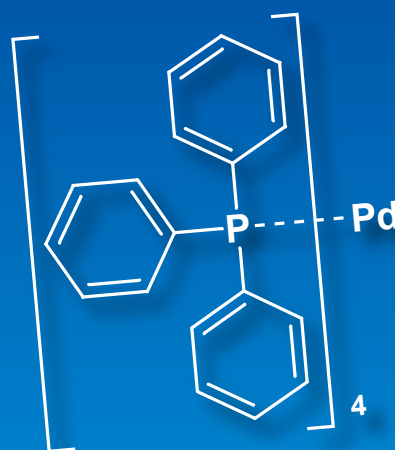
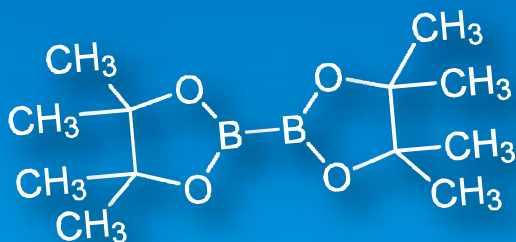
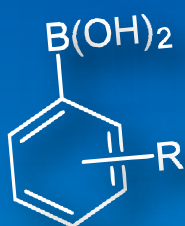


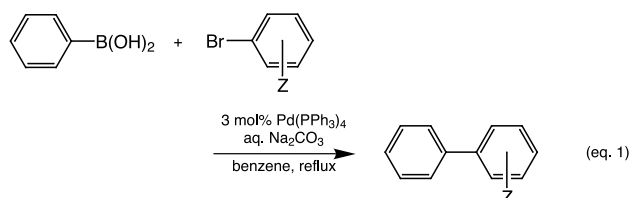
Suzuki-Miyaura Cross Coupling Reaction



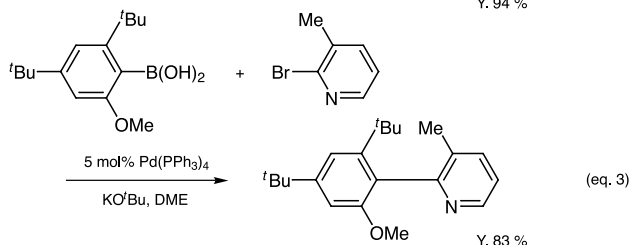
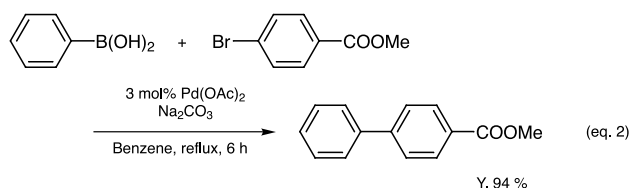
Suzuki-Miyaura Cross Coupling Reaction

Biaryl compounds are utilized as important basic skeletons of functional materials such as liquid crystals and biologically active compounds. For example, the biphenyl skeleton of diflunisal demonstrates analgesic and anti-inflammatory effects, and 4-alkyl-4'-cyanobiphenyl is a liquid crystal material. Traditionally, the Ullmann reaction and the Gomberg-Bachmann-Hey reaction have been used for biaryl formation. However, the reaction selectivities and yields of the anticipated products were poor.

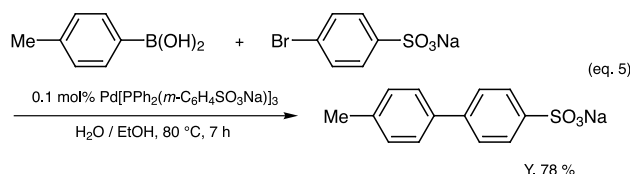
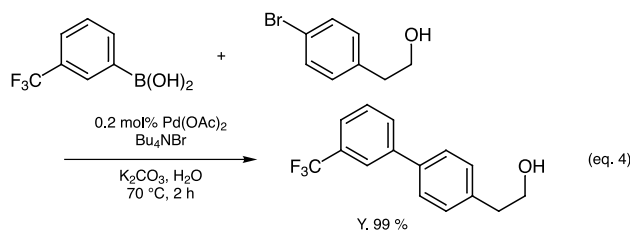
In 1981, Suzuki and Miyaura *et al.* made a breakthrough in the methodology of biaryl compound synthesis by using aryl boronic acids and aryl bromide under homogeneous palladium catalyzed conditions in the presence of bases (eq. 1).¹⁾



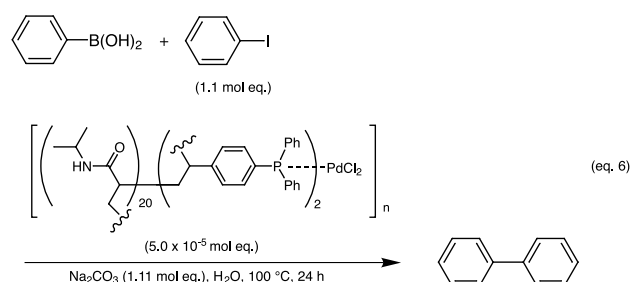
Under mild conditions, these reactions produce biaryl compounds with high selectivities and excellent yields. Moreover, there are few limitations in terms of functional group requirements, thus making it possible for the synthesis of biaryls with diverse components such as hydroxy, carboxyl and formyl groups, etc. (eq. 2). Furthermore, it is possible to synthesize sterically-hindered pyridylphenol derivatives (eq. 3).²⁾ This useful reaction, the "Suzuki-Miyaura Cross Coupling Reaction" is named after its inventors, and it is an extremely useful reaction, although many improvements have been made since its discovery.



In recent years, many modifications in the "Suzuki-Miyaura Cross Coupling Reaction", such as using water as the solvent, have been made from Green Chemistry's viewpoint. For example, $\text{ArB(OH)}_3 \cdot \text{Bu}_4\text{N}^+$, generated when tetrabutylammonium bromide and aryl boronic acid react in water, accelerates the cross-coupling reaction (eq. 4).³⁾ The cross-coupling reactions using the water-soluble Pd(0) catalyst have also been reported (eq. 5).⁴⁾

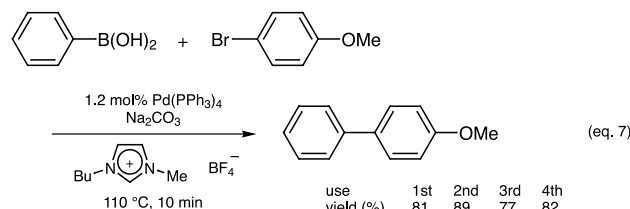


The recent report made on the modification of the cross-coupling reaction was upon the usage of the amphiphilic polymer-supported Pd catalyst. This Pd catalyst forms a networked supermolecular complex, which is insoluble in water and in organic solvents, and it is easily recovered from the reaction system. As Pd is firmly supported by phosphino groups of the copolymer, it does not elute during the reaction, and therefore it can be used repeatedly (eq. 6).⁵⁾

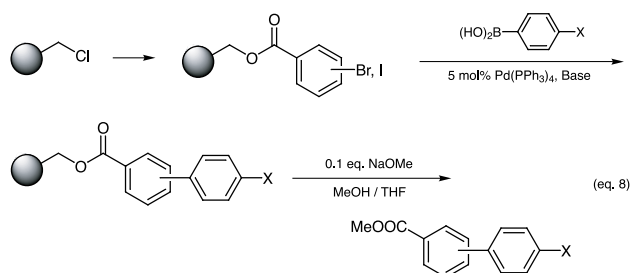


entry	catalyst	Y. (%)
1	1st use	95
2	10th use	93
3	1st ~ 10th consecutive use	av. 95

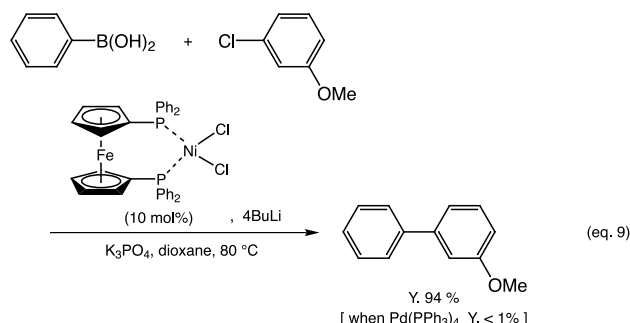
Experimental trials using ionic liquids as solvents have also been reported. According to reports, the products are easily extracted using organic solvents after the reaction, and the catalysts are held in ionic liquids. These ionic liquids and catalysts can be reused (eq. 7).⁶⁾



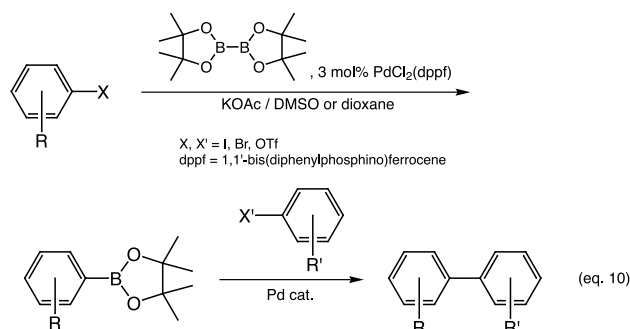
Since the first report of the Suzuki-Miyaura Cross Coupling Reaction, these have been many applications toward solid phase synthesis⁷⁾ and other various syntheses. Aryl iodides and aryl bromides bound to Merrifield resin react with many different types of aryl boronic acids, and they produce biaryls in high yields (eq. 8).



The reactivities of aryl halides and aryl triflates are indicated as follows; $\text{Ar-I} > \text{Ar-Br} > \text{Ar-OTf} \gg \text{Ar-Cl}$. The oxidative addition of aryl chloride upon Pd is too slow. Therefore, in most cases it has been shown that the reaction itself does not proceed to completion, except in cases where aryls are heterocycles or possess electron-withdrawing groups. There have been some reports that biaryls can be produced in high yields from aryl chloride and aryl boronic acid when Ni catalyst is used instead of Pd catalyst (eq. 9).⁸⁾



Aryl boronic acids are typically produced by making alkyl borate react with either Grignard or organolithium reagents. However, these methods have a few drawbacks, they require low temperature conditions, and the yields of aryl boronic acids may decrease depending upon the substituent. Miyaura *et al.* reported that aryl boronate that is produced from diboron esters and aryl halides or aryl triflates can be used for the Suzuki-Miyaura Cross Coupling Reaction (eq. 10).⁹⁾ Thus, aryl boronate is a useful compound that can be utilized directly in the Cross Coupling Reaction.



In conclusion, the Suzuki-Miyaura Cross Coupling Reaction is not only one of the most powerful methods used in the formation of C-C bonds, but it is also an extremely useful procedure in the construction of the carbon skeletons of many biologically important compounds.

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Review

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Carbon-Carbon Bond Forming Solid-Phase Reaction

