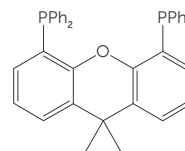


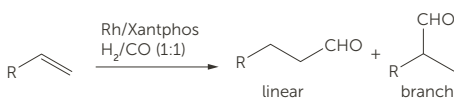
9,9-Dimethyl-4,5-bis(diphenylphosphino)xanthene

Product number: 1700 | Alternative name: Xantphos | CAS number: 161265-03-8 | $C_{39}H_{32}OP_2$ | Molecular weight: 578.62

Xantphos is air stable as a solid or in solution.¹ This ligand has a large natural bite angle of 111°C (232°F) and a flexibility range of 97° – 135°C (207° – 275°F).² Xantphos has been utilized in aminations, carbonylation, hydro-formylations, and various coupling reactions.



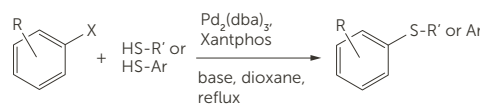
HYDROFORMYLATION OF OLEFINS¹⁻³



R = alkyl, epoxides, acetals

linear/branch ratios: up to 99:1

COUPLING OF ARYL HALIDES/TRIFLATES AND THIOLS¹⁰



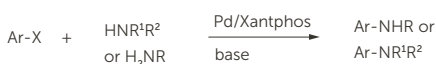
X = Br, OTf, Cl

Ar = aryl

R' = various alkyls

67 – 92% yield

PALLADIUM-CATALYZED AMIDATION OF ARYL HALIDES AND TRIFLATES⁴⁻⁸

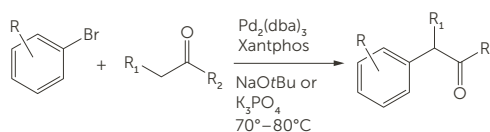


X = Cl, Br, I, OTf

Ar = aryl, heteroaryl

N-sources: amides, oxazolidines, ureas, sulfamides, hydrazines, hydrazones, piperdiny, morpholinyl

α-ARYLATION OF KETONES¹¹

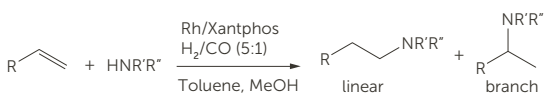


R1 = H, Me

R2 = -CH2CH(Me)2
-n-Bu, -CH(Me)2
-CH2(CH2)2CH2-

72 – 74% yield
mono/diarylation ratio
12 to 50%

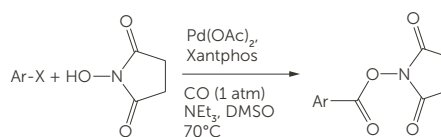
HYDROAMINOMETHYLATION OF OLEFINS⁹



R = alkyl R' and R'' = H, alkyl, Ph cyclic alkyls

l:b ratio: 97:3 to 99:1
amine selectivity: 95 – 99%

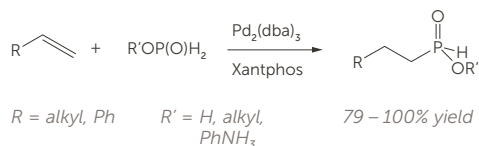
CARBONYLATION OF ARYL HALIDES AND TRIFLATES TO N-HYDROXSUCCINIMIDO ESTERS¹²



X = OTf (13 substrates)
I (9 substrates)

0 – 94% yield
61 – 92% yield

HYDROPHOSPHINYLATION OF ALKENES¹³



References

- ¹ Kranenburg, M., van der Burgt, Y.E.M., Kamer, P.C.J., and van Leeuwen, P.W.N.M., *Organometallics*, **1995**, *14*, 3081.
- ² Kamer, P.C.J., van Leeuwen, P.W.N.M., and Reek, J.N.H., *Acc. Chem. Res.*, **2001**, *34*(11), 895.
- ³ Botteghi, C., Marchetti, M., Paganelli, S., and Scognamiglio, S., *J. Mol. Catal. A: General*, **2002**, *179*, 79.
- ⁴ Guari, Y., van Es, D.S., Reek, J.N.H., Kamer, P.C.J., and van Leeuwen, P.W.N.M., *Tetrahedron Lett.*, **1999**, *40*, 3789.
- ⁵ Yin, J., Zhao, M.M., Huffman, M.A., and McNamara, J.M., *Org. Lett.*, **2002**, *4*(20), 3481.
- ⁶ Cacchi, S., Fabrizi, G., Goggiamani, A., Licandro, E., Maiorana, S., and Perdicchia, D., *Org. Lett.*, **2005**, *7*(8), 1497.
- ⁷ Wagaw, S., Yang, B.H., and Buchwald, S.L., *J. Am. Chem. Soc.*, **1999**, *121*, 10251.
- ⁸ Yin, J. and Buchwald, S.L., *J. Am. Chem. Soc.*, **2002**, *124*, 6043.
- ⁹ Ahmed, M., Seayad, A.M., Jackstell, R., and Beller, M., *Angew. Chem. Int. Eng. Ed.*, **2003**, *42*, 5615.
- ¹⁰ Itoh, T. and Mase, T., *Org. Lett.*, **2004**, *6*(24), 4587.
- ¹¹ Fox, J.M., Huang, X., Chieffi, A., and Buchwald, S.L., *J. Am. Chem. Soc.*, **2000**, *122*, 1360.
- ¹² Lou, R., VanAlstine, M., Sun, X., and Wentland, M.P., *Tetrahedron Lett.*, **2003**, *44*, 2477.
- ¹³ Deprele, S. and Montchamp, J.-L., *J. Am. Chem. Soc.*, **2002**, *124*, 9386.

FOR MORE INFORMATION

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit entegris.com and select the [Contact Us](#) link to find the customer service center nearest you.

TERMS AND CONDITIONS OF SALE

All purchases are subject to Entegris' Terms and Conditions of Sale. To view and print this information, visit entegris.com and select the [Terms & Conditions](#) link in the footer.



Corporate Headquarters

129 Concord Road
Billerica, MA 01821
USA

Customer Service

Tel +1 952 556 4181
Fax +1 952 556 8022
Toll Free 800 394 4083

Entegris®, the Entegris Rings Design®, and other product names are trademarks of Entegris, Inc. as listed on entegris.com/trademarks. All third-party product names, logos, and company names are trademarks or registered trademarks of their respective owners. Use of them does not imply any affiliation, sponsorship, or endorsement by the trademark owner.

©2018-2020 Entegris, Inc. | All rights reserved. | Printed in the USA | 9000-11219TAN-1120