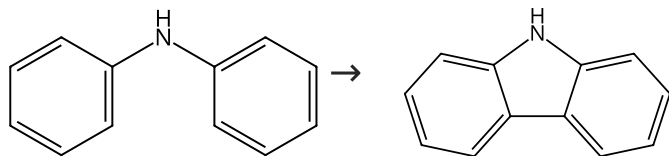


Reactions (27) [View in SciFinderⁿ](#)

Scheme 1 (23 Reactions)


 Suppliers (92)

 Suppliers (92)
Steps: **1**Yield: **40-95%**

Reaction Summary			Intramolecular Pd(II)-Catalyzed Oxidative Biaryl Synthesis Under Air: Reaction Development and Scope
Reagents	Pivalic acid Potassium carbonate	Steps: 1 Yield: 95%	By: Liegault, Benoit; et al Journal of Organic Chemistry (2008), 73(13), 5022-5028.
Catalysts	Palladium diacetate		
Solvents	-		
Conditions	14 h, 110 °C		
Experimental Protocols			
Reaction Summary			Palladium(II) acetate
Reagents	-	Steps: 1 Yield: 90%	By: Grennberg, Helena; et al e-EROS Encyclopedia of Reagents for Organic Synthesis (2015), 1-35.
Catalysts	Palladium diacetate		
Solvents	Acetic acid		
Conditions	reflux		
Reaction Summary			Preparation of supported palladium hydroxide solid catalysts for dehydrocyclization and preparation of dibenzo compounds from diphenyl compounds with them
Reagents	Oxygen	Steps: 1 Yield: 85%	By: Ishida, Gyokusei; et al Japan, JP2013212499 A 2013-10-17 PATENTPAK available
Catalysts	Palladium dihydroxide		
Solvents	Acetic acid 1,4-Dioxane		
Conditions	12 h, 100 °C		
Reaction Summary			Acid-Free Synthesis of Carbazoles and Carbazole quinones by Intramolecular Pd-Catalyzed, Microwave-Assisted Oxidative Biaryl Coupling Reactions - Efficient Syntheses of Murrayafoline A, 2-Methoxy-3-methylcarbazole, and Glycozolidine
Reagents	Cupric acetate	Steps: 1 Yield: 84%	By: Sridharan, Vellaisamy; et al European Journal of Organic Chemistry (2009), (27), 4614-4621, S4614/1-S4614/39.
Catalysts	Palladium diacetate		
Solvents	Dimethylformamide		
Conditions	60 min, 130 °C; 130 °C → 40 °C		
Experimental Protocols			

Reaction Summary			Catalytic synthesis method for preparing carbazole from diphenylamine
Reagents	-	Steps: 1	By: Ma, Jiantai; et al China, CN104059014 A 2014-09-24 PATENTPAK available
Catalysts	Phosphorus pentoxide Vanadium oxide (V ₂ O ₅) Potassium chloride View all on Reaction Detail	Yield: 82%	
Solvents	Water		
Conditions	rt → 100 °C; 100 °C → 190 °C		
Reaction Summary			Synthesis of oxygenated carbazoles by palladium-mediated oxidative double C-H activation of diarylamines assisted by microwave irradiation
Reagents	-	Steps: 1	By: Sridharan, Vellaisamy; et al Synlett (2006), (15), 2375-2378.
Catalysts	Dimethylformamide Palladium diacetate	Yield: 80%	
Solvents	-		
Conditions	1 min		
Experimental Protocols			
Reaction Summary			Supported palladium hydroxide-catalyzed intramolecular double CH bond functionalization for synthesis of carbazoles and dibenzofurans
Reagents	Oxygen	Steps: 1	By: Ishida, Tamao; et al Applied Catalysis, B: Environmental (2014), 150-151, 523-531.
Catalysts	Palladium dihydroxide	Yield: 78%	
Solvents	Acetic acid 1,4-Dioxane		
Conditions	12 h, 0.25 MPa, 100 °C		
Reaction Summary			Carbazole synthesis by platinum-catalyzed C-H functionalizing reaction using water as reoxidizing reagent
Reagents	-	Steps: 1	By: Yamamoto, Mitsuru; et al Chemistry Letters (2007), 36(1), 172-173.
Catalysts	Platinum	Yield: 69%	
Solvents	Water		
Conditions	48 h, 250 °C		
Reaction Summary			C-H bond activation by water on a palladium or platinum metal surface
Reagents	-	Steps: 1	By: Matsubara, Seiji; et al Synthesis (2007), (13), 2055-2059.
Catalysts	Platinum	Yield: 69%	
Solvents	Water		
Conditions	12 h, 250 °C		
Experimental Protocols			