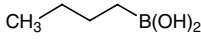
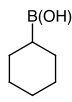
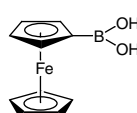
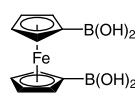
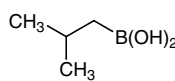
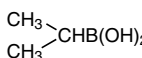
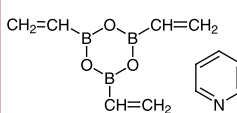
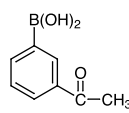
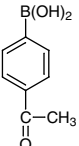
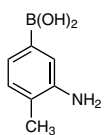
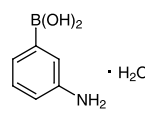
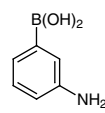
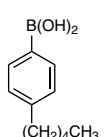
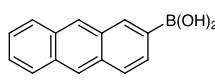
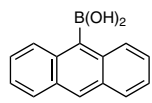
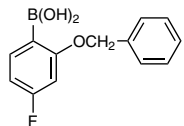
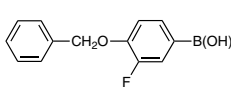
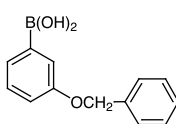
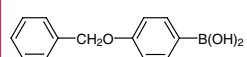
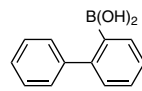
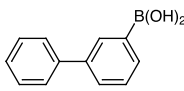
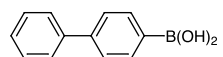
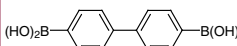
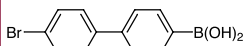
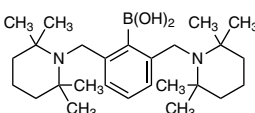
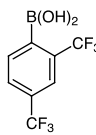
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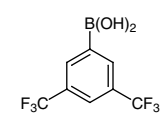
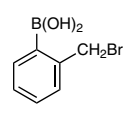
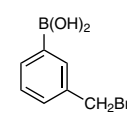
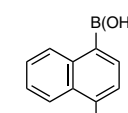
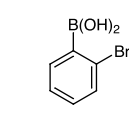
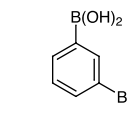
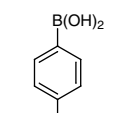
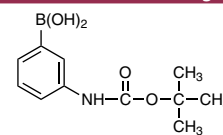
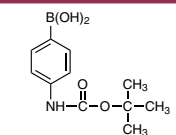
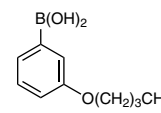
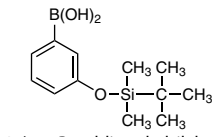
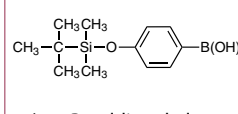
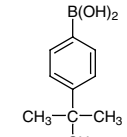
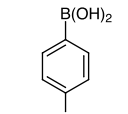
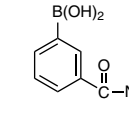
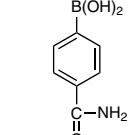
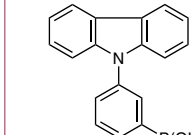
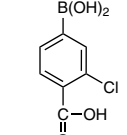
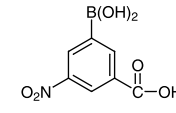
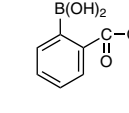
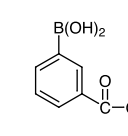
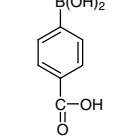
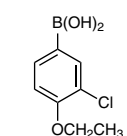
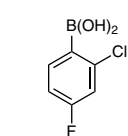
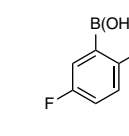
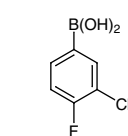
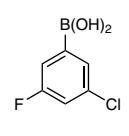
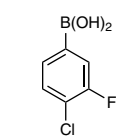
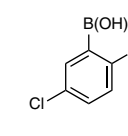
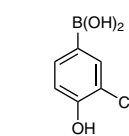
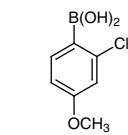
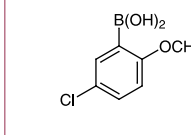
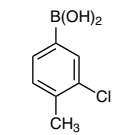
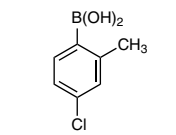
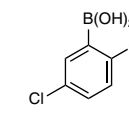
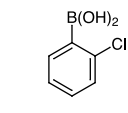
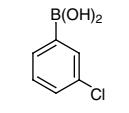
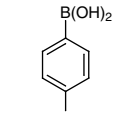
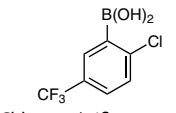
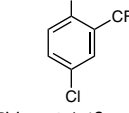
Boronic Acids 5	Palladium Catalysts 17
Alkyl / Alkenyl Boronic Acids	
Arylboronic Acids	
Heteroarylboronic Acids	
Boronic Acid Esters 13	Nickel Catalysts 19
Alkyl / Alkenyl /Alkynyl Boronate Esters	
Arylboronate Esters	
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Protected Boronic Acids 16	Phosphine Ligands 19
Trifluoroborates 17	N-Heterocyclic Carbene Ligands 21
Diboron Acids & Diboron Esters 17	Others 21
	Bases, Additive Agents 21
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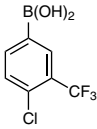
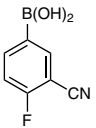
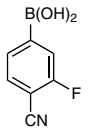
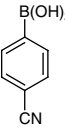
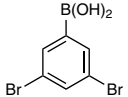
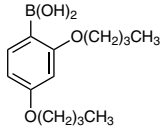
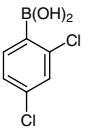
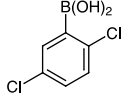
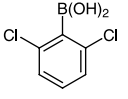
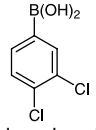
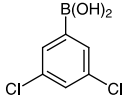
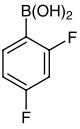
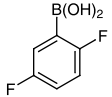
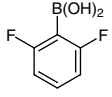
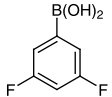
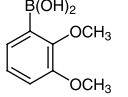
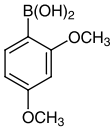
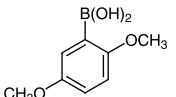
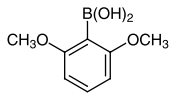
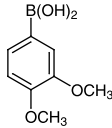
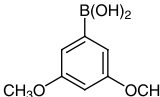
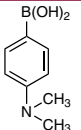
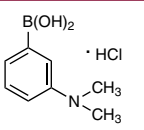
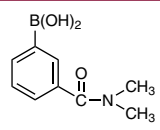
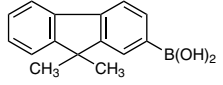
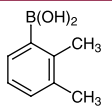
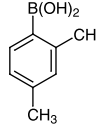
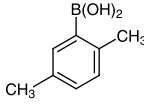
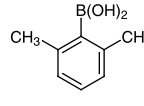
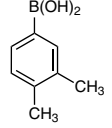
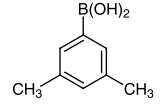
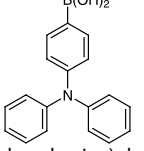
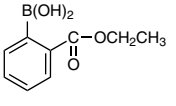
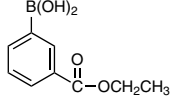
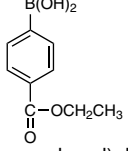
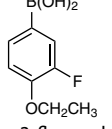
Boronic Acids

Alkyl / Alkenyl Boronic Acids

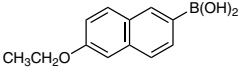
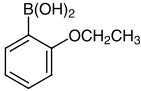
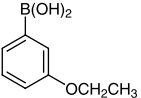
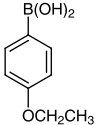
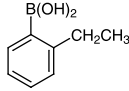
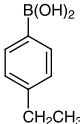
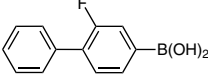
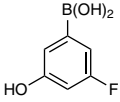
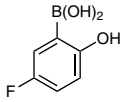
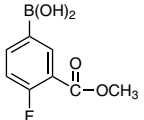
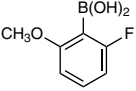
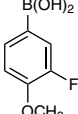
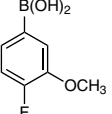
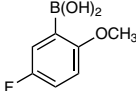
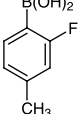
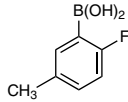
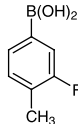
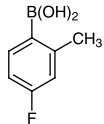
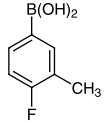
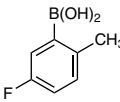
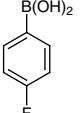
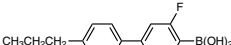
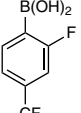
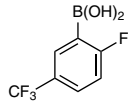
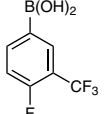
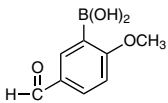
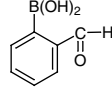
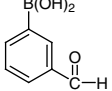
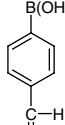
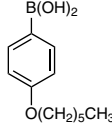
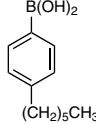
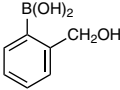
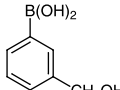
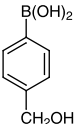
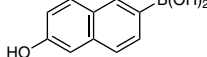
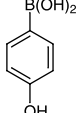
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C2893 1g 5g  1-Cyclopentenylboronic Acid [850036-28-1]	C2442 1g 5g  Cyclopentylboronic Acid [63076-51-7]	E0913 1g 5g $\text{CH}_3\text{CH}_2\text{B(OH)}_2$ Ethylboronic Acid [4433-63-0]	F0280 100mg 1g  Ferroceneboronic Acid [12152-94-2]	F0664 1g  1,1'-Ferrocenediboronic Acid [32841-83-1]	
H0913 1g 5g $\text{CH}_3(\text{CH}_2)_5\text{B(OH)}_2$ Hexylboronic Acid [16343-08-1]	I0597 5g 25g  Isobutylboronic Acid [84110-40-7]	I0787 5g 25g  Isopropylboronic Acid [80041-89-0]	M1553 1g 5g $\text{CH}_3\text{B(OH)}_2$ Methylboronic Acid [13061-96-6]	P1942 1g 5g 25g $\text{CH}_3(\text{CH}_2)_2\text{B(OH)}_2$ Propylboronic Acid [17745-45-8]	
T2498 1g 5g  2,4,6-Trivinylboroxin - Pyridine Complex [95010-17-6]	O0452 1g 5g $\text{CH}_3(\text{CH}_2)_7\text{B(OH)}_2$ <i>n</i> -Octylboronic Acid [28741-08-4]	P2267 5g 25g $\text{CH}_3(\text{CH}_2)_4\text{B(OH)}_2$ Pentylboronic Acid [4737-50-2]	Arylboronic Acids		
A1942 5g 25g  3-Acetylphenylboronic Acid [204841-19-0]	A1907 1g 5g  4-Acetylphenylboronic Acid [149104-90-5]	A2745 1g 5g  3-Amino-4-methylphenylboronic Acid [22237-12-3]	A1281 1g 5g 25g  3-Aminophenylboronic Acid Monohydrate [206658-89-1]	A1774 1g 5g 25g  3-Aminophenylboronic Acid Hemisulfate [66472-86-4]	
A2336 5g  4-Amylphenylboronic Acid [121219-12-3]	A1843 250mg 1g 5g  2-Anthraceneboronic Acid [141981-64-8]	A2328 1g 5g  9-Anthraceneboronic Acid [100622-34-2]	B3779 1g 5g  2-Benzyloxy-4-fluorophenylboronic Acid [848779-87-3]	B4639 1g 5g  4-Benzyloxy-3-fluorophenylboronic Acid [133057-83-7]	
B3056 5g 25g  3-Benzyloxyphenylboronic Acid [156682-54-1]	B2145 1g 5g  4-Benzyloxyphenylboronic Acid [146631-00-7]	B2488 5g 25g  2-Biphenylboronic Acid [4688-76-0]	B2489 5g 25g  3-Biphenylboronic Acid [5122-95-2]	B2294 5g 25g  4-Biphenylboronic Acid [5122-94-1]	
B2490 1g 5g  4,4'-Biphenyldiboronic Acid [4151-80-8]	B2860 1g  4'-Bromo-4-biphenylboronic Acid [480996-05-2]	B3927 200mg 1g  2,6-Bis[(2,2,6,6-tetramethyl-1-piperidinyl)-methyl]-phenylboronic Acid [1243264-54-1]	B3022 1g 5g  2,4-Bis(trifluoromethyl)phenylboronic Acid [153254-09-2]		

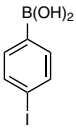
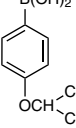
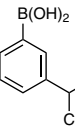
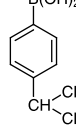
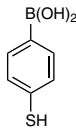
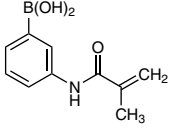
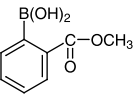
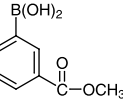
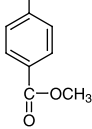
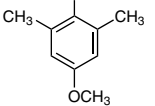
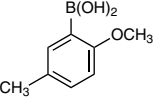
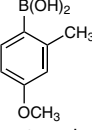
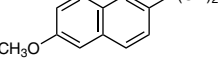
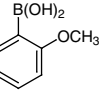
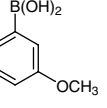
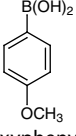
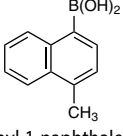
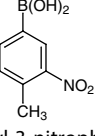
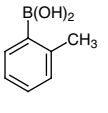
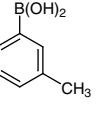
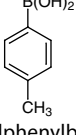
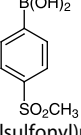
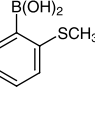
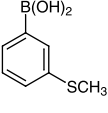
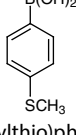
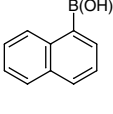
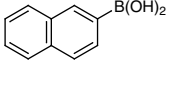
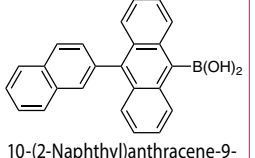
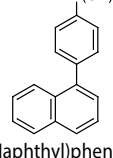
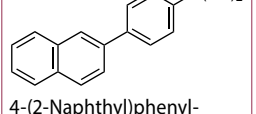
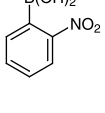
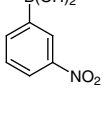
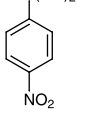
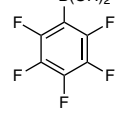
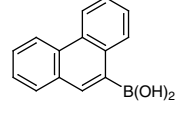
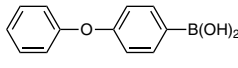
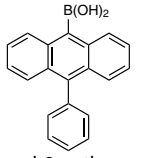
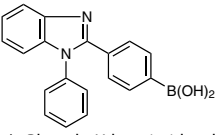
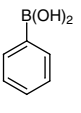
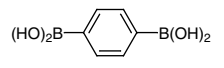
Suzuki-Miyaura Cross Coupling Reaction

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B2890 1g 5g 25g  3-Bromophenylboronic Acid [89598-96-9]	B1858 1g 5g 25g  4-Bromophenylboronic Acid [5467-74-3]	B4279 1g 5g  3-[(<i>tert</i> -Butoxycarbonyl)-amino]phenylboronic Acid [380430-68-2]	B4335 1g 5g  4-[(<i>tert</i> -Butoxycarbonyl)-amino]phenylboronic Acid [380430-49-9]	B4640 1g 5g  3-Butoxyphenylboronic Acid [352534-81-7]
B3726 1g 5g  3-(<i>tert</i> -Butylidimethylsilyloxy)-phenylboronic Acid [261621-12-9]	B3739 1g 5g  4-(<i>tert</i> -Butylidimethylsilyloxy)phenylboronic Acid [159191-56-7]	B2251 5g 25g  4- <i>tert</i> -Butylphenylboronic Acid [123324-71-0]	B2589 1g 5g  4-Butylphenylboronic Acid [145240-28-4]	C2992 1g 5g  3-Carbamoylphenylboronic Acid [351422-73-6]
C2570 1g 5g  4-Carbamoylphenylboronic Acid [123088-59-5]	C2967 1g 5g  3-(9 <i>H</i> -Carbazol-9-yl)phenylboronic Acid [864377-33-3]	C2523 1g 5g  4-Carboxy-3-chlorophenylboronic Acid [136496-72-5]	C2385 1g 5g  3-Carboxy-5-nitrophenylboronic Acid [101084-81-5]	C2501 1g 5g  2-Carboxyphenylboronic Acid [149105-19-1]
C2028 1g 5g  3-Carboxyphenylboronic Acid [25487-66-5]	C1353 1g 5g  4-Carboxyphenylboronic Acid [14047-29-1]	C2664 1g 5g  3-Chloro-4-ethoxyphenylboronic Acid [279261-81-3]	C2772 5g 25g  2-Chloro-4-fluorophenylboronic Acid [313545-72-1]	C2666 1g 5g  2-Chloro-5-fluorophenylboronic Acid [444666-39-1]
C1760 1g 5g  3-Chloro-4-fluorophenylboronic Acid [144432-85-9]	C2914 1g 5g  3-Chloro-5-fluorophenylboronic Acid [328956-61-2]	C2749 1g 5g  4-Chloro-3-fluorophenylboronic Acid [137504-86-0]	C2645 5g  5-Chloro-2-fluorophenylboronic Acid [352535-83-2]	C2969 1g 5g  3-Chloro-4-hydroxyphenylboronic Acid [182344-13-4]
C2386 1g 5g  2-Chloro-4-methoxyphenylboronic Acid [219735-99-6]	C2292 5g 25g  5-Chloro-2-methoxyphenylboronic Acid [89694-48-4]	C2525 1g 5g  3-Chloro-4-methylphenylboronic Acid [175883-63-3]	C2577 1g 5g  4-Chloro-2-methylphenylboronic Acid [209919-30-2]	C2665 1g 5g  5-Chloro-2-methylphenylboronic Acid [148839-33-2]
C1705 1g 5g  2-Chlorophenylboronic Acid [3900-89-8]	C1613 5g 25g  3-Chlorophenylboronic Acid [63503-60-6]	C1473 5g 25g  4-Chlorophenylboronic Acid [1679-18-1]	C2591 1g 5g  2-Chloro-5-(trifluoromethyl)-phenylboronic Acid [182344-18-9]	C2601 1g 5g  4-Chloro-2-(trifluoromethyl)-phenylboronic Acid [313545-41-4]

