

## Ligands and Catalysts Catalogue





## General information

- Order conveniently by sending an email to: [info@solvias.com](mailto:info@solvias.com)
- All ligands are available on demand in multi kg amounts.
- Units marked in bold will typically be delivered from stock or within 3 to 4 weeks at the latest.
- Units marked in *italics* will typically be delivered within 4 to 6 weeks.
- Product specifications:
  - Identity and purity of each product is listed by NMR (<sup>31</sup>P and <sup>1</sup>H).
  - Chemical purity is ≥97% for chiral ligands and catalysts and ≥95% for C-X coupling ligands, catalysts and organocatalysts.
  - Enantiomeric purity is typically 99% ee.
  - Test results for each manufactured product batch will be summarized in an analytical data sheet.

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# Chiral ligands and catalysts

3

Solvias No.	Chemical Name	Supplier's trade name	Solvias No.	Chemical Name
CAS No.	Molecular formula	Quantity	CAS No.	Molecular formula
	Molecular weight			Molecular weight
		Structural Formula		Structural Formula

## CHENPHOS LIGANDS

SL-F356-1 952586-19-5	1-Dicyclohexylphosphino-1'-[(S) <sub>P</sub> -[(S) <sub>FC</sub> -2-[(R) <sub>C</sub> -1-(dimethylamino)ethyl]ferrocenyl]phenylphosphino]ferrocene C <sub>42</sub> H <sub>53</sub> Fe <sub>2</sub> NP <sub>2</sub>	Chenphos	5g 50g 250g	SL-F356-2 1036373-39-3	1-Dicyclohexylphosphino-1'-[(R) <sub>P</sub> -[(R) <sub>FC</sub> -2-[(S) <sub>C</sub> -1-(dimethylamino)ethyl]ferrocenyl]phenylphosphino]ferrocene C <sub>42</sub> H <sub>53</sub> Fe <sub>2</sub> NP <sub>2</sub>	745.54 g/mol	745.54 g/mol
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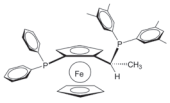

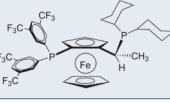
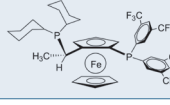
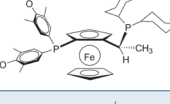
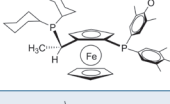
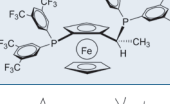
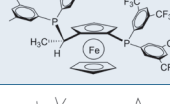
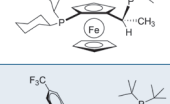
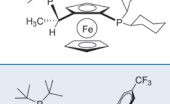
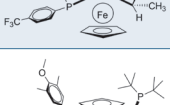
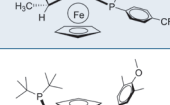
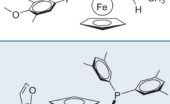
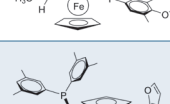
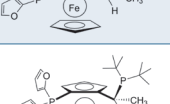
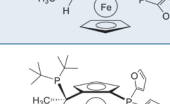
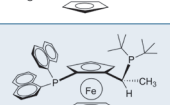
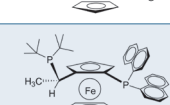
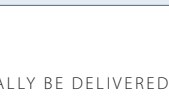
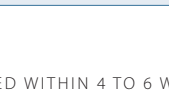
## IR-UBAPHOX COMPLEXES

SK-X001-1a 880262-14-6	(4 <i>R</i> ,5 <i>R</i> )-[(η <sup>4</sup> -1,5-cyclooctadiene)-[2-(2-phenyl-5-methyl-4,5-dihydro-oxazol-4-yl)-1,3-diphenyl-2-dicyclohexylphosphinite-propane]iridium(I)]tetrakis[3,5-bis(trifluoromethyl)phenyl]borate C <sub>77</sub> H <sub>70</sub> BF <sub>24</sub> IrNO <sub>2</sub> P	Ubaphox	5g 50g 250g	SK-X001-2a 583844-38-6	(4 <i>S</i> ,5 <i>S</i> )-[(η <sup>4</sup> -1,5-cyclooctadiene)-[2-(2-phenyl-5-methyl-4,5-dihydro-oxazol-4-yl)-1,3-diphenyl-2-dicyclohexylphosphinite-propane]iridium(I)]tetrakis[3,5-bis(trifluoromethyl)phenyl]borate C <sub>77</sub> H <sub>70</sub> BF <sub>24</sub> IrNO <sub>2</sub> P	1731.35 g/mol	1731.35 g/mol
SK-X002-1a 880262-16-8	(4 <i>R</i> ,5 <i>R</i> )-[(η <sup>4</sup> -1,5-cyclooctadiene)-[2-(2-phenyl-5-methyl-4,5-dihydro-oxazol-4-yl)-1,3-diphenyl-2-diphenylphosphinite-propane]iridium(I)]tetrakis[3,5-bis(trifluoromethyl)phenyl]borate C <sub>77</sub> H <sub>58</sub> BF <sub>24</sub> IrNO <sub>2</sub> P	Ubaphox	5g 50g 250g	SK-X002-2a 405235-55-4	(4 <i>S</i> ,5 <i>S</i> )-[(η <sup>4</sup> -1,5-cyclooctadiene)-[2-(2-phenyl-5-methyl-4,5-dihydro-oxazol-4-yl)-1,3-diphenyl-2-diphenylphosphinite-propane]iridium(I)]tetrakis[3,5-bis(trifluoromethyl)phenyl]borate C <sub>77</sub> H <sub>58</sub> BF <sub>24</sub> IrNO <sub>2</sub> P	1719.25 g/mol	1719.25 g/mol
SK-X003-1e 1488021-68-6	(7 <i>R</i> )-[(η <sup>4</sup> -1,5-cyclooctadiene)-[7-(2-phenyl-6,7-dihydro-5 <i>H</i> -cyclopenta[b]pyridin-7-yl)-di-( <i>tert</i> -butyl)phosphinite]iridium(I)]tetrakis[3,5-bis(trifluoromethyl)phenyl]borate C <sub>62</sub> H <sub>54</sub> BF <sub>24</sub> IrNOP	Ubaphox	5g 50g 250g	SK-X003-2e 881310-39-0	(7 <i>S</i> )-[(η <sup>4</sup> -1,5-cyclooctadiene)-[7-(2-phenyl-6,7-dihydro-5 <i>H</i> -cyclopenta[b]pyridin-7-yl)-di-( <i>tert</i> -butyl)phosphinite]iridium(I)]tetrakis[3,5-bis(trifluoromethyl)phenyl]borate C <sub>62</sub> H <sub>54</sub> BF <sub>24</sub> IrNOP	1519.08 g/mol	1519.08 g/mol

## JOSIPHOS LIGANDS

SL-J001-1 155806-35-2	( <i>R</i> )-1-[( <i>S</i> )-2-(Diphenylphosphino)ferrocenyl]ethylidicyclohexylphosphine ethanol adduct C <sub>36</sub> H <sub>44</sub> FeP <sub>2</sub> ·C <sub>2</sub> H <sub>5</sub> OH	Josiphos	5g 50g 250g	SL-J001-2 162291-02-3	( <i>S</i> )-1-[( <i>R</i> )-2-(Diphenylphosphino)ferrocenyl]ethylidicyclohexylphosphine ethanol adduct C <sub>36</sub> H <sub>44</sub> FeP <sub>2</sub> ·C <sub>2</sub> H <sub>5</sub> OH	640.61 g/mol	640.61 g/mol
SL-J002-1 155830-69-6	( <i>R</i> )-1-[( <i>S</i> )-2-(Diphenylphosphino)ferrocenyl]ethylid- <i>tert</i> -butylphosphine C <sub>32</sub> H <sub>40</sub> FeP <sub>2</sub>	Josiphos	5g 50g 250g	SL-J002-2 277306-29-3	( <i>S</i> )-1-[( <i>R</i> )-2-(Diphenylphosphino)ferrocenyl]ethylid- <i>tert</i> -butylphosphine C <sub>32</sub> H <sub>40</sub> FeP <sub>2</sub>	542.46 g/mol	542.46 g/mol
SL-J003-1 167416-28-6	( <i>R</i> )-1-[( <i>S</i> )-2-(Dicyclohexylphosphino)ferrocenyl]ethylidicyclohexylphosphine C <sub>36</sub> H <sub>56</sub> FeP <sub>2</sub>	Josiphos	5g 50g 250g	SL-J003-2 246231-77-6	( <i>S</i> )-1-[( <i>R</i> )-2-(Dicyclohexylphosphino)ferrocenyl]ethylidicyclohexylphosphine C <sub>36</sub> H <sub>56</sub> FeP <sub>2</sub>	606.63 g/mol	606.63 g/mol
SL-J004-1 158923-09-2	( <i>R</i> )-1-[( <i>S</i> )-2-(Dicyclohexylphosphino)ferrocenyl]ethylidiphenylphosphine C <sub>36</sub> H <sub>44</sub> FeP <sub>2</sub>	Josiphos	5g 50g 250g	SL-J004-2 162291-01-2	( <i>S</i> )-1-[( <i>R</i> )-2-(Dicyclohexylphosphino)ferrocenyl]ethylidiphenylphosphine C <sub>36</sub> H <sub>44</sub> FeP <sub>2</sub>	594.54 g/mol	594.54 g/mol

