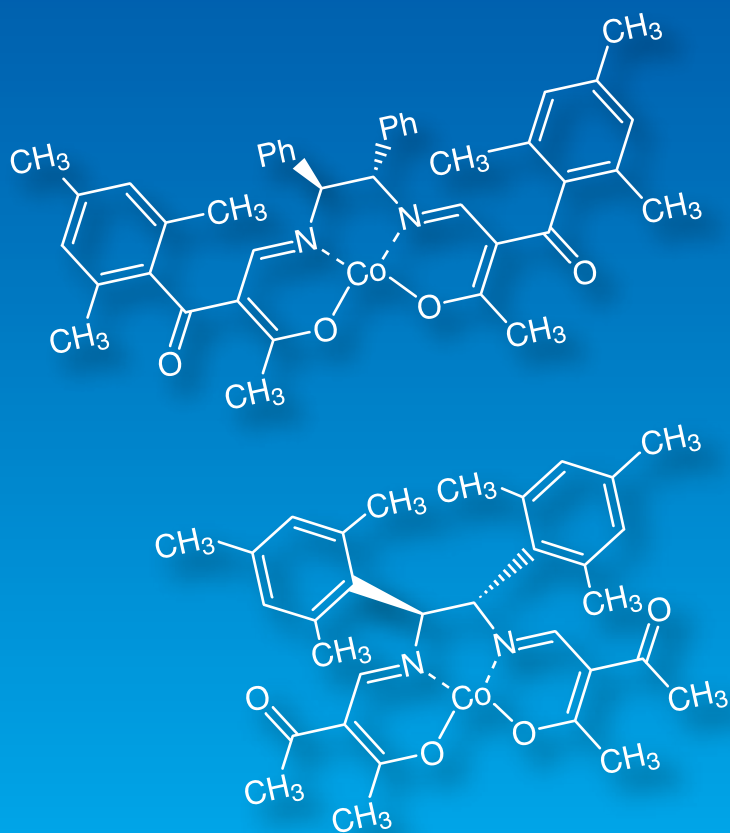


# Asymmetric Synthesis



# Asymmetric Synthesis

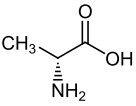
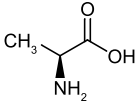
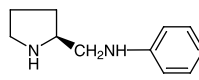
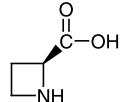
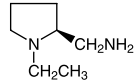
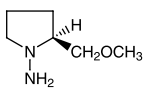
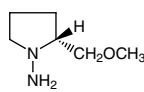
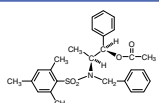
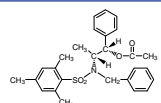
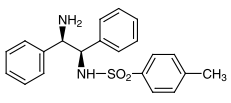
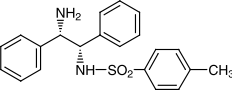
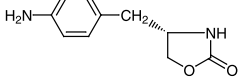
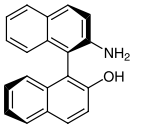
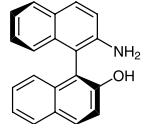
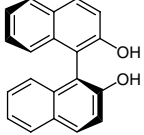
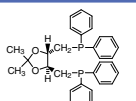
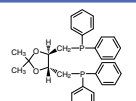
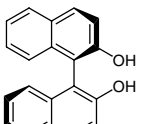
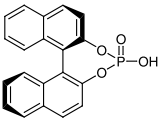
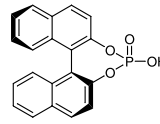
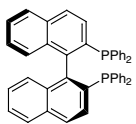
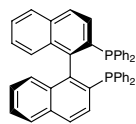
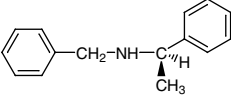
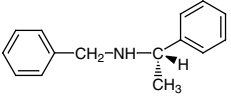
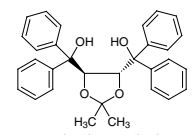
In the research and development of pharmaceuticals, agricultural chemicals or functional materials starting with ferroelectrical liquid crystals, the demand for optically active compounds has increased more than ever. In order to obtain the desired optically active compounds through synthesis, diastereo-differentiating and enantio-differentiating reactions have employed chiral auxiliaries or asymmetric catalysts. In order to achieve even higher optical purity and yield, new chiral auxiliaries and asymmetric catalysts are being developed and a considerable number of successful results have been reported. For instance, camphorsultam and oxazolidinone derivatives are utilized as chiral auxiliaries. BINAP-Ru complexes and oxazaborolidine derivatives are excellent asymmetric catalysts. All of these new developments produce products of high optical purity and good reaction yields.

