

Catalysts:

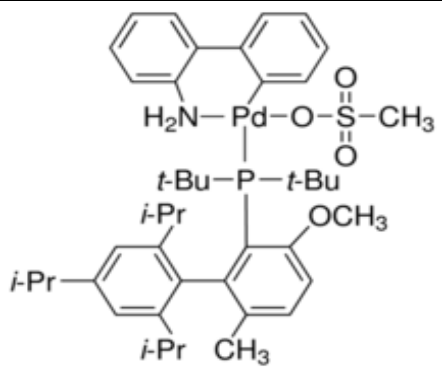
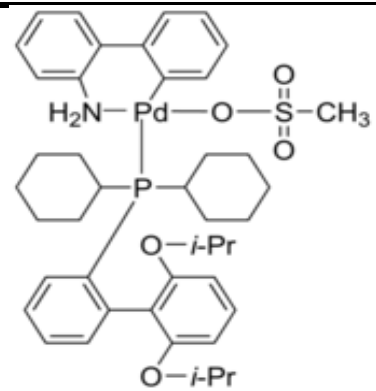
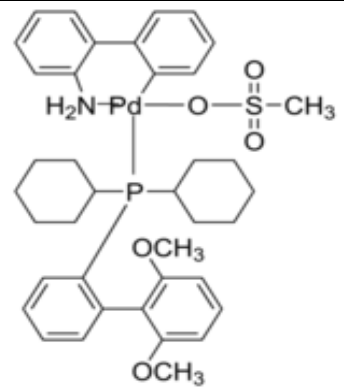
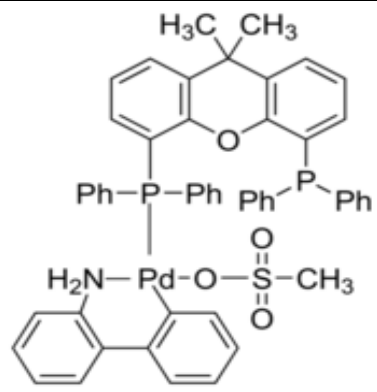
Buchwald 4th Generation Palladacycles

Sr No.	Catalyst Name	Molecular Formula	Structure
1	APhos Pd G4	C ₃₀ H ₄₃ N ₂ O ₃ PPdS	
2	rac-BINAP Pd G4	C ₅₈ H ₄₇ N ₃ O ₃ P ₂ PdS	
3	CyJohnPhos Pd G4	C ₃₈ H ₄₆ N ₃ O ₃ PPdS	
4	DavePhos Pd G4	C ₄₀ H ₅₁ N ₂ O ₃ PPdS	

5	DPPF Pd G4	C ₄₈ H ₄₃ FeNO ₃ P ₂ PdS	
6	PCy ₃ Pd G4	C ₃₂ H ₄₈ NO ₃ PPdS	
7	RuPhos Pd G4	C ₄₄ H ₅₈ NO ₅ PPdS	
8	SPhos Pd G4	C ₄₀ H ₅₀ NO ₅ PPdS	
9	XantPhos Pd G4	C ₅₃ H ₄₇ NO ₄ P ₂ PdS	

10	XPhos Pd G4	C47H64NO3PPdS	
11	APhos Pd G4	C30H43N2O3PPdS	
12	BrettPhos Pd G4	C49H68NO5PPdS	
Buchwald 3rd Generation Palladacycles			
13	AdBrettPhos Pd G3	C56H74NO5PPdS	

14	APhos Pd G3	C ₂₉ H ₄₁ N ₂ O ₃ PPdS	
15	BrettPhos Pd G3	C ₄₈ H ₆₆ N ₂ O ₅ PPdS	
16	CPhos Pd G3	C ₄₁ H ₅₄ N ₃ O ₃ PPdS	
17	CyJohnPhos Pd G3	C ₃₇ H ₄₄ N ₂ O ₃ PPdS	
18	P(Cy3) Pd G3	C ₃₁ H ₄₆ N ₂ O ₃ PPdS	

19	RockPhos Pd G3	C ₄₄ H ₆₂ NO ₄ PPdS	
20	RuPhos Pd G3	C ₄₃ H ₅₆ NO ₅ PPdS	
21	SPhos Pd G3	C ₃₉ H ₄₈ NO ₅ PPdS	
22	XantPhos Pd G3	C ₅₂ H ₄₅ NO ₄ P ₂ PdS	