QUANTITIES MARKED IN **BOLD** WILL TYPICALLY BE DELIVERED FROM STOCK OR WITHIN 3 TO 4 WEEKS | QUANTITIES MARKED IN *ITALICS* WILL TYPICALLY BE DELIVERED WITHIN 4 TO 6 WEEKS



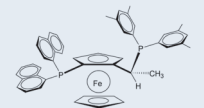
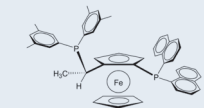
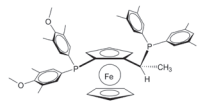
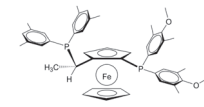
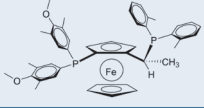
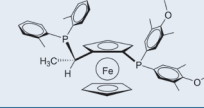
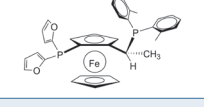
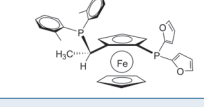
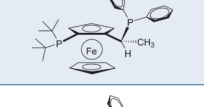
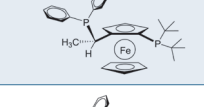
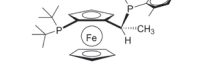
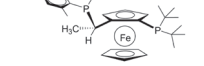
Solvias No. CAS No.	Chemical Name Molecular formula	Molecular weight	Structural Formula	Supplier's trade name	Quantity	Solvias No. CAS No.	Chemical Name Molecular formula	Molecular weight	Structural Formula
SL-J005-1 184095-69-0	(R)-1-[(S)-2-(Diphenylphosphino)ferrocenyl]ethylid(3,5-xylyl)phosphine C <sub>40</sub> H <sub>40</sub> FeP <sub>2</sub>	638.55 g/mol		Josiphos	<b>5g</b> <b>50g</b> 250g	SL-J005-2 223121-07-1	(S)-1-[(R)-2-(Diphenylphosphino)ferrocenyl]ethylid(3,5-xylyl)phosphine C <sub>40</sub> H <sub>40</sub> FeP <sub>2</sub>	638.55 g/mol	
SL-J006-1 292638-88-1	(R)-1-[(S)-2-Bis[3,5-bis(trifluoromethyl)phenyl]phosphino]ferrocenyl]ethylidicyclohexylphosphine C <sub>40</sub> H <sub>40</sub> F <sub>12</sub> FeP <sub>2</sub>	866.53 g/mol		Josiphos	<b>5g</b> <b>50g</b> 250g	SL-J006-2 849923-15-5	(S)-1-[(R)-2-Bis[3,5-bis(trifluoromethyl)phenyl]phosphino]ferrocenyl]ethylidicyclohexylphosphine C <sub>40</sub> H <sub>40</sub> F <sub>12</sub> FeP <sub>2</sub>	866.53 g/mol	
SL-J007-1 360048-63-1	(R)-1-[(S)-2-[Bis(4-methoxy-3,5-dimethylphenyl)phosphino]ferrocenyl]ethylidicyclohexylphosphine C <sub>42</sub> H <sub>56</sub> FeO <sub>2</sub> P <sub>2</sub>	710.70 g/mol		Josiphos	<b>5g</b> <b>50g</b> 250g	SL-J007-2 849923-88-2	(S)-1-[(R)-2-[Bis(4-methoxy-3,5-dimethylphenyl)phosphino]ferrocenyl]ethylidicyclohexylphosphine C <sub>42</sub> H <sub>56</sub> FeO <sub>2</sub> P <sub>2</sub>	710.70 g/mol	
SL-J008-1 166172-63-0	(R)-1-[(S)-2-[Bis[3,5-bis(trifluoromethyl)phenyl]phosphino]ferrocenyl]ethylid(3,5-xylyl)phosphine C <sub>44</sub> H <sub>36</sub> F <sub>12</sub> FeP <sub>2</sub>	910.54 g/mol		Josiphos	<b>5g</b> <b>50g</b> 250g	SL-J008-2 1272317-38-0	(S)-1-[(R)-2-[Bis[3,5-bis(trifluoromethyl)phenyl]phosphino]ferrocenyl]ethylid(3,5-xylyl)phosphine C <sub>44</sub> H <sub>36</sub> F <sub>12</sub> FeP <sub>2</sub>	910.54 g/mol	
SL-J009-1 158923-11-6	(R)-1-[(S)-2-(Dicyclohexylphosphino)ferrocenyl]ethylid- <i>tert</i> -butylphosphine C <sub>32</sub> H <sub>52</sub> FeP <sub>2</sub>	554.56 g/mol		Josiphos	<b>5g</b> <b>50g</b> <b>250g</b>	SL-J009-2 1246841-00-8	(S)-1-[(R)-2-(Dicyclohexylphosphino)ferrocenyl]ethylid- <i>tert</i> -butylphosphine C <sub>32</sub> H <sub>52</sub> FeP <sub>2</sub>	554.56 g/mol	
SL-J011-1 246231-79-8	(R)-1-[(S)-2-[Bis[4-(trifluoromethyl)phenyl]phosphino]ferrocenyl]ethylid- <i>tert</i> -butylphosphine C <sub>34</sub> H <sub>38</sub> F <sub>6</sub> FeP <sub>2</sub>	678.46 g/mol		Josiphos	<b>5g</b> <b>50g</b> 250g	SL-J011-2 849924-37-4	(S)-1-[(R)-2-[Bis[4-(trifluoromethyl)phenyl]phosphino]ferrocenyl]ethylid- <i>tert</i> -butylphosphine C <sub>34</sub> H <sub>38</sub> F <sub>6</sub> FeP <sub>2</sub>	678.46 g/mol	
SL-J013-1 187733-50-2	(R)-1-[(S)-2-[Bis(4-methoxy-3,5-dimethylphenyl)phosphino]ferrocenyl]ethylid- <i>tert</i> -butyl-phosphine C <sub>38</sub> H <sub>52</sub> FeO <sub>2</sub> P <sub>2</sub>	658.62 g/mol		Josiphos	<b>5g</b> <b>50g</b> 250g	SL-J013-2 849924-40-9	(S)-1-[(R)-2-[Bis(4-methoxy-3,5-dimethylphenyl)phosphino]ferrocenyl]ethylid- <i>tert</i> -butyl-phosphine C <sub>38</sub> H <sub>52</sub> FeO <sub>2</sub> P <sub>2</sub>	658.62 g/mol	
SL-J015-1 649559-65-9	(R)-1-[(S)-2-[Di(2-furyl)phosphino]ferrocenyl]ethylid(3,5-xylyl)phosphine C <sub>36</sub> H <sub>36</sub> FeO <sub>2</sub> P <sub>2</sub>	618.47 g/mol		Josiphos	<b>5g</b> <b>50g</b> 250g	SL-J015-2 649559-66-0	(S)-1-[(R)-2-[Di(2-furyl)phosphino]ferrocenyl]ethylid(3,5-xylyl)phosphine C <sub>36</sub> H <sub>36</sub> FeO <sub>2</sub> P <sub>2</sub>	618.47 g/mol	
SL-J212-1 849924-41-0	(R)-1-[(S)-2-[Di(2-furyl)phosphino]ferrocenyl]ethylid- <i>tert</i> -butylphosphine C <sub>28</sub> H <sub>36</sub> FeO <sub>2</sub> P <sub>2</sub>	522.39 g/mol		Josiphos	<b>5g</b> <b>50g</b> <b>250g</b>	SL-J212-2 849924-42-1	(S)-1-[(R)-2-[Di(2-furyl)phosphino]ferrocenyl]ethylid- <i>tert</i> -butylphosphine C <sub>28</sub> H <sub>36</sub> FeO <sub>2</sub> P <sub>2</sub>	522.39 g/mol	
SL-J216-1 849924-43-2	(R)-1-[(S)-2-[Di(1-naphthyl)phosphino]ferrocenyl]ethylid- <i>tert</i> -butylphosphine C <sub>40</sub> H <sub>44</sub> FeP <sub>2</sub>	642.58 g/mol		Josiphos	<b>5g</b> <b>50g</b> 250g	SL-J216-2 849924-44-3	(S)-1-[(R)-2-[Di(1-naphthyl)phosphino]ferrocenyl]ethylid- <i>tert</i> -butylphosphine C <sub>40</sub> H <sub>44</sub> FeP <sub>2</sub>	642.58 g/mol	