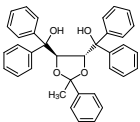
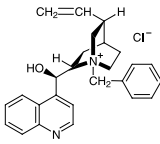
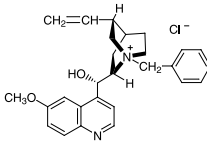
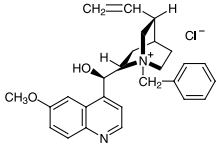
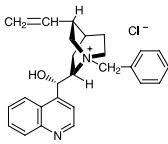
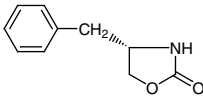
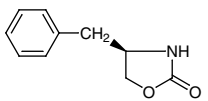
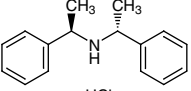
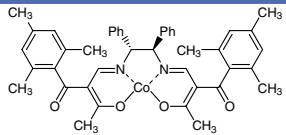
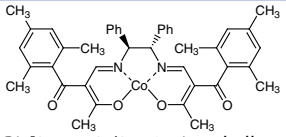
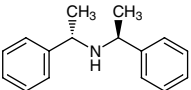
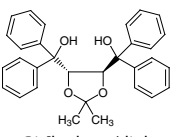
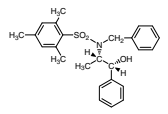
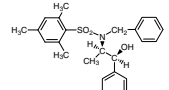
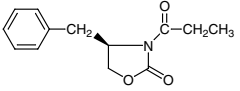
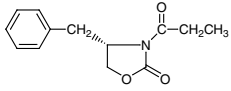
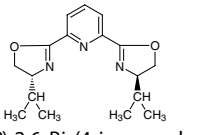
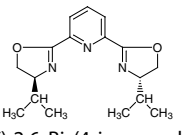
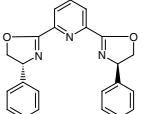
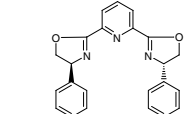
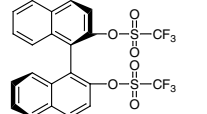
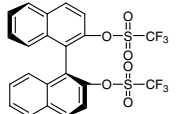
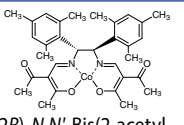
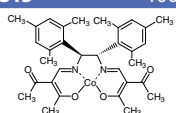
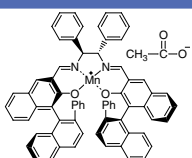
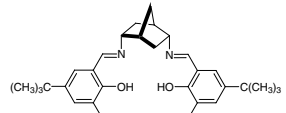
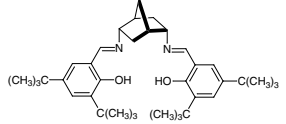
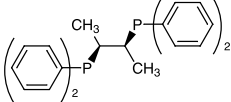
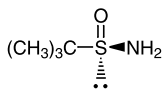
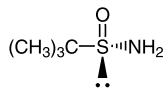
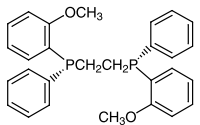
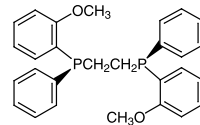
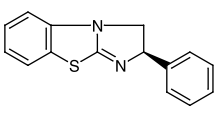
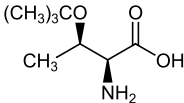
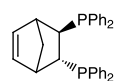
Recently, Yamada and co-workers have developed a pro-

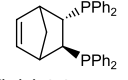
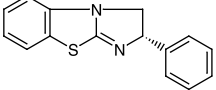
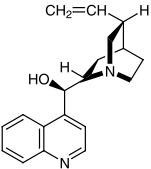
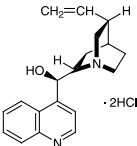
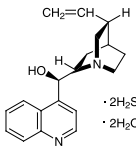
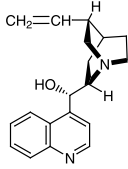
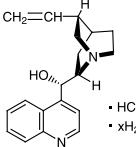
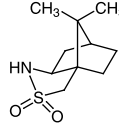
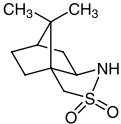
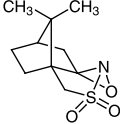
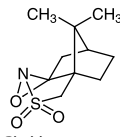
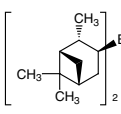
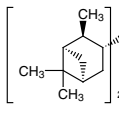
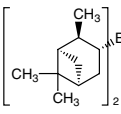
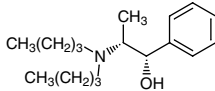
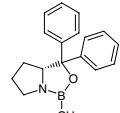
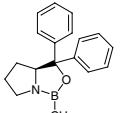
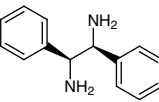
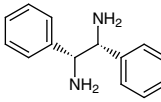
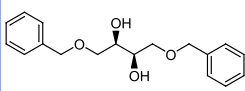
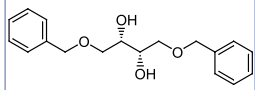
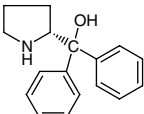
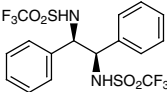
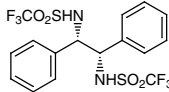
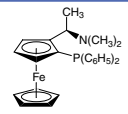
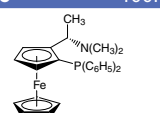
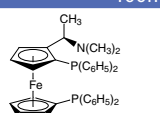
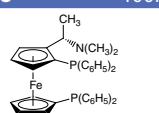
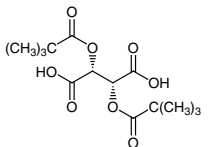
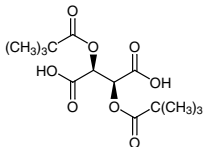
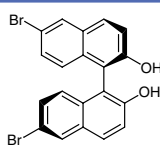
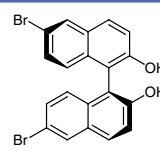
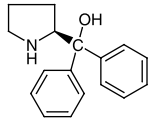
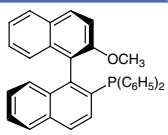
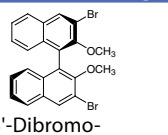
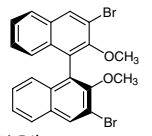
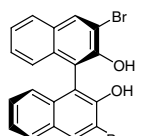
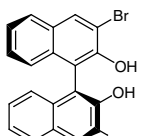
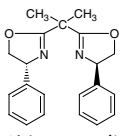
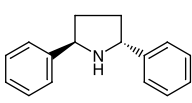
chiral ketone and imine asymmetric reduction which uses the newly developed optically active cobalt(II) complex catalyst MPAC. Through this asymmetric reduction using MPAC, secondary alcohols and amines of high optical purity can be obtained in good yields. The reaction proceeds under relatively moderate temperatures and utilize sodium borohydride, which has been traditionally employed as a reducing agent of ketones and imines. For this reason, this method is receiving much attention as a route to useful optically active alcohols and amines.