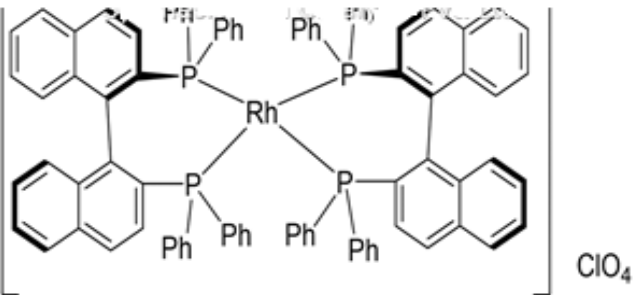
23	XPhos Pd G3	C ₄₆ H ₆₂ NO ₃ PPdS	
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Iridium Catalysts

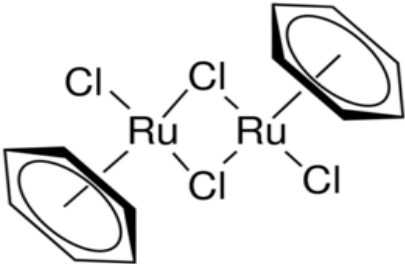
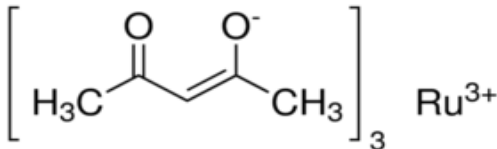
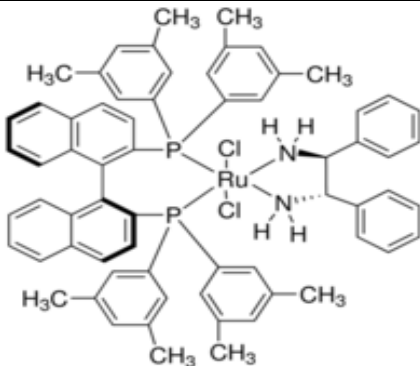
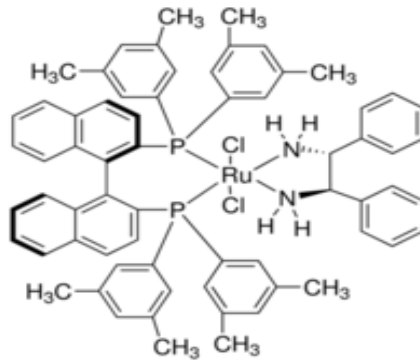
24	[Ir{dF(CF ₃)ppy}2(dtbpy)] (PF ₆)	C ₄₂ H ₃₄ F ₁₆ IrN ₄ P	
25	Bis(1,5-cyclooctadiene)diiridium (I) dichloride	C ₁₆ H ₂₄ Cl ₂ Ir ₂	
26	(Acetylacetonato) (1,5-cyclooctadiene) iridium(I)	C ₁₃ H ₁₉ IrO ₂	
27	Iridium(III) acetylacetonate	[CH ₃ COCH=C(O-) CH ₃] ₃ Ir	

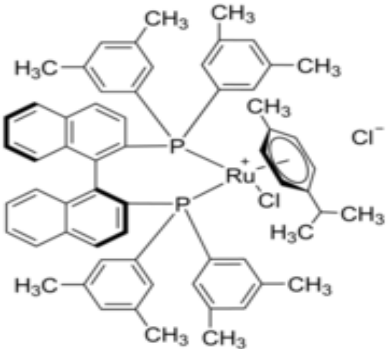
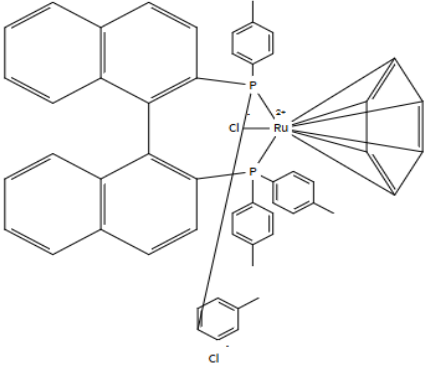
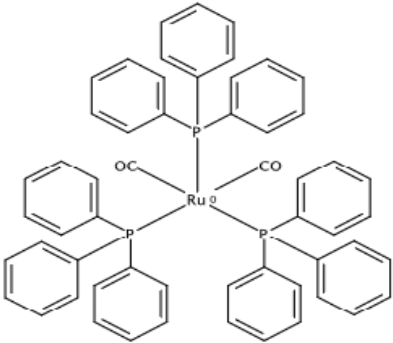
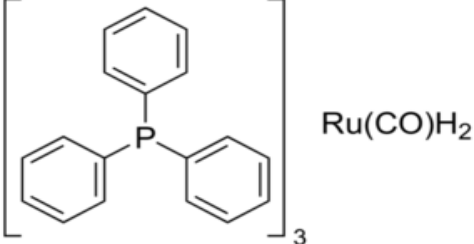
Rhodium Catalysts