# Chiral ligands and catalysts

5

Solvias No.	Chemical Name	Supplier's trade name	Solvias No.	Chemical Name
CAS No.	Molecular formula	Molecular weight	CAS No.	Molecular formula
			Quantity	Molecular weight
		Structural Formula		Structural Formula

## JOSIPHOS LIGANDS continued...

SL-J403-1 166172-60-7	(R)-1-[(S)-2-[Bis[4-(trifluoromethyl)phenyl]phosphino]ferrocenyl]ethylbis[4-(trifluoromethyl)phenyl]phosphine C <sub>40</sub> H <sub>28</sub> F <sub>12</sub> FeP <sub>2</sub> 854.42 g/mol		Josiphos	<b>5g</b> <b>50g</b> 250g	SL-J403-2 1854066-56-0	(S)-1-[(R)-2-[Bis[4-(trifluoromethyl)phenyl]phosphino]ferrocenyl]ethylbis[4-(trifluoromethyl)phenyl]phosphine C <sub>40</sub> H <sub>28</sub> F <sub>12</sub> FeP <sub>2</sub> 854.42 g/mol	
SL-J404-1 851308-40-2	(R)-1-[(S)-2-[Di(1-naphthyl)phosphino]ferrocenyl]ethyl-di(3,5-xylyl)phosphine C <sub>48</sub> H <sub>44</sub> FeP <sub>2</sub> 738.68 g/mol		Josiphos	<b>5g</b> <b>50g</b> 250g	SL-J404-2 851308-41-3	(S)-1-[(R)-2-[Di(1-naphthyl)phosphino]ferrocenyl]ethyl-di(3,5-xylyl)phosphine C <sub>48</sub> H <sub>44</sub> FeP <sub>2</sub> 738.68 g/mol	
SL-J418-1 849924-45-4	(R)-1-[(S)-2-[Bis(4-methoxy-3,5-dimethylphenyl)phosphino]ferrocenyl]ethyl-di(3,5-xylyl)phosphine C <sub>46</sub> H <sub>52</sub> FeO <sub>2</sub> P <sub>2</sub> 754.70 g/mol		Josiphos	<b>5g</b> <b>50g</b> 250g	SL-J418-2 849924-48-7	(S)-1-[(R)-2-[Bis(4-methoxy-3,5-dimethylphenyl)phosphino]ferrocenyl]ethyl-di(3,5-xylyl)phosphine C <sub>46</sub> H <sub>52</sub> FeO <sub>2</sub> P <sub>2</sub> 754.70 g/mol	
SL-J425-1 849924-49-8	(R)-1-[(S)-2-[Bis(4-methoxy-3,5-dimethylphenyl)phosphino]ferrocenyl]ethyl-di-o-tolylphosphine C <sub>44</sub> H <sub>48</sub> FeO <sub>2</sub> P <sub>2</sub> 726.64 g/mol		Josiphos	<b>5g</b> <b>50g</b> 250g	SL-J425-2 849924-52-3	(S)-1-[(R)-2-[Bis(4-methoxy-3,5-dimethylphenyl)phosphino]ferrocenyl]ethyl-di-o-tolylphosphine C <sub>44</sub> H <sub>48</sub> FeO <sub>2</sub> P <sub>2</sub> 726.64 g/mol	
SL-J452-1 849924-73-8	(R)-1-[(S)-2-[Di(2-furyl)phosphino]ferrocenyl]ethyl-di-o-tolylphosphine C <sub>34</sub> H <sub>32</sub> FeO <sub>2</sub> P <sub>2</sub> 590.42 g/mol		Josiphos	<b>5g</b> <b>50g</b> 250g	SL-J452-2 849924-74-9	(S)-1-[(R)-2-[Di(2-furyl)phosphino]ferrocenyl]ethyl-di-o-tolylphosphine C <sub>34</sub> H <sub>32</sub> FeO <sub>2</sub> P <sub>2</sub> 590.42 g/mol	
SL-J502-1 223120-71-6	(R)-1-[(S)-2-(Di-tert-butylphosphino)ferrocenyl]ethyl-diphenylphosphine C <sub>32</sub> H <sub>40</sub> FeP <sub>2</sub> 542.46 g/mol		Josiphos	<b>5g</b> <b>50g</b> 250g	SL-J502-2 223121-01-5	(S)-1-[(R)-2-(Di-tert-butylphosphino)ferrocenyl]ethyl-diphenylphosphine C <sub>32</sub> H <sub>40</sub> FeP <sub>2</sub> 542.46 g/mol	
SL-J505-1 849924-76-1	(R)-1-[(S)-2-(Di-tert-butylphosphino)ferrocenyl]ethyl-di-o-tolylphosphine C <sub>34</sub> H <sub>44</sub> FeP <sub>2</sub> 570.52 g/mol		Josiphos	<b>5g</b> <b>50g</b> <b>250g</b>	SL-J505-2 849924-77-2	(S)-1-[(R)-2-(Di-tert-butylphosphino)ferrocenyl]ethyl-di-o-tolylphosphine C <sub>34</sub> H <sub>44</sub> FeP <sub>2</sub> 570.52 g/mol	

## JOSPOPHOS LIGANDS

SL-J681-1 1221745-90-9	(S) <sub>FC</sub> -1-[(R) <sub>P</sub> -tert-Butylphosphinoyl]-2-[(R)-1-(diphenylphosphino)ethyl]ferrocene C <sub>28</sub> H <sub>32</sub> FeOP <sub>2</sub> 502.35 g/mol		JoSPOphos	<b>5g</b> <b>50g</b> 250g	SL-J681-2 1221746-31-1	(R) <sub>FC</sub> -1-[(S) <sub>P</sub> -tert-Butylphosphinoyl]-2-[(S)-1-(diphenylphosphino)ethyl]ferrocene C <sub>28</sub> H <sub>32</sub> FeOP <sub>2</sub> 502.35 g/mol	
SL-J688-1 1221746-56-0	(S) <sub>FC</sub> -1-[(R) <sub>P</sub> -Phenylphosphinoyl]-2-[(R)-1-(di-tert-butylphosphino)ethyl]ferrocene C <sub>26</sub> H <sub>36</sub> FeOP <sub>2</sub> 482.36 g/mol		JoSPOphos	<b>5g</b> <b>50g</b> 250g	SL-J688-2 1221746-66-2	(R) <sub>FC</sub> -1-[(S) <sub>P</sub> -Phenylphosphinoyl]-2-[(S)-1-(di-tert-butylphosphino)ethyl]ferrocene C <sub>26</sub> H <sub>36</sub> FeOP <sub>2</sub> 482.36 g/mol	

QUANTITIES MARKED IN **BOLD** WILL TYPICALLY BE DELIVERED FROM STOCK OR WITHIN 3 TO 4 WEEKS | QUANTITIES MARKED IN *ITALICS* WILL TYPICALLY BE DELIVERED WITHIN 4 TO 6 WEEKS

Solvias No. CAS No.	Chemical Name Molecular formula	Molecular weight	Structural Formula	Supplier's trade name	Quantity	Solvias No. CAS No.	Chemical Name Molecular formula	Molecular weight	Structural Formula
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## MANDYPHOS LIGANDS

