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96-6651 Solvias cataCXium® Ligand Kit for C-X Coupling Reactions

15-0483 	15-0038 	15-0495 	46-0290 		
[cataCXium® A]	[cataCXium® ABn]	[cataCXium® AHI]	[cataCXium® C]		
15-1072 	15-1074 	15-1076 	15-1078 	15-3610 	
[cataCXium® FBn]	[cataCXium® FBU]	[cataCXium® FPrPh]	[cataCXium® FSulf]	[cataCXium® PCy]	
15-6362 	15-3605 	15-3550 	15-2975 	15-2980 	15-3600
[cataCXium® PICy]	[cataCXium® PlnCy]	[cataCXium® PlntB]	[cataCXium® POMetB]	[cataCXium® POMeCy]	[cataCXium® PtB]

96-6651 Solvias cataCXium® Ligand Kit for C-X Coupling Reactions

Contains the smallest unit size of the items listed above.

1 kit

15-0038 Benzyldi-1-adamantylphosphine, min. 85% [cataCXium® ABn] [395116-70-8]

$C_8H_9CH_2(C_{10}H_{15})_2P$; FW: 392.56; yellow powdr.; m.p. 183°

air sensitive

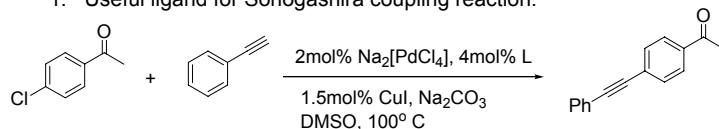
Note: Patent WO 0210178.

500mg

2g

Technical Note:

- Useful ligand for Sonogashira coupling reaction.



Tech. Note (1)
Ref. (1)

Reference:

- Angew. Chem. Int. Ed., **2003**, 42, 1056.
- Synthesis, **2004**, 935. (General overview)

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Strem Chemicals, Inc.
7 Mulliken Way
Newburyport, MA 01950-4098
U.S.A.
Tel.: (978) 499-1600
Fax: (978) 465-3104
Email: info@strem.com

Strem Chemicals, Inc.
15, rue de l'Atome
Zone Industrielle
67800 BISCHHEIM France
Tel.: (33) 03 88 62 52 60
Fax: (33) 03 88 62 26 81
Email: info.europe@strem.com

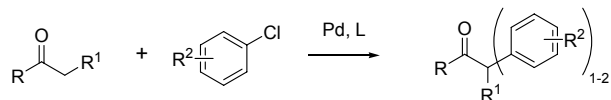
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Postfach 1215
77672 KEHL
Germany
Telefon: 0 78 51/ 7 58 79
Email: info.europe@strem.com

Strem Chemicals UK, Ltd.
41 Hills Road
Cambridge
England CB2 1NT
Tel.: 0845 643 7263
Fax: 01223 368021
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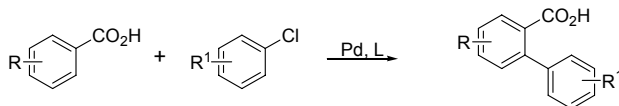
15-0483	Butyldi-1-adamantylphosphine, min. 95% [cataCXium® A] [321921-71-5] C ₄ H ₉ (C ₁₀ H ₁₅) ₂ P; FW: 358.54; white to yellow powdr.; m.p. 100° <i>air sensitive</i> Note: Patent WO 0210178.	1g 5g
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Technical Notes:

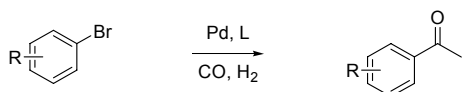
1. Ligand for the Pd-catalyzed Suzuki coupling reaction.
2. Ligand for the Pd-catalyzed formation of α-aryl ketones.
3. Ligand for the Pd-catalyzed aminations
4. Ligand for the Pd-catalyzed Heck reaction.
5. Ligand used for arylation of benzoic acids.
6. Ligand for the formylation of aryl bromides.
7. Ni-catalyzed denitrogenative alkyne insertion reactions of triazoles.



