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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

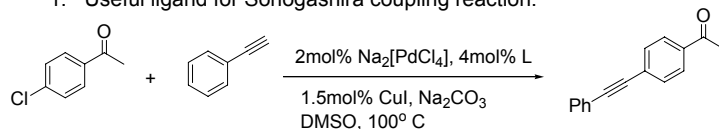
Note: Patent WO 0210178.

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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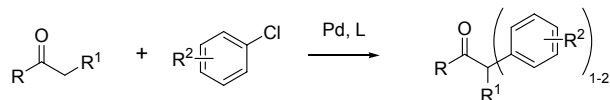
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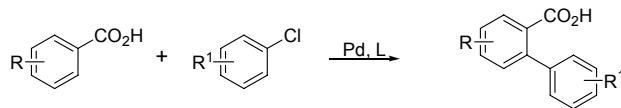
<b>15-0483</b>	<b>Butyldi-1-adamantylphosphine, min. 95% [cataCXium® A]</b> [321921-71-5] C <sub>4</sub> H <sub>9</sub> (C <sub>10</sub> H <sub>15</sub> ) <sub>2</sub> P; FW: 358.54; white to yellow powdr.; m.p. 100° <i>air sensitive</i> Note: Patent WO 0210178.	1g 5g
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## Technical Notes:

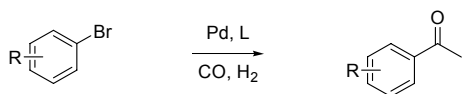
1. Ligand for the Pd-catalyzed Suzuki coupling reaction.
2. Ligand for the Pd-catalyzed formation of α-aryl ketones.
3. Ligand for the Pd-catalyzed aminations
4. Ligand for the Pd-catalyzed Heck reaction.
5. Ligand used for arylation of benzoic acids.
6. Ligand for the formylation of aryl bromides.
7.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



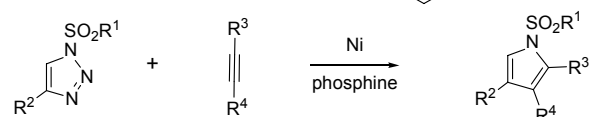
Tech. Note (2)  
Ref. (2)



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.

<b>15-0495</b>	<b>n-Butyl-di-(1-adamantyl)phosphonium iodide, min. 95% [cataCXium®AHI]</b> [714951-87-8] C <sub>24</sub> H <sub>40</sub> IP; FW: 486.45; white powdr. Note: Patent US7148176.	250mg 1g
<b>15-1072</b>	<b>Dicyclohexyl(9-benzylfluoren-9-yl)phosphonium tetrafluoroborate, min. 97% [cataCXium®FBn]</b> [937378-18-2] C <sub>32</sub> H <sub>38</sub> BF <sub>4</sub> P; FW: 540.42; white powdr. Note: Patent application pending.	500mg 2g
<b>15-1074</b>	<b>Dicyclohexyl(9-butylfluoren-9-yl)phosphonium tetrafluoroborate, min. 97% [cataCXium®FBu]</b> [1007311-98-9] C <sub>29</sub> H <sub>40</sub> BF <sub>4</sub> P; FW: 506.41; white powdr. Note: Patent application pending.	500mg 2g
<b>15-1076</b>	<b>Dicyclohexyl[9-(3-phenylpropyl)fluoren-9-yl]phosphonium tetrafluoroborate, min. 95% [cataCXium®FPrPh]</b> [1007311-95-6] C <sub>34</sub> H <sub>42</sub> BF <sub>4</sub> P; FW: 568.48 <i>air sensitive</i> Note: Patent application pending.	500mg 2g
<b>15-1078</b>	<b>Dicyclohexyl-{9-[3-(4-sulfonylphenyl)propyl]-2-sulfonylfluoren-9-yl}phosphonium hydrogen sulfate, min. 95% [cataCXium®FSulf]</b> C <sub>34</sub> H <sub>43</sub> O <sub>10</sub> PS <sub>3</sub> ; FW: 738.87 Note: Patent application pending.	500mg 2g
<b>15-2975</b>	<b>N-(2-Methoxyphenyl)-2-(di-t-butylphosphino)pyrrole, min. 92% [cataCXium® POMetB]</b> [1053658-91-5] C <sub>19</sub> H <sub>28</sub> 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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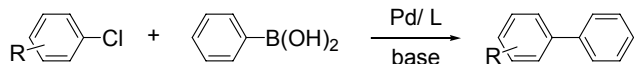
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**15-2980** **1-(2-Methoxyphenyl)-2-(dicyclohexylphosphino)pyrrole, min. 95% [cataCXium® POMeCy]** [672937-63-2] 500mg  
 C<sub>23</sub>H<sub>32</sub>NOP; FW: 369.48; white to yellow powdr.; m.p. 96-97° 2g  
*air sensitive*  
 Note: Patent application pending.