SL-M001-1 174467-31-3	( <i>S,S</i> ) <sub>Fe</sub> -1,1'-Bis(diphenylphosphino)-2,2'-bis[( <i>R,R</i> ) <sub>C</sub> -( <i>N,N</i> -dimethylamino)phenylmethyl]ferrocene C <sub>52</sub> H <sub>50</sub> FeN <sub>2</sub> P <sub>2</sub>	820.77 g/mol		Mandyphos	<b>5g</b> <b>50g</b> 250g	SL-M001-2 223725-09-5	( <i>R,R</i> ) <sub>Fe</sub> -1,1'-Bis(diphenylphosphino)-2,2'-bis[( <i>S,S</i> ) <sub>C</sub> -( <i>N,N</i> -dimethylamino)phenylmethyl]ferrocene C <sub>52</sub> H <sub>50</sub> FeN <sub>2</sub> P <sub>2</sub>	820.77 g/mol	
SL-M002-1 494227-35-9	( <i>S,S</i> ) <sub>Fe</sub> -1,1'-Bis(dicyclohexylphosphino)-2,2'-bis[( <i>R,R</i> ) <sub>C</sub> -( <i>N,N</i> -dimethylamino)phenylmethyl]ferrocene C <sub>52</sub> H <sub>74</sub> FeN <sub>2</sub> P <sub>2</sub>	844.97 g/mol		Mandyphos	<b>5g</b> <b>50g</b> 250g	SL-M002-2 849924-78-3	( <i>R,R</i> ) <sub>Fe</sub> -1,1'-Bis(dicyclohexylphosphino)-2,2'-bis[( <i>S,S</i> ) <sub>C</sub> -( <i>N,N</i> -dimethylamino)phenylmethyl]ferrocene C <sub>52</sub> H <sub>74</sub> FeN <sub>2</sub> P <sub>2</sub>	844.97 g/mol	
SL-M003-1 494227-36-0	( <i>S,S</i> ) <sub>Fe</sub> -1,1'-Bis[bis[3,5-bis(trifluoromethyl)phenyl]phosphino]-2,2'-bis[( <i>R,R</i> ) <sub>C</sub> -( <i>N,N</i> -dimethylamino)phenylmethyl]ferrocene C <sub>60</sub> H <sub>42</sub> F <sub>24</sub> FeN <sub>2</sub> P <sub>2</sub>	1364.75 g/mol		Mandyphos	<b>5g</b> <b>50g</b> 250g	SL-M003-2 849925-10-6	( <i>R,R</i> ) <sub>Fe</sub> -1,1'-Bis[bis[3,5-bis(trifluoromethyl)phenyl]phosphino]-2,2'-bis[( <i>S,S</i> ) <sub>C</sub> -( <i>N,N</i> -dimethylamino)phenylmethyl]ferrocene C <sub>60</sub> H <sub>42</sub> F <sub>24</sub> FeN <sub>2</sub> P <sub>2</sub>	1364.75 g/mol	
SL-M004-1 876608-69-4	( <i>S,S</i> ) <sub>Fe</sub> -1,1'-Bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-2,2'-bis[( <i>R,R</i> ) <sub>C</sub> -( <i>N,N</i> -dimethylamino)phenylmethyl]ferrocene C <sub>64</sub> H <sub>74</sub> FeN <sub>2</sub> O <sub>4</sub> P <sub>2</sub>	1053.09 g/mol		Mandyphos	<b>5g</b> <b>50g</b> <b>250g</b>	SL-M004-2 849925-12-8	( <i>R,R</i> ) <sub>Fe</sub> -1,1'-Bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-2,2'-bis[( <i>S,S</i> ) <sub>C</sub> -( <i>N,N</i> -dimethylamino)phenylmethyl]ferrocene C <sub>64</sub> H <sub>74</sub> FeN <sub>2</sub> O <sub>4</sub> P <sub>2</sub>	1053.09 g/mol	
SL-M009-1 793718-16-8	( <i>S,S</i> ) <sub>Fe</sub> -1,1'-Bis[bis(3,5-dimethylphenyl)phosphino]-2,2'-bis[( <i>R,R</i> ) <sub>C</sub> -( <i>N,N</i> -dimethylamino)phenylmethyl]ferrocene C <sub>60</sub> H <sub>66</sub> FeN <sub>2</sub> P <sub>2</sub>	933.01 g/mol		Mandyphos	<b>5g</b> <b>50g</b> 250g	SL-M009-2 847997-73-3	( <i>R,R</i> ) <sub>Fe</sub> -1,1'-Bis[bis(3,5-dimethylphenyl)phosphino]-2,2'-bis[( <i>S,S</i> ) <sub>C</sub> -( <i>N,N</i> -dimethylamino)phenylmethyl]ferrocene C <sub>60</sub> H <sub>66</sub> FeN <sub>2</sub> P <sub>2</sub>	933.01 g/mol	

## MEOBIPHEP LIGANDS

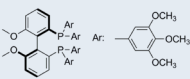
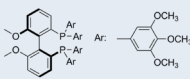
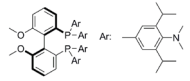
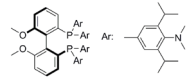
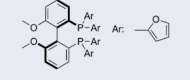
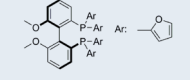
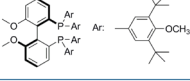
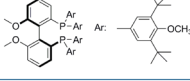
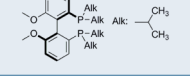
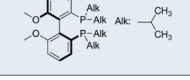
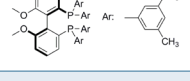
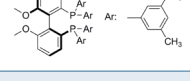
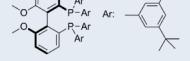
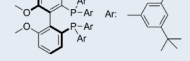
SL-A101-1 133545-16-1	( <i>R</i> )-2,2'-Bis(diphenylphosphino)-6,6'-dimethoxy-1,1'-biphenyl C <sub>38</sub> H <sub>32</sub> O <sub>2</sub> P <sub>2</sub>	582.62 g/mol		MeOBIPHEP	<b>5g</b> <b>50g</b> 250g	SL-A101-2 133545-17-2	( <i>S</i> )-2,2'-Bis(diphenylphosphino)-6,6'-dimethoxy-1,1'-biphenyl C <sub>38</sub> H <sub>32</sub> O <sub>2</sub> P <sub>2</sub>	582.62 g/mol	
SL-A102-1 133545-24-1	( <i>R</i> )-2,2'-Bis(di- <i>p</i> -tolylphosphino)-6,6'-dimethoxy-1,1'-biphenyl C <sub>42</sub> H <sub>40</sub> O <sub>2</sub> P <sub>2</sub>	638.73 g/mol		MeOBIPHEP	<b>5g</b> 50g 250g	SL-A102-2 133545-25-2	( <i>S</i> )-2,2'-Bis(di- <i>p</i> -tolylphosphino)-6,6'-dimethoxy-1,1'-biphenyl C <sub>42</sub> H <sub>40</sub> O <sub>2</sub> P <sub>2</sub>	638.73 g/mol	

# Chiral ligands and catalysts

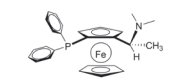
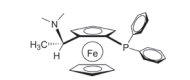
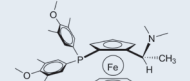
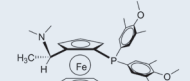
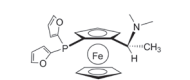

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Solvias No.	Chemical Name	Supplier's	Solvias No.	Chemical Name
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	Molecular weight	Quantity		Molecular weight
		Structural Formula		Structural Formula

## MEOBIPHEP LIGANDS continued...

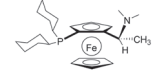
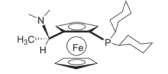
SL-A104-1 256390-47-3	(R)-2,2'-Bis[bis(3,4,5-trimethoxyphenyl)phosphino]-6,6'-dimethoxy-1,1'-biphenyl $C_{50}H_{56}O_{14}P_2$ 942.94 g/mol		MeOBIPHEP	<b>5g</b> 50g 250g	SL-A104-2 927396-01-8	(S)-2,2'-Bis[bis(3,4,5-trimethoxyphenyl)phosphino]-6,6'-dimethoxy-1,1'-biphenyl $C_{50}H_{56}O_{14}P_2$ 942.94 g/mol	
SL-A107-1 352655-40-4	(R)-2,2'-Bis[bis(3,5-diisopropyl-4-dimethylaminophenyl)phosphino]-6,6'-dimethoxy-1,1'-biphenyl $C_{70}H_{100}N_4O_2P_2$ 1091.55 g/mol		MeOBIPHEP	<b>5g</b> 50g 250g	SL-A107-2 919338-66-2	(S)-2,2'-Bis[bis(3,5-diisopropyl-4-dimethylaminophenyl)phosphino]-6,6'-dimethoxy-1,1'-biphenyl $C_{70}H_{100}N_4O_2P_2$ 1091.55 g/mol	
SL-A108-1 145214-57-9	(R)-2,2'-Bis(di-2-furylphosphino)-6,6'-dimethoxy-1,1'-biphenyl $C_{30}H_{24}O_6P_2$ 542.47 g/mol		MeOBIPHEP	<b>5g</b> 50g 250g	SL-A108-2 145214-59-1	(S)-2,2'-Bis(di-2-furylphosphino)-6,6'-dimethoxy-1,1'-biphenyl $C_{30}H_{24}O_6P_2$ 542.47 g/mol	
SL-A109-1 352655-61-9	(R)-2,2'-Bis[bis(3,5-di-tert-butyl-4-methoxyphenyl)phosphino]-6,6'-dimethoxy-1,1'-biphenyl $C_{74}H_{104}O_6P_2$ 1151.60 g/mol		MeOBIPHEP	<b>5g</b> 50g 250g	SL-A109-2 910134-30-4	(S)-2,2'-Bis[bis(3,5-di-tert-butyl-4-methoxyphenyl)phosphino]-6,6'-dimethoxy-1,1'-biphenyl $C_{74}H_{104}O_6P_2$ 1151.60 g/mol	
SL-A116-1 150971-45-2	(R)-2,2'-Bis(diisopropylphosphino)-6,6'-dimethoxy-1,1'-biphenyl $C_{26}H_{40}O_2P_2$ 446.56 g/mol		MeOBIPHEP	<b>5g</b> 50g 250g	SL-A116-2 150971-43-0	(S)-2,2'-Bis(diisopropylphosphino)-6,6'-dimethoxy-1,1'-biphenyl $C_{26}H_{40}O_2P_2$ 446.56 g/mol	
SL-A120-1 394248-45-4	(R)-2,2'-Bis[di-3,5-xylylphosphino]-6,6'-dimethoxy-1,1'-biphenyl $C_{46}H_{48}O_2P_2$ 694.84 g/mol		MeOBIPHEP	<b>5g</b> 50g 250g	SL-A120-2 362634-22-8	(S)-2,2'-Bis[di-3,5-xylylphosphino]-6,6'-dimethoxy-1,1'-biphenyl $C_{46}H_{48}O_2P_2$ 694.84 g/mol	
SL-A121-1 192138-05-9	(R)-2,2'-Bis[bis(3,5-di-tert-butylphenyl)phosphino]-6,6'-dimethoxy-1,1'-biphenyl $C_{70}H_{96}O_2P_2$ 1031.49 g/mol		MeOBIPHEP	<b>5g</b> 50g 250g	SL-A121-2 167709-31-1	(S)-2,2'-Bis[bis(3,5-di-tert-butylphenyl)phosphino]-6,6'-dimethoxy-1,1'-biphenyl $C_{70}H_{96}O_2P_2$ 1031.49 g/mol	