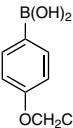
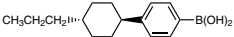
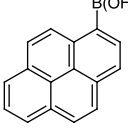
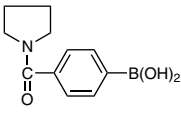
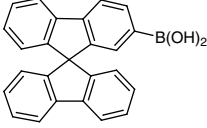
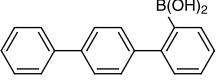
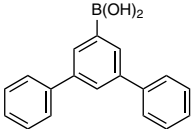
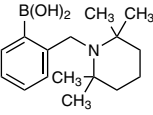
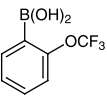
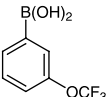
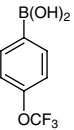
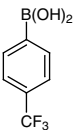
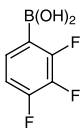
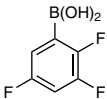
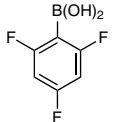
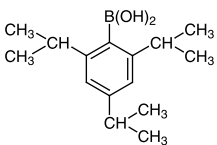
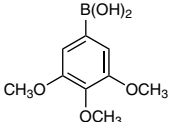
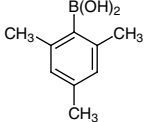
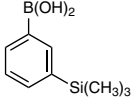
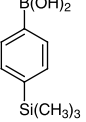
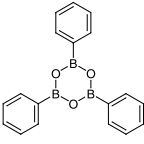
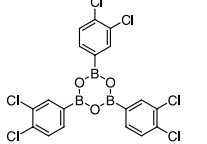
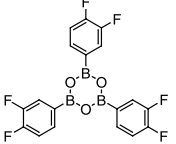
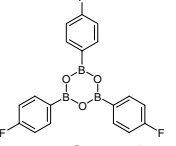
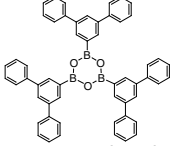
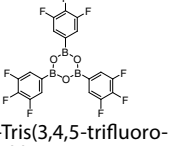
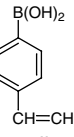
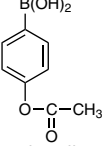
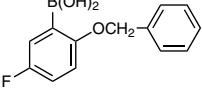
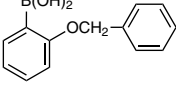
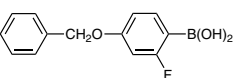
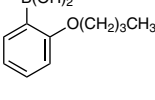
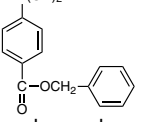
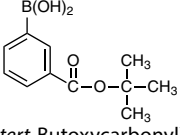
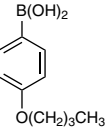
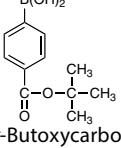
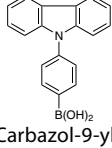
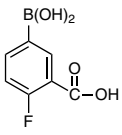
C2571 1g 5g  4-Chloro-3-(trifluoromethyl)-phenylboronic Acid [176976-42-4]	C2676 1g  3-Cyano-4-fluorophenylboronic Acid [214210-21-6]	C2456 1g 5g  4-Cyano-3-fluorophenylboronic Acid [843663-18-3]	C2416 1g 5g  2-Cyanophenylboronic Acid [138642-62-3]	C2031 5g 25g  3-Cyanophenylboronic Acid [150255-96-2]
C1778 1g 5g 25g  4-Cyanophenylboronic Acid [126747-14-6]	D4670 5g 25g  3,5-Dibromophenylboronic Acid [117695-55-3]	D4263 1g 5g  2,4-Dibutoxyphenylboronic Acid [870778-89-5]	D3434 5g 25g  2,3-Dichlorophenylboronic Acid [151169-74-3]	D2494 1g 5g 25g  2,4-Dichlorophenylboronic Acid [68716-47-2]
D3044 5g 25g  2,5-Dichlorophenylboronic Acid [135145-90-3]	D3357 1g 5g  2,6-Dichlorophenylboronic Acid [73852-17-2]	D3783 5g 25g  3,4-Dichlorophenylboronic Acid [151169-75-4]	D2909 5g  3,5-Dichlorophenylboronic Acid [67492-50-6]	D3523 5g 25g  2,3-Difluorophenylboronic Acid [121219-16-7]
D3391 5g 25g  2,4-Difluorophenylboronic Acid [144025-03-6]	D3436 5g 25g  2,5-Difluorophenylboronic Acid [193353-34-3]	D3087 1g 5g 25g  2,6-Difluorophenylboronic Acid [162101-25-9]	D3081 5g 25g  3,5-Difluorophenylboronic Acid [156545-07-2]	D3853 1g 5g  2,3-Dimethoxyphenylboronic Acid [40972-86-9]
D3521 1g 5g  2,4-Dimethoxyphenylboronic Acid [133730-34-4]	D3522 1g 5g  2,5-Dimethoxyphenylboronic Acid [107099-99-0]	D3861 5g 25g  2,6-Dimethoxyphenylboronic Acid [23112-96-1]	D3512 5g 25g  3,4-Dimethoxyphenylboronic Acid [122775-35-3]	D3513 1g 5g 25g  3,5-Dimethoxyphenylboronic Acid [192182-54-0]
D4428 1g 5g  4-(Dimethylamino)phenylboronic Acid [28611-39-4]	D4013 1g 5g  3-(Dimethylamino)phenylboronic Acid Hydrochloride [1256355-23-3]	D4194 1g 5g  3-(Dimethylcarbamoyl)phenylboronic Acid [373384-14-6]	D3974 1g 5g  9,9-Dimethylfluoren-2-boronic Acid [333432-28-3]	D3516 5g  2,3-Dimethylphenylboronic Acid [183158-34-1]
D3514 1g 5g  2,4-Dimethylphenylboronic Acid [55499-44-0]	D3517 1g 5g 25g  2,5-Dimethylphenylboronic Acid [85199-06-0]	D3633 1g 5g  2,6-Dimethylphenylboronic Acid [100379-00-8]	D3110 1g 5g  3,4-Dimethylphenylboronic Acid [55499-43-9]	D3396 5g 25g  3,5-Dimethylphenylboronic Acid [172975-69-8]
D3537 1g 5g  4-(Diphenylamino)phenylboronic Acid [201802-67-7]	E0877 1g 5g  2-(Ethoxycarbonyl)phenylboronic Acid [380430-53-5]	E0848 1g 5g  3-(Ethoxycarbonyl)phenylboronic Acid [4334-87-6]	E0868 1g 5g  4-(Ethoxycarbonyl)phenylboronic Acid [4334-88-7]	E1124 1g 5g  4-Ethoxy-3-fluorophenylboronic Acid [279263-10-4]

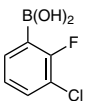
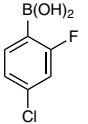
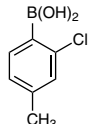
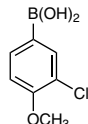
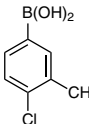
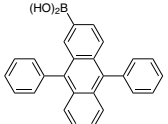
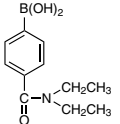
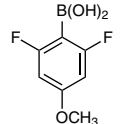
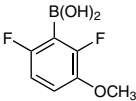
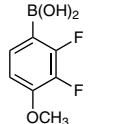
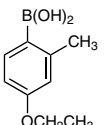
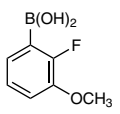
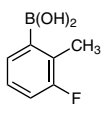
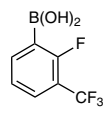
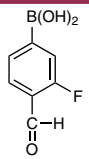
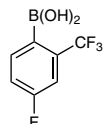
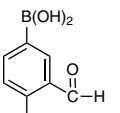
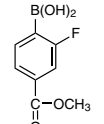
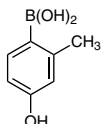
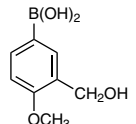
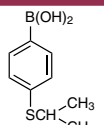
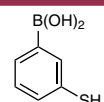
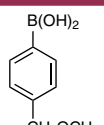
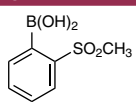
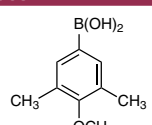
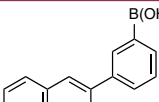
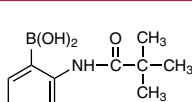
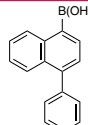
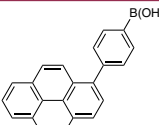
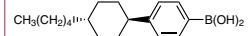
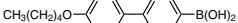
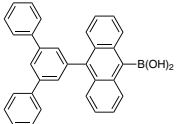
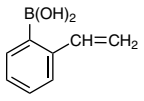
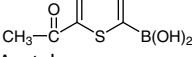
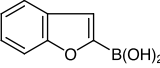
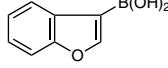
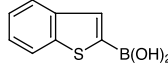
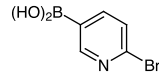
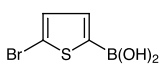
Suzuki-Miyaura Cross Coupling Reaction

E1107 1g 5g  6-Ethoxy-2-naphthaleneboronic Acid [352525-98-5]	E0723 1g 5g  2-Ethoxyphenylboronic Acid [213211-69-9]	E0724 1g 5g  3-Ethoxyphenylboronic Acid [90555-66-1]	E0725 1g 5g  4-Ethoxyphenylboronic Acid [22237-13-4]	E0818 1g 5g  2-Ethylphenylboronic Acid [90002-36-1]
E0720 5g 25g  4-Ethylphenylboronic Acid [63139-21-9]	F0785 1g 5g  2-Fluoro-4-biphenylboronic Acid [178305-99-2]	F0954 1g  3-Fluoro-5-hydroxyphenylboronic Acid [871329-82-7]	F0977 1g 5g  5-Fluoro-2-hydroxyphenylboronic Acid [259209-20-6]	F0951 1g 5g  4-Fluoro-3-(methoxycarbonyl)phenylboronic Acid [874219-35-9]
F0941 1g 5g  2-Fluoro-6-methoxyphenylboronic Acid [78495-63-3]	F0876 1g 5g  3-Fluoro-4-methoxyphenylboronic Acid [149507-26-6]	F0919 1g 5g  4-Fluoro-3-methoxyphenylboronic Acid [854778-31-7]	F0775 5g 25g  5-Fluoro-2-methoxyphenylboronic Acid [179897-94-0]	F0683 1g 5g  2-Fluoro-4-methylphenylboronic Acid [170981-26-7]
F0915 1g 5g  2-Fluoro-5-methylphenylboronic Acid [166328-16-1]	F0712 1g 5g  3-Fluoro-4-methylphenylboronic Acid [168267-99-0]	F0666 1g 5g  4-Fluoro-2-methylphenylboronic Acid [139911-29-8]	F0697 5g 25g  4-Fluoro-3-methylphenylboronic Acid [139911-27-6]	F0976 1g 5g  5-Fluoro-2-methylphenylboronic Acid [163517-62-2]
F0407 1g 5g 25g  2-Fluorophenylboronic Acid [1993-03-9]	F0404 5g 25g  3-Fluorophenylboronic Acid [768-35-4]	F0361 5g 25g  4-Fluorophenylboronic Acid [1765-93-1]	F0942 1g 5g  3-Fluoro-4'-propyl-4-biphenylboronic Acid [909709-42-8]	F0816 1g 5g  2-Fluoro-4-(trifluoromethyl)phenylboronic Acid [503309-11-3]
F0788 1g 5g  2-Fluoro-5-(trifluoromethyl)phenylboronic Acid [352535-96-7]	F0830 1g 5g  4-Fluoro-3-(trifluoromethyl)phenylboronic Acid [182344-23-6]	F0834 1g 5g  5-Formyl-2-methoxyphenylboronic Acid [127972-02-5]	B1873 1g 5g  2-Formylphenylboronic Acid [40138-16-7]	F0445 1g 5g 25g  3-Formylphenylboronic Acid [87199-16-4]
F0446 1g 5g  4-Formylphenylboronic Acid [87199-17-5]	H1357 1g 5g  4-Hexyloxyphenylboronic Acid [121219-08-7]	H1489 1g 5g  4-Hexylphenylboronic Acid [105365-50-2]	H1345 1g 5g  2-(Hydroxymethyl)phenylboronic Acid [87199-14-2]	H1244 1g 5g  3-(Hydroxymethyl)phenylboronic Acid [87199-15-3]
H1204 1g 5g 25g  4-(Hydroxymethyl)phenylboronic Acid [59016-93-2]	H1402 1g 5g  6-Hydroxy-2-naphthaleneboronic Acid [173194-95-1]	H1184 1g 5g  2-Hydroxyphenylboronic Acid [89466-08-0]	H1185 1g 5g  3-Hydroxyphenylboronic Acid [87199-18-6]	H1228 1g 5g  4-Hydroxyphenylboronic Acid [71597-85-8]