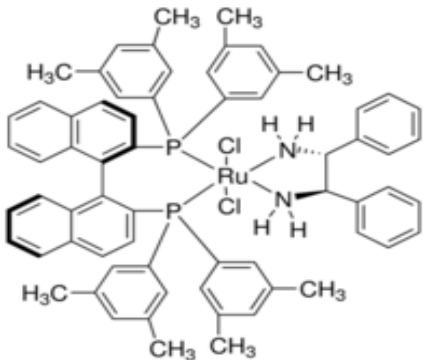
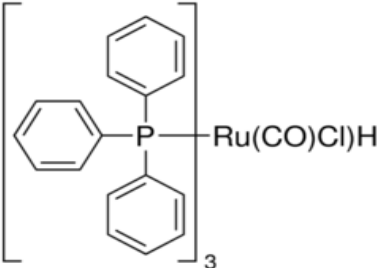
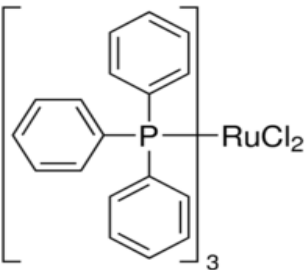
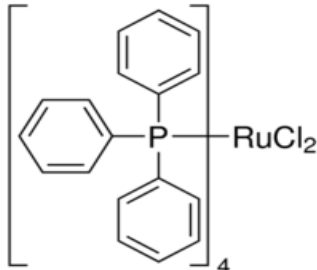
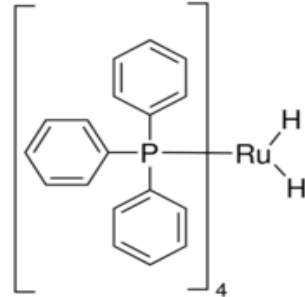
28	(Acetylacetonato)dicarbonylrhodium(I)	Rh(CO) ₂ (C ₅ H ₇ O ₂)	
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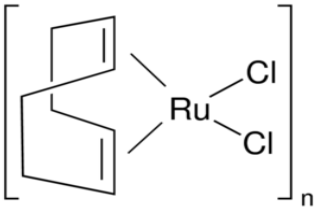
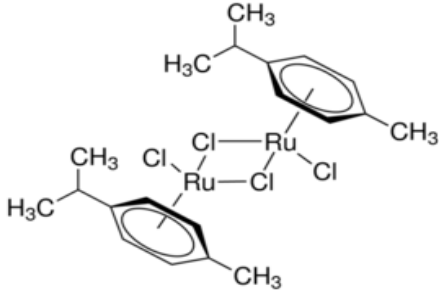
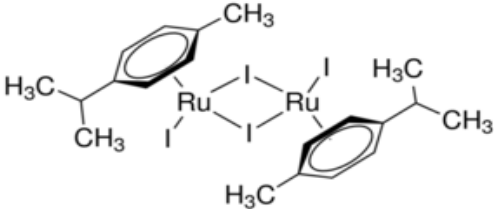
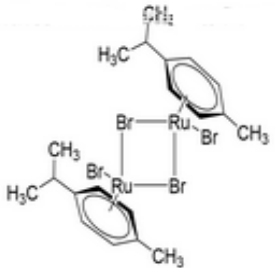
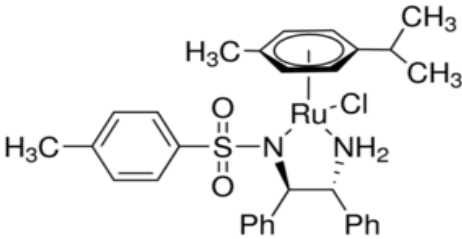
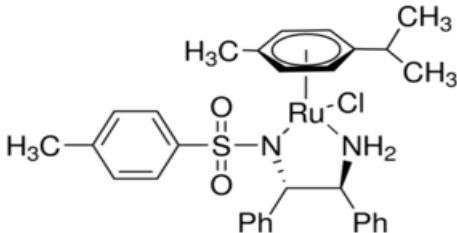
29	Bis[(R)-(-)-(BINAP)] rhodium(I) perchlorate	C ₈₈ H ₆₄ ClO ₄ P ₄ Rh	
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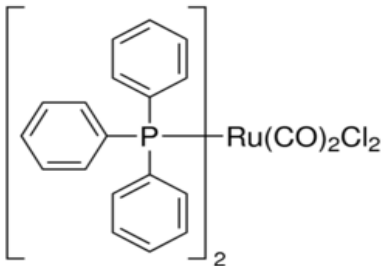
Ruthenium Catalysts