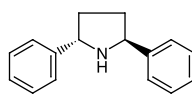
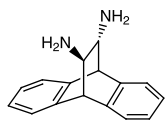
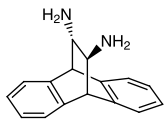
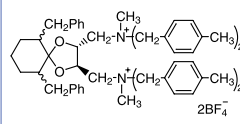
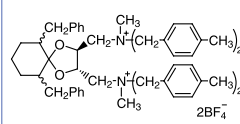
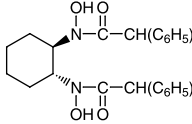
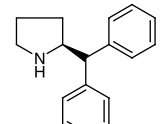
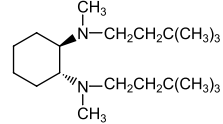
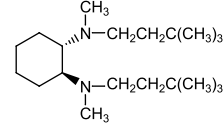
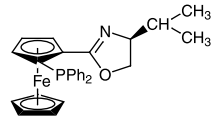
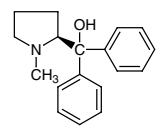
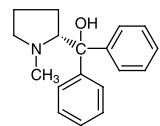
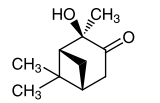
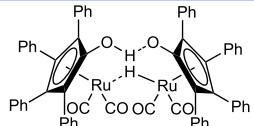
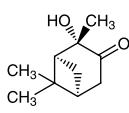
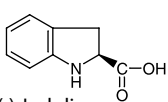
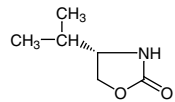
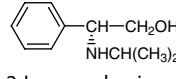
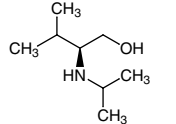
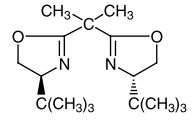
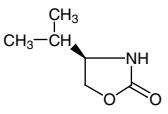
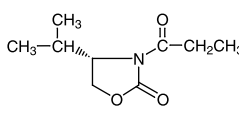
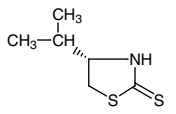
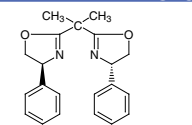
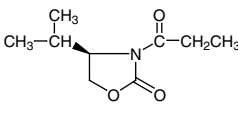
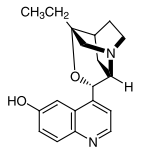
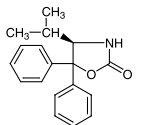
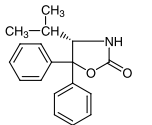
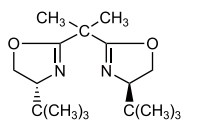
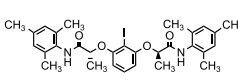
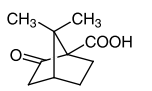
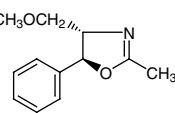
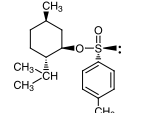
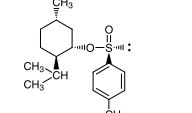
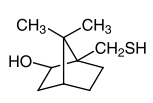
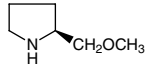
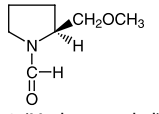
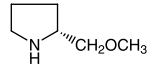
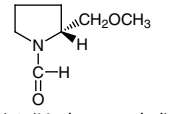
## References

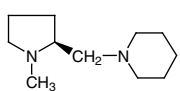
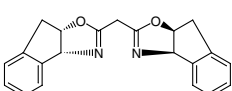
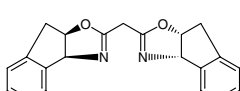
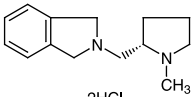
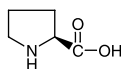
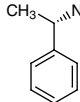
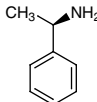
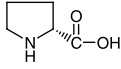
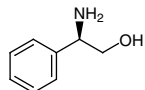
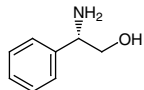
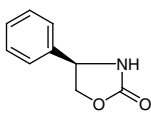
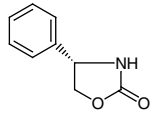
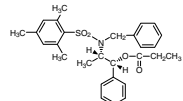
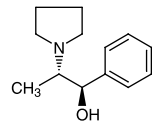
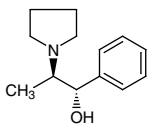
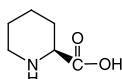
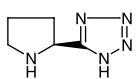
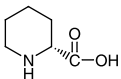
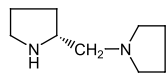
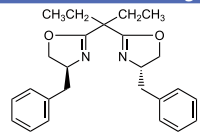
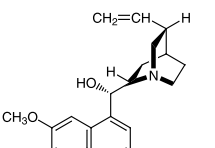
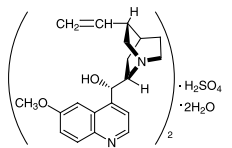
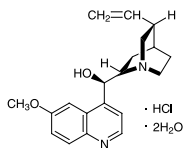
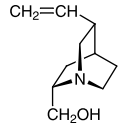
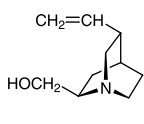
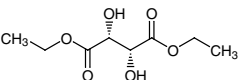
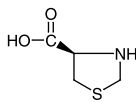
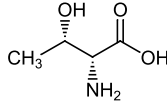
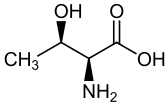
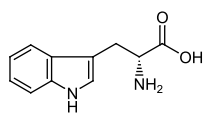
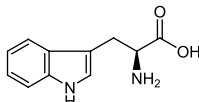
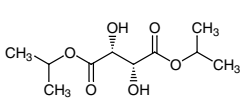
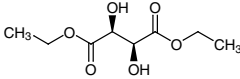
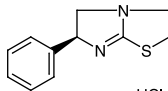
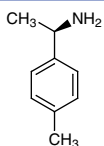
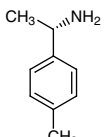
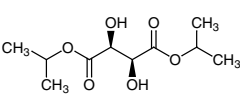
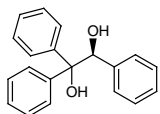
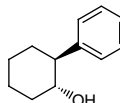
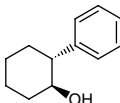
T. Yamada, T. Nagata, Y. Ohtsuka, T. Ikeno, T. Mukaiyama, *Yuki Gosei Kagaku Kyokaiishi (J. Synth. Org. Chem. Jpn.)* **2003**, *61*, 843; T. Yamada, T. Nagata, K. D. Sugi, K. Yorozu, T. Ikeno, Y. Ohtsuka, D. Miyazaki, T. Mukaiyama, *Chem. Eur. J.* **2003**, *9*, 4485.