I0830 5g  4-Iodophenylboronic Acid [5122-99-6]	I0806 5g  4-Isopropoxyphenylboronic Acid [153624-46-5]	I0887 1g 5g  3-Isopropylphenylboronic Acid [216019-28-2]	I0620 1g 5g  4-Isopropylphenylboronic Acid [16152-51-5]	M2418 1g 5g  4-Mercaptophenylboronic Acid [237429-33-3]
M2676 1g 5g  3-Methacrylamidophenylboronic Acid [48150-45-4]	M1905 1g 5g  2-(Methoxycarbonyl)phenylboronic Acid [374538-03-1]	M1906 1g 5g 25g  3-(Methoxycarbonyl)phenylboronic Acid [99769-19-4]	M1907 1g 5g 25g  4-(Methoxycarbonyl)phenylboronic Acid [99768-12-4]	M2244 1g 5g  4-Methoxy-2,6-dimethylphenylboronic Acid [361543-99-9]
M2311 5g 25g  2-Methoxy-5-methylphenylboronic Acid [127972-00-3]	M2255 1g 5g  4-Methoxy-2-methylphenylboronic Acid [208399-66-0]	M2256 5g  6-Methoxy-2-naphthaleneboronic Acid [156641-98-4]	M1261 1g 5g 25g  2-Methoxyphenylboronic Acid [5720-06-9]	M1322 1g 5g 25g  3-Methoxyphenylboronic Acid [10365-98-7]
M1252 5g 25g  4-Methoxyphenylboronic Acid [5720-07-0]	M2457 1g 5g  4-Methyl-1-naphthaleneboronic Acid [103986-53-4]	M1127 1g 5g  4-Methyl-3-nitrophenylboronic Acid [80500-27-2]	M1313 5g 25g  2-Methylphenylboronic Acid [16419-60-6]	M1314 1g 5g 25g  3-Methylphenylboronic Acid [17933-03-8]
M1126 5g 25g  4-Methylphenylboronic Acid [5720-05-8]	M1972 1g 5g  4-(Methylsulfonyl)phenylboronic Acid [149104-88-1]	M1570 1g 5g  2-(Methylthio)phenylboronic Acid [168618-42-6]	M1793 5g  3-(Methylthio)phenylboronic Acid [128312-11-8]	M1458 1g 5g  4-(Methylthio)phenylboronic Acid [98546-51-1]
N0630 1g 5g 25g  1-Naphthaleneboronic Acid [13922-41-3]	N0649 1g 5g 25g  2-Naphthaleneboronic Acid [32316-92-0]	N0929 1g  10-(2-Naphthyl)anthracene-9-boronic Acid [597554-03-5]	N0798 1g 5g  4-(1-Naphthyl)phenylboronic Acid [870774-25-7]	N0946 200mg 1g  4-(2-Naphthyl)phenylboronic Acid [918655-03-5]
N0811 1g 5g  2-Nitrophenylboronic Acid [5570-19-4]	N0563 5g 25g  3-Nitrophenylboronic Acid [13331-27-6]	N0812 1g 5g  4-Nitrophenylboronic Acid [24067-17-2]	P1904 1g 5g  Pentafluorophenylboronic Acid [1582-24-7]	P1093 1g 5g  9-Phenanthreneboronic Acid [68572-87-2]
P1974 5g 25g  4-Phenoxyphenylboronic Acid [51067-38-0]	P1984 1g  10-Phenyl-9-anthraceneboronic Acid [334658-75-2]	P2158 1g 5g  4-(1-Phenyl-1H-benzimidazol-2-yl)phenylboronic Acid [952514-79-3]	B0857 5g 25g 250g  Phenylboronic Acid [98-80-6]	P1358 1g 5g 25g  1,4-Phenylenediboronic Acid [4612-26-4]

Suzuki-Miyaura Cross Coupling Reaction

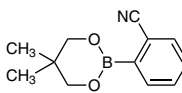
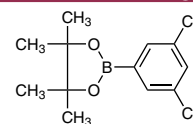
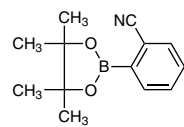
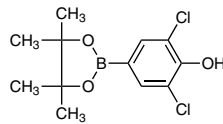
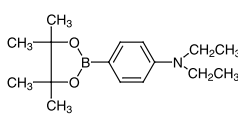
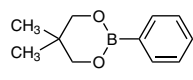
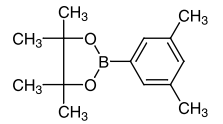
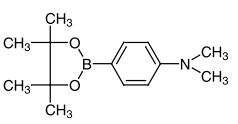
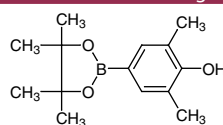
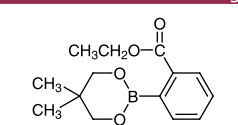
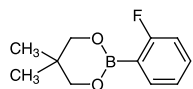
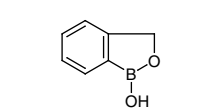
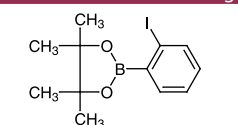
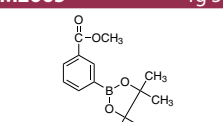
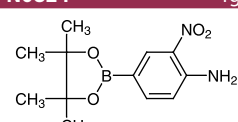
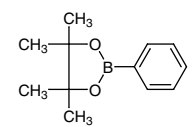
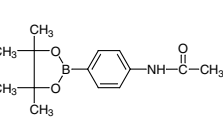
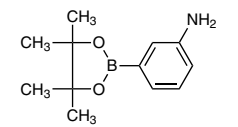
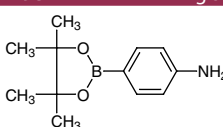
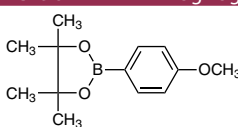
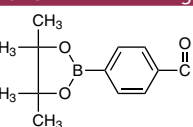
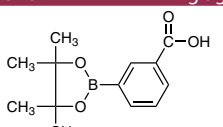
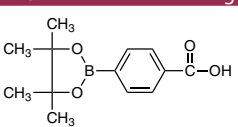
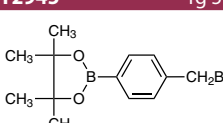
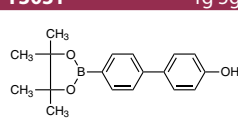
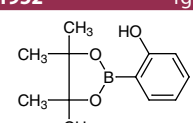
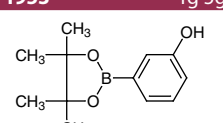
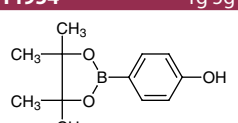
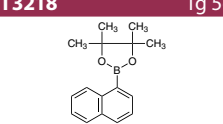
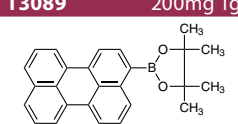
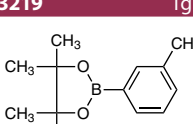
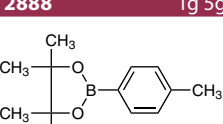
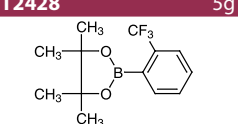
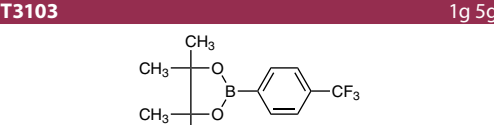
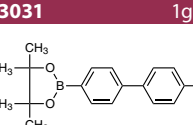
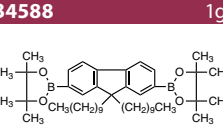
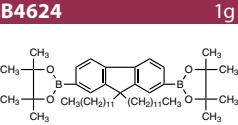
P1968 5g  4-Propoxyphenylboronic Acid [186497-67-6]	P2162 1g 5g  4-(<i>trans</i> -4-Propylcyclohexyl)-phenylboronic Acid [146862-02-4]	P1625 1g 5g 25g  1-Pyreneboronic Acid [164461-18-1]	P2105 1g 5g  4-[(1-Pyrrolidinyl)-carbonyl]phenylboronic Acid [389621-81-2]	S0831 1g 5g  9,9'-Spiro[9 <i>H</i> -fluorene]-2-boronic Acid [236389-21-2]
T2412 1g  2- <i>p</i> -Terphenylboronic Acid [663954-31-2]	T2792 1g  5'- <i>m</i> -Terphenylboronic Acid [128388-54-5]	T2908 1g  2-[(2,2,6,6-Tetramethyl-1-piperidyl)methyl]phenylboronic Acid [815581-79-4]	T2413 1g 5g  2-(Trifluoromethoxy)phenylboronic Acid [175676-65-0]	T2362 5g  3-(Trifluoromethoxy)phenylboronic Acid [179113-90-7]
T1773 5g 25g  4-(Trifluoromethoxy)phenylboronic Acid [139301-27-2]	T1800 1g 5g 25g  2-(Trifluoromethyl)phenylboronic Acid [1423-27-4]	T1793 1g 5g  3-(Trifluoromethyl)phenylboronic Acid [1423-26-3]	T1788 1g 5g 25g  4-(Trifluoromethyl)phenylboronic Acid [128796-39-4]	T2574 5g  2,3,4-Trifluorophenylboronic Acid [226396-32-3]
T2874 5g  2,3,5-Trifluorophenylboronic Acid [247564-73-4]	T2804 1g 5g  2,4,6-Trifluorophenylboronic Acid [182482-25-3]	T2654 1g 5g  2,4,6-Triisopropylphenylboronic Acid [154549-38-9]	T2837 1g  3,4,5-Trimethoxyphenylboronic Acid [182163-96-8]	T1960 1g 5g  2,4,6-Trimethylphenylboronic Acid [5980-97-2]
T2663 1g 5g  3-(Trimethylsilyl)phenylboronic Acid [177171-16-3]	T2664 1g 5g  4-(Trimethylsilyl)phenylboronic Acid [17865-11-1]	T2640 5g 25g  2,4,6-Triphenylboroxin [3262-89-3]	D3435 5g 25g  2,4,6-Tris(3,4-dichlorophenyl)boroxin [1133798-41-0]	T2430 5g  2,4,6-Tris(3,4-difluorophenyl)boroxin [1456935-98-0]
T1814 10g  2,4,6-Tris(4-fluorophenyl)boroxin [448-59-9]	T1887 100mg  2,4,6-Tris(<i>m</i> -terphenyl-5-yl)boroxin [909407-14-3]	T1929 1g 5g  2,4,6-Tris(3,4,5-trifluorophenyl)boroxin [223440-94-6]	V0075 1g 5g  4-Vinylphenylboronic Acid [2156-04-9]	A2818 200mg 1g  4-Acetoxyphenylboronic Acid [177490-82-3]
B3683 1g 5g  2-Benzyloxy-5-fluorophenylboronic Acid [779331-47-4]	B4590 1g 5g  2-Benzyloxyphenylboronic Acid [190661-29-1]	B4638 200mg 1g  4-Benzyloxy-2-fluorophenylboronic Acid [166744-78-1]	B4700 1g  2-Butoxyphenylboronic Acid [91129-69-0]	B4725 1g 5g  4-(Benzyloxycarbonyl)phenylboronic Acid [184000-11-1]
B4726 1g 5g  3-(<i>tert</i> -Butoxycarbonyl)phenylboronic Acid [220210-56-0]	B4727 1g 5g  4-Butoxyphenylboronic Acid [105365-51-3]	B4772 200mg 1g 5g  4-(<i>tert</i> -Butoxycarbonyl)phenylboronic Acid [850568-54-6]	C2926 1g 5g  4-(9 <i>H</i> -Carbazol-9-yl)phenylboronic Acid [419536-33-7]	C2945 1g 5g  3-Carboxy-4-fluorophenylboronic Acid [872460-12-3]

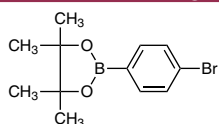
C2946 1g 5g  3-Chloro-2-fluorophenylboronic Acid [352535-82-1]	C3048 1g 5g  4-Chloro-2-fluorophenylboronic Acid [160591-91-3]	C3049 1g 5g  2-Chloro-4-methylphenylboronic Acid [145349-62-8]	C3056 1g 5g  3-Chloro-4-methoxyphenylboronic Acid [175883-60-0]	C3071 1g 5g  4-Chloro-3-methylphenylboronic Acid [161950-10-3]
D4647 200mg 1g  9,10-Diphenylanthracene-2-boronic acid [597553-98-5]	D4681 1g 5g  4-(Diethylcarbamoyl)phenylboronic Acid [389621-80-1]	D4728 1g  2,6-Difluoro-4-methoxyphenylboronic Acid [406482-20-0]	D5006 1g 5g  2,6-Difluoro-3-methoxyphenylboronic Acid [870779-02-5]	D5016 5g 25g  2,3-Difluoro-4-methoxyphenylboronic Acid [170981-41-6]
E1173 1g 5g  4-Ethoxy-2-methylphenylboronic Acid [313545-31-2]	F0940 1g 5g  2-Fluoro-3-methoxyphenylboronic Acid [352303-67-4]	F0955 1g  3-Fluoro-2-methylphenylboronic Acid [163517-61-1]	F1006 1g 5g  2-Fluoro-3-(trifluoromethyl)phenylboronic Acid [157834-21-4]	F1051 1g 5g  3-Fluoro-4-formylphenylboronic Acid [248270-25-9]
F1052 1g 5g  4-Fluoro-2-(trifluoromethyl)phenylboronic Acid [182344-16-7]	F1061 1g 5g  4-Fluoro-3-formylphenylboronic Acid [374538-01-9]	F1071 1g 5g  2-Fluoro-4-(methoxycarbonyl)phenylboronic Acid [603122-84-5]	H1495 1g 5g  4-Hydroxy-2-methylphenylboronic Acid [493035-82-8]	H1563 1g 5g  3-(Hydroxymethyl)-4-methoxyphenylboronic Acid [908142-03-0]
I0950 1g 5g  4-(Isopropylthio)phenylboronic Acid [380427-38-3]	M2417 1g 5g  3-Mercaptophenylboronic Acid [352526-01-3]	M2677 1g 5g  4-(Methoxymethyl)phenylboronic Acid [279262-11-2]	M2678 1g 5g  2-(Methylsulfonyl)phenylboronic Acid [330804-03-0]	M2685 1g 5g  4-Methoxy-3,5-dimethylphenylboronic Acid [301699-39-8]
N1009 1g 5g  3-(2-Naphthyl)phenylboronic Acid [870774-29-1]	P2043 1g  2-(Pivalamido)phenylboronic Acid [146140-95-6]	P2290 1g 5g  4-Phenylnaphthalene-1-boronic Acid [372521-91-0]	P2305 1g 5g  4-(1-Pyrenyl)phenylboronic Acid [872050-52-7]	P2363 5g  4-(trans-4-Pentylcyclohexyl)phenylboronic Acid [143651-26-7]
P2365 1g 5g  4'-Pentyloxybiphenyl-4-boronic Acid [158937-25-8]	T3280 200mg 1g  10-(1,1':3',1''-Terphenyl-5'-yl)anthracene-9-boronic Acid [1415334-59-6]	V0140 1g 5g  2-Vinylphenylboronic Acid [15016-42-9]	Heteroarylboronic Acids	
				A2364 5g 25g  5-Acetyl-2-thiopheneboronic Acid [206551-43-1]
B2978 1g  Benzofuran-2-boronic Acid [98437-24-2]	B4522 1g 5g  Benzofuran-3-boronic Acid [317830-83-4]	B2893 1g 5g 25g  Benzo[b]thiophene-2-ylboronic Acid [98437-23-1]	B3307 1g 5g  2-Bromopyridine-5-boronic Acid [223463-14-7]	B2862 1g 5g  5-Bromo-2-thiopheneboronic Acid [162607-17-2]