Reaction Summary			Oxygen as oxidant in palladium-catalyzed inter- and intramolecular coupling reactions
Reagents	Tin tetraacetate Oxygen	Steps: 1 Yield: 66%	By: Hagelin, Helena; et al
Catalysts	Palladium trifluoroacetate		Chemistry - A European Journal (1999), 5(8), 2413-2416.
Solvents	Acetic acid		
Conditions	-		
Reaction Summary			Photocyclization of stilbenes and related molecules
Reagents	-	Steps: 1 Yield: 62%	By: Mallory, Frank B.; et al
Catalysts	-		Organic Reactions (Hoboken, NJ, United States) (1984), 30, No pp. given.
Solvents	-		
Conditions	-		
Reaction Summary			Photocyclization of stilbenes and related molecules
Reagents	-	Steps: 1 Yield: 62%	By: Mallory, Frank B.; et al
Catalysts	-		Organic Reactions (Hoboken, NJ, United States) (1984), 30, No pp. given.
Solvents	Tetrahydrofuran		
Conditions	-		
Reaction Summary			Radical cyclization reactions
Reagents	2-(4-Biphenyl)-5-phenyloxazole	Steps: 1 Yield: 40%	By: Giese, B.; et al
Catalysts	-		Organic Reactions (Hoboken, NJ, United States) (1996), 48, No pp. given.
Solvents	Chloroform		
Conditions	-		
Reaction Summary			Gas-phase dehydrocyclization of diphenylamine
Reagents	Hydrogen	Steps: 1	By: Vlcko, Miroslav; et al
Catalysts	Alumina Platinum		Applied Catalysis, A: General (2007), 328(2), 183-188.
Solvents	Aniline		
Conditions	5 h, 560 °C		
Reaction Summary			Dehydrocyclization of diphenylamine to carbazole over platinum catalysts
Reagents	Hydrogen	Steps: 1	By: Vlcko, Miroslav; et al
Catalysts	Alumina Chloroplatinic acid		Collection of Czechoslovak Chemical Communications (2008), 73(8-9), 1149-1160.
Solvents	Water		
Conditions	550 °C		

Reaction Summary			Multifunctional and robust covalent organic framework-nanoparticle hybrids By: Pachfule, Pradip; et al Journal of Materials Chemistry A: Materials for Energy and Sustainability (2014), 2(21), 7944-7952.
Reagents	Potassium carbonate Oxygen	Steps: 1	
Catalysts	Palladium diacetate		
Solvents	-		
Conditions	12 h, 120 °C		
Experimental Protocols			

Reaction Summary			Free radical cyclization of diphenylamine: a convenient synthesis of carbazole and 3-methylcarbazole By: Bhattacharyya, Prantosh; et al Journal of the Chemical Society, Chemical Communications (1984), (24), 1668-9.
Reagents	-	Steps: 1	
Catalysts	Benzoyl peroxide		
Solvents	-		
Conditions	-		

Reaction Summary			Gas-phase dehydrocyclization of diphenylamine By: Vlcko, Miroslav; et al Edited by Palinko, Istvan Sampling Catalysis Research in the Pannonian Region, Proceedings of the Pannonian International Catalysis Symposium, 8th, Szeged, Hungary, July 4-7, 2006 (2006), 268-272.
Reagents	-	Steps: 1	
Catalysts	Magnesium oxide Palladium		
Solvents	-		
Conditions	400 °C		