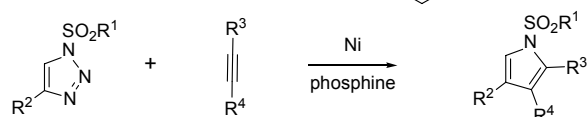
Tech. Note (2)
Ref. (2)



Tech. Note (5)
Ref. (5)



Tech. Note (6)
Ref. (6)



Tech. Note (7)
Ref. (7)

References:

1. *Angew. Chem. Int. Ed.*, **2000**, 39, 4153.
2. *Adv. Synth. Catal.*, **2002**, 344, 209.
3. *J. Mol. Catal. A: Chemical*, **2002**, 182-183, 515.
4. *Synlett*, **2000**, 1589.
5. *J. Am. Chem. Soc.*, **2007**, 129, 9879.
6. *Angew. Chem., Int. Ed.*, **2006**, 45, 154.
7. *Chem. Commun.*, **2009**, 1470.

15-0495	n-Butyl-di-(1-adamantyl)phosphonium iodide, min. 95% [cataCXium®AHI] [714951-87-8] C ₂₄ H ₄₀ IP; FW: 486.45; white powdr. Note: Patent US7148176.	250mg 1g
15-1072	Dicyclohexyl(9-benzylfluoren-9-yl)phosphonium tetrafluoroborate, min. 97% [cataCXium®FBn] [937378-18-2] C ₃₂ H ₃₈ BF ₄ P; FW: 540.42; white powdr. Note: Patent application pending.	500mg 2g
15-1074	Dicyclohexyl(9-butylfluoren-9-yl)phosphonium tetrafluoroborate, min. 97% [cataCXium®FBu] [1007311-98-9] C ₂₉ H ₄₀ BF ₄ P; FW: 506.41; white powdr. Note: Patent application pending.	500mg 2g
15-1076	Dicyclohexyl[9-(3-phenylpropyl)fluoren-9-yl]phosphonium tetrafluoroborate, min. 95% [cataCXium®FPrPh] [1007311-95-6] C ₃₄ H ₄₂ BF ₄ P; FW: 568.48 <i>air sensitive</i> Note: Patent application pending.	500mg 2g
15-1078	Dicyclohexyl-{9-[3-(4-sulfonylphenyl)propyl]-2-sulfonylfluoren-9-yl}phosphonium hydrogen sulfate, min. 95% [cataCXium®FSulf] C ₃₄ H ₄₃ O ₁₀ PS ₃ ; FW: 738.87 Note: Patent application pending.	500mg 2g
15-2975	N-(2-Methoxyphenyl)-2-(di-t-butylphosphino)pyrrole, min. 92% [cataCXium® POMetB] [1053658-91-5] C ₁₉ H ₂₈ NOP; FW: 317.41; white to yellowish powdr. <i>air sensitive</i> Note: Patent application pending.	500mg 2g

Technical Note:

1. See 15-3550.

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7 Mulliken Way
Newburyport, MA 01950-4098
U.S.A.
Tel.: (978) 499-1600
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Email: info@strem.com

Strem Chemicals, Inc.
15, rue de l'Atome
Zone Industrielle
67800 BISCHHEIM France
Tel.: (33) 03 88 62 52 60
Fax: (33) 03 88 62 26 81
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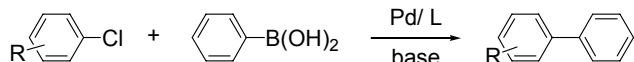
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Telefon: 0 78 51/ 7 58 79
Email: info.europe@strem.com

Strem Chemicals UK, Ltd.
41 Hills Road
Cambridge
England CB2 1NT
Tel.: 0845 643 7263
Fax: 01223 368021
Email: enquiries@strem.co.uk

15-2980 **1-(2-Methoxyphenyl)-2-(dicyclohexylphosphino)pyrrole, min. 95% [cataCXium® POMeCy]** [672937-63-2] 500mg
 C₂₃H₃₂NOP; FW: 369.48; white to yellow powdr.; m.p. 96-97° 2g
air sensitive
 Note: Patent application pending.