Suzuki-Miyaura Cross Coupling Reaction

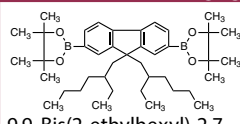
B4063 1g 5g 1-(<i>tert</i> -Butoxycarbonyl)-2-pyrroleboronic Acid [135884-31-0]	C2560 1g 5g 2-Chloropyridine-3-boronic Acid [381248-04-0]	C2589 1g 5g 2-Chloropyridine-4-boronic Acid [458532-96-2]	C2288 1g 5g 2-Chloropyridine-5-boronic Acid [444120-91-6]	C2066 1g 5g 5-Chloro-2-thiopheneboronic Acid [162607-18-3]
D4567 1g 5g Dibenzofuran-4-boronic Acid [100124-06-9]	D4373 1g 5g Dibenzothiophene-2-boronic Acid [668983-97-9]	D4057 1g 5g Dibenzothiophene-4-boronic Acid [108847-20-7]	D4006 1g 5g 2,6-Difluoro-3-pyridineboronic Acid [136466-94-9]	D4711 200mg 2,3-Dihydrobenzofuran-5-boronic Acid [227305-69-3]
D4690 1g 5g 2,6-Dimethoxypyridine-3-boronic Acid [221006-70-8]	D3823 200mg 1g Dithieno[3,2- <i>b</i> :2',3'- <i>d</i>]-thiophene-2-boronic Acid [183960-95-4]	E1115 1g 5g 2-Ethoxypyridine-5-boronic Acid [612845-44-0]	F0984 1g 2-Fluoro-3-methylpyridine-5-boronic Acid [904326-92-7]	F0739 5g 25g 2-Fluoropyridine-3-boronic Acid [174669-73-9]
F0935 1g 5g 2-Fluoropyridine-4-boronic Acid [401815-98-3]	F0770 1g 5g 2-Fluoropyridine-5-boronic Acid [351019-18-6]	F0859 1g 5g 5-Fluoropyridine-3-boronic Acid [872041-86-6]	F0548 1g 5'-Formyl-2,2'-bithiophene-5-boronic Acid [1369328-62-0]	F0611 1g 5g 5-Formyl-2-furanboronic Acid [27329-70-0]
F0549 1g 5g 5-Formyl-2-thiopheneboronic Acid [4347-33-5]	F0394 1g 5g 2-Furylboronic Acid [13331-23-2]	F0438 1g 5g 3-Furylboronic Acid [55552-70-0]	I0803 1g 6-Indoleboronic Acid [147621-18-9]	M2159 1g 5g 2-Methoxypyridine-3-boronic Acid [163105-90-6]
M2029 1g 5g 2-Methoxypyridine-5-boronic Acid [163105-89-3]	M2335 1g 5g 2-Methoxy-5-pyrimidylboronic Acid [628692-15-9]	M2035 5g 25g 3,4-(Methylenedioxy)phenylboronic Acid [94839-07-3]	M1850 1g 5g 5-Methyl-2-thiopheneboronic Acid [162607-20-7]	P2169 200mg 1g 9-Phenylcarbazole-2-boronic Acid [1001911-63-2]
P2001 5g 25g 9-Phenylcarbazole-3-boronic Acid [854952-58-2]	P1673 1g 5g 25g 3-Pyridylboronic Acid [1692-25-7]	P1594 1g 5g 4-Pyridylboronic Acid [1692-15-5]	P1759 100mg 1g 5-Pyrimidylboronic Acid [109299-78-7]	Q0080 1g 5g Quinoline-3-boronic Acid [191162-39-7]
Q0087 200mg Quinoline-5-boronic Acid [355386-94-6]	Q0086 200mg 1g Quinoline-8-boronic Acid [86-58-8]	T2621 1g Thieno[3,2- <i>b</i>]thiophene-2-boronic Acid [160032-40-6]	T1772 1g 5g 25g 2-Thiopheneboronic Acid [6165-68-0]	T1975 1g 5g 3-Thiopheneboronic Acid [6165-69-1]

T3188 1g 2-(Trifluoromethyl)pyridine-5-boronic Acid [868662-36-6]	B4181 1g 1,4-Benzodioxane-6-boronic Acid [164014-95-3]	B4774 1g 5g Benzo[b]thiophene-3-boronic Acid [113893-08-6]	C3125 1g 5-Chloro-2-fluoropyridine-3-boronic Acid [937595-70-5]	D4707 1g 5g 2,6-Dichloropyridine-3-boronic Acid [148493-34-9]
E1153 1g 5g 9-Ethylcarbazole-3-boronic Acid [669072-93-9]	M2253 1g 5g 2-Methylpyridine-5-boronic Acid Hydrochloride	M2730 1g 5g 2-Methoxypyridine-4-boronic Acid [762262-09-9]	M2775 1g 5-Methyl-2-furanboronic Acid [62306-79-0]	M2810 1g 5g 5-Methoxypyridine-3-boronic Acid [850991-69-4]
Boronic Acid Esters Alkyl / Alkenyl / Alkynyl Boronate Esters				
A2157 1g 5g 2-Allyl-4,4,5,5-tetramethyl-1,3,2-dioxaborolane [72824-04-5]	B3448 1g 5g 2-Benzyl-4,4,5,5-tetramethyl-1,3,2-dioxaborolane [87100-28-5]	B3199 1g 5g 2-(Bromomethyl)-4,4,5,5-tetramethyl-1,3,2-dioxaborolane [166330-03-6]	C2707 1g 2-(1-Cyclohexenyl)-4,4,5,5-tetramethyl-1,3,2-dioxaborolane [141091-37-4]	A2574 1g 5g 2-Allyl-5,5-dimethyl-1,3,2-dioxaborinane [911482-75-2]
D3596 1g 5g Dibutyl Vinylboronate [6336-45-4]	D3738 1g 5g Diisopropyl Allylboronate [51851-79-7]	D3649 1g 5g Diisopropyl-(Bromomethyl)boronate [137297-49-5]	E1116 1g 5g 2-Ethyl-4,4,5,5-tetramethyl-1,3,2-dioxaborolane [82954-89-0]	M2071 5g 2-(4-Methoxybenzyl)-4,4,5,5-tetramethyl-1,3,2-dioxaborolane [475250-52-3]
T2297 1g 5g 25g 4,4,5,5-Tetramethyl-2-vinyl-1,3,2-dioxaborolane [75927-49-0]	B4103 1g 5g Bis[(pinacolato)boryl]-methane [78782-17-9]	C3101 1g 5g 2-Cyclohexyl-4,4,5,5-tetramethyl-1,3,2-dioxaborolane [87100-15-0]	E1074 200mg 1g 2-Ethynyl-4,4,5,5-tetramethyl-1,3,2-dioxaborolane [347389-74-6]	Arylboronate Esters
B4633 5g 25g 1,4-Benzenediboronic Acid Bis(pinacol) Ester [99770-93-1]	B3019 5g 2-(4-Biphenyl)-4,4,5,5-tetramethyl-1,3,2-dioxaborolane [144432-80-4]	B3151 1g 4,4'-Bis(5,5-dimethyl-1,3,2-dioxaborolan-2-yl)-biphenyl [5487-93-4]	B4166 1g 5g 4,4'-Bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-biphenyl [207611-87-8]	B4029 1g 2,7-Bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-9,9-dihexylfluorene [254755-24-3]
B3582 1g 2,7-Bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-9,9-dioctylfluorene [196207-58-6]	B3501 1g 5g 1,1'-Bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-ferrocene [737776-93-1]	B3956 1g 5g 2,7-Bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-pyrene [688756-58-3]	B2828 1g 5g 2-(2-Bromophenyl)-4,4,5,5-tetramethyl-1,3,2-dioxaborolane [269410-06-2]	C2004 1g 2-(2-Chlorophenyl)-5,5-dimethyl-1,3,2-dioxaborinane [346656-42-6]

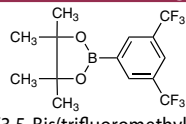
C2823 1g 5g  2-(2-Cyanophenyl)-5,5-dimethyl-1,3,2-dioxaborinane (This product is only available in Japan.) [214360-47-1]	D4575 1g 5g  2-(3,5-Dichlorophenyl)-4,4,5,5-tetramethyl-1,3,2-dioxaborolane [68716-51-8]	C2621 1g 5g  2-(2-Cyanophenyl)-4,4,5,5-tetramethyl-1,3,2-dioxaborolane (This product is only available in Japan.) [214360-48-2]		
D4201 1g 5g  2,6-Dichloro-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)phenol [1003298-87-0]	D3601 1g 5g  N,N-Diethyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)aniline [920304-57-0]	D4195 5g 25g  5,5-Dimethyl-2-phenyl-1,3,2-dioxaborinane [5123-13-7]	D3533 5g  2-(3,5-Dimethylphenyl)-4,4,5,5-tetramethyl-1,3,2-dioxaborolane [325142-93-6]	D3832 1g 5g  N,N-Dimethyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)aniline [171364-78-6]
D2853 1g 5g  2,6-Dimethyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)phenol [269410-25-5]	E0667 1g  Ethyl 2-(5,5-Dimethyl-1,3,2-dioxaborinan-2-yl)benzoate [346656-34-6]	F0531 1g  2-(2-Fluorophenyl)-5,5-dimethyl-1,3,2-dioxaborinane [346656-39-1]	H1280 1g 5g  2-(Hydroxymethyl)-phenylboronic Acid Cyclic Monoester [5735-41-1]	I0653 1g  2-(2-Iodophenyl)-4,4,5,5-tetramethyl-1,3,2-dioxaborolane [857934-82-8]
M2665 1g 5g  Methyl 3-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-benzoate [480425-35-2]	N0824 1g  2-Nitro-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-aniline [833486-94-5]	P1855 5g 25g  2-Phenyl-4,4,5,5-tetramethyl-1,3,2-dioxaborolane [24388-23-6]	T1950 1g  4'-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-acetanilide [214360-60-8]	T3028 1g 5g  3-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-aniline [210907-84-9]
T1951 1g 5g  4-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)aniline [214360-73-3]	T3196 5g 25g  4-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)anisole [171364-79-7]	T2923 1g 5g  4-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)benzaldehyde [128376-64-7]	T3162 1g 5g  3-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)benzoic Acid [269409-73-6]	T2841 1g  4-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)benzoic Acid [180516-87-4]
T2945 1g 5g  4-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)benzyl Bromide [138500-85-3]	T3031 1g 5g  4'-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)biphenyl-4-ol [760989-91-1]	T1952 1g 5g  2-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-phenol [269409-97-4]	T1953 1g 5g  3-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-phenol [214360-76-6]	T1954 1g 5g  4-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-phenol [269409-70-3]
T3218 1g 5g  4,4,5,5-Tetramethyl-2-(1-naphthyl)-1,3,2-dioxaborolane [68716-52-9]	T3089 200mg 1g  4,4,5,5-Tetramethyl-2-(3-perylenyl)-1,3,2-dioxaborolane [950761-81-6]	T3219 1g 5g  4,4,5,5-Tetramethyl-2-(m-tolyl)-1,3,2-dioxaborolane [253342-48-2]	T2888 1g 5g  4,4,5,5-Tetramethyl-2-(p-tolyl)-1,3,2-dioxaborolane [195062-57-8]	T2428 5g  2-[2-(Trifluoromethyl)-phenyl]-4,4,5,5-tetramethyl-1,3,2-dioxaborolane [1073339-21-5]
T3103 1g 5g  4,4,5,5-Tetramethyl-2-[4-(trifluoromethyl)phenyl]-1,3,2-dioxaborolane (This product is only available in Japan.) [214360-65-3]	T3031 1g 5g  4'-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-biphenyl-4-ol [760989-91-1]	B4588 1g  2,7-Bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-9,9-didecylfluorene [711026-06-1]	B4624 1g  2,7-Bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-9,9-didodecylfluorene [749900-93-4]	

B4771 1g 5g

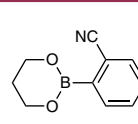
2-(4-Bromophenyl)-4,4,5,5-tetramethyl-1,3,2-dioxaborolane [68716-49-4]

B4892 200mg 1g

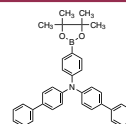
9,9-Bis(2-ethylhexyl)-2,7-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)fluorene [357219-41-1]

B5095 1g 5g

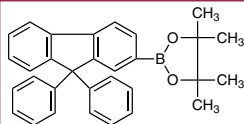
2-[3,5-Bis(trifluoromethyl)phenyl]-4,4,5,5-tetramethyl-1,3,2-dioxaborolane [69807-91-6]

C2993 1g 5g

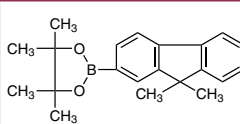
2-Cyanophenylboronic Acid 1,3-Propanediol Ester [172732-52-4]