<b>A0177</b> 5g 25g  D-Alanine [338-69-2]	<b>A0179</b> 25g 250g  L-Alanine [56-41-7]	<b>A0945</b> 1g 5g  (S)-(+)-2-(Anilinomethyl)-pyrrolidine [64030-44-0]	<b>A1043</b> 100mg 1g  L-Azetidine-2-carboxylic Acid [Antagonist of L-Proline] [2133-34-8]	<b>A1301</b> 1g 5g  (S)-(-)-2-Aminomethyl-1-ethylpyrrolidine [22795-99-9]
<b>A1335</b> 1g 5g  (S)-(-)-1-Amino-2-(methoxymethyl)-pyrrolidine [59983-39-0]	<b>A1337</b> 1g  (R)-(+)-1-Amino-2-(methoxymethyl)-pyrrolidine [72748-99-3]	<b>A1534</b> 1g  Acetic Acid (1R,2S)-2-[N-Benzyl-N-(mesitylenesulfonyl)amino]-1-phenylpropyl Ester [240423-74-9]	<b>A1535</b> 1g  Acetic Acid (1S,2R)-2-[N-Benzyl-N-(mesitylenesulfonyl)amino]-1-phenylpropyl Ester [240423-53-4]	<b>A1548</b> 1g  (R,R)-N-(2-Amino-1,2-diphenylethyl)-p-toluenesulfonamide [144222-34-4]
<b>A1699</b> 1g  (S,S)-N-(2-Amino-1,2-diphenylethyl)-p-toluenesulfonamide [167316-27-0]	<b>A2095</b> 1g 5g  (S)-4-(4-Aminobenzyl)-2-oxazolidinone [152305-23-2]	<b>A2316</b> 100mg  (R)-(+)-2-Amino-2'-hydroxy-1,1'-binaphthyl [137848-28-3]	<b>A2317</b> 100mg  (S)-(-)-2-Amino-2'-hydroxy-1,1'-binaphthyl [137848-29-4]	<b>B1100</b> 5g 25g  (S)-(-)-1,1'-Bi-2-naphthol [18531-99-2]
<b>B1112</b> 1g  (2S,3S)-(+)-1,4-Bis(diphenylphosphino)-2,3-O-isopropylidene-2,3-butenediol [37002-48-5]	<b>B1113</b> 1g  (2R,3R)-(-)-1,4-Bis(diphenylphosphino)-2,3-O-isopropylidene-2,3-butenediol [32305-98-9]	<b>B1142</b> 5g 25g  (R)-(+)-1,1'-Bi-2-naphthol [18531-94-7]	<b>B1143</b> 100mg 1g 5g  (R)-(-)-1,1'-Binaphthyl-2,2'-diyl Hydrogen Phosphate [39648-67-4]	<b>B1144</b> 100mg 1g  (S)-(+)-1,1'-Binaphthyl-2,2'-diyl Hydrogen Phosphate [35193-64-7]
<b>B1405</b> 1g 5g  (S)-(-)-2,2'-Bis(diphenylphosphino)-1,1'-binaphthyl [76189-56-5]	<b>B1406</b> 1g 5g 25g  (R)-(+)-2,2'-Bis(diphenylphosphino)-1,1'-binaphthyl [76189-55-4]	<b>B1528</b> 5mL 25mL  (R)-(+)-N-Benzyl-1-phenylethylamine [38235-77-7]	<b>B1529</b> 5mL 25mL  (S)-(-)-N-Benzyl-1-phenylethylamine [17480-69-2]	<b>B1614</b> 1g 5g  (-)-4,5-Bis[hydroxy(diphenyl)methyl]-2,2-dimethyl-1,3-dioxolane [93379-48-7]