## PFA LIGANDS

SL-F103-1 55700-44-2	(S)-1-[(R)-1-(Dimethylamino)ethyl]-2-(diphenylphosphino)ferrocene $C_{26}H_{28}FeNP$ 441.34 g/mol		PFA	<b>5g</b> <b>50g</b> 250g	SL-F103-2 137695-36-4	(R)-1-[(S)-1-(Dimethylamino)ethyl]-2-(diphenylphosphino)ferrocene $C_{26}H_{28}FeNP$ 441.34 g/mol	
SL-F171-1 607365-35-5	(S)-1-[Bis(4-methoxy-3,5-dimethylphenyl)phosphino]-2-[(R)-1-(dimethylamino)ethyl]ferrocene $C_{32}H_{40}FeNO_2P$ 557.50 g/mol		PFA	<b>5g</b> <b>50g</b> 250g	SL-F171-2 1889392-50-0	(R)-1-[Bis(4-methoxy-3,5-dimethylphenyl)phosphino]-2-[(S)-1-(dimethylamino)ethyl]ferrocene $C_{32}H_{40}FeNO_2P$ 557.50 g/mol	
SL-F172-1 1613740-36-5	(S)-1-(Difurylphosphino)-2-[(R)-1-(dimethylamino)ethyl]ferrocene $C_{22}H_{24}FeNO_2P$ 421.26 g/mol		PFA	<b>5g</b> <b>50g</b> 250g	SL-F172-2 1889392-49-7	(R)-1-(Difurylphosphino)-2-[(S)-1-(dimethylamino)ethyl]ferrocene $C_{22}H_{24}FeNO_2P$ 421.26 g/mol	

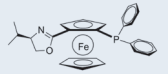
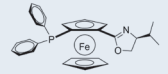
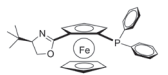

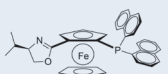
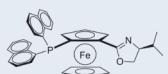


QUANTITIES MARKED IN **BOLD** WILL TYPICALLY BE DELIVERED FROM STOCK OR WITHIN 3 TO 4 WEEKS | QUANTITIES MARKED IN *ITALICS* WILL TYPICALLY BE DELIVERED WITHIN 4 TO 6 WEEKS



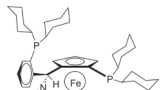
Solvias No. CAS No.	Chemical Name Molecular formula	Molecular weight	Structural Formula	Supplier's trade name	Quantity	Solvias No. CAS No.	Chemical Name Molecular formula	Molecular weight	Structural Formula
SL-F173-1 166172-70-9	(S)-1-[Bis[3,5-bis(trifluoromethyl)phenyl]phosphino]-2-[(R)-1-(dimethylamino)ethyl]ferrocene C <sub>30</sub> H <sub>24</sub> F <sub>12</sub> FeNP	713.33 g/mol		PFA	<b>5g</b> <b>50g</b> 250g	SL-F173-2 191233-65-5	(R)-1-[Bis[3,5-bis(trifluoromethyl)phenyl]phosphino]-2-[(S)-1-(dimethylamino)ethyl]ferrocene C <sub>30</sub> H <sub>24</sub> F <sub>12</sub> FeNP	713.33 g/mol	
SL-F174-1 171817-39-3	(S)-1-(Dicyclohexylphosphino)-2-[(R)-1-(dimethylamino)ethyl]ferrocene C <sub>26</sub> H <sub>40</sub> FeNP	453.43 g/mol		PFA	<b>5g</b> <b>50g</b> 250g	SL-F174-2 146960-92-1	(R)-1-(Dicyclohexylphosphino)-2-[(S)-1-(dimethylamino)ethyl]ferrocene C <sub>26</sub> H <sub>40</sub> FeNP	453.43 g/mol	

PFA LIGANDS continued...

## POX LIGANDS AND RU COMPLEXES

SL-N003-1 1065474-88-5	(R,R)-(4,5-Dihydro-4-isopropyl-2-oxazoly)-2-(diphenylphosphino)ferrocene C <sub>28</sub> H <sub>28</sub> FeNOP	481.36 g/mol		POx	<b>5g</b> <b>50g</b> 250g	SL-N003-2 163169-10-6	(S,S)-(4,5-Dihydro-4-isopropyl-2-oxazoly)-2-(diphenylphosphino)ferrocene C <sub>28</sub> H <sub>28</sub> FeNOP	481.36 g/mol	
SL-N004-1 1226898-27-6	(R,R)-(4,5-Dihydro-4-tert-butyl-2-oxazoly)-2-(diphenylphosphino)ferrocene C <sub>29</sub> H <sub>30</sub> FeNOP	495.37 g/mol		POx	<b>5g</b> <b>50g</b> 250g	SL-N004-2 163169-15-1	(S,S)-(4,5-Dihydro-4-tert-butyl-2-oxazoly)-2-(diphenylphosphino)ferrocene C <sub>29</sub> H <sub>30</sub> FeNOP	495.37 g/mol	
SL-N011-1 1854070-87-3	(R,R)-(4,5-Dihydro-4-isopropyl-2-oxazoly)-2-[di(1-naphthyl)phosphino]ferrocene C <sub>36</sub> H <sub>32</sub> FeNOP	581.48 g/mol		POx	<b>5g</b> <b>50g</b> 250g	SL-N011-2 950201-43-1	(S,S)-(4,5-Dihydro-4-isopropyl-2-oxazoly)-2-[di(1-naphthyl)phosphino]ferrocene C <sub>36</sub> H <sub>32</sub> FeNOP	581.48 g/mol	
SK-N003-1z 1312582-16-3	Dichloro[(R,R)-(4,5-Dihydro-4-isopropyl-2-oxazoly)-κN]-2-(diphenylphosphino-κP)ferrocene]triphenylphosphine ruthenium C <sub>46</sub> H <sub>43</sub> Cl <sub>2</sub> FeNOP <sub>2</sub> Ru	915.70 g/mol	 [RuCl <sub>2</sub> (PN)(PPH <sub>3</sub> )] complex	POx	<b>5g</b> 50g 250g	SK-N003-2z 212133-11-4	Dichloro[(S,S)-(4,5-Dihydro-4-isopropyl-2-oxazoly)-κN]-2-(diphenylphosphino-κP)ferrocene]triphenylphosphine ruthenium C <sub>46</sub> H <sub>43</sub> Cl <sub>2</sub> FeNOP <sub>2</sub> Ru	915.70 g/mol	 [RuCl <sub>2</sub> (PN)(PPH <sub>3</sub> )] complex

## TANIAPHOS LIGANDS

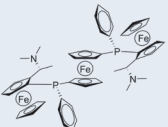
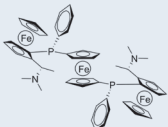
SL-T001-1 1003012-96-1	(R)-1-Diphenylphosphino-2-[(R)-(N,N-dimethylamino)[2-(diphenylphosphino)phenyl]methyl]ferrocene C <sub>43</sub> H <sub>39</sub> FeNP <sub>2</sub>	687.56 g/mol		Taniaphos	<b>5g</b> 50g 250g	SL-T001-2 850444-36-9	(S)-1-Diphenylphosphino-2-[(S)-(N,N-dimethylamino)[2-(diphenylphosphino)phenyl]methyl]ferrocene C <sub>43</sub> H <sub>39</sub> FeNP <sub>2</sub>	687.56 g/mol	
SL-T002-1 1156547-61-3	(R)-1-Dicyclohexylphosphino-2-[(R)-(N,N-dimethylamino)[2-(dicyclohexylphosphino)phenyl]methyl]ferrocene C <sub>43</sub> H <sub>63</sub> FeNP <sub>2</sub>	711.79 g/mol		Taniaphos	<b>5g</b> 50g 250g	SL-T002-2 914089-00-2	(S)-1-Dicyclohexylphosphino-2-[(S)-(N,N-dimethylamino)[2-(dicyclohexylphosphino)phenyl]methyl]ferrocene C <sub>43</sub> H <sub>63</sub> FeNP <sub>2</sub>	711.79 g/mol	

