]
- Vapor pressure: ~0.1 Torr/50°C [2]

Technical Notes:

1. ALD precursor for palladium thin film and nanoparticle deposition

Target Deposit	Deposition Technique	Delivery Temperature	Pressure	Co-reactants	Deposition Temperature	Ref.
Pd	ALD	50°C	1 Torr	HC(O)H/MeOH	200°C	2
	ALD	60°C	1-2 Torr	HC(O)H/MeOH,	150-200°C	3-6
	ALD	60-65°C	-	H_2 $HCOCO_2H$	90-95°C, 200°C	7
	ALD	47°C	-	H_2	85°C	8
	PE-ALD	46°C	-	$^{PL}H_2$	80-85°C	9-11
	PE-ALD	46°C	-	$^{PL}N_2/^{PL}H_2$	85-90°C	12
	PE-ALD	50°C	-	$^{PL}O_2/^{PL}H_2$	100°C	13
	PE-ALD	50°C	7.5 Torr	$^{PL}H_2/^{PL}NH_3/^{PL}O_2$	100-200°C	14
	ALD	60°C		O_3	180-220°C	15

References:
1. *J. Structural Chem.* **2005**, *46*, 320
2. *Thin Solid Films* **2006**, *515*, 1664
3. *Angew. Chem. Int. Ed.* **2010**, *49*, 2547
4. *Chem. Mater.* **2010**, *22*, 3133
5. *Chem. Mater.* **2012**, *24, 3525*
6. *J. Am. Chem. Soc.* **2015**, *137, 10484*
7. *Chem. Vap. Deposition* **2003**, *9*, 258
8. *Chem. Vap. Deposition* **2006**, *12, 290*
9. *J. Electrochem. Soc.* **2005**, *152*, C376
10. *Surf. Coat. Tech.* **2006**, *200*, 5760
11. *Phys. Chem. Chem. Phys.* **2020**, *22*, 9124
12. *Chem. Vap. Deposition* **2007**, *13*, 307
13. *J. Phys. Chem. C*, **2014**, *118, 8702*
14. *Phys. Chem. Chem. Phys.* **2020**, *22*, 9124
15. *Thin Solid Films* **2021**, *738*, 138955