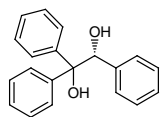
<b>B1615</b> 1g  (+)-4,5-Bis[hydroxy(diphenyl)methyl]-2-methyl-2-phenyl-1,3-dioxolane [109306-21-0]	<b>B1683</b> 10g  N-Benzylcinchonidinium Chloride [69257-04-1]	<b>B1684</b> 5g  N-Benzylquinidinium Chloride [77481-82-4]	<b>B1685</b> 5g  N-Benzylquininium Chloride [67174-25-8]	<b>B1689</b> 5g  N-Benzylcinchoninium Chloride [69221-14-3]
<b>B1754</b> 5g 25g  (S)-4-Benzyl-2-oxazolidinone [90719-32-7]	<b>B1786</b> 5g 25g  (R)-4-Benzyl-2-oxazolidinone [102029-44-7]	<b>B2034</b> 5g  (R,R)-(+)-Bis(alpha-methylbenzyl)amine Hydrochloride [82398-30-9]	<b>B1844</b> 100mg  (1R,2R)-N,N'-Bis[3-oxo-2-(2,4,6-trimethylbenzoyl)butylidene]-1,2-diphenylethylenediaminato Cobalt(II) [212250-92-5]	
<b>B1845</b> 100mg  (1S,2S)-N,N'-Bis[3-oxo-2-(2,4,6-trimethylbenzoyl)butylidene]-1,2-diphenylethylenediaminato Cobalt(II) [171200-71-8]	<b>B2035</b> 5g  (S,S)-(-)-Bis(alpha-methylbenzyl)amine Hydrochloride [40648-92-8]	<b>B2048</b> 1g 5g  (+)-4,5-Bis[hydroxy(diphenyl)methyl]-2,2-dimethyl-1,3-dioxolane [93379-49-8]	<b>B2103</b> 1g 5g  (1R,2S)-2-[N-Benzyl-N-(mesitylenesulfonyl)amino]-1-phenyl-1-propanol [187324-63-6]	
<b>B2104</b> 1g 5g  (1S,2R)-2-[N-Benzyl-N-(mesitylenesulfonyl)amino]-1-phenyl-1-propanol [187324-64-7]	<b>B2165</b> 1g 5g 25g  (R)-(-)-4-Benzyl-3-propionyl-2-oxazolidinone [131685-53-5]	<b>B2166</b> 1g 5g  (S)-(+)-4-Benzyl-3-propionyl-2-oxazolidinone [101711-78-8]	<b>B2217</b> 250mg 1g 5g  (R,R)-2,6-Bis(4-isopropyl-2-oxazolin-2-yl)pyridine [131864-67-0]	<b>B2218</b> 500mg 5g  (S,S)-2,6-Bis(4-isopropyl-2-oxazolin-2-yl)pyridine [118949-61-4]
<b>B2219</b> 250mg 1g  (R,R)-2,6-Bis(4-phenyl-2-oxazolin-2-yl)pyridine [128249-70-7]	<b>B2220</b> 250mg 1g  (S,S)-2,6-Bis(4-phenyl-2-oxazolin-2-yl)pyridine [174500-20-0]	<b>B2230</b> 1g  (R)-(-)-1,1'-Binaphthyl-2,2'-diyl Bis(trifluoromethanesulfonate) [126613-06-7]	<b>B2231</b> 1g  (S)-(+)-1,1'-Binaphthyl-2,2'-diyl Bis(trifluoromethanesulfonate) [128544-05-8]	<b>B2314</b> 100mg  (1R,2R)-N,N'-Bis(2-acetyl-3-oxo-2-butenylidene)-1,2-dimesitylethylenediaminato Cobalt(II) [361346-80-7]
<b>B2315</b> 100mg  (1S,2S)-N,N'-Bis(2-acetyl-3-oxo-2-butenylidene)-1,2-dimesitylethylenediaminato Cobalt(II) [259259-80-8]	<b>B2409</b> 100mg  (1S,2S)-N,N'-Bis[(R)-2-hydroxy-2'-phenyl-1,1'-binaphthyl-3-ylmethyl-ene]-1,2-diphenylethylenediaminato Manganese(III) Acetate [158052-18-7]	<b>B2652</b> 100mg  (1R,2R,4R,5R)-2,5-Bis-(3,5-di-tert-butyl-2-hydroxybenzylideneamino)bicyclo[2.2.1]heptane [539834-19-0]		
<b>B2653</b> 100mg  (1S,2S,4S,5S)-2,5-Bis-(3,5-di-tert-butyl-2-hydroxybenzylideneamino)bicyclo[2.2.1]heptane [539834-16-7]	<b>B2704</b> 100mg 1g  (2S,3S)-(-)-Bis(diphenylphosphino)butane [64896-28-2]	<b>B2907</b> 1g 5g  (R)-(+)-tert-Butylsulfonamide [196929-78-9]	<b>B2908</b> 1g 5g  (S)-(-)-tert-Butylsulfonamide [343338-28-3]	
<b>B3035</b> 100mg  (R,R)-1,2-Bis[(2-methoxyphenyl)phenylphosphino]ethane [55739-58-7]	<b>B3036</b> 100mg  (S,S)-1,2-Bis[(2-methoxyphenyl)phenylphosphino]ethane [97858-62-3]	<b>B3296</b> 200mg 1g 5g  (+)-Benzotetramisole [885051-07-0]	<b>B3398</b> 1g 5g  O-tert-Butyl-L-threonine [4378-13-6]	<b>B3449</b> 100mg  (2R,3R)-(-)-2,3-Bis-(diphenylphosphino)bicyclo[2.2.1]hept-5-ene [71042-55-2]