# Chiral ligands and catalysts

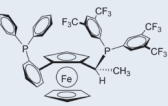
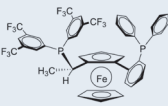


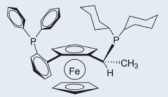
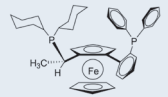
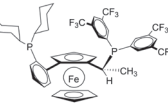

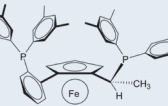
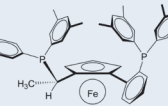
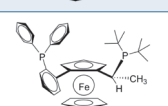
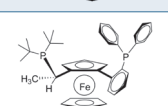
9

Solvias No.	Chemical Name		Supplier's	Solvias No.	Chemical Name		Supplier's
CAS No.	Molecular formula	Molecular weight	trade name	CAS No.	Molecular formula	Molecular weight	trade name

## TRIFER LIGANDS

SL-F131-1 899811-43-9	1,1'-Bis[(S) <sub>P</sub> -[(S) <sub>FC</sub> -2-[(R) <sub>C</sub> -1-(dimethylamino)ethyl]ferrocenyl]phenylphosphino]ferrocene C <sub>50</sub> H <sub>54</sub> Fe <sub>3</sub> N <sub>2</sub> P <sub>2</sub>	912.46 g/mol		Trifer	<b>5g</b> <b>50g</b> <i>250g</i>	SL-F131-2 900505-82-0	1,1'-Bis[(R) <sub>P</sub> -[(R) <sub>FC</sub> -2-[(S) <sub>C</sub> -1-(dimethylamino)ethyl]ferrocenyl]phenylphosphino]ferrocene C <sub>50</sub> H <sub>54</sub> Fe <sub>3</sub> N <sub>2</sub> P <sub>2</sub>	912.46 g/mol	
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## WALPHOS LIGANDS

SL-W001-1 565184-33-0	(R)-1-[(R)-1-[Bis[3,5-bis(trifluoromethyl)phenyl]phosphino]ethyl]-2-[2-(diphenylphosphino)phenyl]ferrocene C <sub>46</sub> H <sub>32</sub> F <sub>12</sub> FeP <sub>2</sub>	930.54 g/mol		Walphos	<b>5g</b> <b>50g</b> <i>250g</i>	SL-W001-2 849925-17-3	(S)-1-[(S)-1-[Bis[3,5-bis(trifluoromethyl)phenyl]phosphino]ethyl]-2-[2-(diphenylphosphino)phenyl]ferrocene C <sub>46</sub> H <sub>32</sub> F <sub>12</sub> FeP <sub>2</sub>	930.54 g/mol	
SL-W002-1 565184-32-9	(R)-1-[(R)-1-(Diphenylphosphino)ethyl]-2-[2-(diphenylphosphino)phenyl]ferrocene C <sub>42</sub> H <sub>36</sub> FeP <sub>2</sub>	658.54 g/mol		Walphos	<b>5g</b> <b>50g</b> <i>250g</i>	SL-W002-2 1854067-25-6	(S)-1-[(S)-1-(Diphenylphosphino)ethyl]-2-[2-(diphenylphosphino)phenyl]ferrocene C <sub>42</sub> H <sub>36</sub> FeP <sub>2</sub>	658.54 g/mol	
SL-W003-1 565184-29-4	(R)-1-[(R)-1-(Dicyclohexylphosphino)ethyl]-2-[2-(diphenylphosphino)phenyl]ferrocene C <sub>42</sub> H <sub>48</sub> FeP <sub>2</sub>	670.64 g/mol		Walphos	<b>5g</b> <b>50g</b> <i>250g</i>	SL-W003-2 849925-19-5	(S)-1-[(S)-1-(Dicyclohexylphosphino)ethyl]-2-[2-(diphenylphosphino)phenyl]ferrocene C <sub>42</sub> H <sub>48</sub> FeP <sub>2</sub>	670.64 g/mol	
SL-W008-1 821009-34-1	(R)-1-[(R)-1-[Bis[3,5-bis(trifluoromethyl)phenyl]phosphino]ethyl]-2-[2-(dicyclohexylphosphino)phenyl]ferrocene C <sub>46</sub> H <sub>44</sub> F <sub>12</sub> FeP <sub>2</sub>	942.62 g/mol		Walphos	<b>5g</b> <b>50g</b> <i>250g</i>	SL-W008-2 849925-22-0	(S)-1-[(S)-1-[Bis[3,5-bis(trifluoromethyl)phenyl]phosphino]ethyl]-2-[2-(dicyclohexylphosphino)phenyl]ferrocene C <sub>46</sub> H <sub>44</sub> F <sub>12</sub> FeP <sub>2</sub>	942.62 g/mol	
SL-W009-1 894771-28-9	(R)-1-[(R)-1-[Di(3,5-xylyl)phosphino]ethyl]-2-[2-[di(3,5-xylyl)phosphino]phenyl]ferrocene C <sub>50</sub> H <sub>52</sub> FeP <sub>2</sub>	770.75 g/mol		Walphos	<b>5g</b> <b>50g</b> <i>250g</i>	SL-W009-2 849925-24-2	(S)-1-[(S)-1-[Di(3,5-xylyl)phosphino]ethyl]-2-[2-[di(3,5-xylyl)phosphino]phenyl]ferrocene C <sub>50</sub> H <sub>52</sub> FeP <sub>2</sub>	770.75 g/mol	
SL-W012-1 565184-30-7	(R)-1-[(R)-1-(Di- <i>tert</i> -butylphosphino)ethyl]-2-[2-(diphenylphosphino)phenyl]ferrocene C <sub>38</sub> H <sub>44</sub> FeP <sub>2</sub>	618.56 g/mol		Walphos	<b>5g</b> <b>50g</b> <i>250g</i>	SL-W012-2 1854067-37-0	(S)-1-[(S)-1-(Di- <i>tert</i> -butylphosphino)ethyl]-2-[2-(diphenylphosphino)phenyl]ferrocene C <sub>38</sub> H <sub>44</sub> FeP <sub>2</sub>	618.56 g/mol	

Solvias No. CAS No.	Chemical Name Molecular formula	Molecular weight	Structural Formula	Supplier's trade name	Quantity	Solvias No. CAS No.	Chemical Name Molecular formula	Molecular weight	Structural Formula
SL-W029-1 1854067-50-7	(R)-1-[(R)-1-(Di- <i>tert</i> -butylphosphino)ethyl]-2-[2-(dicyclohexylphosphino)phenyl]ferrocene C <sub>38</sub> H <sub>56</sub> FeP <sub>2</sub>	630.66 g/mol		Walphos	<b>5g</b> <b>50g</b> <i>250g</i>	SL-W029-2 1854067-58-5	(S)-1-[(S)-1-(Di- <i>tert</i> -butylphosphino)ethyl]-2-[2-(dicyclohexylphosphino)phenyl]ferrocene C <sub>38</sub> H <sub>56</sub> FeP <sub>2</sub>	630.66 g/mol	
SL-W030-1 1854067-62-1	(R)-1-[(R)-1-(Di- <i>tert</i> -butylphosphino)ethyl]-2-[2-(di- <i>tert</i> -butylphosphino)phenyl]ferrocene C <sub>34</sub> H <sub>52</sub> FeP <sub>2</sub>	578.58 g/mol		Walphos	<b>5g</b> <b>50g</b> <i>250g</i>	SL-W030-2 1854067-71-2	(S)-1-[(S)-1-(Di- <i>tert</i> -butylphosphino)ethyl]-2-[2-(di- <i>tert</i> -butylphosphino)phenyl]ferrocene C <sub>34</sub> H <sub>52</sub> FeP <sub>2</sub>	578.58 g/mol	