D4886 1g 5g

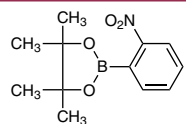
N,N-Di(4-biphenyl)-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)aniline [952431-30-0]

D5009 200mg 1g

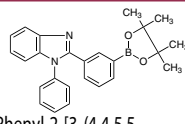
2-(9,9-Diphenyl-9H-fluorene-2-yl)-4,4,5,5-tetramethyl-1,3,2-dioxaborolane [462128-39-8]

D5018 1g 5g

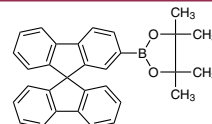
2-(9,9-Dimethyl-9H-fluorene-2-yl)-4,4,5,5-tetramethyl-1,3,2-dioxaborolane [569343-09-5]

N1006 1g 5g

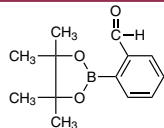
4,4,5,5-Tetramethyl-2-(2-nitrophenyl)-1,3,2-dioxaborolane [190788-59-1]

P2263 1g 5g

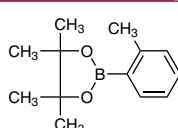
1-Phenyl-2-[3-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)phenyl]-1H-benzimidazole [952514-86-2]

S0980 1g 5g

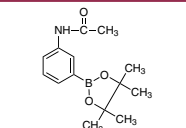
2-(9,9'-Spirobifluorene-7-yl)-4,4,5,5-tetramethyl-1,3,2-dioxaborolane [884336-44-1]

T3161 1g 5g

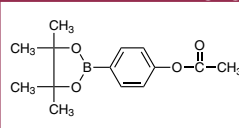
2-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-benzaldehyde [380151-85-9]

T3195 1g 5g

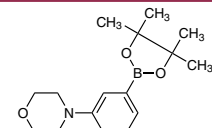
4,4,5,5-Tetramethyl-2-(o-tolyl)-1,3,2-dioxaborolane [195062-59-0]

T3216 1g

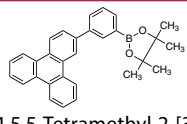
3'-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-acetanilide [480424-93-9]

T3224 1g 5g

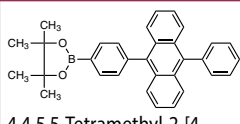
4-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)phenyl Acetate [480424-70-2]

T3237 1g

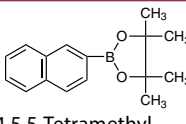
4-[3-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)phenyl]-morpholine [852227-95-3]

T3261 200mg 1g

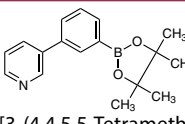
4,4,5,5-Tetramethyl-2-[3-(triphenyl-2-yl)phenyl]-1,3,2-dioxaborolane [1115639-92-3]

T3276 200mg 1g

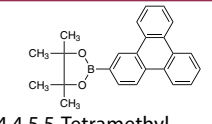
4,4,5,5-Tetramethyl-2-[4-(10-phenylanthracen-9-yl)phenyl]-1,3,2-dioxaborolane [1143576-84-4]

T3298 1g 5g

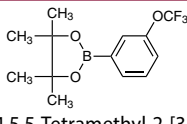
4,4,5,5-Tetramethyl-2-(2-naphthyl)-1,3,2-dioxaborolane [256652-04-7]

T3313 1g 5g

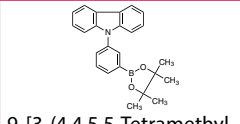
3-[3-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)phenyl]pyridine [939430-30-5]

T3322 1g 5g

4,4,5,5-Tetramethyl-2-(triphenyl-2-yl)-1,3,2-dioxaborolane [890042-13-4]

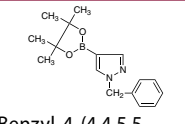
T3377 1g 5g

4,4,5,5-Tetramethyl-2-[3-(trifluoromethoxy)phenyl]-1,3,2-dioxaborolane [262376-31-8]

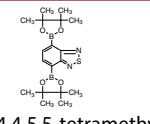
T3386 1g 5g

9-[3-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)phenyl]carbazole [870119-58-7]

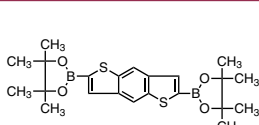
Heteroaryl-boronate Esters

B4364 1g 5g

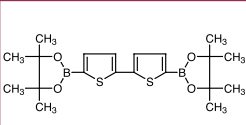
1-Benzyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)pyrazole [761446-45-1]

B3573 1g 5g

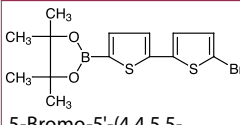
4,7-Bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-2,1,3-benzothiadiazole [934365-16-9]

B4158 1g 5g

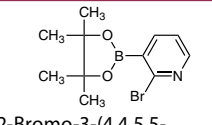
2,6-Bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)benzo[1,2-b:4,5-b']dithiophene [861398-06-3]

B3363 5g

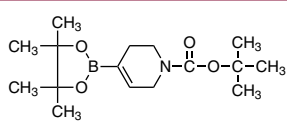
5,5'-Bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-2,2'-bithiophene [239075-02-6]

B3200 1g

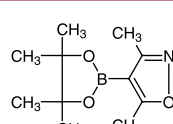
5-Bromo-5'-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-2,2'-bithiophene [578715-23-8]

B3749 1g 5g

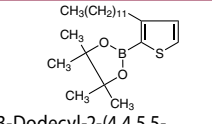
2-Bromo-3-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)pyridine [452972-12-2]

B4051 1g

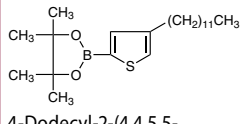
1-(tert-Butoxycarbonyl)-1,2,3,6-tetrahydro-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)pyridine [286961-14-6]

D3772 1g 5g

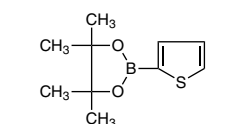
3,5-Dimethyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)isoxazole [832114-00-8]

D4290 1g 5g

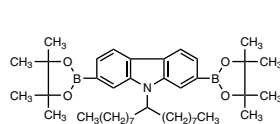
3-Dodecyl-2-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)thiophene [960524-18-9]

D4291 1g 5g

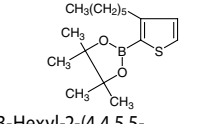
4-Dodecyl-2-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)thiophene [1173788-58-3]

T2924 1g 5g

2-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-thiophene [193978-23-3]

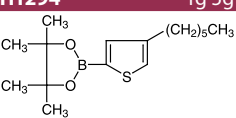
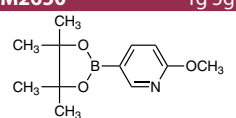
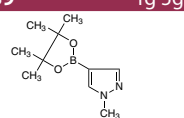
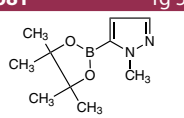
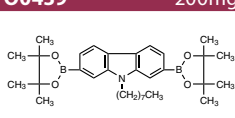
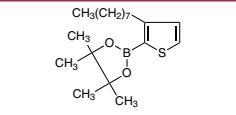
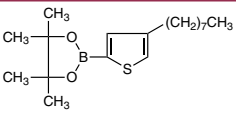
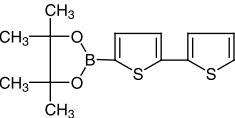
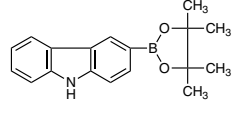
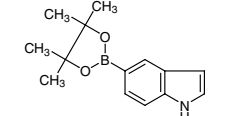
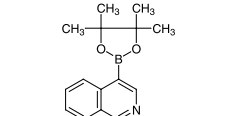
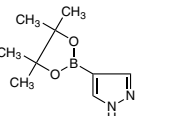
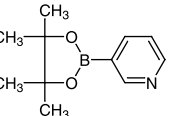
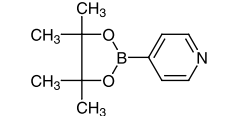
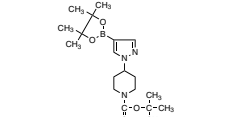
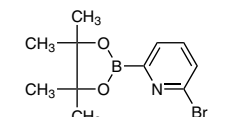
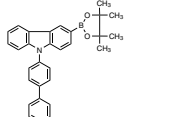
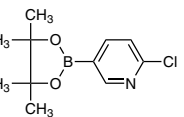
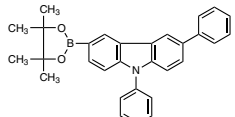
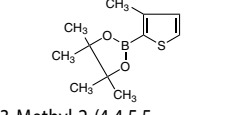
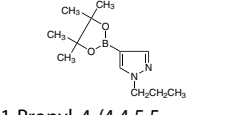
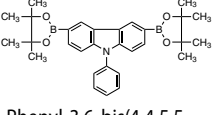
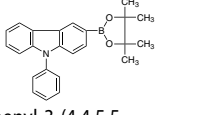
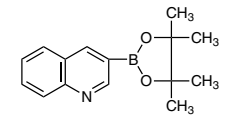
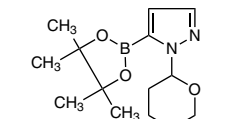
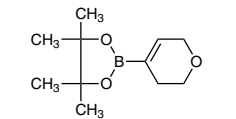
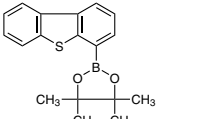
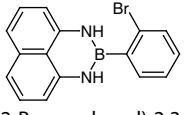
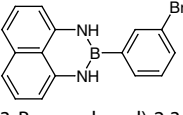
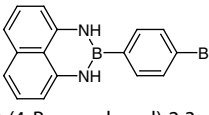
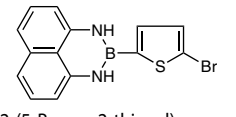
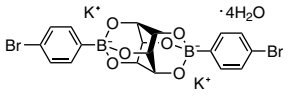
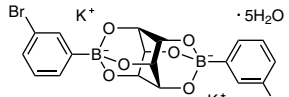
O0428 200mg 1g

9-(9-Heptadecanyl)-2,7-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)carbazole [958261-51-3]

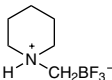
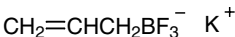
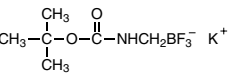
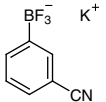
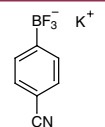
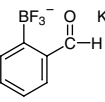
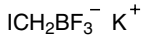
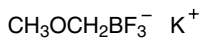
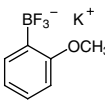
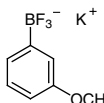
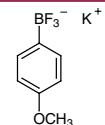
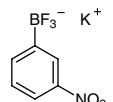
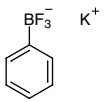
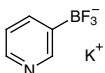
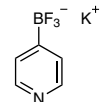
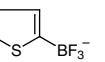
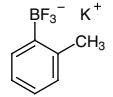
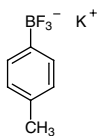
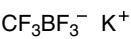
H1298 1g 5g 25g

3-Hexyl-2-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)thiophene [850881-09-3]

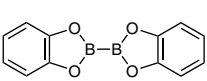
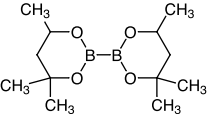
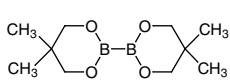
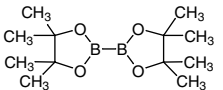
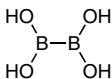
Suzuki-Miyaura Cross Coupling Reaction

H1294 1g 5g  4-Hexyl-2-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)thiophene [883742-29-8]	M2650 1g 5g  2-Methoxy-5-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)pyridine [445264-61-9]	M2339 1g 5g  1-Methyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)pyrazole [761446-44-0]	M2681 1g 5g  1-Methyl-5-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)pyrazole [847818-74-0]	O0439 200mg  9-n-Octyl-2,7-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)carbazole [406726-92-9]	
O0410 1g 5g  3-n-Octyl-2-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)thiophene [405165-14-2]	O0411 1g 5g  4-n-Octyl-2-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)thiophene [405165-12-0]	T2518 1g 5g 25g  5-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-2,2'-bithiophene [479719-88-5]	T3117 1g 5g  3-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-carbazole [855738-89-5]		
I0590 1g 5g  5-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-1H-indole [269410-24-4]	I0739 1g 5g  4-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-isoquinoline [685103-98-4]	T2756 1g 5g  4-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-pyrazole [269410-08-4]	T2345 1g 5g 25g  3-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-pyridine [329214-79-1]	T2349 1g 5g  4-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-pyridine [181219-01-2]	
B5002 1g 5g  1-(1-Boc-piperidin-4-yl)-pyrazole-4-boronic Acid Pinacol Ester [877399-74-1]	B5077 1g 5g  6-Bromo-2-pyridylboronic Acid Pinacol Ester [651358-83-7]	B5091 1g 5g  9-(4-Biphenyl)carbazole-3-boronic Acid Pinacol Ester [1391729-66-0]	C3136 1g 5g  2-Chloropyridine-5-boronic Acid Pinacol Ester [444120-94-9]	D5056 200mg 1g  6,9-Diphenylcarbazole-3-boronic Acid Pinacol Ester [1359833-28-5]	
M2391 1g 5g  3-Methyl-2-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)thiophene [885692-91-1]	P2277 1g 5g  1-Propyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)pyrazole [827614-69-7]	P2350 200mg 1g  9-Phenyl-3,6-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)carbazole [618442-57-2]	P2376 1g 5g  9-Phenyl-3-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)carbazole [1126522-69-7]	T3180 1g 5g  3-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-quinoline [171364-85-5]	
T3215 1g 5g  1-(Tetrahydro-2H-pyran-2-yl)-1H-pyrazole-5-boronic Acid Pinacol Ester [903550-26-5]	T3217 1g  3,6-Dihydro-2H-pyran-4-boronic Acid Pinacol Ester [287944-16-5]	T3236 1g 5g  4-Dibenzothiopheneboronic Acid Pinacol Ester [912824-84-1]	Protected Boronic Acids		
			B3653 1g 5g  2-(2-Bromophenyl)-2,3-dihydro-1H-naphtho[1,8-de][1,3,2]diazaborine [927384-42-7]	B3654 1g 5g  2-(3-Bromophenyl)-2,3-dihydro-1H-naphtho[1,8-de][1,3,2]diazaborine [927384-43-8]	B3655 1g 5g  2-(4-Bromophenyl)-2,3-dihydro-1H-naphtho[1,8-de][1,3,2]diazaborine [927384-44-9]
B3868 1g 5g  2-(5-Bromo-2-thienyl)-2,3-dihydro-1H-naphtho[1,8-de][1,3,2]diazaborine [927384-46-1]	B4524 200mg 1g  Bis(4-bromophenylboronic Acid) scyllo-Inositol Complex Dipotassium Tetrahydrate [1537876-29-1]		B4523 200mg 1g  Bis(3-bromophenylboronic Acid) scyllo-Inositol Complex Dipotassium Pentahydrate [1537876-31-5]		