<b>B3450</b> 100mg  (2S,3S)-(+)-2,3-Bis(diphenylphosphino)-bicyclo[2.2.1]hept-5-ene [71042-54-1]	<b>B3549</b> 1g  (-)-Benzotetramisole [950194-37-3]	<b>C0347</b> 25g 100g  Cinchonidine [485-71-2]	<b>C0348</b> 25g  Cinchonidine Dihydrochloride [24302-67-8]	<b>C0349</b> 25g  Cinchonidine Sulfate Dihydrate [524-61-8]
<b>C0350</b> 25g 200g  Cinchonine [118-10-5]	<b>C0351</b> 25g  Cinchonine Hydrochloride Hydrate [5949-11-1]	<b>C1324</b> 1g 5g  (+)-10,2-Camphorsultam [108448-77-7]	<b>C1325</b> 1g 5g  (-)-10,2-Camphorsultam [94594-90-8]	<b>C1326</b> 1g 5g  (2R,8aS)-(+)-(Camphorylsulfonyl)-oxaziridine [104322-63-6]
<b>C1327</b> 1g 5g  (2S,8aR)-(-)-(Camphorylsulfonyl)-oxaziridine [104372-31-8]	<b>C1614</b> 100mL  (+)-B-Chlorodiisopinocampheylborane (58% in Hexane, ca. 1.6mol/L) [112246-73-8]	<b>C1615</b> 100mL  (-)-B-Chlorodiisopinocampheylborane (60% in Hexane, ca. 1.7mol/L) [85116-37-6]	<b>C2023</b> 100mL  (-)-B-Chlorodiisopinocampheylborane (60% in Heptane, ca. 1.7mol/L) [85116-37-6]	<b>D2129</b> 1g 5g  (1S,2R)-2-(Dibutylamino)-1-phenyl-1-propanol [114389-70-7]
<b>D2130</b> 1g 5g  (R)-5,5-Diphenyl-2-methyl-3,4-propano-1,3,2-oxazaborolidine [112022-83-0]	<b>D2131</b> 1g 5g  (S)-5,5-Diphenyl-2-methyl-3,4-propano-1,3,2-oxazaborolidine [112022-81-8]	<b>D2175</b> 1g 5g  (1S,2S)-(-)-1,2-Diphenylethylenediamine [29841-69-8]	<b>D2176</b> 1g 5g  (1R,2R)-(+)-1,2-Diphenylethylenediamine [35132-20-8]	<b>D2239</b> 1g  (+)-1,4-Di-O-benzyl-D-threitol [91604-41-0]
<b>D2240</b> 1g 5g  (-)-1,4-Di-O-benzyl-L-threitol [17401-06-8]	<b>D2365</b> 1g 5g  (R)-(+)-alpha, alpha-Diphenyl-2-pyrrolidine-methanol [22348-32-9]	<b>D2520</b> 1g  (R,R)-N,N'-Bis(trifluoromethanesulfonyl)-1,2-diphenylethylenediamine [121788-73-6]	<b>D2521</b> 1g  (S,S)-N,N'-Bis(trifluoromethanesulfonyl)-1,2-diphenylethylenediamine [121788-77-0]	<b>D2535</b> 100mg  (R)-N,N-Dimethyl-1-[(S)-2-(diphenylphosphino)ferrocenyl]ethylamine [55700-44-2]
<b>D2536</b> 100mg  (S)-N,N-Dimethyl-1-[(R)-2-(diphenylphosphino)ferrocenyl]ethylamine [55650-58-3]	<b>D2537</b> 100mg  (R)-N,N-Dimethyl-1-[(S)-1',2-bis(diphenylphosphino)ferrocenyl]ethylamine [74311-56-1]	<b>D2538</b> 100mg  (S)-N,N-Dimethyl-1-[(R)-1',2-bis(diphenylphosphino)ferrocenyl]ethylamine [55650-59-4]	<b>D2686</b> 5g 25g  (-)-Dipivaloyl-L-tartaric Acid [65259-81-6]	<b>D2702</b> 1g 5g  (+)-Dipivaloyl-D-tartaric Acid [76769-55-6]
<b>D2729</b> 1g  (R)-(-)-6,6'-Dibromo-1,1'-bi-2-naphthol [65283-60-5]	<b>D2730</b> 1g 5g  (S)-(+)-6,6'-Dibromo-1,1'-bi-2-naphthol [80655-81-8]	<b>D2735</b> 1g 5g  (S)-(-)-alpha, alpha-Diphenyl-2-pyrrolidine-methanol [112068-01-6]	<b>D2774</b> 100mg 1g  (R)-(+)-2-Diphenylphosphino-2'-methoxy-1,1'-binaphthyl [145964-33-6]	<b>D2801</b> 200mg 1g  (R)-3,3'-Dibromo-2,2'-dimethoxy-1,1'-binaphthyl [75714-59-9]
<b>D2802</b> 200mg  (S)-3,3'-Dibromo-2,2'-dimethoxy-1,1'-binaphthyl [75714-60-2]	<b>D2810</b> 1g 5g  (R)-3,3'-Dibromo-1,1'-bi-2-naphthol [111795-43-8]	<b>D2811</b> 1g 5g  (S)-3,3'-Dibromo-1,1'-bi-2-naphthol [119707-74-3]	<b>D2823</b> 250mg 1g 5g  (R,R)-2,2'-Isopropylidene-bis(4-phenyl-2-oxazoline) [150529-93-4]	<b>D3185</b> 100mg  (2R,5R)-2,5-Diphenylpyrrolidine [155155-73-0]