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







## C-X coupling catalysts

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Solvias No. CAS No.	Chemical Name Molecular formula    Molecular weight	Structure	Supplier's trade name	Quantity
SK-CC01-A 359803-53-5	Chloro(di-2-norbornylphosphino) [2-(dimethyl-amino-κN)(1,1'-biphenyl)-2-yl-κC]palladium(II)  C <sub>28</sub> H <sub>37</sub> ClNPPd    560.45 g/mol		C-X coupling catalyst	<b>5g</b> 50g 250g
SK-CC02-A 614753-51-4	Chloro(di-2-norbornylphosphino) [2-(dimethyl-amino-κN)methylferrocen-1-yl-κC]palladium(II)  C <sub>27</sub> H <sub>39</sub> ClFeNPPd    606.26 g/mol		C-X coupling catalyst	<b>5g</b> 50g 250g
SK-K319-1a 854019-82-2	(R)-1-[(S)-2-(Dicyclohexylphosphino-κP)ferrocenyl]ethyl(di-tert-butylphosphine-κP)dichloropalladium(II)  C <sub>32</sub> H <sub>52</sub> Cl <sub>2</sub> FeP <sub>2</sub> Pd    731.87 g/mol	 [PdCl <sub>2</sub> (PP)]	C-X coupling catalyst	<b>5g</b> 50g 250g
SK-K413-9d 172418-32-5	Bis[μ-(acetato-κO:κO')]bis[[2-[bis(2-methylphenyl)phosphino-κP]phenyl]methyl-κC]dipalladium(II)  C <sub>46</sub> H <sub>46</sub> O <sub>4</sub> P <sub>2</sub> Pd <sub>2</sub> 937.65 g/mol		C-X coupling catalyst	<b>5g</b> 50g 250g
SK-A108-1a 1338245-54-7	Dichloro[(R)-2,2'-bis(di-2-furylphosphino)-6,6'-dimethoxy-1,1'-biphenyl]palladium(II)  C <sub>30</sub> H <sub>24</sub> Cl <sub>2</sub> O <sub>6</sub> P <sub>2</sub> Pd		C-X coupling catalyst	<b>5g</b> <b>50g</b> 250g

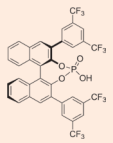
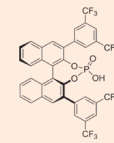
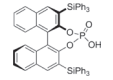
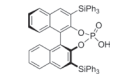
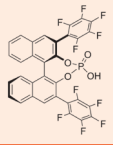
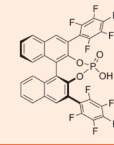
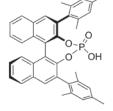
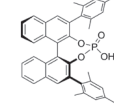
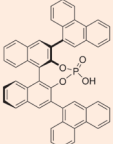
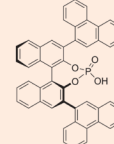
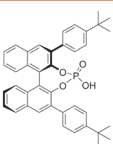
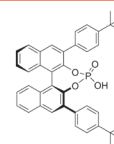
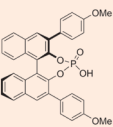
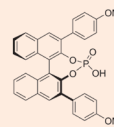
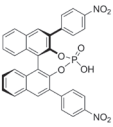
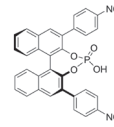
Solvias No. CAS No.	Chemical Name Molecular formula    Molecular weight	Structure	Supplier's trade name	Quantity
SK-J002-1n 2049086-34-0	Chloro(4-cyanophenyl)[(R)-1-[(S)-2-(diphenylphosphino)ferrocenyl]ethyl-di-tert-butylphosphine]nickel(II)  C <sub>39</sub> H <sub>44</sub> ClFeNNiP <sub>2</sub> 738.72 g/mol		C-X coupling catalyst	<b>5g</b> 50g 250g
SK-J003-1n 2049086-35-1	Chloro(4-cyanophenyl)[(R)-1-[(S)-2-(dicyclohexylphosphino)ferrocenyl]ethyl-dicyclohexylphosphine]nickel(II)  C <sub>43</sub> H <sub>60</sub> ClFeNNiP <sub>2</sub> 802.90 g/mol		C-X coupling catalyst	<b>5g</b> 50g 250g
SK-J004-1n 2049086-36-2	Chloro(4-cyanophenyl)[(R)-1-[(S)-2-(dicyclohexylphosphino)ferrocenyl]ethyl-diphenylphosphine]nickel(II)  C <sub>43</sub> H <sub>48</sub> ClFeNNiP <sub>2</sub> 790.80 g/mol		C-X coupling catalyst	<b>5g</b> 50g 250g
SK-J014-1n 20490-86-37-3	Chloro(4-cyanophenyl)[(R)-1-[(S)-2-[bis(4-fluorophenyl)phosphino]ferrocenyl]ethyl-di-tert-butylphosphine]nickel(II)  C <sub>39</sub> H <sub>42</sub> ClF <sub>2</sub> FeNNiP <sub>2</sub> 774.70 g/mol		C-X coupling catalyst	<b>5g</b> 50g 250g

Solvias No. CAS No.	Chemical Name Molecular formula <i>Molecular weight</i>	Structure	Supplier's trade name	Quantity
SL-K101-0 321921-71-5	Di(1-adamantyl)- <i>n</i> -butylphosphine C <sub>24</sub> H <sub>39</sub> P <i>358.55 g/mol</i>		cataCXium® A	<b>5g</b> 50g 250g
SL-K102-0 395116-70-8	Di(1-adamantyl)-benzylphosphine C <sub>27</sub> H <sub>37</sub> P <i>392.57 g/mol</i>		cataCXium® Abn	<b>5g</b> 50g 250g
SL-K103-0 714951-87-8	Di(1-adamantyl)- <i>n</i> -butylphosphine hydroiodide C <sub>24</sub> H <sub>40</sub> IP <i>486.46 g/mol</i>		cataCXium® AHI	<b>5g</b> 50g 250g
SL-K104-0 672937-60-9	2-(Dicyclohexylphosphino)-1-phenyl-1 <i>H</i> - pyrrole C <sub>22</sub> H <sub>30</sub> NP <i>339.46 g/mol</i>		cataCXium® PCy	<b>5g</b> 50g 250g
SL-K105-0 740815-36-5	2-(Dicyclohexylphosphino)-1- phenylindole C <sub>26</sub> H <sub>32</sub> NP <i>389.53 g/mol</i>		cataCXium® PlnCy	<b>5g</b> 50g 250g
SL-K106-0 672937-63-2	2-(Dicyclohexylphosphino)-1-(2- methoxyphenyl)-1 <i>H</i> -pyrrole C <sub>23</sub> H <sub>32</sub> NOP <i>369.49 g/mol</i>		cataCXium® POMeCy	<b>5g</b> 50g 250g
SL-K107-0 794527-14-3	1-(2,4,6-Trimethylphenyl)-2- (dicyclohexylphosphino)imidazole C <sub>24</sub> H <sub>35</sub> N <sub>2</sub> P <i>382.53 g/mol</i>		cataCXium® PICy	<b>5g</b> 50g 250g
SL-K108-0 672937-61-0	1-Phenyl-2-(di- <i>tert</i> -butyl-phosphino)-1 <i>H</i> - pyrrole C <sub>18</sub> H <sub>26</sub> NP <i>287.39 g/mol</i>		cataCXium® PtB	<b>5g</b> 50g 250g

Solvias No. CAS No.	Chemical Name Molecular formula <i>Molecular weight</i>	Structure	Supplier's trade name	Quantity
SL-K109-0 740815-37-6	2-(Di- <i>tert</i> -butylphosphino)-1-phenylindole C <sub>22</sub> H <sub>28</sub> NP <i>337.44 g/mol</i>		cataCXium® PlntB	<b>5g</b> 50g 250g
SL-K110-0 1053658-91-5	2-(Di- <i>tert</i> -butylphosphino)-1-(2- methoxyphenyl)-1 <i>H</i> -pyrrole C <sub>19</sub> H <sub>28</sub> NOP <i>317.41 g/mol</i>		cataCXium® POMetB	<b>5g</b> 50g 250g
SL-K111-0 1007311-98-9	(9-Butyl-9-fluorenyl)dicyclohexyl- phosphonium tetrafluoroborate C <sub>29</sub> H <sub>40</sub> PBF <sub>4</sub> <i>506.41 g/mol</i>		cataCXium® FBu	<b>5g</b> 50g 250g
SL-K112-0 1007311-95-6	Dicyclohexyl-[9-(3-phenylpropyl)-9- fluorenyl]phosphoniumtetrafluoroborate C <sub>34</sub> H <sub>42</sub> PBF <sub>4</sub> <i>568.48 g/mol</i>		cataCXium® FPrPh	<b>5g</b> 50g 250g
SL-K113-0 1039775-34-2	Dicyclohexyl-[2-sulfo-9-[3-(4- sulfophenylpropyl)-9-fluorenyl]] phosphonium hydrogensulfate C <sub>34</sub> H <sub>43</sub> O <sub>10</sub> PS <sub>3</sub> <i>738.88 g/mol</i>		cataCXium® FSulf	<b>5g</b> 50g 250g
SL-K114-0 937378-18-2	(9-Benzyl-9-fluorenyl)dicyclohexyl- phosphonium tetrafluoroborate C <sub>32</sub> H <sub>38</sub> PBF <sub>4</sub> <i>540.42 g/mol</i>		cataCXium® FBn	<b>5g</b> 50g 250g
SL-K126-0 2179272-79-6	1-[2,6-Bis(cyclohexyloxy)phenyl]-2-(di- <i>tert</i> - butylphosphaneyl)-1 <i>H</i> -imidazole C <sub>29</sub> H <sub>45</sub> N <sub>2</sub> O <sub>2</sub> P <i>484.66 g/mol</i>		cataCXium®	<b>5g</b> 50g 250g
SL-K127-0 1257847-61-2	2-[Bis(1-methylethyl)phosphino]-1- phenyl-1 <i>H</i> -pyrrole C <sub>16</sub> H <sub>22</sub> NP <i>259.33 g/mol</i>		cataCXium®	<b>5g</b> 50g 250g