Reaction Summary			Product class 15: carbazoles By: Gallagher, P. T. Science of Synthesis (2001), 10, 693-744.
Reagents	-	Steps: 1	
Catalysts	-		
Solvents	-		
Conditions	-		

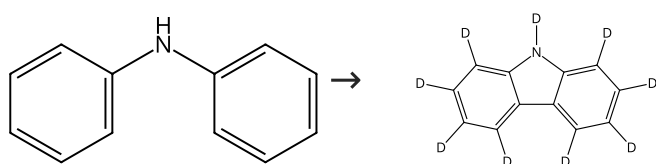
Reaction Summary			Dehydrocyclization of diphenylamine to carbazole over platinum-based bimetallic catalysts By: Vlcko, Miroslav; et al Cuihua Xuebao (2010), 31(12), 1439-1444.
Reagents	Hydrogen	Steps: 1	
Catalysts	Platinum Tin		
Solvents	Aniline		
Conditions	6 h, 550 °C		

Reaction Summary			Photocleavage of diarylnitrosamines in neutral media By: Crumrine, David S.; et al Journal of Organic Chemistry (1982), 47(22), 4246-9.
Reagents	-	Steps: 1	
Catalysts	-		
Solvents	Acetone		
Conditions	-		

Reaction Summary		Steps: 1	Method for gas-phase synthesizing carbazole from diphenylamine via catalytic dehydrogenation cyclization by use of fixed bed By: Cao, Hongsheng; et al China, CN104059015 A 2014-09-24 PATENTPAK available
Reagents	-		
Catalysts	Chromia (with Fe ₂ O ₃ supported on Al ₂ O ₃) Iron oxide (Fe ₂ O ₃) (with Cr ₂ O ₃ supported on Al ₂ O ₃)		
Solvents	-		
Conditions	0.01 atm, 450 °C		

Reaction Summary		Steps: 1	Method for preparing carbazole from diphenylamine By: Xin, Yang; et al China, CN103772267 A 2014-05-07 PATENTPAK available
Reagents	Oxygen		
Catalysts	Palladium trifluoroacetate		
Solvents	Butyric acid		
Conditions	5 h, 120 °C		

Scheme 2 (1 Reaction)

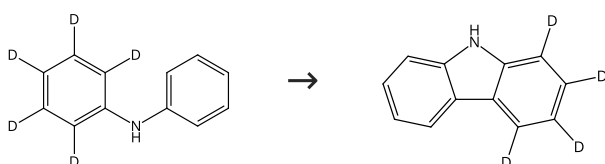


Suppliers (92)

Steps: 2

Reaction Summary		Steps: 2	C-H bond activation by water on a palladium or platinum metal surface By: Matsubara, Seijiro; et al Synthesis (2007), (13), 2055-2059.
Reagents	Water- <i>d</i> ₂		
Catalysts	Platinum Platinum dioxide		
Solvents	Water Water- <i>d</i> ₂		
Conditions	Multiple Steps - View Reaction Detail		
Experimental Protocols			

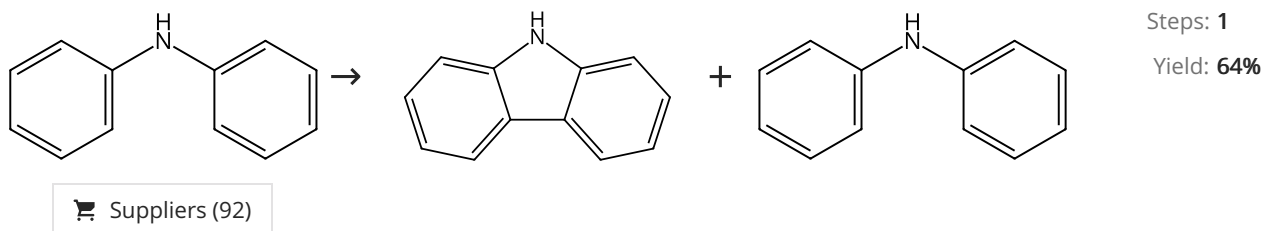
Scheme 3 (1 Reaction)