<b>D3186</b> 100mg  (2S,5S)-2,5-Diphenylpyrrolidine [295328-85-7]	<b>D3444</b> 100mg 1g  (11R,12R)-9,10-Dihydro-9,10-ethanoanthracene-11,12-diamine [181139-49-1]	<b>D3445</b> 100mg 1g  (11S,12S)-9,10-Dihydro-9,10-ethanoanthracene-11,12-diamine [138517-66-5]	<b>D3475</b> 200mg 1g  (R,R)-TaDiAS-2nd	<b>D3476</b> 200mg 1g  (S,S)-TaDiAS-2nd
<b>D3715</b> 50mg  (1R,2R)-N,N'-Dihydroxy-N,N'-bis(diphenylacetyl)cyclohexane-1,2-diamine [860036-16-4]	<b>D3804</b> 1g  (S)-(-)-2-(Diphenylmethyl)pyrrolidine [119237-64-8]	<b>D3808</b> 1g  (1R,2R)-N,N'-Dimethyl-N,N'-bis(3,3-dimethylbutyl)cyclohexane-1,2-diamine [644958-86-1]	<b>D3809</b> 1g  (1S,2S)-N,N'-Dimethyl-N,N'-bis(3,3-dimethylbutyl)cyclohexane-1,2-diamine [767291-67-8]	<b>D3822</b> 200mg 1g  (S)-1-(Diphenylphosphino)-2-[(S)-4-isopropylloxazolin-2-yl]ferrocene [163169-29-7]
<b>H0768</b> 100mg 1g 5g  (S)-(+)-2-[Hydroxy(diphenyl)methyl]-1-methylpyrrolidine [110529-22-1]	<b>H0784</b> 1g 5g  (R)-(-)-2-[Hydroxy(diphenyl)methyl]-1-methylpyrrolidine [144119-12-0]	<b>H0862</b> 1g 5g  (1R,2R,5R)-(+)-2-Hydroxy-3-pinane [24047-72-1]	<b>H1322</b> 100mg  1-Hydroxytetraphenylcyclopentadienyl(tetraphenyl-2,4-cyclopentadien-1-one)- $\mu$ -hydrotricarboxydiruthenium(II) [104439-77-2]	
<b>H0863</b> 1g 5g  (1S,2S,5S)-(-)-2-Hydroxy-3-pinane [1845-25-6]	<b>I0395</b> 1g 5g  (S)-(-)-Indoline-2-carboxylic Acid [79815-20-6]	<b>I0451</b> 1g 5g 25g  (S)-4-Isopropyl-2-oxazolidinone [17016-83-0]	<b>I0476</b> 5g 25g  (R)-2-Isopropylamino-2-phenylethanol [112211-92-4]	<b>I0480</b> 5g  (S)-2-Isopropylamino-3-methyl-1-butanol [112211-88-8]
<b>I0567</b> 100mg 1g  (S,S)-(-)-2,2'-Isopropylidene-bis(4-tert-butyl-2-oxazoline) [131833-93-7]	<b>I0572</b> 1g 5g 25g  (R)-4-Isopropyl-2-oxazolidinone [95530-58-8]	<b>I0573</b> 1g 5g  (S)-(+)-4-Isopropyl-3-propionyl-2-oxazolidinone [77877-19-1]	<b>I0575</b> 1g  (S)-4-Isopropylthiazolidine-2-thione [76186-04-4]	<b>I0582</b> 250mg 1g  (S,S)-2,2'-Isopropylidene-bis(4-phenyl-2-oxazoline) [131457-46-0]
<b>I0594</b> 1g 5g  (R)-(-)-4-Isopropyl-3-propionyl-2-oxazolidinone [89028-40-0]	<b>I0728</b> 1g  $\beta$ -Isocupreidine [253430-48-7]	<b>I0761</b> 1g 5g  (4R)-(+)-4-Isopropyl-5,5-diphenyl-2-oxazolidinone [191090-32-1]	<b>I0762</b> 1g 5g  (4S)-(-)-4-Isopropyl-5,5-diphenyl-2-oxazolidinone [184346-45-0]	<b>I0795</b> 100mg  (R,R)-(+)-2,2'-Isopropylidene-bis(4-tert-butyl-2-oxazoline) [131833-97-1]
<b>I0807</b> 200mg  (R,R)-2-Iodo-1,3-bis[1-(mesitylcarbamoyl)ethoxy]benzene [1226896-38-3]	<b>K0028</b> 1g 5g  (S)-(+)-Ketopin Acid [40724-67-2]	<b>M0803</b> 1g  (4S,5S)-(-)-4-Methoxymethyl-2-methyl-5-phenyl-2-oxazoline [52075-14-6]	<b>M1044</b> 5g 25g  (1R,2S,5R)-(-)-Menthyl (S)-p-Toluenesulfonate [1517-82-4]	<b>M1066</b> 1g 5g  (1S,2R,5S)-(+)-Menthyl (R)-p-Toluenesulfonate [91796-57-5]
<b>M1070</b> 1g  (1S)-(-)-10-Mercaptoisoborneol [71242-58-5]	<b>M1161</b> 1g 5g  (S)-2-(Methoxymethyl)pyrrolidine [63126-47-6]	<b>M1162</b> 1g  (S)-(-)-2-(Methoxymethyl)-1-pyrrolidinecarboxaldehyde [63126-45-4]	<b>M1169</b> 1g 5g  (R)-2-(Methoxymethyl)pyrrolidine [84025-81-0]	<b>M1170</b> 1g  (R)-(+)-2-(Methoxymethyl)-1-pyrrolidinecarboxaldehyde [121817-71-8]

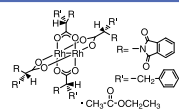
<p><b>M1183</b> 1g 5g</p>  <p>(S)-(-)-1-Methyl-2-(1-piperidino-methyl)pyrrolidine [84466-85-3]</p>	<p><b>M1401</b> 100mg 500mg</p>  <p>(+)-2,2'-Methylenebis[(3aR,8aS)-3a,8a-dihydro-8H-indeno[1,2-d]-oxazole] [180186-94-1]</p>	<p><b>M1402</b> 100mg 500mg</p>  <p>(-)-2,2'-Methylenebis[(3aS,8aR)-3a,8a-dihydro-8H-indeno[1,2-d]-oxazole] [175166-49-1]</p>	<p><b>M1995</b> 1g</p>  <p>(S)-2-[(1-Methyl-2-pyrrolidinyl)-methyl]isoindoline Dihydrochloride [147-85-3]</p>	<p><b>P0481</b> 25g 250g</p>  <p>L-Proline [147-85-3]</p>
<p><b>P0793</b> 25mL 100mL 500mL</p>  <p>(S)-(-)-1-Phenylethylamine [2627-86-3]</p>	<p><b>P0794</b> 25mL 100mL 500mL</p>  <p>(R)-(+)-1-Phenylethylamine [3886-69-9]</p>	<p><b>P0994</b> 5g 25g</p>  <p>D-Proline [344-25-2]</p>	<p><b>P1201</b> 5g 25g</p>  <p>(R)-(-)-2-Phenylglycinol [56613-80-0]</p>	<p><b>P1294</b> 5g 25g</p>  <p>(S)-(+)-2-Phenylglycinol [20989-17-7]</p>
<p><b>P1307</b> 5g 25g</p>  <p>(R)-(-)-4-Phenyl-2-oxazolidinone [90319-52-1]</p>	<p><b>P1308</b> 5g 25g</p>  <p>(S)-(+)-4-Phenyl-2-oxazolidinone [99395-88-7]</p>	<p><b>P1371</b> 1g</p>  <p>(1R,2S)-2-[N-Benzyl-N-(mesitylenesulfonyl)amino]-1-phenylpropyl Propionate [187324-66-9]</p>	<p><b>P1374</b> 1g 5g</p>  <p>(1R,2S)-1-Phenyl-2-(1-pyrrolidinyl)propan-1-ol [127641-25-2]</p>	<p><b>P1375</b> 1g 5g</p>  <p>(1S,2R)-1-Phenyl-2-(1-pyrrolidinyl)propan-1-ol [123620-80-4]</p>
<p><b>P1404</b> 1g 5g</p>  <p>L-Pipecolic Acid [3105-95-1]</p>	<p><b>P1784</b> 100mg 500mg</p>  <p>(S)-5-(Pyrrolidin-2-yl)-1H-tetrazole [33878-70-5]</p>	<p><b>P1830</b> 5g 25g</p>  <p>D-Pipecolic Acid [1723-00-8]</p>	<p><b>P1925</b> 1g</p>  <p>(R)-(-)-1-(2-Pyrrolidinylmethyl)pyrrolidine [60419-23-0]</p>	<p><b>P1947</b> 200mg 1g</p>  <p>(4S,4'S)-2,2'-(Pentane-3,3'-diyl)-bis(4-benzyl-4,5-dihydrooxazole) [160191-64-0]</p>
<p><b>Q0006</b> 5g 25g</p>  <p>Quinidine [56-54-2]</p>	<p><b>Q0010</b> 5g 25g</p>  <p>Quinidine Sulfate Dihydrate [6591-63-5]</p>	<p><b>Q0030</b> 25g</p>  <p>Quinine Hydrochloride Dihydrate [6119-47-7]</p>	<p><b>Q0074</b> 100mg 1g</p>  <p>Quincorine [207129-35-9]</p>	<p><b>Q0076</b> 100mg 1g</p>  <p>Quincoridine [207129-36-0]</p>
<p><b>T0003</b> 25g 100g 500g</p>  <p>Diethyl L-(+)-Tartrate [87-91-2]</p>	<p><b>T0219</b> 25g 500g</p>  <p>L-Thioprolinone [34592-47-7]</p>	<p><b>T0228</b> 25g 100g 500g</p>  <p>D-(+)-Threonine [632-20-2]</p>	<p><b>T0230</b> 25g 100g 500g</p>  <p>L-(-)-Threonine [72-19-5]</p>	<p><b>T0539</b> 5g 25g</p>  <p>D-Tryptophan [153-94-6]</p>
<p><b>T0541</b> 25g 100g</p>  <p>L-Tryptophan [73-22-3]</p>	<p><b>T0621</b> 25g 500g</p>  <p>Diisopropyl L-(+)-Tartrate [2217-15-4]</p>	<p><b>T1195</b> 25g 250g</p>  <p>Diethyl D-(-)-Tartrate [13811-71-7]</p>	<p><b>T1215</b> 10g 25g</p>  <p>Levamisole Hydrochloride [16595-80-5]</p>	<p><b>T1380</b> 1mL</p>  <p>(R)-(+)-1-(p-Tolyl)-ethylamine [4187-38-6]</p>
<p><b>T1381</b> 1mL 5mL</p>  <p>(S)-(-)-1-(p-Tolyl)-ethylamine [27298-98-2]</p>	<p><b>T1387</b> 25g 250g</p>  <p>Diisopropyl D-(-)-Tartrate [62961-64-2]</p>	<p><b>T1482</b> 1g</p>  <p>(S)-(-)-1,1,2-Triphenyl-1,2-ethanediol [108998-83-0]</p>	<p><b>T1490</b> 100mg 1g</p>  <p>(1R,2S)-(-)-trans-2-Phenyl-1-cyclohexanol [98919-68-7]</p>	<p><b>T1491</b> 100mg 1g</p>  <p>(1S,2R)-(+)-trans-2-Phenyl-1-cyclohexanol [34281-92-0]</p>