Trifluoroborates

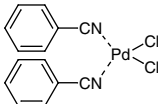
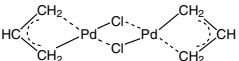
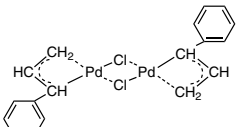
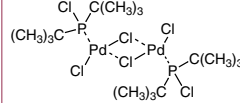
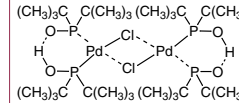
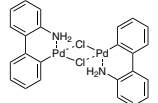
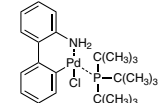
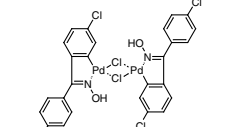
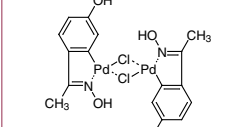
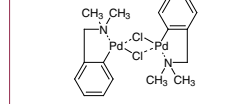
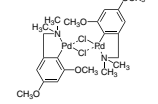
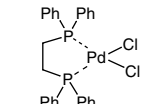
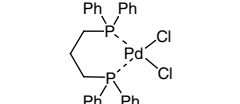
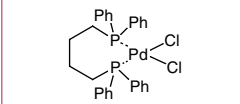
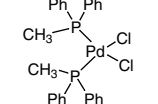
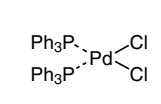
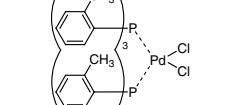
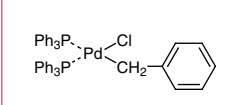
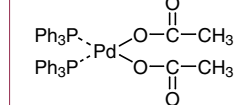
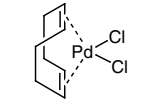
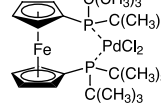
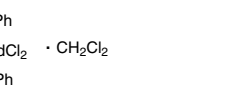
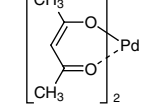
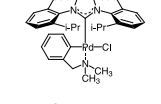
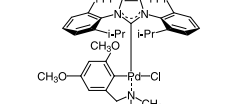
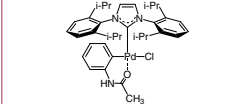
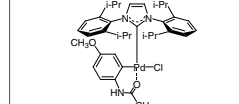
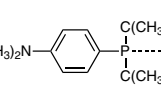
Trifluoroborates		P22871g  (Piperidinium-1-ylmethyl)-trifluoroborate [1268340-93-7]	P14801g 5g  Potassium Allyltrifluoroborate [233664-53-4]	P18071g 5g  Potassium (Bromomethyl)-trifluoroborate [888711-44-2]
P21551g 5g  Potassium [[(tert-butoxycarbonyl)-amino]-methyl]trifluoroborate [1314538-55-0]	P18145g  Potassium (3-Cyanophenyl)-trifluoroborate [850623-46-0]	P18151g 5g  Potassium (4-Cyanophenyl)-trifluoroborate [850623-36-8]	P18461g 5g  Potassium Cyclopropyltrifluoroborate [1065010-87-8]	P18121g  Potassium (2-Formylphenyl)-trifluoroborate [192863-39-1]
P18081g 5g  Potassium (Iodomethyl)-trifluoroborate [888711-47-5]	P21531g  Potassium (Methoxymethyl)-trifluoroborate [910251-11-5]	P18101g 5g  Potassium (2-Methoxyphenyl)-trifluoroborate [236388-46-8]	P15801g 5g  Potassium (3-Methoxyphenyl)-trifluoroborate [438553-44-7]	P18201g 5g  Potassium (4-Methoxyphenyl)-trifluoroborate [192863-36-8]
P18191g 5g  Potassium (3-Nitrophenyl)-trifluoroborate [192863-40-4]	P15821g 5g 25g  Potassium Phenyltrifluoroborate [153766-81-5]	P17171g 5g  Potassium 3-Pyridyltrifluoroborate [561328-69-6]	P16841g 5g  Potassium 4-Pyridyltrifluoroborate [1111732-87-6]	P18281g 5g  Potassium 2-Thienyltrifluoroborate [906674-55-3]
P18181g 5g  Potassium o-Tolyltrifluoroborate [274257-34-0]	P15831g 5g  Potassium p-Tolyltrifluoroborate [216434-82-1]	P16921g 5g 25g  Potassium Trifluoro(trifluoromethyl)borate [42298-15-7]	P14791g 5g 25g  Potassium Vinyltrifluoroborate [13682-77-4]	

Diboron Acid & Diboron Esters

		B3757 1g 5g  Bis(catecholato)diboron [13826-27-2]	B2906 1g 5g  Bis(hexylene Glycolato)-diboron [230299-21-5]	B2254 1g 5g 25g  Bis(neopentyl Glycolato)-diboron [201733-56-4]
B1964 1g 5g 25g 100g  Bis(pinacolato)diboron [73183-34-3]	T2953 5g 25g  Tetrahydroxydiboron [13675-18-8]			

Palladium Catalysts

	P1490 5g 25g Pd Palladium 5% on Carbon (wetted with ca. 55% Water) [7440-05-3]	P1491 5g 25g Pd Palladium 10% on Carbon (wetted with ca. 55% Water) [7440-05-3]	P1785 5g 25g Pd Palladium 10% on Carbon (wetted with ca. 55% Water) [7440-05-3]
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A1424 1g 5g $\text{Pd}(\text{CH}_3\text{COO})_2$ Palladium(II) Acetate [3375-31-3]	P2161 1g $\text{Pd}(\text{CH}_3\text{COO})_2$ Palladium(II) Acetate (Purified) [3375-31-3]	P2106 1g 5g $[\text{Pd}(\text{CH}_3\text{COO})_2]_3$ Palladium(II) Acetate Trimer [53189-26-7]	P1870 1g 5g $\text{Pd}(\text{CF}_3\text{COO})_2$ Palladium(II) Trifluoroacetate [42196-31-6]	P1489 1g 5g PdCl_2 Palladium(II) Chloride [7647-10-1]
S0540 1g Na_2PdCl_4 Sodium Tetrachloro- palladate(II) [13820-53-6]	B1676 1g 5g $(\text{CH}_3\text{CN})_2\text{PdCl}_2$ Bis(acetonitrile)palladium(II) Dichloride [14592-56-4]	T3023 1g $\text{Pd}(\text{CH}_3\text{CN})_4(\text{CF}_3\text{SO}_3)_2$ Tetrakis(acetonitrile) palladium(II) Ditriflate [68569-14-2]	B1668 1g 5g  Bis(benzonitrile)palladium(II) Dichloride [14220-64-5]	A1479 500mg 1g  Allylpalladium(II) Chloride Dimer [12012-95-2]
P2017 200mg  Palladium(II)(π -cinnamyl) Chloride Dimer [12131-44-1]	D3704 100mg  [Di-tert-butyl(chloro)- phosphine]-palladium(II) Dichloride Dimer [386706-33-8]	D3706 100mg  Dihydrogen Di- μ - chlorotetrakis(di-tert- butylphosphinito)- dipalladate [386706-31-6]	D4191 1g  Di- μ -chlorobis(2'-amino- 1,1'-biphenyl-2-yl-C,N)- dipalladium(II) [847616-85-7]	C2734 1g  Chloro[(tri-tert- butylphosphine)- 2-(2-aminobiphenyl)]- palladium(II) [1375325-71-5]
D3806 250mg 1g  Najera Catalyst I [287410-78-0]	D3807 250mg 1g  Najera Catalyst II [419581-64-9]	D3847 1g  Di- μ -chlorobis[2- [(dimethylamino)-methyl]- phenyl-C,N]dipalladium(II) [18987-59-2]	D4112 1g  Di- μ -chlorobis[2- [(dimethylamino)-methyl]- 4,6-dimethoxyphenyl-C,N]- dipalladium(II) [18987-71-8]	B2016 1g 5g  [1,2-Bis(diphenylphosphino)- ethane]palladium(II) Dichloride [19978-61-1]
B2192 1g 5g  [1,3-Bis(diphenylphosphino)- propane]palladium(II) Dichloride [59831-02-6]	B2031 1g 5g  [1,4-Bis(diphenylphosphino)- butane]palladium(II) Dichloride [29964-62-3]	B2055 1g 5g  Bis(tricyclohexylphosphine)- palladium(II) Dichloride [29934-17-6]	B2161 1g  Bis(methyldiphenyl- phosphine)palladium(II) Dichloride [52611-08-2]	B1667 1g 5g 25g  Bis(triphenylphosphine)- palladium(II) Dichloride [13965-03-2]
B2026 1g 5g  Bis(tri-o-tolylphosphine)- palladium(II) Dichloride [40691-33-6]	B2029 100mg 1g  Benzylbis(triphenyl- phosphine)palladium(II) Chloride [22784-59-4]	B2042 1g 5g  Bis(triphenylphosphine)- palladium(II) Diacetate [14588-08-0]	D2604 1g 5g  Dichloro(1,5-cyclo- octadiene)palladium(II) [12107-56-1]	B3160 1g 5g  [1,1'-Bis(di-tert-butylphosphino)- ferrocene]palladium(II) Dichloride [95408-45-0]
B2064 1g 5g 25g  [1,1'-Bis(diphenylphosphino)ferrocene]palladium(II) Dichloride Dichloromethane Adduct [95464-05-4]	D4333 200mg 1g  Dichloro[9,9-dimethyl-4,5- bis(diphenylphosphino) xanthene]-palladium(II) [205319-10-4]	B2018 1g 5g  Bis(2,4-pentanedionato)- palladium(II) [14024-61-4]	C2372 200mg 1g  SingaCycle™-A1 (This product is unavailable in the U.S.) [930796-10-4]	
C2406 200mg 1g  SingaCycle™-A2 (This product is unavailable in the U.S.) [1093348-08-3]	C2387 200mg 1g  SingaCycle™-A3 (This product is unavailable in the U.S.) [1228009-69-5]	C2407 200mg 1g  SingaCycle™-A4 (This product is unavailable in the U.S.)	B3161 250mg 1g $[(\text{CH}_3)_3\text{C}_3\text{P}]_2\text{Pd}$ $[(\text{CH}_3)_3\text{C}_3\text{P}]_2\text{Pd}$ Bis(tri-tert-butyl- phosphine)palladium(0) [53199-31-8]	B4837 100mg 500mg  Bis(di-tert-butyl(4dimethyl- aminophenyl)phosphine)- palladium(0) [1233717-68-4]

B3224 1g 5g Bis[1,2-bis(diphenylphosphino)ethane]-palladium(0) [31277-98-2]	T1350 1g 5g 25g Tetrakis(triphenylphosphine)-palladium(0) [14221-01-3]	B1374 1g 5g Bis(dibenzylideneacetone)-palladium(0) [32005-36-0]	T2184 1g 5g Tris(dibenzylideneacetone)-dipalladium(0) [51364-51-3]	P1944 1g Pd / (PSi-Al ₂ O ₃) Poly(methylphenyl)silane supported Palladium/Alumina Hybrid Catalyst
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P2280 1g 5g Pd / (PMPSi-Al ₂ O ₃) Polydimethylsilane supported Palladium/Alumina Hybrid Catalyst	P1425 100mg Poly[N-isopropylacrylamide-co-4-(diphenylphosphino)-styrene] Palladium(II) Dichloride (ratio, acrylamide:phosphine=20:2)
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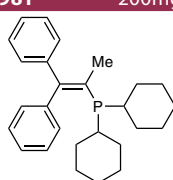
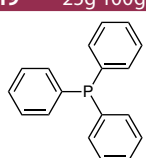
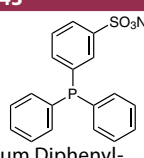
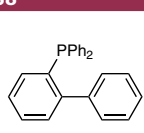
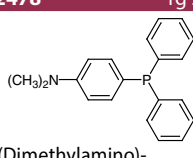
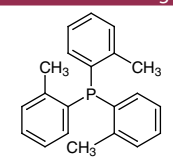
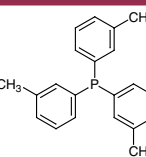
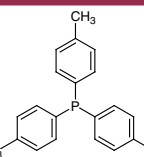
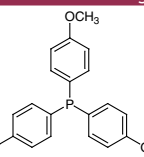
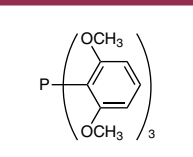
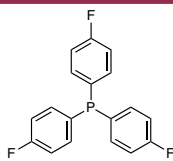
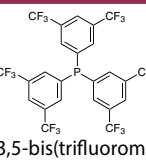
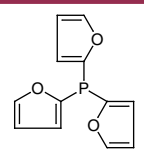
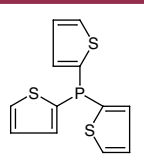
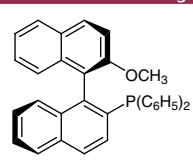
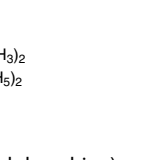
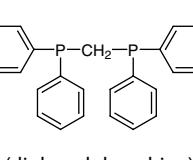
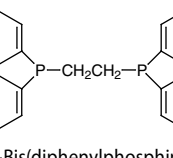
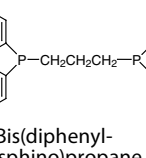
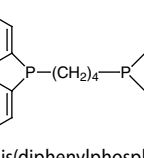
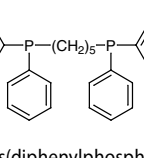
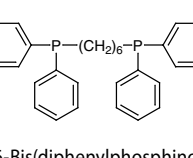
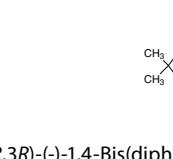
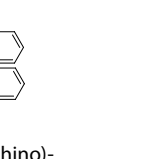
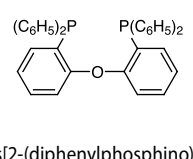
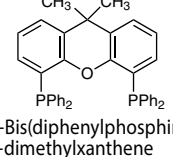
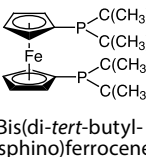
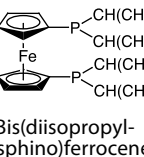
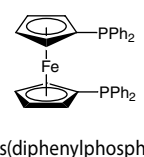
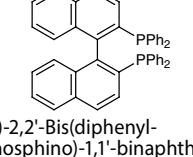
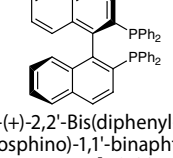
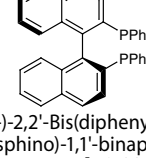
Nickel Catalysts