# Organocatalysts

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Solvias No. CAS No.	Chemical Name Molecular formula	Molecular weight	Structural Formula	Supplier's trade name	Quantity	Solvias No. CAS No.	Chemical Name Molecular formula	Molecular weight	Structural Formula
SL-O101-1 791616-62-1	(R)-3,3'-Bis[3,5-bis(trifluoromethyl)phenyl]-1,1'-binaphthyl-2,2'-diyl hydrogenphosphate C <sub>36</sub> H <sub>17</sub> F <sub>12</sub> O <sub>4</sub> P	772.48 g/mol		CPA	<b>5g</b> 50g 250g	SL-O101-2 878111-17-2	(S)-3,3'-Bis[3,5-bis(trifluoromethyl)phenyl]-1,1'-binaphthyl-2,2'-diyl hydrogenphosphate C <sub>36</sub> H <sub>17</sub> F <sub>12</sub> O <sub>4</sub> P	772.48 g/mol	
SL-O103-1 791616-55-2	(R)-3,3'-Bis(triphenylsilyl)-1,1'-binaphthyl-2,2'-diyl hydrogenphosphate C <sub>56</sub> H <sub>41</sub> O <sub>4</sub> PSi <sub>2</sub>	865.08 g/mol		CPA	<b>5g</b> 50g 250g	SL-O103-2 929097-92-7	(S)-3,3'-Bis(triphenylsilyl)-1,1'-binaphthyl-2,2'-diyl hydrogenphosphate C <sub>56</sub> H <sub>41</sub> O <sub>4</sub> PSi <sub>2</sub>	865.08 g/mol	
SL-O105-1 1284293-45-3	(R)-3,3'-Bis(2,3,4,5,6-pentafluorophenyl)-1,1'-binaphthyl-2,2'-diyl hydrogenphosphate C <sub>32</sub> H <sub>11</sub> F <sub>10</sub> O <sub>4</sub> P	680.39 g/mol		CPA	<b>5g</b> 50g 250g	SL-O105-2 1882075-20-8	(S)-3,3'-Bis(2,3,4,5,6-pentafluorophenyl)-1,1'-binaphthyl-2,2'-diyl hydrogenphosphate C <sub>32</sub> H <sub>11</sub> F <sub>10</sub> O <sub>4</sub> P	680.39 g/mol	
SL-O106-1 695162-87-9	(R)-3,3'-Bis(2,4,6-trimethylphenyl)-1,1'-binaphthyl-2,2'-diyl hydrogenphosphate C <sub>38</sub> H <sub>33</sub> O <sub>4</sub> P	584.65 g/mol		CPA	<b>5g</b> 50g 250g	SL-O106-2 878111-18-3	(S)-3,3'-Bis(2,4,6-trimethylphenyl)-1,1'-binaphthyl-2,2'-diyl hydrogenphosphate C <sub>38</sub> H <sub>33</sub> O <sub>4</sub> P	584.65 g/mol	
SL-O107-1 864943-22-6	(R)-3,3'-Bis(9-phenanthryl)-1,1'-binaphthyl-2,2'-diyl hydrogenphosphate C <sub>48</sub> H <sub>29</sub> O <sub>4</sub> P	700.73 g/mol		CPA	<b>5g</b> 50g 250g	SL-O107-2 1043567-32-3	(S)-3,3'-Bis(9-phenanthryl)-1,1'-binaphthyl-2,2'-diyl hydrogenphosphate C <sub>48</sub> H <sub>29</sub> O <sub>4</sub> P	700.73 g/mol	
SL-O108-1 861909-30-0	(R)-3,3'-Bis(4-tert-butylphenyl)-1,1'-binaphthyl-2,2'-diyl hydrogenphosphate C <sub>40</sub> H <sub>37</sub> O <sub>4</sub> P	612.71 g/mol		CPA	<b>5g</b> 50g 250g	SL-O108-2 1217901-32-0	(S)-3,3'-Bis(4-tert-butylphenyl)-1,1'-binaphthyl-2,2'-diyl hydrogenphosphate C <sub>40</sub> H <sub>37</sub> O <sub>4</sub> P	612.71 g/mol	
SL-O109-1 695162-88-0	(R)-3,3'-Bis(4-methoxyphenyl)-1,1'-binaphthyl-2,2'-diyl hydrogenphosphate C <sub>34</sub> H <sub>25</sub> O <sub>6</sub> P	560.54 g/mol		CPA	<b>5g</b> 50g 250g	SL-O109-2 1374030-19-9	(S)-3,3'-Bis(4-methoxyphenyl)-1,1'-binaphthyl-2,2'-diyl hydrogenphosphate C <sub>34</sub> H <sub>25</sub> O <sub>6</sub> P	560.54 g/mol	
SL-O110-1 695162-89-1	(R)-3,3'-Bis(4-nitrophenyl)-1,1'-binaphthyl-2,2'-diyl hydrogenphosphate C <sub>32</sub> H <sub>19</sub> N <sub>2</sub> O <sub>8</sub> P	590.84 g/mol		CPA	<b>5g</b> 50g 250g	SL-O110-2 878111-16-1	(S)-3,3'-Bis(4-nitrophenyl)-1,1'-binaphthyl-2,2'-diyl hydrogenphosphate C <sub>32</sub> H <sub>19</sub> N <sub>2</sub> O <sub>8</sub> P	590.84 g/mol	

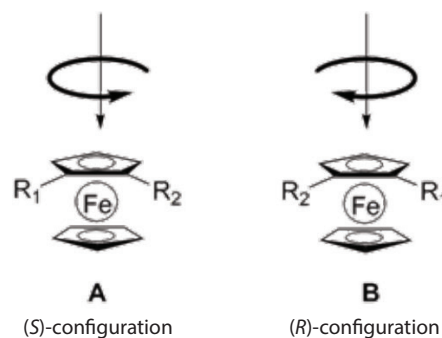
QUANTITIES MARKED IN **BOLD** WILL TYPICALLY BE DELIVERED FROM STOCK OR WITHIN 3 TO 4 WEEKS | QUANTITIES MARKED IN *ITALICS* WILL TYPICALLY BE DELIVERED WITHIN 4 TO 6 WEEKS

## Differences in nomenclature between Schögl and CAS for chiral ferrocenes

In the vast majority of published papers the configuration of the planar chiral ferrocene compounds is assigned according to the Schögl convention. Considering this fact, Solvias has decided to continue the determination of the stereochemical descriptors of chiral ferrocene compounds for its ligand portfolio exclusively according to the convention that was originally introduced by Schögl. To avoid any confusions, the two different concepts for the assignment of the planar chirality of ferrocenes (bis(cyclopentadienyl)iron) that are currently being applied are briefly outlined.

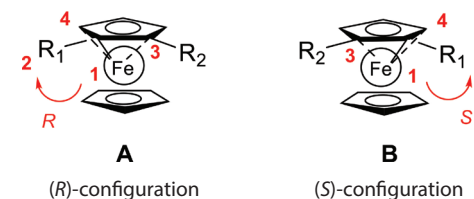
### Schögl's nomenclature for chiral disubstituted ferrocenes

By applying Schögl's nomenclature to ferrocenes with two different substituents at the same cyclopentadienyl ring, the two substituents  $R_1$  and  $R_2$  are ranked according to the CIP rules. Viewing from the top of the (higher) substituted Cp-ring in direction of the Fe atom, the descriptor is assigned by going the shortest way from the higher ranked substituent to the lower ranked one either clockwise ( $R$ ) or anticlockwise ( $S$ ). If the ranking is  $R_1 > R_2$ , the stereochemical descriptor of compound **A** is ( $S$ ) and of **B** ( $R$ ).



### CAS nomenclature for chiral ferrocenes

CAS uses a different nomenclature for the assignment of the planar chirality. According to this concept, each C-atom of the cyclopentadienyl ring is treated as a four-coordinated center, including the Fe-atom counting as one substituent. The chirality symbol is allocated to the cyclopentadienyl ring atom with the highest CIP priority. For example, if the CIP ranking of the cyclopentadienyl ring substituents is  $R_1 > R_2$ , the chirality descriptor is allocated to the  $C(R_1)$ -atom. If the CIP priority at this  $C(R_1)$ -atom is  $Fe > R_1 > C(R_2) > C(H)$ , the configuration for compound **A** is assigned as ( $R$ ), for compound **B** as ( $S$ ).



In conclusion, the stereochemical descriptors for the planar chirality of the same enantiomer of any substituted ferrocene derivative can be ( $R$ ) or ( $S$ ), whereby the correct descriptor is dependent on the chosen nomenclature.

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