Steps: 1

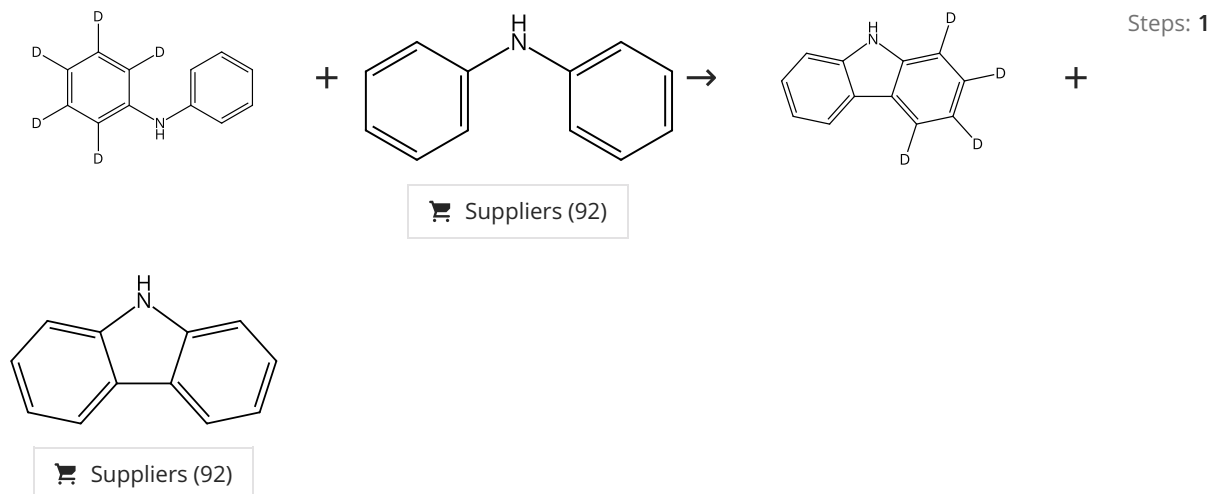
Reaction Summary			<div>Ligand-Free Pd-Catalyzed Domino Synthesis of Carbazoles via Dehydrogenative Aromatization/C(sp²)-C(sp²) Coupling Sequence</div> <div>By: Wen, Lixian; et al</div> <div>Organic Letters (2016), 18(6), 1278-1281.</div>
Reagents	Cupric acetate	Steps: 1	
Catalysts	Palladium diacetate		
Solvents	Pivalic acid		
Conditions	24 h, 140 °C		
Experimental Protocols			

Scheme 4 (1 Reaction)



Reaction Summary			Carbazole synthesis by platinum-catalyzed C-H functionalizing reaction using water as reoxidizing reagent By: Yamamoto, Mitsuru; et al Chemistry Letters (2007), 36(1), 172-173.
Reagents	Water- <i>d</i> ₂	Steps: 1 Yield: 64%	
Catalysts	Platinum		
Solvents	Water- <i>d</i> ₂		
Conditions	2 h, 250 °C		

Scheme 5 (1 Reaction)



Reaction Summary			<div>Ligand-Free Pd-Catalyzed Domino Synthesis of Carbazoles via Dehydrogenative Aromatization/C(sp²)-C(sp²) Coupling Sequence</div> <div>By: Wen, Lixian; et al</div> <div>Organic Letters (2016), 18(6), 1278-1281.</div>
Reagents	Cupric acetate	Steps: 1	
Catalysts	Palladium diacetate		
Solvents	Pivalic acid		
Conditions	12 h, 140 °C		
Experimental Protocols			

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