30	Benzeneruthenium (II) chloride dimer	Ru ₂ (C ₆ H ₆) ₂ Cl ₄	
31	Ruthenium(III) acetylacetonate	Ru(C ₅ H ₇ O ₂) ₃	
32	RuCl ₂ [(S)-(DM-BINAP)][(S,S)-DPEN]	C ₆₆ H ₆₄ Cl ₂ N ₂ P ₂ Ru	
33	RuCl ₂ [(R)-DM-BINAP][(R,R)-DPEN]	C ₆₆ H ₆₄ Cl ₂ N ₂ P ₂ Ru	

34	(S)-RuCl[(p-cymene) (DM-BINAP)]Cl	$[C_{62}H_{62}ClP_2Ru]^+Cl^-$	
35	(S)-RuCl[(benzene) (T-BINAP)]Cl	$C_{56}H_{46}P_2RuCl_2$	
36	Dicarbonyltris (triphenylphosphine) ruthenium(0)	$C_{56}H_{45}O_2P_3Ru$	
37	Carbonyldihydridotris(triphenylphosphine) ruthenium(II)	$[(C_6H_5)_3P]_3Ru(CO)H_2$	

38	$\text{RuCl}_2[(R)\text{-DM-BINAP}][(\text{R,R})\text{-DPEN}]$	$\text{C}_{66}\text{H}_{64}\text{Cl}_2\text{N}_2\text{P}_2\text{Ru}$	
39	Carbonylchlorohydrido tris(triphenylphosphine)ruthenium(II)	$[(\text{C}_6\text{H}_5)_3\text{P}]_3\text{Ru}(\text{CO})(\text{Cl})\text{H}$	
40	Tris(triphenylphosphine)ruthenium(II) dichloride	$[(\text{C}_6\text{H}_5)_3\text{P}]_3\text{RuCl}_2$	
41	Dichlorotetrakis(triphenylphosphine)ruthenium(II)	$[(\text{C}_6\text{H}_5)_3\text{P}]_4\text{RuCl}_2$	
42	Dihydrotetrakis(triphenylphosphine)ruthenium(II)	$[(\text{C}_6\text{H}_5)_3\text{P}]_4\text{RuH}_2$	

43	Dichloro(1,5-cyclooctadiene) ruthenium(II), polymer	$[\text{Ru}(\text{COD})\text{Cl}_2]_n$	
44	Dichloro(p-cymene) ruthenium(II) dimer	$[\text{Ru}(\text{p-cymene})\text{Cl}_2]_2$	
45	Diiodo(p-cymene) ruthenium (II) dimer	$\text{C}_{20}\text{H}_{28}\text{I}_4\text{Ru}_2$	
46	Dibromo(p-cymene) ruthenium(II) dimer	$[\text{Ru}(\text{p-cymene})\text{Br}_2]_2$	
47	$\text{RuCl}(\text{p-cymene})[(\text{R,R})\text{-Ts-DPEN}]$	$\text{C}_{31}\text{H}_{35}\text{ClIN}_2\text{O}_2\text{RuS}$	
48	$\text{RuCl}(\text{p-cymene})[(\text{S,S})\text{-Ts-DPEN}]$	$\text{C}_{31}\text{H}_{35}\text{ClIN}_2\text{O}_2\text{RuS}$	

49	Bis(triphenylphosphine)ruthenium(II) dicarbonyl chloride	$[(C_6H_5)_3P]_2Ru(CO)_2Cl_2$	
50	Bis(cyclopentadienylruthenium dicarbonyl) dimer	$C_{14}H_{10}O_4Ru_2$	