Technical Note:

- Highly efficient ligand for the palladium-catalyzed Suzuki reaction using aryl chlorides.



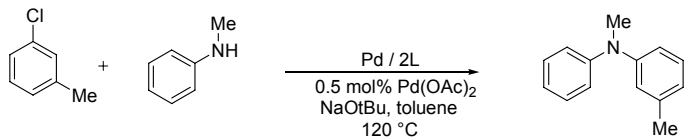
Reference:

- Chem. Commun.*, **2004**, 38.

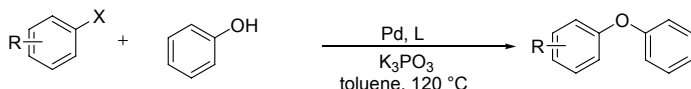
15-3550 **N-Phenyl-2-(di-t-butylphosphino)indol, min. 96% [cataCXium® PlntB]** [740815-37-6] 500mg
 C₂₆H₃₇NP; FW: 394.55; white to yellow powdr. *air sensitive* 2g
 Note: Patent application pending.

Technical Notes:

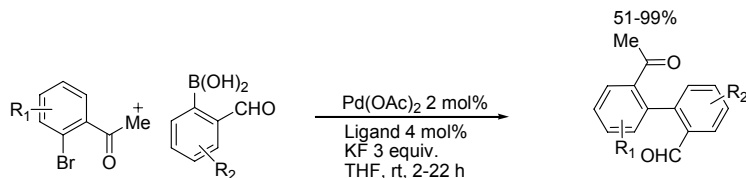
- Useful ligand for the Pd-catalyzed amination reaction.
- Ligand used for the Pd-catalyzed arylation of phenols.
- Useful ligand for the Suzuki-Miyaura coupling.
- Ligand used for the Sonagashira reaction of aryl bromides.



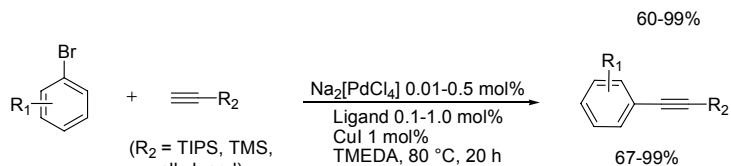
Tech. Note (1)
Ref. (1)



Tech. Note (2)
Ref. (2)



Tech. Note (3)
Ref. (3)



Tech. Note (4)
Ref. (4)

References:

- Angew. Chem. Int. Ed.*, **1999**, 38, 3212.
- Proc. Nat. Acad. Sci.*, **2004**, 10, 5834.
- J. Org. Chem.*, **2009**, 74, 3948.
- Chem. Sus. Chem.*, **2008**, 1, 91.

15-3600 **N-Phenyl-2-(di-t-butylphosphino)pyrrole, 95+% [cataCXium® PtB]** [672937-61-0] 500mg
 C₁₈H₂₆NP; FW: 287.38; white to yellow powdr.; m.p. 51° *air sensitive* 2g
 Note: Patent application pending.

Technical Note:

- See 15-3610.

15-3605 **N-Phenyl-2-(dicyclohexylphosphino)indol, min. 95% [cataCXium® PlnCy]** [740815-36-5] 500mg
 C₂₆H₃₂NP; FW: 389.51; white to yellow powdr. *air sensitive* 2g
 Note: Patent application pending.

Technical Note:

- See 15-3550.