Nickel Catalysts		B2225 1g 5g 25g [1,2-Bis(diphenylphosphino)-ethane]nickel(II) Dichloride [14647-23-5]	B2226 1g 5g [1,1'-Bis(diphenylphosphino)-ferrocene]nickel(II) Dichloride [67292-34-6]	B1313 5g 25g [1,3-Bis(diphenylphosphino)-propane]nickel(II) Dichloride [15629-92-2]
N0096 25g 100g 500g Bis(2,4-pentanedionato)-nickel(II) Hydrate [3264-82-2]	B3534 1g 5g Bis(tricyclohexylphosphine)-nickel(II) Dichloride [19999-87-2]	B1571 10g 100g Bis(triphenylphosphine)-nickel(II) Dichloride [14264-16-5]	S0487 50g Ni Skeletal Nickel Catalyst slurry in Water [7440-02-0]	B3354 1g Bromo[(2,6-pyridinediyl)bis(3-methyl-1-imidazolyl-2-ylidene)]-nickel Bromide [894102-11-5]

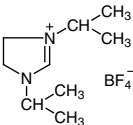
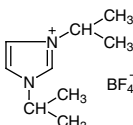
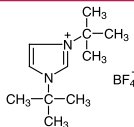
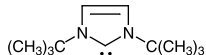
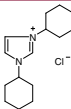
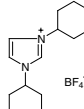
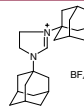
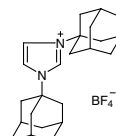
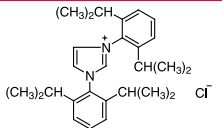
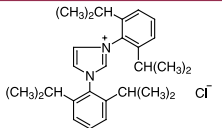
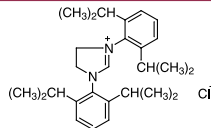
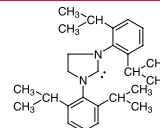
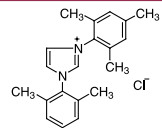
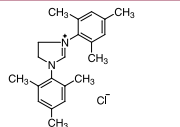
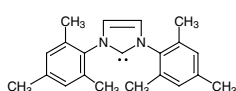
Phosphine Ligands

Phosphine Ligands		T1912 5g Tri-tert-butylphosphine [13716-12-6]	T2584 1g 5g Tri-tert-butylphosphonium Tetrafluoroborate [131274-22-1]	T0361 25mL 100mL 500mL Tributylphosphine [998-40-3]
T1165 25mL Tricyclohexylphosphine (contains Tricyclohexylphosphine Oxide) (ca. 18% in Toluene, ca. 0.60mol/L) [2622-14-2]	T2585 1g 5g Tricyclohexylphosphonium Tetrafluoroborate [58656-04-5]	M1318 1g 5g Methyltriphenylphosphine [1486-28-8]	E0519 5g Ethyldiphenylphosphine [607-01-2]	
I0583 1g 5g Isopropylidiphenylphosphine [6372-40-3]	D2630 5g Diphenylpropylphosphine [7650-84-2]	D3940 5g Di-tert-butylphenyl- phosphine [32673-25-9]	D4531 1g 5g (4-Dimethylaminophenyl)- di-tert-butylphosphine [932710-63-9]	
D3387 1g 5g 2-(Di-tert-butylphosphino)- biphenyl [224311-51-7]	D2411 1g 5g Dicyclohexylphenyl- phosphine [6476-37-5]	D3388 1g 5g 2-(Dicyclohexylphosphino)- biphenyl [247940-06-3]	D3389 1g 5g 2-(Dicyclohexylphosphino)- 2'-(dimethylamino)biphenyl [213697-53-1]	
C2979 200mg 1g cBRIDP® [742103-27-1]	C2980 200mg 1g Cy-cBRIDP® [1023330-38-2]			

Suzuki-Miyaura Cross Coupling Reaction

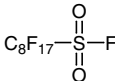
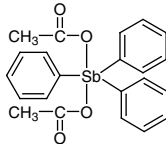
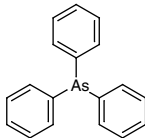
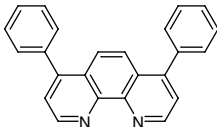
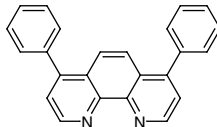
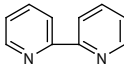
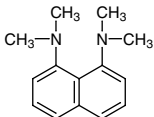
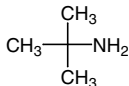
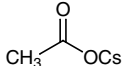
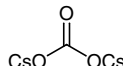
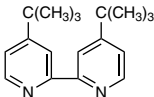
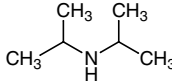
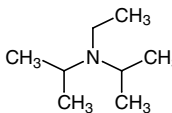
C2981 200mg 1g  Cy-vBRIDP® [384842-24-4]	T0519 25g 100g 500g  Triphenylphosphine [603-35-0]	D2043 1g 5g  Sodium Diphenylphosphinobenzene-3-sulfonate [63995-75-5]	D4688 1g  2-(Diphenylphosphino)-biphenyl [13885-09-1]	D2478 1g 5g  4-(Dimethylamino)-phenyldiphenylphosphine [739-58-2]
T1024 5g 25g  Tri(o-tolyl)phosphine [6163-58-2]	T1025 5g 25g  Tri(m-tolyl)phosphine [6224-63-1]	T0862 5g 25g  Tri(p-tolyl)phosphine [1038-95-5]	T0861 5g 25g  Tris(4-methoxyphenyl)-phosphine [855-38-9]	T1614 25g  Tris(2,6-dimethoxyphenyl)-phosphine [85417-41-0]
T2900 5g  Tris(4-fluorophenyl)-phosphine [18437-78-0]	T2526 1g 5g  Tris[3,5-bis(trifluoromethyl)phenyl]phosphine [175136-62-6]	T1643 1g 5g  Tri(2-furyl)phosphine [5518-52-5]	T1666 1g 5g  Tri(2-thienyl)phosphine [24171-89-9]	D2774 100mg 1g  (R)-(+)-MOP[145964-33-6]
D2535 100mg  (R)-N,N-Dimethyl-1-[(S)-2-(diphenylphosphino)-ferrocenyl]ethylamine [55700-44-2]	D2536 100mg  (S)-N,N-Dimethyl-1-[(R)-2-(diphenylphosphino)-ferrocenyl]ethylamine [55650-58-3]	B1982 5g 25g  Bis(diphenylphosphino)-methane [2071-20-7]		
B1137 10g 25g  1,2-Bis(diphenylphosphino)-ethane [1663-45-2]	B1138 5g 25g  1,3-Bis(diphenylphosphino)propane [6737-42-4]	B1246 5g 25g  1,4-Bis(diphenylphosphino)-butane [7688-25-7]	B1960 1g  1,5-Bis(diphenylphosphino)-pentane [27721-02-4]	B1959 1g 5g  1,6-Bis(diphenylphosphino)-hexane [19845-69-3]
B1113 1g  (2R,3R)-(-)-1,4-Bis(diphenylphosphino)-2,3-O-isopropylidene-2,3-butanediol [32305-98-9]	B1112 1g  (2S,3S)-(+)-1,4-Bis(diphenylphosphino)-2,3-O-isopropylidene-2,3-butanediol [37002-48-5]	B2867 5g 25g  Bis[2-(diphenylphosphino)-phenyl] Ether [166330-10-5]		
B2709 1g 5g 25g  4,5-Bis(diphenylphosphino)-9,9-dimethylxanthene [161265-03-8]	B2711 100mg 1g  1,1'-Bis(di-tert-butylphosphino)ferrocene [84680-95-5]	B2710 100mg 1g  1,1'-Bis(diisopropylphosphino)ferrocene [97239-80-0]	B2027 1g 5g 25g  1,1'-Bis(diphenylphosphino)-ferrocene [12150-46-8]	B2383 5g 25g  (±)-2,2'-Bis(diphenylphosphino)-1,1'-binaphthyl [98327-87-8]
B1406 1g 5g 25g  (R)-(+)-2,2'-Bis(diphenylphosphino)-1,1'-binaphthyl [76189-55-4]	B1405 1g 5g  (S)-(-)-2,2'-Bis(diphenylphosphino)-1,1'-binaphthyl [76189-56-5]			

N-Heterocyclic Carbene Ligands

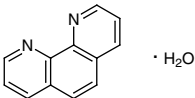
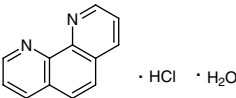
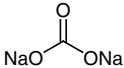
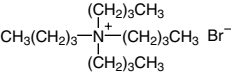
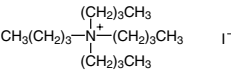
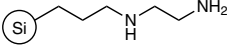
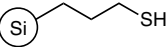
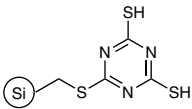
N-Heterocyclic Carbene Ligands				
D3622 1g 5g		D3623 1g		
LiPrim-HBF ₄ [137581-18-1]		LiPr-HBF ₄ [286014-34-4]		
D3711 1g 5g				
				
1,3-Di- <i>tert</i> -butylimidazolium Tetrafluoroborate [263163-17-3]				
D3472 1g 5g		D3882 1g 5g		
1,3-Di- <i>tert</i> -butylimidazol-2-ylidene [157197-53-0]		1,3-Dicyclohexylimidazolium Chloride (This product is only available in Japan.) [181422-72-0]		
		D3850 1g 5g 25g	D3620 500mg	D3621 1g
				
		1,3-Dicyclohexylimidazolium Tetrafluoroborate [286014-38-8]	1,3-Di(1-adamantyl)-imidazolium Tetrafluoroborate [1176202-63-3]	1Ad-HBF ₄ [286014-42-4]
D3611 500mg 5g 25g		B3157 500mg 1g 5g	B3465 1g 5g	B3506 1g
				
1,3-Bis(2,6-diisopropylphenyl)-imidazolium Chloride [250285-32-6]		1,3-Bis(2,6-diisopropylphenyl)-imidazolium Chloride [258278-25-0]		1,3-Bis(2,6-diisopropylphenyl)-imidazolidin-2-ylidene [258278-28-3]
D3446 1g 5g				
				
1,3-Dimesitylimidazolium Chloride [141556-45-8]				
B3158 1g 5g	D3870 1g 5g			
				
1,3-Bis(2,4,6-trimethylphenyl)-imidazolium Chloride [173035-10-4]	1,3-Dimesitylimidazol-2-ylidene [141556-42-5]			

Others

Bases, Additive Agents

Others		H1176 25g  Heptadecafluoro-1-octanesulfonyl Fluoride (mixture of <i>n</i> - and <i>iso</i> -isomers) [307-35-7]	T1848 1g  Triphenylantimony Diacetate [1538-62-1]	T0508 5g  Triphenylarsine [603-32-7]
Bases, Additive Agents		B2695 1g  Bathophenanthroline (purified by sublimation) [1662-01-7]	D0905 1g 5g  Bathophenanthroline [1662-01-7]	B0468 25g 100g 500g  2,2'-Bipyridyl [366-18-7]
B1018 1g 5g 25g  1,8-Bis(dimethylamino)-naphthalene [20734-58-1]	B0709 25mL 100mL 500mL  <i>tert</i> -Butylamine [75-64-9]	C2430 25g 100g  Cesium Acetate [3396-11-0]	C2160 25g 100g  Cesium Carbonate [534-17-8]	C2204 25g 100g CsF Cesium Fluoride [13400-13-0]
D3134 1g 5g  4,4'-Di- <i>tert</i> -butyl-2,2'-bipyridyl [72914-19-3]	D0925 25mL 100mL 500mL  Diisopropylamine [108-18-9]	D1599 25mL 100mL 500mL  <i>N,N</i> -Diisopropylethylamine [7087-68-5]	L0204 25g 300g LiCl Lithium Chloride Anhydrous [7447-41-8]	L0222 100mL LiCl Lithium Chloride (2.3% in Tetrahydrofuran, ca. 0.5mol/L) [7447-41-8]

Suzuki-Miyaura Cross Coupling Reaction

M0508 25g 100g 500g  1-Methylimidazole [616-47-7]	P0221 1g 25g  1,10-Phenanthroline Monohydrate [5144-89-8]	P0081 25g  1,10-Phenanthroline Hydrochloride Monohydrate [3829-86-5]	P1748 300g  Potassium Carbonate [584-08-7]	P1758 300g KF Potassium Fluoride [7789-23-3]
S0560 300g  Sodium Carbonate [497-19-8]	S0485 100g 500g CH₃ONa Sodium Methoxide [124-41-4]	T0054 25g 100g 500g  Tetrabutylammonium Bromide [1643-19-2]	T0057 25g 100g 500g  Tetrabutylammonium Iodide [311-28-4]	Z0015 300g Zn Zinc (Powder) [7440-66-6]
Metal Scavengers				
		E0777 25g  3-(Ethylenediamino)propyl Silica Gel (0.7-1.0mmol/g)	M1979 25g  3-Mercaptopropyl Silica Gel (0.5-0.8mmol/g)	S0865 5g  Si-TMT (=2,4,6-Trimercaptotriazine Silica Gel) (0.2-0.5mmol/g) [1226494-16-1]

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