T1499 1g 5g



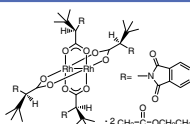
(*R*)-(+)-1,1,2-Triphenyl-1,2-ethanediol  
[95061-46-4]

T1551 100mg



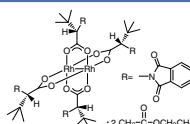
Tetrakis[*N*-phthaloyl-(*S*)-phenylalaninato]dirhodium Ethyl Acetate Adduct  
[131219-55-1]

T2054 100mg



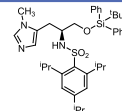
Tetrakis[*N*-phthaloyl-(*R*)-*tert*-leucinato]dirhodium Bis(ethyl Acetate) Adduct

T2055 100mg



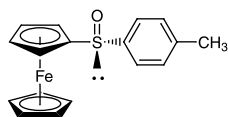
Tetrakis[*N*-phthaloyl-(*S*)-*tert*-leucinato]dirhodium Bis(ethyl Acetate) Adduct

T2223 100mg



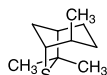
*N*<sup>α</sup>-(2,4,6-Triisopropylbenzenesulfonyl)-*O*-(*tert*-butyl-diphenylsilyl)- $\pi$ -methyl-L-histidinol [787554-04-5]

T2545 1g 5g



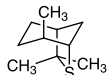
(*R*)-(*p*-Toluenesulfinyl)-ferrocene [130225-27-3]

T2578 1g 5g



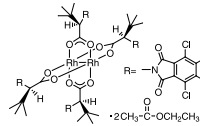
(1*R*,4*R*,5*R*)-4,7,7-Trimethyl-6-thiabicyclo[3.2.1]octane [5718-75-2]

T2579 1g 5g



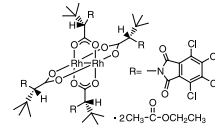
(1*S*,4*S*,5*S*)-4,7,7-Trimethyl-6-thiabicyclo[3.2.1]octane [1208985-45-8]

T2658 50mg



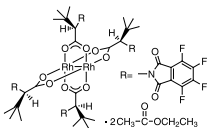
Tetrakis[*N*-tetrachlorophthaloyl-(*R*)-*tert*-leucinato]dirhodium Bis(ethyl Acetate) Adduct

T2659 100mg



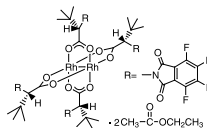
Tetrakis[*N*-tetrachlorophthaloyl-(*S*)-*tert*-leucinato]dirhodium Bis(ethyl Acetate) Adduct

T2660 50mg



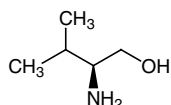
Tetrakis[*N*-tetrafluorophthaloyl-(*R*)-*tert*-leucinato]dirhodium Bis(ethyl Acetate) Adduct

T2661 100mg



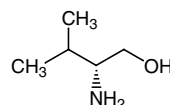
Tetrakis[*N*-tetrafluorophthaloyl-(*S*)-*tert*-leucinato]dirhodium Bis(ethyl Acetate) Adduct

V0058 5g 25g



L-Valinol [2026-48-4]

V0077 1g 5g



D-Valinol [4276-09-9]

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