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Strem Chemicals, Inc.
 15, rue de l'Atome
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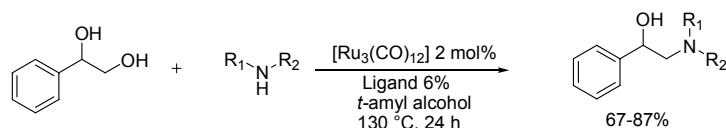
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 Germany
 Telefon: 0 78 51/ 7 58 79
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Strem Chemicals UK, Ltd.
 41 Hills Road
 Cambridge
 England CB2 1NT
 Tel.: 0845 643 7263
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15-3610 **N-Phenyl-2-(dicyclohexylphosphino)pyrrole, 90% [cataCXium® PCy]** [672937-60-9] 500mg
 $C_{22}H_{30}NP$; FW: 339.45; white to yellow powdr.; m.p. 92°
air sensitive
 Note: Contains ca. 10% of the regioisomer, N-(2-(dicyclohexylphosphinophenyl)pyrrole).
 Patent application pending.

Technical Note:

- Useful ligand for the Ru-catalyzed amination of diols.



Reference:

- Chem. Sus. Chem.*, **2009**, *2*, 551.

15-6362 **1-(2,4,6-Trimethylphenyl)-2-(dicyclohexylphosphino)imidazole, min. 95% [cataCXium® PICy]** [794527-14-3] 500mg
 $C_{24}H_{35}N_2P$; FW: 382.52; white powdr.; m.p. 109°
air sensitive
 Note: Patent Application pending.

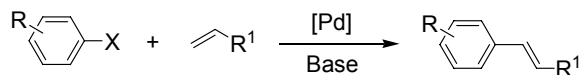
Technical Note:

- See 15-2980.

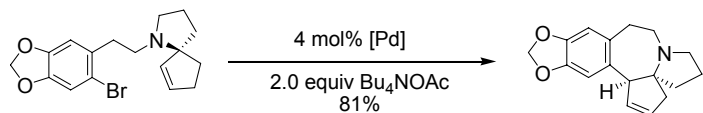
46-0290 **trans-Di(μ-acetato(bis[o-(di-o-tolylphosphino)benzyl]dipalladium (II), 97+% [cataCXium® C]** [172418-32-5] 250mg
 $C_{21}H_{20}PPd(C_2H_3O_2)_2PdPC_{21}H_{20}$; FW: 937.65; yellow xtl.
 1g
 5g

Technical Notes:

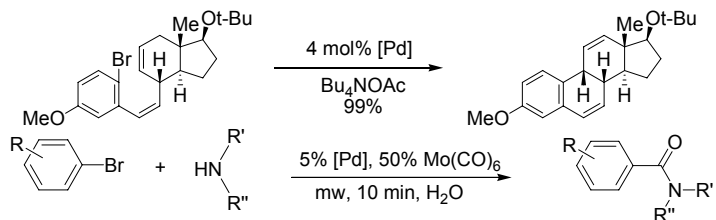
- Heck olefination of haloarenes.
- German Patent No. 4421753 granted to Solvias.



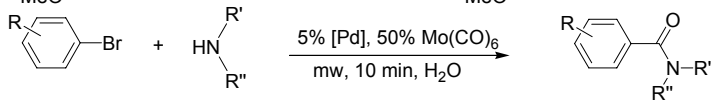
X= Cl, Br

Base = $N(C_2H_5)_3$, K_2CO_3 , NaOAc

Ref. (2)



Ref. (3)



Ref. (4)

References:

- Angew. Chem. Int. Ed.*, **1995**, *34*, 1844.
- J. Am. Chem. Soc.*, **1999**, *121*, 10264.
- J. Am. Chem. Soc.*, **1998**, *120*, 8971.
- Org. Lett.*, **2005**, *7*, 3327.

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Strem Chemicals, Inc.
 15, rue de l'Atome
 Zone Industrielle
 67800 BISCHHEIM France
 Tel.: (33) 03 88 62 52 60
 Fax: (33) 03 88 62 26 81
 Email: info.europe@strem.com

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 Postfach 1215
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 41 Hills Road
 Cambridge
 England CB2 1NT
 Tel.: 0845 643 7263
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