**Transition-Metal Complexes with Helical Phosphines.**

Beránek, Tomáš
2017

18447 (16/1417)

# Transition-Metal Complexes with Helical Phosphines

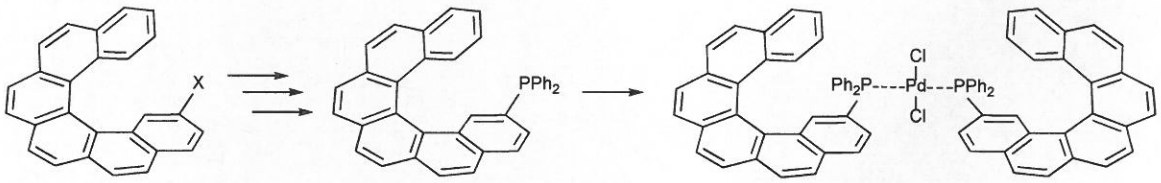
Tomáš Beránek,[1] Jaroslav Žádný,*[1] Jan Sýkora[1], Jan Storch[1]

[1]*Institute of Chemical Process Fundamentals, v.v.i., Rozvojová 1/135, Prague 6, 165 02*
*e-mail: beranekt@icpf.cas.cz*

Due to their remarkable properties, helicenes are suitable candidates for use in asymmetric catalysis. Among privileged ligands exhibiting central, axial or planar chirality, use of helically chiral ligands in transition metal catalysis is still very rare. Although several pilot experiments have already been carried out in this area, a larger study of the preparation of complexes bearing helical ligands with catalytically significant metals is still missing[1].

In this work the synthetic pathways were investigated to provide other suitable phosphine derivatives of [6]helicene and their transition metal complexes. Attempts on enantiomeric resolution of prepared helicenes and synthesis of their transition-metal complexes were also done.

Scheme 1




X = Cl, Br, OTf

*This work was supported by the Technology Agency of the Czech Republic (TA04010082).*

1 Aillard, P.; Voituriez, A.; Marinetti, A. *J. Chem. Soc., Dalton Trans.* **2014**, 15263.