## Technical Note:

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



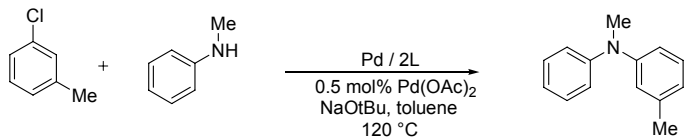
## Reference:

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

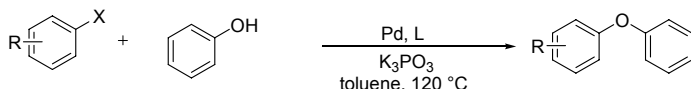
**15-3550** **N-Phenyl-2-(di-t-butylphosphino)indol, min. 96% [cataCXium® PIntB]** [740815-37-6] 500mg  
 C<sub>26</sub>H<sub>37</sub>NP; FW: 394.55; white to yellow powdr. *air sensitive* 2g  
 Note: Patent application pending.

## Technical Notes:

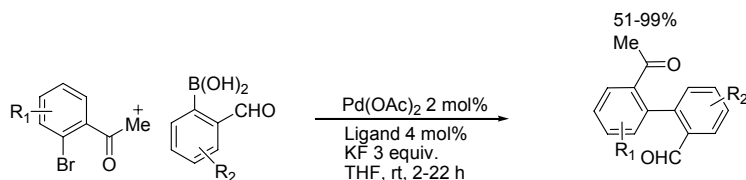
- Useful ligand for the Pd-catalyzed amination reaction.
- Ligand used for the Pd-catalyzed arylation of phenols.
- Useful ligand for the Suzuki-Miyaura coupling.
- Ligand used for the Sonagashira reaction of aryl bromides.



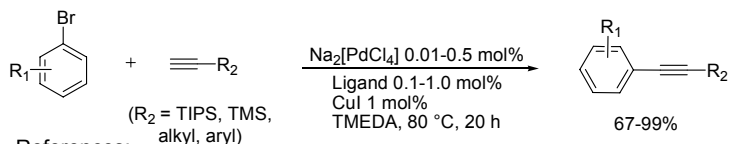
**Tech. Note (1)**  
**Ref. (1)**



**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  
 C<sub>18</sub>H<sub>26</sub>NP; 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® PInCy]** [740815-36-5] 500mg  
 C<sub>26</sub>H<sub>32</sub>NP; FW: 389.51; white to yellow powdr. *air sensitive* 2g  
 Note: Patent application pending.

## Technical Note:

- See 15-3550.

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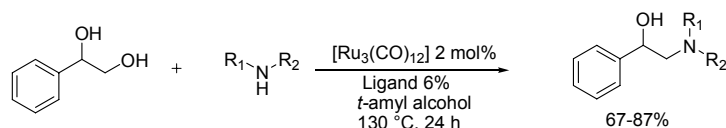
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**15-3610** **N-Phenyl-2-(dicyclohexylphosphino)pyrrole, 90% [cataCXium® PCy]** [672937-60-9] 500mg  
 $C_{22}H_{30}NP$ ; FW: 339.45; white to yellow powdr.; m.p. 92°  
*air sensitive*  
 Note: Contains ca. 10% of the regioisomer, N-(2-(dicyclohexylphosphinophenyl)pyrrole.  
 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.

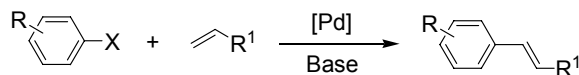
## Technical Note:

- See 15-2980.

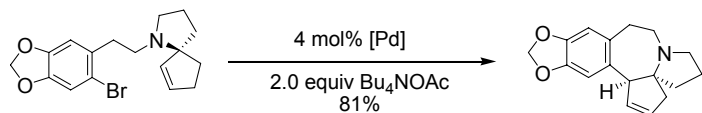
**46-0290** **trans-Di(μ-acetato(bis[o-(di-o-tolylphosphino)benzyl]dipalladium (II), 97+% [cataCXium® C]** [172418-32-5] 250mg  
 $C_{21}H_{20}PPd(C_2H_3O_2)_2PdPC_{21}H_{20}$ ; FW: 937.65; yellow xtl.  
 1g  
 5g

## Technical Notes:

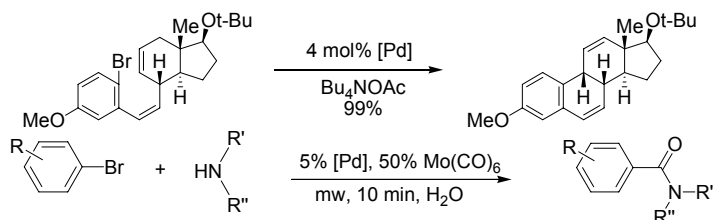
- Heck olefination of haloarenes.
- German Patent No. 4421753 granted to Solvias.



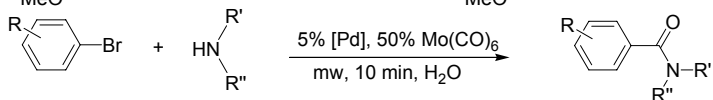
X= Cl, Br

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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